**for Preparation** Click here

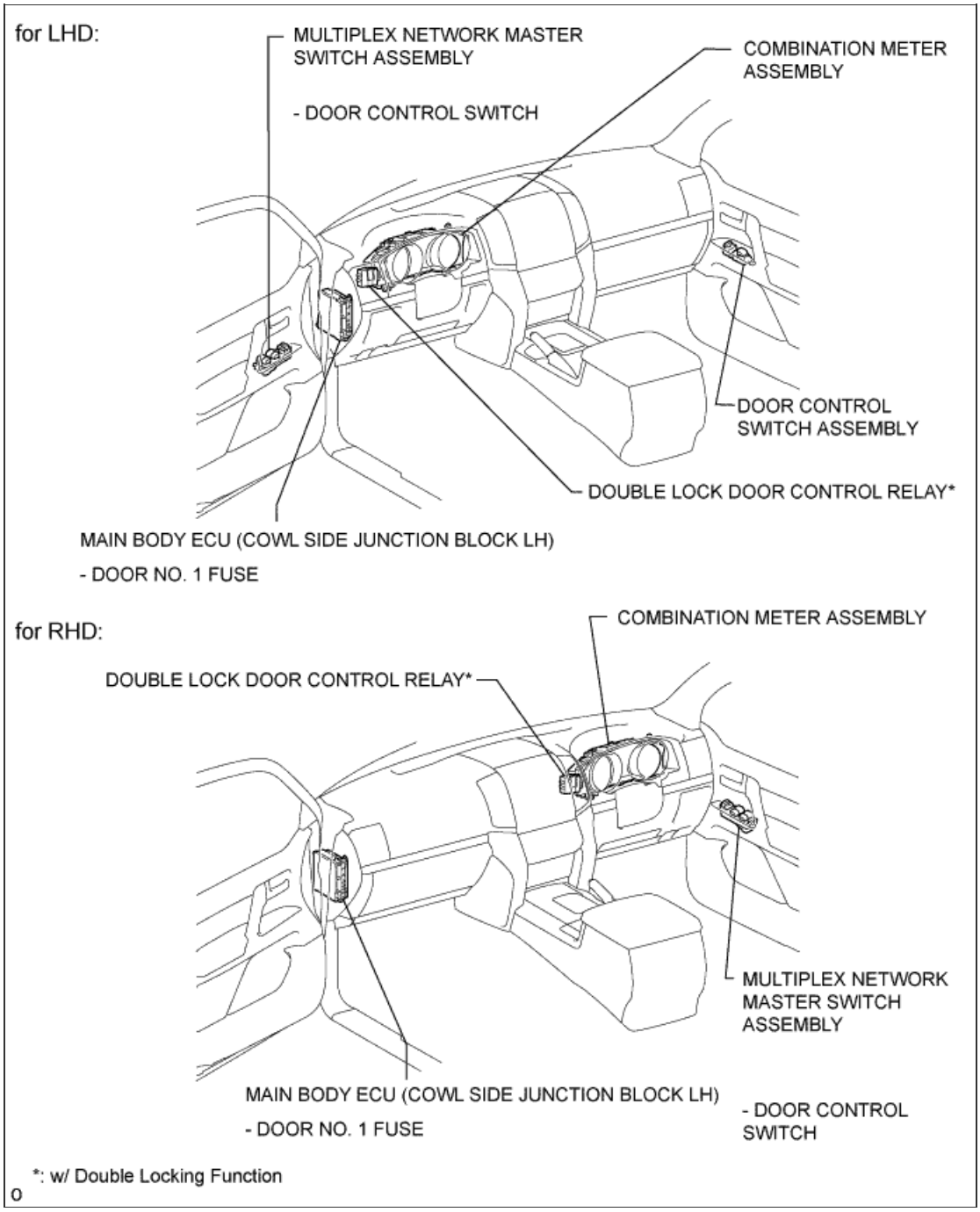
## 1.IGNITION SWITCH EXPRESSIONS

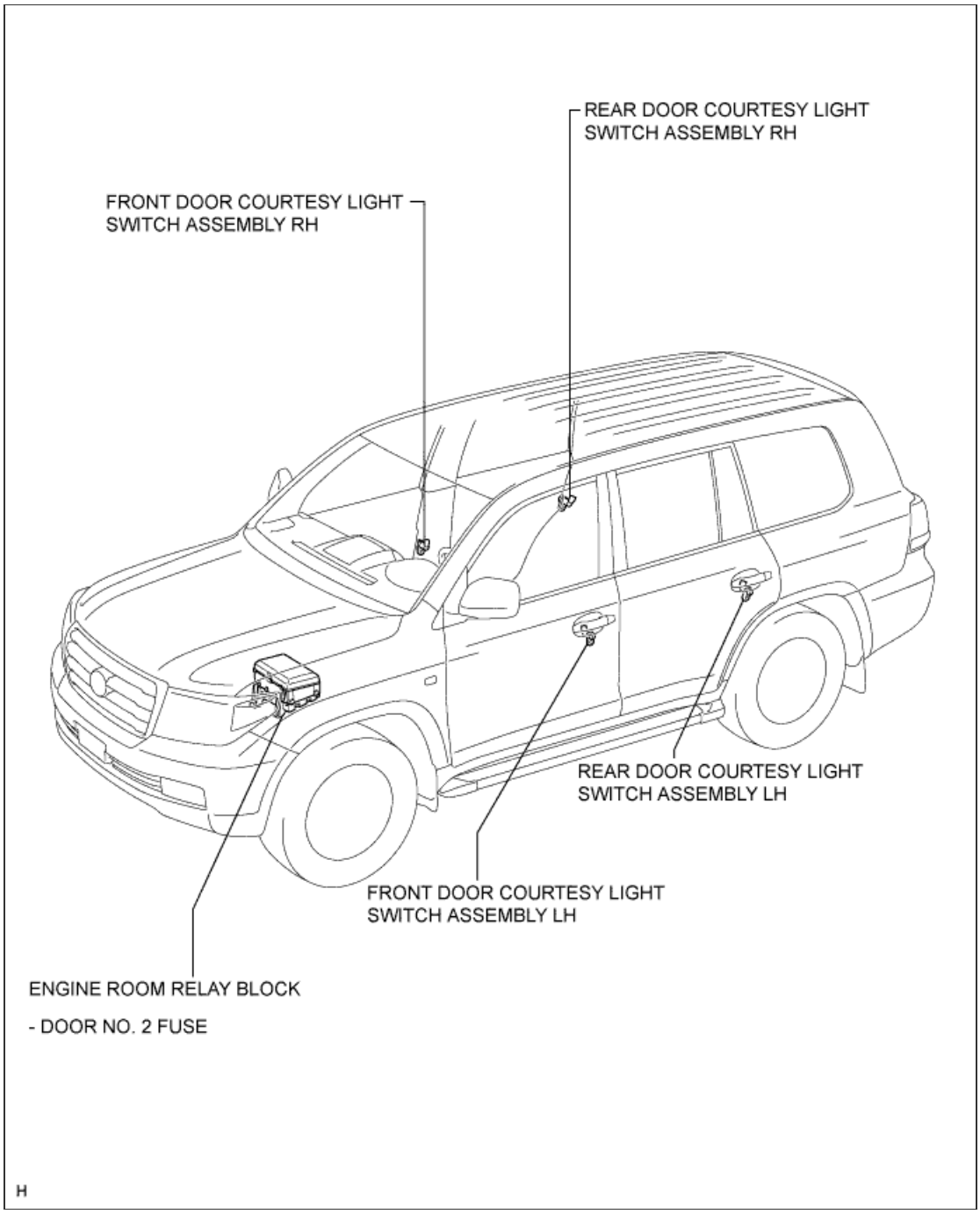
**HINT:**

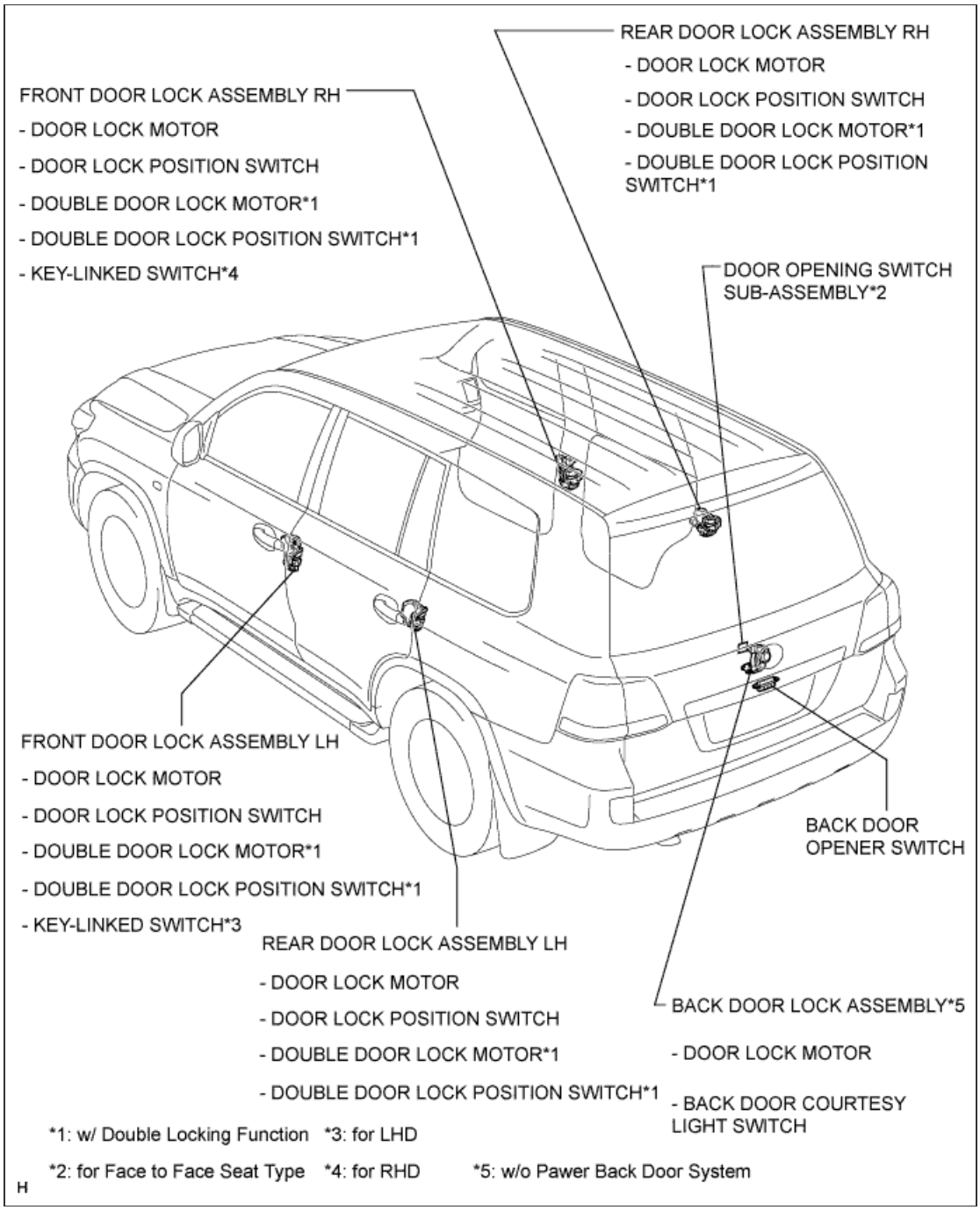
The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

| Expression | Ignition Switch (Position) | Engine Switch (Condition) |
|---|---|---|
| Ignition Switch off | LOCK | Off |
| Ignition Switch ON | ON | On (IG) |
| Ignition Switch ACC | ACC | On (ACC) |
| Engine Start | START | Start |

**for Preparation** Click here

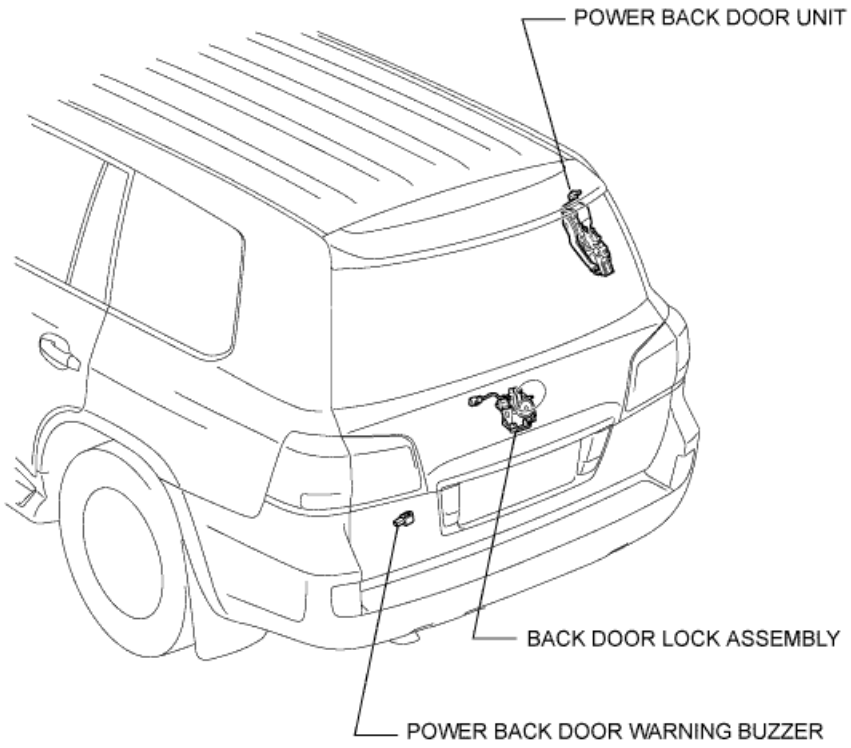



REAR DOOR COURTESY LIGHT
SWITCH ASSEMBLY RH
FRONT DOOR COURTESY LIGHT
SWITCH ASSEMBLY RH
REAR DOOR COURTESY LIGHT
SWITCH ASSEMBLY LH
FRONT DOOR COURTESY LIGHT
SWITCH ASSEMBLY LH
ENGINE ROOM RELAY BLOCK
- DOOR NO. 2 FUSE
H


REAR DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
- DOUBLE DOOR LOCK MOTOR*1
- DOUBLE DOOR LOCK POSITION SWITCH*1
FRONT DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
- DOUBLE DOOR LOCK MOTOR*1
- DOUBLE DOOR LOCK POSITION SWITCH*1
- KEY-LINKED SWITCH*4
DOOR OPENING SWITCH SUB-ASSEMBLY*2
FRONT DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
- DOUBLE DOOR LOCK MOTOR*1
- DOUBLE DOOR LOCK POSITION SWITCH*1
- KEY-LINKED SWITCH*3
BACK DOOR OPENER SWITCH
REAR DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
- DOUBLE DOOR LOCK MOTOR*1
- DOUBLE DOOR LOCK POSITION SWITCH*1
BACK DOOR LOCK ASSEMBLY*5
- DOOR LOCK MOTOR
- BACK DOOR COURTESY LIGHT SWITCH
*1: w/ Double Locking Function *3: for LHD
*2: for Face to Face Seat Type *4: for RHD *5: w/o Pawer Back Door System

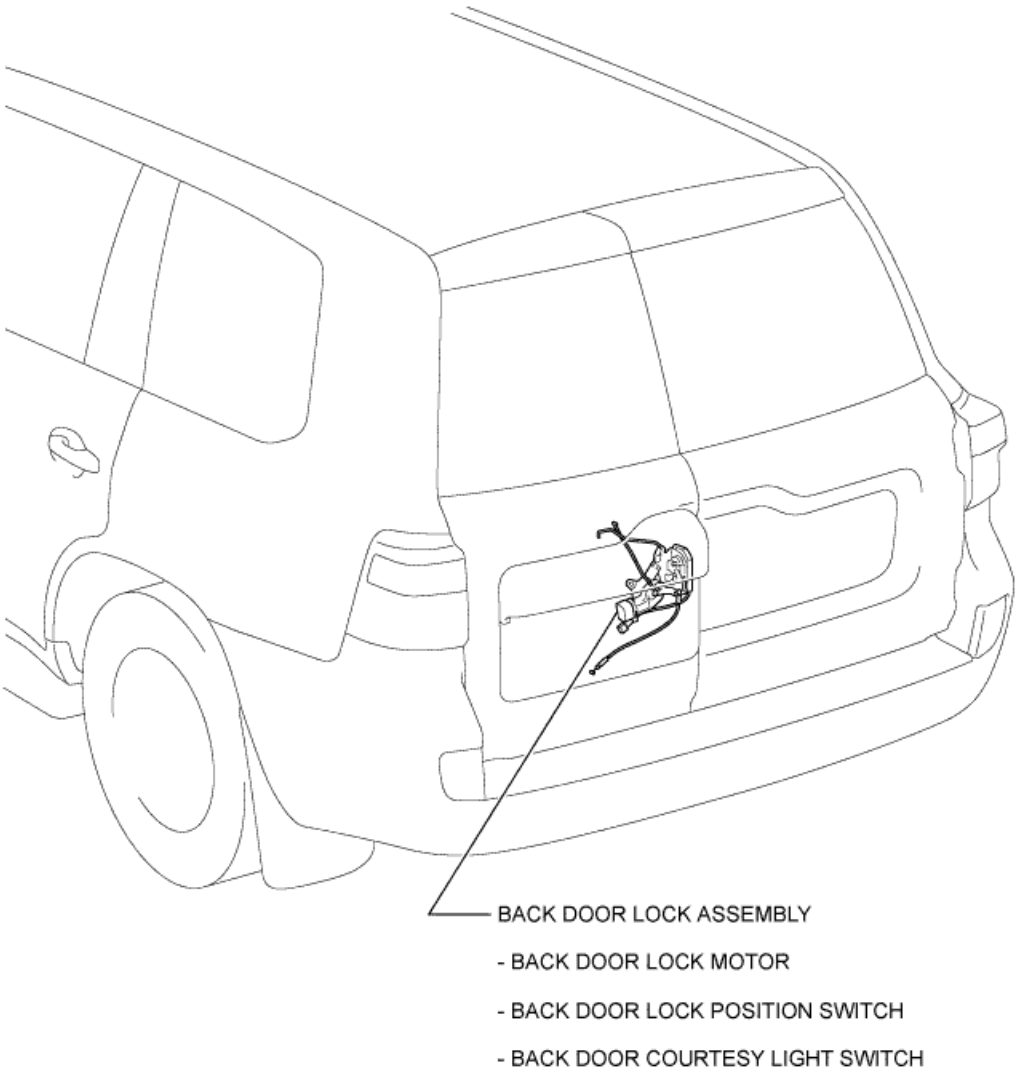
H

w/ Power Back Door System:



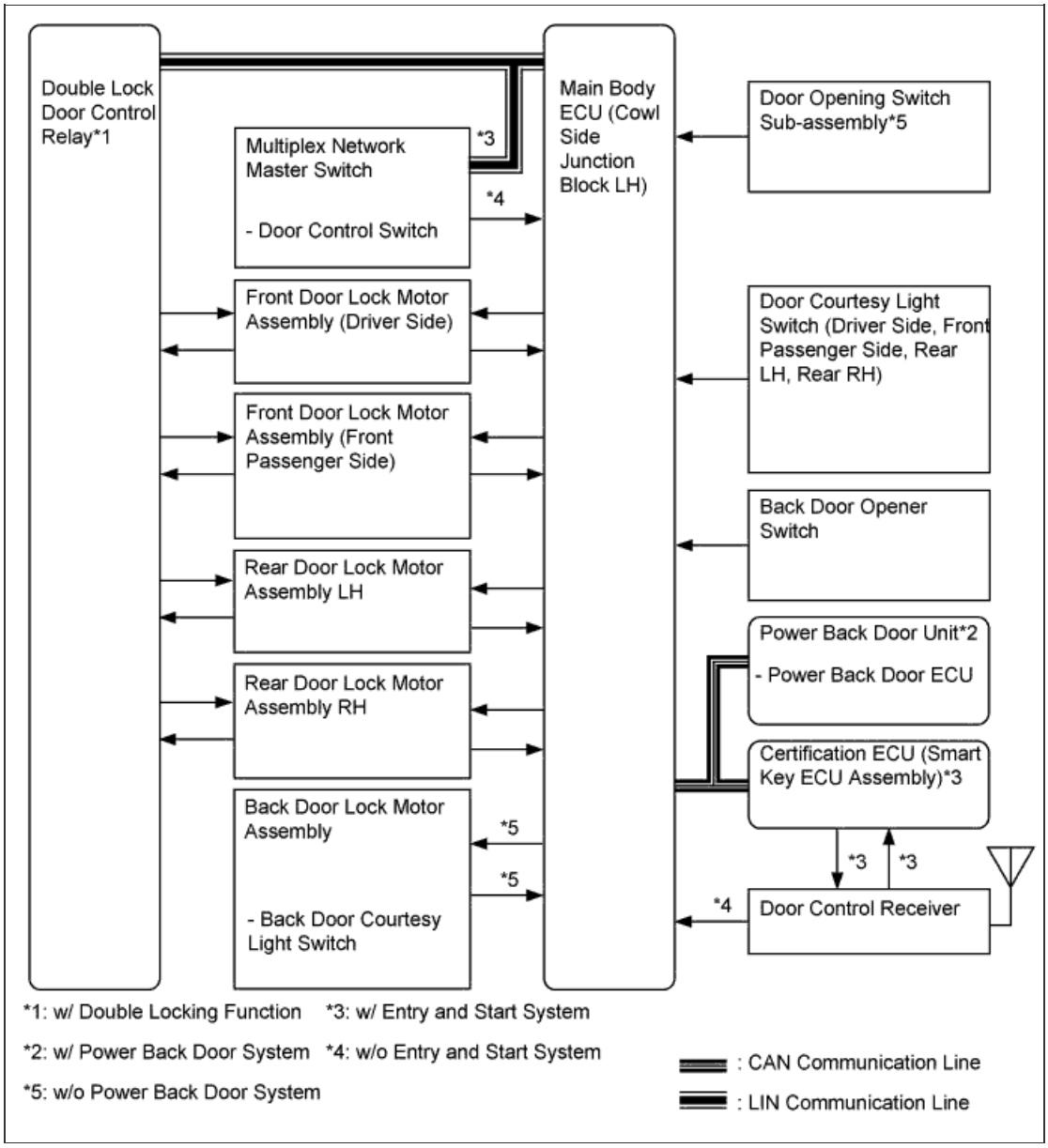

H

for Double Swing Out Type:




o

**for Preparation** Click here




### Communication Table

| Sender | Receiver | Signal | Line |
|---|---|---|---|
| Multiplex Network Master Switch | Main Body ECU | Driver side door manual lock switch signal | LIN |
| Double Lock Door Control Relay*1 | Main Body ECU | Double lock/unlock position switch signal | LIN |
| Certification ECU*2 | Main Body ECU | Door lock/unlock signal | CAN |
| Main Body ECU | Certification ECU*2 | - Door lock/unlock signal<br>- Double lock/unlock signal | CAN |

*1: w/ Double Locking Function
*2: w/ Entry and Start System

**for Preparation** Click here

## FUNCTION OF MAIN COMPONENT

| Components | Function |
|---|---|
| Multiplex network master switch | The door control switch on the master switch locks/unlocks all doors. |
| Door courtesy light switch | Turns on when the door is open and off when the door is closed. Outputs the door status (open or closed) to the main body ECU. |
| Driver side door lock | • The built-in motor locks/unlocks the door.<br>• The built-in key-linked switch detects the door key cylinder status (lock or unlock) and outputs the data to the main body ECU.<br>• The built-in position switch detects the door status (locked or unlocked) and outputs the data to the main body ECU. This switch turns off when the door is locked and on when the door is unlocked. |
| Front passenger side door lock<br>Rear door lock LH<br>Rear door lock RH | • The built-in motor locks/unlocks the door.<br>• The built-in position switch detects the door status (locked or unlocked) and outputs the data to the main body ECU. This switch turns off when the door is locked and on when the door is unlocked. |
| Back door lock | • The built-in motor opens the door.*1<br>• The built-in motor opens/closes the door.*2<br>• Performs the back door open operation according to the door position determination of the main body ECU.*1<br>• Performs the back door open/close operation according to the door position as determined by the power back door ECU.*2 |

*1: w/o Power Back Door System
*2: w/ Power Back Door System

## SYSTEM DESCRIPTION

a. The power door lock system locks/unlocks all doors.

- The door control switch of the master switch uses the LIN line to send lock/unlock request signals to the main body ECU.
- The driver door key cylinder lock/unlock request signals are sent to the main body ECU from the driver side door lock.
- The passenger door control switch lock/unlock request signals are sent to the main body ECU from the passenger side door lock.
- The main body ECU receives the request signals and locks/unlocks each door.

The door control system has the following functions:

| Function | Outline |
|---|---|
| Manual lock and unlock function | Locks/unlocks all doors by the door control switch lock operation (manual operation). |
| Key-linked lock and unlock function | Linked with the door key cylinder.<br>Locks/unlocks all doors when the lock/unlock operation is possible. |
| Key lock-in prevention function | When the door control transmitter is in the vehicle, performing the door lock operation with the lock switch on the outer handle will not lock the door and will sound a buzzer. |
| Manual unlock prohibition function | When the doors are locked using the transmitter or key with the ignition switch ON and the driver side seat belt fastened, unlock operations using the door control switches are prohibited. |
| 2-step unlock function | Unlocks only the driver side door by turning the key cylinder once and unlocks the other doors by turning it twice.<br>**HINT:**<br>This function is OFF by default. |
| | Prevents the doors from being unlocked through the operation |

| | |
|---|---|
| Double locking function* | of the inside door knobs and also from the outside of the vehicle. |

*: w/ Double Locking Function

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the power door lock control system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

**NEXT**

## 2.INSPECT BATTERY VOLTAGE

**Standard Voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

**NEXT**

## 3.CHECK COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

**B.** → Go to CAN COMMUNICATION SYSTEM (Click here)

**C.** → Go to CAN COMMUNICATION SYSTEM (Click here)

**A**

## 4.CHECK COMMUNICATION FUNCTION OF LIN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the LIN communication system is functioning normally.

**Result**

| Result | Proceed to |
|---|---|
| LIN DTC is not output | A |
| LIN DTC is output | B |

**B.** → Go to LIN COMMUNICATION SYSTEM (Click here)

**A**

## 5.PROBLEM SYMPTOMS TABLE

a. Refer to problem symptoms table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. → Go to step 7

A

## 6.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Operation Check (Click here).

b. Terminals of ECU (Click here).

c. Data List / Active Test (Click here).

NEXT

## 7.ADJUST, REPAIR OR REPLACE

NEXT

## 8.CONFIRMATION TEST

NEXT

## END

**for Preparation** Click here

## CHECK POWER DOOR LOCK OPERATION

a. Check the basic function.

i. Check that all doors lock when the door lock control switch (for manual operation) is turned to lock and all doors unlock when turned to unlock.

ii. Check that all doors lock when the driver side door lock key cylinder is turned to lock using the key.

iii. When the ignition switch is turned to ON and the driver seat belt is fastened, check that the manual unlock prohibition function operates when the doors are locked using the transmitter or key.

iv. Check that only the driver side door unlocks when the driver side door key cylinder is turned to unlock once again within 3 seconds using the key (2-step unlocking function).

b. Check the key lock-in prevention function.

**NOTICE:**

In order to prevent the key from being locked in, the inspection should be made with the driver side door glass open.

i. Turn the ignition switch to ON or ACC.

ii. With the driver side door open, check that all doors unlock immediately after the door lock knob for the driver side door is locked.

iii. With the driver side door open, check that all doors unlock immediately after the door control switch (for manual operation) is turned to lock.

iv. With the driver side door open, lock the driver side door lock knob and hold it for 2 seconds or more. Then close the driver side door and check that all doors unlock.

c. Check the security function.

i. Close all doors with the driver side door glass open so that the door control switch can be operated from outside the vehicle.

ii. Remove the key from the inside of the vehicle, open the driver side door and close and lock the door without using the key. Then, check that all doors do not unlock when the door control switch (for manual operation) is turned to unlock from outside the vehicle.

iii. Remove the key from the inside of the vehicle, and then close and lock the driver side door with the key. Under this condition, check that all doors do not unlock when the door control switch (for manual operation) is turned to unlock from outside the vehicle.

iv. Remove the key from the inside of the vehicle, close the driver side door and lock the door with the wireless door lock operation. Then, check that all doors do not unlock when the door control switch (for manual operation) is turned to unlock from outside the vehicle.

**HINT:**

Check that the security function is canceled under the following conditions:

- The ignition switch is turned to ON.
- The driver side door is unlocked using the key.
- The door control switch (for manual operation) is turned to unlock after the door lock knob is unlocked manually.
- The doors are unlocked by a wireless operation.

d. Check the illumination function.

i. Set the map light switch to the DOOR position.

ii. With all the doors locked, check that all doors unlock when the driver side door lock cylinder is turned to unlock using the key and that the map light turns on.

iii. Check that the map light turns off in approximately 15 seconds after the doors have not been opened.

## CHECK DOUBLE LOCKING FUNCTION

**CAUTION:**

Do not activate the double locking function when there are people in the vehicle because the doors cannot be opened from the inside of the vehicle.

Under emergency conditions, such as if the power has been cut, this function can be canceled by inserting the key (mechanical key) into the driver door key cylinder and turning it to the unlock side.

a. Check that the double locking function is set.

i. Open all the windows.

ii. Turn the ignition switch off.

iii. Open and close the driver side door, and make sure that all doors, including the back door, are closed securely.

iv. Press the transmitter lock switch twice within 5 seconds, and check that the hazard warning lights flash once at this time to indicate that the double locking function has been set.

**HINT:**

The double locking function can be turned on by pressing the lock switch on the outside handle 2 times within 3 seconds.

v. Try to unlock each door using the inside handle, and check that none of the doors unlock.

**NOTICE:**

The double locking function does not affect the back door.

b. Check that the double locking function is canceled.

i. Press the transmitter unlock switch while the double locking function is set, and check that the hazard warning lights flash twice at this time to indicate that the system is canceled.

ii. Check that the doors can be opened by using both the inside and outside handles.

**NOTICE:**

If the battery of the transmitter is depleted, only the driver side door can be opened using the key. However, the theft deterrent system still remains on. The theft alarm will sound when the door is opened without using the transmitter.

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER

**HINT:**

The following items can be customized.

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the tester on.

d. Enter the following menus: Select: Body / Door Lock / Utility / Customize /

e. Select the setting by referring to the table below.

**Door Lock**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Unlock Key Twice | OFF | Function that unlocks only the driver side door when the driver side door key cylinder is turned to unlock once, and unlock all doors when it is turned to unlock twice. If this setting is OFF, turning the driver side door key cylinder once unlocks all doors. | ON/OFF |

## CUSTOMIZING FUNCTION WITH MULTI-DISPLAY (w/ Multi-display)

**HINT:**

The following items can be customized.

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Record the current settings before customizing.**

a. Turn the ignition switch to ON.

b. Enter the following menus: Setup / Vehicle.

c. Select the setting by referring to the table below.

**Door lock settings**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Unlock on second key turn | OFF | Function that unlocks only the driver side door when the driver side door key cylinder is turned to unlock once, and unlock all doors when it is turned to unlock twice. If this setting is OFF, turning the driver side door key cylinder once unlocks all doors. | ON/OFF |

**for Preparation** Click here

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

**Power Door Lock Control System**

| Symptom | Suspected Area | See page |
|---|---|---|
| All Doors LOCK/UNLOCK Functions do not Operate Via Master Switch, Driver Side Door Key Cylinder | DOOR NO. 1 fuse | Click here |
| | DOOR NO. 2 fuse | Click here |
| | Front door lock LH*2 | Click here |
| | Front door lock RH*3 | Click here |
| | Harness or connector | Click here |
| | Master switch | Click here |
| | Main body ECU | Click here |
| All Doors LOCK/UNLOCK Functions do not Operate Via Door Control Switch | DOOR NO. 1 fuse | Click here |
| | DOOR NO. 2 fuse | Click here |
| | Door control switch | Click here |
| | Harness or connector | Click here |
| | Main body ECU | Click here |
| Only Driver Door LOCK/UNLOCK Functions do not Operate | Front door lock LH*2 | Click here |
| | Front door lock RH*3 | Click here |
| | Harness or connector | - |
| | Main body ECU | - |
| Only Passenger Door LOCK/UNLOCK Functions do not Operate | Front door lock RH*2 | Click here |
| | Front door lock LH*3 | Click here |
| | Harness or connector | - |
| Only Rear Door LH LOCK/UNLOCK Functions do not Operate | Rear door lock LH | Click here |
| | Harness or connector | - |
| Only Rear Door RH LOCK/UNLOCK Functions do not Operate | Rear door lock RH | Click here |
| | Harness or connector | - |
| Only Back Door LOCK/UNLOCK Functions do not Operate | Back door opener switch | Click here |
| | Door opening switch sub-assembly*7, *8 | Click here |
| | Back door lock | Click here |
| | Back door lock*4 | Click here |
| | Harness or connector | - |
| | Main body ECU*5 | - |
| | Power back door ECU*6 | - |
| Double Locking Function does not Operate Properly*1 | B1249 | Click here |
| | B2325 | Click here |
| | Front door lock RH | Click here |
| | Front door lock LH | Click here |
| | Rear door lock LH | Click here |
| | Rear door lock RH | Click here |
| | Harness or connector | - |
| | Double lock door control relay (for LHD) | Click here |
| | Double lock door control relay (for RHD) | Click here |

**HINT:**

*1: w/ Double Locking Function

*2: for LHD

*3: for RHD

*4: for Double Swing Out Type

*5: w/o Power Back Door System

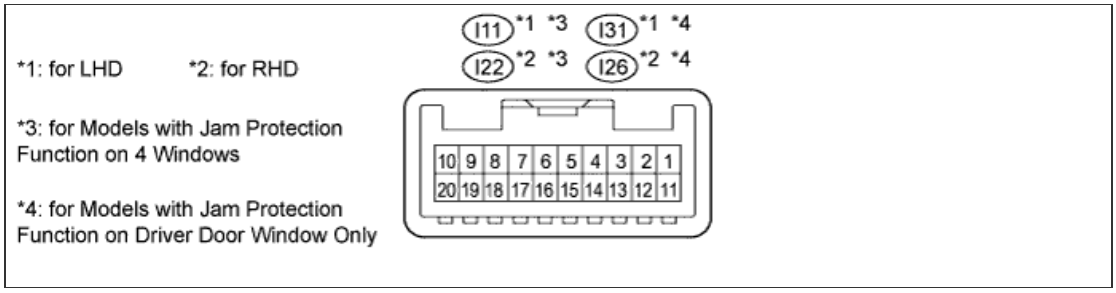
*6: w/ Power Back Door System

*7: for Face to Face Seat Type

*8: except Double Swing Out Type

**for Preparation** Click here

## CHECK MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY




a. for Models with Jam Protection Function on 4 Windows

i. Disconnect the I11*1 or I22*2 switch connector.

**HINT:**

*1: for LHD

*2: for RHD

ii. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| I11-12 (GND) - Body ground*1 | W-B - Body ground | Ground | Always | Below 1 Ω |
| I11-11 (B) - I11-12 (GND)*1 | L - W-B | Battery power supply | Always | 11 to 14 V |
| I22-12 (GND) - Body ground*2 | W-B - Body ground | Ground | Always | Below 1 Ω |
| I22-11 (B) - I22-12 (GND)*2 | L - W-B | Battery power supply | Always | 11 to 14 V |

**HINT:**

*1: for LHD

*2: for RHD

If the result is not as specified, there may be a malfunction on the wire harness side.

b. for Models with Jam Protection Function on Driver Door Window Only

i. Disconnect the I31*1 or I26*2 switch connector.

**HINT:**

*1: for LHD

*2: for RHD

ii. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| I31-1 (E) - Body ground*1 | W-B - Body ground | Ground | Always | Below 1 Ω |
| I31-6 (B) - I31-1 (E)*1 | L - W-B | Battery power supply | Always | 11 to 14 V |
| I26-9 (E) - Body ground*2 | W-B - Body ground | Ground | Always | Below 1 Ω |
| I26-6 (B) - I26-9 (E)*2 | L - W-B | Battery power supply | Always | 11 to 14 V |

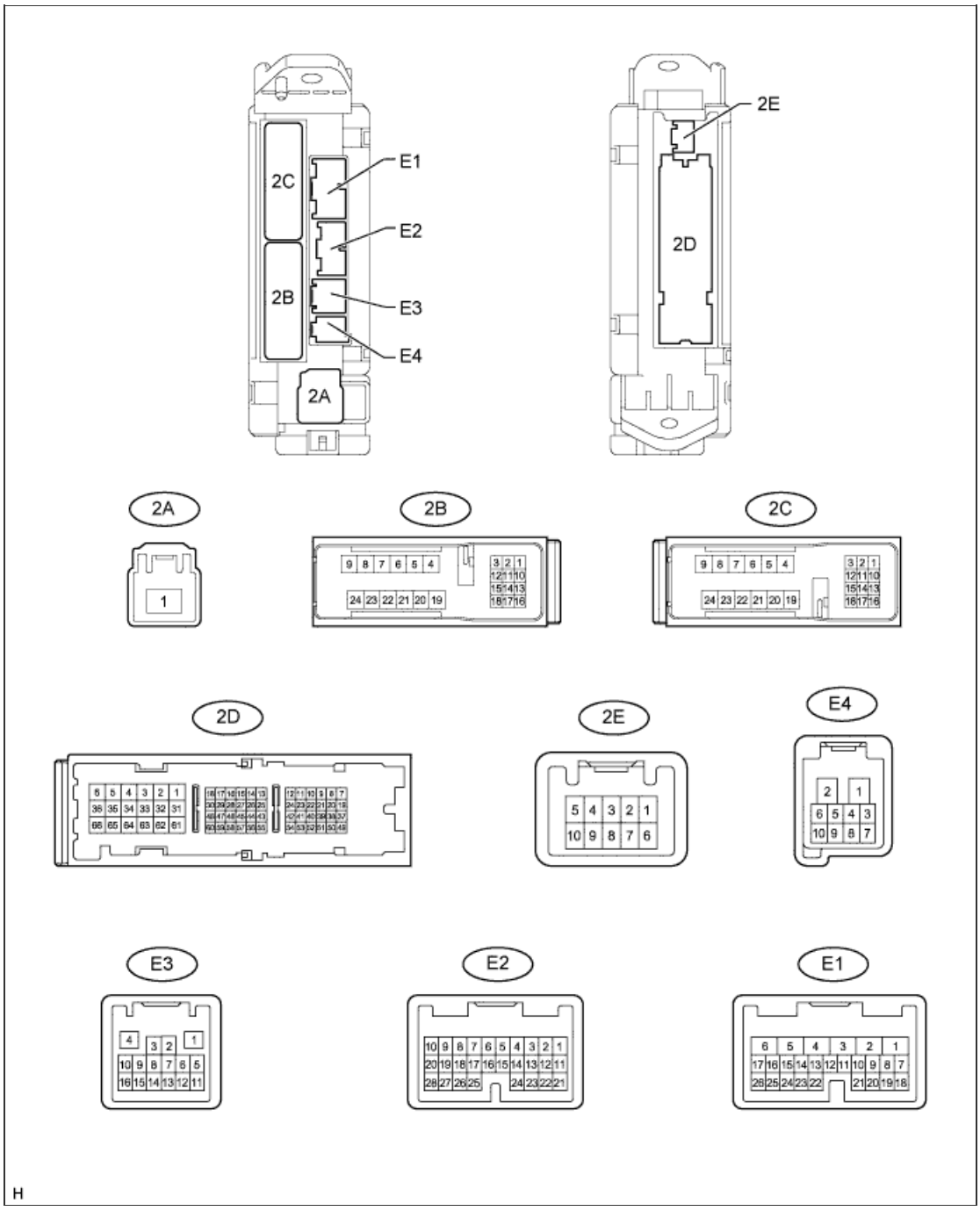
**HINT:**

*1: for LHD

*2: for RHD

If the result is not as specified, there may be a malfunction on the wire harness side.

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)




a. Disconnect the 2A, 2B and 2D ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2B-20 (BATB) - Body ground | L - Body ground | Battery power supply | Always | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Ignition switch ACC | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Ignition switch off | Below 1 Ω |
| 2D-62 (GND2) - Body | | | | |

| | | | | |
|---|---|---|---|---|
| ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the 2A, 2B and 2D ECU connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-24 (DCTY) - Body ground | L*1 - Body ground<br>Y*2 - Body ground | Driver side door courtesy switch input | Driver side door open | Below 1 V |
| E1-24 (DCTY) - Body ground | L*1 - Body ground<br>Y*2 - Body ground | Driver side door courtesy switch input | Ignition switch off, and driver side door courtesy switch off | Pulse generation |
| E2-21 (PCTY) - Body ground | Y*1 - Body ground<br>L*2 - Body ground | Front passenger side door courtesy switch input | Front passenger side door open | Below 1 V |
| E2-21 (PCTY) - Body ground | Y*1 - Body ground<br>L*2 - Body ground | Front passenger side door courtesy switch input | Ignition switch off, and passenger side door courtesy switch off | Pulse generation |
| 2C-2 (LCTY) - Body ground | W - Body ground | Rear door LH courtesy light switch input | Rear door LH open | Below 1 V |
| 2C-2 (LCTY) - Body ground | W - Body ground | Rear door LH courtesy light switch input | Ignition switch off, and rear LH side door courtesy switch off | Pulse generation |
| E2-7 (RCTY) - Body ground<br>*3 | G - Body ground | Rear door RH courtesy light switch input | Rear door RH open | Below 1 V |
| E2-7 (RCTY) - Body ground<br>*3 | G - Body ground | Rear door RH courtesy light switch input | Ignition switch off, and rear RH side door courtesy switch off | Pulse generation |
| E1-17 (RCTY) - Body ground<br>*4 | G - Body ground | Rear door RH courtesy light switch input | Rear door RH open | Below 1 V |
| E1-17 (RCTY) - Body ground<br>*4 | G - Body ground | Rear door RH courtesy light switch input | Ignition switch off, and rear RH side door courtesy switch off | Pulse generation |
| E2-25 (BCTY) - Body ground | W - Body ground | Back door courtesy light switch input | Back door open | Below 1 V |
| E2-25 (BCTY) - Body ground | W - Body ground | Back door courtesy light switch input | Ignition switch off, and back door closed | Pulse generation |
| 2D-3 (ACT+) - Body ground | L - Body ground | Door lock motor LOCK drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| 2D-3 (ACT+) - Body ground | L - Body ground | Door lock motor LOCK drive output | Master switch (door control switch) or driver side door key cylinder in lock position | 11 to 14 V |
| 2C-24 (ACT+) - Body ground | L - Body ground | Door lock motor LOCK drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| 2C-24 (ACT+) - Body ground | L - Body ground | Door lock motor LOCK drive output | Master switch (door control switch) or driver side door key cylinder in lock position | 11 to 14 V |
| E1-5 (ACTD) - Body ground | B - Body ground | Door lock motor UNLOCK drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| E1-5 (ACTD) - Body ground | B - Body ground | Door lock motor UNLOCK drive output | Master switch (door control switch) or driver side door key cylinder in unlock position | 11 to 14 V |
| 2D-2 (ACT-) - Body ground | B - Body ground | Door lock motor UNLOCK drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| | | | Master switch (door | |

| | | | | |
|---|---|---|---|---|
| 2D-2 (ACT-) - Body ground | B - Body ground | Door lock motor UNLOCK drive output | control switch) or driver side door key cylinder in unlock position | 11 to 14 V |
| 2C-23 (ACT-) - Body ground | B - Body ground | Door lock motor UNLOCK drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| 2C-23 (ACT-) - Body ground | B - Body ground | Door lock motor UNLOCK drive output | Master switch (door control switch) or driver side door key cylinder in unlock position | 11 to 14 V |
| E1-10 (UL3) - Body ground | Y*1 - Body ground<br>L*2 - Body ground | Driver side door lock key switch input | Driver side door key cylinder in unlock position | Below 1 V |
| E1-10 (UL3) - Body ground | Y*1 - Body ground<br>L*2 - Body ground | Driver side door lock key switch input | Ignition switch off, all doors closed and driver side door key cylinder in neutral position | Pulse generation |
| 2D-53 (L2) - Body ground | LG - Body ground | Driver side door lock key switch input | Driver side door key cylinder in lock position | Below 1 V |
| 2D-53 (L2) - Body ground | LG - Body ground | Driver side door lock key switch input | Ignition switch off, all doors closed and driver side door key cylinder in neutral position | Pulse generation |
| 2D-52 (UL1) - Body ground<br>*4 | W - Body ground | Master switch (door control switch) input | Master switch (door control switch) in unlock position | Below 1 V |
| 2D-52 (UL1) - Body ground<br>*4 | W - Body ground | Master switch (door control switch) input | Master switch (door control switch) in neutral position | Pulse generation |
| 2D-52 (UL1) - Body ground<br>*4 | G - Body ground | Door control switch assembly input | Door control switch assembly in unlock position | Below 1 V |
| 2D-52 (UL1) - Body ground<br>*4 | G - Body ground | Door control switch assembly input | Door control switch assembly in neutral position | Pulse generation |
| 2D-49 (L1) - Body ground<br>*4 | BE - Body ground | Master switch (door control switch) input | Master switch (door control switch) in unlock position | Below 1 V |
| 2D-49 (L1) - Body ground<br>*4 | BE - Body ground | Master switch (door control switch) input | Master switch (door control switch) in neutral position | Pulse generation |
| 2D-49 (L1) - Body ground<br>*4 | R - Body ground | Door control switch assembly input | Door control switch assembly in unlock position | Below 1 V |
| 2D-49 (L1) - Body ground<br>*4 | R - Body ground | Door control switch assembly input | Door control switch assembly in neutral position | Pulse generation |
| E1-1 (TR+) - Body ground<br>*3 | L - Body ground | Back door lock motor UNLOCK drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| E1-1 (TR+) - Body ground<br>*3 | L - Body ground | Back door lock motor UNLOCK drive output | Master switch (door control switch) or driver side door key cylinder in unlock position | 11 to 14 V |
| E1-9 (LSWD) - Body ground | BR*5 - Body ground<br>BE*6 - Body ground | Driver side door lock position switch input | Driver side door unlocked | Below 1 V |
| E1-9 (LSWD) - Body ground | BR*5 - Body ground<br>BE*6 - Body ground | Driver side door lock position switch input | Ignition switch off, all doors closed and driver side door locked | Pulse generation |
| E2-27 (LSWP) - Body ground | Y*1 - Body ground<br>BR*2*5 - Body ground<br>BE*6 - Body ground | Front passenger side door lock position switch input | Front passenger side door unlocked | Below 1 V |
| E2-27 (LSWP) - Body ground | Y*1 - Body ground<br>BR*2*5 - Body ground<br>BE*6 - Body ground | Front passenger side door lock position switch input | Ignition switch off, all doors closed and passenger side door locked | Pulse generation |
| 2C-1 (LSWL) - Body | BR*5 - Body ground | Rear door LH lock | Rear door LH unlocked | Below 1 V |

| | | | | |
|---|---|---|---|---|
| ~~ground~~ | ~~BE*6 - Body ground~~ | ~~position switch input~~ | | |
| 2C-1 (LSWL) - Body ground | BR*5 - Body ground<br>BE*6 - Body ground | Rear door LH lock position switch input | Ignition switch off, all doors closed and rear door LH locked | Pulse generation |
| E2-5 (LSWR) - Body ground | BR*5 - Body ground<br>BE*6 - Body ground | Rear door RH lock position switch input | Rear door RH unlocked | Below 1 V |
| E2-5 (LSWR) - Body ground | BR*5 - Body ground<br>BE*6 - Body ground | Rear door RH lock position switch input | Ignition switch off, all doors closed and rear door RH locked | Pulse generation |
| E2-2 (LSWB) - Body ground<br>*4 | LG - Body ground | Back door lock position switch input | Back door unlocked | Below 1 V |
| E2-2 (LSWB) - Body ground<br>*4 | LG - Body ground | Back door lock position switch input | Ignition switch off, all doors closed and back door locked | Pulse generation |
| E1-26 (BDSU) - Body ground<br>*3 | L - Body ground | Back door opener switch input | Back door lock opener switch off | Below 1 V |
| E1-26 (BDSU) - Body ground<br>*3 | L - Body ground | Back door opener switch input | Back door lock opener switch on | Pulse generation |

**HINT:**

*1: for LHD

*2: for RHD

*3: w/ Entry and Start System

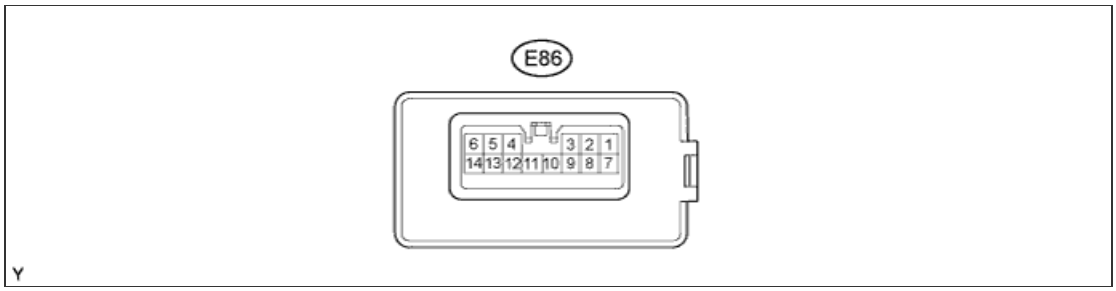
*4: w/o Entry and Start System

*5: for GRJ200L-GNANKC, URJ202L-GNTEKC

*6: except GRJ200L-GNANKC, URJ202L-GNTEKC

If the result is not as specified, the ECU may have a malfunction.

## CHECK DOUBLE LOCK DOOR CONTROL RELAY (w/ Double Locking Function)




a. Disconnect the E86 double lock door control relay connector.

b. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E86-1 (+B) - E86-14 (GND) | B - W-B | Battery power supply | Always | 11 to 14 V |
| E86-7 (CPUB) - E86-14 (GND) | R - W-B | ECU power supply | Always | 11 to 14 V |
| E86-14 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E86 double lock door control relay connector.

d. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E86-4 (ACTR) - E86-14 (GND) | P - W-B | All door double lock motor off signal | Door lock set → unset | Below 1 V → 11 to 14 V → Below 1 V |
| E86-3 (ACTS) - E86-14 | | All door double lock | | Below 1 V → 11 to 14 V |

| | | | | |
|---|---|---|---|---|
| (GND) | G - W-B | motor on signal | Door lock unset → set | → Below 1 V |
| E86-5 (DLPD) - E86-14 (GND) | BR*1 - Body ground<br>BE*2 - Body ground | Double lock position switch signal | Double lock set | Below 1 Ω |
| E86-5 (DLPD) - E86-14 (GND) | BR*1 - Body ground<br>BE*2 - Body ground | Double lock position switch signal | Double lock unset | 10 kΩ or higher |
| E86-6 (DLPP) - E86-14 (GND) | GR - W-B | Double lock position switch signal | Double lock set | Below 1 Ω |
| E86-6 (DLPP) - E86-14 (GND) | GR - W-B | Double lock position switch signal | Double lock unset | 10 kΩ or higher |
| E86-11 (DLPR) - E86-14 (GND) | Y*1 - W-B<br>SB*2 - W-B | Double lock position switch signal | Double lock set | Below 1 Ω |
| E86-11 (DLPR) - E86-14 (GND) | Y*1 - W-B<br>SB*2 - W-B | Double lock position switch signal | Double lock unset | 10 kΩ or higher |
| E86-12 (DLPL) - E86-14 (GND) | LG - W-B | Double lock position switch signal | Double lock set | Below 1 Ω |
| E86-12 (DLPL) - E86-14 (GND) | LG - W-B | Double lock position switch signal | Double lock unset | 10 kΩ or higher |

**HINT:**

*1: for GRJ200L-GNANKC, URJ202L-GNTEKC

*2: except GRJ200L-GNANKC, URJ202L-GNTEKC

If the result is not as specified, the ECU may have a malfunction.

**for Preparation** Click here

## DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the tester on.

d. Enter the following menus:
Body / (desired system) / Data List.

e. According to the display on the tester, read the Data List.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Door Courtesy SW | Driver side door courtesy light switch signal / ON or OFF | ON: Driver side door opened<br>OFF: Driver side door closed | - |
| D Door Lock Pos SW | Driver side door lock position switch signal / ON or OFF | ON: Driver side door unlocked<br>OFF: Driver side door locked | - |
| Door Key SW-Lock | Door key linked lock switch signal / ON or OFF | ON: Driver side door key cylinder turned to lock position<br>OFF: Driver side door key cylinder not turned | - |
| D-Door Key SW-UL | Door key linked unlock switch signal / ON or OFF | ON: Driver side door key cylinder turned to unlock position<br>OFF: Driver side door key cylinder not turned | - |
| P-Door Courtesy SW | Front passenger side door courtesy light switch signal / ON or OFF | ON: Front passenger side door opened<br>OFF: Front passenger side door closed | - |
| P-Door Lock Pos SW | Front passenger side door lock position switch signal / ON or OFF | ON: Front passenger side door unlocked<br>OFF: Front passenger side door locked | - |
| Door Lock SW-Lock | Door manual lock switch signal / ON or OFF | ON: Front passenger side door control switch on (lock)<br>OFF: Front passenger side door control switch off | - |
| Door Unlock SW-Unlock | Door manual unlock switch signal / ON or OFF | ON: Front passenger side door control switch on (unlock)<br>OFF: Front passenger side door control switch off | - |
| RL Door Courtesy SW | Rear LH side door courtesy light switch signal / ON or OFF | ON: Rear LH side door opened<br>OFF: Rear LH side door closed | - |
| RL-Door Lock Pos SW | Rear LH side door lock position switch signal / ON or OFF | ON: Rear LH side door unlocked<br>OFF: Rear LH side door locked | - |
| RR Door Courtesy SW | Rear RH side door courtesy light switch signal / ON or OFF | ON: Rear RH side door opened<br>OFF: Rear RH side door closed | - |
| RR-Door Lock Pos SW | Rear RH side door lock position switch signal / ON or OFF | ON: Rear RH side door unlocked<br>OFF: Rear RH side door locked | - |
| Back Door Courtesy SW | Back door courtesy light switch signal / ON or OFF | ON: Back door open<br>OFF: Back door closed | - |

| | | | |
|---|---|---|---|
| Back Door Open Handle SW | Back door opener handle switch signal / ON or OFF | ON: Back door opener switch pushed<br>OFF: Back door opener switch not pushed | - |
| Back Door Lock Pos SW | Back door lock position switch signal / ON or OFF | ON: Back door unlocked<br>OFF: Back door locked | - |
| Back Door Open | Back door open status / Permit or Prohibit | Permit: Back door unlocked<br>Prohibit: Back door locked | - |
| IG SW | Ignition switch status / ON or OFF | ON: Ignition switch ON<br>OFF: Ignition switch off | - |
| ACC SW | Ignition switch status / ON or OFF | ON: Ignition switch ACC<br>OFF: Ignition switch off | - |
| Communication Double Locking | Connection status between double door lock ECU and main body ECU / OK or STOP | OK: Connection<br>STOP: No connection | - |
| Communication Master SW | Connection status between master switch and main body ECU / OK or STOP | OK: Connection<br>STOP: No connection | - |

**Master Switch**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Door Lock Switch Status | Door manual lock switch signal / ON or OFF | ON: Door control switch ON (LOCK)<br>OFF: Door control switch OFF | - |
| Door Unlock Switch Status | Door manual unlock switch signal / ON or OFF | ON: Door control switch ON (UNLOCK)<br>OFF: Door control switch OFF | - |

**Back Door (w/ Power Back Door System)**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Door Lock Status | Back door lock switch signal / UNLOCK or LOCK | UNLOCK: Back door unlocked<br>LOCK: Back door locked | - |

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the tester on.

d. Enter the following menus:
Body / Main Body / Active Test.

e. According to the display on the tester, perform the Active Test.

**Main Body**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Door Lock | Operate door lock motor | Lock or Unlock | - |
| D-Door Unlock | Operate door lock motor | ON or OFF | - |
| Trunk and Back-Door Open | Operate back door opener | ON or OFF | - |

**Back Door (w/ Power Back Door System)**

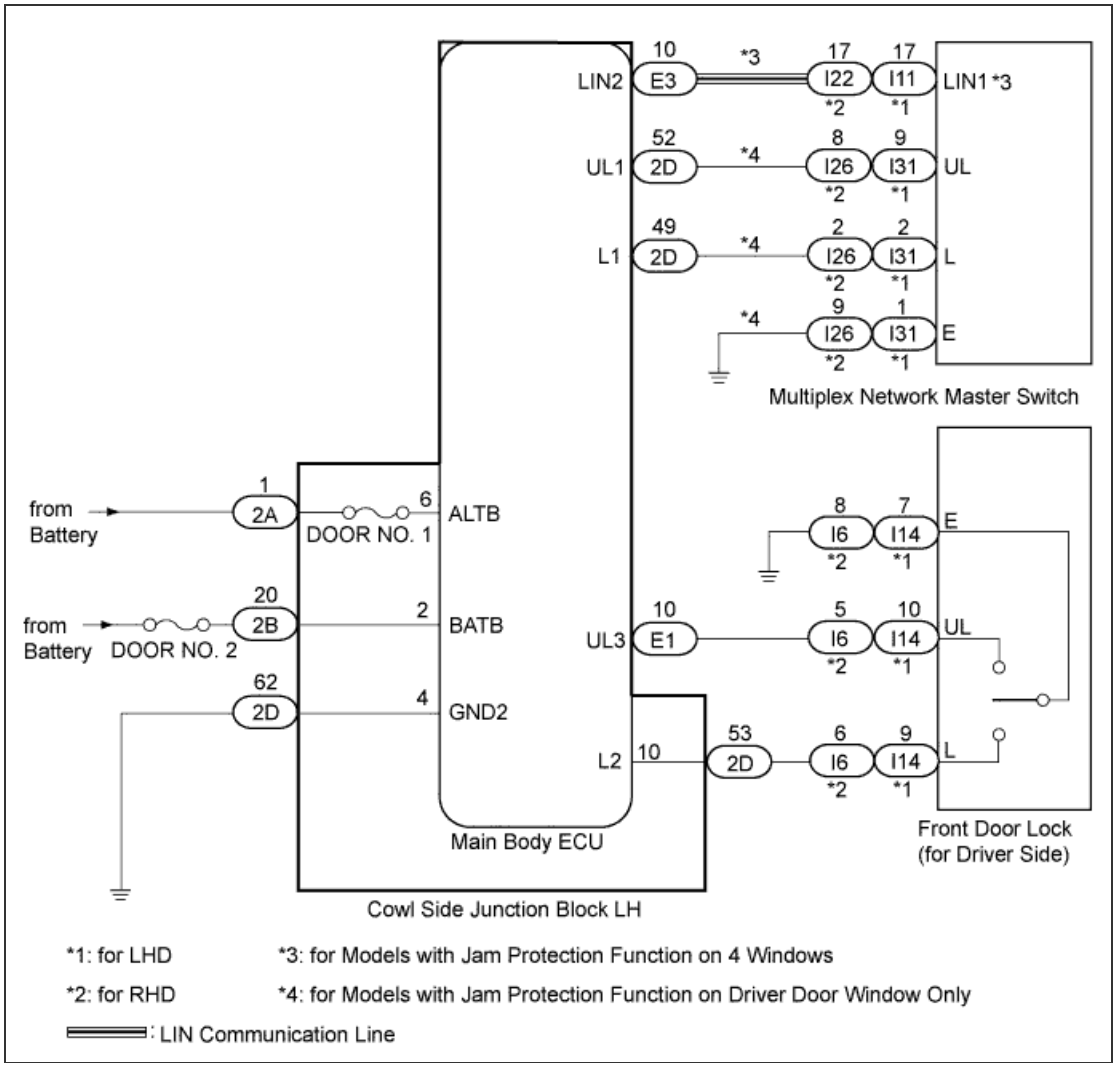
| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Latch Release | Operate back door lock | ON or OFF | - |

**for Preparation** Click here

## DESCRIPTION

The main body ECU receives switch signals from the multiplex network master switch, and driver side door key cylinder switch signals from the front door lock. The main body ECU activates the door lock motor on each door according to these signals.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Since the power door lock control system has functions that use LIN communication, first confirm that there is no malfunction in the communication system by inspecting the LIN communication functions in accordance with the "How to Proceed with Troubleshooting" procedures. Then, conduct the following inspection procedure.

### 1.CHECK DOOR LOCK OPERATION

**Result**

| Result | Proceed to |
|---|---|
| All doors cannot be locked through multiplex network master switch and driver side door key cylinder | A |
| All doors cannot be locked through multiplex network master | |

| | |
|---|---|
| switch (for Models with Jam Protection Function on Driver Door Window Only) | B |
| All doors cannot be locked through multiplex network master switch (for Models with Jam Protection Function on 4 Windows) | C |
| All doors cannot be locked through driver side door key cylinder | D |

B → Go to step 3

C → Go to step 4

D → Go to step 5

A

**2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)**

a. Disconnect the 2A, 2B and 2D main body ECU connectors.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage :**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 (ALTB) - Body ground | Always | 11 to 14 V |
| 2B-20 (BATB) - Body ground | Always | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)**

**3.CHECK HARNESS AND CONNECTOR (MULTIPLEX NETWORK MASTER SWITCH - MAIN BODY ECU AND BODY GROUND)**

a. for LHD:

i. Disconnect the I31 master switch connector.

ii. Disconnect the 2D main body ECU connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I31-9 (UL) - 2D-52 (UL1) | Always | Below 1 Ω |
| I31-2 (L) - 2D-49 (L1) | Always | Below 1 Ω |
| I31-1 (E) - Body ground | Always | Below 1 Ω |
| I31-9 (UL) - Body ground | Always | 10 kΩ or higher |
| I31-2 (L) - Body ground | Always | 10 kΩ or higher |

b. for RHD:

i. Disconnect the I26 master switch connector.

ii. Disconnect the 2D main body ECU connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I26-8 (UL) - 2D-52 (UL1) | Always | Below 1 Ω |
| I26-2 (L) - 2D-49 (L1) | Always | Below 1 Ω |
| I26-9 (E) - Body ground | Always | Below 1 Ω |
| I26-8 (UL) - Body ground | Always | 10 kΩ or higher |
| I26-2 (L) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**4.CHECK MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY (OPERATION)**

a. Replace the multiplex network master switch with a normally functioning one ( Click here).

b. Check that all doors can be locked and unlocked by using the multiplex network master switch.

**OK:**

**All doors can be locked and unlocked with multiplex network master switch.**

NG → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

OK

**END (MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY IS DEFECTIVE)**

**5.READ VALUE USING INTELLIGENT TESTER (DOOR KEY LINKED LOCK AND UNLOCK SWITCH)**

a. Use the Data List to check if the door key linked lock and unlock switches are functioning properly.

**Main Body ECU**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Door Key Linked Lock SW | Door key linked lock switch signal / ON or OFF | ON: Driver side door key cylinder turned to lock position<br>OFF: Driver side door key cylinder not turned | - |
| Door Key Linked Unlock SW | Door key linked unlock switch signal / ON or OFF | ON: Driver side door key cylinder turned to unlock position<br>OFF: Driver side door key cylinder not turned | - |

**OK:**

**On tester screen, each item changes between ON and OFF according to above chart.**

NG → Go to step 6

OK

**REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)**

**6.CHECK HARNESS AND CONNECTOR (FRONT DOOR LOCK - MAIN BODY ECU AND BODY GROUND)**

a. for LHD:

i. Disconnect the I14 door lock connector.

ii. Disconnect the E1 and 2D main body ECU connectors.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I14-10 (UL) - E1-10 (UL3) | Always | Below 1 Ω |
| I14-9 (L) - 2D-53 (L2) | Always | Below 1 Ω |
| I14-7 (E) - Body ground | Always | Below 1 Ω |
| I14-10 (UL) - Body ground | Always | 10 kΩ or higher |
| I14-9 (L) - Body ground | Always | 10 kΩ or higher |

b. for RHD:

i. Disconnect the I6 door lock connector.

ii. Disconnect the E1 and 2D main body ECU connectors.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

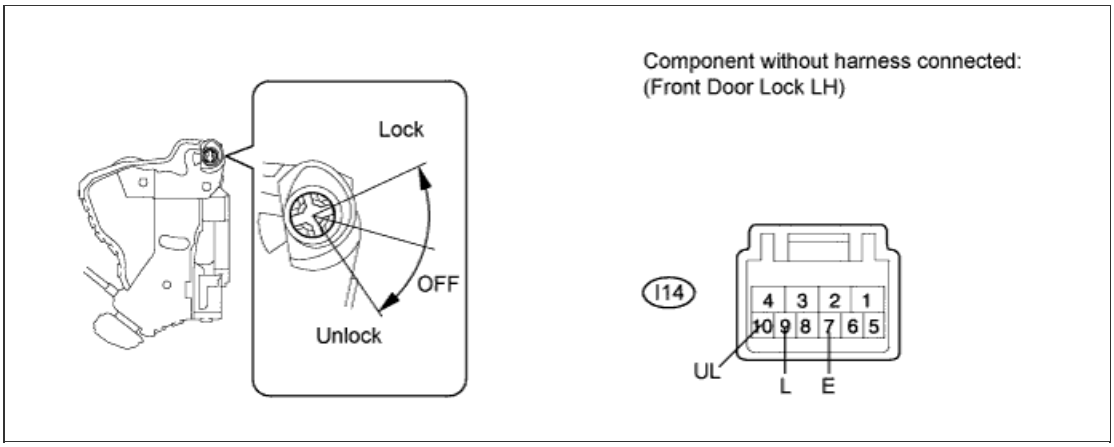
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I6-5 (UL) - E1-10 (UL3) | Always | Below 1 Ω |
| I6-6 (L) - 2D-53 (L2) | Always | Below 1 Ω |
| I6-8 (E) - Body ground | Always | Below 1 Ω |
| I6-5 (UL) - Body ground | Always | 10 kΩ or higher |
| I6-6 (L) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**7.INSPECT FRONT DOOR LOCK ASSEMBLY (DOOR KEY LINKED LOCK AND UNLOCK SWITCH)**

a. for LHD (w/o Double Locking Function):



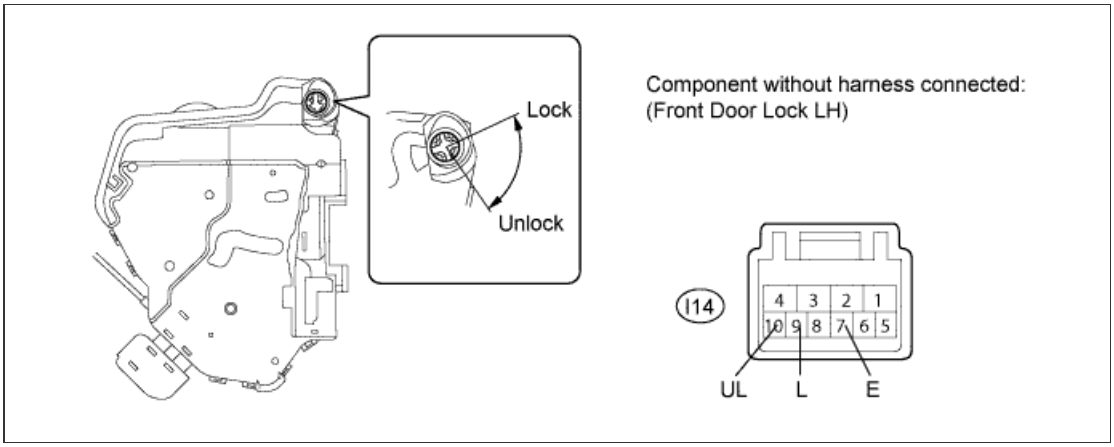

i. Remove the front door lock LH (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 9 (L) - 7 (E) | Lock | Below 1 Ω |
| 9 (L) - 7 (E) | Off | 10 kΩ or higher |
| 10 (UL) - 7 (E) | Unlock | Below 1 Ω |
| 10 (UL) - 7 (E) | Off | 10 kΩ or higher |

b. for LHD (w/ Double Locking Function):



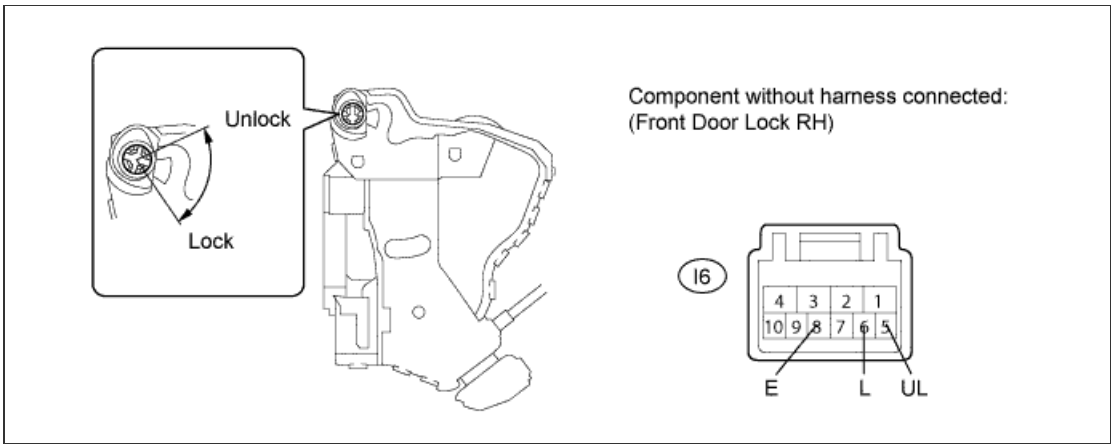

i. Remove the front door lock LH (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 9 (L) - 7 (E) | Lock | Below 1 Ω |
| 9 (L) - 7 (E) | Off | 10 kΩ or higher |
| 10 (UL) - 7 (E) | Unlock | Below 1 Ω |
| 10 (UL) - 7 (E) | Off | 10 kΩ or higher |

c. for RHD (w/o Double Locking Function):



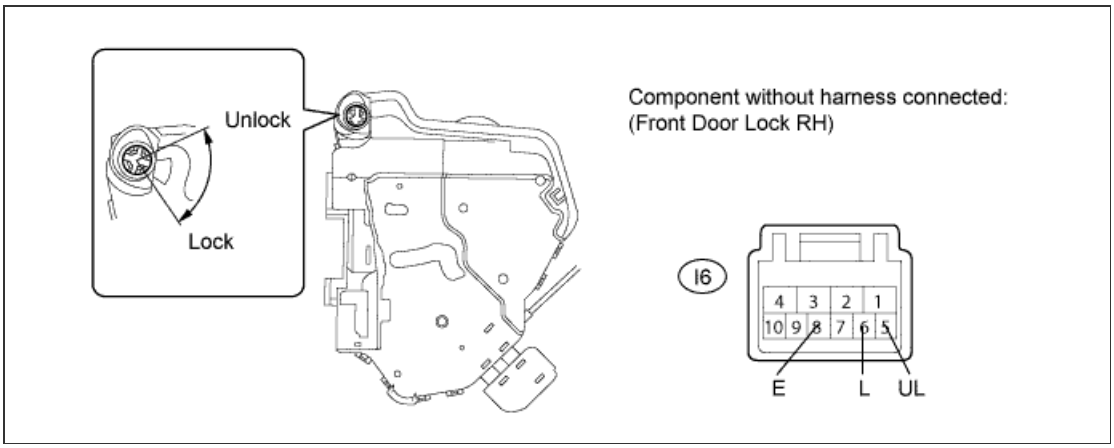

i. Remove the front door lock RH (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 5 (UL) - 8 (E) | Unlock | Below 1 Ω |
| 5 (UL) - 8 (E) | Off | 10 kΩ or higher |
| 6 (L) - 8 (E) | Lock | Below 1 Ω |
| 6 (L) - 8 (E) | Off | 10 kΩ or higher |

d. for RHD (w/ Double Locking Function):




i. Remove the front door lock LH (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 5 (UL) - 8 (E) | Unlock | Below 1 Ω |
| 5 (UL) - 8 (E) | Off | 10 kΩ or higher |
| 6 (L) - 8 (E) | Lock | Below 1 Ω |
| 6 (L) - 8 (E) | Off | 10 kΩ or higher |

NG → REPLACE FRONT DOOR LOCK ASSEMBLY (Click here)

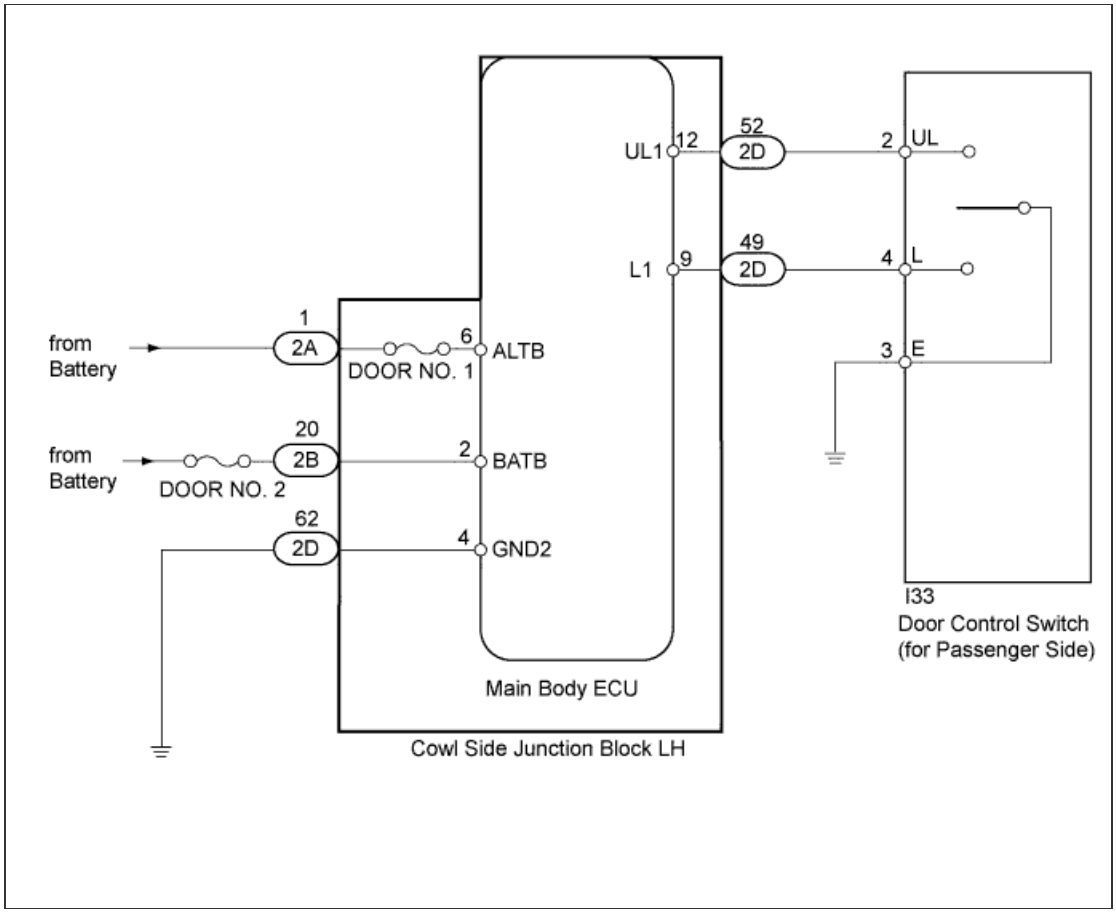
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**for Preparation** Click here

## DESCRIPTION

The main body ECU receives switch signals from the door control switch and activates the door lock motor on each door according to these signals.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

### 1.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK AND UNLOCK SWITCH)

a. Use the Data List to check if the door lock and unlock switches are functioning properly.

**Main Body ECU**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Door Lock SW-Lock | Door manual lock switch signal / ON or OFF | ON: Front passenger side door control switch on (lock)<br>OFF: Front passenger side door control switch off | - |
| Door Unlock SW-Unlock | Door manual unlock switch signal / ON or OFF | ON: Front passenger side door control switch on (unlock)<br>OFF: Front passenger side door control switch off | - |

**OK:**

**On the intelligent tester screen, each item changes between ON and OFF according to above chart.**

| | |
|---|---|
| NG | Go to step 4 |

OK

2.INSPECT FUSE (DOOR NO. 1, DOOR NO. 2)

a. Remove the DOOR NO. 1 fuse from the main body ECU (cowl side junction block LH).

b. Remove the DOOR NO. 2 fuse from the engine room relay block.

c. Measure the resistance according to the value(s) in the table below.

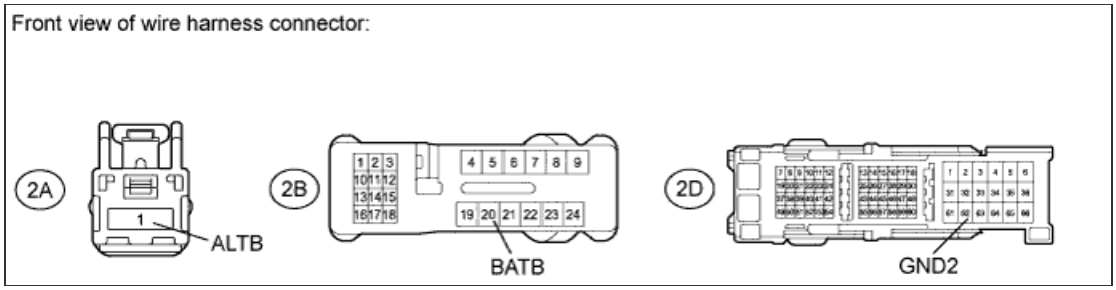
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| DOOR NO. 1 fuse | Always | Below 1 Ω |
| DOOR NO. 2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)




a. Disconnect the 2A, 2B, and 2D ECU connectors.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 (ALTB) - Body ground | Always | 11 to 14 V |
| 2B-20 (BATB) - Body ground | Always | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

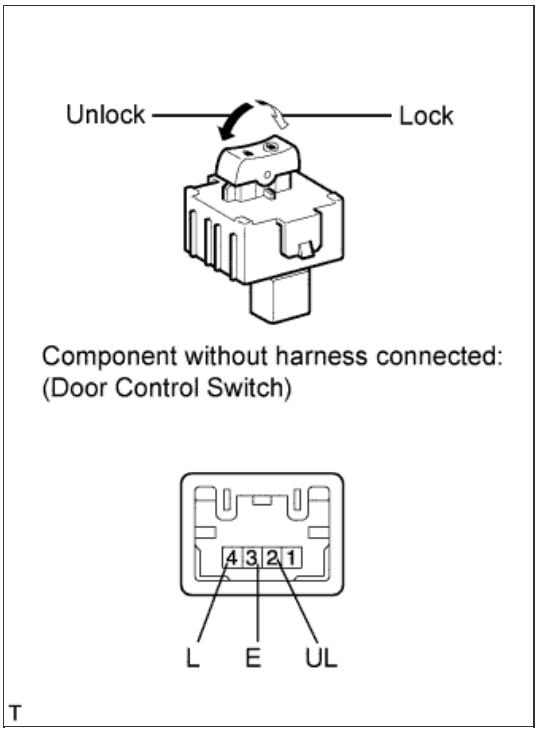
4.INSPECT DOOR CONTROL SWITCH ASSEMBLY (DOOR LOCK AND UNLOCK SWITCH)

a. Remove the door control switch (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

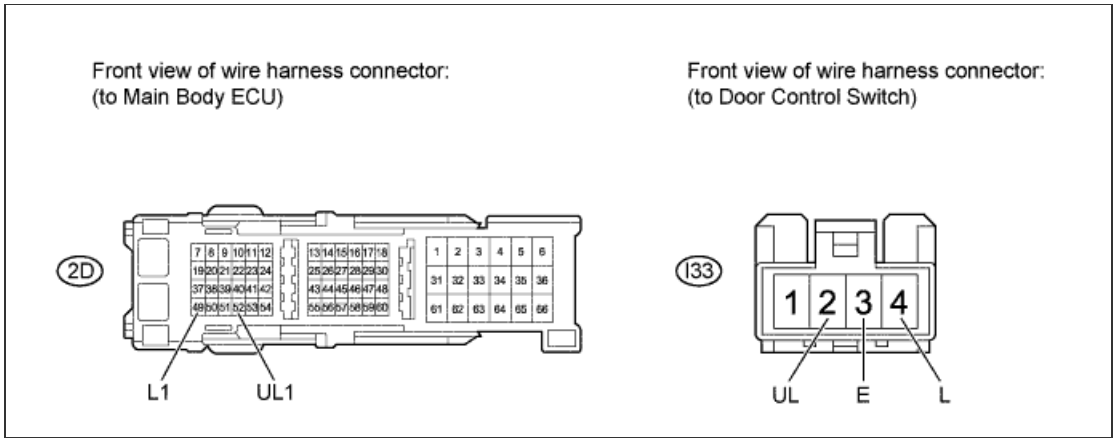
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 2 (UL) - 3 (E) | Unlock | Below 1 Ω |
| 2 (UL) - 3 (E)<br>4 (L) - 3 (E) | Off | 10 kΩ or higher |
| 4 (L) - 3 (E) | Lock | Below 1 Ω |




NG → REPLACE DOOR CONTROL SWITCH ASSEMBLY (Click here)

OK

## 5.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - DOOR CONTROL SWITCH AND BODY GROUND)




a. Disconnect the 2D ECU connector.

b. Disconnect the I33 switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-52 (UL1) - I33-2 (UL) | Always | Below 1 Ω |
| 2D-49 (L1) - I33-4 (L) | Always | Below 1 Ω |
| I33-3 (E) - Body ground | Always | Below 1 Ω |
| I33-2 (UL) - Body ground | Always | 10 kΩ or higher |
| I33-4 (L) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**for Preparation** Click here

## 1.PRECAUTIONS FOR EACH FUNCTION

a. Precautions for the key:

The key is a precision instrument. Be sure to observe the following:

i. Do not drop or strike the key.

ii. Do not keep the key in a high temperature area for a long time.

iii. Do not use an ultrasonic washing machine to clean the key.

iv. Keep the key away from magnets or magnetized items during use.

v. Do not attach any stickers to the key.

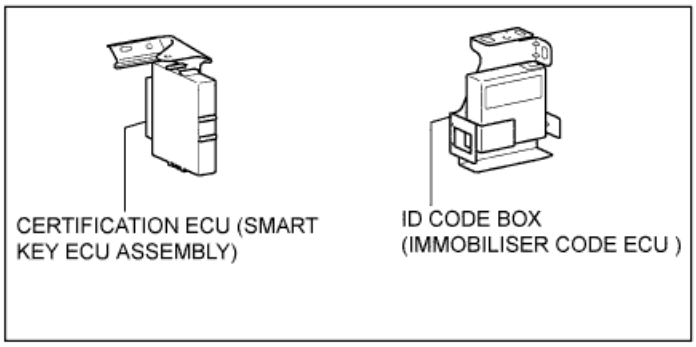
b. Precautions for the battery built into the key and the vehicle battery:

i. When the door is being locked, the vehicle battery is used to transmit a radio wave. The battery may be fully depleted if the vehicle remains stopped for a long time. If the vehicle is not used for a long time, replace the transmitter battery (Click here) or cancel the entry and start system (for Entry Function) (Click here).

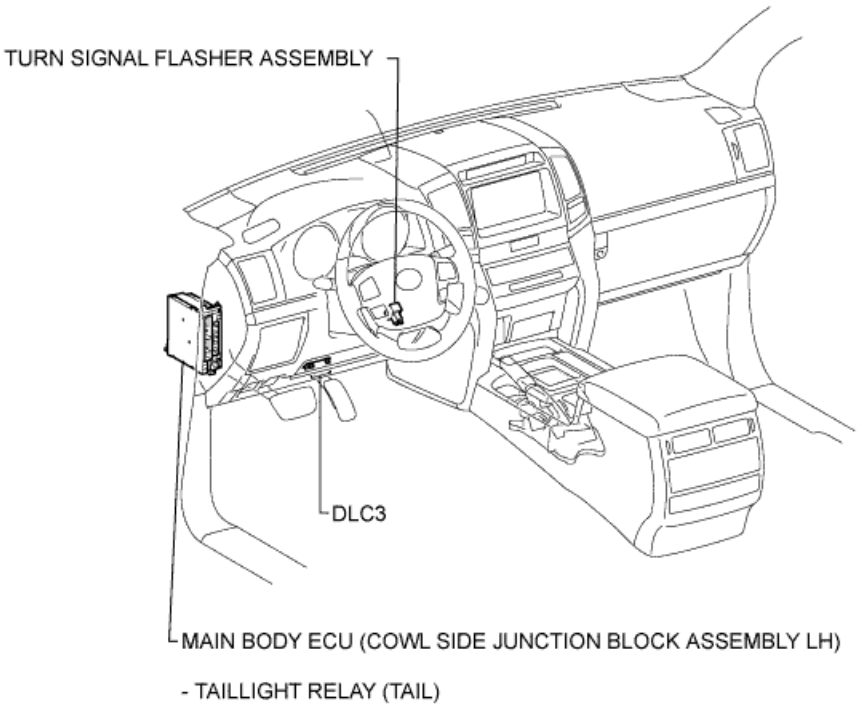
ii. When the door is being locked with the key in the detection area of the door oscillator, the battery is used to regulate communication between the key and vehicle. If the vehicle is not used, keep the key away from the vehicle (more than 2 m (6.56 ft.)).

**for Preparation** Click here

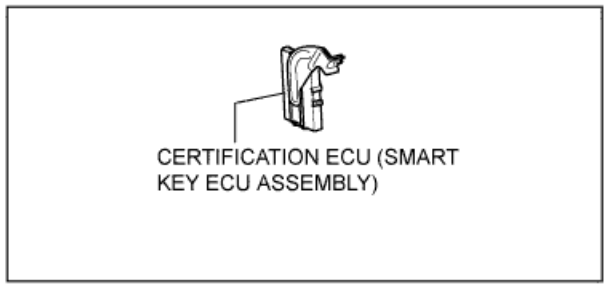
for LHD:



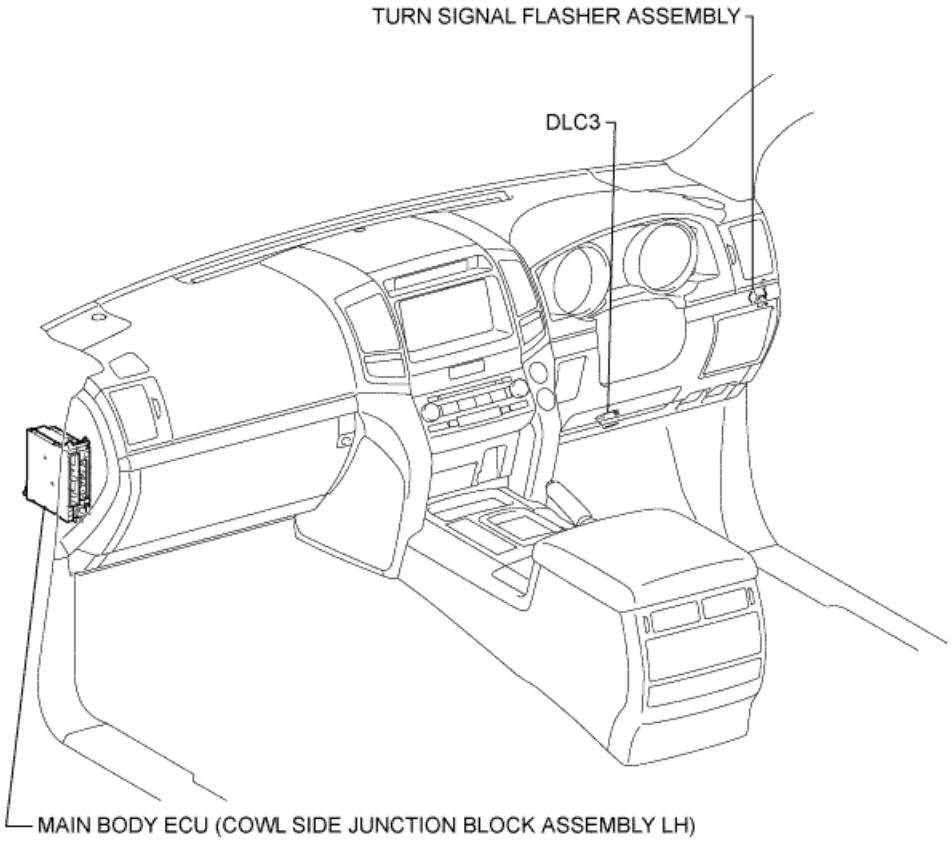

Refer to Service Bulletin for installation position

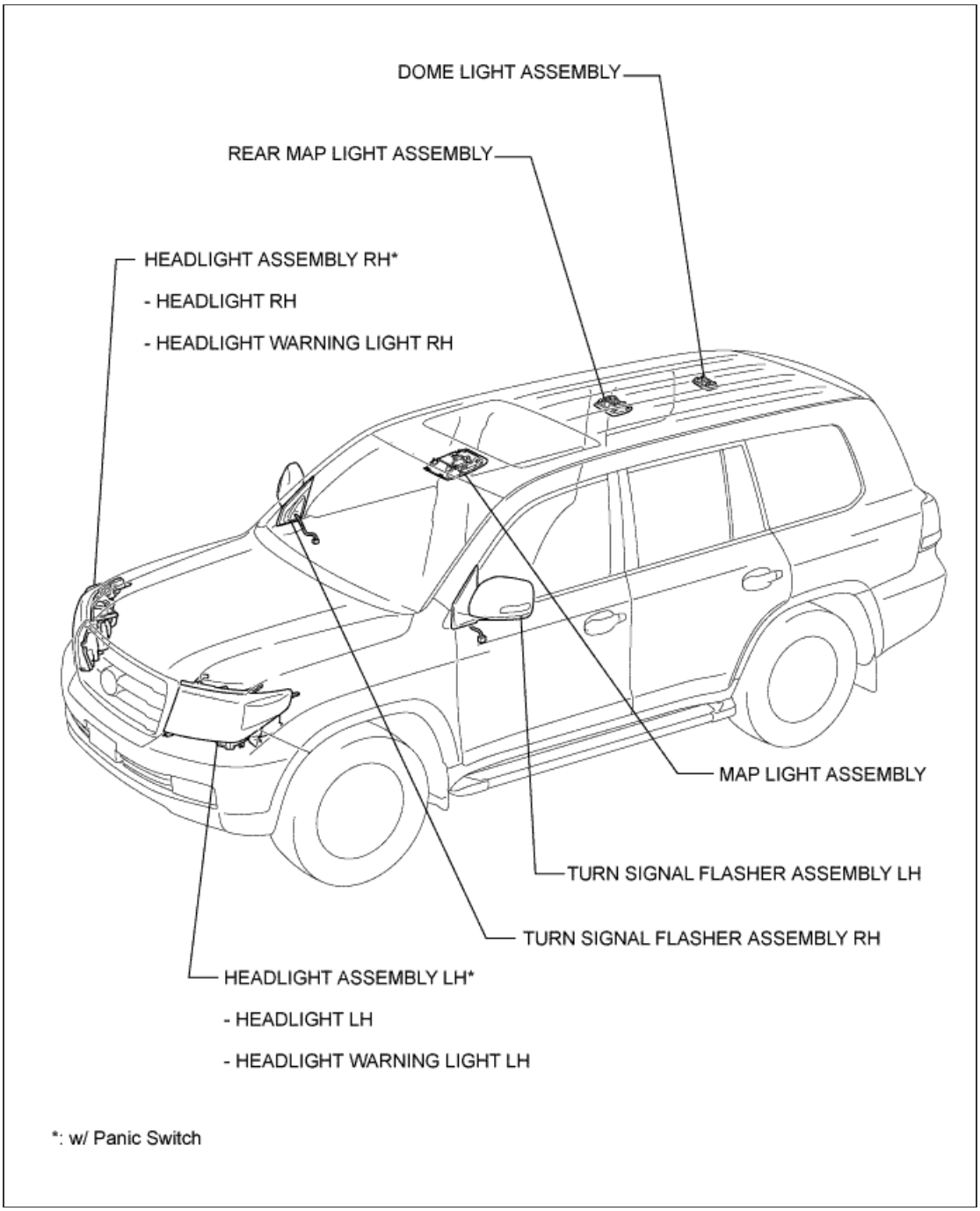


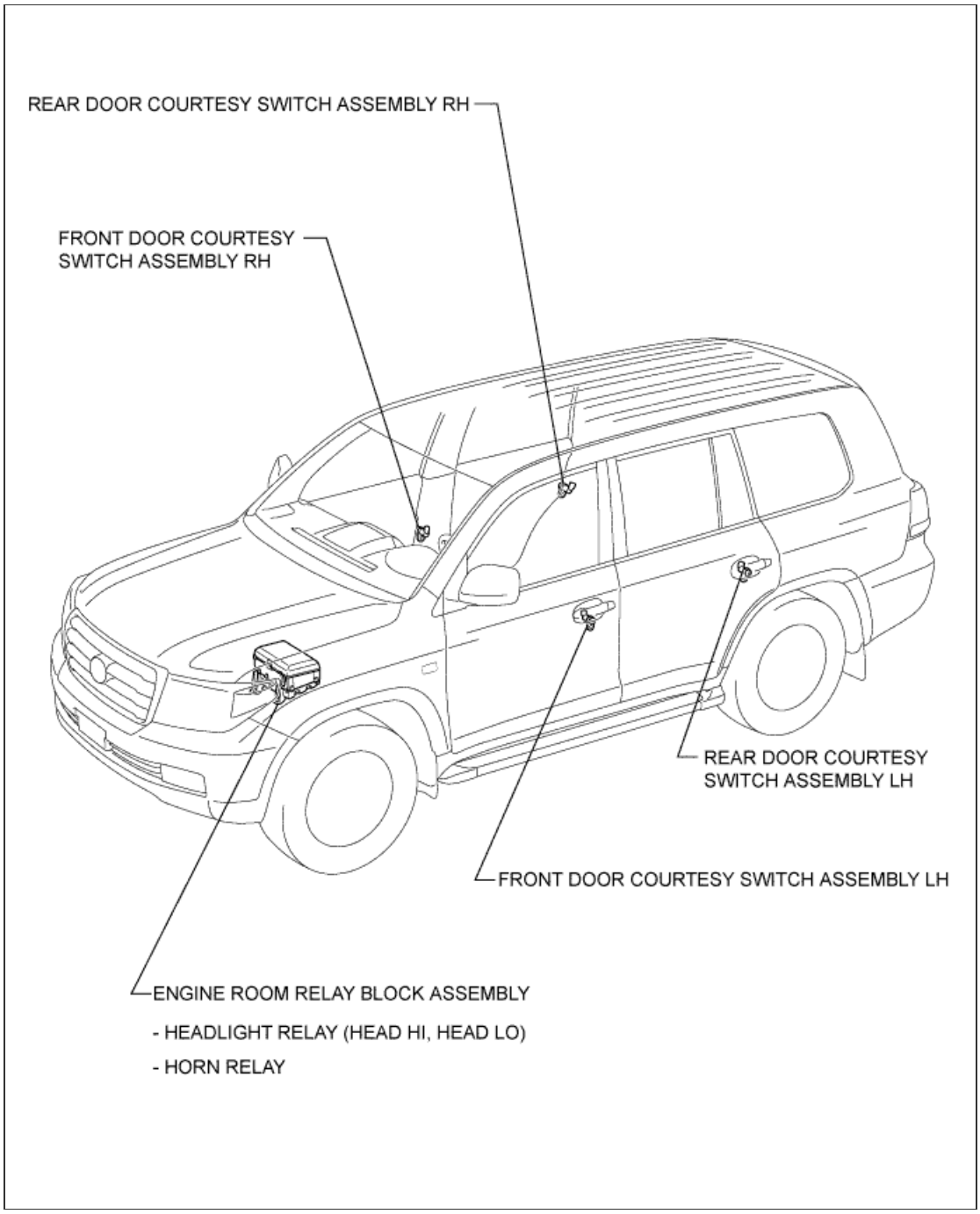
for RHD:

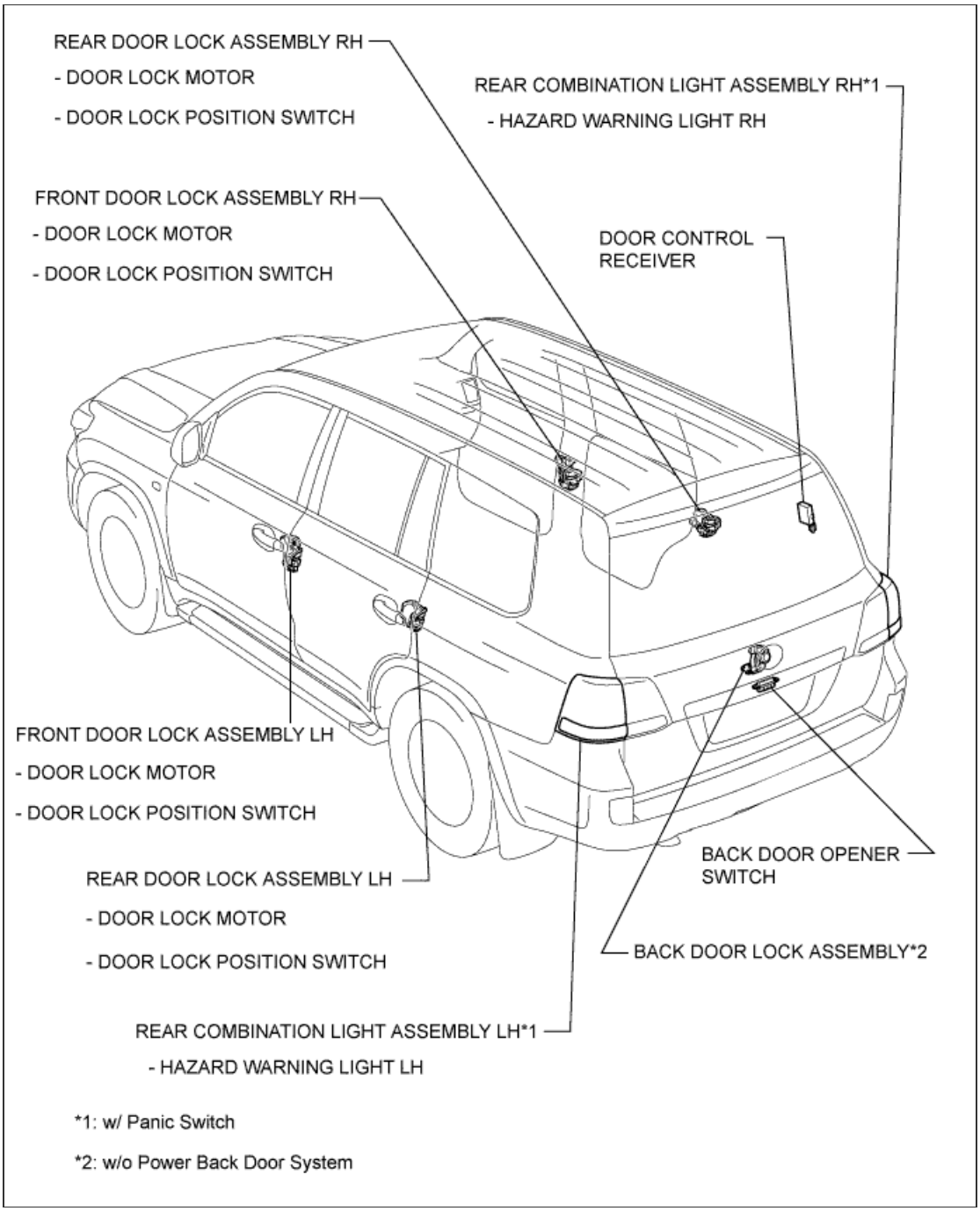



Refer to Service Bulletin for installation position

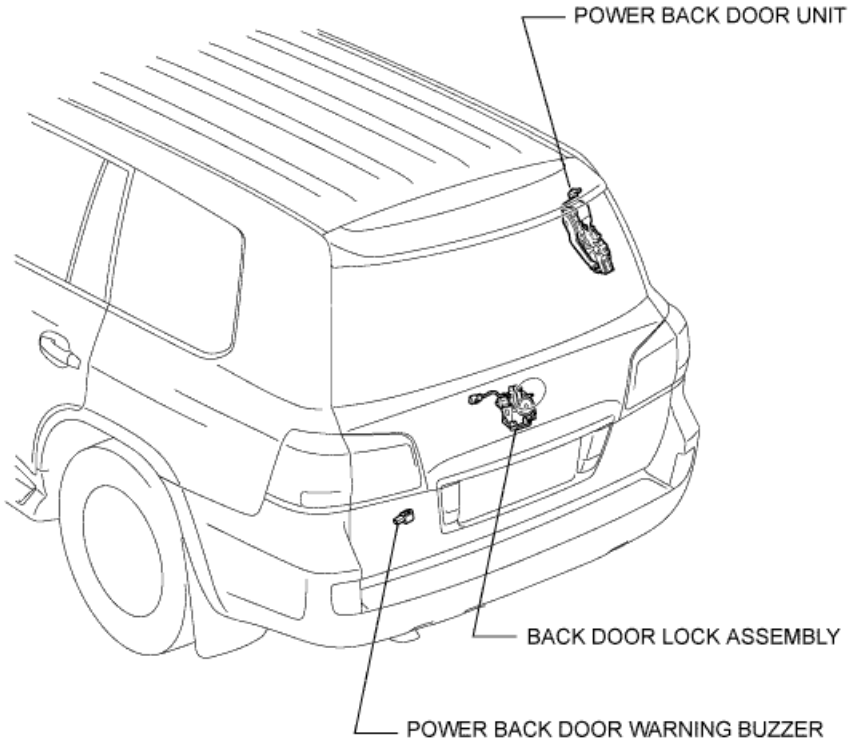



DOME LIGHT ASSEMBLY
REAR MAP LIGHT ASSEMBLY
HEADLIGHT ASSEMBLY RH*
- HEADLIGHT RH
- HEADLIGHT WARNING LIGHT RH
MAP LIGHT ASSEMBLY
TURN SIGNAL FLASHER ASSEMBLY LH
TURN SIGNAL FLASHER ASSEMBLY RH
HEADLIGHT ASSEMBLY LH*
- HEADLIGHT LH
- HEADLIGHT WARNING LIGHT LH
*: w/ Panic Switch

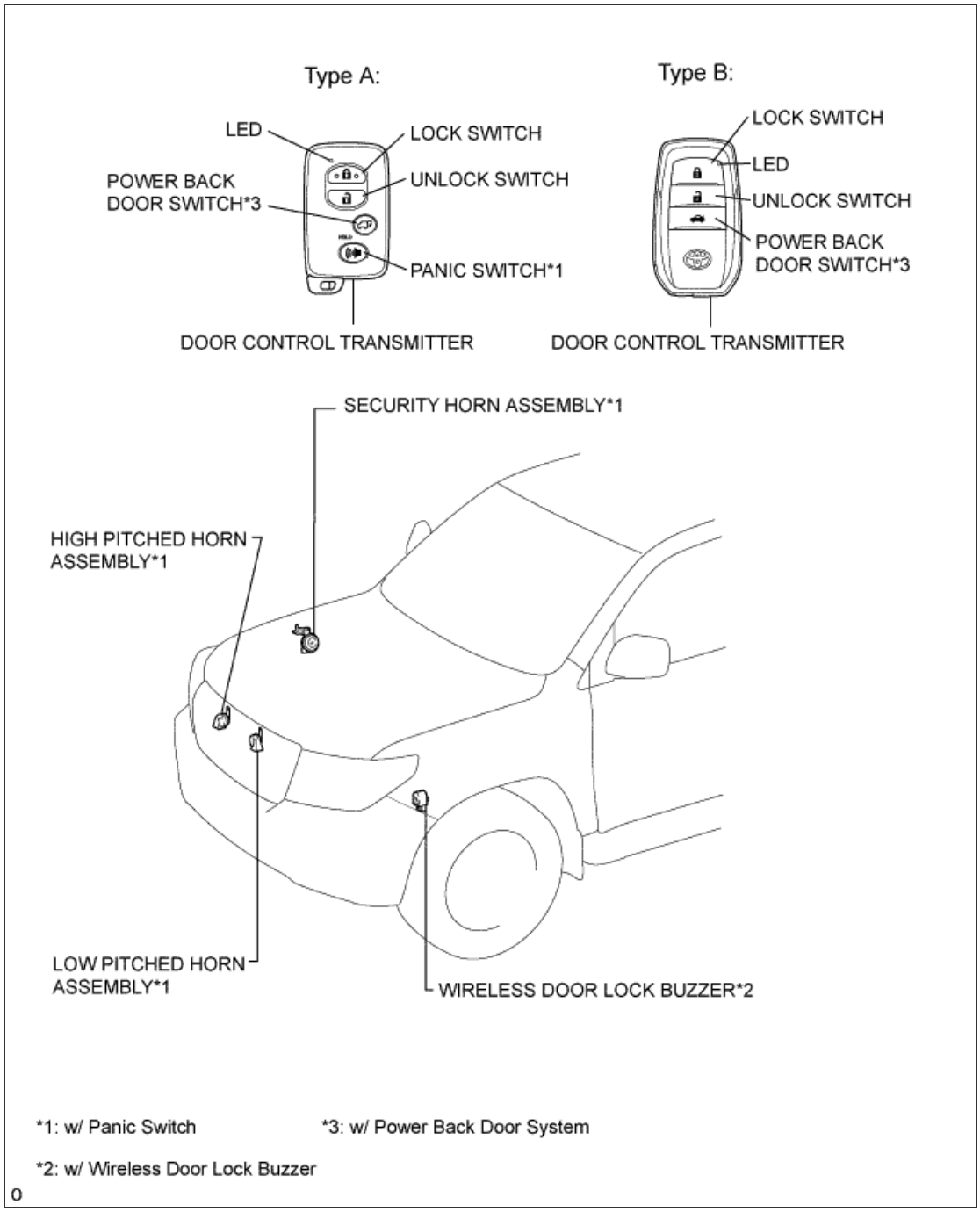

REAR DOOR COURTESY SWITCH ASSEMBLY RH
FRONT DOOR COURTESY SWITCH ASSEMBLY RH
REAR DOOR COURTESY SWITCH ASSEMBLY LH
FRONT DOOR COURTESY SWITCH ASSEMBLY LH
ENGINE ROOM RELAY BLOCK ASSEMBLY
- HEADLIGHT RELAY (HEAD HI, HEAD LO)
- HORN RELAY


REAR DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
REAR COMBINATION LIGHT ASSEMBLY RH*1
- HAZARD WARNING LIGHT RH
FRONT DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
DOOR CONTROL RECEIVER
FRONT DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
BACK DOOR OPENER SWITCH
REAR DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
BACK DOOR LOCK ASSEMBLY*2
REAR COMBINATION LIGHT ASSEMBLY LH*1
- HAZARD WARNING LIGHT LH
*1: w/ Panic Switch
*2: w/o Power Back Door System

w/ Power Back Door System:




H

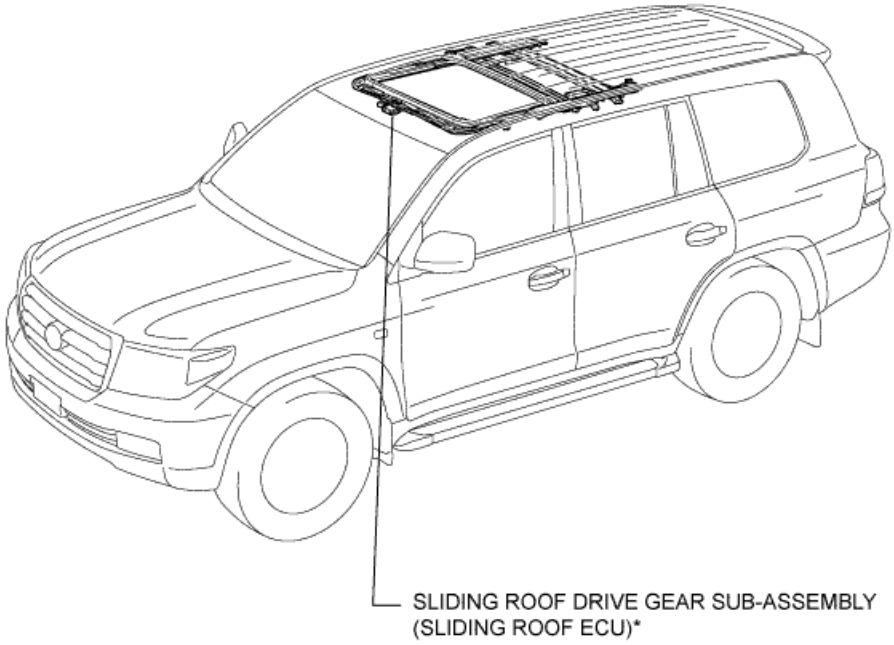



*1: w/ Panic Switch

*3: w/ Power Back Door System

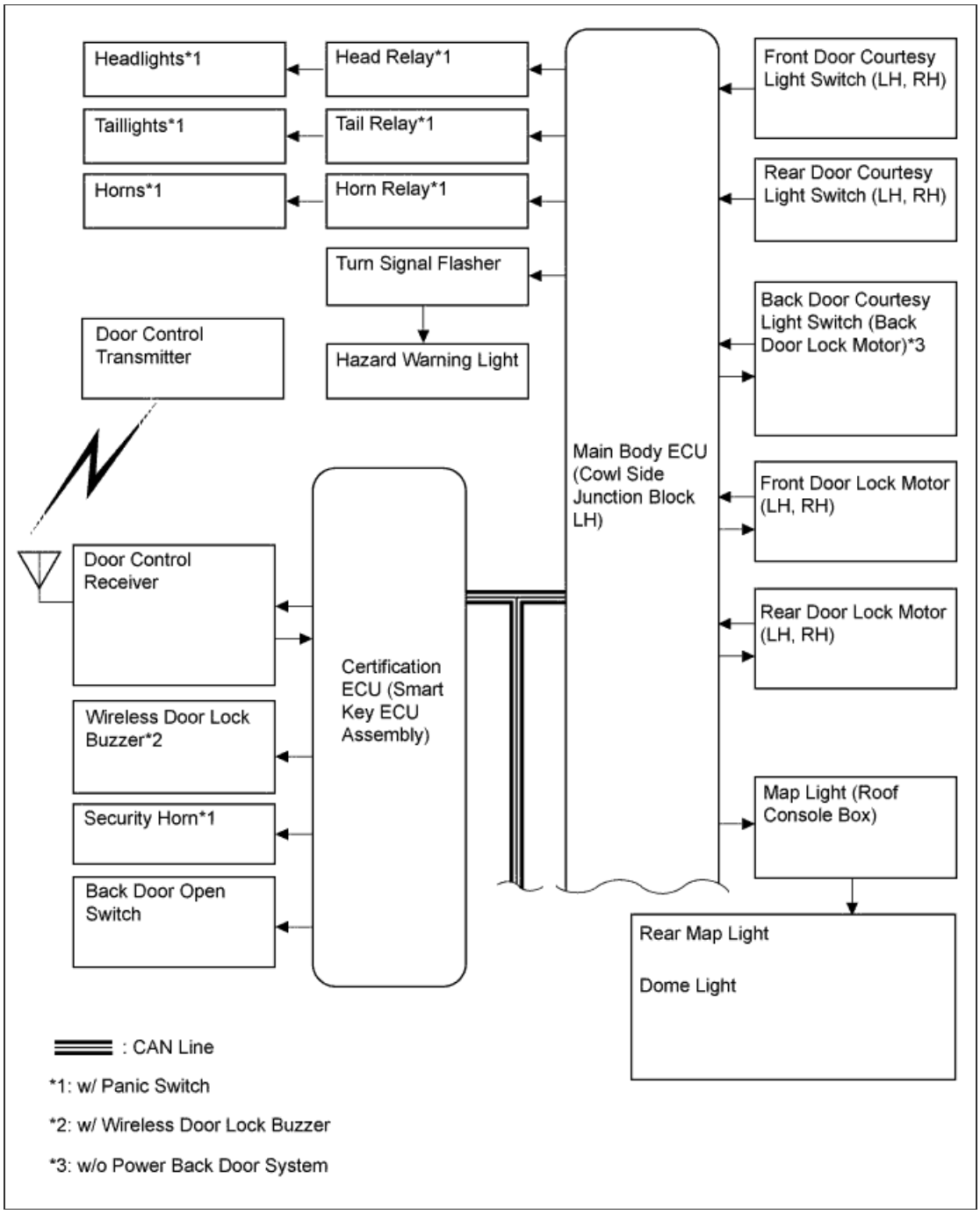
*2: w/ Wireless Door Lock Buzzer

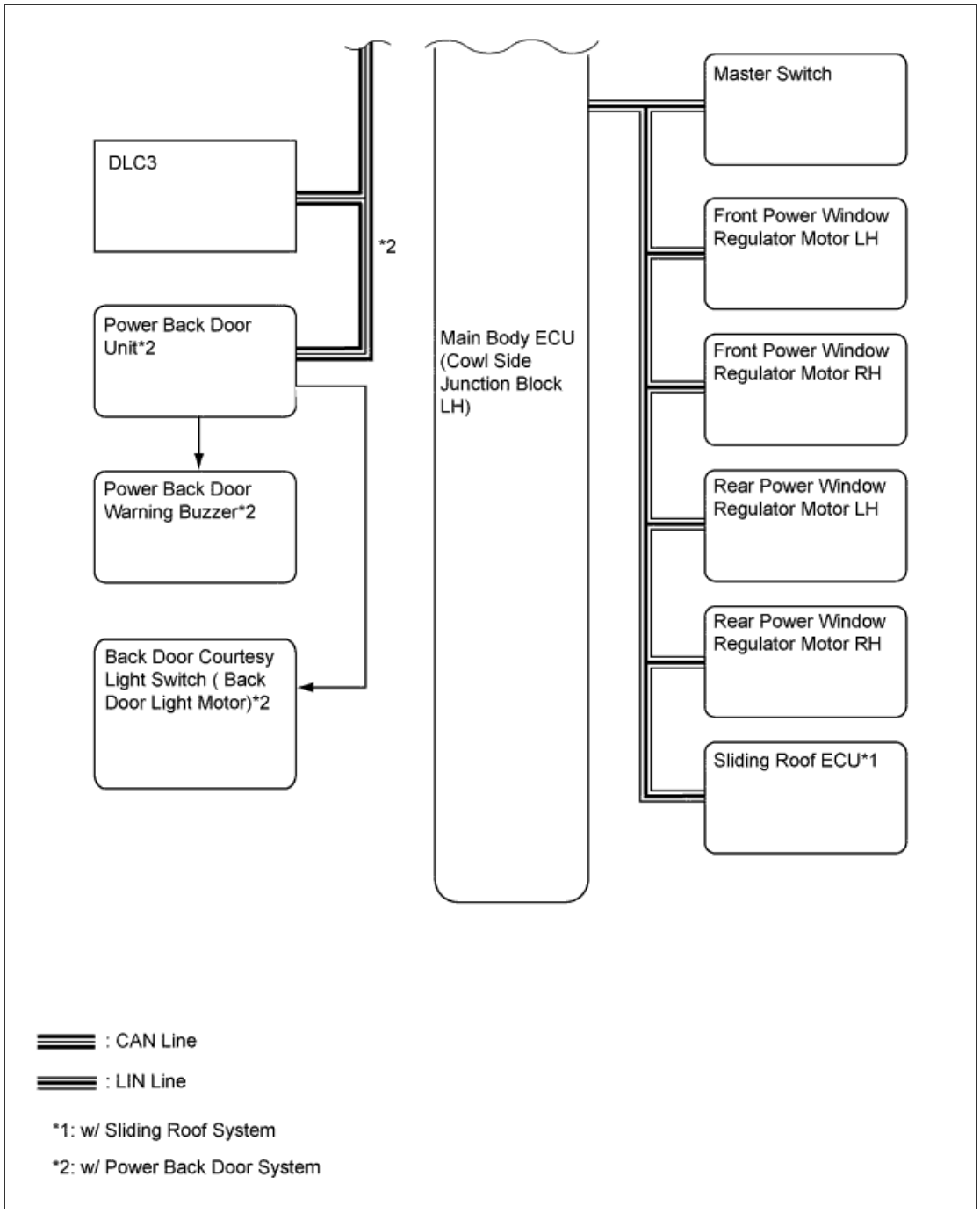
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*: w/ Sliding Roof System

**for Preparation** Click here






**Communication table:**

| Sender | Receiver | Signal | Line |
|---|---|---|---|
| Certification ECU (smart key ECU assembly) | Main body ECU (Cowl side junction block LH) | • Door unlock standby control signal<br>• Hazard answer back signal<br>• Map light answer back signal | CAN |
| Main body ECU (Cowl side junction block LH) | Certification ECU (smart key ECU assembly) | • Door lock/unlock output request signal<br>• Wireless door lock buzzer sound request signal<br>• Door lock position signal | |
| Main body ECU (Cowl side junction block LH) | Power back door unit*2 | Back door lock control sign | CAN |
| Main body ECU (Cowl side junction block LH) | • Master switch<br>• Front power window regulator motor LH<br>• Front power window regulator motor RH<br>• Rear power window regulator motor LH<br>• Rear power window regulator motor RH | Wireless power window up signal | LIN |

| | | | |
|---|---|---|---|
| Main body ECU (Cowl side junction block LH) | Sliding roof ECU*1 | Wireless sliding roof open signal*1 | LIN |

**HINT:**

*1: w/ Sliding Roof System

*2: w/ Power Back Door System

**for Preparation** Click here

This system lock/unlocks the doors remotely. The wireless door lock control system has the following features:

- The certification ECU (smart key ECU assembly) performs the code identification process and the main body ECU (cowl side junction block LH) controls the door lock. A serial data link is provided for communication between the certification ECU (smart key ECU assembly) and main body ECU (cowl side junction block LH).
- A key-integrated type transmitter is used and it contains the following 3 switches: lock switch, unlock switch, power back door switch*1 and panic switch*2.

  **HINT:**

  - ***1: w/ Power Back Door System**
  - ***2: w/ Panic Switch**

- An LED is mounted on the transmitter to show if the battery is depleted.

## FUNCTION OF MAIN COMPONENTS

| Component | Function |
|---|---|
| Door control transmitter | • Contains lock, unlock, power back door*4 and panic switches*1.<br>• Transmits weak electric waves (recognition codes and function codes) to door control receiver.<br>• Illuminates indicator light (LED) during transmission. |
| Door control receiver | Receives weak electric waves (recognition codes and function codes) from door control transmitter via electrical key antenna and changes waves to code data. |
| Front door courtesy light switch<br>Rear door courtesy light switch<br>Back door courtesy light switch | Turns on when door is open and off when door is closed. Outputs door status (open or closed) to main body ECU (cowl side junction block LH). |
| Back door lock | • The built-in motor open the door.*3<br>• The built-in motor open/close the door.*4<br>• Performs the back door open operation according to the door lock position determination of the main body ECU.*3<br>• Performs the back door open/close operation according to the door position as determined by the power back door ECU.*4 |
| Door lock position switch | Transmits door lock positions of each door to main body ECU (cowl side junction block LH). |
| Wireless door lock buzzer*2 | Emits beep (answer-back) when doors are locked or unlocked by wireless operation.*5 |
| Certification ECU (smart key ECU assembly) | Matches code data with registered code and outputs code data to main body ECU (cowl side junction block LH). |

**HINT:**

*1: w/ Panic Switch

*2: w/ Wireless Door Lock Buzzer

*3: w/o Power Back Door System

*4: w/ Power Back Door System

*5: w/ Buzzer Answer-back

## SYSTEM FUNCTION

a. The wireless door lock control system has the following functions:

| Function | Outline |
|---|---|
| All door lock function | Pressing the lock switch locks all the doors and retracts the outer mirrors. |
| All door unlock function | Pressing unlock switch unlocks all the doors and returns the outer mirrors. |

| | |
|---|---|
| 2-step unlock function*1 | Pressing the unlock switch once unlocks only the driver side door and returns the outer mirrors.<br>Pressing the unlock switch twice within 3 seconds unlocks all the doors. |
| Power window (and sliding roof*2) open function*1, *7 | After locking all the doors with the door control transmitter operation, pressing the unlock switch for 3 seconds or more opens all the power windows (and the sliding roof*2). |
| Power window (and sliding roof*2) close function*1, *7 | After locking all the doors with the door control transmitter operation, pressing the unlock switch for 3 seconds or more closes all the power windows (and the sliding roof*2). |
| Chattering prevention function | If a switch is pressed, the corresponding switch operation is performed once. If a switch is held down, the corresponding switch operation occurs only once and does not repeatedly activate. Lastly, when pressing a switch at 1 second intervals, the corresponding operation activates once for every press of the switch. |
| Answer-back function<br>- Buzzer answer-back*3<br>- Hazard answer-back | • When the doors are locked, the turn signal lights flash once. When the doors are unlocked, the turn signal lights flash twice and the wireless warning buzzer sounds twice.<br>• When the transmitter is used for opening the power windows and sliding roof, this function causes the buzzer to sound to indicate that the operation begins. |
| Automatic lock function | If no doors are opened within 30 seconds after they are unlocked by the door control transmitter, all the doors will lock again automatically. |
| Panic alarm function*4 | Holding down the panic switch for more than 1 second sets off the theft deterrent alarm (the horn and security horn sounds, the hazard warning lights, headlights, and taillights flash, and the map light and spot light illuminate). |
| Fail-safe function | When the key is in the vehicle, the doors cannot be locked by the lock switch. |
| Illuminated entry function | • Pressing the unlock switch causes dome light (map light and rear map light), illumination and all the door unlock operation to occur simultaneously.<br>• If the doors have not been opened, the dome light (map light and rear map light) turns off in approximately 15 seconds. |
| Door ajar warning function*5 | If any door is open or ajar, pressing the lock switch will cause the wireless door lock buzzer to sound for about 5 seconds. |
| Memory call function*6 | If the unlock switch of a memory call registered transmitter is pressed and the driver door is opened, the following parts move to the memory call position: front seat, front seat belt anchor, steering wheel and outer mirrors. |
| Transmitter recognition code registration function | Enables 7 modes for registering (writing and storing) transmitter recognition codes in the EEPROM. |
| Wireless power back door open/close function*8 | When the back door switch is pressed for 0.8 seconds or more, the back door opens/closes. (Power back door operation changes according to the customize parameters. For details, refer to the Power Back Door System.) |

**HINT:**

*1: This function can be enabled by changing the customize parameter.

*2: w/ Sliding Roof System

*3: w/ Buzzer Answer-back

*4: w/ Panic Switch

*5: Except China

*6: w/ Memory Call Function

*7: w/ Remote Function

*8: w/ Power Back Door System

**for Preparation** Click here

**HINT:**

- **The wireless door lock control system troubleshooting procedures are based on the premise that the following systems are operating normally. Check these systems first before troubleshooting the wireless door lock control system.**
  - **Power door lock control system**
  - **Power window control system**
  - **Sliding roof system**
- **Use these procedures to troubleshoot the wireless door lock control system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

**NEXT**

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

**NEXT**

## 3.CHECK FOR DTC*

a. Check for DTCs and note any codes that are output ( Click here).

b. Clear the DTCs (Click here).

c. Recheck for DTCs (Click here). Based on the DTCs output above, try to force output of the same CAN communication system DTC, LIN communication system DTC or wireless door lock control system DTC by simulating the symptoms indicated by the DTC.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |
| LIN communication system DTC is output | D |
| Wireless door lock control system DTC is output | E |

| | |
|---|---|
| **B.** | **Go to CAN COMMUNICATION SYSTEM (Click here)** |
| **C.** | **Go to CAN COMMUNICATION SYSTEM (Click here)** |
| **D.** | **Go to LIN COMMUNICATION SYSTEM (Click here)** |
| **E.** | **Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)** |

**A**

## 4.PROBLEM SYMPTOMS TABLE

a. Refer to the Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

**B.** → Go to step 6

**A**

## 5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Operation Check (Click here)

b. Terminals of ECU (Click here)

c. Data List / Active Test (Click here)

**NEXT**

## 6.REPAIR OR REPLACE

**NEXT**

## 7.CONFIRMATION TEST

**NEXT**

## END

**for Preparation** Click here

## NOTICES WHEN CHECKING

a. Wireless door lock/unlock function:
The wireless door lock control function operates only when the following 5 conditions are met:

- The engine switch is off.
- All the doors are closed.

**HINT:**

The unlock function operates even when one of the doors is open.

- There is no door control transmitter in the cabin.
- The power door lock system is functioning normally.
- The function is not disabled by customization.

b. The wireless transmitter operational area differs depending on the situation.

- The operational area differs depending on the user, the way the transmitter is held and the location.
- In certain areas, the operational area will be reduced due to the vehicle body shape and the influence of the surrounding environment.
- The transmitter's weak electric waves may be affected if the area has strong electric waves or noise. The transmitter operational area may be shortened or the transmitter may not function.
- When the battery weakens, the operational area is reduced or the transmitter may not function.

**HINT:**

The battery may weaken or other problems may occur if one of the following occurs: 1) it has had prolonged exposure to direct sunlight, such as on the instrument panel; or 2) it is placed within 1 m (3.28 ft) of electrical products, such as TVs, computers, cordless phones, cell phone recharger stands (with the cell phone recharging), etc.

## CHECK WIRELESS DOOR LOCK CONTROL SYSTEM

**HINT:**

- **The switches described below transmit signals and are built into the door control transmitter.**
- **The transmitter operational area must be taken into account while checks are being made.**

a. Make sure the vehicle is in a condition in which the wireless door lock control functions can be operated (see previous step).

b. Check the basic functions:

- Check that the transmitter LED lights up 3 times when each switch is pressed 3 times.

**HINT:**

If the LED does not illuminate when the switch has been pressed 3 times or more, the battery may be depleted.

- Check that when the lock switch is pressed all the doors lock.
- Check that when the unlock switch is pressed all the doors unlock.
- When the transmitter is within 1 m (3.28 ft) of the driver seat, check that when the unlock switch is held down for 3 seconds or more, all the power windows and the sliding roof*1 open. Also check that the open operation stops when the switch is released.*2

**HINT:**

- ***1: w/ Sliding Roof System**
- ***2: The customize default setting is off.**

c. Check the chattering prevention function:

- If a switch is pressed, check that the corresponding operation is performed only once. If the switch is held down, check that the corresponding operation occurs only once and does not repeatedly activate. Lastly, if a switch is pressed at 1 second intervals, check that the corresponding operation activates once for every press of the switch.

d. Check the answer-back function:

- When the lock switch is pressed, check that the turn signal lights flash once, the wireless door lock buzzer sounds* once and all the doors lock.
- When the unlock switch is pressed, check that the turn signal lights flash twice, the wireless door lock buzzer sounds* twice and all the doors unlock.

**HINT:**

*: Except Europe and China

e. Check the automatic lock function:

- When all of the doors are unlocked with the unlock switch and none of the doors are opened or locked within 30 seconds*, check that the doors lock again.

**HINT:**

*: The automatic lock function time (30 seconds) applies only if the setting of this function is the default.

f. Check the panic alarm function (w/ Panic Switch):

- When the panic switch is held down for 1 second or more, check that the security horn and vehicle horn sound, the headlights, taillights, and turn signal lights flash, and the map light and spot light illuminate.

g. Check the switch operation fail-safe function:

- If the key is in the vehicle, check that the doors cannot be locked by the lock switch. However, this does not apply when the system is in the recognition code registration mode.

h. Check the illuminated entry function:

- When the map light DOOR switch is on and all the doors are locked, pressing the unlock switch causes the dome light (map light, rear map light) to illuminate and all doors to unlock simultaneously.
- If the doors have not been opened, the map light and dome light turn off in approximately 15 seconds.

i. Check the door ajar warning function (Except China):

- If a door is open or not completely closed, check that the doors cannot be locked by the lock switch and the buzzer sounds for 5 seconds.

**HINT:**

The buzzer stops sounding if either of the following conditions is met:

- **The buzzer has sounded for 5 seconds.**
- **The engine switch is on (ACC or IG).**
- **All the doors are closed.**

j. Check the memory call function (Click here).

k. Check the power back door function (w/ Power Back Door System):

- When the back door switch is pressed with the back door closed, check that the buzzer sounds for 0.8 seconds, the hazard warning lights flash twice and the back door opens.

**HINT:**

- **Power back door operation changes according to the customize parameters. For details, refer to the Power Back Door System.**
- **When the back door switch is pressed for 0.8 seconds or more with the back door open, check that the buzzer sounds for 0.8 seconds, the hazard warning lights flash twice and the back door closes.**

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE)

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Customize Setting.

e. Select the setting by referring to the table below.

### Wireless Door Lock

| Display | Default | Contents | Setting |
|---|---|---|---|
| Hazard Answer Back | ON | When the lock switch on the transmitter is pressed, this function illuminates the hazard warning lights once. When the unlock switch is pressed, the hazard warning lights illuminate twice. | ON/OFF |
| Wireless Control | ON | Function that turns the wireless door lock function ON or OFF. | ON/OFF |
| Open Door Warning*1 | ON | If a door is not completely closed and the transmitter lock switch is pressed, this function makes the buzzer sound for 5 seconds. | ON/OFF |
| Panic Alarm Function*2 | ON | Function to operate the theft deterrent system by continuously pressing the panic switch on transmitter for 2.5 seconds. | ON/OFF |
| Unlock 2 Operation | OFF | Function that unlocks the driver side door when the unlock switch on the transmitter is pressed once, and unlocks all doors when the switch is pressed twice. If the setting is OFF, pressing the unlock switch once makes all the doors unlock. | ON/OFF |
| Auto Lock Time | 30 s | Function to change the time until relocking after unlocking with the wireless door lock function. | 30 s/60 s/120 s |
| Wireless Auto Lock | ON | Function to control the automatic relocking of doors after unlocking with the wireless door lock function. | ON/OFF |
| Wireless Buzzer Resp | ON*3 | Wireless buzzer response function. | ON/OFF |
| Wireless Buzzer Volume | Level 7 | This function changes the wireless buzzer volume. | Level 0/Level 1/Level 2/Level 3/Level 4/Level 5/Level6/Level 7 |

**HINT:**

*1: Except China

*2: w/ Panic Switch

*3: Except Europe and China

### PSD & PBD Operation (w/ Power Back Door System)

| Display | Default | Contents | Setting |
|---|---|---|---|
| Wireless PBD Operation | 0.8 s 1Motion* | Function that operates power back door when door control transmitter is pressed in specified way (1-press, 2-presses, 0.8 sec.- press or off). Function to turn on/off the power back door wireless one motion open operation.* | 1 Oper or 2 Oper or 0.8 s or OFF 1Motion or 1 Oper or 2 Oper or 0.8 s or OFF* |

**HINT:**

*: Except Europe

## CUSTOMIZING FUNCTION WITH MULTI-DISPLAY (w/ Multi-display)

**HINT:**

The following items can be customized.

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Record the current settings before customizing.**

a. Turn the engine switch on (IG).

b. Enter the following menus: Setup / Vehicle.

c. Select the setting by referring to the table below.

**Door lock settings**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Remote 2-press unlock | OFF | Function that unlocks the driver side door when the unlock switch on the transmitter is pressed once, and unlocks all doors when the switch is pressed twice. If the setting is OFF, pressing the unlock switch once makes all the doors unlock. | ON/OFF |
| Lock/unlock feedback lights | ON | When the lock switch on the transmitter is pressed, this function illuminates the hazard warning lights once. When the unlock switch is pressed, the hazard warning lights illuminate twice. | ON/OFF |
| Lock feedback volume | Level 7 | This function changes the wireless buzzer volume. | Level 0/Level 1/Level 2/Level 3/Level 4/Level 5/Level6/Level 7 |

**for Preparation** Click here

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

**Wireless Door Lock Control System:**

| Symptom | Suspected Area | See page |
|---|---|---|
| Wireless control function and entry function do not operate | Proceed to "All Door Entry Lock / Unlock Functions and Wireless Functions do not Operate" | Click here |
| Wireless control function does not operate but entry function operates | Replace electrical key transmitter | - |
| Answer-back function does not operate | Proceed to "No Answer-Back" | Click here |
| Automatic lock function only does not operate | Perform operation check | Click here |
| | Lighting system (door courtesy light switch) | Click here |
| Illuminated entry function only does not operate | Perform operation check | Click here |
| | Lighting system (door courtesy light switch) | Click here |
| Door ajar warning function only does not operate*1 | Perform operation check | Click here |
| | Lighting system (door courtesy light switch) | Click here |
| | Meter/gauge system | Click here |
| Panic alarm function only does not operate*2 | Perform operation check | Click here |
| | Theft deterrent system | Click here |
| Memory call function only does not operate*3 | Perform operation check | Click here |
| | Front power seat control system | Click here |
| | Power tilt and power telescopic steering column system | Click here |
| | Power mirror control system | Click here |
| Power window open/close function only does not operate | Perform operation check | Click here |
| | Power window control system | Click here |
| Sliding roof open/close function only does not operate*4 | Perform operation check | Click here |
| | Sliding roof system | Click here |
| Back door does not open/close even though power back door switch is pressed*5 | Power back door system | Click here |
| Back door does not open/close even though power back door switch is pressed. However, pressing back door close switch closes the door.*5 | Replace electrical key transmitter | Click here |

**HINT:**

*1: Except China

*2: w/ Panic Switch

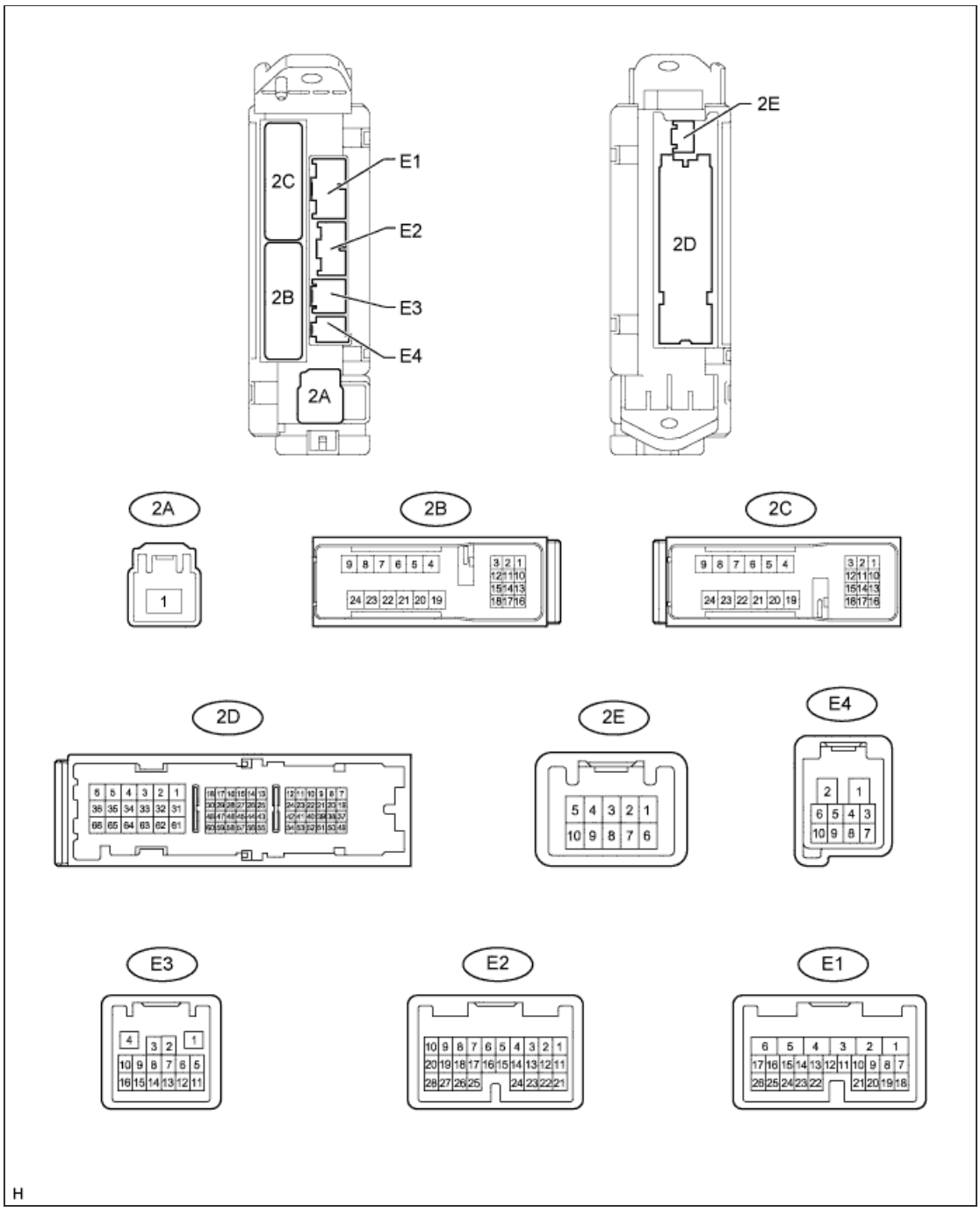
*3: w/ Memory Call Function

*4: w/ Sliding Roof System

*5: w/ Power Back Door System

**for Preparation** Click here

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)




a. Disconnect the 2A, 2D and E3 ECU connectors.

b. Measure the resistance and voltage according to value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| 2A-1 (ACC) - 2D-62 (GND2) | B - W-B | ACC power supply | Engine switch on (ACC) | 11 to 14 V |
| 2A-1 (IG) - 2D-62 (GND2) | B - W-B | IG power supply | Engine switch on (IG) | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the 2A, 2D and E3 ECU connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-24 (DCTY) - Body ground | L - Body ground*1<br>Y - Body ground*2 | Driver side door courtesy light switch input | Driver side door open | Below 1 Ω |
| | | | Driver side door closed | 10 kΩ or higher |
| E2-21 (PCTY) - Body ground | Y - Body ground*1<br>L - Body ground*2 | Passenger side door courtesy light switch input | Passenger side door open | Below 1 Ω |
| | | | Passenger side door closed | 10 kΩ or higher |
| 2C-2 (LCTY) - Body ground | W - Body ground | Rear side door LH courtesy light switch input | Rear side door LH open | Below 1 Ω |
| | | | Rear side door LH closed | 10 kΩ or higher |
| E2-7 (RCTY) - Body ground | G - Body ground | Rear side door RH courtesy light switch input | Rear side door RH open | Below 1 Ω |
| | | | Rear side door RH closed | 10 kΩ or higher |
| E2-25 (BCTY) - Body ground | W - Body ground | Back door courtesy light switch input | Back door open | Below 1 Ω |
| | | | Back door closed | 10 kΩ or higher |
| E3-7 (HZSW) - Body ground*4 | BE - Body ground | Turn signal light drive | Hazard warning signal switch on | Pulse generation |
| | | | Hazard warning signal switch off | Below 1 V |
| E2-15 (DIM) - 2D-62 (GND2)*3 | L - W-B | Headlight low drive | Headlight dimmer switch low | 11 to 14 V |
| 2B-18 (HRLY) - 2D-62 (GND2)*3 | L - W-B | Headlight (high) drive | Headlight dimmer switch high | 11 to 14 V |
| 2A-1 (TRLY) - 2D-62 (GND2)*3 | B - W-B | Taillight drive | Headlight dimmer switch tail | 11 to 14 V |

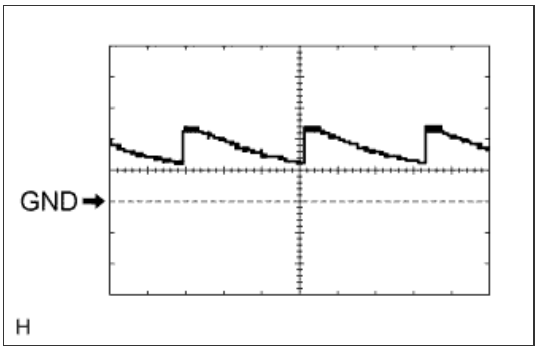
*1: for LHD
*2: for RHD
*3: w/ Panic Switch
*4: for GRJ200L-GNANKC, URJ202L-GNTEKC

If the result is not as specified, the ECU may have a malfunction.

e. Using an oscilloscope, check waveform 1.

**Waveform 1 (Reference)**

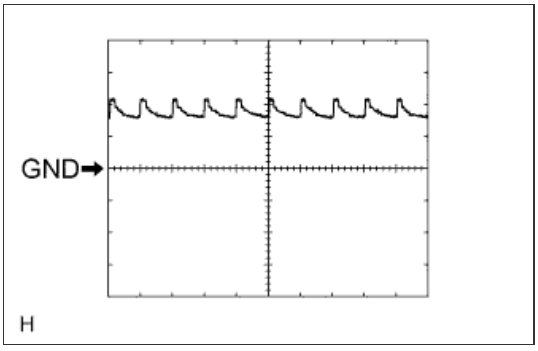
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-24 (DCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and driver side door courtesy switch off |




f. Using an oscilloscope, check waveform 2.

**Waveform 2 (Reference)**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-24 (DCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and driver side door courtesy switch off |

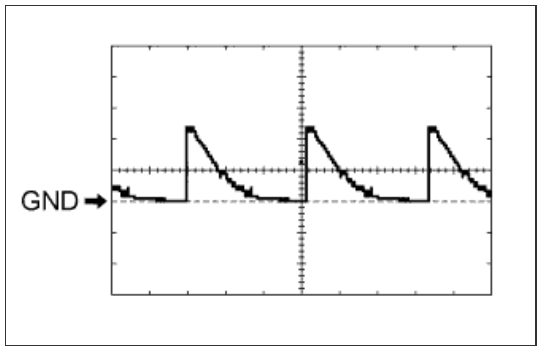



g. Using an oscilloscope, check waveform 3.

g. Using an oscilloscope, check waveform 3.

**Waveform 3 (Reference)**

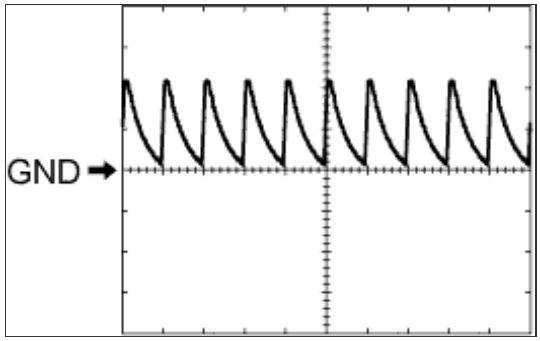
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-21 (PCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and passenger side door courtesy switch off |




h. Using an oscilloscope, check waveform 4.

**Waveform 4 (Reference)**

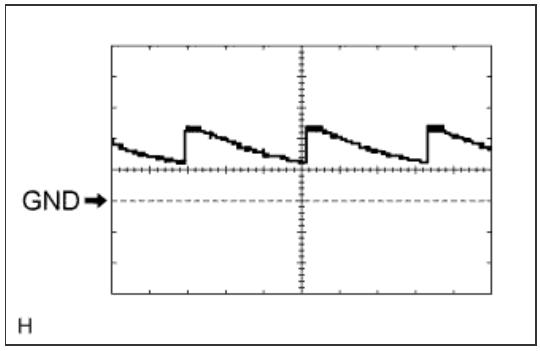
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-21 (PCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and passenger side door courtesy switch off |




i. Using an oscilloscope, check waveform 5.

**Waveform 5 (Reference)**

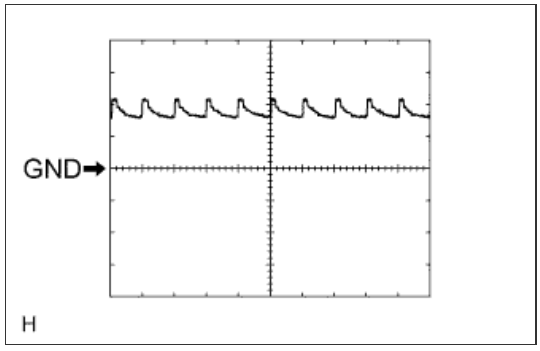
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2C-2 (LCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear LH side door courtesy switch off |




j. Using an oscilloscope, check waveform 6.

**Waveform 6 (Reference)**

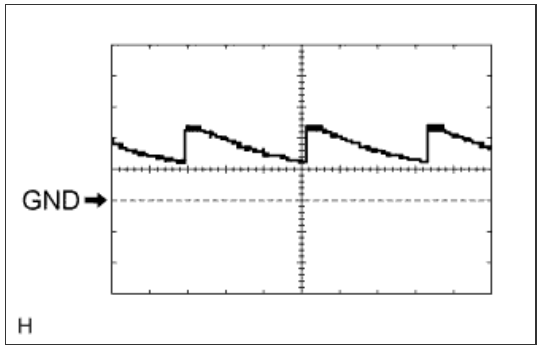
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2C-2 (LCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear LH side door courtesy switch off |




k. Using an oscilloscope, check waveform 7.

**Waveform 7 (Reference)**

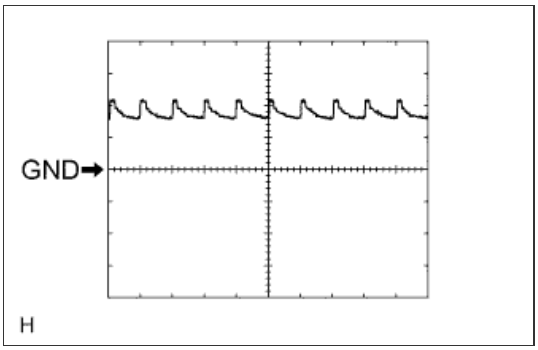
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-7 (RCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear RH side door courtesy switch off |




l. Using an oscilloscope, check waveform 8.

**Waveform 8 (Reference)**

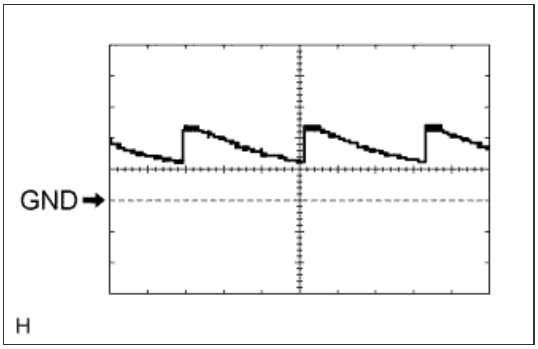
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-7 (RCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear RH side door courtesy switch off |




m. Using an oscilloscope, check waveform 9.

**Waveform 9 (Reference)**

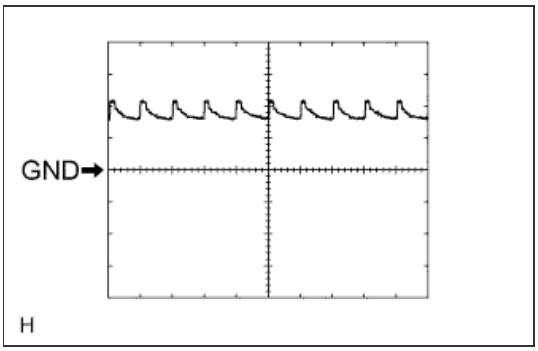
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-25 (BCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and Back door closed |



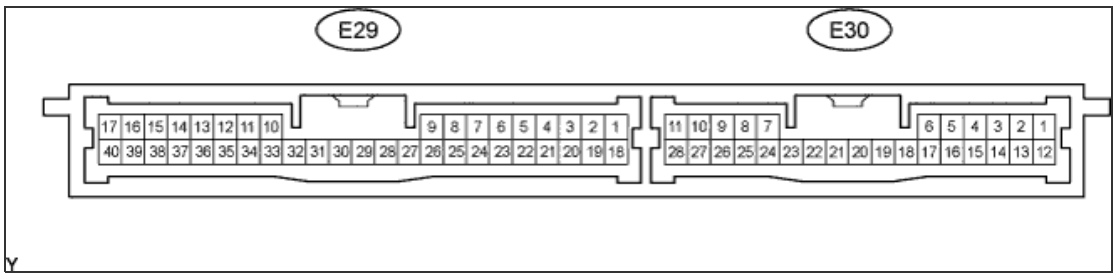

n. Using an oscilloscope, check waveform 10.

**Waveform 10 (Reference)**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-25 (BCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and Back door closed |




## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)




a. Disconnect the E29 and E30 ECU connectors.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29-17 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E29-1 (+B) - E29-17 (E) | B - W-B | Battery power supply | Always | 11 to 14 V |
| E29-18 (IG) - E29-17 (E) | B - W-B | IG power supply | Engine switch on (IG) | 11 to 14 V |
| | | | Engine switch off | Below 1 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E29 and E30 ECU connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|

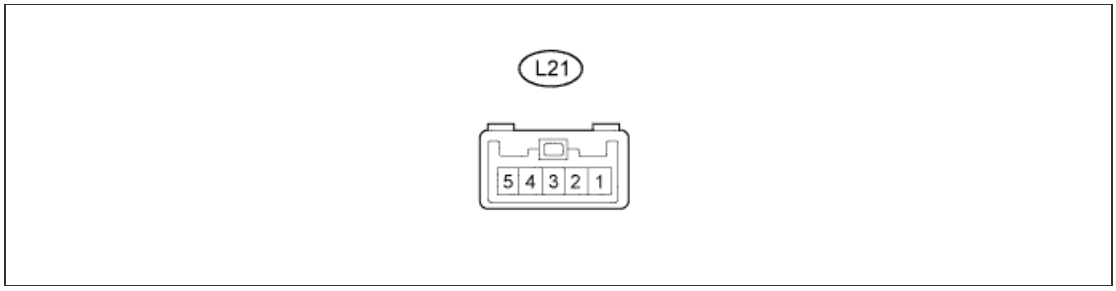
| | | | | |
|---|---|---|---|---|
| E29-39 (RSSI) - E29-17 (E) | L - W-B | Door control receiver electric wave existence signal | Engine switch off, all doors closed and transmitter switch not pressed → pressed | 11 to 14 V → Below 1 V |
| E29-38 (RDA) - E29-17 (E) | LG - W-B | Door control receiver data input signal | Engine switch off, all doors closed and transmitter switch not pressed → pressed | Below 1 V → 11 to 14 V → Below 1 V |
| E29-29 (RCO) - E29-17 (E) | B - W-B | Door control receiver power source | Engine switch off, all doors closed and transmitter switch not pressed → pressed | Below 1 V → 4.6 to 5.4 V → Below 1 V |
| E29-21 (BZR) - Body ground* | LG - Body ground | Wireless door lock buzzer output | Wireless door lock buzzer ON | 11 to 14 V |
| E29-21 (BZR) - Body ground* | LG - Body ground | Wireless door lock buzzer output | Wireless door lock buzzer OFF | Below 1 V |

**HINT:**

*: Except Europe and China

If the result is not as specified, the ECU may have a malfunction.

## CHECK DOOR CONTROL RECEIVER



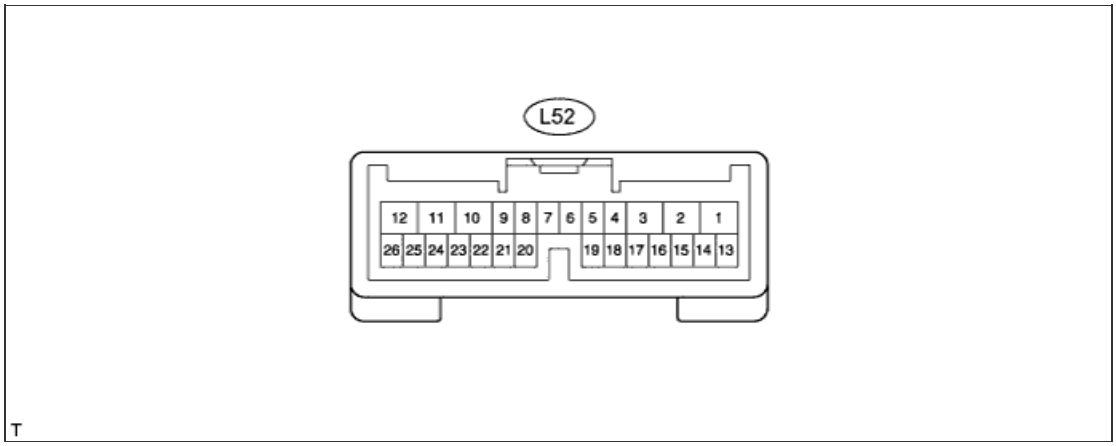

a. Disconnect the L21 receiver connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| L21-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| L21-4 (+5) - Body ground | B - Body ground | Battery power supply | Always | 4.6 to 5.4 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

## CHECK POWER BACK DOOR UNIT (w/ Power Back Door System)




a. Disconnect the L52 unit connector.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| L52-11 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| L52-10 (ECUB) - Body ground | R - Body ground | Battery power supply | Always | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the L52 unit connector.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| L52-26 (BZR+) - Body ground | L - Body ground | Power back door warning buzzer signal | Back door warning buzzer is sounding | 11 to 14 V<br>Pulse generation |
| L52-26 (BZR+) - Body ground | L - Body ground | Power back door warning buzzer signal | Back door warning buzzer is stopped | Below 1 V |

If the result is not as specified, the ECU may have a malfunction.

**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Trouble Codes.

e. Read the DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Trouble Codes.

e. Clear the DTCs.

**for Preparation** Click here

## READ DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. According to the display on the intelligent tester, read the Data List.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Door Courtesy SW | Driver side door courtesy switch signal / ON or OFF | ON: Driver side door is open<br>OFF: Driver side door is closed | - |
| P Door Courtesy SW | Passenger side door courtesy switch signal / ON or OFF | ON: Passenger side door is open<br>OFF: Passenger side door is closed | - |
| RL Door Courtesy SW | Rear door courtesy switch LH signal / ON or OFF | ON: Rear side door LH is open<br>OFF: Rear side door LH is closed | - |
| RR Door Courtesy SW | Rear door courtesy switch RH signal / ON or OFF | ON: Rear side door RH is open<br>OFF: Rear side door RH is closed | - |
| Back Door Courtesy SW | Back door courtesy switch signal / ON or OFF | ON: Back door is open<br>OFF: Back door is closed | - |
| D Lock Pos switch | Driver side door lock position switch signal / ON or OFF | ON: Driver side door lock is unlocked<br>OFF: Driver side door lock is locked | - |
| P Lock Pos switch | Passenger side door lock position switch signal / ON or OFF | ON: Passenger side door is unlocked<br>OFF: Passenger side door is locked | - |
| RL Lock Pos switch | Rear door LH lock position switch signal / ON or OFF | ON: Rear side door LH is unlocked<br>OFF: Rear side door LH is locked | - |
| RR Lock Pos switch | Rear door RH lock position switch signal / ON or OFF | ON: Rear side door RH is unlocked<br>OFF: Rear side door RH is locked | - |
| Back Lock Pos switch | Back door lock position switch signal / ON or OFF | ON: Back door is unlocked<br>OFF: Back door is locked | - |

**Power Back (w/ Power Back Door System)**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Door lock status | Back door lock status signal / UNLOCK or LOCK | UNLOCK: Back door unlocked<br>LOCK: Back door locked | - |
| Wireless PBD SW Operation | Transmitter switch operation condition signal/1 time, 2 times, 0.8 sPR or OFF | Current customize setting displayed | - |

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Main Body**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Hazard | Turn signal flasher relay | ON or OFF | - |
| Door Lock | All door lock motors | OFF or LOCK | - |
| D-Door Unlock | Driver side door unlock motor | OFF or UNLOCK | - |

**for Preparation** Click here

**HINT:**

If a trouble code is output during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.

**Wireless Door Lock Control System**

| DTC Code | Detection Item | See page |
|---|---|---|
| B1242 | Wireless Door Lock Tuner Circuit Malfunction | Click here |

## DTC B1242 Wireless Door Lock Tuner Circuit Malfunction

**for Preparation** Click here

### DESCRIPTION

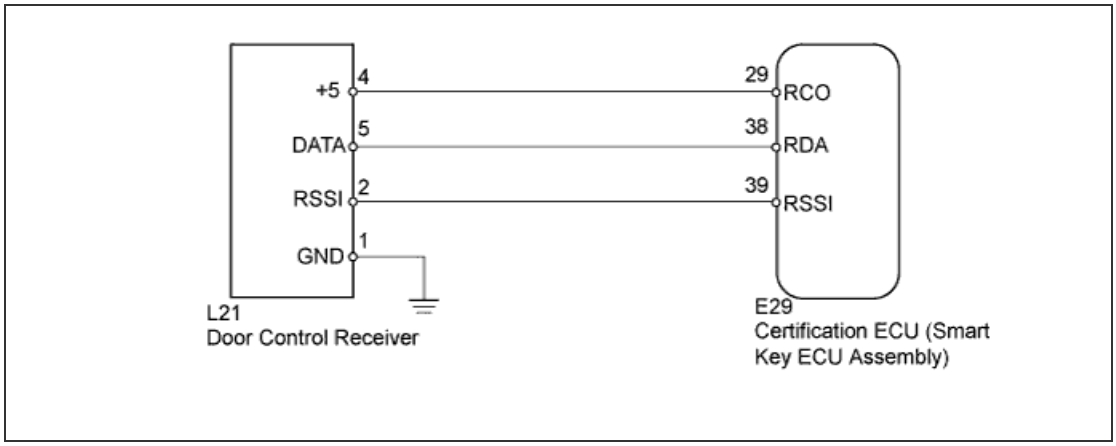
The door lock receiver is used to receive electrical waves relating to the entry functions of the entry and start system (for Entry Function). The certification ECU (smart key ECU assembly) decodes the requested smart key system (for Entry Function) operation by identifying a key code based on the electric waves received via the door control receiver. The door control receiver receives a signal from the door control transmitter and sends signals to the main body ECU through the certification ECU (smart key ECU assembly). The certification ECU (smart key ECU assembly) then sends a command, according to the requested operation, to each ECU (ex. if door lock operation is requested, the certification ECU (smart key ECU assembly) sends a door lock command to the main body ECU).
This DTC is output when one of the following occurs: 1) a short in RDA or RSSI to ground between the certification ECU and the door control receiver, or 2) a short in RDA or RSSI to ground when RCO (5 V) output from the ECU is off.

**NOTICE:**

- **When replacing or inspecting the door control receiver and wire harness, do not change the position or length of the wire harness. If the wire harness is too close to the door control receiver, entry and wireless function performance may be affected.**
- **Before performing the inspection, check that there are no problems related to the CAN communication system and LIN communication system.**
- **When using the intelligent tester with the engine switch off to troubleshoot: Connect the intelligent tester to the vehicle, and turn the front door courtesy light switch LH on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.**

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1242 | One of following conditions is met:<br>• Short in RDA or RSSI to ground between the certification ECU (smart key ECU assembly) and the door control receiver.<br>• Short in RDA or RSSI to ground when RCO (5 V) output from the ECU is off. | • Harness or connector<br>• Door control receiver<br>• Certification ECU (smart key ECU assembly) |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - DOOR CONTROL RECEIVER)**

a. Disconnect the E29 ECU connector.

b. Disconnect the L21 receiver connector.

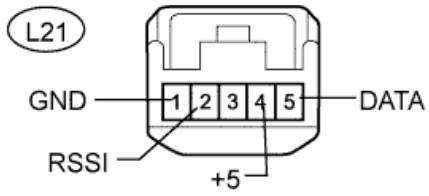
c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

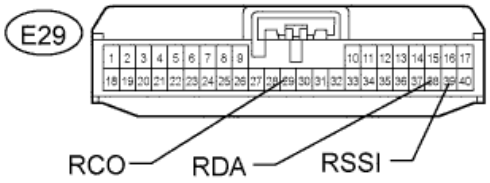
| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| E29-39 (RSSI) - L21-2 (RSSI) | Always | Below 1 Ω |
| E29-38 (RDA) - L21-5 (DATA) | | |
| E29-29 (RCO) - L21-4 (+5) | | |
| E29-17 (E) - Body ground | | |
| L21-1 (GND) - Body ground | | |
| E29-39 (RSSI) or L21-2 (RSSI) - Body ground | Always | 10 kΩ or higher |
| E29-38 (RDA) or L21-5 (DATA) - Body ground | | |
| E29-29 (RCO) or L21-4 (+5) - Body ground | | |

Front view of harness side connector:
(to Door Control Receiver)




Front view of harness side connector:
(to Certification ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 2.CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

a. Disconnect the L21 receiver connector.

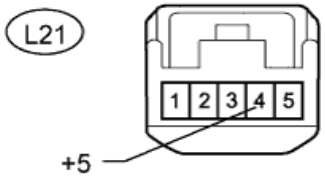
b. Reconnect the E29 ECU connector.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L21-4 (+5) - Body ground | Always | 4.5 to 5.4 V |

Front view of harness side connector:
(to Door Control Receiver)




NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

## 3.REPLACE DOOR CONTROL RECEIVER

a. Temporarily replace the door control receiver with a new one ( Click here).

NEXT

## 4.CHECK FOR DTC

a. Clear the DTC (Click here).

b. Recheck for DTC (Click here).

**OK:**

**DTC B1242 is not output.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

END (DOOR CONTROL RECEIVER IS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

In some cases, wireless door lock control functions are normal but the turn signal lights and wireless door lock buzzer are not. Malfunctions may be present in the main body ECU, certification ECU (smart key ECU assembly), turn signal lights, and/or wireless door lock buzzer signal outputs.*

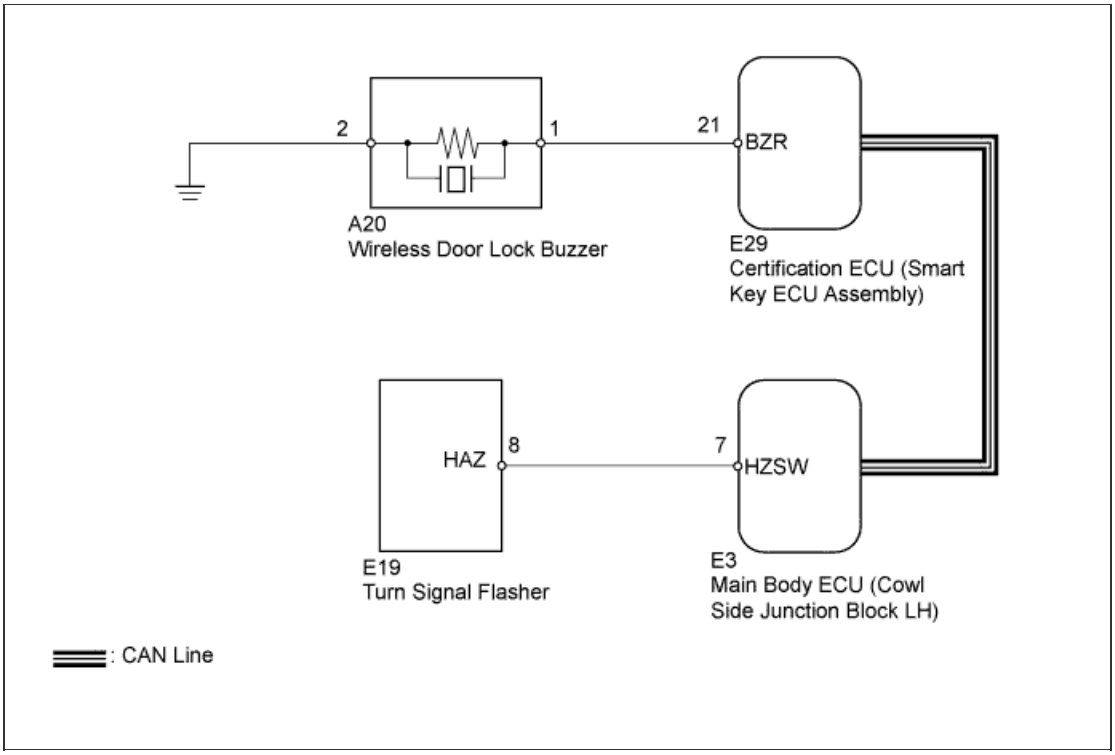
**NOTICE:**

- **Before performing the inspection, check that there are no problems related to the CAN communication system and LIN communication system.**
- **When troubleshooting a function, first make sure that the answer-back function is set to the default setting.**
- **Check that DTC B1242 is not output.**
- **When troubleshooting a function, first make sure that the open door warning function is set to the default setting.**

**HINT:**

*: For Europe and China, there is no buzzer sound answer-back function.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item / Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Lock Pos switch | Driver side door lock position switch signal / ON or OFF | ON: Driver side door lock is unlocked<br>OFF: Driver side door lock is locked | - |

| | | | |
|---|---|---|---|
| P Lock Pos switch | Passenger side door lock position switch signal / ON or OFF | ON: Passenger side door is unlocked<br>OFF: Passenger side door is locked | - |
| RL Lock Pos switch | Rear door LH lock position switch signal / ON or OFF | ON: Rear side door LH is unlocked<br>OFF: Rear side door LH is locked | - |
| RR Lock Pos switch | Rear door RH lock position switch signal / ON or OFF | ON: Rear side door RH is unlocked<br>OFF: Rear side door RH is locked | - |
| Back Lock Pos switch | Back door lock position switch signal / ON or OFF | ON: Back door is unlocked<br>OFF: Back door is locked | - |

**OK:**

**On the intelligent tester screen, the display changes between LOCK and UNLOCK as shown in the chart above.**

**HINT:**

- **Go to POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Driver Door LOCK/UNLOCK Functions do not Operate) ( Click here).**
- **Go to POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Passenger Door LOCK/UNLOCK Functions do not Operate) (Click here).**
- **Go to POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Rear Door LH LOCK/UNLOCK Functions do not Operate) ( Click here).**
- **Go to POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Rear Door RH LOCK/UNLOCK Functions do not Operate) ( Click here).**
- **Go to POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Back Door LOCK/UNLOCK Functions do not Operate) ( Click here).**

**NG** → **Go to POWER DOOR LOCK CONTROL SYSTEM**

**OK**

## 2.CHECK WIRELESS DOOR LOCK FUNCTION

a. Check that the wireless door lock control functions operate with a transmitter ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| Wireless door lock control functions operate normally but turn signal light answer-back does not occur | A |
| Wireless door lock control functions operate normally but wireless door lock buzzer answer-back does not occur | B |

**B** → **Go to step 4**

**A**

## 3.CHECK HAZARD WARNING LIGHT

a. Check that the turn signal lights flash continuously when the hazard warning signal switch is pressed ( Click here).

**OK:**

**Hazard warning lights flash continuously.**

**NG** → **Go to PROBLEM SYMPTOMS TABLE (LIGHTING SYSTEM) (Click here)**

**OK**

## REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 4.CHECK HARNESS AND CONNECTOR (WIRELESS DOOR LOCK BUZZER - CERTIFICATION ECU AND BODY GROUND)

a. Disconnect the E29 ECU connector.

b. Disconnect the A20 buzzer connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A20-1 - E29-21 (BZR) | Always | Below 1 Ω |
| A20-2 - Body ground | | |
| A20-1 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**5.CHECK WIRELESS DOOR LOCK BUZZER (OPERATION)**

a. Temporarily replace the wireless door lock buzzer with a new one ( Click here).

b. Check that the wireless door lock buzzer sounds by using the transmitter lock/unlock switch.

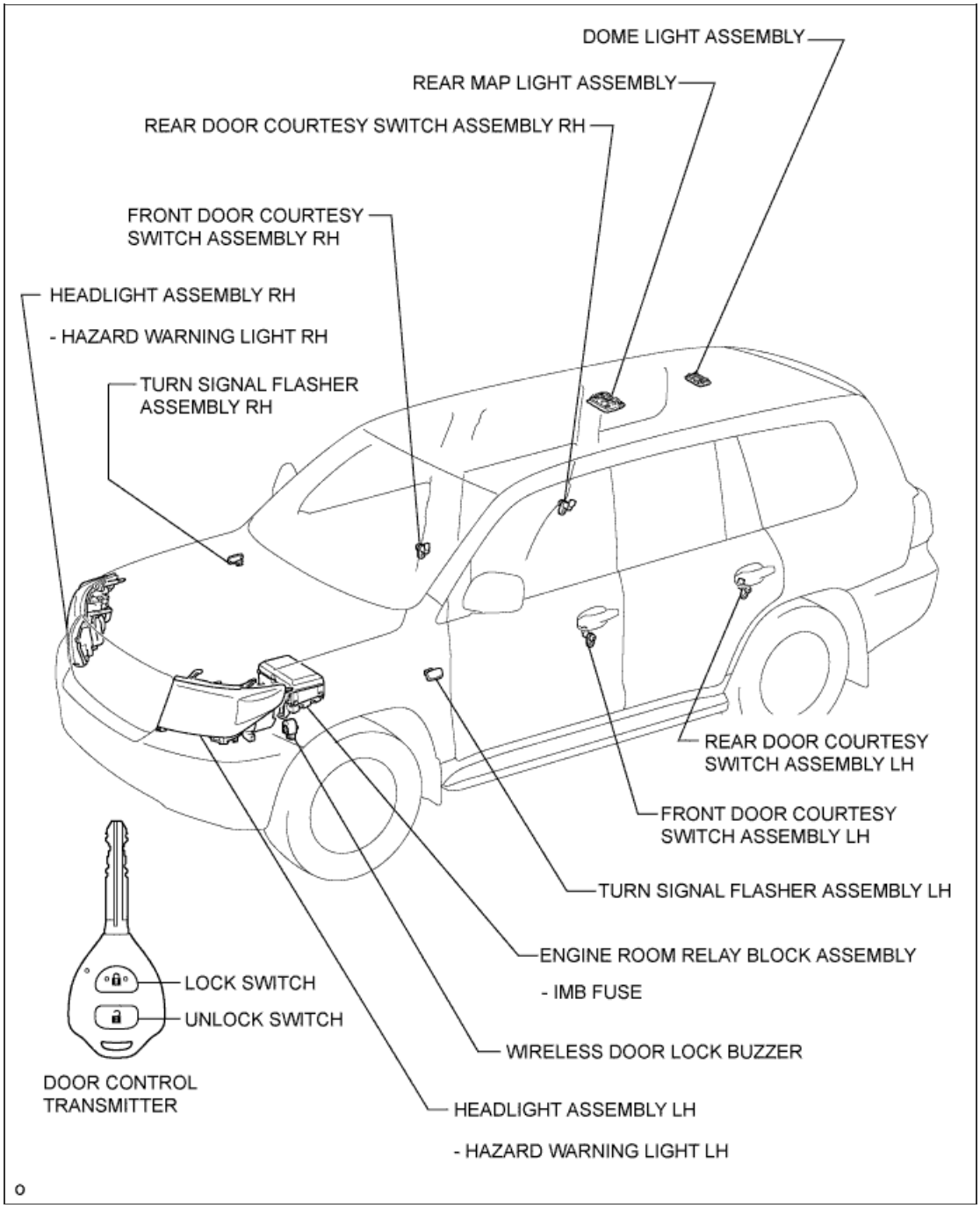
**OK:**
**Wireless door lock buzzer sounds.**

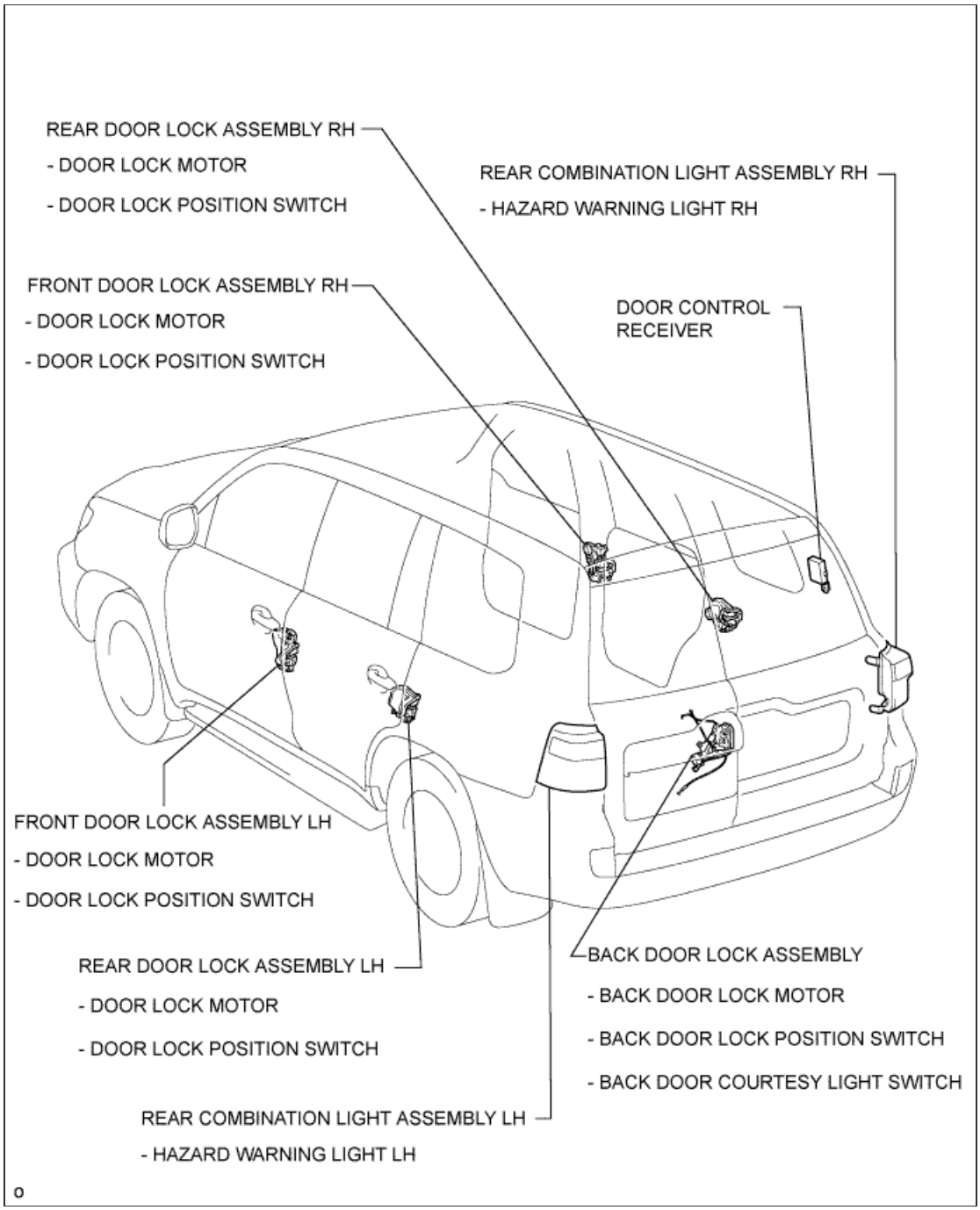
NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

**END (WIRELESS DOOR LOCK BUZZER IS DEFECTIVE)**

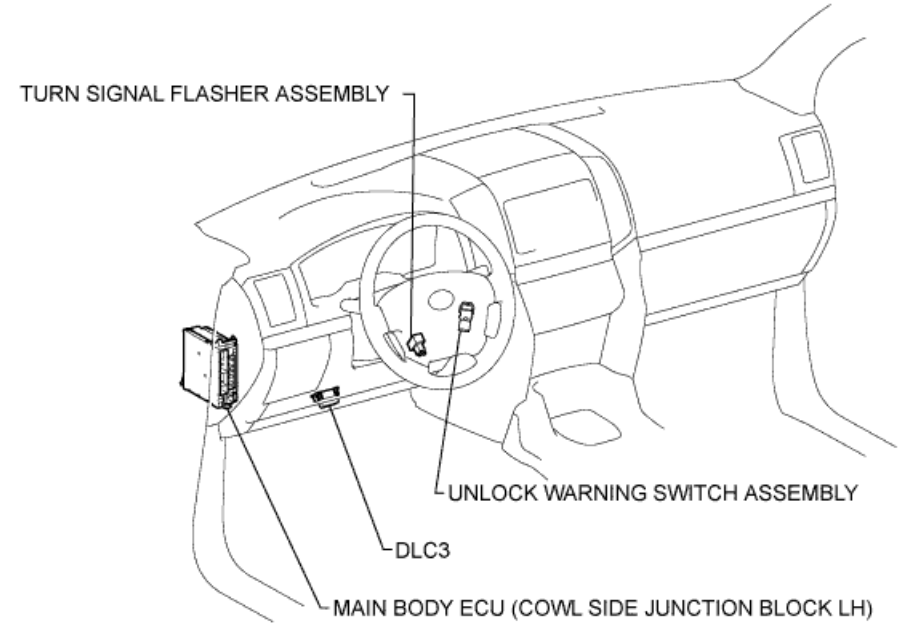
**for Preparation** Click here



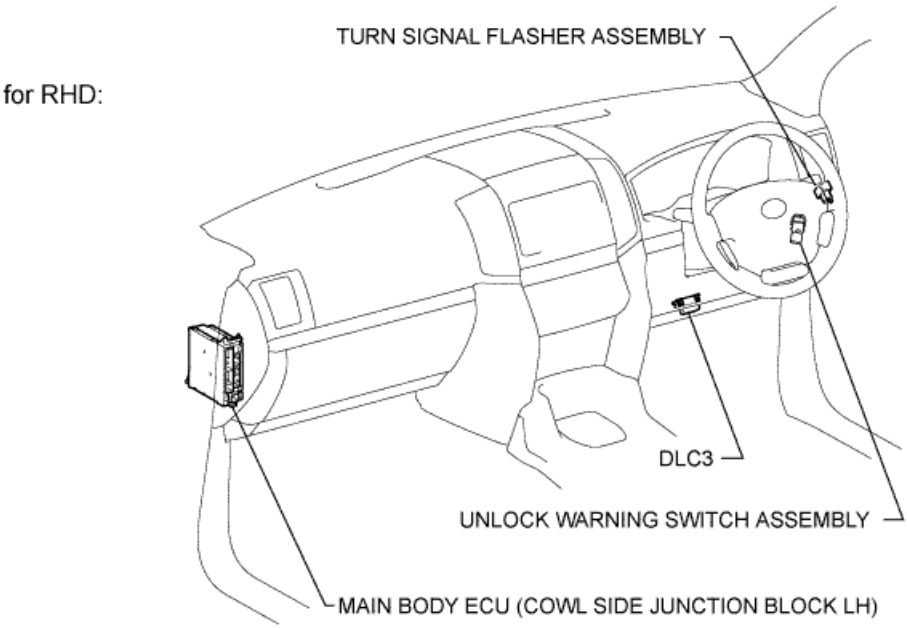

REAR DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
REAR COMBINATION LIGHT ASSEMBLY RH
- HAZARD WARNING LIGHT RH
FRONT DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
DOOR CONTROL RECEIVER
FRONT DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
REAR DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
BACK DOOR LOCK ASSEMBLY
- BACK DOOR LOCK MOTOR
- BACK DOOR LOCK POSITION SWITCH
- BACK DOOR COURTESY LIGHT SWITCH
REAR COMBINATION LIGHT ASSEMBLY LH
- HAZARD WARNING LIGHT LH

o

for LHD:

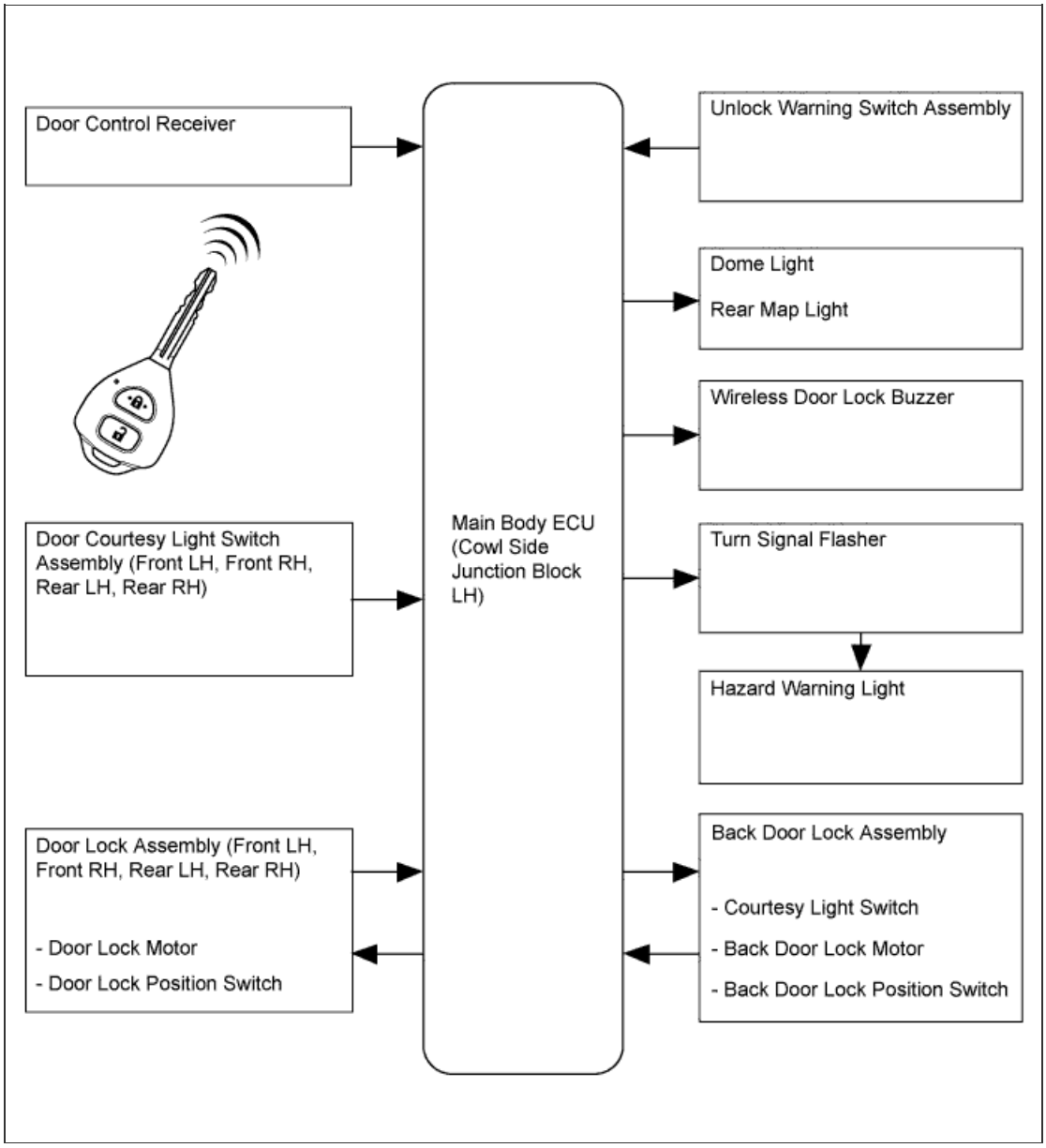



for RHD:




o

**for Preparation** Click here



**for Preparation** Click here

## WIRELESS DOOR LOCK CONTROL SYSTEM DESCRIPTION

a. This system locks and unlocks the vehicle doors remotely. The wireless control system has the following features:
The door control receiver performs the code identification procedure and the main body ECU controls the door lock. A serial data link is provided for communication between the receiver and main body ECU.

## FUNCTION OF MAIN COMPONENTS

| Component | Function |
|---|---|
| Door control transmitter | • Contains the lock and unlock switches.<br>• Transmits weak electric waves (recognition codes and function codes) to the door control receiver. |
| Door control receiver | Receives weak electric waves (recognition codes and function codes) from the door control transmitter and changes the waves to code data. |
| Door lock position switch | Transmits the door lock positions of each door to the main body ECU. |
| Wireless door lock buzzer | Sounds when the door ajar warning function is operating. |
| Unlock warning switch | Detects if the key is in the ignition key cylinder. |
| Front door courtesy light switch<br>Rear door courtesy light switch<br>Back door courtesy light switch | Turns on when the door is open and off when the door is closed. Outputs the door status (open or closed) to the main body ECU. |

## SYSTEM FUNCTION

a. The wireless door lock control system has the following functions.

| Function | Outline |
|---|---|
| All door lock function | Pressing the lock switch locks all the doors. |
| All door unlock function | Pressing the unlock switch unlocks all the doors. |
| Answer-back function | • When the doors are locked by a wireless operation, the hazard warning lights flash once and the wireless door lock buzzer sounds once.<br>• When the doors are unlocked by a wireless operation, the hazard warning lights flash twice and the wireless door lock buzzer sounds twice. |
| Automatic locking function | If no doors are opened within 30 seconds after being unlocked by the wireless transmitter, all the doors are locked again automatically. |
| Illuminated entry function | • When the map light door switch is on and all the doors are locked, pressing the unlock switch causes the interior light illumination to turn on and all the doors to unlock simultaneously.<br>• If the doors have not been opened, the interior light turns off in approximately 15 seconds. |
| Door ajar warning function | If any door is open or ajar, pressing the lock switch causes the wireless door lock buzzer to sound for approximately 5 seconds. |

**HINT:**

With no key in the ignition key cylinder (unlock warning switch is off) and all the door courtesy light switches off, pressing the lock or unlock switch of the door control transmitter causes the transmitter to output weak electrical waves to the door control receiver.

**for Preparation** Click here

**HINT:**

- **The wireless door lock control system troubleshooting procedures are based on the premise that the power door lock control system is operating normally. Check the power door lock control system first before troubleshooting the wireless door lock control system.**
- **Use these procedures to troubleshoot the wireless door lock control system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

**NEXT**

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

**NEXT**

## 3.CHECK FOR DTC*

a. Check for DTCs and note any codes that are output ( Click here).

b. Clear the DTCs (Click here).

c. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output | B |

**B.** → Go to DIAGNOSTIC TROUBLE CODE CHART ( **Click here**)

**A**

## 4.PROBLEM SYMPTOMS TABLE

a. Refer to Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

**B.** → Go to step 6

**A**

## 5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Operation Check (Click here).

b. Terminals of ECU (Click here).

c. Data List / Active Test (Click here).

NEXT

6.REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

## NOTICES WHEN CHECKING

a. Wireless door lock/unlock function:
This function operates only when the vehicle is in its initial condition (the following 3 conditions are met).

- No key is inserted into the ignition key cylinder.
- All the doors are closed.

**HINT:**

The unlock function operates even when one of the doors is open.

- The power door lock system is functioning normally.

b. The operational range of the wireless transmitter differs depending on the situation.

- The operating range differs depending on the user, the way the transmitter is held and the location.
- In certain areas, the operating range will be reduced due to the vehicle body shape and the influence of the surrounding environment.
- The weak electric waves from the transmitter may be affected if the area has strong electric waves or noise. The operating range of the transmitter may be reduced or the transmitter may not function.
- When the battery weakens, the operating range is reduced and the transmitter may not function.

**HINT:**

If the transmitter has had prolonged exposure to direct sunlight, such as being left on the instrument panel, the battery may weaken or other problems may occur.

## CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

**HINT:**

- **The switches described below transmit signals and are built into the door control transmitter.**
- **The operating range of the transmitter must be taken into account while checks are being made.**

a. Make sure the vehicle is in a condition in which the wireless control functions can be operated (see above).

b. Check the basic functions:

- Check that all the doors lock when the lock switch is pressed.
- Check that all the doors unlock when the unlock switch is pressed.

c. Check the chattering prevention function:
When a switch is pressed, check that the corresponding operation occurs only once. When the switch is held down, check that the corresponding operation occurs only once and does not repeatedly activate. Lastly, when the switch is pressed at 1 second intervals, check that the corresponding operation activates once for each press of the switch.

d. Check the automatic locking function:
When all the doors are unlocked with the unlock switch and none of the doors are opened or locked within 30 seconds, check that the doors are relocked automatically.

e. Check the switch operation fail-safe function:
If the key is in the ignition key cylinder, check that the doors cannot be locked by the lock switch. However, this does not apply when the system is in recognition code registration mode.

f. Check the answer-back function:

- When the lock switch is pressed, check that the hazard warning lights flash once and the buzzer sounds once simultaneously with the locking operation of all the doors.
- When the unlock switch is pressed once, check that the hazard warning lights flash twice and the buzzer sounds twice simultaneously with the unlocking operation of all the doors.

g. Check the illuminated entry function:

- When the map light door switch is on and all the doors are locked, pressing the unlock switch causes the interior light to illuminate and all the doors to unlock simultaneously.
- If the doors have not been opened, the interior light turns off in approximately 15 seconds.

h. Check the door ajar warning function:

- If a door is open or not completely closed, check that the doors cannot be locked by the lock switch and the buzzer sounds for 5 seconds.

**HINT:**

The buzzer stops sounding if one of the following conditions is met:

- **The buzzer has sounded for 5 seconds.**
- **The ignition switch is turned to ACC or to ON.**
- **All the doors are closed.**

**for Preparation** Click here

## 1. DESCRIPTION OF CODE REGISTRATION

**HINT:**

- **Recognition code registration is necessary when replacing the door control transmitter or door control receiver.**
- **Add mode is used to register new recognition codes while still retaining codes already registered. This mode is used when a new transmitter is added. If the number of registered codes exceeds 6, the previously registered codes will be cleared in order, starting from the first registered code.**
- **Rewrite mode is used to clear all the previously registered recognition codes in order to register new recognition codes. This mode is used when the transmitter or door control receiver is replaced with a new one.**
- **Confirmation mode is used to confirm how many recognition codes have already been registered before registering any additional recognition codes.**
- **Prohibition mode is used to clear all the registered codes and disables the wireless door lock function. This mode is used when the transmitter is lost.***
  ***: The system can be manually switched to prohibition mode (for Middle East).**
- **The registration procedures must be performed in order.**

## 2. REGISTER RECOGNITION CODE (USING INTELLIGENT TESTER)

**HINT:**

For detailed procedures, refer to the prompts on the intelligent tester screen. The number of currently registered codes can be checked on the first screen of Wireless Code Registration.

a. Turn the ignition switch to ON.

b. Enter the following menus: Body / Main Body / Utility / Wireless Code Registration.

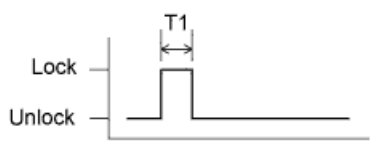
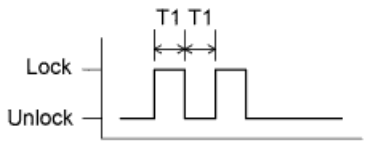
c. Press both the lock and unlock switches at the same time for 1 to 1.5 seconds.

d. Press either switch for more than 1 second within 3 seconds.

e. Check the response to the registration completion.

Response to registration completion:

Main body ECU automatically performs power door lock-unlock operation to show whether registration has been completed correctly or not.

| Lock-Unlock Occurs Once | Lock-Unlock Occurs Twice |
|---|---|
| Registration of recognition code has been completed. | Registration of recognition code has failed. |
|  |  |





T1: Approx. 1 second

**HINT:**

- **If the lock-unlock operation occurs twice, the registration of the recognition code has failed. Perform the registration procedures again from the beginning.**
- **If registering another transmitter, repeat the procedures after the intelligent tester operation. All 6 recognition codes**

**can be registered consecutively.**

f. Perform either of the following to complete the registration of the recognition codes:

- Use the intelligent tester to send a completion command.
- Disconnect the intelligent tester.

## 3. REGISTER RECOGNITION CODE (USING SWITCH OPERATION)

a. Make sure the following conditions are met.

- No key is inserted in the ignition key cylinder.
- The driver side door is open (the other doors are closed).
- The driver side door is unlocked.

b. Insert and remove the key into/from the ignition key cylinder twice (Insert → Remove → Insert → Remove) within 5 seconds.

**HINT:**

The procedure should end with the key removed.

c. Perform the following operations within 40 seconds.

i. Close and open the driver side door twice (Close → Open → Close → Open).

**HINT:**

The procedure should end with the door open.

ii. Insert and remove the key into/from the ignition key cylinder (Insert → Remove).

**HINT:**

The procedure should end with the key removed.

iii. Close and open the driver side door twice (Close → Open → Close → Open).

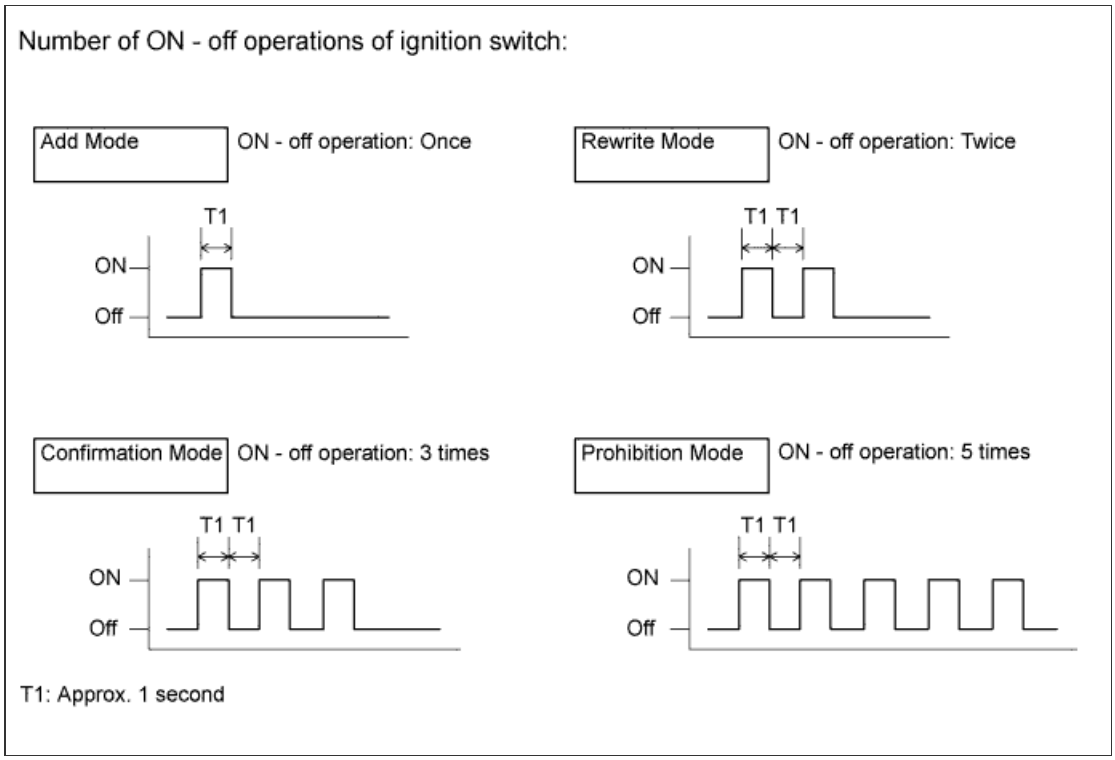
**HINT:**

The procedure should end with the door open.

iv. Insert the key into the ignition key cylinder and close all the doors.

d. Perform the following operations within 40 seconds.

i. Turn the ignition switch to ON and then off at approximately 1 second intervals. Operate the ignition switch according to the number of times shown below.




**HINT:**

If the number of ignition switch ON - off operations is 0, 4, or 6 or more, there will be no response (power door lock and unlock operation) to show which mode has been selected.

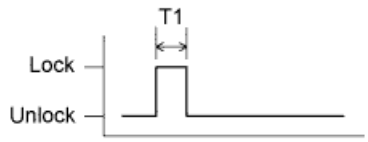
ii. Remove the key from the ignition key cylinder.

e. Check that the response begins within 5 seconds after completing the above step, and that the response matches the selected mode.

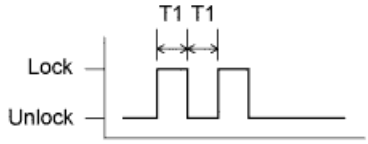
Response to selected mode (power door lock operation):

Main body ECU automatically performs power door lock-unlock operations to indicate which mode has been selected.

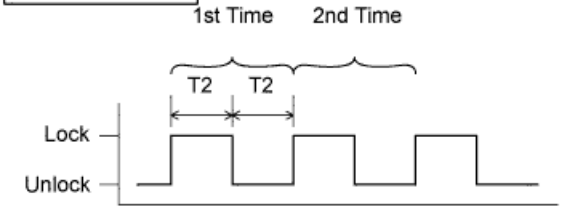
Add Mode — Lock-unlock operation: Once



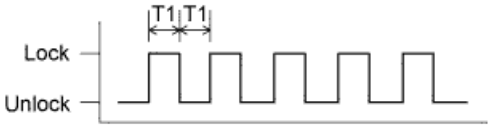

Rewrite Mode — Lock-unlock operation: Twice




Confirmation Mode — Lock-unlock operation: Number of registered codes (1 to 11 times)




Prohibition Mode — Lock-unlock operation: 5 times




T1: Approx. 1 second

T2: Approx. 2 seconds

**NOTICE:**

After the system has been set to prohibition mode, enter confirmation mode and check that the number of registered keys is 0.

**HINT:**

- **In confirmation mode, the lock-unlock operation will occur once for each recognition code that has been registered. For example, if 2 recognition codes have been registered, the lock-unlock operation will occur twice.**
- **In confirmation mode, if no recognition codes have been registered, the lock-unlock operation will occur 11 times.**
- **If confirmation mode or prohibition mode is selected, the operation ends after the response to the selected mode completes.**

f. If add mode or rewrite mode is selected, perform the following procedures.

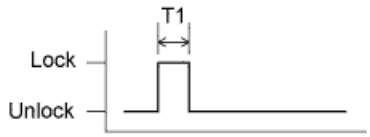
i. Press a single switch (lock or unlock) within 5 seconds.

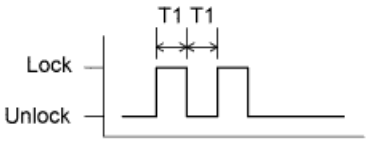
ii. Check that the response begins within 3 seconds after completing the above step, and that the response indicates that registration has been completed correctly.

Response to registration completion:

Main body ECU automatically performs power door lock-unlock operation to show whether registration has been completed correctly or not.

| Lock-unlock Occurs Once | Lock-unlock Occurs Twice |
| --- | --- |
| Registration of recognition code has been completed. | Registration of recognition code has failed. |




T1: Approx. 1 second

**HINT:**

- **If the lock-unlock operation occurs twice, the registration of the recognition code has failed. Perform the registration procedures again from the beginning.**
- **If registering another transmitter, repeat the procedures after the mode selection response confirmation. All 6 recognition codes can be registered consecutively.**

g. Perform either of the following to complete the registration of the recognition codes:

- Open a door.
- Insert the key into the ignition key cylinder.

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Utility / Customize.

e. Select the setting by referring to the table below.

**Wireless Door Lock**

| Display (item) | Default | Function | Setting |
|---|---|---|---|
| Wireless Control | ON | The function that turns the wireless door lock on or off. | ON or OFF |
| Hazard Answer Back | ON | When the lock switch on the transmitter is pressed, this function illuminates the hazard warning lights and side turn signal lights once. When the unlock switch is pressed, the hazard warning lights and side turn signal lights illuminate twice. | ON or OFF |
| Open Door Warning | ON | If a door is not completely closed and the transmitter lock switch is pressed, this function makes the buzzer sound for 5 seconds. | ON or OFF |
| Auto Lock Time | 30 s | The function that changes the time until relocking after unlocking the doors with the wireless door lock function. | 30 s, 60 s or 120 s |
| Wireless Buzzer Resp | ON | This function turns the wireless door lock buzzer response on or off. | ON or OFF |

**for Preparation** Click here

**HINT:**

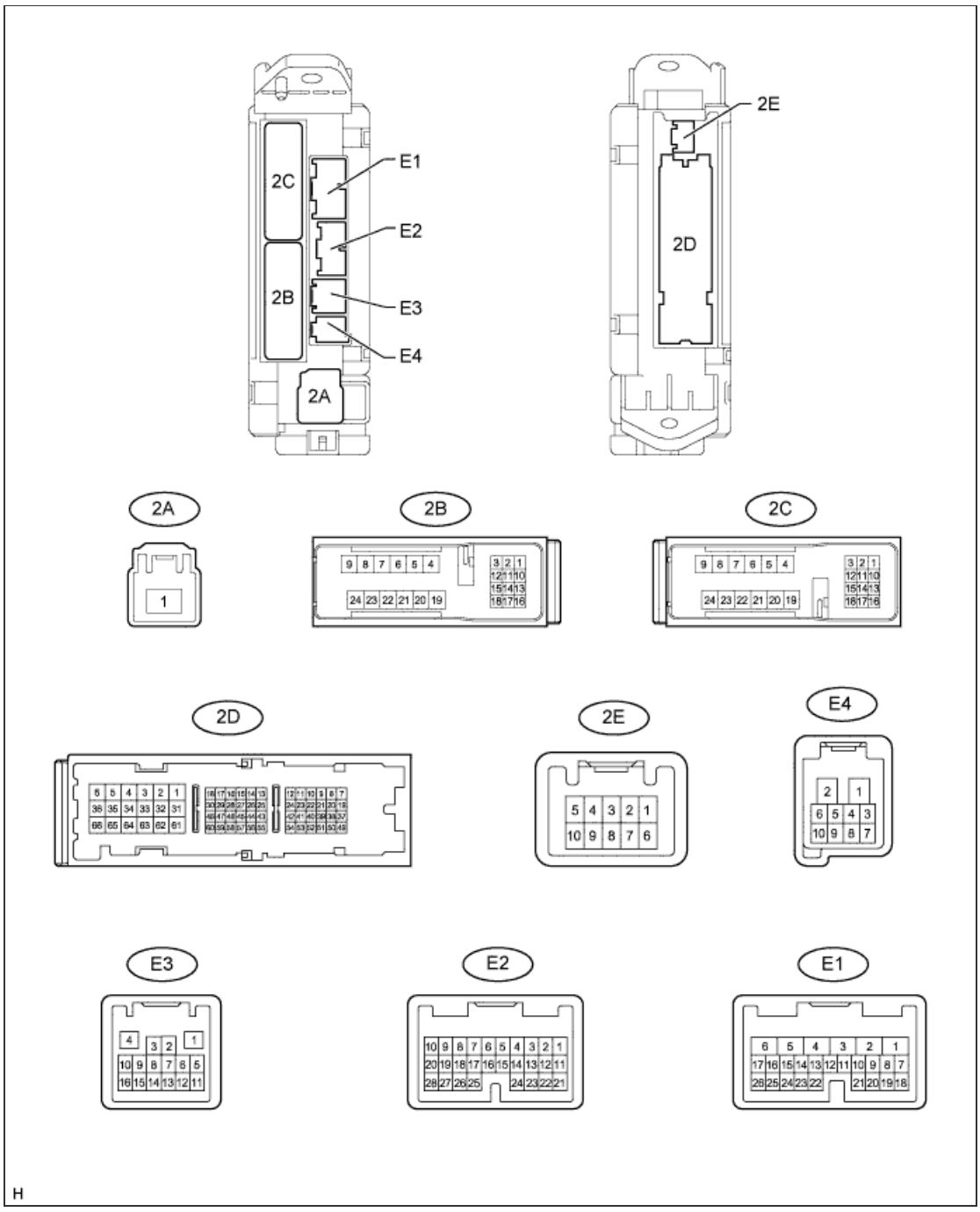
- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Wireless Door Lock Control System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Only wireless control function inoperative | Proceed to "Only Wireless Control Function is Inoperative" | Click here |
| Only answer-back function does not operate | Proceed to "No Answer-Back" | Click here |
| Only automatic lock function does not operate | Proceed to "Door Courtesy Switch Circuit" | Click here |
| | Main body ECU | - |
| Only illuminated entry function does not operate | Lighting system | Click here |
| Only door ajar warning function does not operate | Proceed to "Door Courtesy Switch Circuit" | Click here |
| | Main body ECU | - |

**for Preparation** Click here

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)




a. Disconnect the 2A, 2B and 2D ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2B-20 (BATB) - Body ground | L - Body ground | Battery power supply | Always | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Ignition switch ACC | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Ignition switch off | Below 1 Ω |
| 2A-1 (IG) - Body ground | B - Body ground | IG power supply | Ignition switch ON | 11 to 14 V |
| 2A-1 (IG) - Body ground | B - Body ground | IG power supply | Ignition switch off | Below 1 Ω |

| | | | | |
|---|---|---|---|---|
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the 2A, 2B and 2D ECU connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-24 (DCTY) - Body ground | L*1 - Body ground<br>Y*2 - Body ground | Driver side door courtesy switch input | Driver side door open | Below 1 V |
| E1-24 (DCTY) - Body ground | L*1 - Body ground<br>Y*2 - Body ground | Driver side door courtesy switch input | Ignition switch off, and driver side door courtesy switch off | Pulse generation |
| E2-21 (PCTY) - Body ground | Y*1 - Body ground<br>L*2 - Body ground | Front passenger side door courtesy switch input | Front passenger side door open | Below 1 V |
| E2-21 (PCTY) - Body ground | Y*1 - Body ground<br>L*2 - Body ground | Front passenger side door courtesy switch input | Ignition switch off, and passenger side door courtesy switch off | Pulse generation |
| 2C-2 (LCTY) - Body ground | W - Body ground | Rear door LH courtesy light switch input | Rear door LH open | Below 1 V |
| 2C-2 (LCTY) - Body ground | W - Body ground | Rear door LH courtesy light switch input | Ignition switch off, and rear LH side door courtesy switch off | Pulse generation |
| E1-17 (RCTY) - Body ground | G - Body ground | Rear door RH courtesy light switch input | Rear door RH open | Below 1 V |
| E1-17 (RCTY) - Body ground | G - Body ground | Rear door RH courtesy light switch input | Ignition switch off, and rear RH side door courtesy switch off | Pulse generation |
| E2-25 (BCTY) - Body ground | W - Body ground | Back door courtesy light switch input | Back door open | Below 1 V |
| E2-25 (BCTY) - Body ground | W - Body ground | Back door courtesy light switch input | Ignition switch off, and back door closed | Pulse generation |
| E1-9 (LSWD) - Body ground | BR*3 - Body ground<br>BE*4 - Body ground | Driver side door lock position switch input | Driver side door unlocked | Below 1 V |
| E1-9 (LSWD) - Body ground | BR*3 - Body ground<br>BE*4 - Body ground | Driver side door lock position switch input | Ignition switch off, all doors closed and driver side door locked | Pulse generation |
| E2-27 (LSWP) - Body ground | Y*1 - Body ground<br>BR*2*3 - Body ground<br>BE*4 - Body ground | Front passenger side door lock position switch input | Front passenger side door unlocked | Below 1 V |
| E2-27 (LSWP) - Body ground | Y*1 - Body ground<br>BR*2*3 - Body ground<br>BE*4 - Body ground | Front passenger side door lock position switch input | Ignition switch off, all doors closed and passenger side door locked | Pulse generation |
| 2C-1 (LSWL) - Body ground | BR*3 - Body ground<br>BE*4 - Body ground | Rear door LH lock position switch input | Rear door LH unlocked | Below 1 V |
| 2C-1 (LSWL) - Body ground | BR*3 - Body ground<br>BE*4 - Body ground | Rear door LH lock position switch input | Ignition switch off, all doors closed and rear door LH locked | Pulse generation |
| E2-5 (LSWR) - Body ground | BR*3 - Body ground<br>BE*4 - Body ground | Rear door RH lock position switch input | Rear door RH unlocked | Below 1 V |
| E2-5 (LSWR) - Body ground | BR*3 - Body ground<br>BE*4 - Body ground | Rear door RH lock position switch input | Ignition switch off, all doors closed and rear door RH locked | Pulse generation |
| E2-2 (LSWB) - Body ground | LG - Body ground | Back door lock position switch input | Back door lock position switch off | Below 1 V |
| E2-2 (LSWB) - Body ground | LG - Body ground | Back door lock position switch input | Back door lock position switch on | Pulse generation |
| E2-10 (PRG) - Body ground | R - Body ground | Door control receiver output | Key in ignition key cylinder → No key in ignition key cylinder | Pulse generation |
| E2-12 (RDA) - Body ground | L - Body ground | Door control receiver input | No key in ignition key cylinder, all doors closed and transmitter switch off → on | Pulse generation |
| E4-7 (BZR) - Body | | Wireless door lock | Wireless door lock | |

| | | | | |
|---|---|---|---|---|
| ground | LG - Body ground | buzzer signal | buzzer off | Below 1 V |
| E4-7 (BZR) - Body ground | LG - Body ground | Wireless door lock buzzer signal | Wireless door lock buzzer on | Pulse generation |
| E3-7 (HZSW) - Body ground*3 | BE - Body ground | Hazard warning light output signal | Hazard warning signal switch off | Below 1 V |
| E3-7 (HZSW) - Body ground*3 | BE - Body ground | Hazard warning light output signal | Hazard warning signal switch on | 11 to 14 V |
| E4-5 (KSW) - Body ground | BR - Body ground | Unlock warning switch input | No key in ignition key cylinder | Below 1 V |
| E4-5 (KSW) - Body ground | BR - Body ground | Unlock warning switch input | Key in ignition key cylinder | Pulse generation |

**HINT:**

*1: for LHD

*2: for RHD

*3: for GRJ200L-GNANKC, URJ202L-GNTEKC

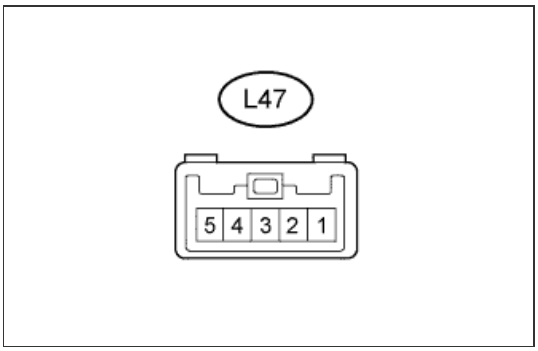
*4: except GRJ200L-GNANKC, URJ202L-GNTEKC

If the result is not as specified, the ECU may have a malfunction.

## CHECK DOOR CONTROL RECEIVER

a. Disconnect the L47 receiver connector.

b. Measure the resistance and voltage according to the value(s) in the table below.




| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| L47-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| L47-5 (+B) - Body ground | B - Body ground | Battery power supply | Always | 4.6 to 5.4 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / DTC.

e. Check for DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / DTC.

e. Clear the DTCs.

**for Preparation** Click here

## DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. According to the display on the intelligent tester, read the Data List.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Key Unlock Warning SW | Unlock warning switch / ON or OFF | ON: Key inserted into ignition key cylinder<br>OFF: Key not inserted into ignition key cylinder | - |
| RR Door Courtesy SW | Rear RH side door courtesy light switch signal / ON or OFF | ON: Rear RH side door open<br>OFF: Rear RH side door closed | - |
| RL Door Courtesy SW | Rear LH side door courtesy light switch signal / ON or OFF | ON: Rear LH side door open<br>OFF: Rear LH side door closed | - |
| Back Door Courtesy SW | Back door courtesy light switch signal / ON or OFF | ON: Back door open<br>OFF: Back door closed | - |
| Back Door Lock Pos SW | Back door lock position switch status / ON or OFF | ON: Back door unlocked<br>OFF: Back door locked | - |
| D-Door Lock Pos SW | Driver side door lock position switch signal / ON or OFF | ON: Driver side door unlocked<br>OFF: Driver side door locked | - |
| D Door Courtesy SW | Driver side door courtesy light switch signal / ON or OFF | ON: Driver side door open<br>OFF: Driver side door closed | - |
| P-Door Lock Pos SW | Front passenger side door lock position switch signal / ON or OFF | ON: Front passenger side door unlocked<br>OFF: Front passenger side door locked | - |
| P-Door Courtesy SW | Front passenger side door courtesy light switch signal / ON or OFF | ON: Front passenger side door open<br>OFF: Front passenger side door closed | - |
| RR-Door Lock Pos SW | Rear RH side door lock position switch signal / ON or OFF | ON: Rear RH side door unlocked<br>OFF: Rear RH side door locked | - |
| RL-Door Lock Pos SW | Rear LH side door lock position switch signal / ON or OFF | ON: Rear LH side door unlocked<br>OFF: Rear LH side door locked | - |
| Back Door Lock Pos SW | Back door lock position switch signal / ON or OFF | ON: Back door unlocked<br>OFF: Back door locked | - |
| The Number of DTC | Number of trouble codes / Min.: 0, Max.: 255 | Number of stored DTCs | - |

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This

non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Main Body**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Hazard | Turn signal flasher relay | ON/OFF | - |
| Wireless Buzzer | Wireless door lock buzzer | ON/OFF | - |
| Door Lock | Door lock motor | LOCK/UNLOCK | - |

**for Preparation** Click here

### Wireless Door Lock Control System

| DTC Code | Detection Item | See page |
|---|---|---|
| B1242 | Wireless Door Lock Tuner Circuit Malfunction | Click here |

# DTC B1242 Wireless Door Lock Tuner Circuit Malfunction

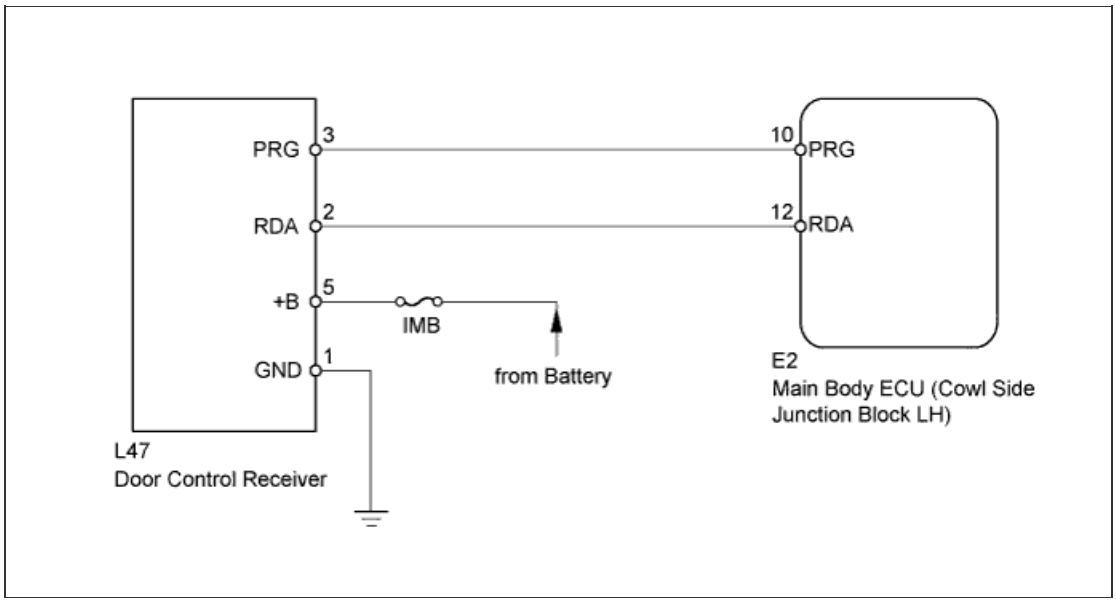
**for Preparation** Click here

## DESCRIPTION

The door control receiver receives signals from the transmitter and sends these signals to the main body ECU. This DTC is stored when the applicable RDA signal cannot be received within 1 second of the PRG signal being output from the main body ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1242 | The applicable RDA signal cannot be received within 1 second of the PRG signal being output from the main body ECU. | • Harness or connector<br>• Door control receiver<br>• Main body ECU (Cowl Side Junction Block LH) |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**
- **When replacing the door control receiver, refer to the registration procedures (Click here).**

### 1.CLEAR DTC

a. Clear the DTCs (Click here).

**NEXT**

### 2.CHECK FOR DTC

a. Check for DTCs (Click here).

**OK:**
**DTC B1242 is not output.**

**NG** → Go to step 3

**OK**

### USE SIMULATION METHOD TO CHECK (Click here)

### 3.CHECK DOOR CONTROL RECEIVER (DOOR CONTROL RECEIVER - MAIN BODY ECU)

a. Disconnect the L47 receiver connector.

b. Disconnect the E2 main body ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L47-2 (RDA) - E2-12 (RDA) | Always | Below 1 Ω |
| L47-3 (PRG) - E2-10 (PRG) | Always | Below 1 Ω |
| L47-2 (RDA) - Body ground | Always | 10 kΩ or higher |
| L47-3 (PRG) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 4.CHECK HARNESS AND CONNECTOR (DOOR CONTROL RECEIVER - BATTERY AND BODY GROUND)

a. Disconnect the L47 receiver connector.

b. Measure the resistance according to the value(s) in the table below.

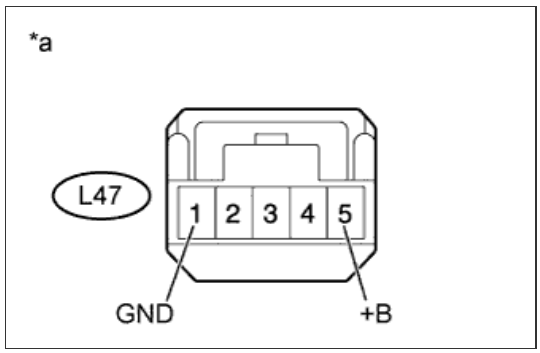
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L47-1 (GND) - Body ground | Always | Below 1 Ω |

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L47-5 (+B) - Body ground | Always | 11 to 14 V |




**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Door Control Receiver) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 5.REPLACE DOOR CONTROL RECEIVER

a. Temporarily replace the door control receiver with a new one ( Click here).

b. Perform the registration procedures (Click here).

NEXT

### 6.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

7.CHECK FOR DTC

a. Check for DTCs (Click here).

**OK:**
**DTC B1242 is not output.**

NG → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

OK

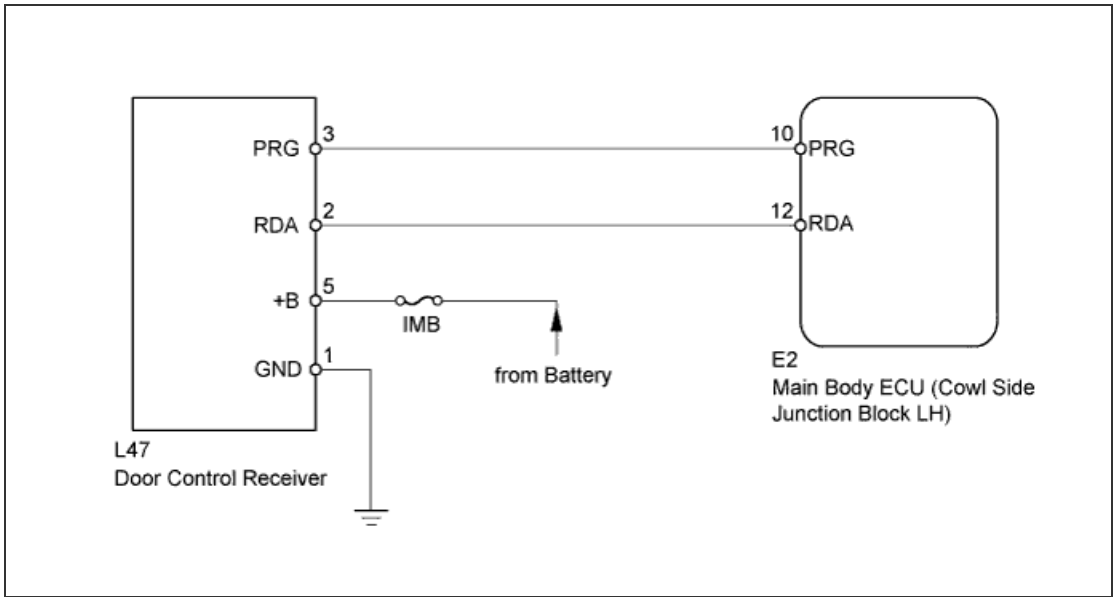
END (DOOR CONTROL RECEIVER IS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

The door control receiver receives signals from the transmitter and sends these signals to the main body ECU. The main body ECU then controls all the doors by sending lock/unlock signals to each door.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**
- **When replacing the door control receiver, refer to the registration procedures (Click here).**

### 1.CHECK POWER DOOR LOCK OPERATION

a. Check the power door lock operation (Click here).

**OK:**
**Each door locks and unlocks normally.**

NG → Go to POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.CHECK KEY REMINDER WARNING OPERATION

a. Check the key reminder warning buzzer operation (Click here).

**HINT:**

If the key reminder warning buzzer is functioning normally, it can be assumed that the unlock warning switch is also functioning normally.

**OK:**
**Key reminder warning buzzer operates normally.**

NG → Go to KEY REMINDER WARNING SYSTEM (Click here)

OK

### 3.CHECK WIRELESS DOOR CONTROL TRANSMITTER

a. Check whether the wireless door lock control functions operate normally with another registered transmitter.

**OK:**
**Wireless door lock control functions operate normally.**

NG → Go to step 5

OK

### 4.CHECK TRANSMITTER BATTERY

a. Remove the battery from the inoperative wireless door control transmitter ( Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Battery positive (+) - Battery negative (-) | Always | 2.5 to 3.2 V |

NG → REPLACE TRANSMITTER BATTERY (Click here)

OK

REPLACE DOOR CONTROL TRANSMITTER

### 5.CHECK FOR ELECTRICAL NOISE

a. Move the transmitter in the vicinity of the door control receiver.

**HINT:**

Refer to Parts Location for the location of the door control receiver ( Click here).

b. Press and hold either the lock or unlock transmitter switch for 1 second, and check that the doors are locked or unlocked accordingly.

**OK:**
**Wireless door lock control functions operate normally.**

**HINT:**

- **Check if electrical noise is the cause by moving the door control transmitter closer to the door control receiver. Moving closer will decrease the effects of electrical noise.**
- **If the operation check can be performed normally, there is a high probability that electrical noise or a decrease in output from the door control transmitter is the cause of the malfunction. There is a high probability that electrical noise is the cause if the problem occurs only in a certain location or only during a certain time of day. Also, custom components may be causing electrical noise. If custom components are installed in the vehicle, remove them and perform the operation check again.**

NG → Go to step 6

OK

FIND CAUSE OF ELECTRICAL NOISE AND REMOVE IT

### 6.CHECK HARNESS AND CONNECTOR (DOOR CONTROL RECEIVER - MAIN BODY ECU)

a. Disconnect the L47 receiver connector.

b. Disconnect the E2 main body ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| L47-2 (RDA) - E2-12 (RDA) | Always | Below 1 Ω |
| L47-3 (PRG) - E2-10 (PRG) | Always | Below 1 Ω |
| L47-2 (RDA) - Body ground | Always | 10 kΩ or higher |
| L47-3 (PRG) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 7.CHECK HARNESS AND CONNECTOR (DOOR CONTROL RECEIVER - BATTERY AND BODY GROUND)

a. Disconnect the L47 receiver connector.

b. Measure the resistance according to the value(s) in the table below.

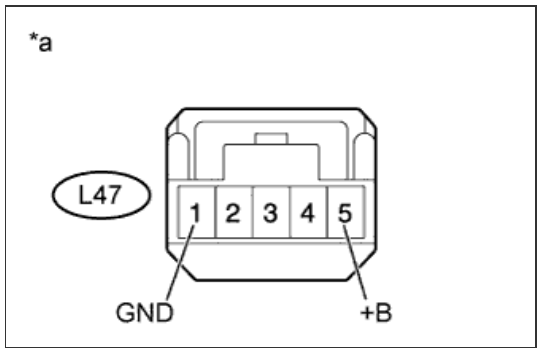
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L47-1 (GND) - Body ground | Always | Below 1 Ω |

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L47-5 (+B) - Body ground | Always | 11 to 14 V |




**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Door Control Receiver) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.CHECK DOOR CONTROL RECEIVER (OUTPUT)

a. Using an oscilloscope, check the waveform.

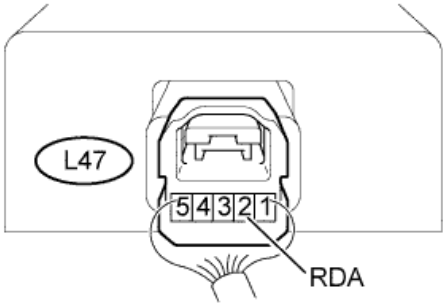
**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | L47-2 (RDA) - Body ground |
| Tool Setting | 10 V/DIV., 50 µs/DIV. |
| Condition | No key in ignition key cylinder, all doors closed and transmitter switch off → on |

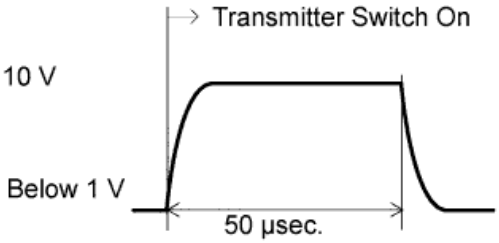
**OK:**

**Waveform is output normally (refer to illustration).**

Component with harness connected:
(Door Control Receiver)




RDA Output (Reference):




NG → REPLACE DOOR CONTROL RECEIVER (Click here)

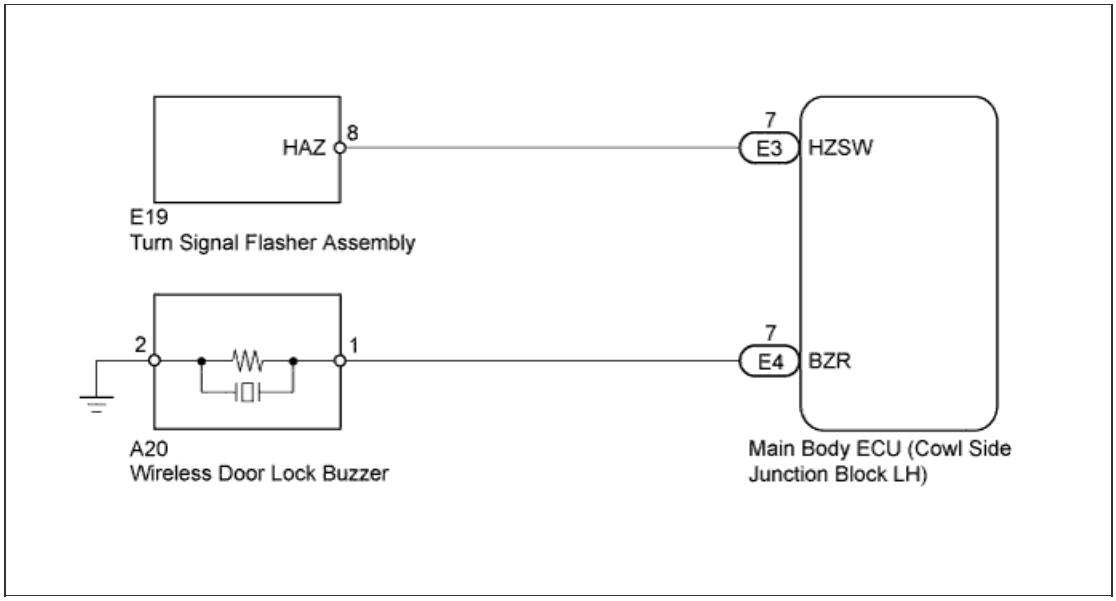
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**for Preparation** Click here

## DESCRIPTION

In some cases, the wireless door lock control functions are normal but the hazard warning light or wireless door lock buzzer answer-back function does not operate. In such cases, hazard warning light and wireless door lock buzzer signal outputs from the main body ECU may be malfunctioning.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Start troubleshooting after confirming that the customize status of the answer-back function has been switched on.

### 1.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Back Door Lock Pos SW | Back door lock position switch status / ON or OFF | ON: Back door unlocked<br>OFF: Back door locked | - |
| FR Door Lock Pos | Front RH side door lock position switch signal / UNLOCK or LOCK | UNLOCK: Front RH side door unlocked<br>LOCK: Front RH side door locked | - |
| FL Door Lock Pos | Front LH side door lock position switch signal / UNLOCK or LOCK | UNLOCK: Front LH side door unlocked<br>LOCK: Front LH side door locked | - |
| RR-Door Lock Pos SW | Rear RH side door lock position switch signal / ON or OFF | ON: Rear RH side door unlocked<br>OFF: Rear RH side door locked | - |
| RL-Door Lock Pos SW | Rear LH side door lock position switch signal / ON or OFF | ON: Rear LH side door unlocked<br>OFF: Rear LH side door locked | - |

**OK:**

**The intelligent tester display changes as shown in the table according to door lock operation.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

## 2.CHECK WIRELESS ANSWER-BACK OPERATION

a. Check the wireless answer-back operation using the wireless door lock control function.

**Result**

| Result | Proceed to |
|---|---|
| Only hazard warning light answer-back does not occur | A |
| Only wireless door lock buzzer answer-back does not occur | B |

B → Go to step 6

A

## 3.CHECK HAZARD WARNING LIGHT OPERATION

a. Check that the hazard warning lights flash continuously when the hazard warning signal switch is pressed.

**OK:**

**Hazard warning lights flash continuously.**

NG → GO TO LIGHTING SYSTEM (Click here)

OK

## 4.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (HAZARD WARNING LIGHT)

a. Operate the intelligent tester according to the steps on the display and select "Active Test" ( Click here).

**Main Body**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Hazard | Turn signal flasher relay | ON/OFF | - |

**OK:**

**The hazard warning lights can be turned on and off using the intelligent tester.**

NG → Go to step 5

OK

## REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 5.CHECK HARNESS AND CONNECTOR (TURN SIGNAL FLASHER - MAIN BODY ECU)

a. Disconnect the E19 flasher connector.

b. Disconnect the E3 main body ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E19-8 (HAZ) - E3-7 (HZSW) | Always | Below 1 Ω |
| E19-8 (HAZ) - | | |

| | | |
|---|---|---|
| Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

6.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (WIRELESS DOOR LOCK BUZZER)

a. Operate the intelligent tester according to the steps on the display and select "Active Test" ( Click here).

Main Body

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Wireless Buzzer | Wireless door lock buzzer | ON/OFF | - |

**OK:**

**The wireless door lock buzzer can be turned on and off using the intelligent tester.**

NG → Go to step 7

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

7.CHECK HARNESS AND CONNECTOR (WIRELESS DOOR LOCK BUZZER - MAIN BODY ECU)

a. Disconnect the A20 buzzer connector.

b. Disconnect the E4 main body ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A20-1 - E4-7 (BZR) | Always | Below 1 Ω |
| A20-2 - Body ground | Always | Below 1 Ω |
| A20-1 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8.REPLACE WIRELESS DOOR LOCK BUZZER

a. Temporarily replace the wireless door lock buzzer with a new or normally functioning one ( Click here).

NEXT

9.CHECK WIRELESS DOOR LOCK BUZZER OPERATION

a. Check that the wireless door lock buzzer sounds by operating the wireless door lock function.

**OK:**

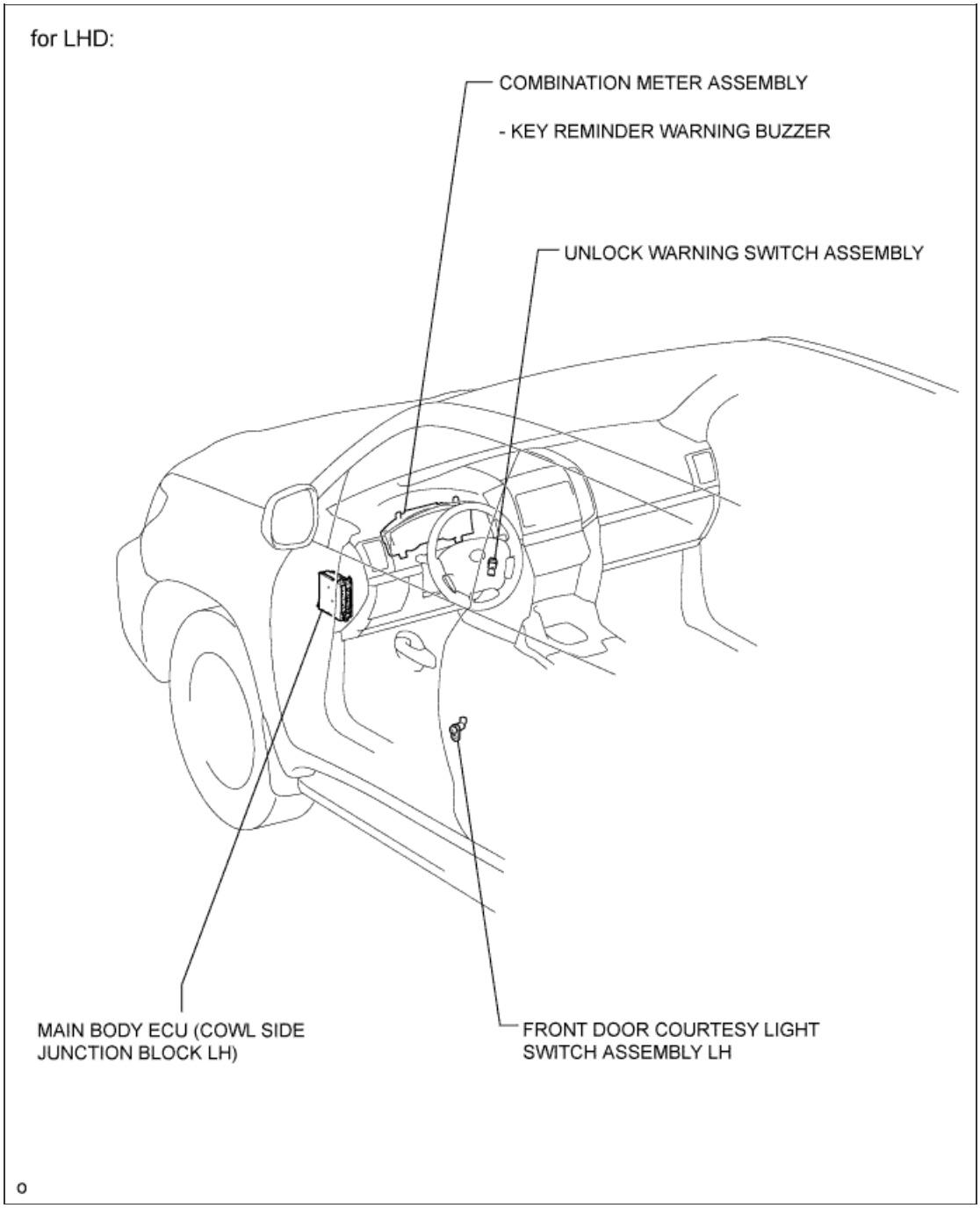
**Wireless door lock buzzer sounds.**

NG → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

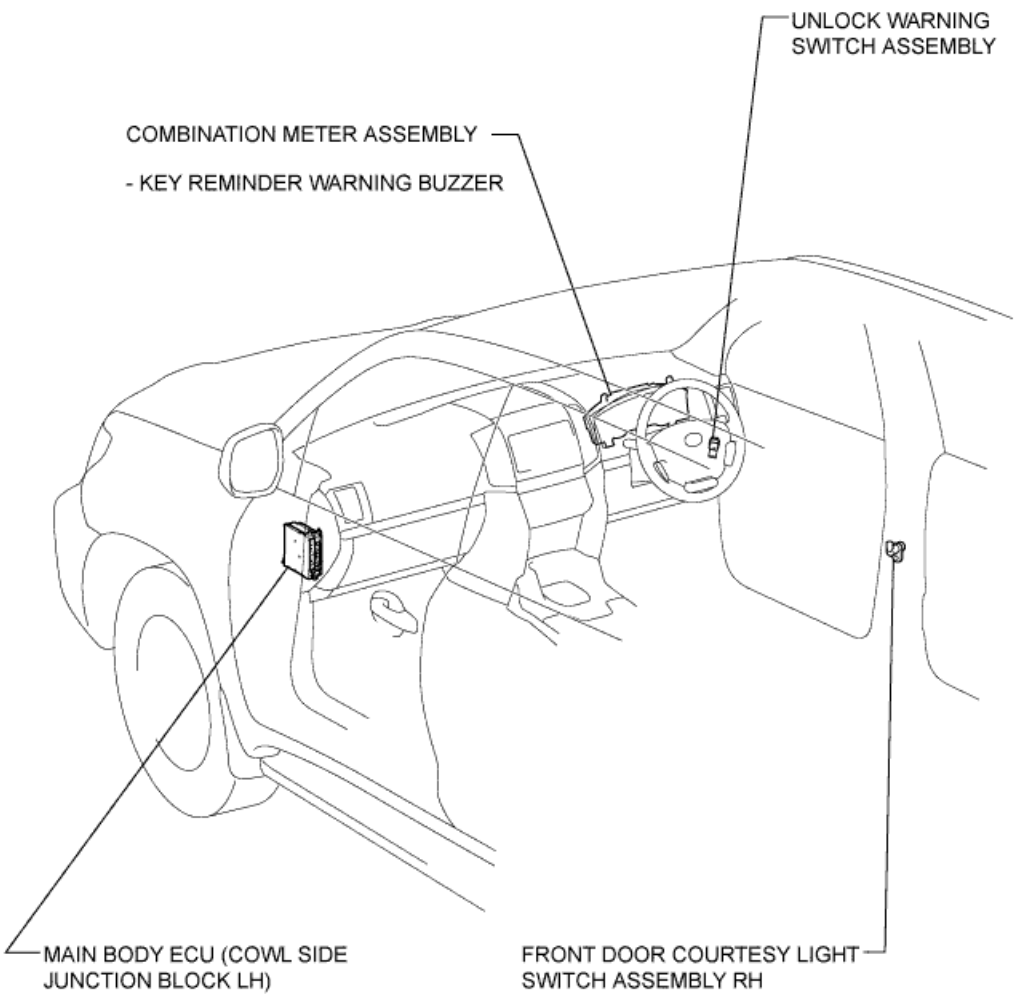
OK

END (WIRELESS DOOR LOCK BUZZER IS DEFECTIVE)

**for Preparation** Click here

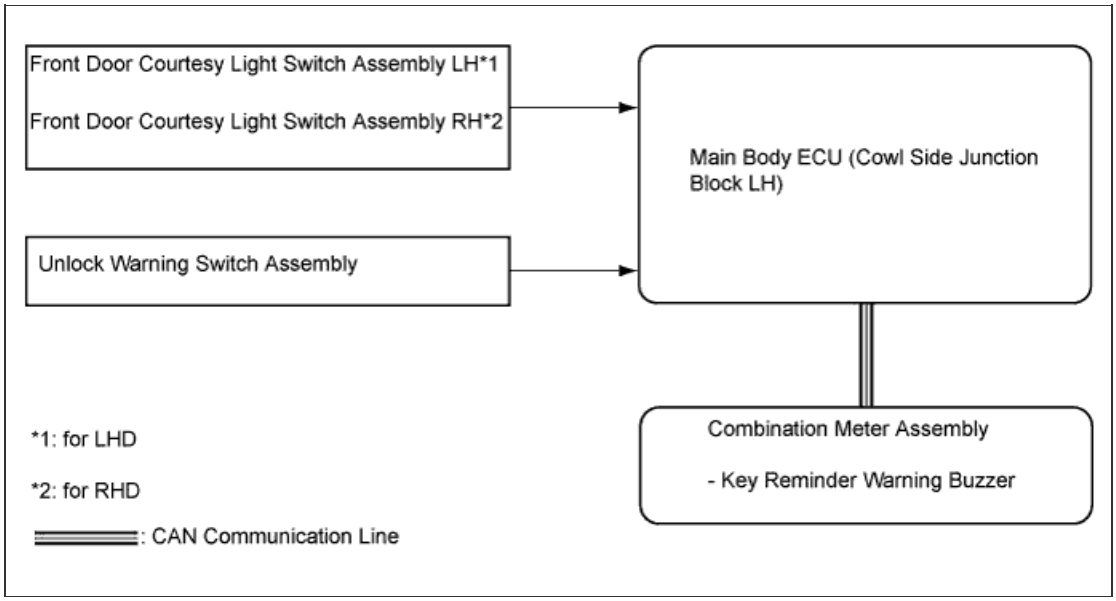


for RHD:


UNLOCK WARNING SWITCH ASSEMBLY
COMBINATION METER ASSEMBLY
- KEY REMINDER WARNING BUZZER
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY RH

o

**for Preparation** Click here




### Communication Table

| Sender | Receiver | Signal | Line |
|---|---|---|---|
| Main body ECU (Cowl Side Junction Block LH) | Combination meter assembly | Front door courtesy light switch LH*1 signal<br>Front door courtesy light switch RH*2 signal | CAN |
| Main body ECU (Cowl Side Junction Block LH) | Combination meter assembly | Unlock warning switch signal | CAN |

*1: for LHD
*2: for RHD

**for Preparation** Click here

## KEY REMINDER WARNING SYSTEM DESCRIPTION

a. When the driver side door is opened while the ignition switch is ACC or off and the key is in the ignition key cylinder, this system causes a buzzer to sound in order to warn the driver that the key has not been removed.

## FUNCTION OF MAIN COMPONENT

| Component | Function |
|---|---|
| Front Door Courtesy Light Switch LH*1<br>Front Door Courtesy Light Switch RH*2 | Detects the driver side door status (open or closed) and outputs a signal to the main body ECU. |
| Unlock Warning Switch | Detects if the key is inserted into the ignition key cylinder or not and outputs a signal to the main body ECU. |
| Combination Meter | Receives a buzzer request signal from the main body ECU after the main body ECU receives an ignition switch signal, unlock warning switch signal and front door courtesy light switch LH*1 or RH*2 signal, and activates the inner circuit to sound the built-in buzzer intermittently. |

*1: for LHD
*2: for RHD

**for Preparation** Click here

**HINT:**

- **Use the following procedures to troubleshoot the key reminder warning system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

**NEXT**

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding to the next step.

**NEXT**

## 3.CHECK COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

**B.** → **Go to CAN COMMUNICATION SYSTEM (Click here)**

**C.** → **Go to CAN COMMUNICATION SYSTEM (Click here)**

**A**

## 4.PROBLEM SYMPTOMS TABLE

a. Refer to Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

**B.** → **Go to step 6**

**A**

## 5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Operation Check (Click here).

b. Terminals of ECU (Click here).

c. Data List / Active Test (Click here).

NEXT

6.REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

## CHECK KEY REMINDER WARNING SYSTEM

a. Check that the key reminder warning buzzer sounds.

   i. With the driver side door closed, insert the key into the ignition key cylinder and leave the ignition switch off, or turn the ignition switch to ACC.

   ii. Check that the buzzer sounds intermittently if the driver side door is opened.

b. Check that the key reminder warning buzzer stops.

   i. Check that the buzzer stops sounding when any of the following operations is performed while the buzzer is sounding:

   - Closing the driver side door (front door courtesy light switch turns off).
   - Turning the ignition switch to ON.
   - Removing the key from the ignition key cylinder.

**for Preparation** Click here

**HINT:**

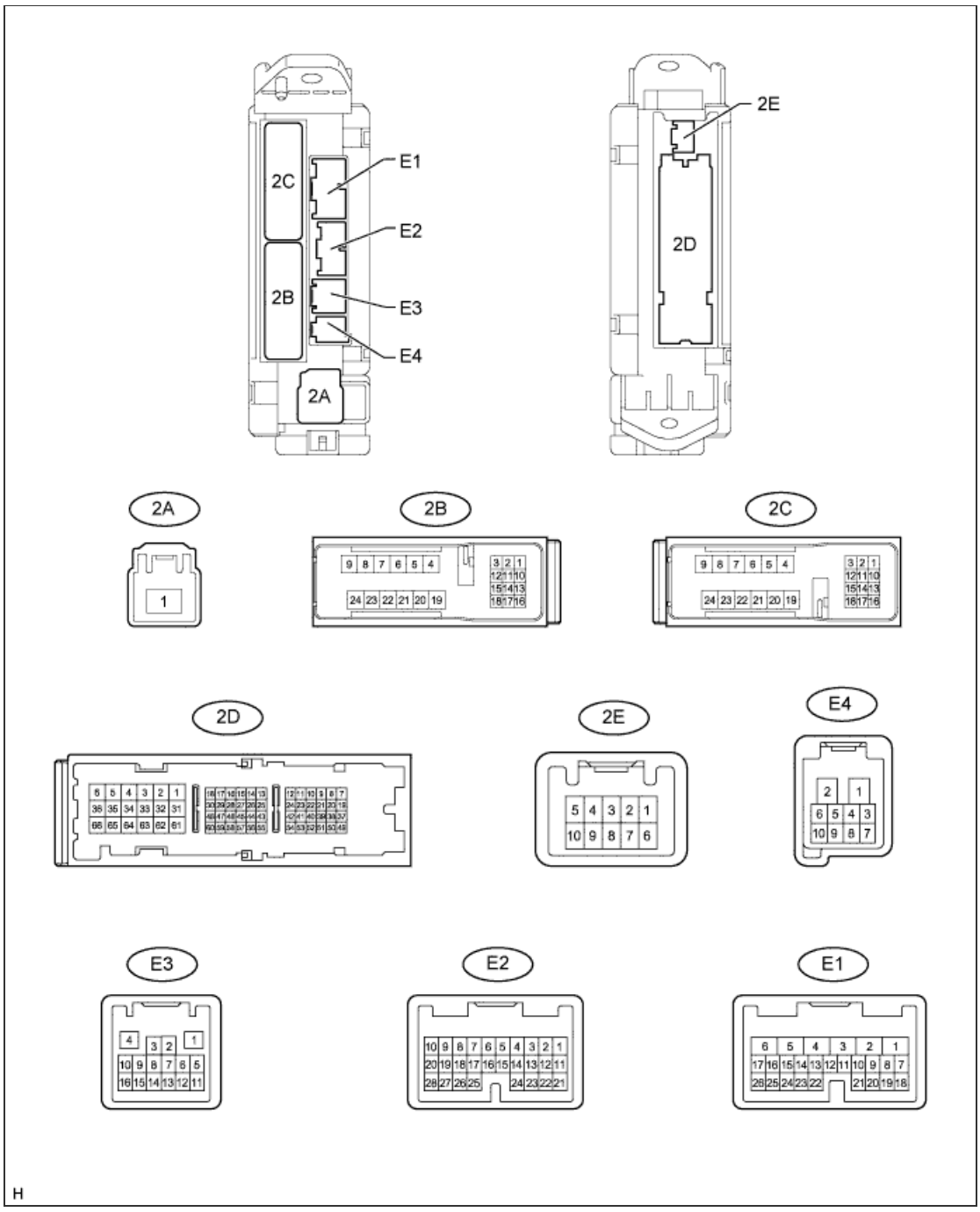
- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Key Reminder Warning System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Key reminder warning buzzer does not sound | Proceed to "Key Reminder Buzzer does not Sound" | Click here |

**for Preparation** Click here

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)




a. Disconnect the 2A, 2B, 2D and E4 ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2B-20 (BATB) - Body ground | L - Body ground | Battery power supply | Always | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Ignition switch ACC | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Ignition switch off | Below 1 Ω |
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

| | | | | |
|---|---|---|---|---|
| E4-5 (KSW) - Body ground | BR - Body ground | Unlock warning switch input | No key in ignition key cylinder | 10 kΩ or higher |
| E4-5 (KSW) - Body ground | BR - Body ground | Unlock warning switch input | Key inserted in ignition key cylinder | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the 2A, 2B, 2D and E4 ECU connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-24 (DCTY) - Body ground | L*1 - Body ground<br>Y*2 - Body ground | Driver side door courtesy switch input | Driver side door open | Below 1 V |
| E1-24 (DCTY) - Body ground | L*1 - Body ground<br>Y*2 - Body ground | Driver side door courtesy switch input | Ignition switch off, and driver side door courtesy switch off | Pulse generation |

**HINT:**

*1: for LHD

*2: for RHD

If the result is not as specified, the ECU may have a malfunction.

**for Preparation** Click here

## DATA LIST

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. According to the display on the tester, read the Data List.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Key Unlock Warning SW | Unlock warning switch signal / ON or OFF | ON: Key in ignition key cylinder<br>OFF: No key in ignition key cylinder | - |
| D Door Courtesy SW | Driver side door courtesy light switch signal / ON or OFF | ON: Driver side door opened<br>OFF: Driver side door closed | - |

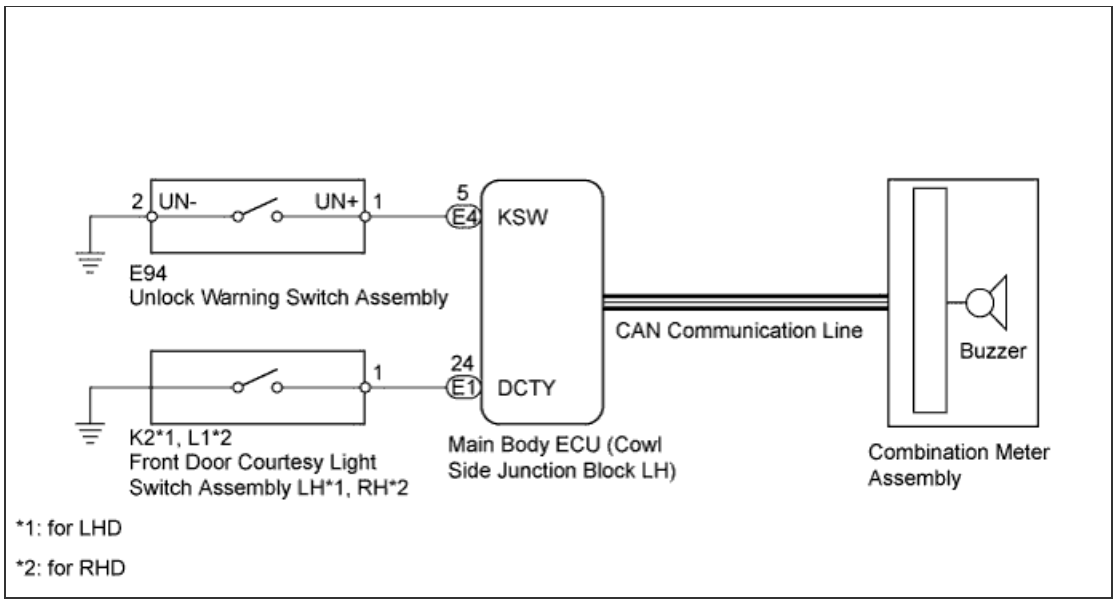
**for Preparation** Click here

## DESCRIPTION

The key reminder warning buzzer sounds when the driver side door is opened while the ignition switch is ACC or off and the key is in the ignition key cylinder. The key reminder warning buzzer is activated when the main body ECU sends an unlock warning switch signal and front door courtesy light switch LH*1 or RH*2 signal to the combination meter.

*1: for LHD
*2: for RHD

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Since the key reminder warning system has functions that use CAN communication, first confirm that there is no malfunction in the communication system by inspecting CAN communication in accordance with the "How to Proceed with Troubleshooting" procedures. Then, conduct the following inspection procedure.

### 1.READ VALUE USING INTELLIGENT TESTER (FRONT DOOR COURTESY LIGHT SWITCH)

a. Check the Data List for proper functioning of the front door courtesy light switch ( Click here).

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Door Courtesy SW | Driver side door courtesy light switch signal / ON or OFF | ON: Driver side door opened<br>OFF: Driver side door closed | - |

NG → GO TO LIGHTING SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (UNLOCK WARNING SWITCH)

a. Check the Data List for proper functioning of the unlock warning switch ( Click here).

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Key Unlock Warning SW | Unlock warning switch signal / ON or OFF | ON: Key in ignition key cylinder<br>OFF: No key in ignition key cylinder | - |

**OK:**
**On tester screen, item changes between ON and OFF according to above chart.**

NG → Go to step 3

OK ↓

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

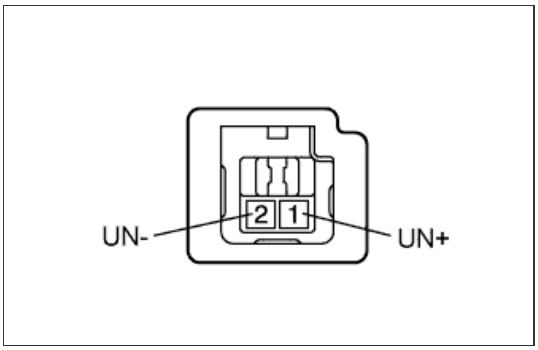
## 3.INSPECT UNLOCK WARNING SWITCH ASSEMBLY

a. Remove the unlock warning switch (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (UN+) - 2 (UN-) | Not pushed | 10 kΩ or higher |
| | Pushed | Below 1 Ω |




NG → REPLACE UNLOCK WARNING SWITCH ASSEMBLY (Click here)

OK ↓

## 4.CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH ASSEMBLY - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the E94 unlock warning switch connector.

b. Disconnect the E4 main body ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E94-1 (UN+) - E4-5 (KSW) | Always | Below 1 Ω |
| E94-2 (UN-) - Body ground | Always | Below 1 Ω |
| E94-1 (UN+) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

## 5.CHECK COMBINATION METER ASSEMBLY (OPERATION)

a. Temporarily replace the combination meter assembly with a new or normally functioning one ( Click here).

b. Check the key reminder warning system (Click here).

**OK:**
**The key reminder warning system functions properly.**

NG → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

OK ↓

END (COMBINATION METER ASSEMBLY IS DEFECTIVE)

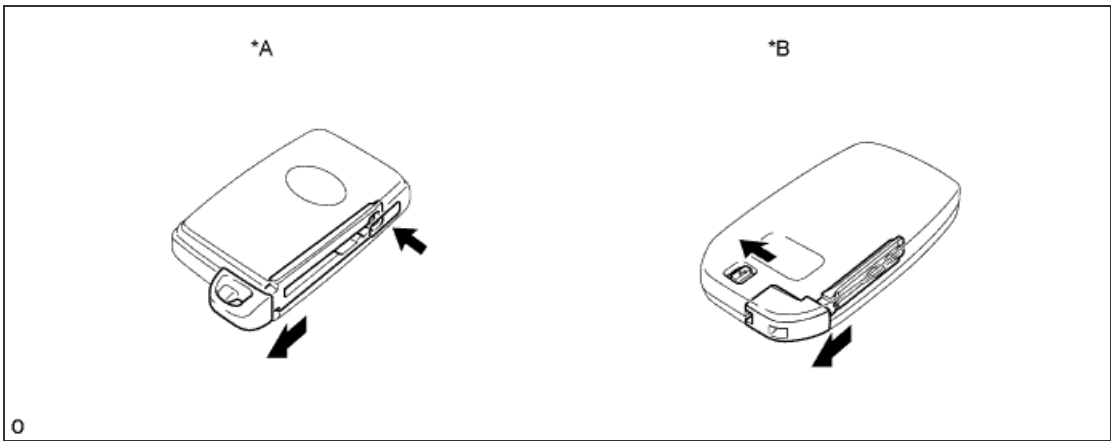
**for Preparation** Click here

## 1. REMOVE TRANSMITTER BATTERY

**NOTICE:**

Take extra care when handling these precision electronic components.

a. Push (for type A, for type B) or slide (for type C) the release hook knob and extract the emergency key.



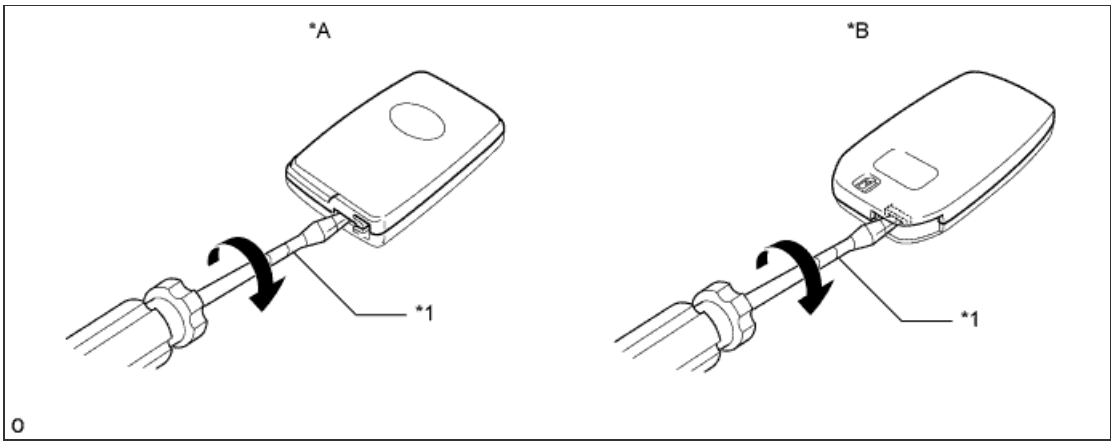

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A, for Type B | *B | for Type C |

b. Insert a precision screwdriver into the gap, and turn the screwdriver to detach the transmitter housing cover.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the electrical transmitter from being damaged.



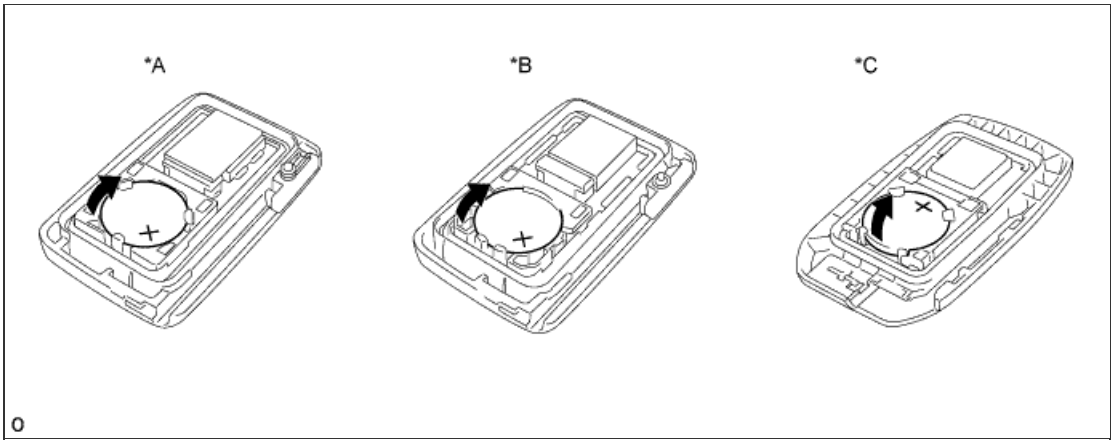

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A, for Type B | *B | for Type C |
| *1 | Protective Tape | - | - |

**HINT:**

Tape the screwdriver tip before use.

c. Remove the battery.




**Text in Illustration**

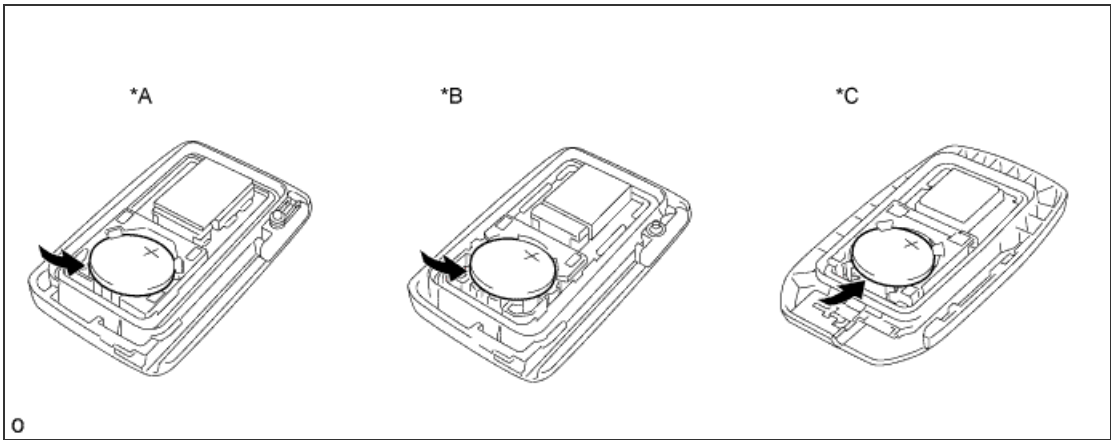
| | | | |
|---|---|---|---|
| *A | for Type A (lithium battery: CR1632) | *B | for Type B (lithium battery: CR1632) |
| *C | for Type C (lithium battery: CR2032) | - | - |

**NOTICE:**

- **When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the electrical transmitter from being damaged.**
- **Do not push the terminals with your finger.**
- **Do not forcibly pry up the battery. The terminals may be damaged.**
- **Do not touch the battery with wet hands. Water may cause rust.**
- **Do not touch or move any components inside the transmitter. It may interfere with proper operation.**

## 2. INSTALL TRANSMITTER BATTERY

a. Install a new battery with the positive (+) side facing upward as shown in the illustration.



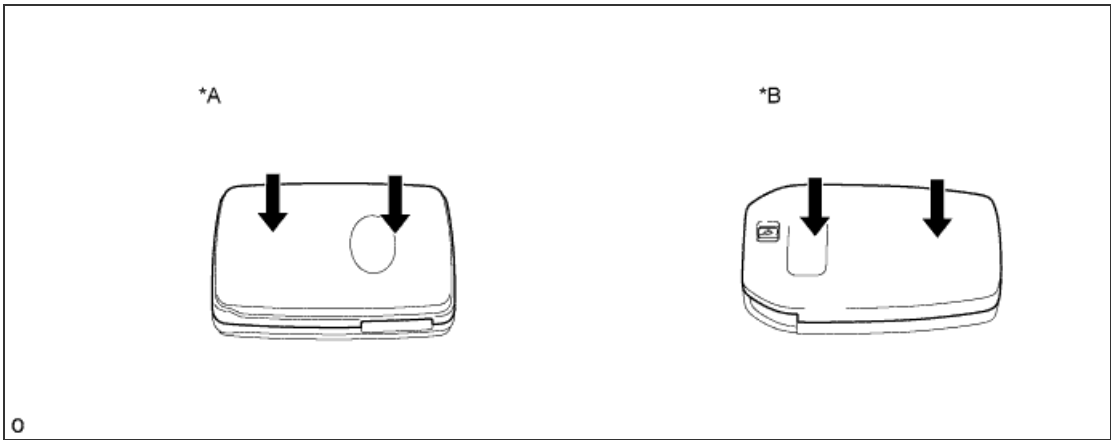

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A (lithium battery: CR1632) | *B | for Type B (lithium battery: CR1632) |
| *C | for Type C (lithium battery: CR2032) | - | - |

**NOTICE:**

- **When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the electrical transmitter from being damaged.**
- **Do not bend the transmitter battery electrode during insertion.**
- **Keep the transmitter cover interior free of dust and oil.**

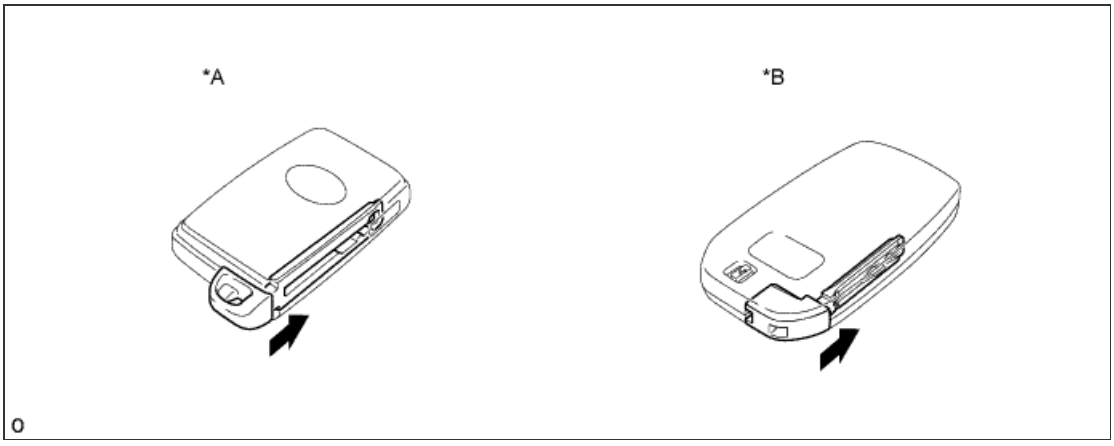
b. Install the transmitter housing cover by pressing down on it as shown in the illustration.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A, for Type B | *B | for Type C |

c. Insert the mechanical key into the transmitter.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A, for Type B | *B | for Type C |

d. Press one of the transmitter switches and check that the LED illuminates.

**for Preparation** Click here

**NOTICE:**

Take extra care when handling these precision electronic components.

## 1. REMOVE TRANSMITTER HOUSING COVER

a. Twist a screwdriver in the direction of the arrow in the illustration and remove the transmitter housing cover.

**NOTICE:**

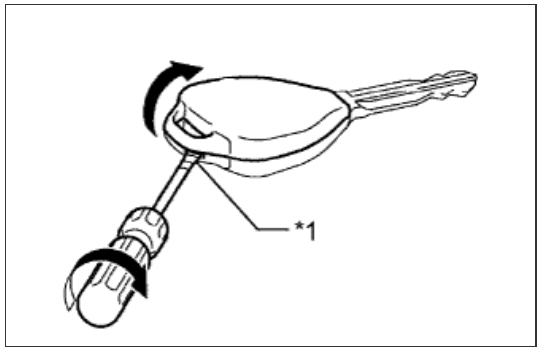
Do not forcibly pry open the cover.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 2. REMOVE DOOR CONTROL TRANSMITTER MODULE

a. Using a precision screwdriver, remove the door control transmitter module.

**NOTICE:**

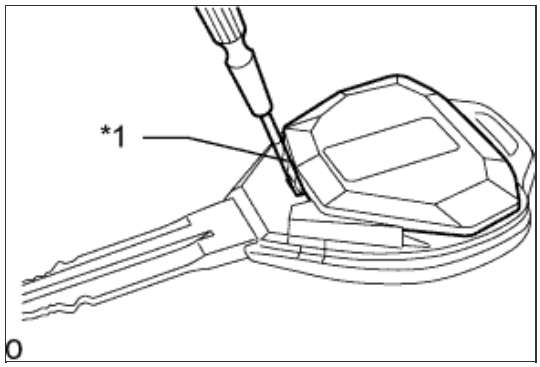
When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

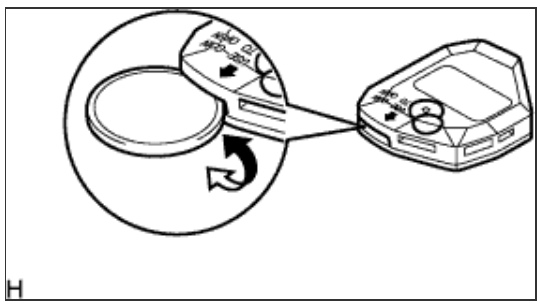



## 3. REMOVE TRANSMITTER BATTERY

a. Twist a coin in the direction of the arrow in the illustration and remove the transmitter battery cover.

**NOTICE:**

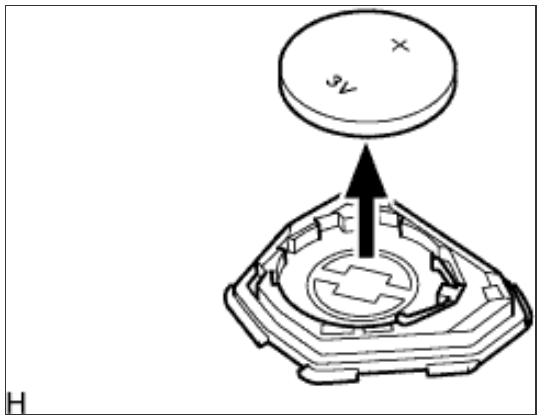
When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.



b. Remove the battery (lithium battery: CR2016).

**NOTICE:**

- **When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.**
- **Do not push the terminals with your finger.**
- **Do not forcibly pry up the battery. The terminals may become damaged.**
- **Do not touch the battery with wet hands. Water may cause rust.**
- **Do not touch or move any components inside the transmitter. the transmitter may cease to work.**

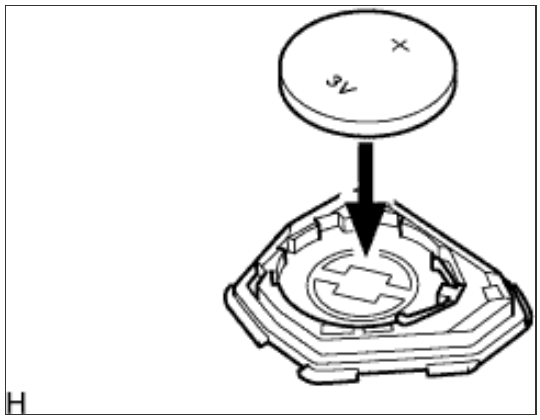



## 4. INSTALL TRANSMITTER BATTERY

a. Install a new battery (lithium battery: CR2016) with the positive (+) side facing upward as shown in the illustration.

**NOTICE:**

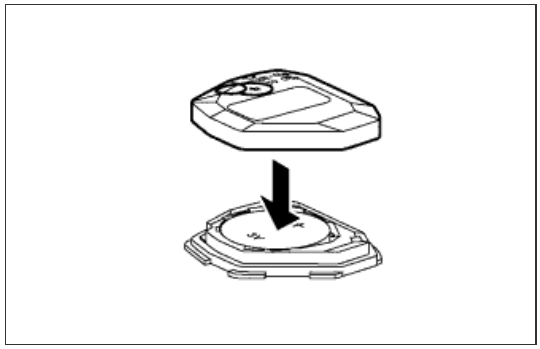
- **When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.**
- **Be careful not to bend the transmitter battery electrode during insertion.**
- **Keep the transmitter battery cover interior free of dust and oil.**




b. Install the transmitter battery cover.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.

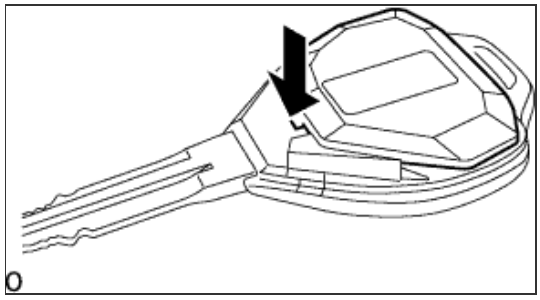


## 5. INSTALL DOOR CONTROL TRANSMITTER MODULE

a. Install the door control transmitter module.

**NOTICE:**

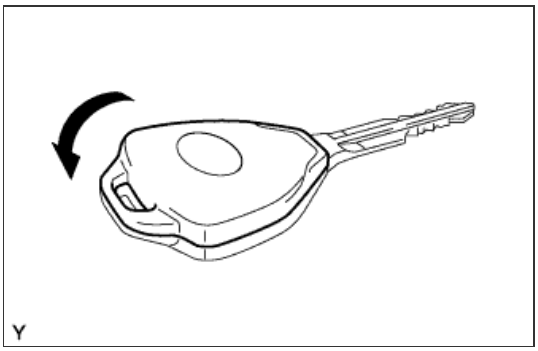
When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.



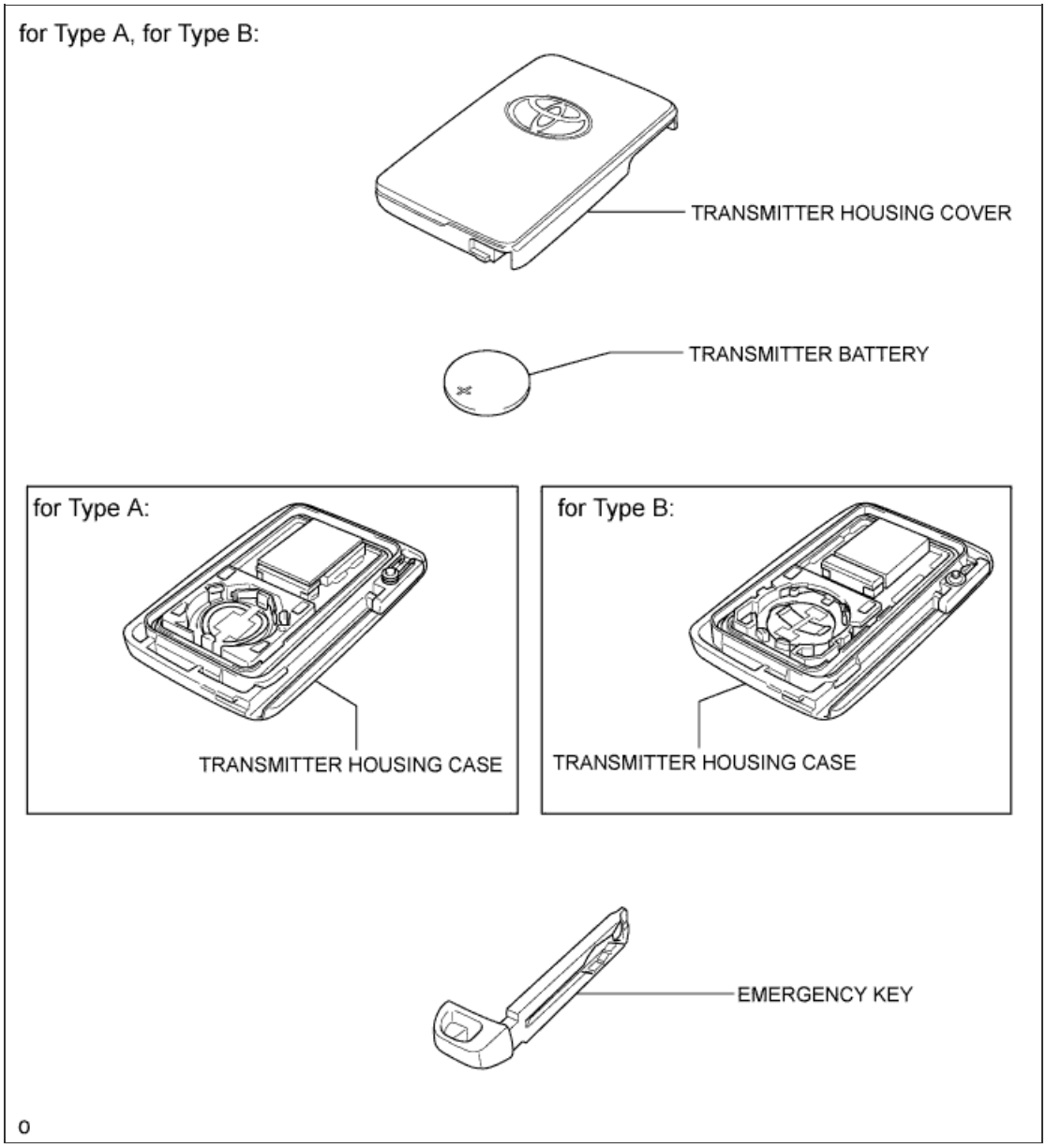

## 6. INSTALL TRANSMITTER HOUSING COVER

a. Install the transmitter housing cover to the transmitter housing case.

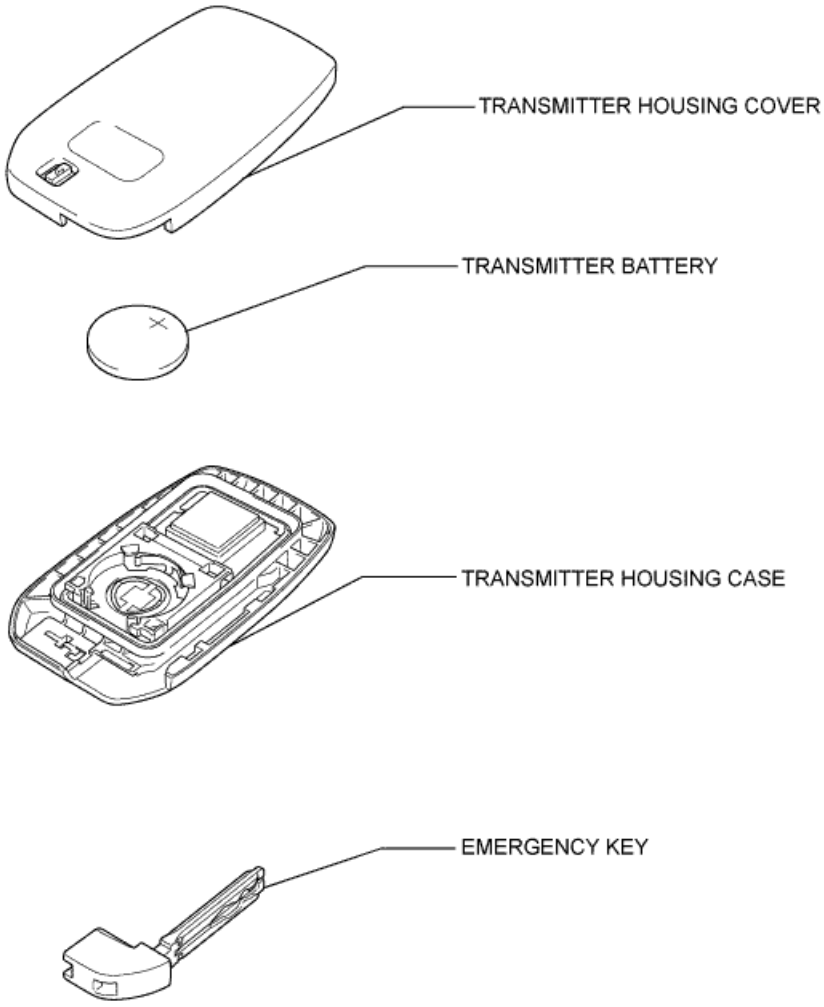
b. Check that the transmitter LED illuminates 3 times when a switch is pressed 3 times.



**for Preparation** Click here



for Type C:


TRANSMITTER HOUSING COVER
TRANSMITTER BATTERY
TRANSMITTER HOUSING CASE
EMERGENCY KEY

o

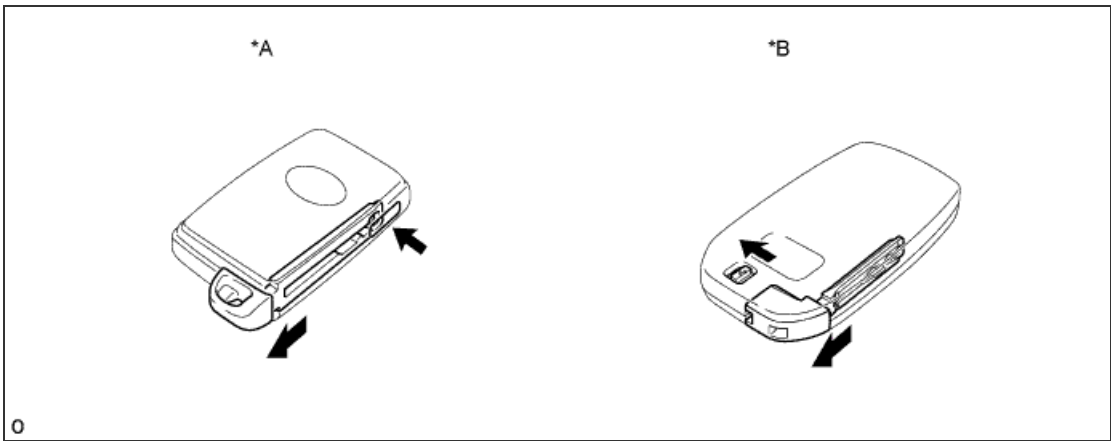
**for Preparation** Click here

## 1. REMOVE TRANSMITTER BATTERY

**NOTICE:**

Take extra care when handling these precision electronic components.

a. Push (for type A, for type B) or slide (for type C) the release hook knob and extract the emergency key.



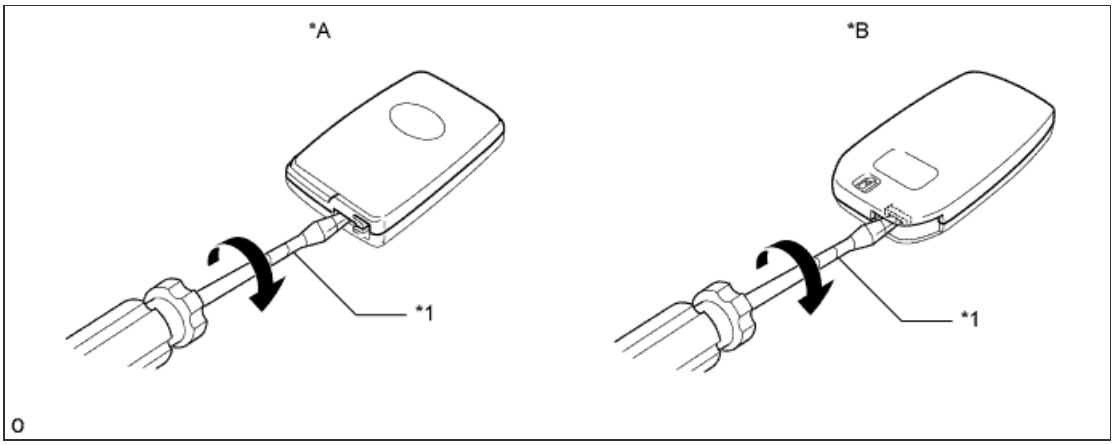

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A, for Type B | *B | for Type C |

b. Insert a precision screwdriver into the gap, and turn the screwdriver to detach the transmitter housing cover.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.



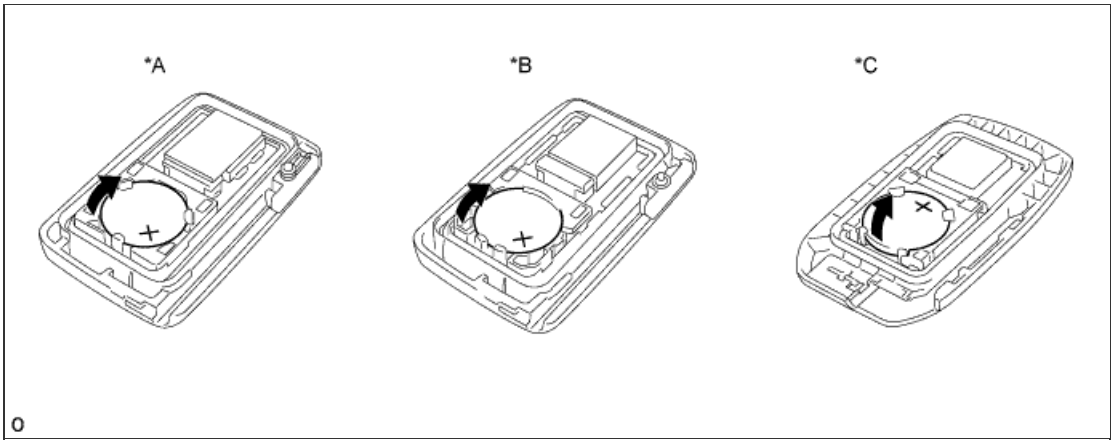

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A, for Type B | *B | for Type C |
| *1 | Protective Tape | - | - |

**HINT:**

Tape the screwdriver tip before use.

c. Remove the battery (lithium battery: CR1632).




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A (lithium battery: CR1632) | *B | for Type B (lithium battery: CR1632) |
| *C | for Type C (lithium battery: CR2032) | - | - |

**NOTICE:**

- **When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.**
- **Do not push the terminals with your finger.**
- **Do not forcibly pry up the battery. The terminals may be damaged.**
- **Do not touch the battery with wet hands. Water may cause rust.**
- **Do not touch or move any components inside the transmitter. It may interfere with proper operation.**

**for Preparation** Click here

## 1. INSPECT TRANSMITTER BATTERY

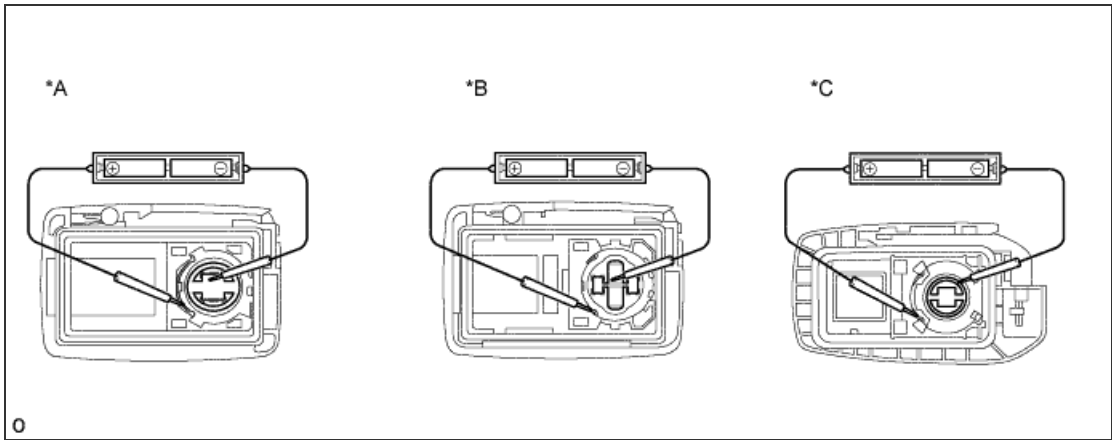
a. Inspect the operation of the transmitter.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the electrical transmitter from being damaged.

i. Remove the battery (lithium battery) from the transmitter ( Click here).

ii. Install a new or normal battery (lithium battery).




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A | *B | for Type B |
| *C | for Type C | - | - |

**HINT:**

If a new or normal battery is not available, first connect 2 new 1.5 V batteries in series. Then connect leads to the batteries and apply 3 V to the transmitter as shown in the illustration.

iii. From outside the vehicle, approximately 1 m (3.28 ft) away from the driver side outside door handle, test the transmitter by pointing its key plate at the vehicle and pressing a transmitter switch, or while carrying the transmitter, touch the inside of the handle and pull it.

**OK:**
**The door lock can be operated via the transmitter.**
**The LED comes on more than once.**

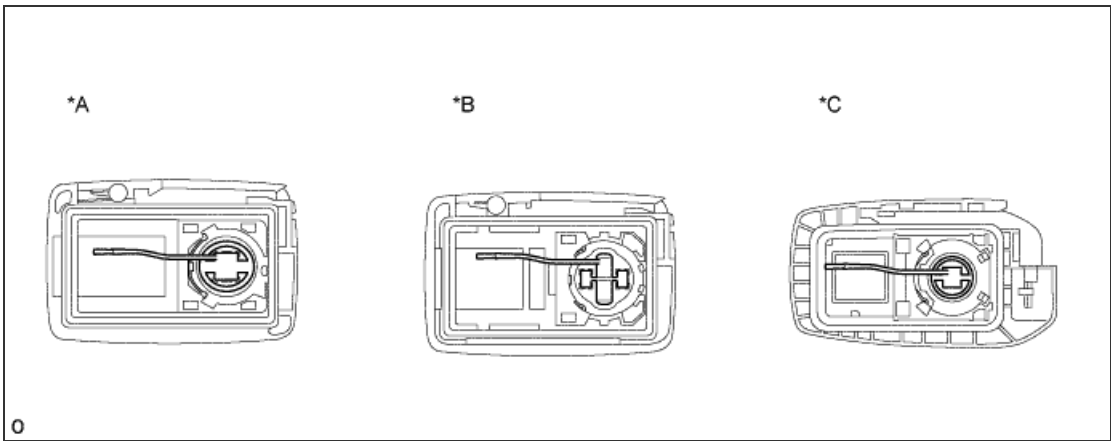
**HINT:**

- **The operational area differs depending on the user, the way the transmitter is held, and the location.**
- **The weak electric waves from the transmitter may be affected if the area has strong electric waves or noise. The transmitter operational area may be shortened or the transmitter may not function.**

b. Inspect the battery capacity.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the electrical transmitter from being damaged.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A | *B | for Type B |
| *C | for Type C | - | - |

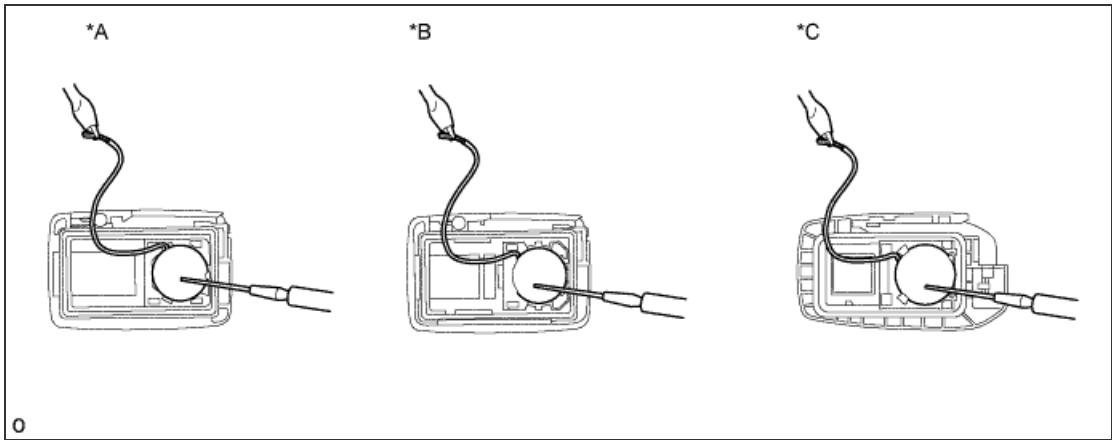
i. Remove the battery from the electrical key transmitter that does not operate. Attach a lead wire (0.6 mm (0.0236 in.) in diameter or less including wire sheath) with tape or equivalent to the negative terminal (Click here).

**NOTICE:**

Do not wrap the lead wire around a terminal, wedge it between terminals, or solder it. A terminal may be deformed or damaged, and the battery will not be able to be installed correctly.

ii. Carefully extend the lead wire from the position shown in the illustration and install the previously removed transmitter battery.

iii. Check the transmitter battery voltage.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A (lithium battery: CR1632) | *B | for Type B (lithium battery: CR1632) |
| *C | for Type C (lithium battery: CR2032) | - | - |

**HINT:**

When measuring the battery voltage, bring the electrical key transmitter within the smart access system operating range and the lock switch of a door handle to perform the measurement. For the smart access system operating range, refer to System Description (Click here).

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| | | |

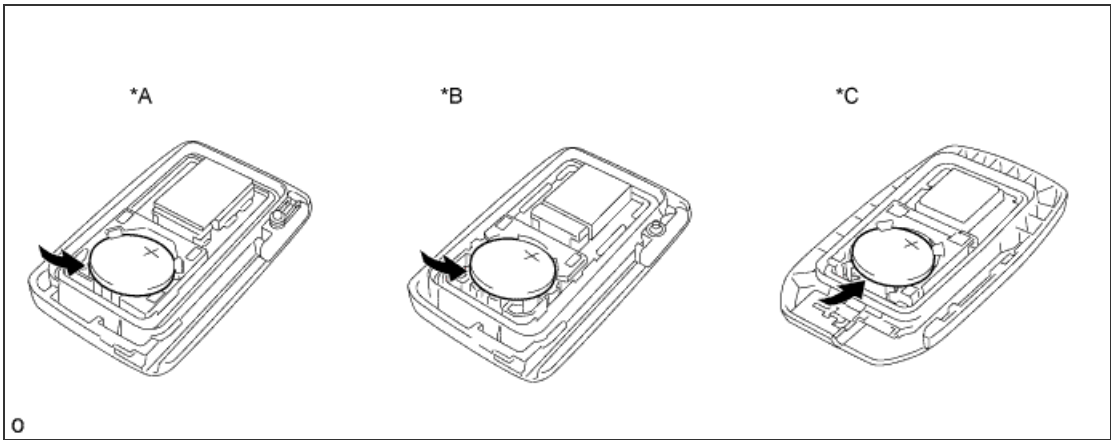
| | | |
|---|---|---|
| Transmitter battery positive (+) - Transmitter battery negative (-) | Engine switch off, all doors closed and lock switch pushed | 2.5 to 3.2 V (Refer to waveform) |

If the result is not as specified, replace the transmitter battery.

**for Preparation** Click here

## 1. INSTALL TRANSMITTER BATTERY

a. Install the battery (lithium battery) with the positive (+) side facing upward as shown in the illustration.



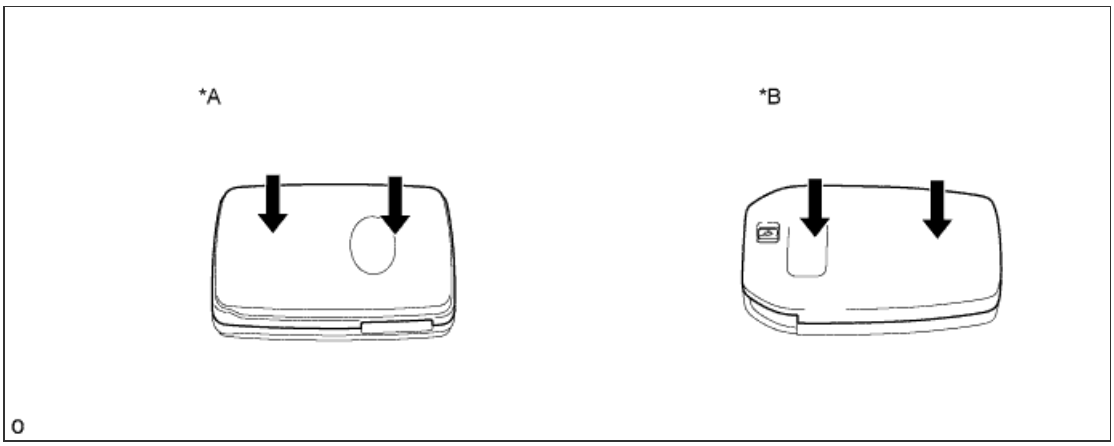

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A (lithium battery: CR1632) | *B | for Type B (lithium battery: CR1632) |
| *C | for Type C (lithium battery: CR2032) | - | - |

**NOTICE:**

- **When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the electrical transmitter from being damaged.**
- **Do not bend the transmitter battery electrode during insertion.**
- **Keep the transmitter cover interior free of dust and oil.**

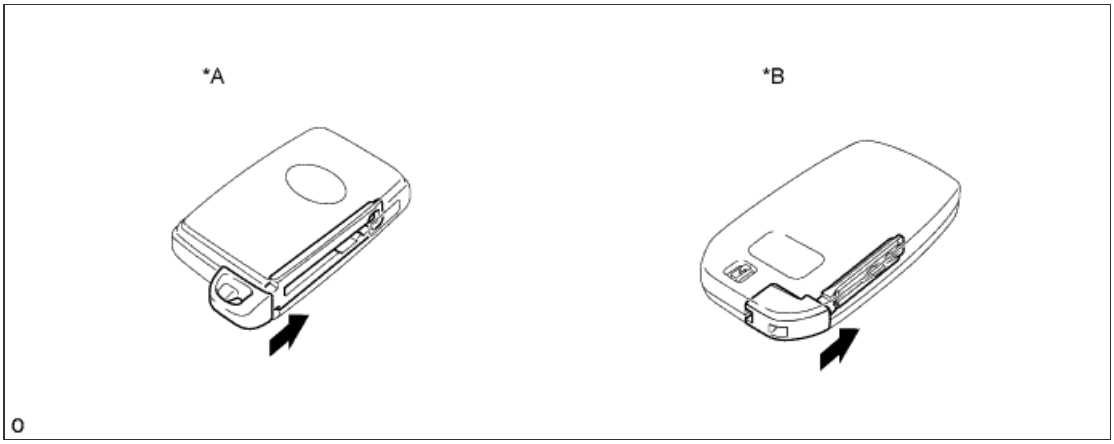
b. Install the transmitter housing cover by pressing down on it as shown in the illustration.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A, for Type B | *B | for Type C |

c. Insert the emergency key into the transmitter.

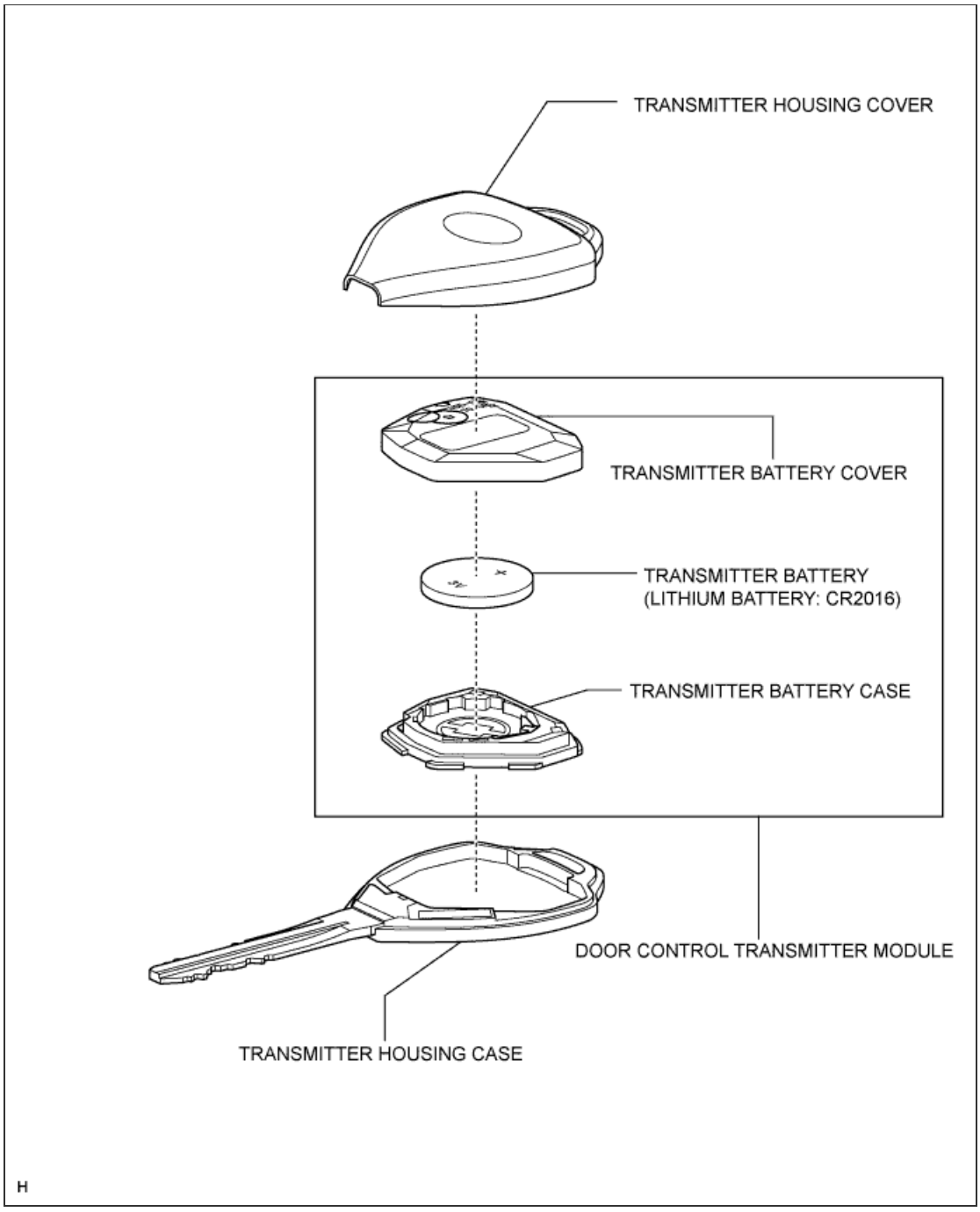



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Type A, for Type B | *B | for Type C |

d. Press one of the transmitter switches and check that the LED illuminates.

**for Preparation** Click here



**for Preparation** Click here

**NOTICE:**

Take extra care when handling these precision electronic components.

## 1. REMOVE TRANSMITTER HOUSING COVER

a. Twist a screwdriver in the direction of the arrow in the illustration and open the transmitter housing cover.

**NOTICE:**

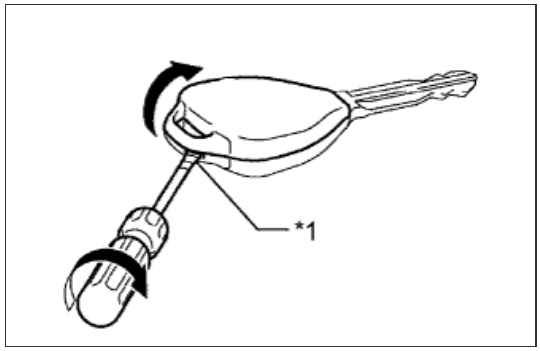
Do not forcibly pry open the cover.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 2. REMOVE DOOR CONTROL TRANSMITTER MODULE

a. Using a precision screwdriver, remove the door control transmitter module.

**NOTICE:**

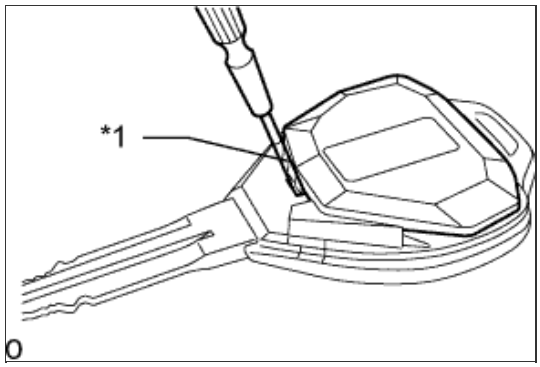
When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

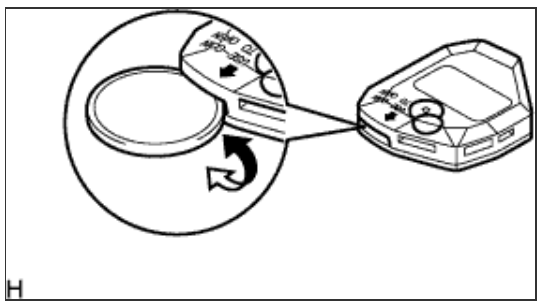



## 3. REMOVE TRANSMITTER BATTERY

a. Twist a coin in the direction of the arrow in the illustration and remove the transmitter battery cover.

**NOTICE:**

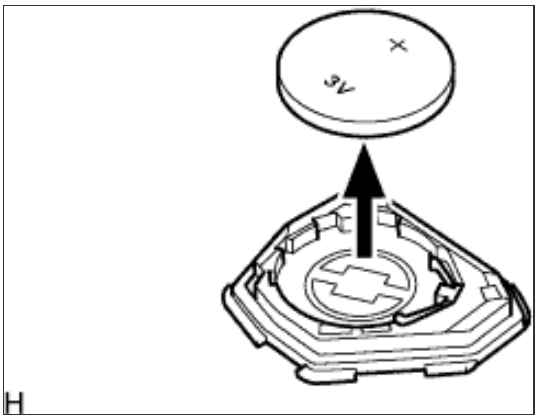
When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.



b. Remove the battery (lithium battery: CR2016).

**NOTICE:**

- **When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.**
- **Do not push the terminals with your finger.**
- **Do not forcibly pry up the battery. The terminals may become damaged.**
- **Do not touch the battery with wet hands. Water may cause rust.**
- **Do not touch or move any components inside the transmitter. the transmitter may cease to work.**



**for Preparation** Click here

## 1. INSPECT DOOR CONTROL TRANSMITTER MODULE

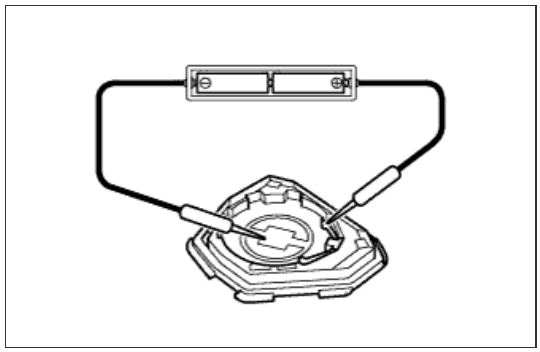
a. Inspect the operation of the transmitter.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.

i. Remove the battery (lithium battery) from the transmitter ( Click here).

ii. Install a new or normal battery (lithium battery).



**HINT:**

When a new or normal battery is not available, first connect 2 new 1.5 V batteries in series. Then connect leads to the batteries and apply 3 V to the transmitter as shown in the illustration.

iii. From outside the vehicle, approximately 1 m (3.28 ft) from the driver side outside door handle, test the transmitter by pointing its key plate at the vehicle and pressing a transmitter switch.

**OK:**
**The door lock can be operated via the transmitter.**
**The LED comes on more than once.**

- The operational area differs depending on the user, the way the transmitter is held and the location.
- The weak electric waves from the transmitter may be affected if the area has strong electric waves or noise. The transmitter operational area may be reduced or the transmitter may not function.

b. Inspect the battery capacity.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.

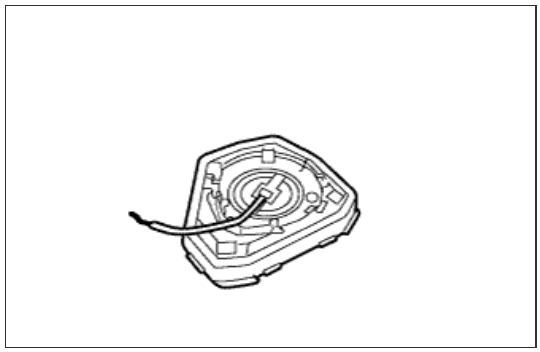
i. Remove the battery from the electrical key transmitter that does not operate ( Click here).

ii. Attach a lead wire (0.6 mm (0.0236 in.) or less in diameter including wire sheath) with tape or equivalent to the negative terminal.

**NOTICE:**

Do not wrap the lead wire around a terminal, wedge it between the terminals or solder it. A terminal may be deformed or damaged, and the battery will not be able to be installed correctly.

iii. Carefully extend the lead wire out from the position shown in the illustration and install the previously removed transmitter battery.



iv. Using an oscilloscope, check the transmitter battery voltage waveform.

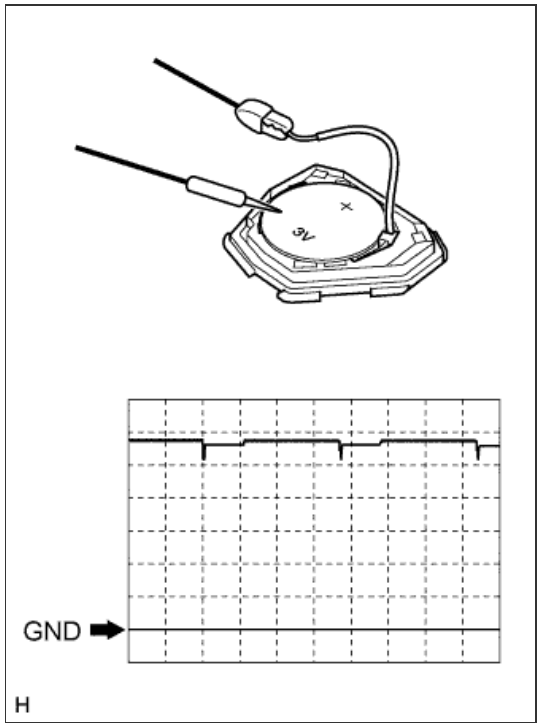
**HINT:**

Measure the transmitter battery voltage while pressing the lock or unlock switch on the transmitter.

**Standard Voltage:**

| Tester Connection | Tool Setting | Condition | Specified Condition |
|---|---|---|---|
| Battery positive (+) - Battery negative (-) | 0.5 V/DIV., 100 ms/DIV. | Ignition switch off, all doors closed and lock or unlock switch pushed | 2.2 to 3.2 V (Refer to waveform) |

If the result is not as specified, replace the transmitter battery.



**for Preparation** Click here

**NOTICE:**

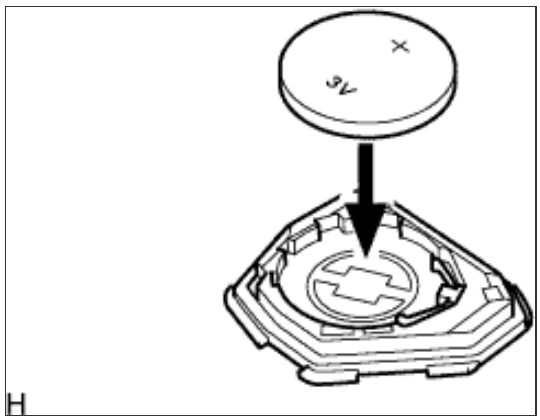
Take extra care when handling these precision electronic components.

## 1. INSTALL TRANSMITTER BATTERY

a. Install the battery (lithium battery: CR2016) with the positive (+) side facing upward as shown in the illustration.

**NOTICE:**

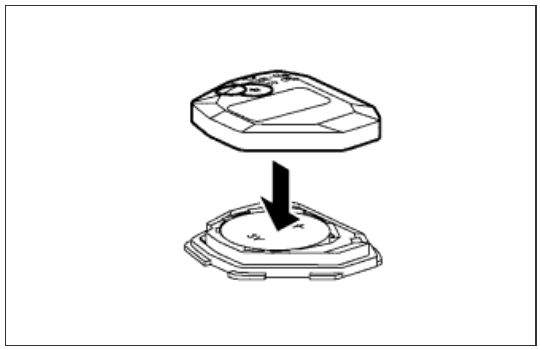
- **When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.**
- **Be careful not to bend the transmitter battery electrode during insertion.**
- **Keep the transmitter cover interior free of dust and oil.**




b. Install the transmitter battery cover.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.

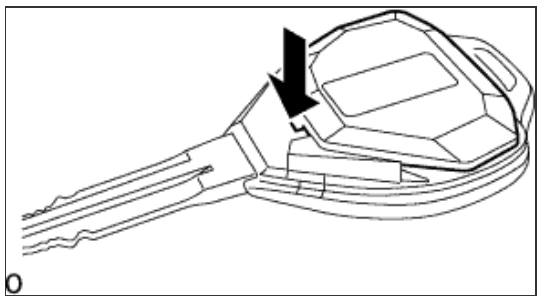


## 2. INSTALL DOOR CONTROL TRANSMITTER MODULE

a. Install the door control transmitter module.

**NOTICE:**

When replacing the transmitter battery, before starting work, remove static electricity that has built up in the body by touching, for example, the vehicle to prevent the door control transmitter module set from being damaged.

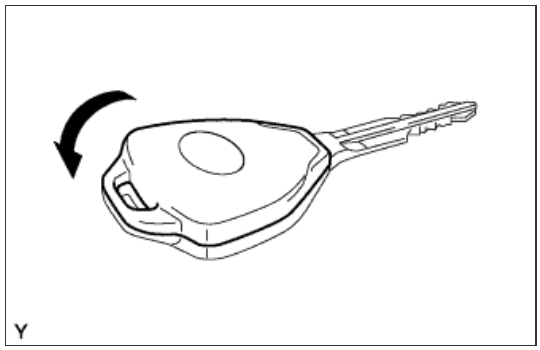



## 3. INSTALL TRANSMITTER HOUSING COVER

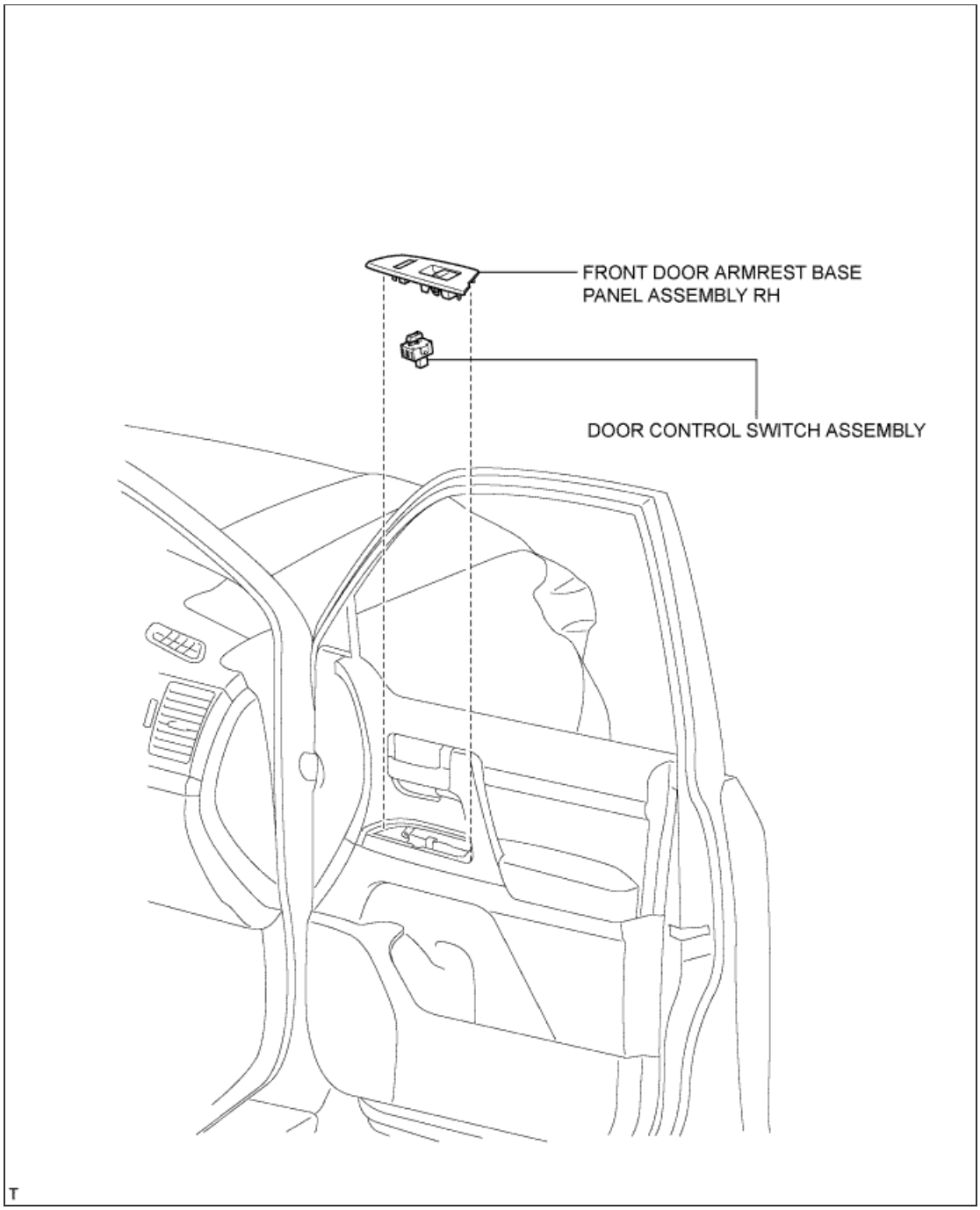
a. Install the transmitter housing cover to the transmitter housing case.

b. Check that the transmitter LED illuminates 3 times when a switch is pressed 3

times.



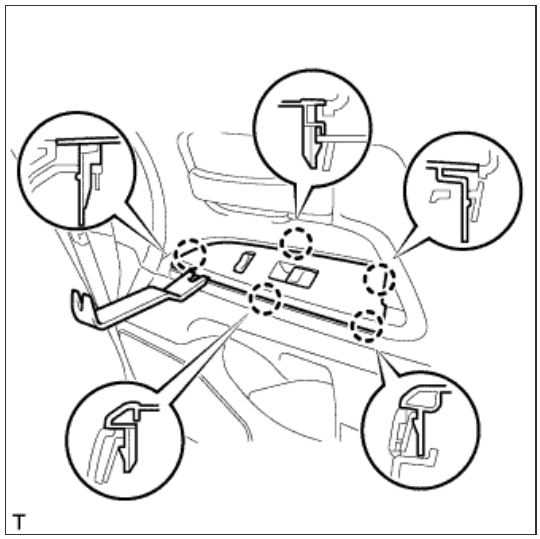
**for Preparation** [Click here]



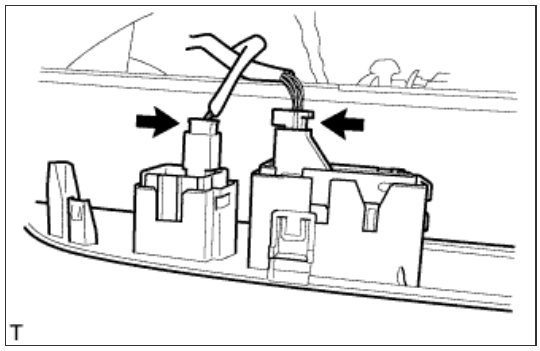
**for Preparation** Click here

## 1. REMOVE DOOR CONTROL SWITCH ASSEMBLY

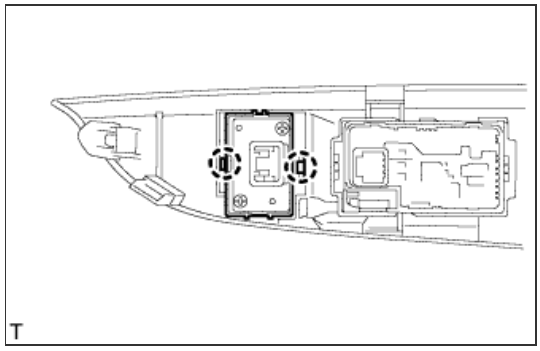
a. Using a moulding remover, detach the 5 claws and remove the front door armrest base panel assembly RH.




b. Disconnect the 2 connectors.




c. Detach the 2 claws and remove the door control switch assembly.



**for Preparation** Click here

## 1. INSPECT DOOR CONTROL SWITCH ASSEMBLY

a. Measure the resistance according to the value(s) in the table below.

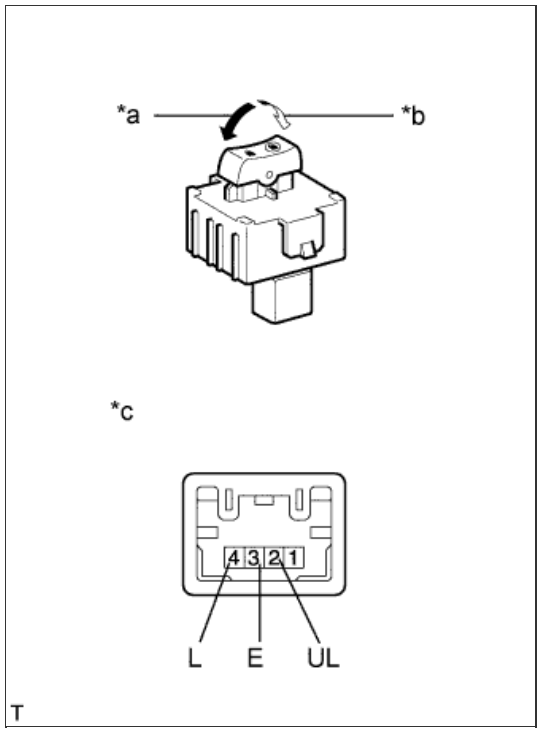
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 2 (UL) - 3 (E) | Unlock | Below 1 Ω |
| 2 (UL) - 3 (E) | Off | 10 kΩ or higher |
| 4 (L) - 3 (E) | | |
| 4 (L) - 3 (E) | Lock | Below 1 Ω |

If the result is not as specified, replace the door control switch assembly.

**Text in Illustration**

| | |
|---|---|
| *a | Unlock |
| *b | Lock |
| *c | Component without harness connected (Door Control Switch Assembly) |




b. Apply battery voltage to the switch connector and check that the indicator (LED) illuminates.

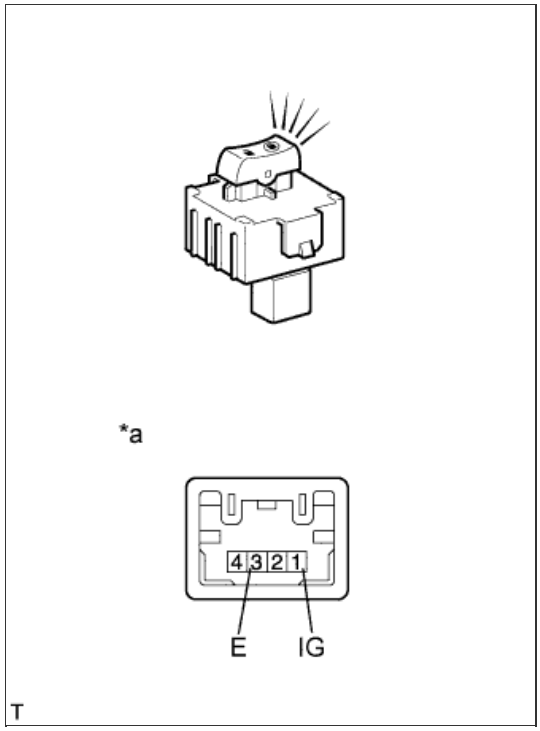
**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 1 (IG)<br>Battery negative (-) → Terminal 3 (E) | Indicator (LED) illuminates |

If the result is not as specified, replace the door control switch assembly.

**Text in Illustration**

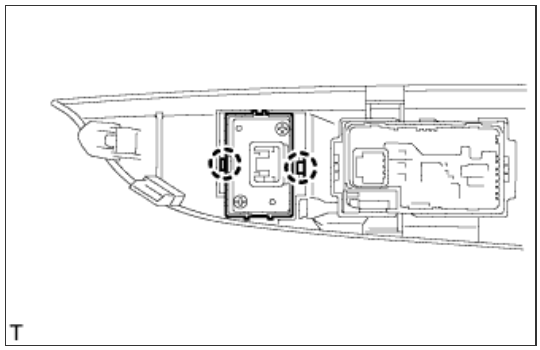
| | |
|---|---|
| *a | Component without harness connected (Door Control Switch Assembly) |



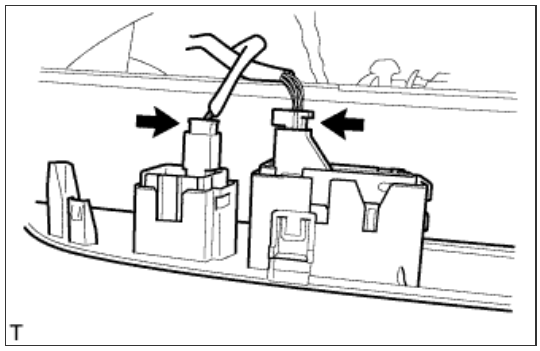
**for Preparation** Click here

## 1. INSTALL DOOR CONTROL SWITCH ASSEMBLY

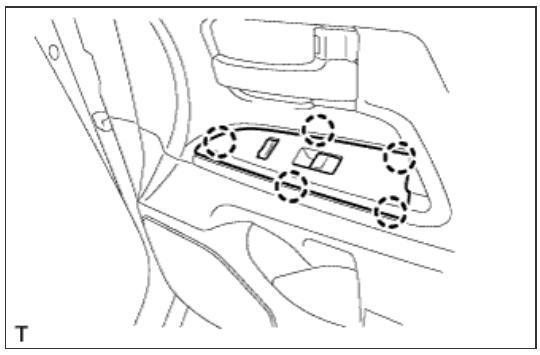
a. Attach the 2 claws to install the door control switch assembly.



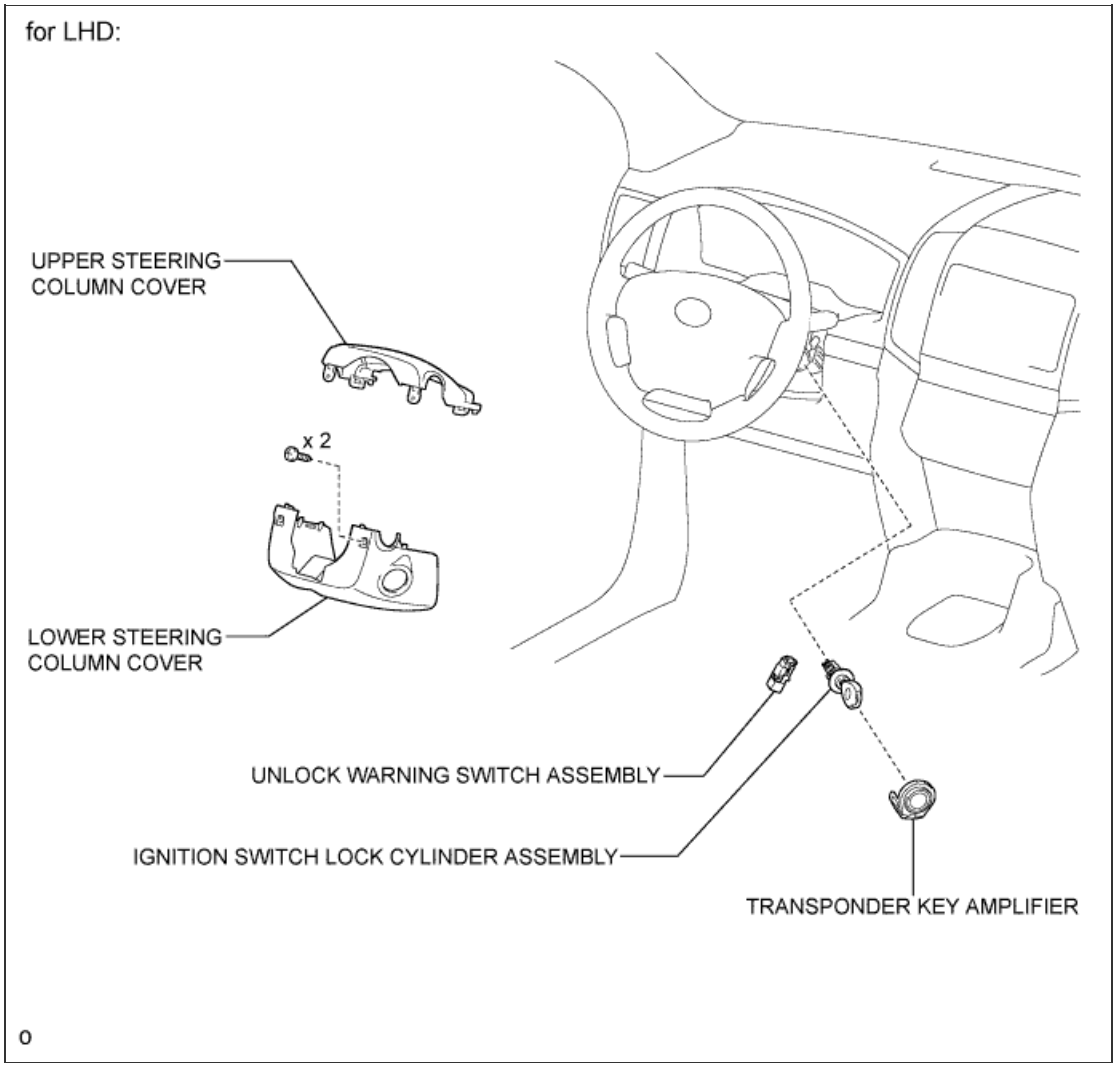

b. Connect the 2 connectors.

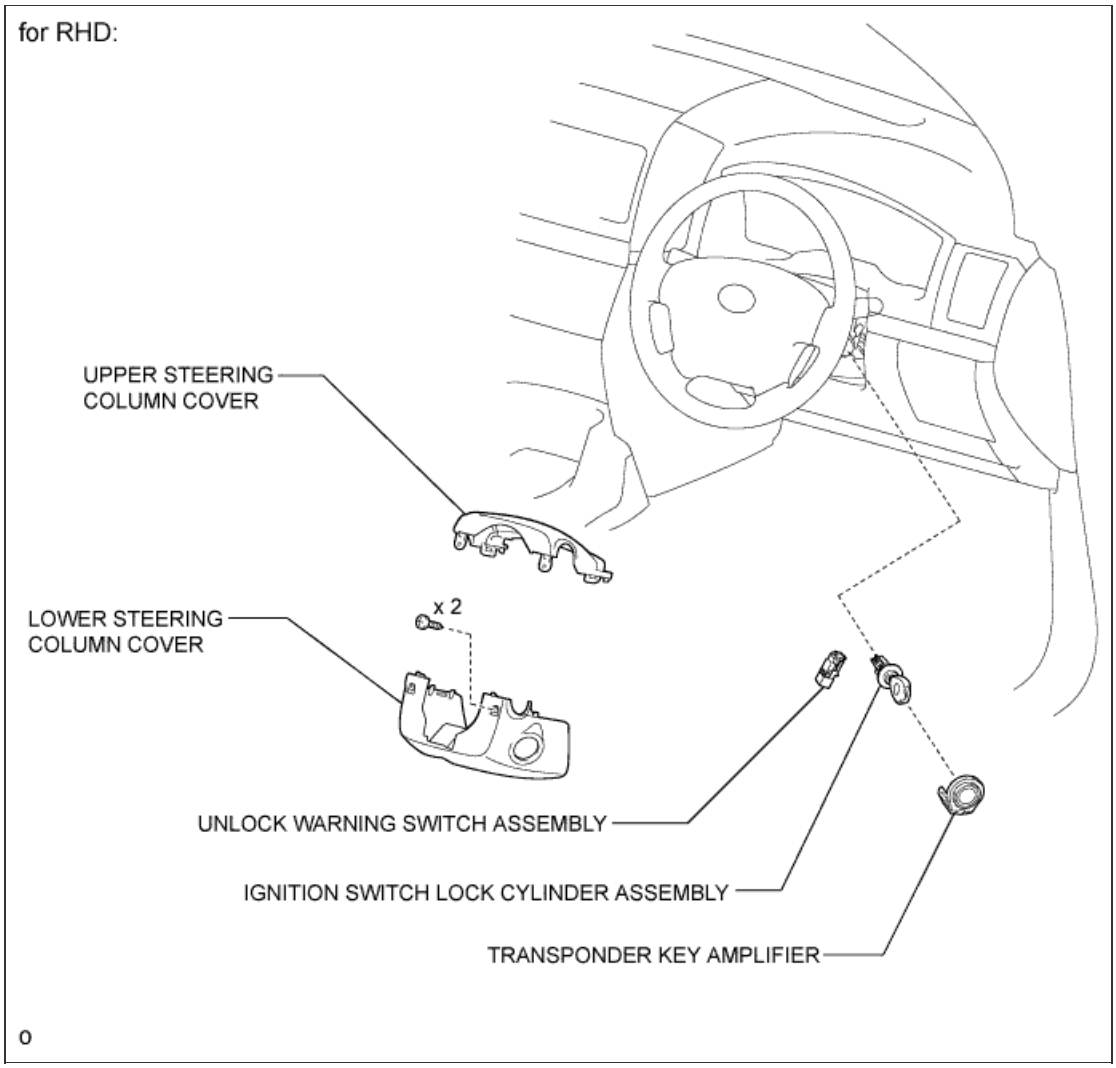



c. Attach the 5 claws to install the front door armrest base panel assembly RH.



**for Preparation** Click here




for RHD:
UPPER STEERING COLUMN COVER
LOWER STEERING COLUMN COVER
x 2
UNLOCK WARNING SWITCH ASSEMBLY
IGNITION SWITCH LOCK CYLINDER ASSEMBLY
TRANSPONDER KEY AMPLIFIER
o

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

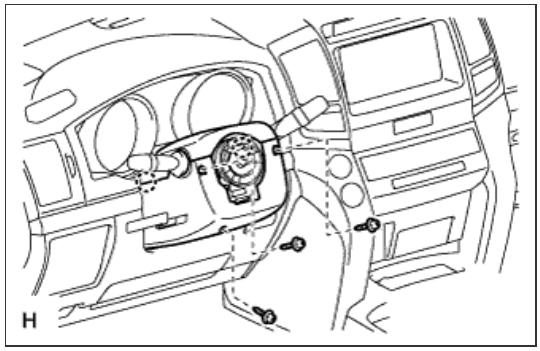
## 3. REMOVE LOWER STEERING COLUMN COVER

a. Remove the 3 screws.

b. Detach the 2 claws to remove the lower steering column cover.

**NOTICE:**

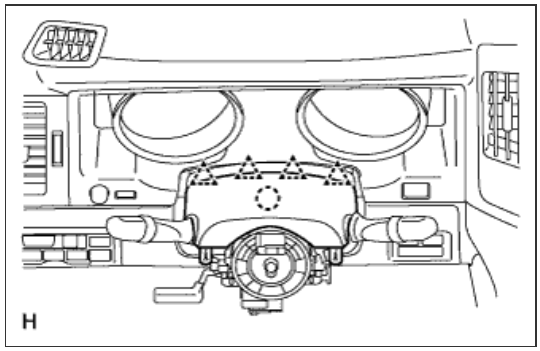
Do not damage the tilt and telescopic switch.




## 4. REMOVE UPPER STEERING COLUMN COVER

a. Detach the 4 clips.

b. Detach the claw to remove the upper steering column cover.

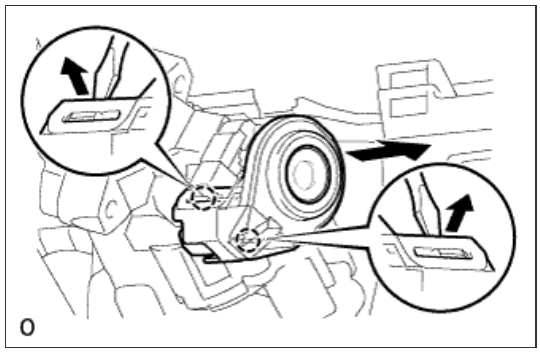



## 5. REMOVE TRANSPONDER KEY AMPLIFIER

a. Using a screwdriver, widen the claw attached to the upper bracket by approximately 1.0 mm (0.039 in.).

b. Pull out the transponder key amplifier with the claw open.

c. Disconnect the connector and remove the transponder key amplifier.



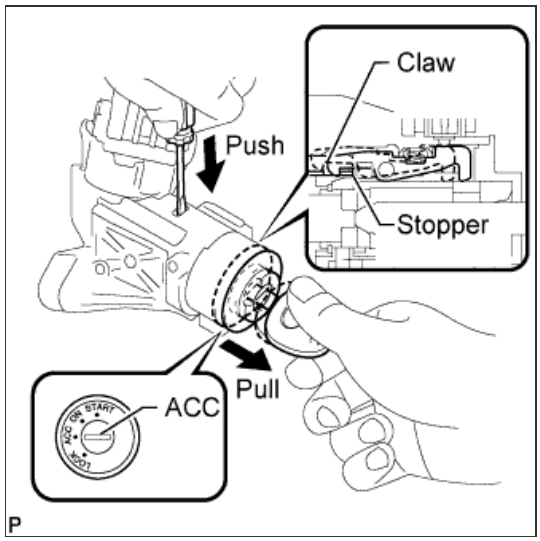

## 6. REMOVE IGNITION SWITCH LOCK CYLINDER ASSEMBLY

a. Turn the ignition switch lock cylinder assembly to ACC.

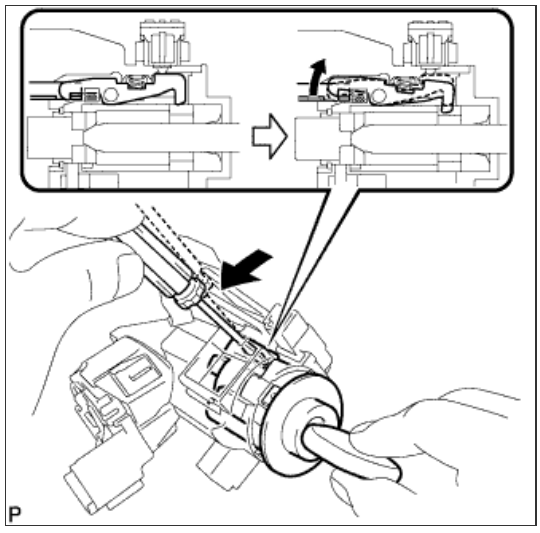
b. Insert a thin-bladed screwdriver into the hole of the steering column upper bracket assembly as shown in the illustration and pull out the key until the claw of the ignition switch lock cylinder assembly contacts the stopper of the steering column upper bracket assembly.

**NOTICE:**

Be sure to pull out the key until the claw firmly contacts the stopper. There will be problems later if the key is not pulled out until the claw of the ignition switch lock cylinder assembly contacts the stopper of the steering column upper bracket assembly.



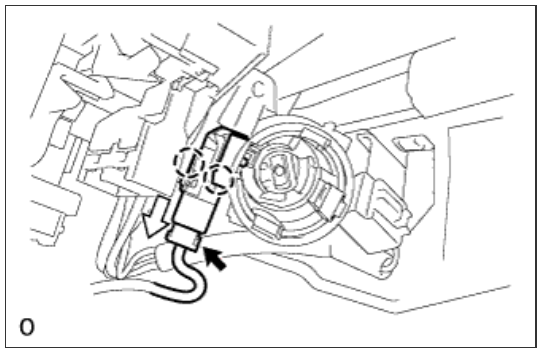

c. Insert a thin-bladed screwdriver into the hole of the steering column upper bracket assembly as shown in the illustration, push the thin-bladed screwdriver in the direction shown in the illustration to detach the claw and pull out the ignition switch lock cylinder assembly.



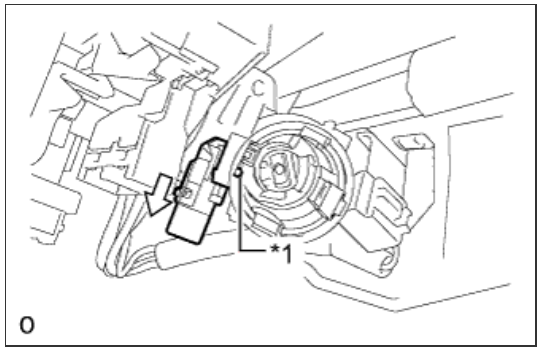

## 7. REMOVE UNLOCK WARNING SWITCH ASSEMBLY

a. Disconnect the unlock warning switch connector.

b. Detach the 2 claws and slide the unlock warning switch as shown in the illustration.



c. Push in the pin, slide the unlock warning switch as shown in the illustration and remove it.




**Text in Illustration**

| | |
|---|---|
| *1 | Pin |

**for Preparation** Click here

## 1. INSPECT UNLOCK WARNING SWITCH ASSEMBLY

a. Measure the resistance according to the value(s) in the table below.

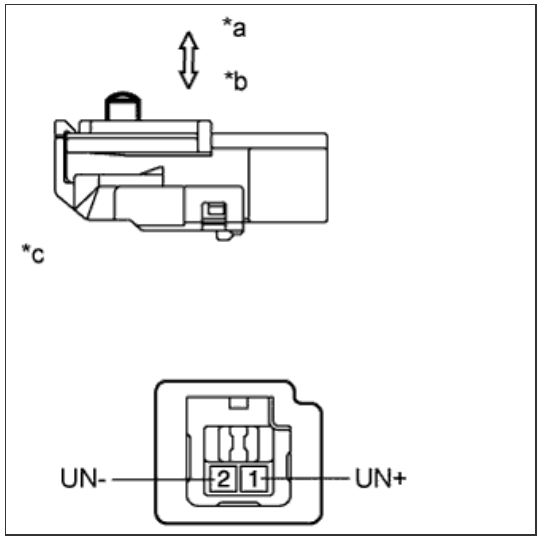
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (UN+) - 2 (UN-) | Not pushed | 10 kΩ or higher |
| | Pushed | Below 1 Ω |

If the result is not as specified, replace the unlock warning switch assembly.

**Text in Illustration**

| | |
|---|---|
| *a | Not Pushed |
| *b | Pushed |
| *c | Component without harness connected (Unlock Warning Switch Assembly) |



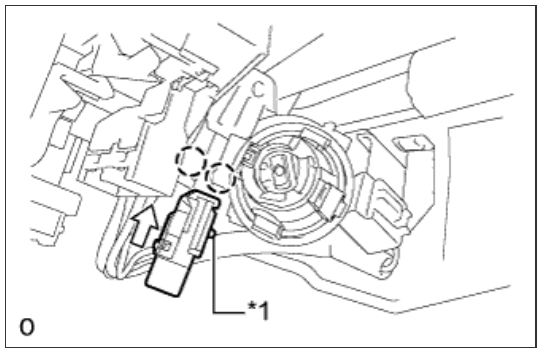
**for Preparation** Click here

## 1. INSTALL UNLOCK WARNING SWITCH ASSEMBLY

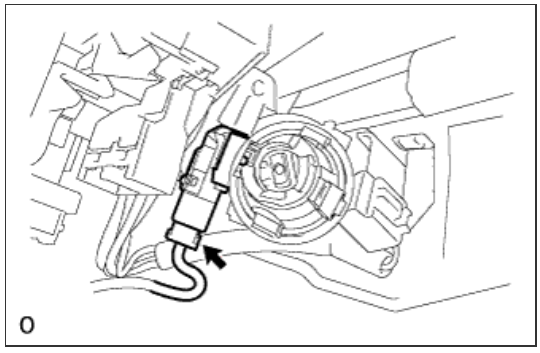
a. While pushing the pin, slide the warning switch to install it.

**Text in Illustration**

| | |
|---|---|
| *1 | Pin |




b. Connect the unlock warning switch connector.

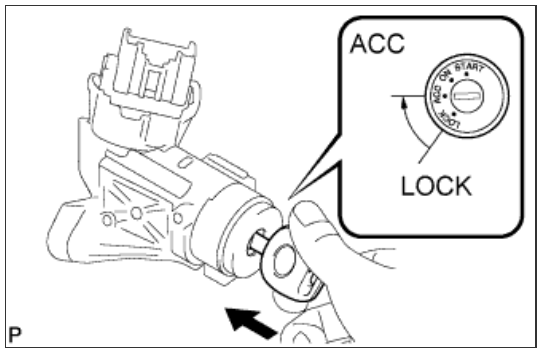



## 2. INSTALL IGNITION SWITCH LOCK CYLINDER ASSEMBLY

a. Turn the ignition switch lock cylinder assembly to ACC.

b. Insert the ignition switch lock cylinder assembly into the steering column upper bracket assembly to install it.

c. Check that the ignition switch lock cylinder assembly is securely fixed in place.




## 3. INSTALL TRANSPONDER KEY AMPLIFIER

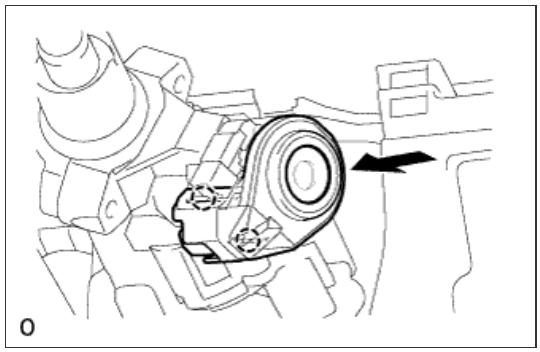
a. Connect the transponder key amplifier connector.

b. Align the claw of the transponder key amplifier with the upper bracket.

c. Push in the transponder key amplifier and install it to the upper bracket.

**NOTICE:**

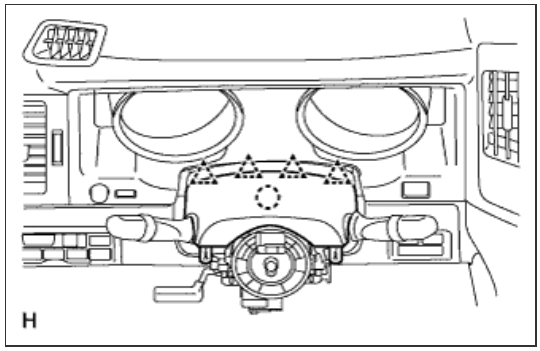
Do not push in the transponder key amplifier with excessive force as it may be damaged.




## 4. INSTALL UPPER STEERING COLUMN COVER

a. Attach the claw to install the upper steering column cover.

b. Attach the 4 clips to install the upper steering column cover onto the instrument cluster finish panel.




## 5. INSTALL LOWER STEERING COLUMN COVER

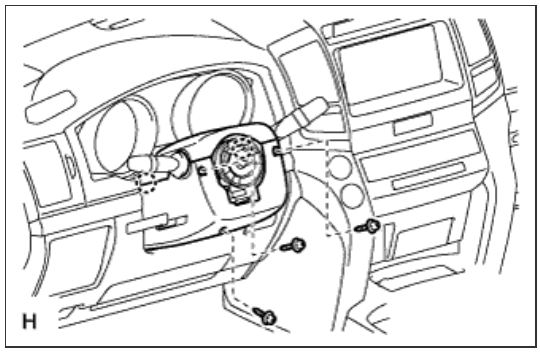
a. Attach the 2 claws to install the lower steering column cover.

**NOTICE:**

Do not damage the tilt and telescopic switch.

b. Install the 3 screws.

**Torque:**
**2.0 N*m{ 20 kgf*cm , 18 in.*lbf }**

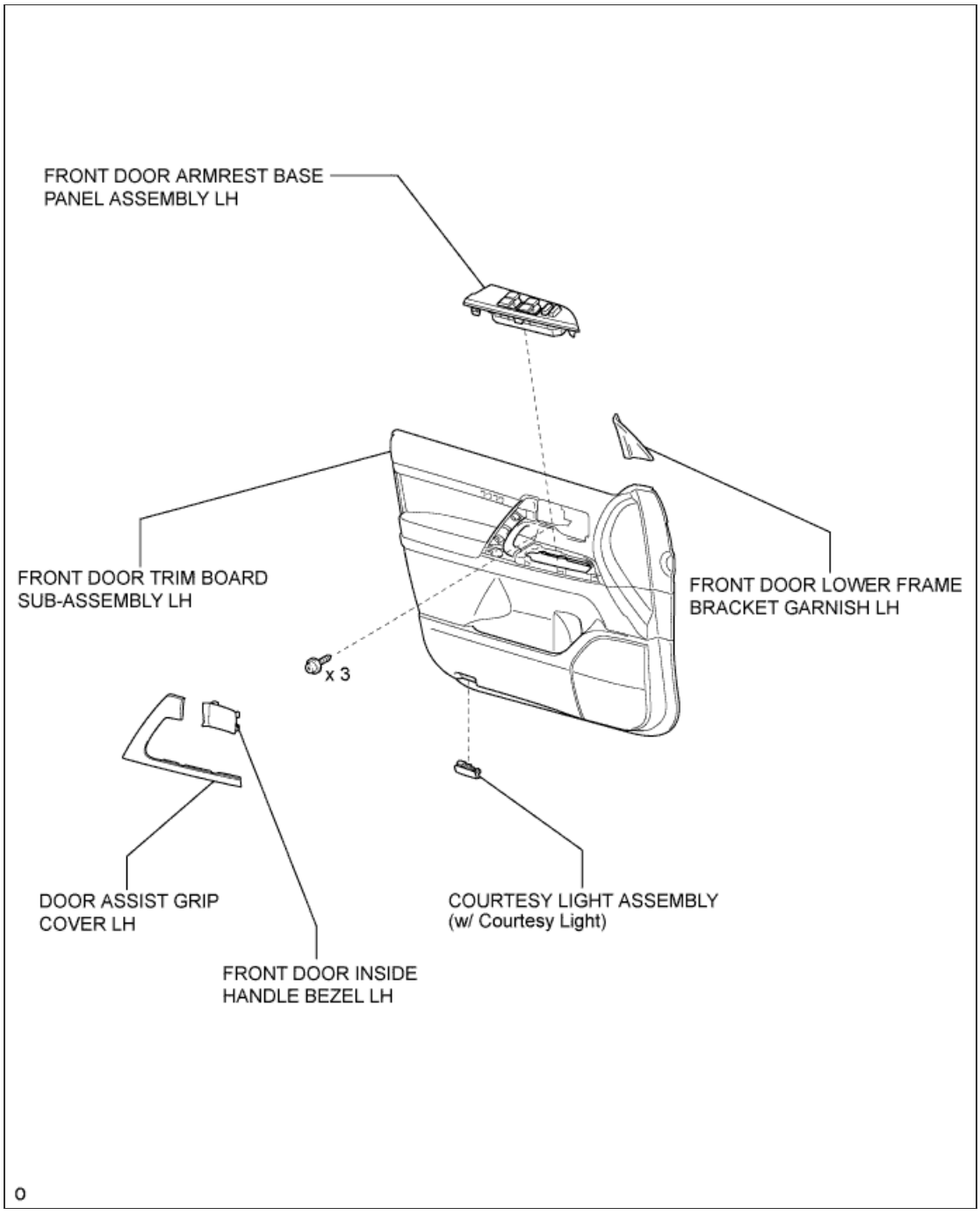


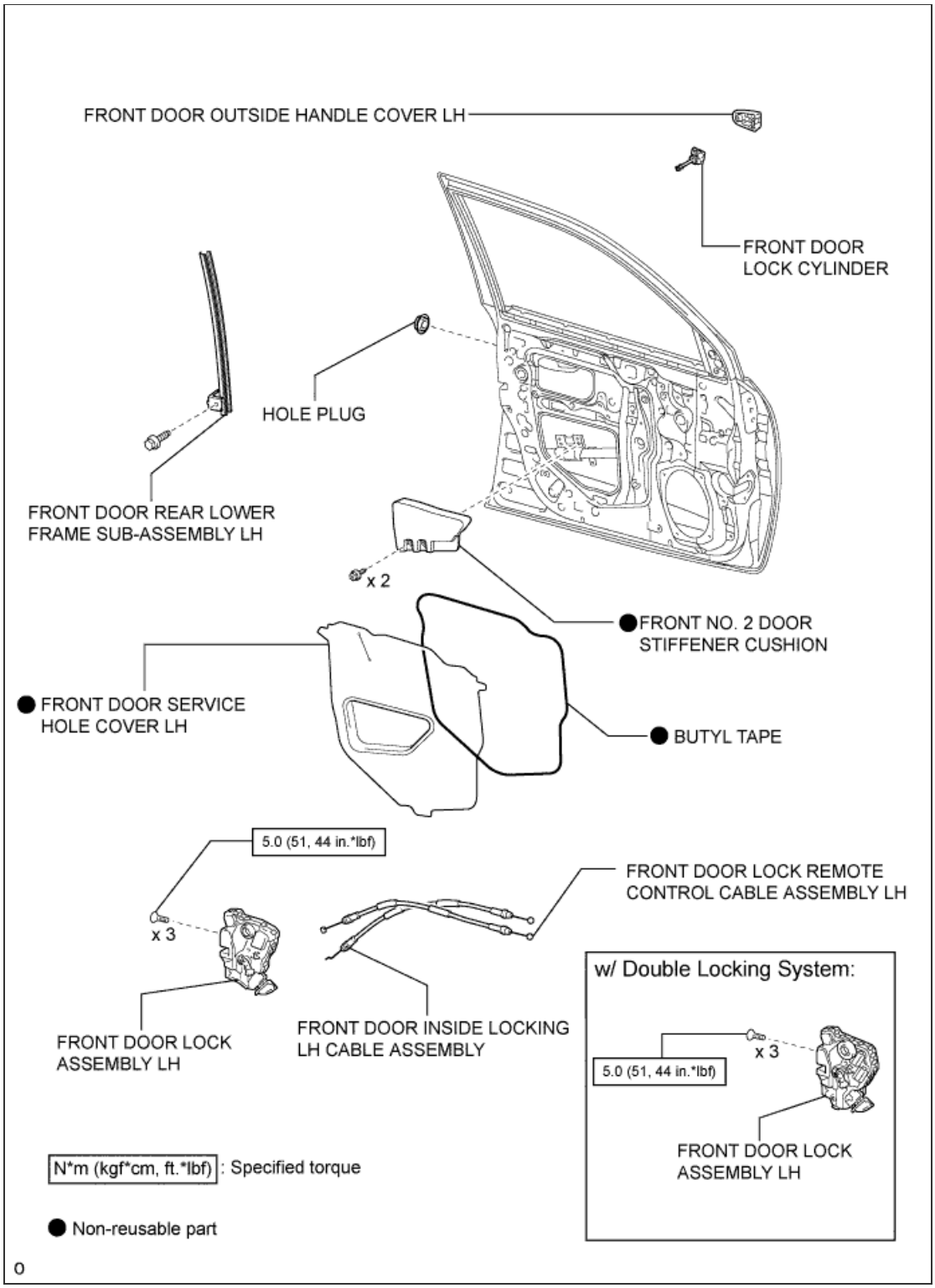

## 6. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**for Preparation** Click here




FRONT DOOR OUTSIDE HANDLE COVER LH
FRONT DOOR
LOCK CYLINDER
HOLE PLUG
FRONT DOOR REAR LOWER
FRAME SUB-ASSEMBLY LH
x 2
FRONT NO. 2 DOOR
STIFFENER CUSHION
FRONT DOOR SERVICE
HOLE COVER LH
BUTYL TAPE
5.0 (51, 44 in.*lbf)
FRONT DOOR LOCK REMOTE
CONTROL CABLE ASSEMBLY LH
x 3
FRONT DOOR LOCK
ASSEMBLY LH
FRONT DOOR INSIDE LOCKING
LH CABLE ASSEMBLY
w/ Double Locking System:
x 3
5.0 (51, 44 in.*lbf)
FRONT DOOR LOCK
ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
o

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

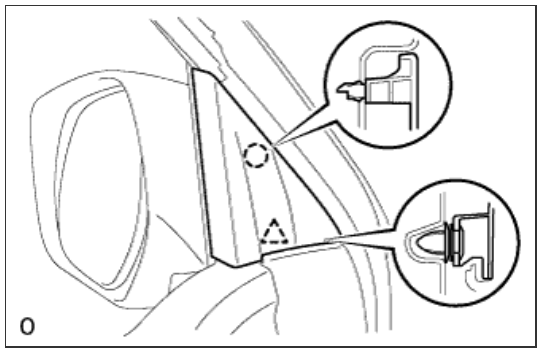
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

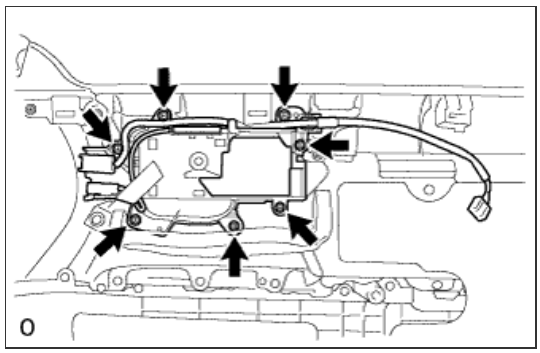
## 3. REMOVE FRONT DOOR LOWER FRAME BRACKET GARNISH LH

a. Detach the clip and claw, and remove the front door lower frame bracket garnish LH.



## 4. REMOVE FRONT DOOR INSIDE HANDLE BEZEL LH

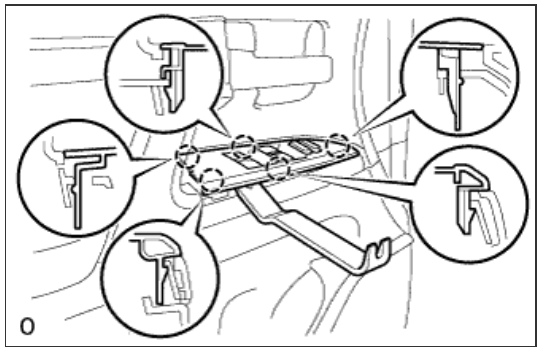
a. Remove the 7 screws and front door inside handle bezel LH.



## 5. REMOVE FRONT DOOR ARMREST BASE PANEL ASSEMBLY LH

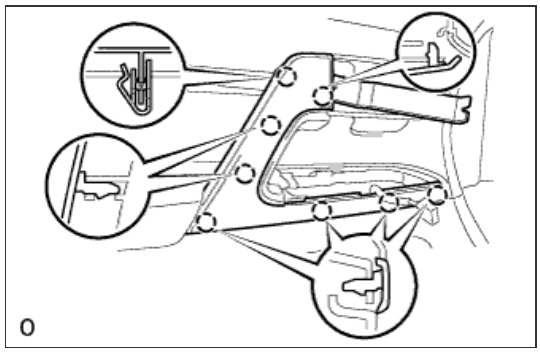
a. Using a moulding remover, detach the 5 claws.

b. Disconnect the connector and remove the armrest base panel.



## 6. REMOVE DOOR ASSIST GRIP COVER LH

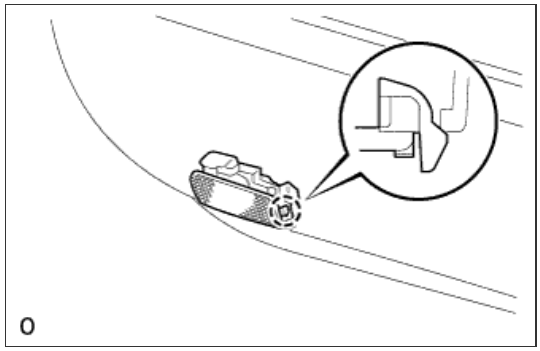
a. Using a moulding remover, detach the 8 claws and remove the door assist grip cover LH.



## 7. REMOVE COURTESY LIGHT ASSEMBLY (w/ Courtesy Light)

a. Detach the claw.

b. Remove the courtesy light and then disconnect the connector.



## 8. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

a. Remove the 3 screws.

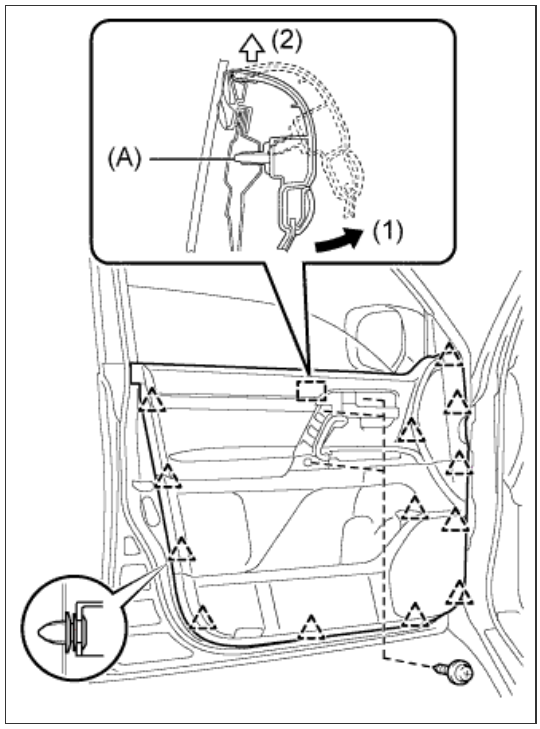
b. Remove the 13 clips.

c. Remove the front inner door glass weatherstrip LH together with the front door trim board sub-assembly LH by pulling them upward in the order shown in the illustration.

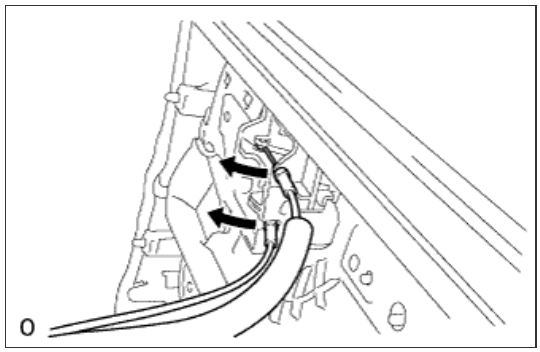
**HINT:**

Make sure that the pin labeled A in the illustration is detached from the door panel.

d. Disconnect the connector.




e. Disconnect the 2 cables from the front door inside handle sub-assembly LH.



## 9. REMOVE FRONT DOOR SERVICE HOLE COVER LH

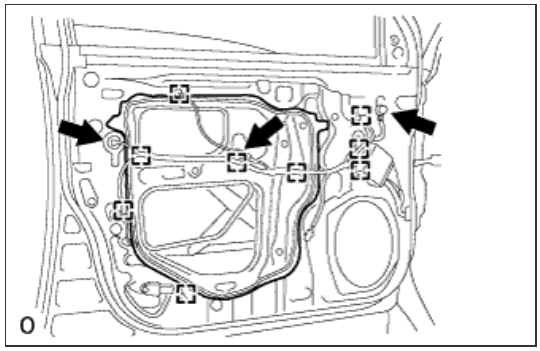
a. Using a clip remover, detach the 9 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the front door service hole cover LH.

**HINT:**

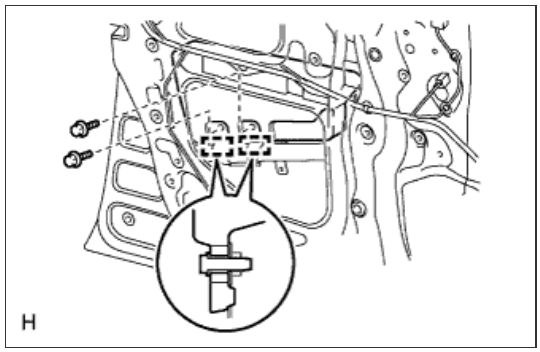
Remove the remaining tape on the door.



## 10. REMOVE FRONT NO. 2 DOOR STIFFENER CUSHION

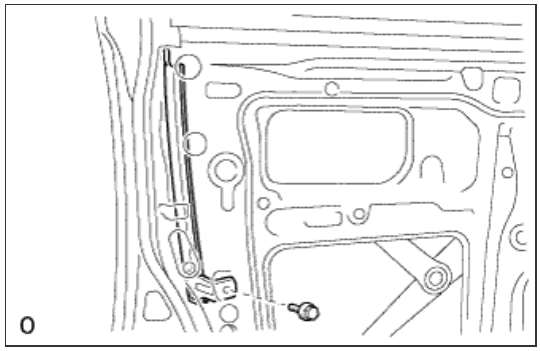
a. Remove the 2 bolts.

b. Detach the 2 clamps and front No. 2 door stiffener cushion.




## 11. REMOVE FRONT DOOR REAR LOWER FRAME SUB-ASSEMBLY LH

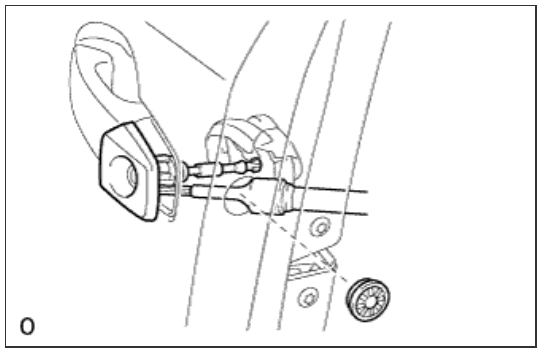
a. Remove the bolt and front door rear lower frame sub-assembly LH.



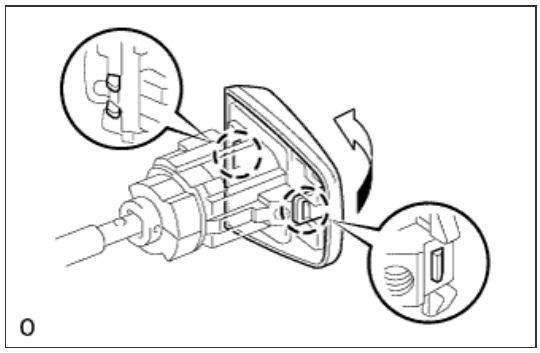

## 12. REMOVE FRONT DOOR OUTSIDE HANDLE COVER LH

a. Remove the hole plug.

b. Using a T30 "TORX" wrench, loosen the screw and remove the front door outside handle cover LH with the door lock cylinder installed.




c. Detach the 2 claws and remove the front door outside handle cover LH.




## 13. REMOVE FRONT DOOR LOCK ASSEMBLY LH

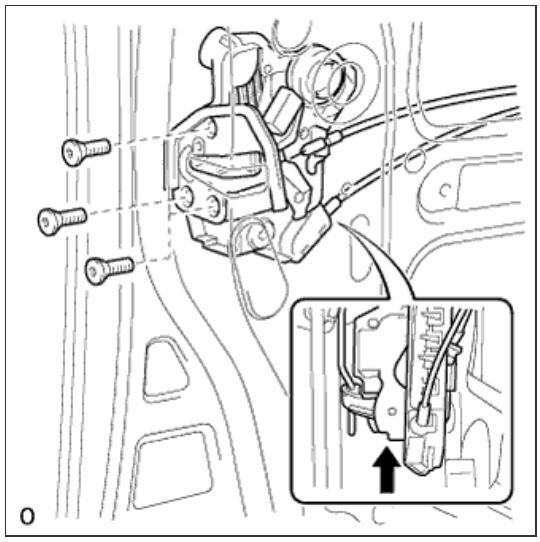
a. Using a T30 "TORX" wrench, remove the 3 screws.

**HINT:**

Remove the door lock through the service hole.

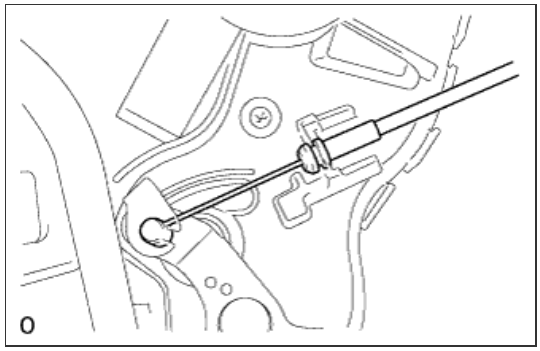
**NOTICE:**

Be careful when removing the screws as the door lock may fall and become damaged.



## 14. REMOVE FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH

a. Remove the front door lock remote control cable assembly LH.



## 15. REMOVE FRONT DOOR INSIDE LOCKING LH CABLE ASSEMBLY

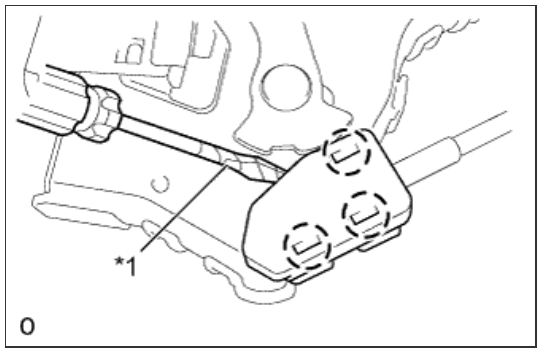
a. Using a screwdriver, detach the 3 claws.

**HINT:**

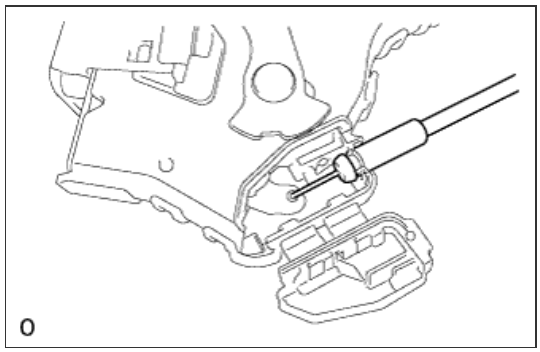
Tape the screwdriver tip before use.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

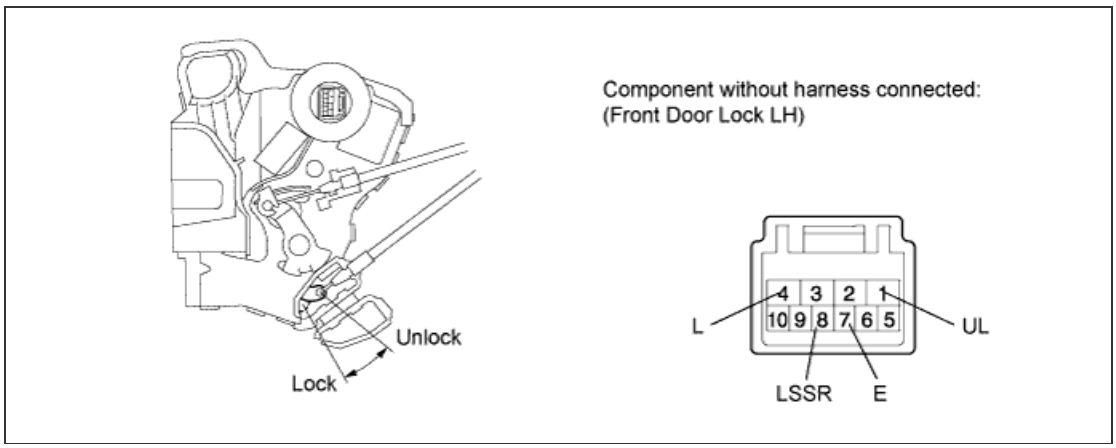



b. Remove the front door inside locking cable assembly LH.



**for Preparation** Click here

## 1. INSPECT FRONT DOOR LOCK ASSEMBLY LH (w/o Double Locking System)




a. Check the door lock motor operation.

i. Apply battery voltage to the motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 4 (L)<br>Battery negative (-) → 1 (UL) | Lock |
| Battery positive (+) → 1 (UL)<br>Battery negative (-) → 4 (L) | Unlock |

If the result is not as specified, replace the door lock assembly.

b. Check the detection switch.

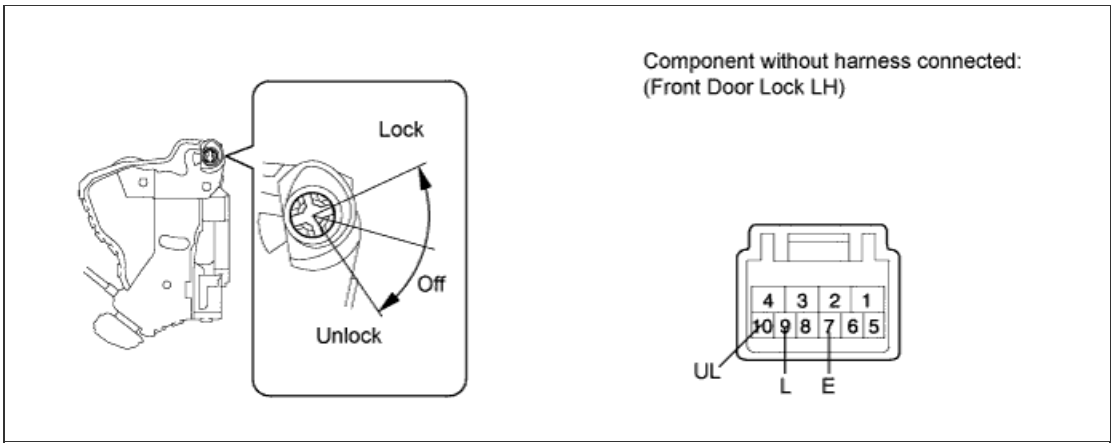
i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 8 (LSSR) - 7 (E) | Lock | 10 kΩ or higher |
| 8 (LSSR) - 7 (E) | Unlock | Below 1 Ω |

If the result is not as specified, replace the door lock assembly.

c. for LHD:




i. Check the door lock and unlock switch.

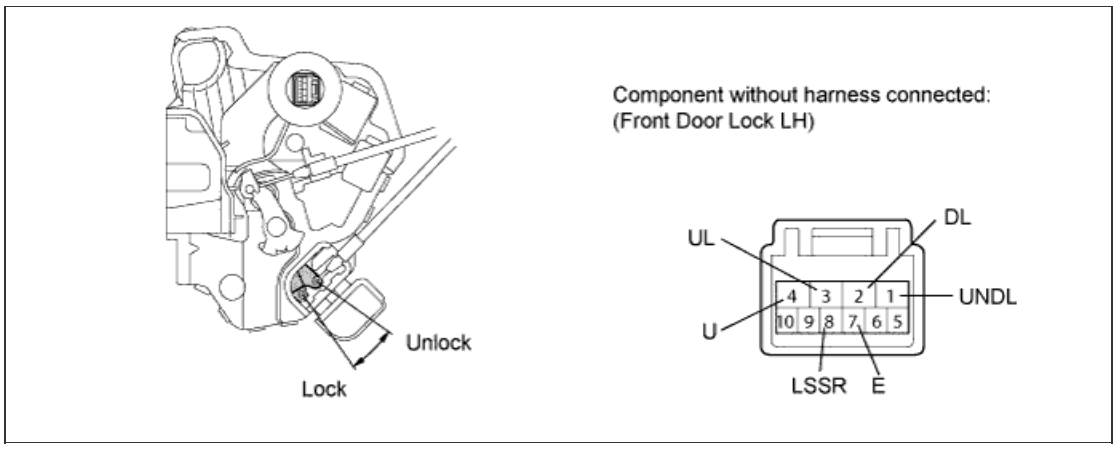
1. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 9 (L) - 7 (E) | Lock | Below 1 Ω |
| 9 (L) - 7 (E)<br>10 (UL) - 7 (E) | OFF | 10 kΩ or higher |
| 10 (UL) - 7 (E) | Unlock | Below 1 Ω |

If the result is not as specified, replace the door lock assembly.

## 2. INSPECT FRONT DOOR LOCK ASSEMBLY LH (w/ Double Locking System)




a. Check the door lock motor operation.

i. Apply battery voltage to the motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 4 (L)<br>Battery negative (-) → 3 (UL) | Lock |
| Battery positive (+) → 3 (UL)<br>Battery negative (-) → 4 (L) | Unlock |
| Battery positive (+) → 2 | |

| | |
|---|---|
| (DL)<br>Battery negative (-) → 1 (UNDL) | Set |
| Battery positive (+) → 1 (UNDL)<br>Battery negative (-) → 2 (DL) | Unset |

If the result is not as specified, replace the door lock assembly.

b. Check the detection switch.

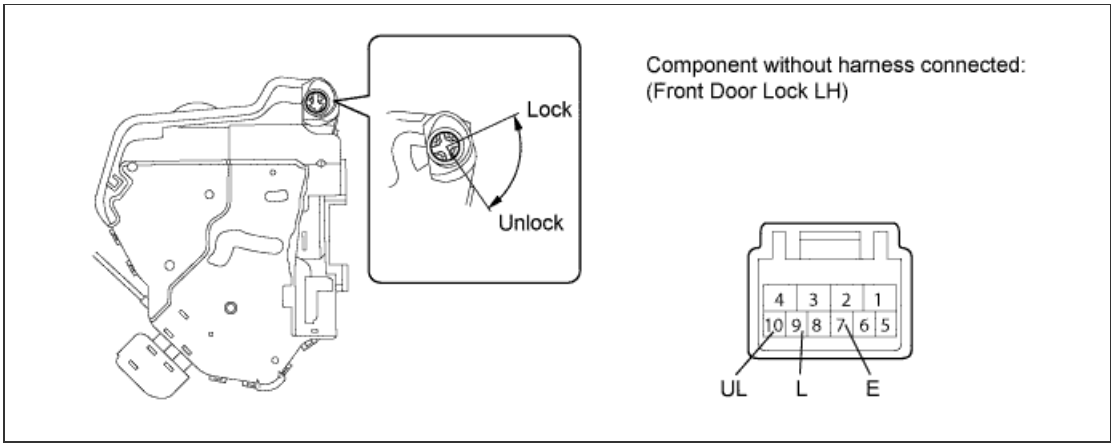
i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 8 (LSSR) - 7 (E) | Lock | 10 kΩ or higher |
| 8 (LSSR) - 7 (E) | Unlock | Below 1 Ω |

If the result is not as specified, replace the door lock assembly.

c. for LHD:




i. Check the door lock and unlock switch.

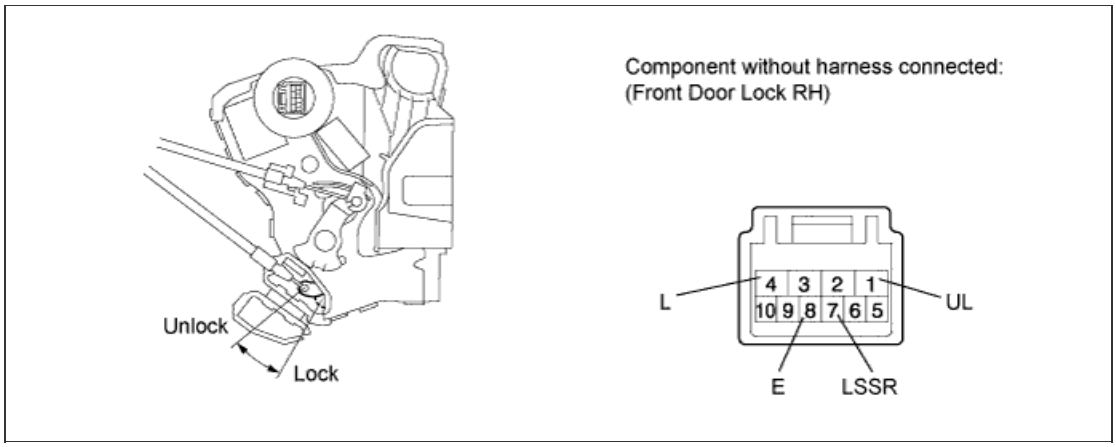
1. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 9 (L) - 7 (E) | Lock | Below 1 Ω |
| 9 (L) - 7 (E)<br>10 (UL) - 7 (E) | OFF | 10 kΩ or higher |
| 10 (UL) - 7 (E) | Unlock | Below 1 Ω |

If the result is not as specified, replace the door lock assembly.

**3. INSPECT FRONT DOOR LOCK ASSEMBLY RH (w/o Double Locking System)**




a. Check the door lock motor operation.

i. Apply battery voltage to the door lock motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 4 (L)<br>Battery negative (-) → 1 (UL) | Lock |
| Battery positive (+) → 1 (UL)<br>Battery negative (-) → 4 (L) | Unlock |

If the result is not as specified, replace the door lock assembly.

b. Check the detection switch.

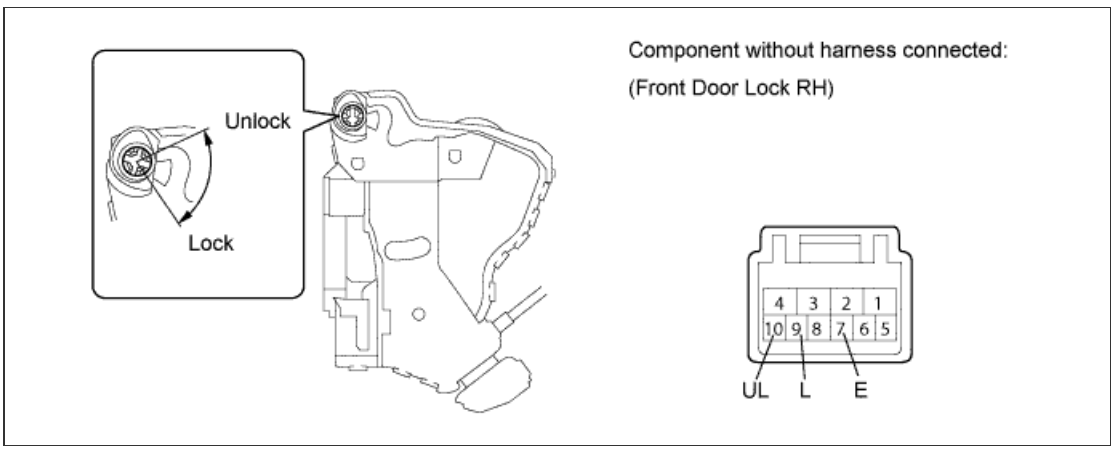
i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 7 (LSSR) - 8 (E) | Lock | 10 kΩ or higher |
| 7 (LSSR) - 8 (E) | Unlock | Below 1 Ω |

If the result is not as specified, replace the door lock assembly.

c. for RHD:




i. Check the door lock and unlock switch.

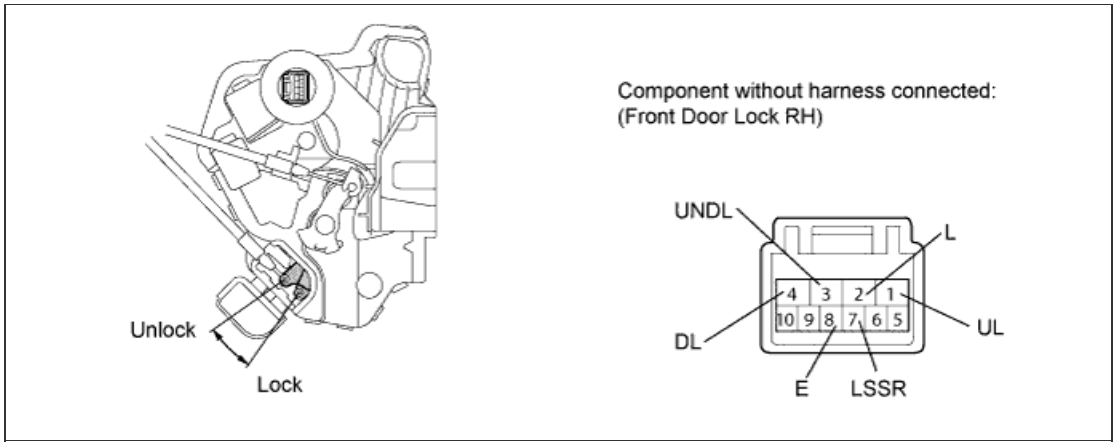
1. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 9 (L) - 7 (E) | Lock | Below 1 Ω |
| 9 (L) - 7 (E)<br>10 (UL) - 7 (E) | OFF | 10 kΩ or higher |
| 10 (UL) - 7 (E) | Unlock | Below 1 Ω |

If the result is not as specified, replace the door lock assembly.

## 4. INSPECT FRONT DOOR LOCK ASSEMBLY RH (w/ Double Locking System)




a. Check the door lock motor operation.

i. Apply battery voltage to the door lock motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2 (L)<br>Battery negative (-) → 1 (UL) | Lock |
| Battery positive (+) → 1 (UL)<br>Battery negative (-) → 2 (L) | Unlock |
| Battery positive (+) → 4 (DL)<br>Battery negative (-) → 3 (UNDL) | Set |
| Battery positive (+) → 3 (UNDL)<br>Battery negative (-) → 4 (DL) | Unset |

If the result is not as specified, replace the door lock assembly.

b. Check the detection switch.

i. Measure the resistance according to the value(s) in the table below.

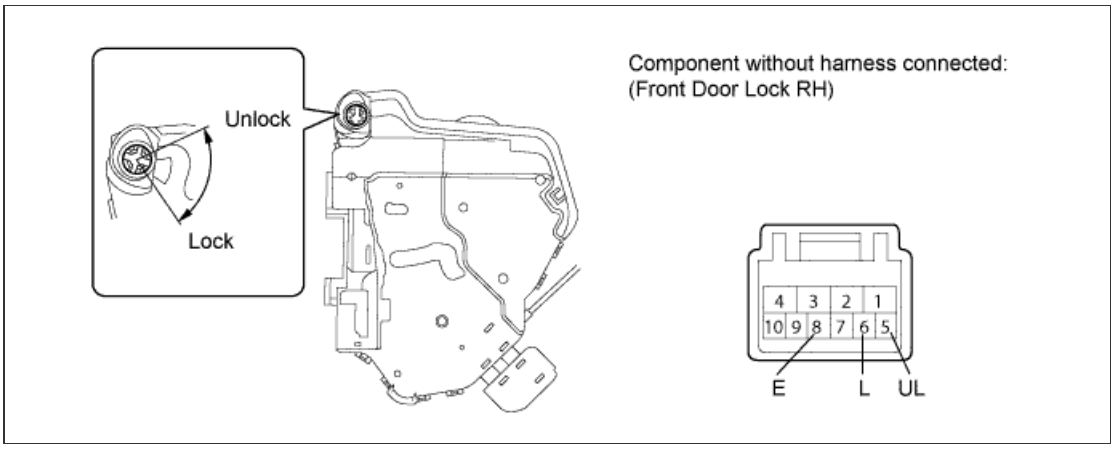
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 7 (LSSR) - 8 (E) | Lock | 10 kΩ or higher |

| | | |
|---|---|---|
| 7 (LSSR) - 8 (E) | Unlock | Below 1 Ω |

If the result is not as specified, replace the door lock assembly.

c. for RHD:




i. Check the door lock and unlock switch.

1. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (L) - 8 (E) | Lock | Below 1 Ω |
| 6 (L) - 8 (E)<br>5 (UL) - 8 (E) | OFF | 10 kΩ or higher |
| 5 (UL) - 8 (E) | Unlock | Below 1 Ω |

If the result is not as specified, replace the door lock assembly.

**for Preparation** Click here

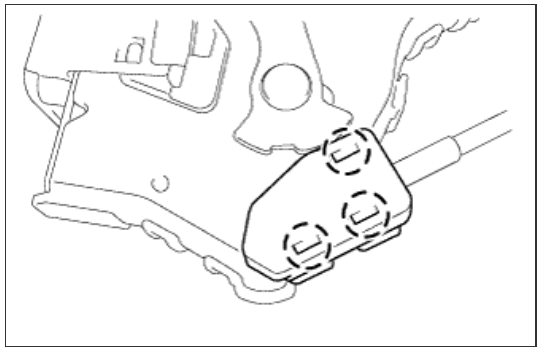
**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. INSTALL FRONT DOOR INSIDE LOCKING LH CABLE ASSEMBLY

a. Install the front door inside locking cable assembly LH.

b. Attach the 3 claws.



## 2. INSTALL FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH

a. Install the front door lock remote control cable assembly LH.

## 3. INSTALL FRONT DOOR LOCK ASSEMBLY LH

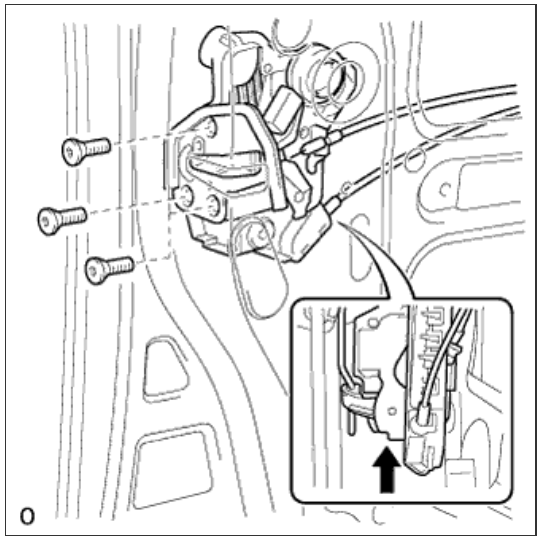
a. Apply MP grease to the sliding parts of the front door lock assembly.

b. Insert the front door lock open rod to the front door lock assembly.

c. Make sure that the front door lock open rod is securely connected to the front door lock assembly.

d. Using a T30 "TORX" wrench, install the door lock with the 3 screws.

**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**



## 4. INSTALL FRONT DOOR OUTSIDE HANDLE COVER LH

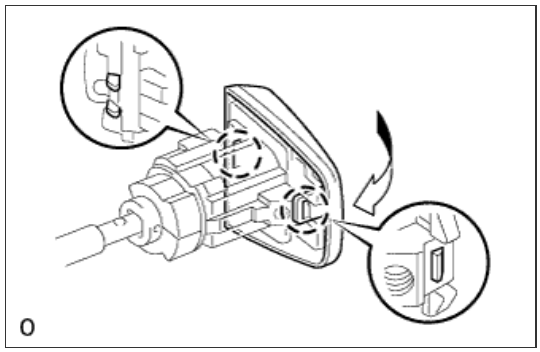
a. Attach the 2 claws to install the front door outside handle cover LH to the front door lock cylinder.

b. Using a T30 "TORX" socket, install the front door outside cover LH (with the

door lock cylinder) with the screw.

**Torque:**
**4.0 N*m{ 41 kgf*cm , 35 in.*lbf }**

c. Install the hole plug.



## 5. INSTALL FRONT DOOR REAR LOWER FRAME SUB-ASSEMBLY LH

a. Install the front door rear lower frame sub-assembly LH with the bolt.

## 6. INSTALL FRONT NO. 2 DOOR STIFFENER CUSHION

**HINT:**

When installing the front No. 2 door stiffener cushion, heat the vehicle body and front No. 2 door stiffener cushion using a heat light.

**Standard:**

| Item | Temperature |
|---|---|
| Vehicle Body | 40 to 60°C (104 to 140°F) |
| Front No. 2 Door Stiffener Cushion | 20 to 30°C (68 to 86°F) |

**NOTICE:**

Do not heat the vehicle body or front No. 2 door stiffener cushion excessively.

a. Clean the installation surface.

i. Using a heat light, heat the vehicle body surface.

ii. Remove the double-sided tape from the vehicle body.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new front No. 2 door stiffener cushion.

i. Using a heat light, heat the vehicle body and a new front No. 2 door stiffener cushion.

ii. Remove the peeling paper from the face of the front No. 2 door stiffener cushion.

**HINT:**

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the 2 clamps to install the door stiffener cushion.

**HINT:**

Press the front No. 2 door stiffener cushion firmly to install it.

iv. Install the 2 bolts.

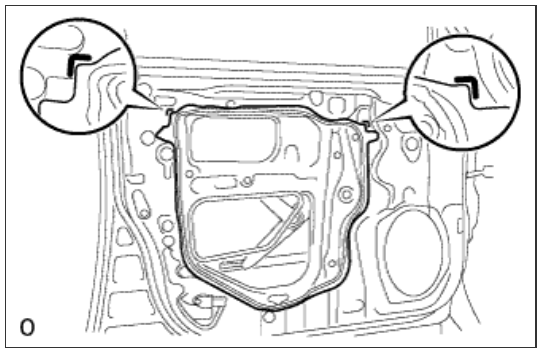
## 7. INSTALL FRONT DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the front door lock remote control cable assembly LH and front door inside locking cable assembly LH through a new front door service hole cover LH.

**NOTICE:**

- **When installing the front door service hole cover LH, pull the links and connectors through the front door service hole cover LH.**
- **There should be no wrinkles or folds after attaching the front door service hole cover LH.**
- **After attaching the front door service hole cover LH, check the sealing quality.**

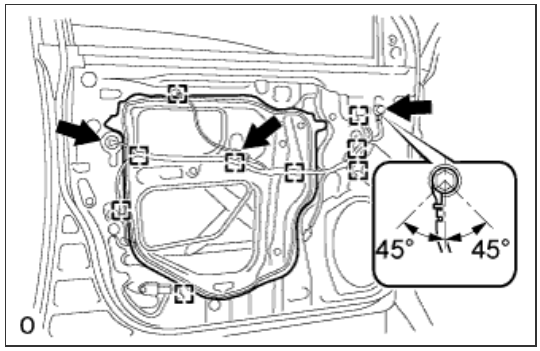


c. Connect the 2 connectors.

d. Attach the 9 clamps.

e. Install the bolt as shown in the illustration.

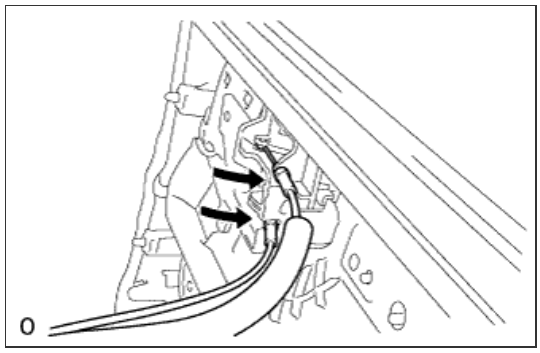
**Torque:**
**8.4 N*m{ 86 kgf*cm , 74 in.*lbf }**




## 8. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

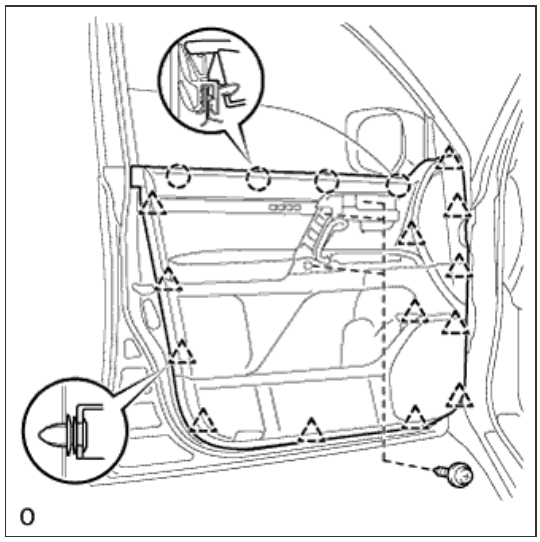
a. Connect the connector.

b. Connect the front door lock remote control cable assembly LH and front door inside locking cable assembly LH to the front door inside handle sub-assembly LH.



c. Attach the 4 claws and 13 clips to install the front door trim board sub-assembly LH.

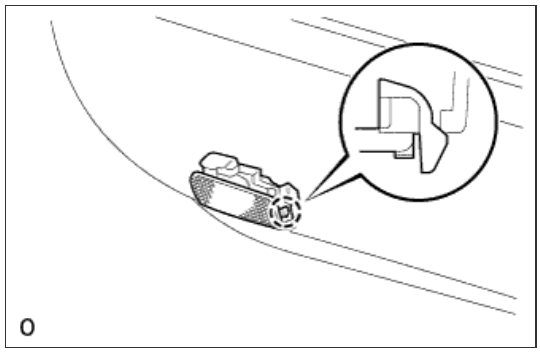
d. Install the 3 screws.



## 9. INSTALL COURTESY LIGHT ASSEMBLY (w/ Courtesy Light)

a. Connect the connector.

b. Attach the claw of the courtesy light to the front door trim.



## 10. INSTALL DOOR ASSIST GRIP COVER LH

a. Attach the 8 claws to install the door assist grip cover LH to the front door trim board sub-assembly LH.

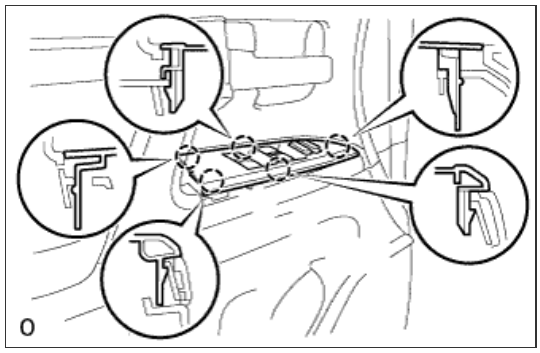
## 11. INSTALL FRONT DOOR INSIDE HANDLE BEZEL LH

a. Install the front door inside handle bezel LH to the trim board with the 7 screws.

## 12. INSTALL FRONT DOOR ARMREST BASE PANEL ASSEMBLY LH

a. Connect the connector.

b. Attach the 5 claws to install the armrest base panel.



## 13. INSTALL FRONT DOOR LOWER FRAME BRACKET GARNISH LH

a. Attach the clip and claw, and install the front door lower frame bracket garnish LH.

## 14. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

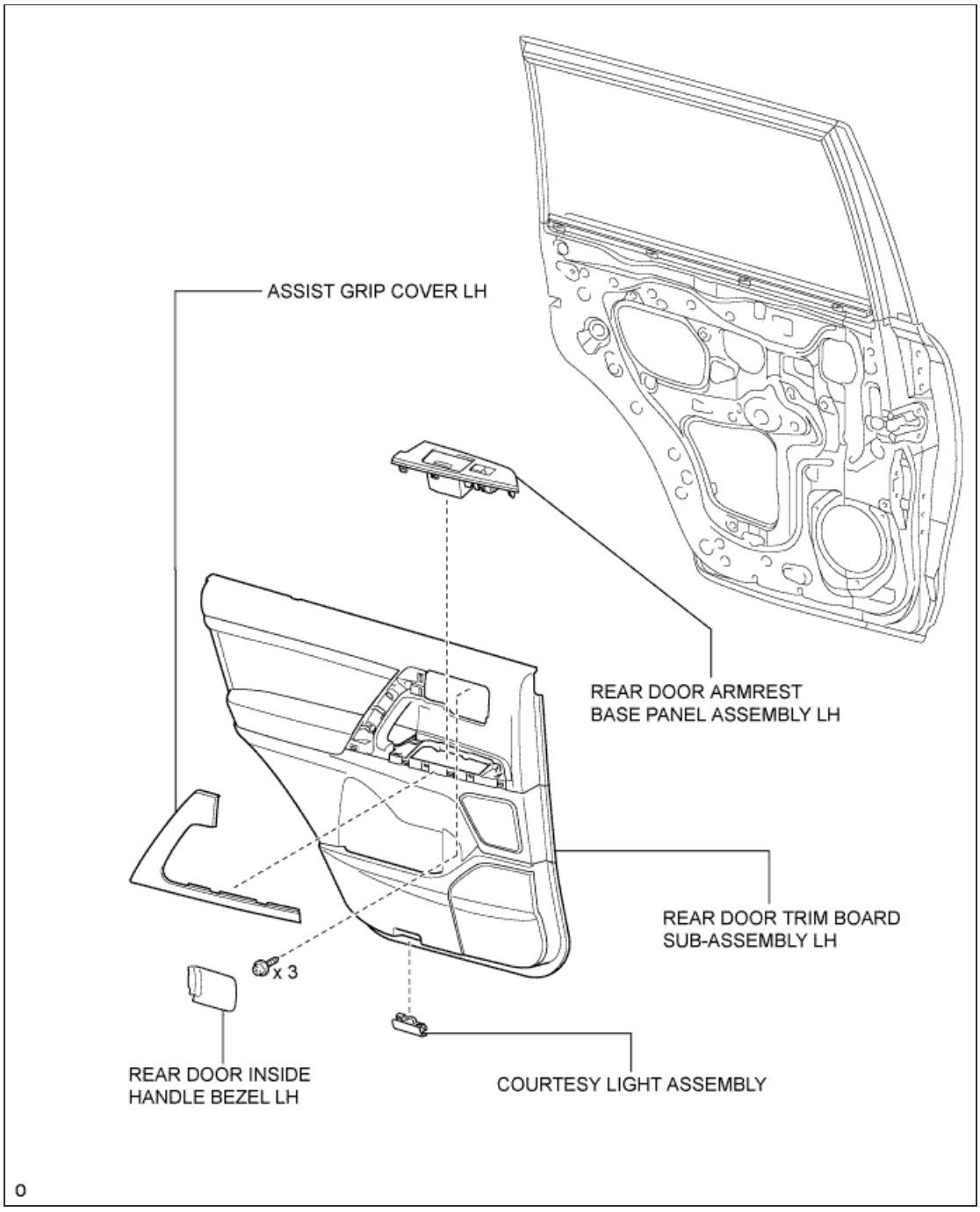
**NOTICE:**

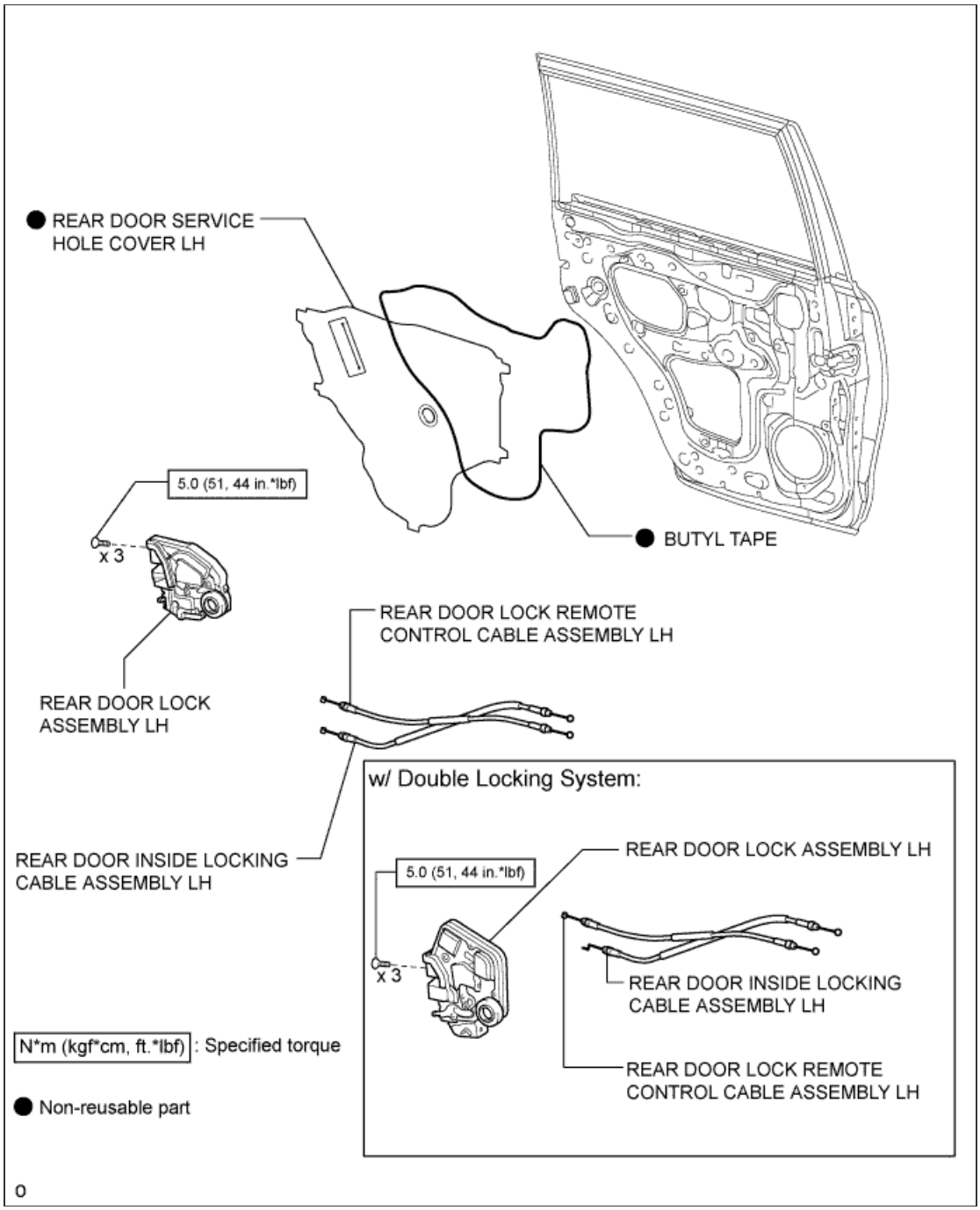
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 15. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here




REAR DOOR SERVICE HOLE COVER LH
BUTYL TAPE
5.0 (51, 44 in.*lbf)
x 3
REAR DOOR LOCK ASSEMBLY LH
REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH
REAR DOOR INSIDE LOCKING CABLE ASSEMBLY LH
w/ Double Locking System:
5.0 (51, 44 in.*lbf)
x 3
REAR DOOR LOCK ASSEMBLY LH
REAR DOOR INSIDE LOCKING CABLE ASSEMBLY LH
REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
o

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

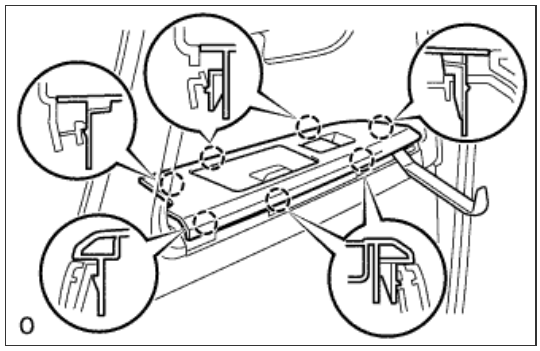
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE REAR DOOR ARMREST BASE PANEL ASSEMBLY LH

a. Using a moulding remover, detach the 7 claws.

b. Disconnect the connector and remove the armrest base panel.



## 4. REMOVE REAR DOOR INSIDE HANDLE BEZEL LH

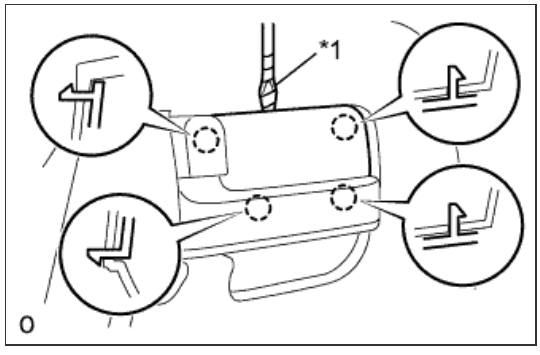
a. Using a screwdriver, detach the 4 claws and remove the rear door inside handle bezel LH.

**HINT:**

Tape the screwdriver tip before use.

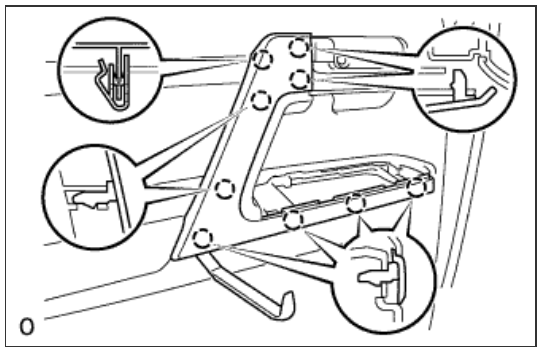
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 5. REMOVE ASSIST GRIP COVER LH

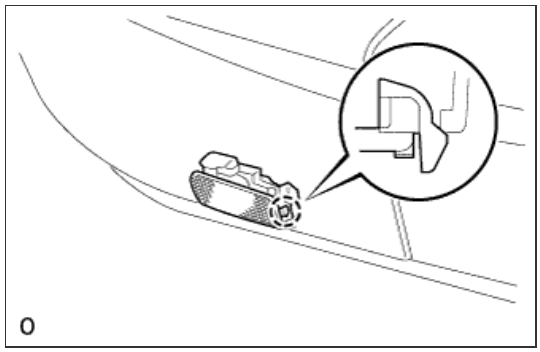
a. Using a moulding remover, detach the 9 claws and remove the assist grip cover LH.



## 6. REMOVE COURTESY LIGHT ASSEMBLY (w/ Courtesy Light)

a. Detach the claw.

b. Remove the courtesy light and then disconnect the connector.



## 7. REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

a. Remove the 3 screws.

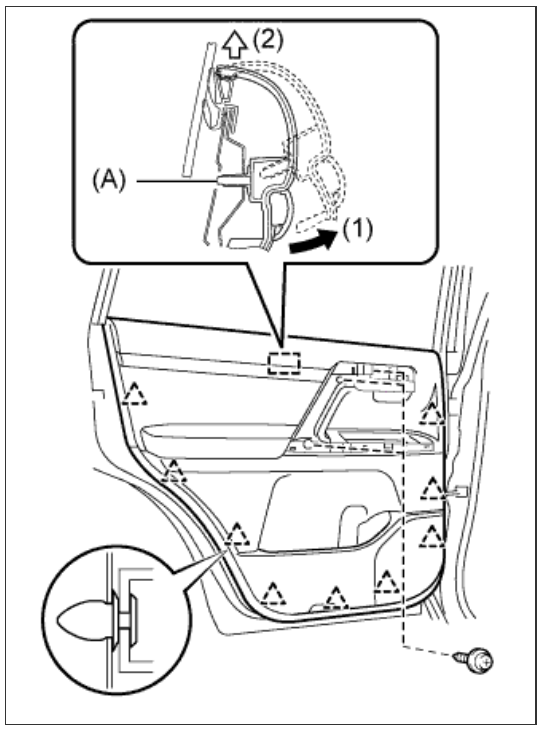
b. Remove the 9 clips.

c. Remove the rear inner door glass weatherstrip LH together with the rear door trim board sub-assembly LH by pulling them upward in the order shown in the illustration.

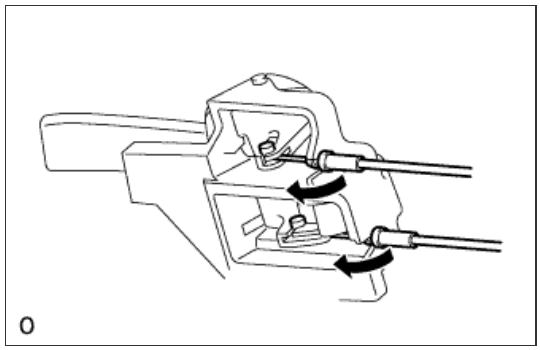
**HINT:**

Make sure that the pin labeled A in the illustration is detached from the door panel.

d. Disconnect the connector and remove the rear door trim board sub-assembly LH.




e. Disconnect the 2 cables from the rear door inside handle sub-assembly LH.



## 8. REMOVE REAR DOOR SERVICE HOLE COVER LH

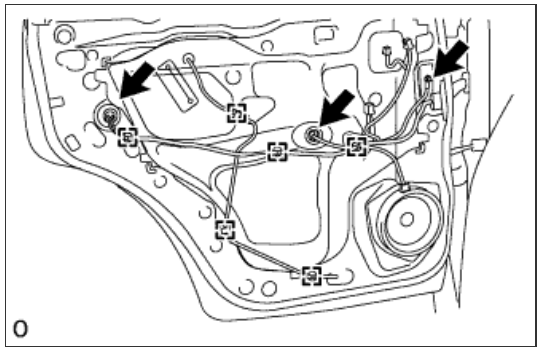
a. Using a clip remover, detach the 6 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the rear door service hole cover LH.

**HINT:**

Remove the remaining tape on the door.

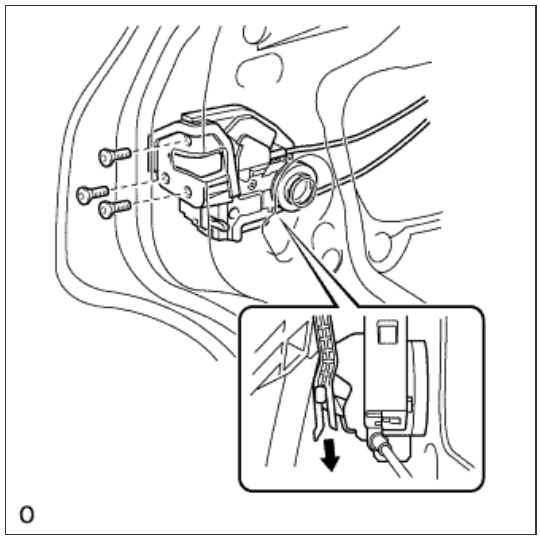


## 9. REMOVE REAR DOOR LOCK ASSEMBLY LH

a. Using a T30 "TORX" socket, remove the 3 screws and door lock.

**NOTICE:**

Be careful when removing the screws as the door lock may fall and become damaged.



## 10. REMOVE REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH

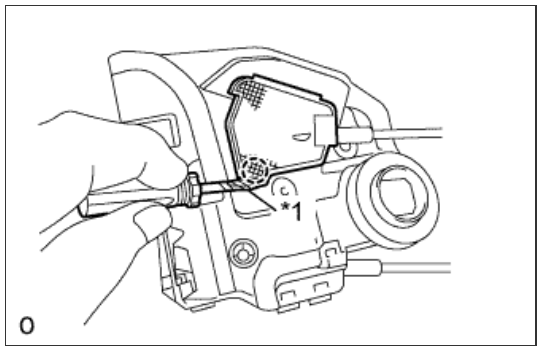
a. Using a screwdriver, detach the claw.

**HINT:**

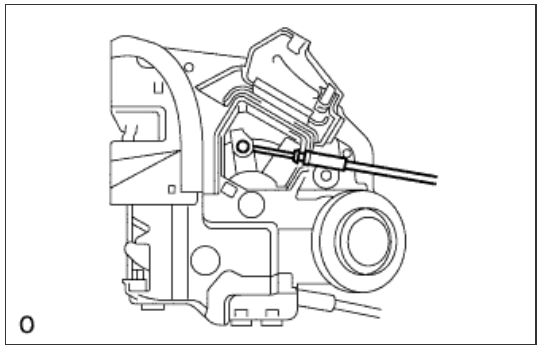
Tape the screwdriver tip before use.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




b. Remove the rear door lock remote control cable assembly LH.



## 11. REMOVE REAR DOOR INSIDE LOCKING CABLE ASSEMBLY LH

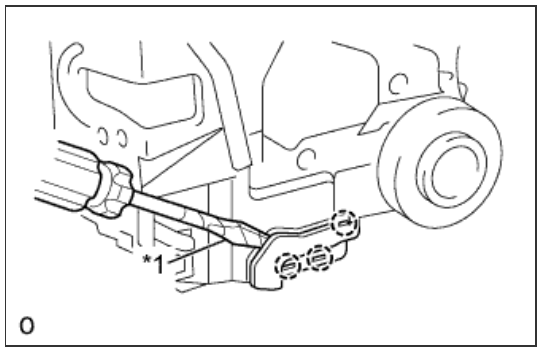
a. Using a screwdriver, detach the 3 claws.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

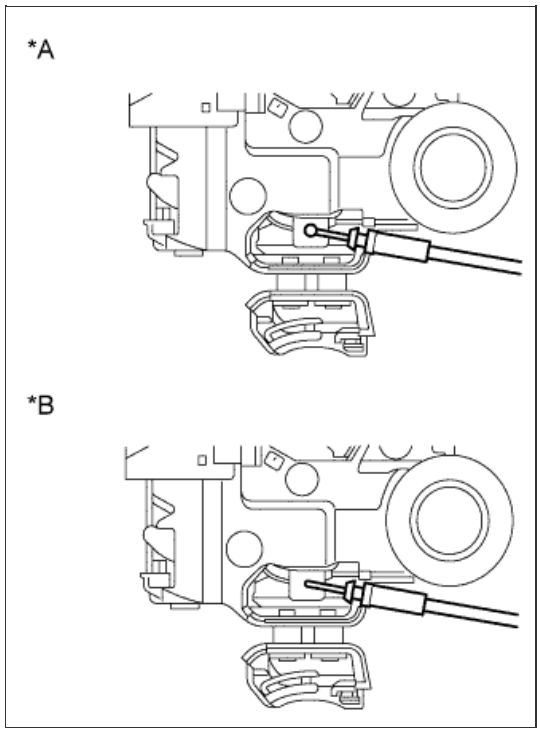
| | |
|---|---|
| *1 | Protective Tape |




b. Remove the rear door inside locking cable assembly LH.

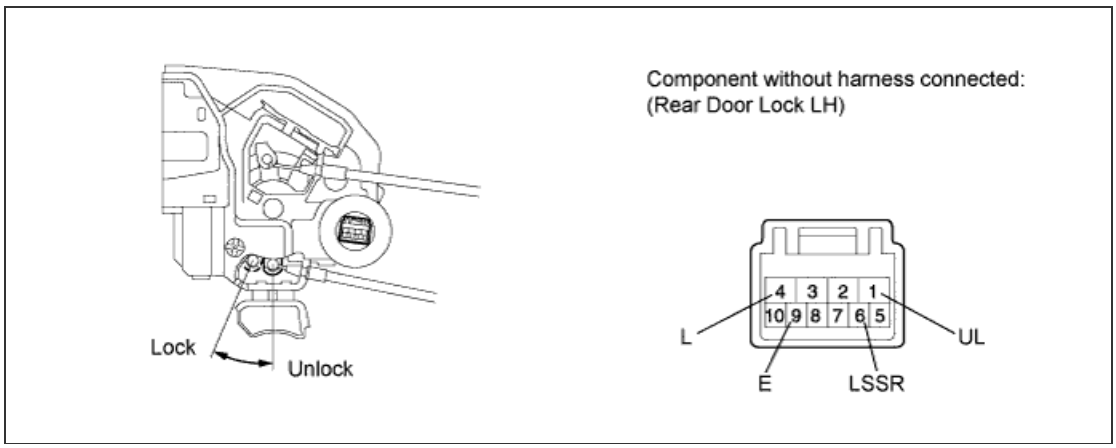
**Text in Illustration**

| | |
|---|---|
| *A | w/o Double Lock |
| *B | w/ Double Lock |



**for Preparation** Click here

## 1. INSPECT REAR DOOR LOCK ASSEMBLY LH (w/o Double Locking System)




a. Check the door lock motor operation.

i. Apply battery voltage to the door lock motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 4 (L)<br>Battery negative (-) → 1 (UL) | Lock |
| Battery positive (+) → 1 (UL)<br>Battery negative (-) → 4 (L) | Unlock |

If the result is not as specified, replace the door lock assembly.

b. Check the detection switch.

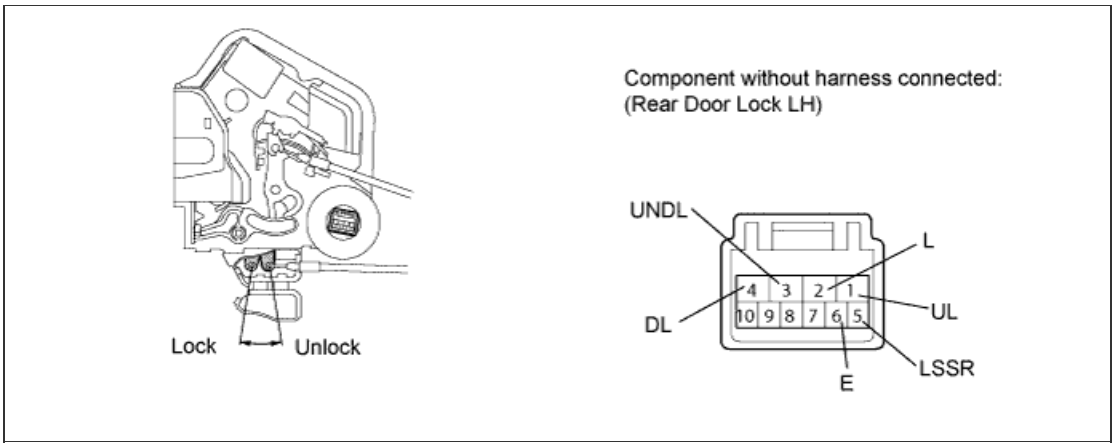
i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (LSSR) - 9 (E) | Unlock | Below 1 Ω |
| 6 (LSSR) - 9 (E) | Lock | 10 kΩ or higher |

If the result is not as specified, replace the door lock assembly.

## 2. INSPECT REAR DOOR LOCK ASSEMBLY LH (w/ Double Locking System)




a. Check the door lock motor operation.

i. Apply battery voltage to the door lock motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2 (L)<br>Battery negative (-) → 1 (UL) | Lock |
| Battery positive (+) → 1 (UL)<br>Battery negative (-) → 2 (L) | Unlock |
| Battery positive (+) → 4 (DL)<br>Battery negative (-) → 3 (UNDL) | Set |
| Battery positive (+) → 3 (UNDL)<br>Battery negative (-) → 4 (DL) | Unset |

If the result is not as specified, replace the door lock assembly.

b. Check the detection switch.

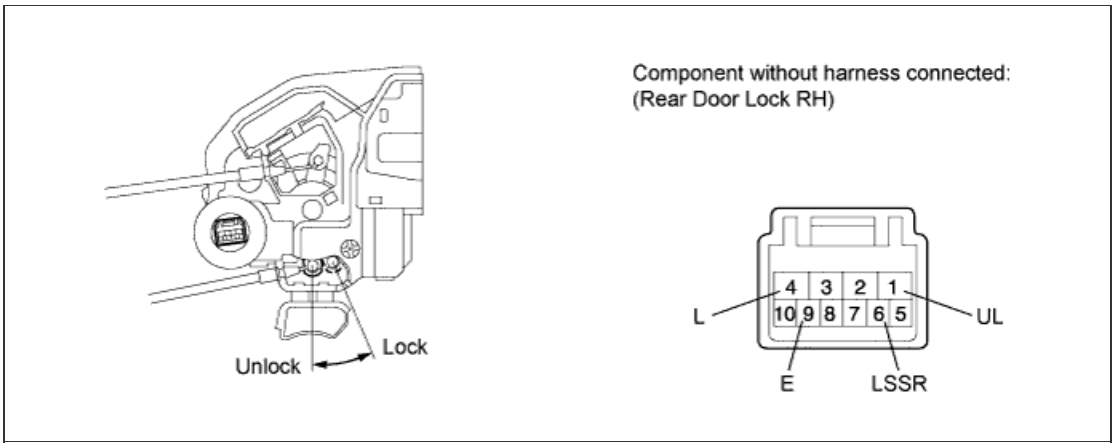
i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 5 (LSSR) - 6 (E) | Unlock | Below 1 Ω |
| 5 (LSSR) - 6 (E) | Lock | 10 kΩ or higher |

If the result is not as specified, replace the door lock assembly.

**3. INSPECT REAR DOOR LOCK ASSEMBLY RH (w/o Double Locking System)**




a. Check the door lock motor operation.

i. Apply battery voltage to the door lock motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 4 (L)<br>Battery negative (-) → 1 (UL) | Lock |
| Battery positive (+) → 1 (UL)<br>Battery negative (-) → 4 (L) | Unlock |

If the result is not as specified, replace the door lock assembly.

b. Check the detection switch.

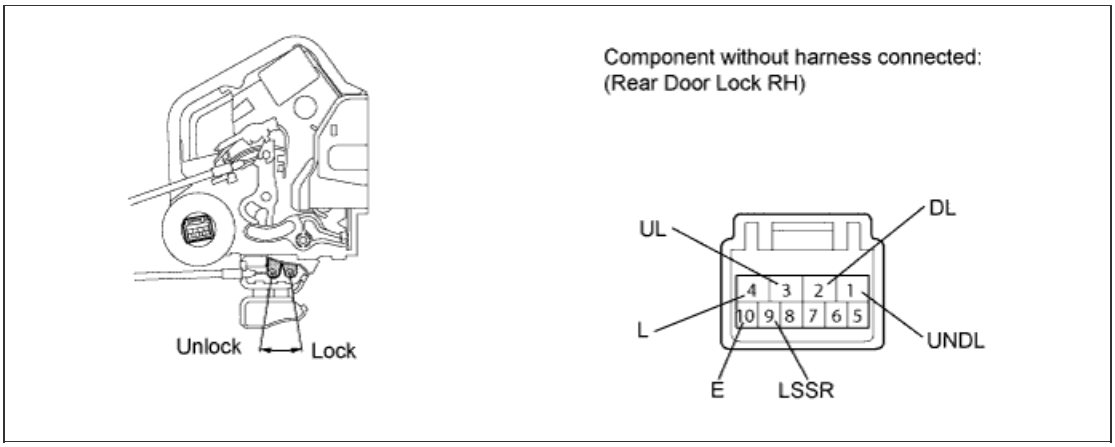
i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (LSSR) - 9 (E) | Unlock | Below 1 Ω |
| 6 (LSSR) - 9 (E) | Lock | 10 kΩ or higher |

If the result is not as specified, replace the door lock assembly.

## 4. INSPECT REAR DOOR LOCK ASSEMBLY RH (w/ Double Locking System)




a. Check the door lock motor operation.

i. Apply battery voltage to the door lock motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 4 (L)<br>Battery negative (-) → 3 (UL) | Lock |
| Battery positive (+) → 3 (UL)<br>Battery negative (-) → 4 (L) | Unlock |
| Battery positive (+) → 2 (DL)<br>Battery negative (-) → 1 (UNDL) | Set |
| Battery positive (+) → 1 (UNDL)<br>Battery negative (-) → 2 (DL) | Unset |

If the result is not as specified, replace the door lock assembly.

b. Check the detection switch.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (LSSR) - 9 (E) | Unlock | Below 1 Ω |
| 6 (LSSR) - 9 (E) | Lock | 10 kΩ or higher |

If the result is not as specified, replace the door lock assembly.

**for Preparation** Click here

**HINT:**

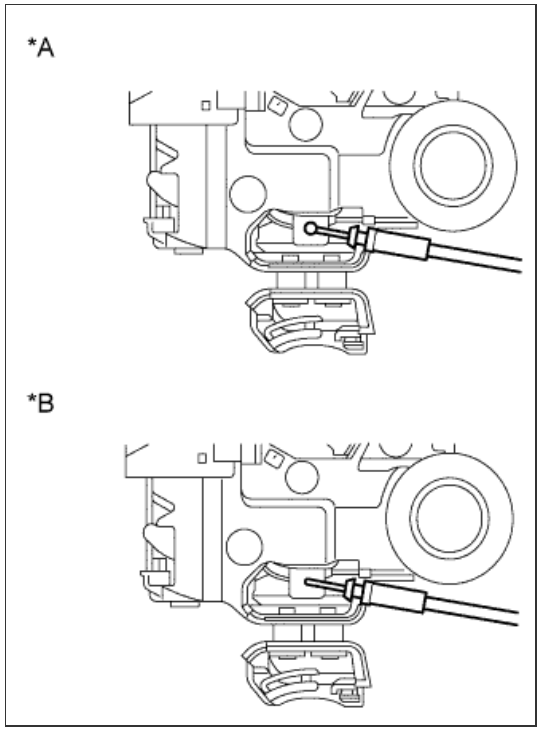
- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. INSTALL REAR DOOR INSIDE LOCKING CABLE ASSEMBLY LH

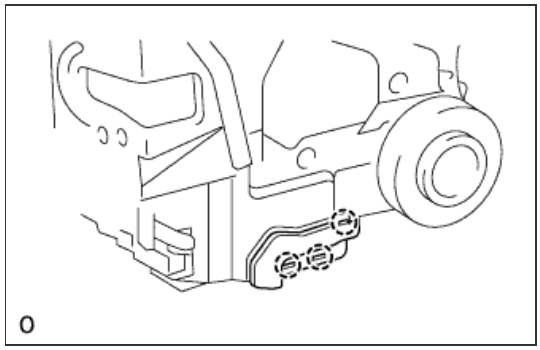
a. Install the rear door inside locking cable assembly LH.

**Text in Illustration**

| | |
|---|---|
| *A | w/o Double Lock |
| *B | w/ Double Lock |



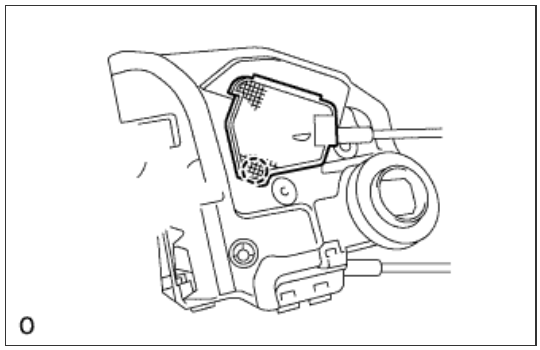

b. Attach the 3 claws.




## 2. INSTALL REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH

a. Install the rear door lock remote control cable assembly LH.

b. Attach the claw.



## 3. INSTALL REAR DOOR LOCK ASSEMBLY LH

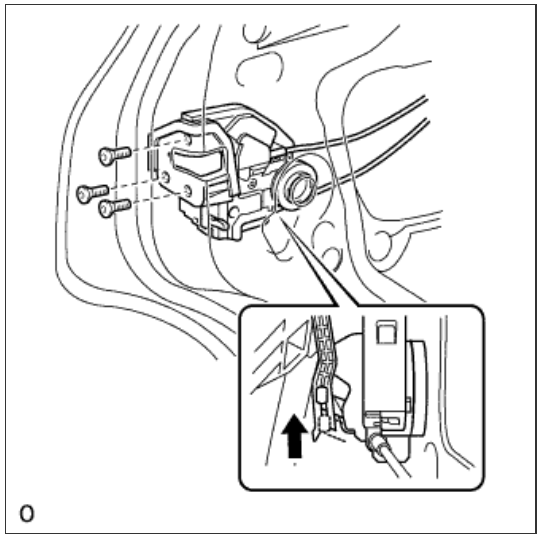
a. Apply MP grease to the sliding parts of the rear door lock assembly.

b. Insert the rear door lock assembly to the rear door outside handle release plate, and set it to the rear door panel.

c. Make sure that the rear door outside handle frame release plate is securely connected to the rear door lock assembly.

d. Using a T30 "TORX" wrench, the 3 screws.

**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**



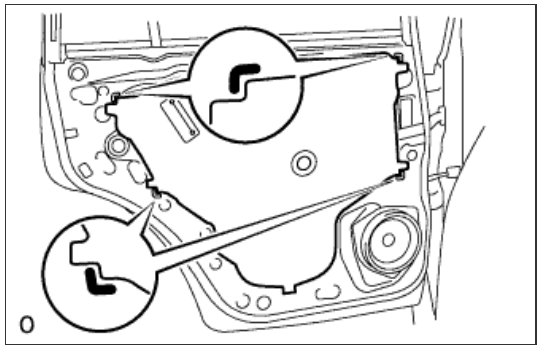
## 4. INSTALL REAR DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the rear door lock remote control cable assembly LH and rear door inside locking cable assembly LH through a new rear door service hole cover LH.

**NOTICE:**

- **When installing the rear door service hole cover LH, pull the links and connectors through the rear door service hole cover LH.**
- **There should be no wrinkles or folds after attaching the rear door service hole cover LH.**
- **After attaching the rear door service hole cover LH, check the sealing quality.**

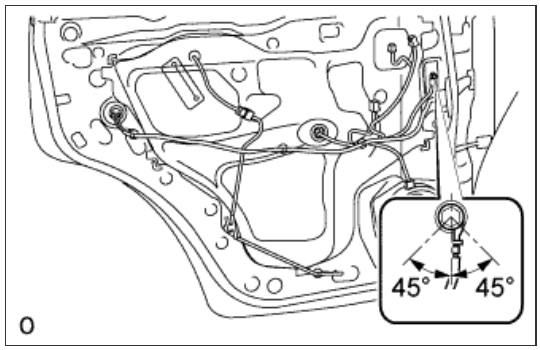


c. Connect the 2 connectors.

d. Attach the 6 clamps.

e. Install the bolt as shown in the illustration.

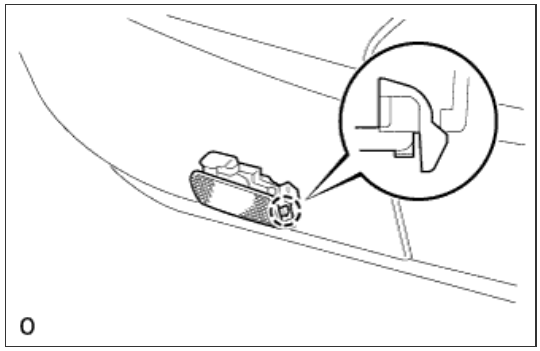
**Torque:**
**8.4 N*m{ 86 kgf*cm , 74 in.*lbf }**




## 5. INSTALL COURTESY LIGHT ASSEMBLY (w/ Courtesy Light)

a. Connect the connector.

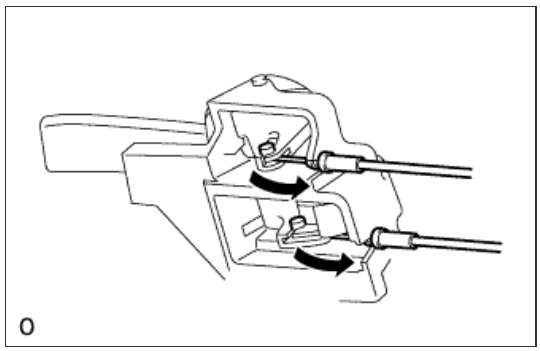
b. Attach the claw of the courtesy light to the rear door trim.



## 6. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

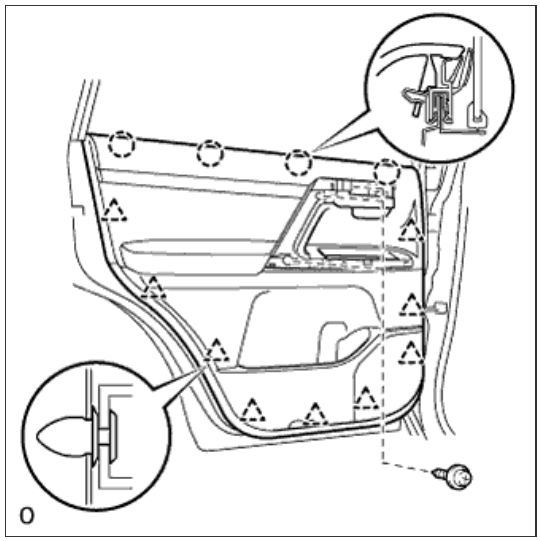
a. Connect the connector.

b. Connect the rear door lock remote control cable assembly LH and rear door inside locking cable assembly LH to the rear door inside handle sub-assembly LH.



c. Attach the 4 claws and 9 clips to install the rear door trim board sub-assembly LH.

d. Install the 3 screws.



## 7. INSTALL ASSIST GRIP COVER LH

a. Attach the 9 claws to install the assist grip cover LH to the rear door trim board sub-assembly LH.

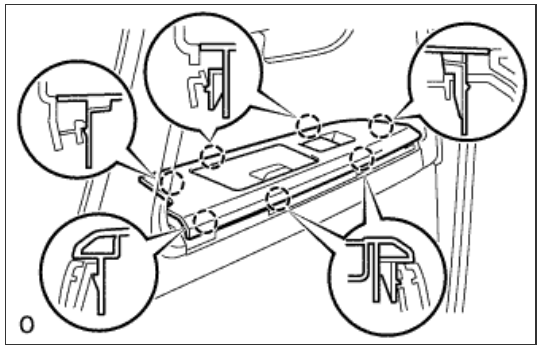
## 8. INSTALL REAR DOOR INSIDE HANDLE BEZEL LH

a. Install the rear door inside handle bezel LH to the trim board with the 6 screws.

## 9. INSTALL REAR DOOR ARMREST BASE PANEL ASSEMBLY LH

a. Connect the connector.

b. Attach the 7 claws to install the armrest base panel.

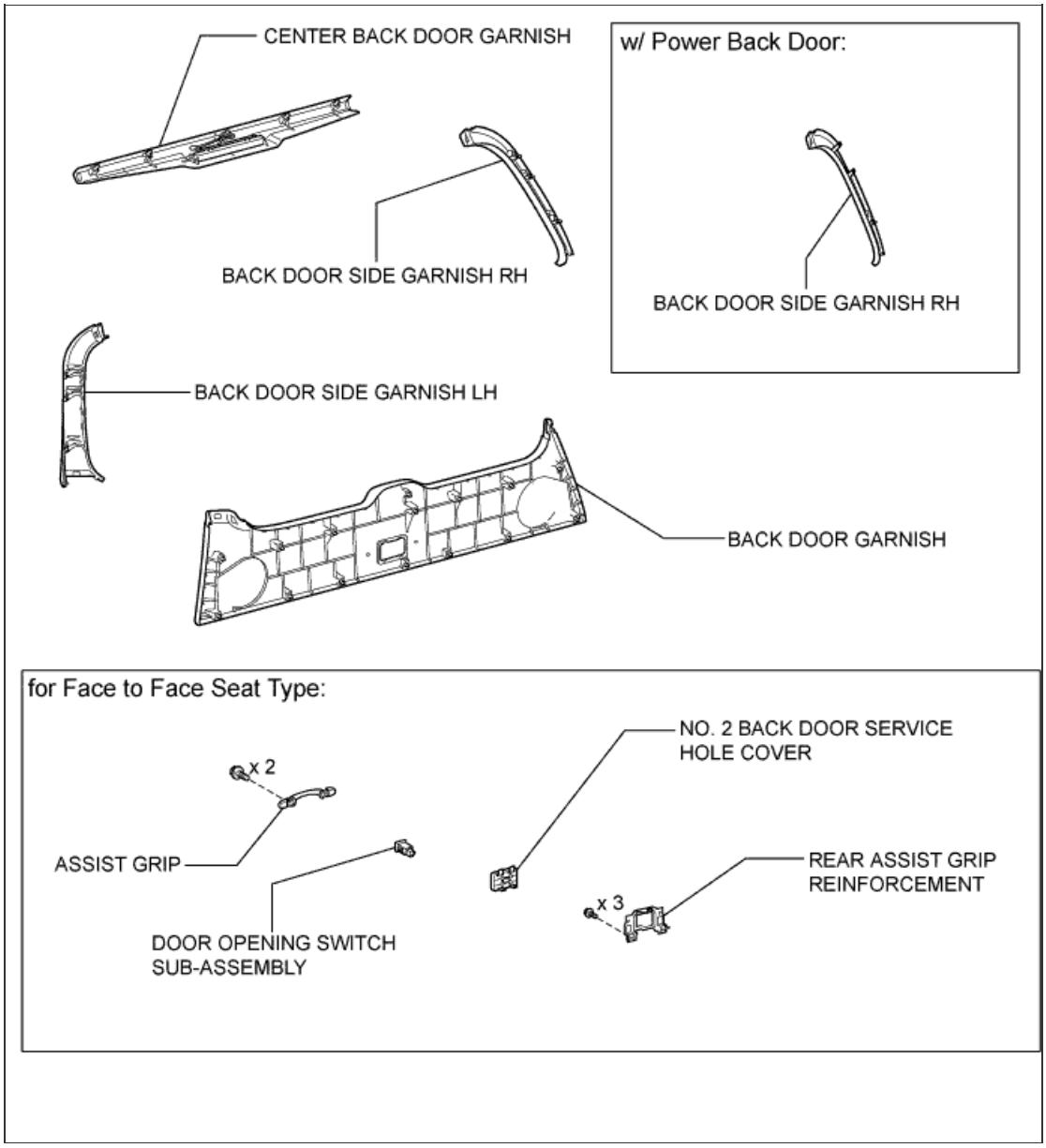


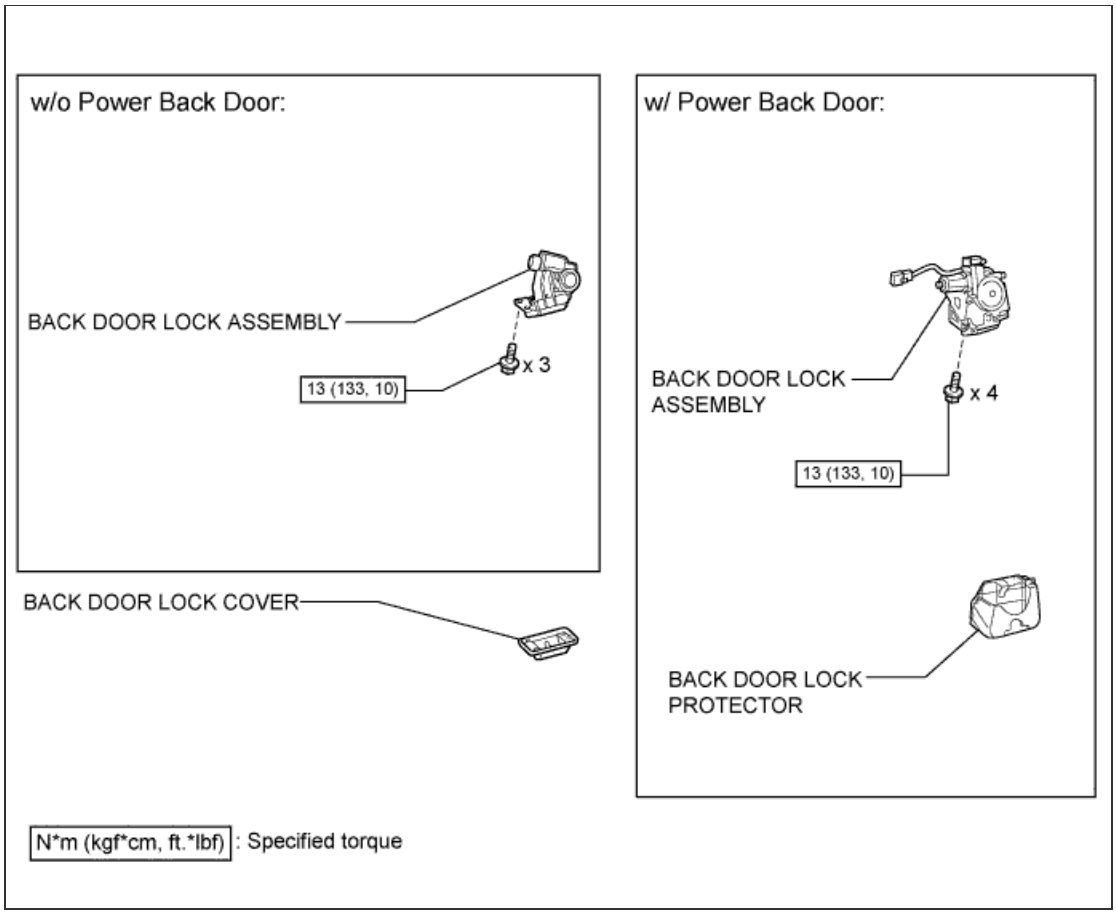
## 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**for Preparation** Click here

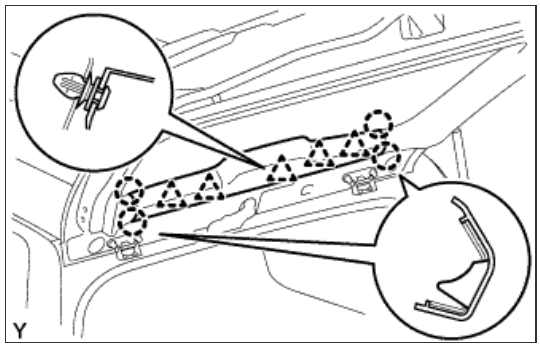



w/o Power Back Door:
BACK DOOR LOCK ASSEMBLY
x 3
13 (133, 10)
BACK DOOR LOCK COVER
w/ Power Back Door:
BACK DOOR LOCK ASSEMBLY
x 4
13 (133, 10)
BACK DOOR LOCK PROTECTOR
N*m (kgf*cm, ft.*lbf) : Specified torque

**for Preparation** Click here

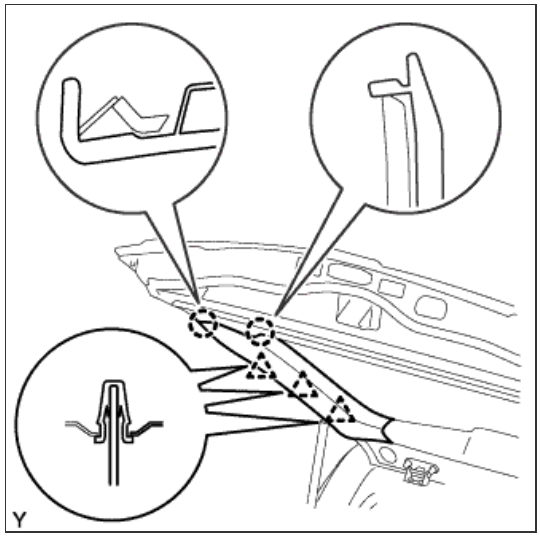
## 1. REMOVE CENTER BACK DOOR GARNISH

a. Detach the 5 clips and 4 claws, and remove the center back door garnish.




## 2. REMOVE BACK DOOR SIDE GARNISH LH

a. Detach the 3 clips and 2 claws, and remove the back door side garnish LH.




## 3. REMOVE BACK DOOR SIDE GARNISH RH

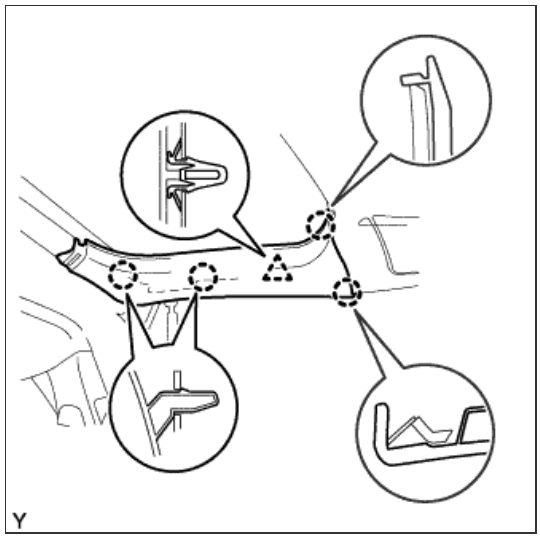
a. w/o Power Back Door:

**HINT:**

Use the same procedure described for the LH side.

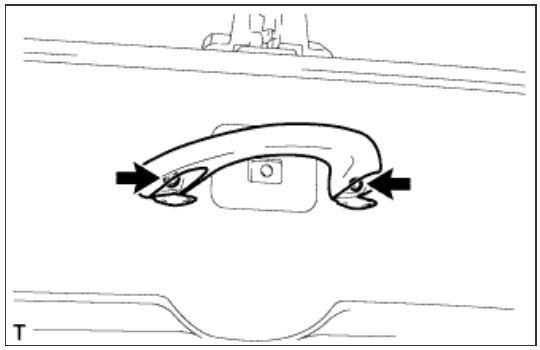
b. w/ Power Back Door:

i. Detach the clip and 4 claws, and remove the back door side garnish RH.




### 4. REMOVE ASSIST GRIP (for Face to Face Seat Type)

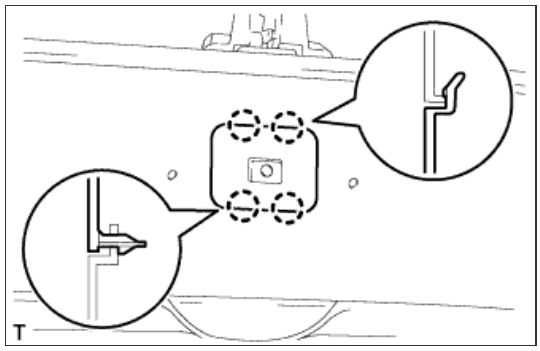
a. Remove the 2 screws and assist grip.




### 5. REMOVE NO. 2 BACK DOOR SERVICE HOLE COVER (for Face to Face Seat Type)

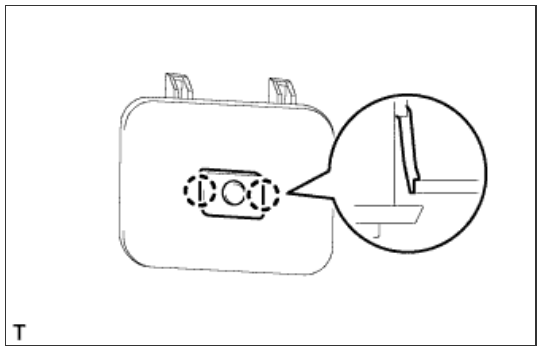
a. Using a screwdriver, detach the 4 claws and remove the No. 2 back door service hole cover.

b. Disconnect connector.




### 6. REMOVE DOOR OPENING SWITCH SUB-ASSEMBLY (for Face to Face Seat Type)

a. Detach the 2 claws and remove the door opening switch sub-assembly.

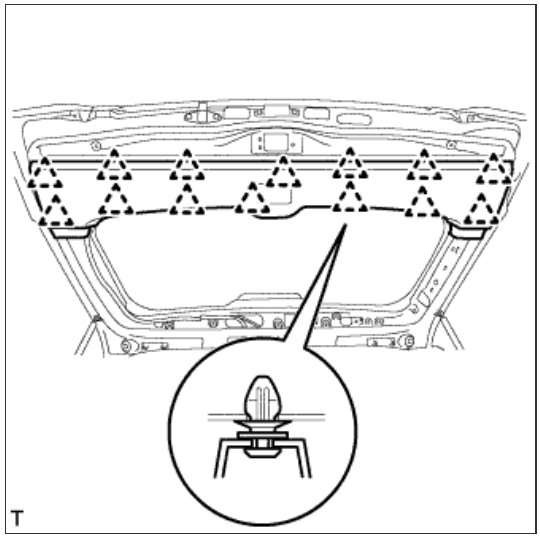



## 7. REMOVE BACK DOOR GARNISH

a. Using a screwdriver, detach the 14 clips and remove the back door garnish.

**HINT:**

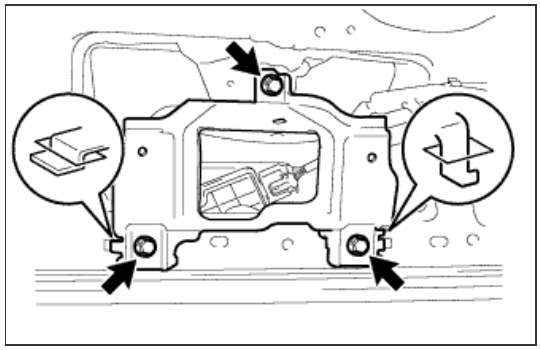
Tape the screwdriver tip before use.




## 8. REMOVE REAR ASSIST GRIP REINFORCEMENT (for Face to Face Seat Type)

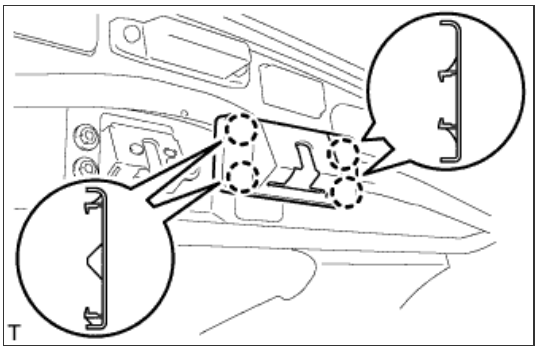
a. Remove the 3 bolts.

b. Detach the 2 claws and remove the rear assist grip reinforcement.



## 9. REMOVE BACK DOOR LOCK COVER

a. Detach the 4 claws and remove the back door lock cover.

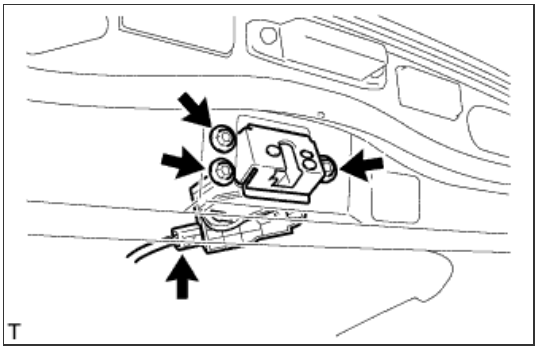



## 10. REMOVE BACK DOOR LOCK ASSEMBLY

a. w/o Power Back Door:

i. Disconnect the connector.

ii. Remove the 3 bolts and back door lock assembly.

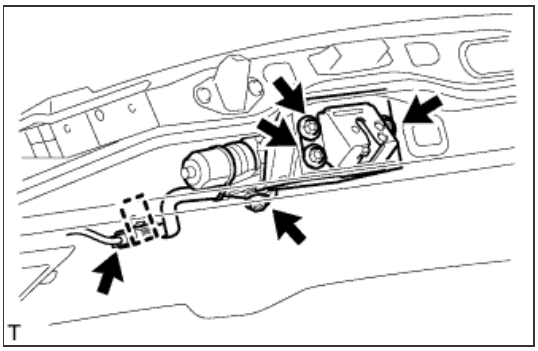



b. w/ Power Back Door:

i. Disconnect the connector.

ii. Detach the guide.

iii. Remove the 4 bolts and back door lock assembly.



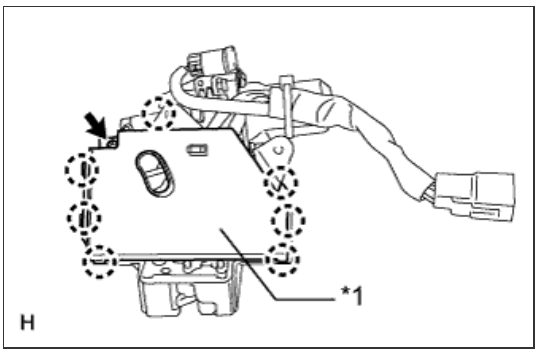

## 11. REMOVE BACK DOOR LOCK PROTECTOR (w/ Power Back Door)

a. Remove the screw.

b. Detach the 7 claws, and remove the protector (B).

**Text in Illumination**

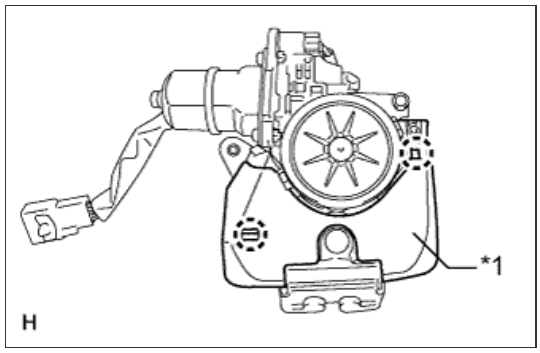
| | |
|---|---|
| *1 | Protector (B) |




c. Detach the 2 claws, and remove the protector (A).

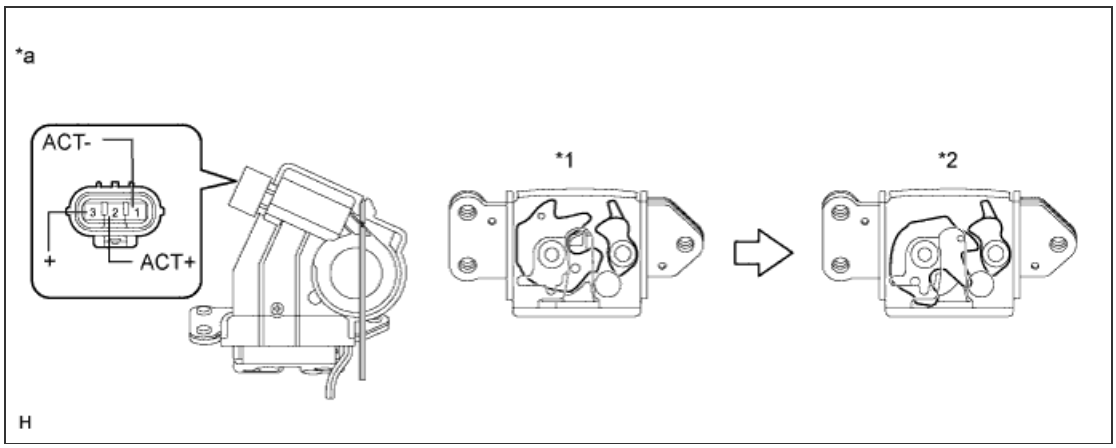
**Text in Illumination**

| | |
|---|---|
| *1 | Protector (A) |


*1
H

**for Preparation** Click here

## 1. INSPECT BACK DOOR LOCK ASSEMBLY (w/o Power Back Door)




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Full-latch | *2 | Open-latch |
| *a | Component without harness connected<br>(Back Door Lock assembly) | - | - |

a. Set the back door lock to the full-latch position.

b. Apply battery voltage to the door motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2 (ACT+)<br>Battery negative (-) → 1 (ACT-) | Moves to open-latch position |

If the result is not as specified, replace the back door lock assembly.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (ACT-) - 3 (+) | Open-latch | Below 1 Ω |
| 1 (ACT-) - 3 (+) | Full-latch | 10 kΩ or higher |

If the result is not as specified, replace the back door lock assembly.

## 2. INSPECT BACK DOOR LOCK ASSEMBLY (w/ Power Back Door)

a. Inspect the closer motor operation.

i. Set the back door lock assembly to the full-latch position.

ii. Apply battery voltage and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|

| | |
|---|---|
| Battery positive (+) → 1 (M+)<br>Battery negative (-) → 2 (M-) | Moves to open-latch position |

If the result is not as specified, replace the back door lock assembly.

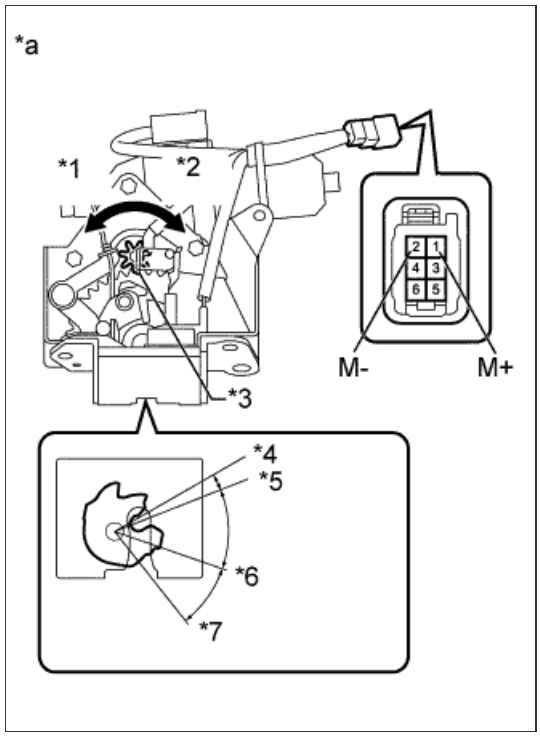
iii. Set the back door lock assembly to the half-latch position.

iv. Apply battery voltage and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2 (M-)<br>Battery negative (-) → 1 (M+) | Moves to over-latch position |

If the result is not as specified, replace the back door lock assembly.




**Text in Illustration**

| | |
|---|---|
| *1 | Release |
| *2 | Close |
| *3 | Drive Gear |
| *4 | Over-latch |
| *5 | Full-latch |
| *6 | Half-latch |
| *7 | Open-latch |
| *a | Component without harness connected (Back Door Lock Assembly) |

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Half-latch Switch**

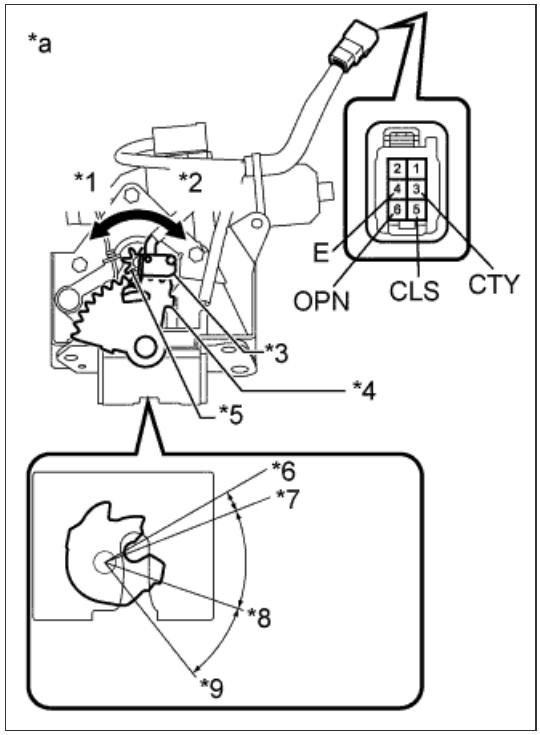
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 5 (CLS) - 4 (E) | Over-latch | Below 1 Ω |
| | Full-latch | 10 kΩ or higher |
| | Half-latch | 10 kΩ or higher |
| | Open-latch | Below 1 Ω |

If the result is not as specified, replace the back door lock assembly.

**Closer Position Switch:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 6 (OPN) - 4 (E) | Selector gear is in center position | Below 1 Ω |
| | Selector gear is not in center position | 10 kΩ or higher |

If the result is not as specified, replace the back door lock assembly.




**Back Door Courtesy Switch:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 (CTY) - 4 (E) | Half-latch<br>Open-latch | Below 1 Ω |
| | Over-latch<br>Full-latch | 10 kΩ or higher |

If the result is not as specified, replace the back door lock assembly.

**Text in Illustration**

| | |
|---|---|
| *1 | Release |
| *2 | Close |
| *3 | Closer Position Switch |
| *4 | Selector Gear |
| *5 | Drive Gear |
| *6 | Over-latch |
| *7 | Full-latch |
| *8 | Half-latch |
| *9 | Open-latch |
| *a | Component without harness connected<br>(Back Door Lock Assembly) |

**for Preparation** Click here

**NOTICE:**

- **When installing a new back door lock assembly, if there is any tape stuck to it, remove the tape.**
- **When installing a new back door lock assembly, if there are any strings attached to it, cut the strings off.**

## 1. INSTALL BACK DOOR LOCK PROTECTOR (w/ Power Back Door)

a. Attach the 2 claws to install the protector (A).

b. Attach the 7 claws to install the protector (B).

c. Install the screw.

## 2. INSTALL BACK DOOR LOCK ASSEMBLY

a. w/o Power Back Door:

i. Install the back door lock assembly with the 3 bolts.

**Torque:**
**13 N*m{ 133 kgf*cm , 10 ft.*lbf }**

ii. Connect the connector.

b. w/ Power Back Door:

i. Install the back door lock assembly with the 4 bolts.

**Torque:**
**13 N*m{ 133 kgf*cm , 10 ft.*lbf }**

ii. Attach the guide.

iii. Connect the connector.

## 3. INSTALL BACK DOOR LOCK COVER

a. Attach the 4 claws to install the back door lock cover.

## 4. INSTALL REAR ASSIST GRIP REINFORCEMENT (for Face to Face Seat Type)

a. Attach the 2 claws to install the rear assist grip reinforcement.

b. Install the 3 bolts.

## 5. INSTALL BACK DOOR GARNISH

a. Attach the 14 clips to install the back door garnish.

## 6. INSTALL DOOR OPENING SWITCH SUB-ASSEMBLY (for Face to Face Seat Type)

a. Attach the 2 claws to install the door opening switch sub-assembly.

### 7. INSTALL NO. 2 BACK DOOR SERVICE HOLE COVER (for Face to Face Seat Type)

a. Connect the connector.

b. Attach the 4 claws to install the No. 2 back door service hole cover.

### 8. INSTALL ASSIST GRIP (for Face to Face Seat Type)

a. Install the assist grip with the 2 screws.

### 9. INSTALL BACK DOOR SIDE GARNISH RH

a. w/o Power Back Door:

**HINT:**

Use the same procedure described for the LH side.

b. w/ Power Back Door:

i. Attach the clip and 4 claws to install the back door side garnish RH.

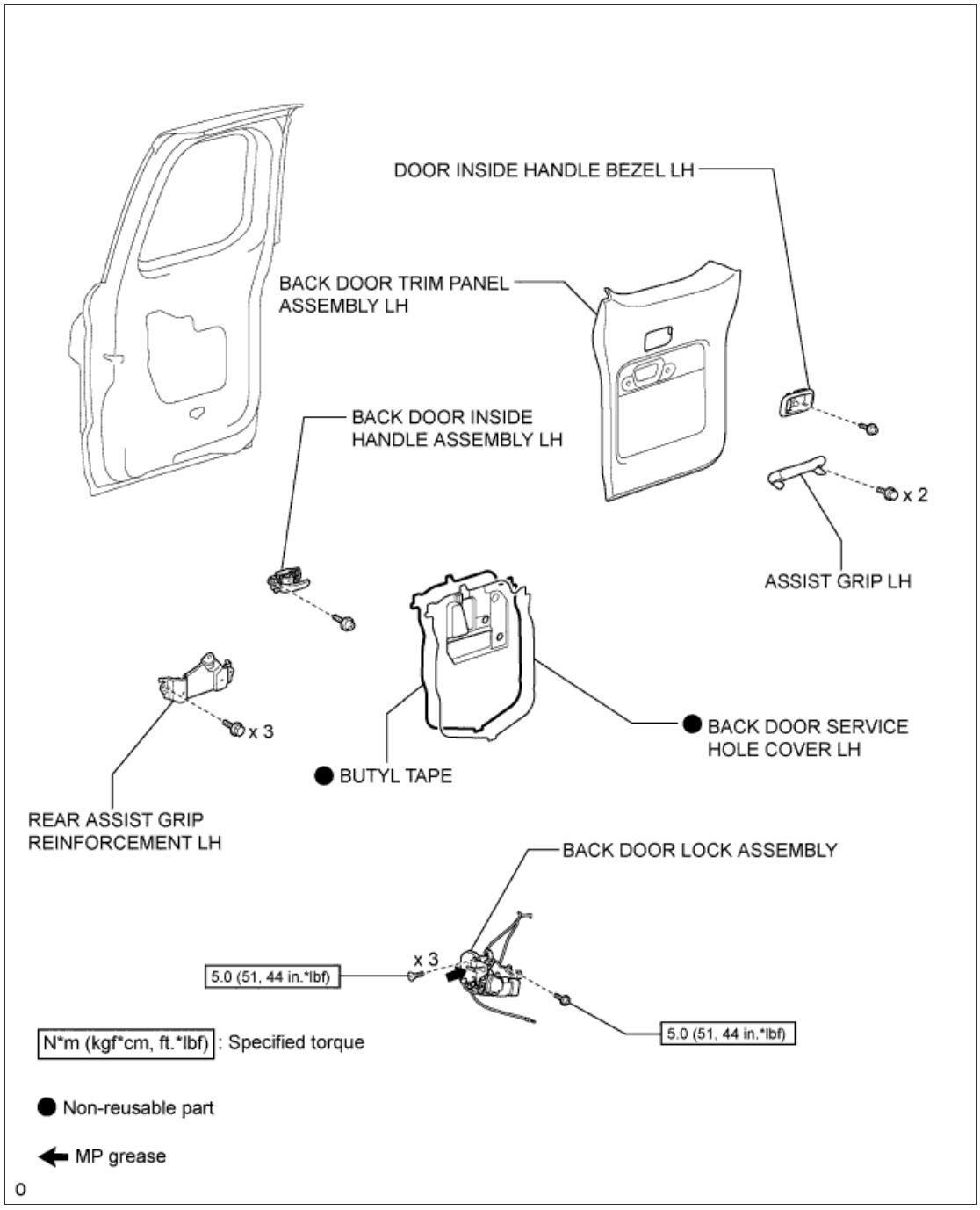
### 10. INSTALL BACK DOOR SIDE GARNISH LH

a. Attach the 3 clips and 2 claws to install the back door side garnish LH.

### 11. INSTALL CENTER BACK DOOR GARNISH

a. Attach the 5 clips and 4 claws to install the center back door garnish.

**for Preparation** Click here



**for Preparation** Click here

## 1. REMOVE ASSIST GRIP LH

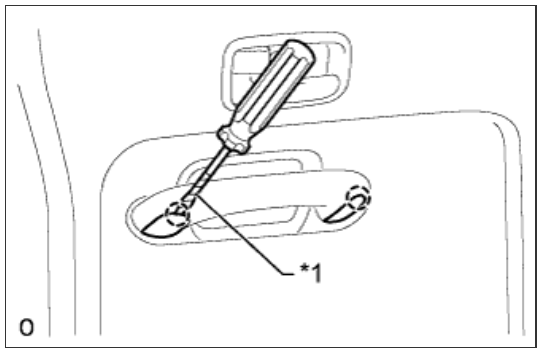
a. Using a screwdriver, detach the 2 claws and open the 2 covers.

**HINT:**

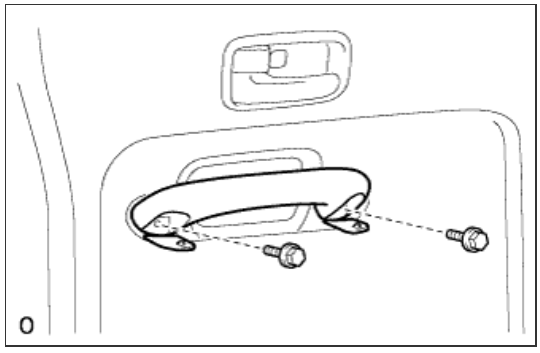
Tape the screwdriver tip before use.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

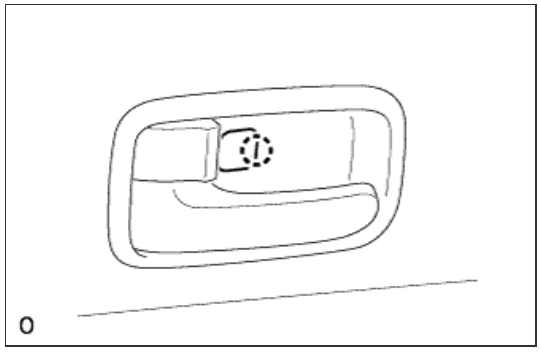



b. Remove the 2 bolts and assist grip.

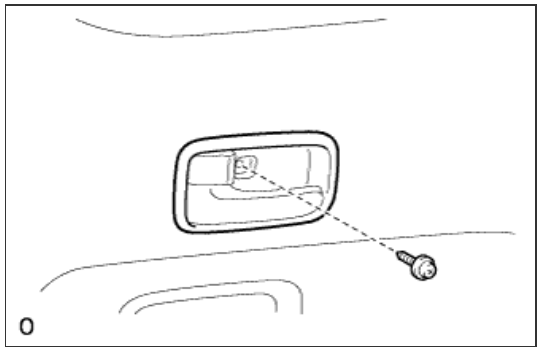


## 2. REMOVE DOOR INSIDE HANDLE BEZEL LH

a. Detach the claw and open the cover.



b. Remove the screw.



c. Using a screwdriver, detach the 2 claws.

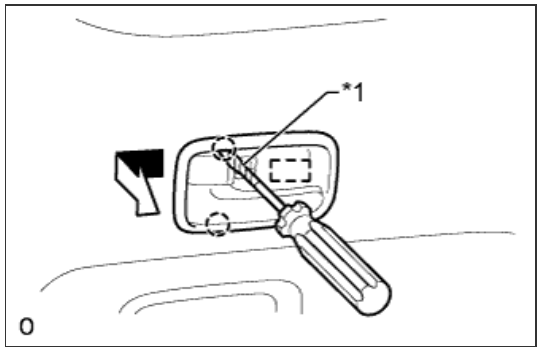
**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

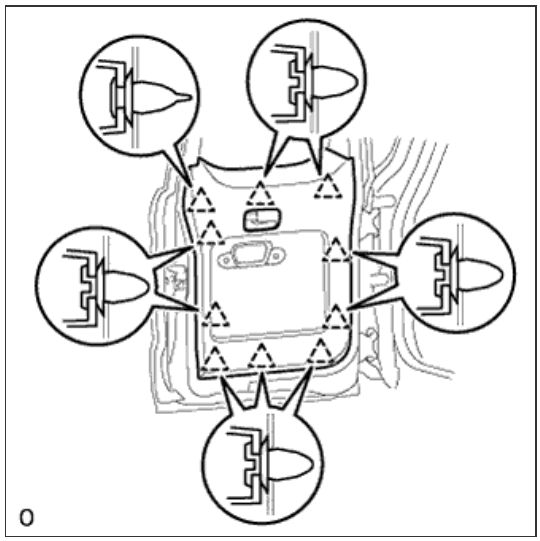
| | |
|---|---|
| *1 | Protective Tape |

d. Detach the guide and remove the door inside handle bezel in the direction indicated by the arrow in the illustration.



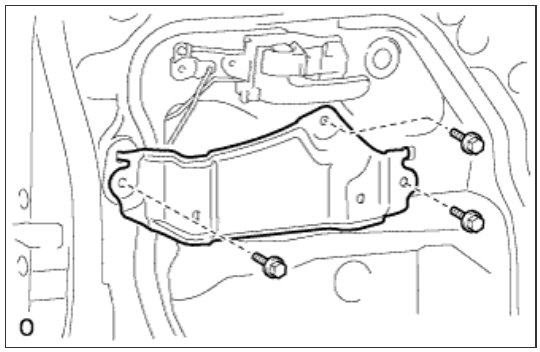

## 3. REMOVE BACK DOOR TRIM PANEL ASSEMBLY LH

a. Detach the 10 clips and remove the back door trim panel.



## 4. REMOVE REAR ASSIST GRIP REINFORCEMENT LH

a. Remove the 3 bolts and rear assist grip reinforcement.

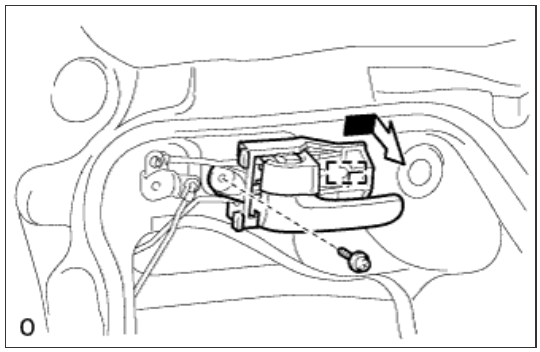


## 5. REMOVE BACK DOOR INSIDE HANDLE ASSEMBLY LH

a. Remove the screw.

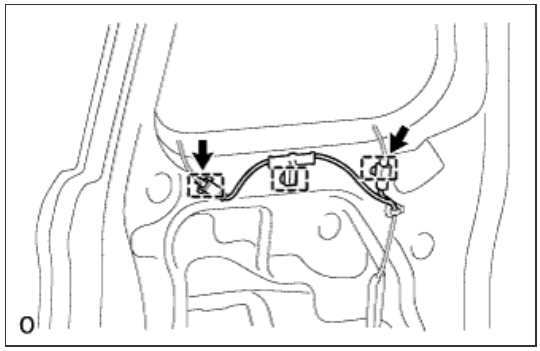
b. Detach the guide and remove the back door inside handle in the direction indicated by the arrow in the illustration.

c. Disconnect the 2 links from the back door inside handle.



## 6. REMOVE BACK DOOR SERVICE HOLE COVER LH

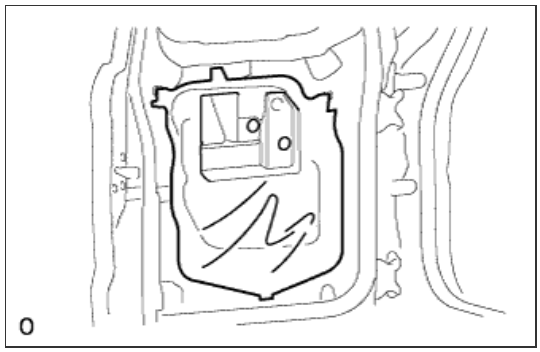
a. Disconnect the 2 connectors and detach the 3 clamps.



b. Pull out the 2 links and wire harness from the back door service hole cover, and then remove the back door service hole cover.

**HINT:**

Remove any remaining butyl tape from the back door panel.



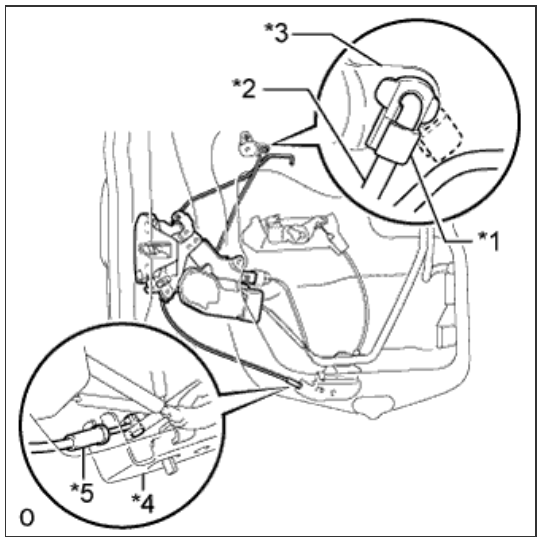
## 7. REMOVE BACK DOOR LOCK ASSEMBLY

a. Rotate the snap as shown in the illustration and disconnect the back door lock locking link from the back door lock control assembly.

b. Disconnect the back door lock cable assembly from the back door remote control assembly.

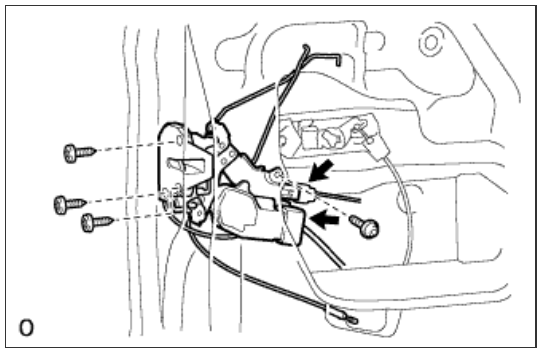
**Text in Illustration**

| | |
|---|---|
| *1 | Snap |
| *2 | Back Door Lock Locking Link |
| *3 | Back Door Lock Control Assembly |
| *4 | Back Door Remote Control Assembly |
| *5 | Back Door Lock Cable Assembly |



c. Disconnect the 2 connectors.

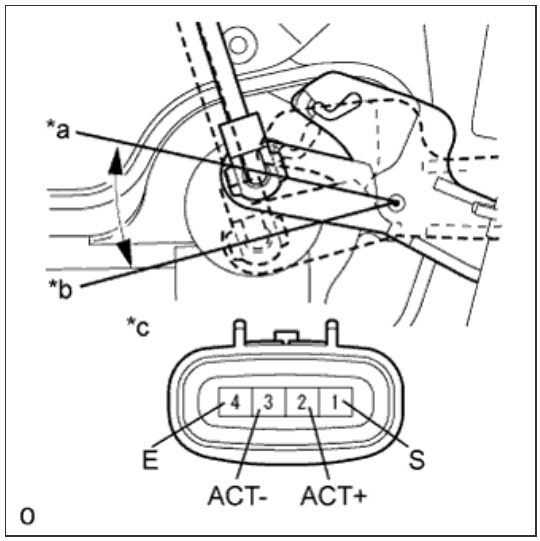
d. Using a T30 "TORX" socket wrench, remove the 4 screws and back door lock assembly.



**for Preparation** Click here

## 1. INSPECT BACK DOOR LOCK ASSEMBLY

a. Check the operation of the door lock motor.




i. Apply battery voltage to the door lock motor connector and check the operation of the door lock motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 2 (ACT+)<br>Battery negative (-) → Terminal 3 (ACT-) | Lock |
| Battery positive (+) → Terminal 3 (ACT-)<br>Battery negative (-) → Terminal 2 (ACT+) | Unlock |

If the result is not as specified, replace the back door lock assembly.

**Text in Illustration**

| | |
|---|---|
| *a | Lock |
| *b | Unlock |
| *c | Component without harness connected (Back Door Lock Assembly) |

b. Check the detection switch.

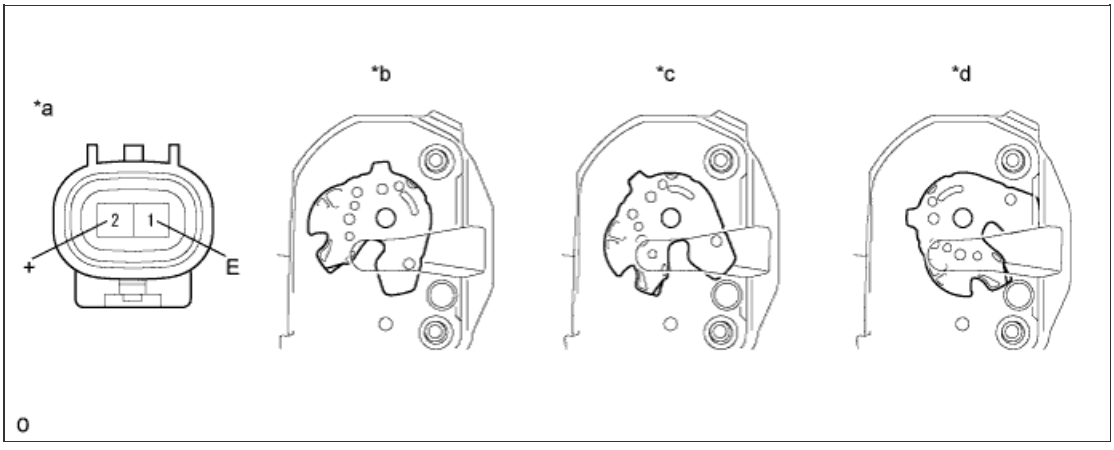
i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (S) - 4 (E) | Lock | 10 kΩ or higher |
| | Unlock | Below 1 Ω |

If the result is not as specified, replace the back door lock assembly.

c. Check the operation of the door courtesy switch.



**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Component without harness connected<br>(Back Door Lock Assembly) | *b | Full Latch |
| *c | Half Latch | *d | Open |

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (E) - 2 (+) | Open | Below 1 Ω |
| | Half Latch | Below 1 Ω |
| | Full Latch | 10 kΩ or higher |

If the result is not as specified, replace the back door lock assembly.

**for Preparation** Click here

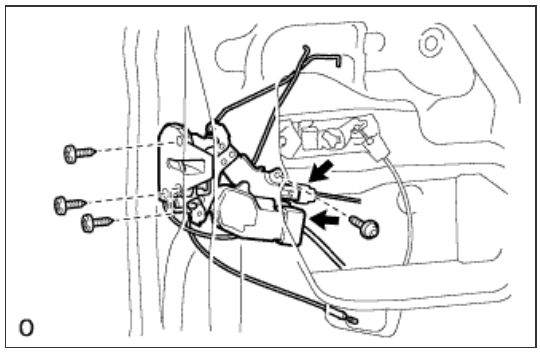
## 1. INSTALL BACK DOOR LOCK ASSEMBLY

a. Apply MP grease to the sliding parts of the back door lock assembly.

b. Using a T30 "TORX" socket wrench, install the back door lock assembly with the 4 screws.

**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

c. Connect the 2 connectors.

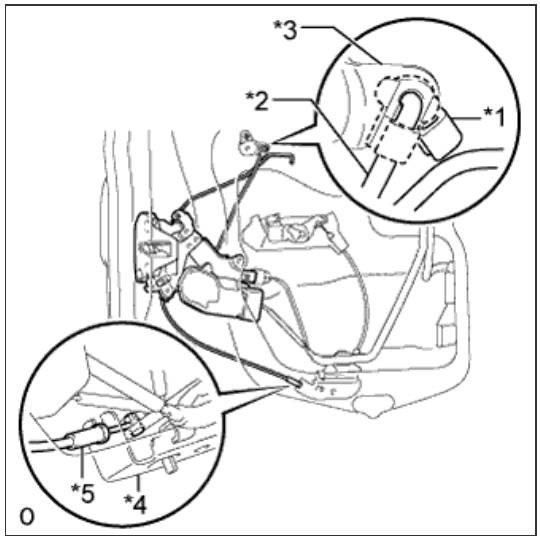


d. Connect the back door lock cable assembly to the back door remote control assembly.

e. Connect the back door lock locking link to the back door lock control assembly and rotate the snap as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Snap |
| *2 | Back Door Lock Locking Link |
| *3 | Back Door Lock Control Assembly |
| *4 | Back Door Remote Control Assembly |
| *5 | Back Door Lock Cable Assembly |




## 2. INSTALL BACK DOOR SERVICE HOLE COVER LH

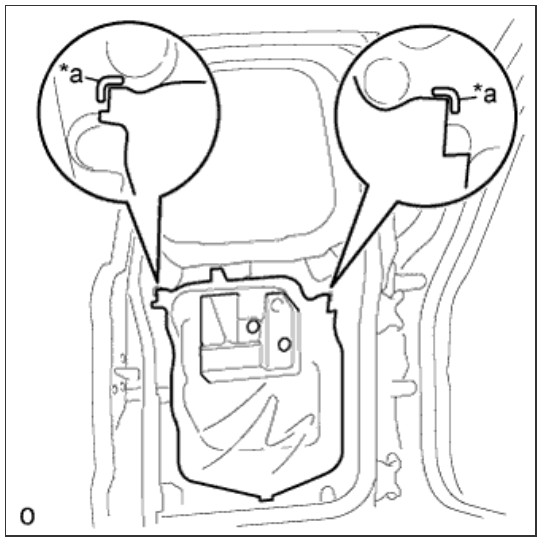
a. Apply new butyl tape to the back door panel.

b. Pass the 2 links and wire harness through a new back door service hole cover, and then install the back door service hole cover using the reference points on the back door panel.

**Text in Illustration**

| | |
|---|---|
| *a | Reference Point |

c. Attach the 3 clamps and connect the 2 connectors.

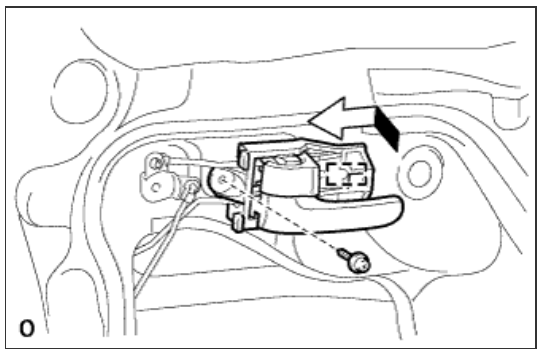



### 3. INSTALL BACK DOOR INSIDE HANDLE ASSEMBLY LH

a. Connect the 2 links to the back door inside handle.

b. Attach the guide in the direction indicated by the arrow in the illustration to install the back door inside handle.

c. Install the screw.



### 4. INSTALL REAR ASSIST GRIP REINFORCEMENT LH

a. Install the rear assist grip reinforcement with the 3 bolts.

### 5. INSTALL BACK DOOR TRIM PANEL ASSEMBLY LH

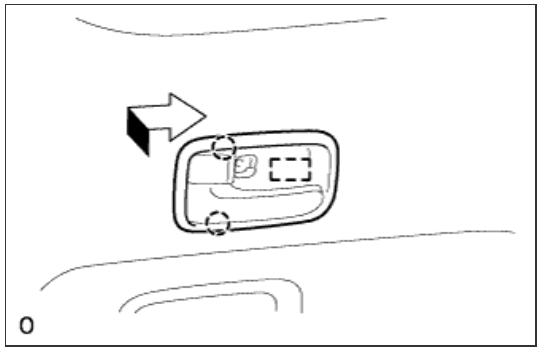
a. Attach the 10 clips to install the back door trim panel.

### 6. INSTALL DOOR INSIDE HANDLE BEZEL LH

a. Attach the guide in the direction indicated by the arrow in the illustration, and then attach the 2 claws to install the door inside handle bezel.

b. Install the screw.

c. Attach the claw to close the cover.



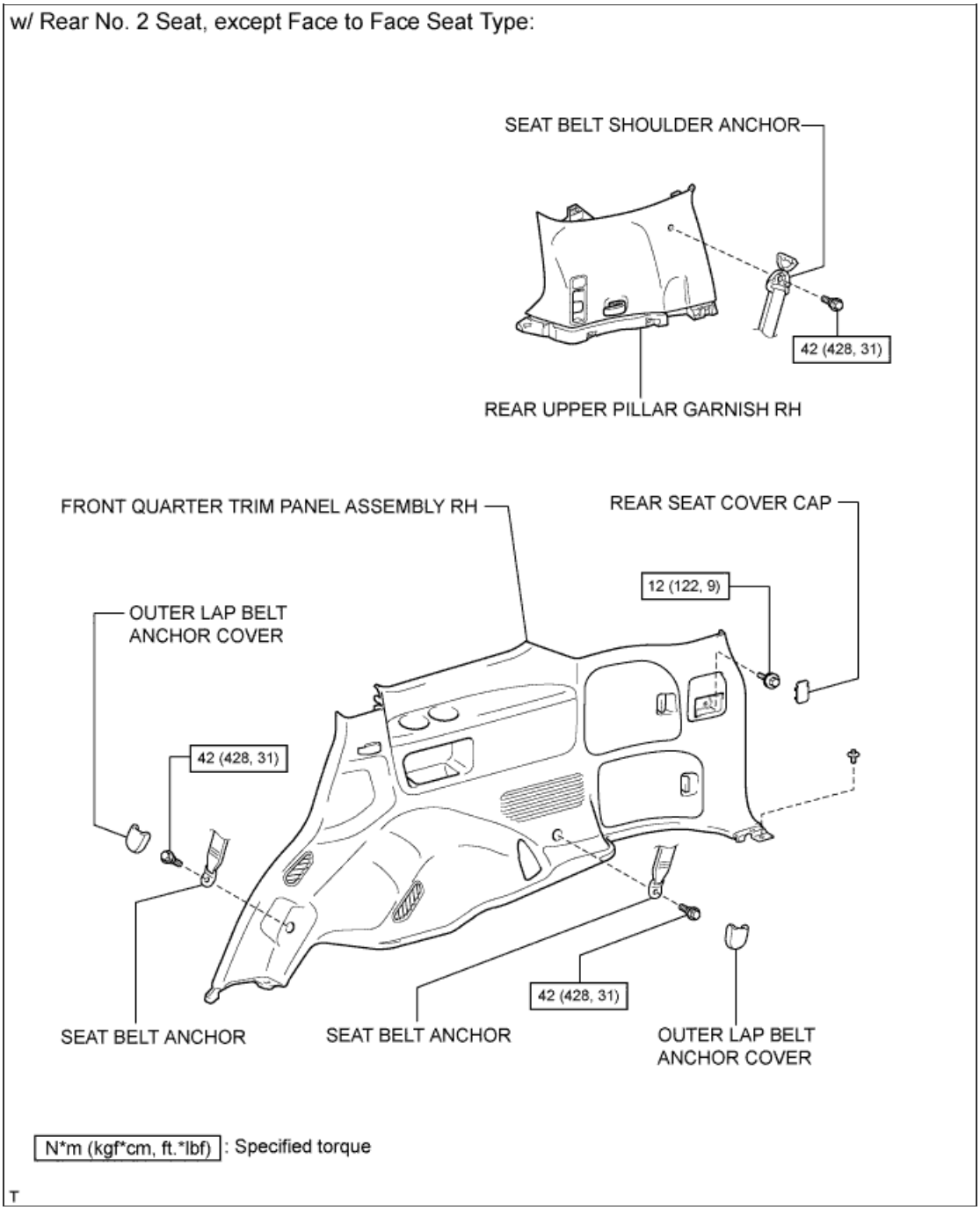
### 7. INSTALL ASSIST GRIP LH

a. Install the assist grip with the 2 bolts.

b. Attach the 2 claws to close the 2 covers.

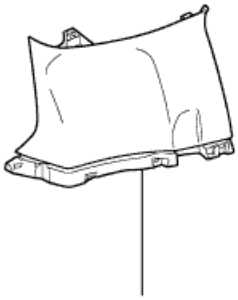
**for Preparation** Click here

w/ Rear No. 2 Seat, except Face to Face Seat Type:

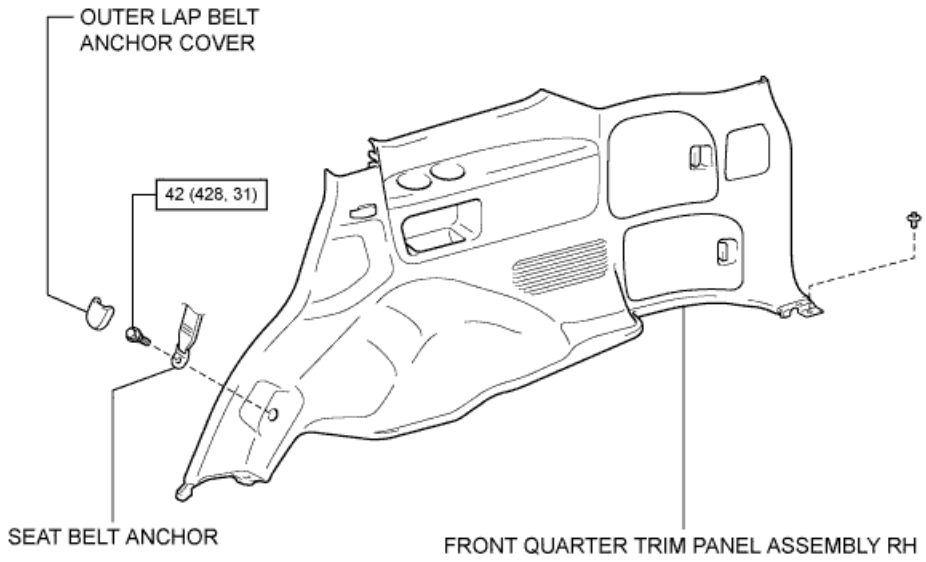


w/ Rear No. 2 Seat, for Face to Face Seat Type:

w/o Rear No. 2 Seat:

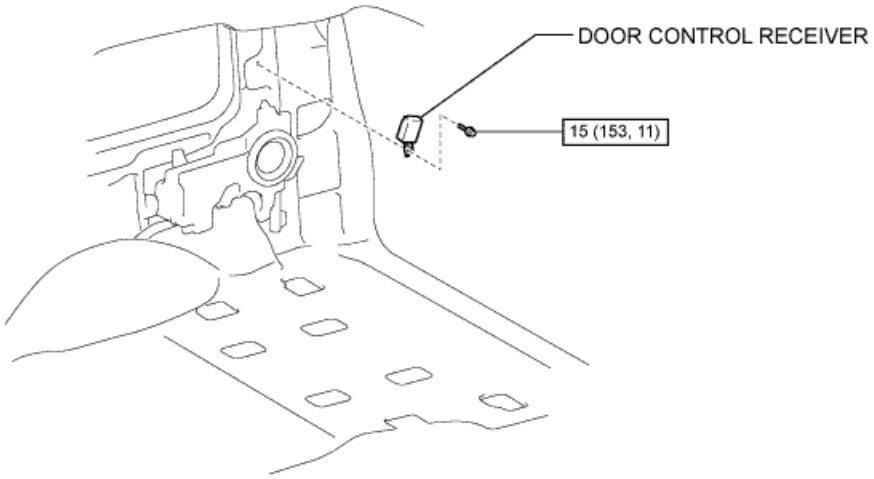


REAR UPPER PILLAR GARNISH RH




N*m (kgf*cm, ft.*lbf) : Specified torque

T




N*m (kgf*cm, ft.*lbf) : Specified torque

**for Preparation** Click here

### 1. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly RH ( Click here ).

### 2. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

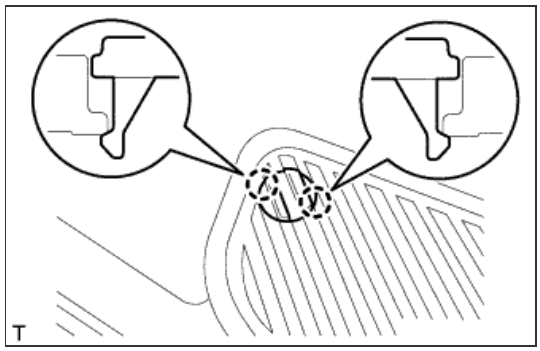
a. Remove the rear No. 2 seat assembly RH ( Click here).

### 3. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

a. Detach the 2 claws and remove the step cover.



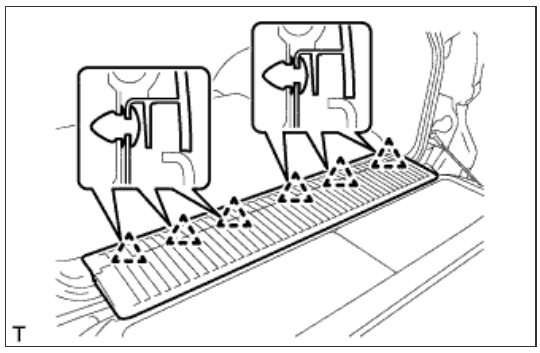

### 4. REMOVE REAR DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

### 5. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.

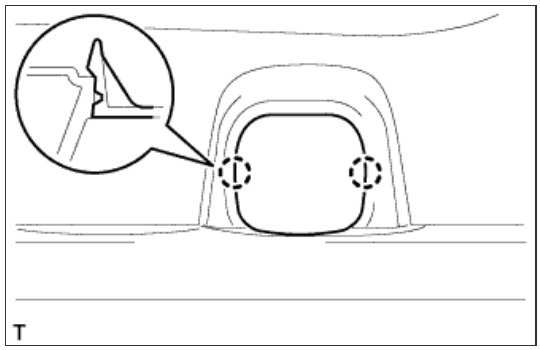



### 6. REMOVE NO. 1 TONNEAU COVER HOLDER CAP (w/ Tonneau Cover)

**HINT:**

Use the same procedure to remove the tonneau cover holder cap on the other side.

a. Detach the 2 claws and remove the tonneau cover holder cap.




### 7. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

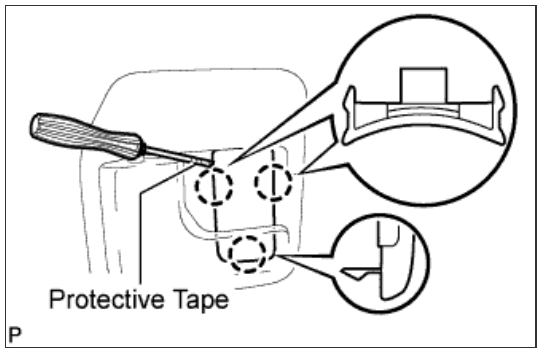
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

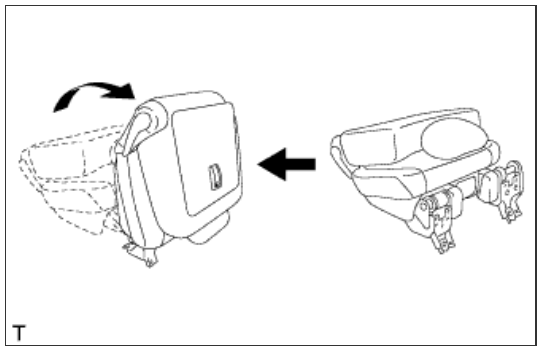
Tape the screwdriver tip before use.



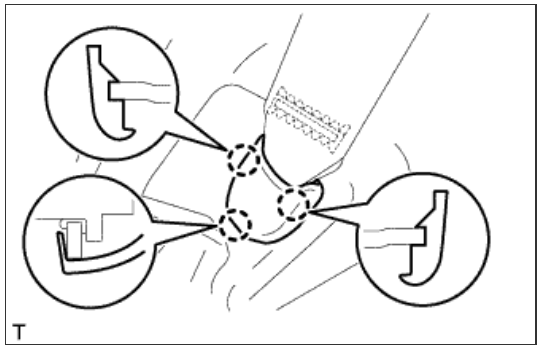

### 8. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

**HINT:**

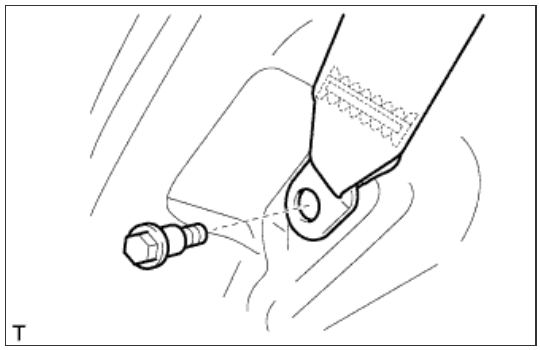
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. Detach the 3 claws and remove the cover.

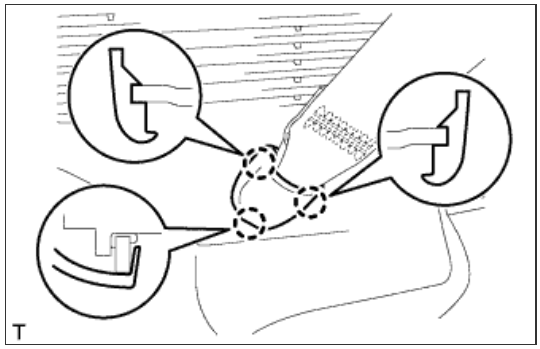



b. Remove the bolt and rear No. 1 seat belt anchor.

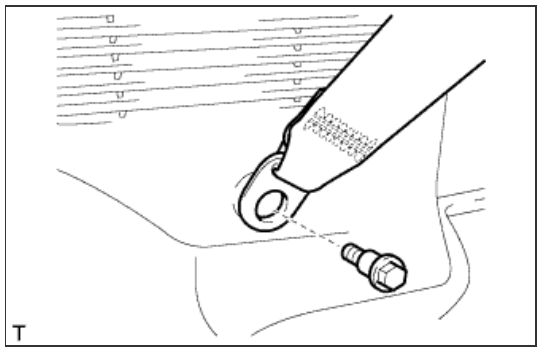



c. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Detach the 3 claws and remove the cover.




ii. Remove the bolt and rear No. 2 seat belt anchor.



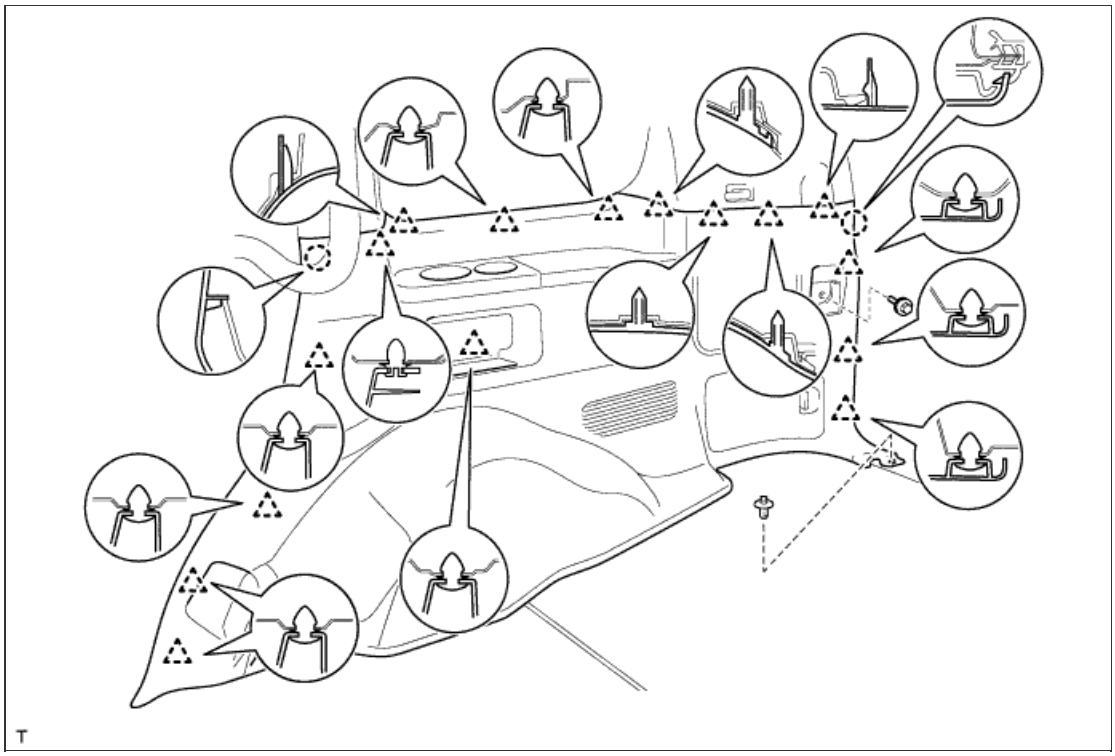

d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Remove the clip and bolt.

ii. Detach the 16 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

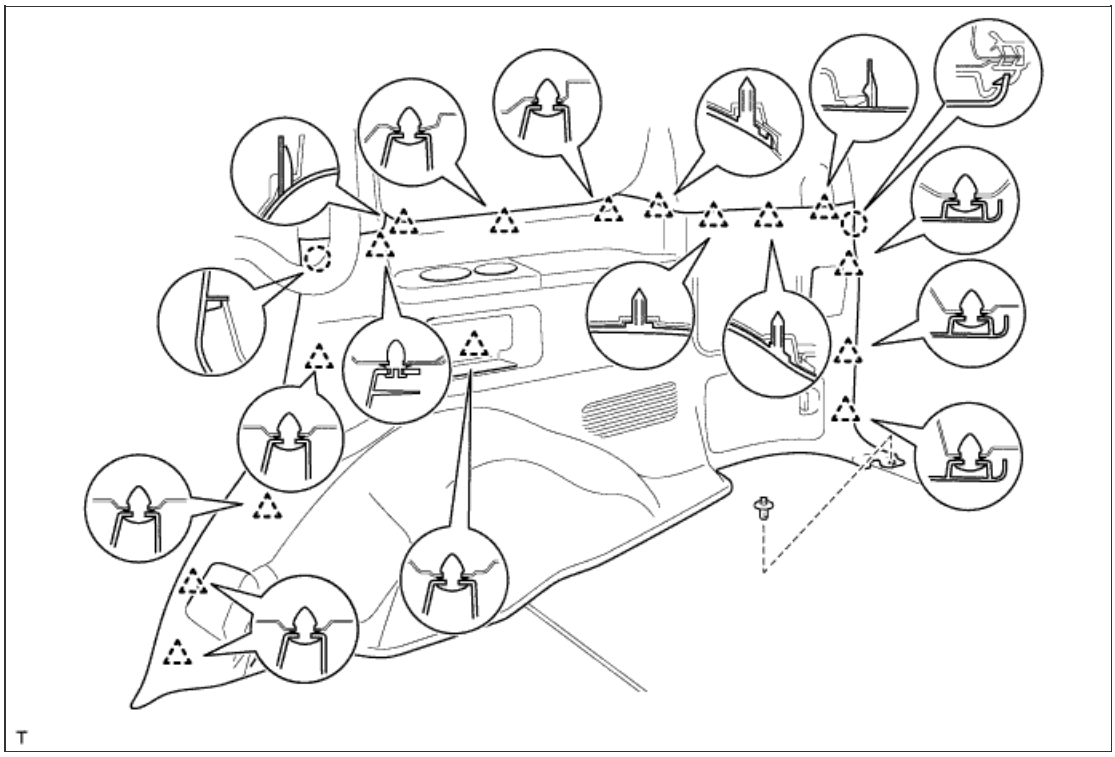
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.




e. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

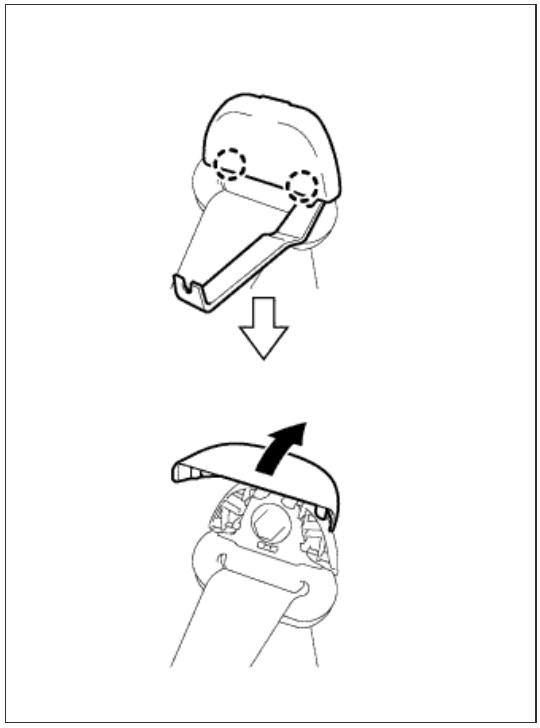
i. Remove the clip.

ii. Detach the 16 clips and 2 claws, and remove the quarter trim panel.

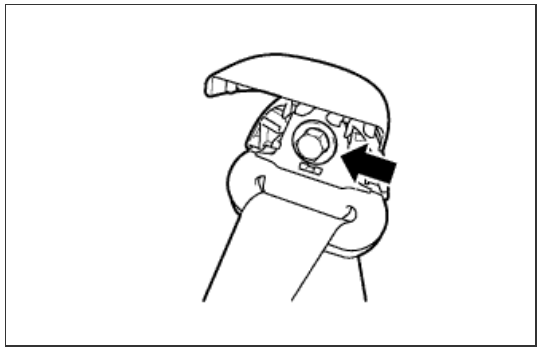



**9. REMOVE REAR UPPER PILLAR GARNISH RH**

a. Using a moulding remover, detach the 2 claws and open the seat belt shoulder anchor cover.

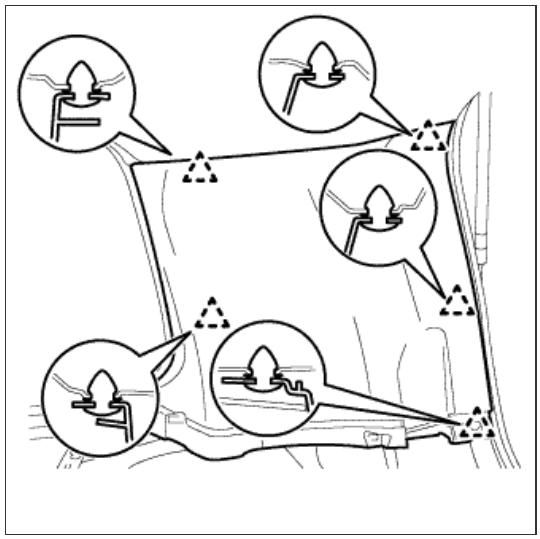


b. Remove the bolt and seat belt shoulder anchor.



c. w/o Power Back Door:

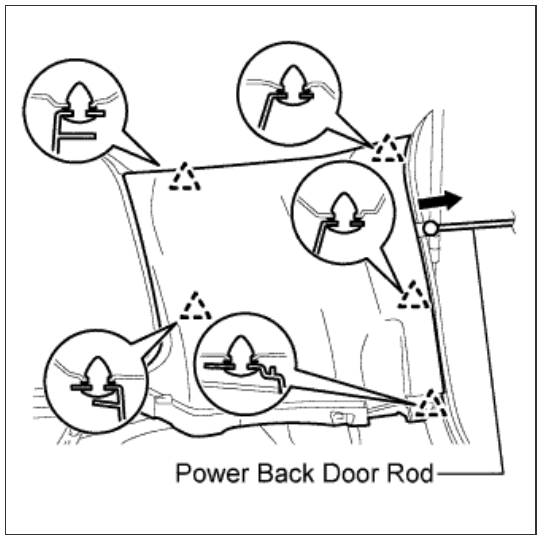
i. Detach the 5 clips and remove the rear upper pillar garnish.



d. w/ Power Back Door:

i. Detach the 5 clips.

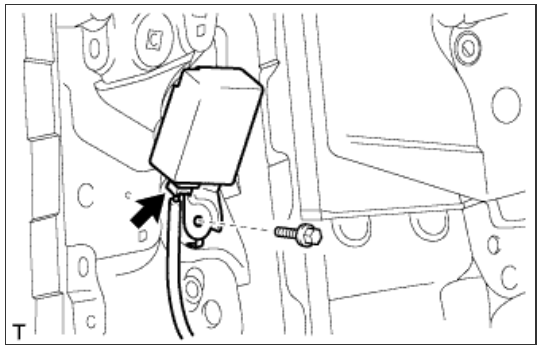
ii. Pass the power back door rod through the rear upper pillar garnish, and remove the rear upper pillar garnish.




### 10. REMOVE DOOR CONTROL RECEIVER

a. Disconnect the connector.

b. Remove the bolt and receiver.



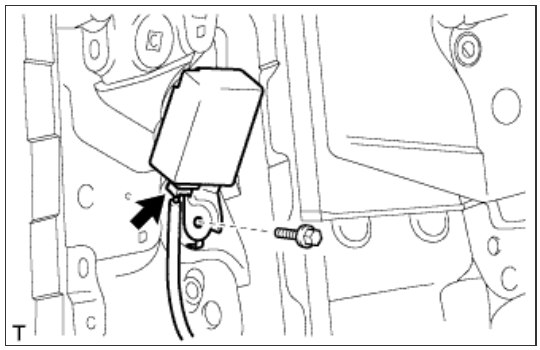
**for Preparation** Click here

## 1. INSTALL DOOR CONTROL RECEIVER

a. Install the receiver with the bolt.

**Torque:**
**15 N*m{ 153 kgf*cm , 11 ft.*lbf }**

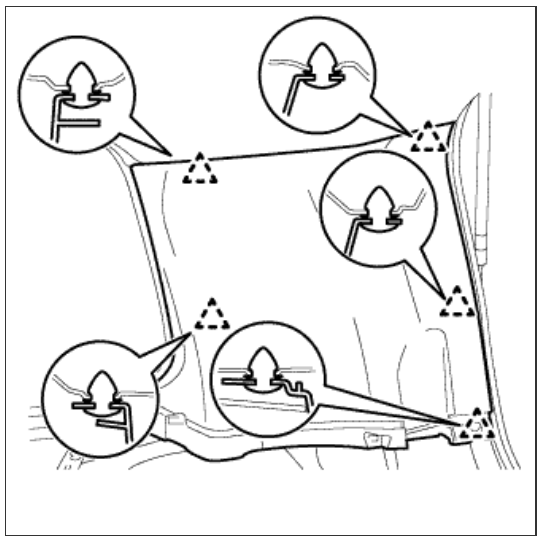
b. Connect the connector.




## 2. INSTALL REAR UPPER PILLAR GARNISH RH

a. w/o Power Back Door:

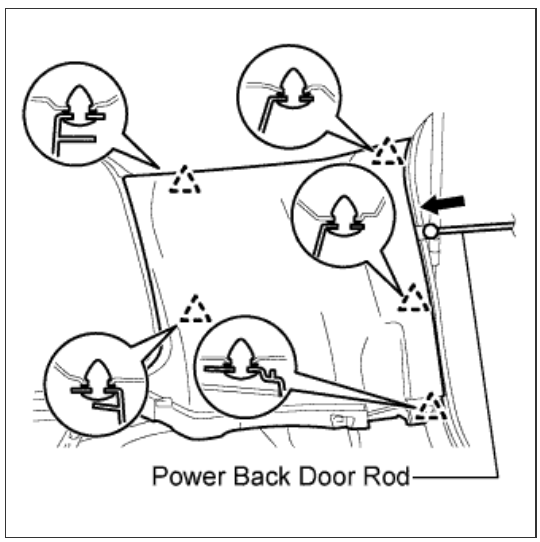
i. Attach the 5 clips to install the rear upper pillar garnish.



b. w/ Power Back Door:

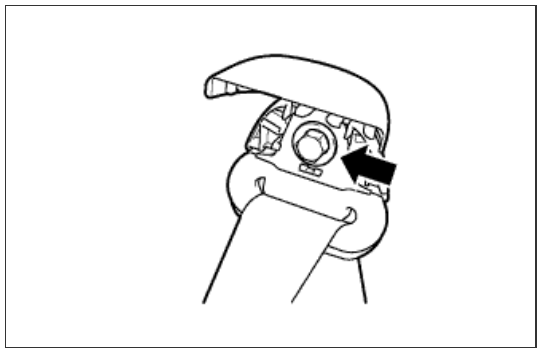
i. Pass the power back door rod through the rear upper pillar garnish.

ii. Attach the 5 clips to install the rear upper pillar garnish.




c. Install the seat belt shoulder anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**



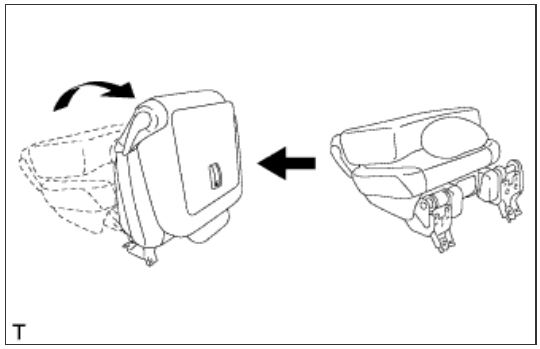
d. Attach the 2 claws to close the seat belt shoulder anchor cover.



## 3. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

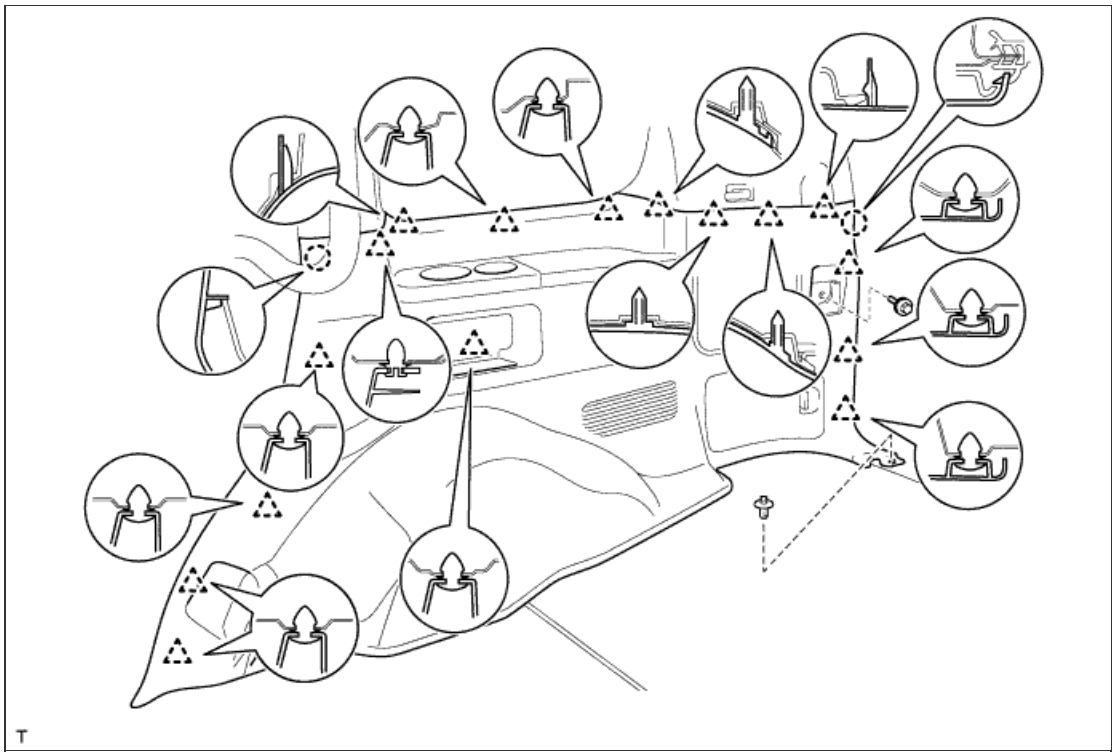
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 16 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

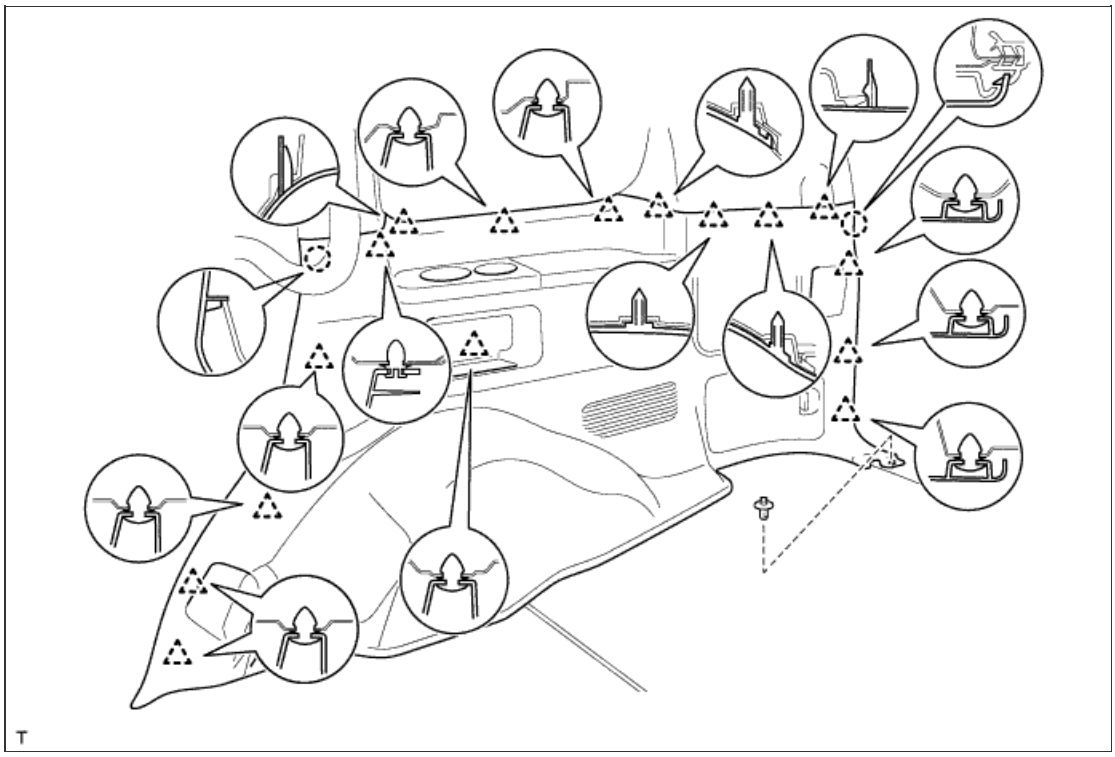
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 16 clips and 2 claws to install the quarter trim panel.

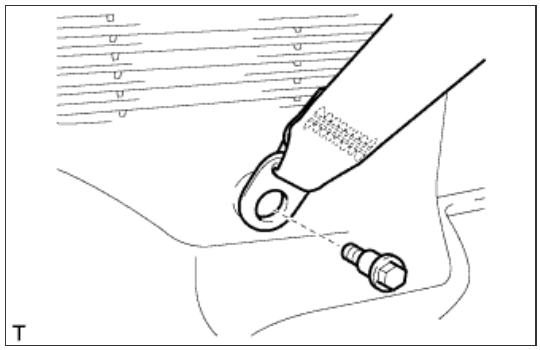
ii. Install the clip.



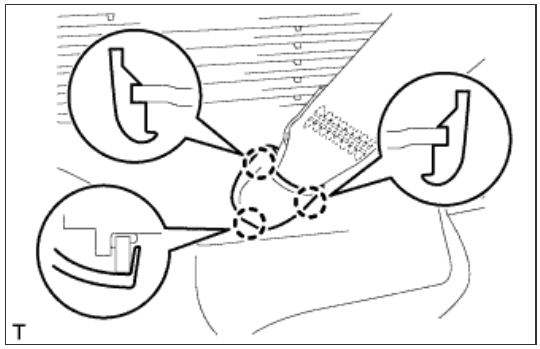

c. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

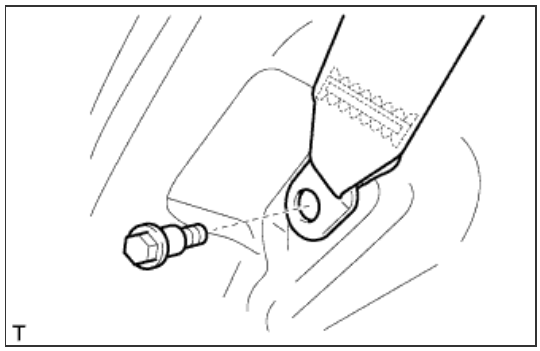



ii. Attach the 3 claws to install the cover.

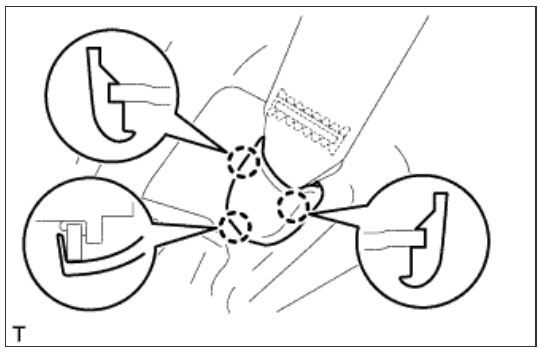



d. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




e. Attach the 3 claws to install the cover.

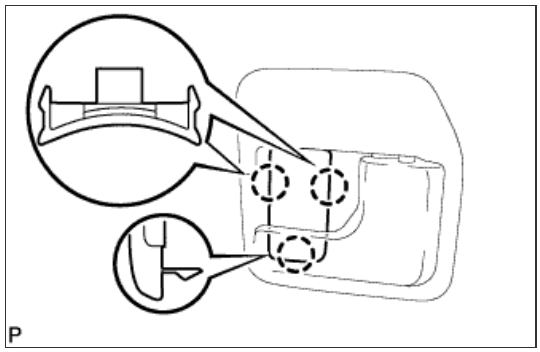



## 4. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.

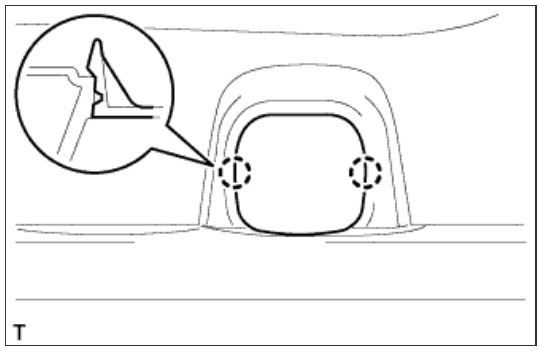



### 5. INSTALL NO. 1 TONNEAU COVER HOLDER CAP (w/ Tonneau Cover)

**HINT:**

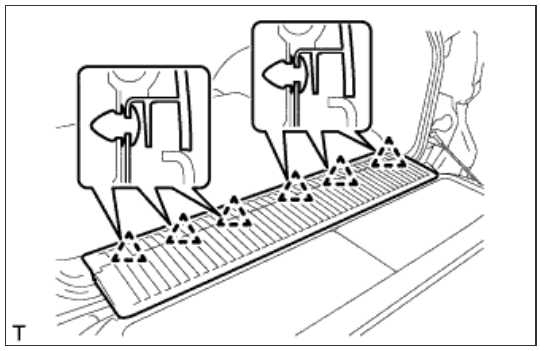
Use the same procedure to install the tonneau cover holder cap on the other side.

a. Attach the 2 claws to install the tonneau cover holder cap.




### 6. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. Attach the 6 clips to install the support plate.




### 7. INSTALL REAR DOOR SCUFF PLATE RH

**HINT:**

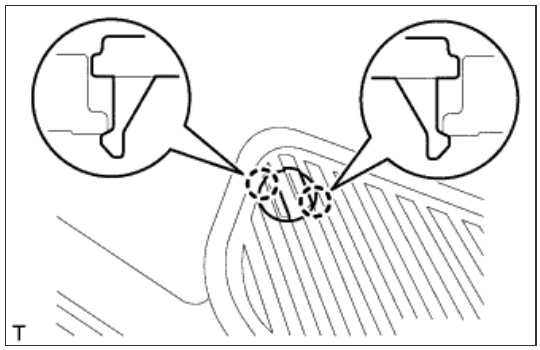
Use the same procedures described for the LH side.

### 8. INSTALL REAR STEP COVER

**HINT:**

Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.



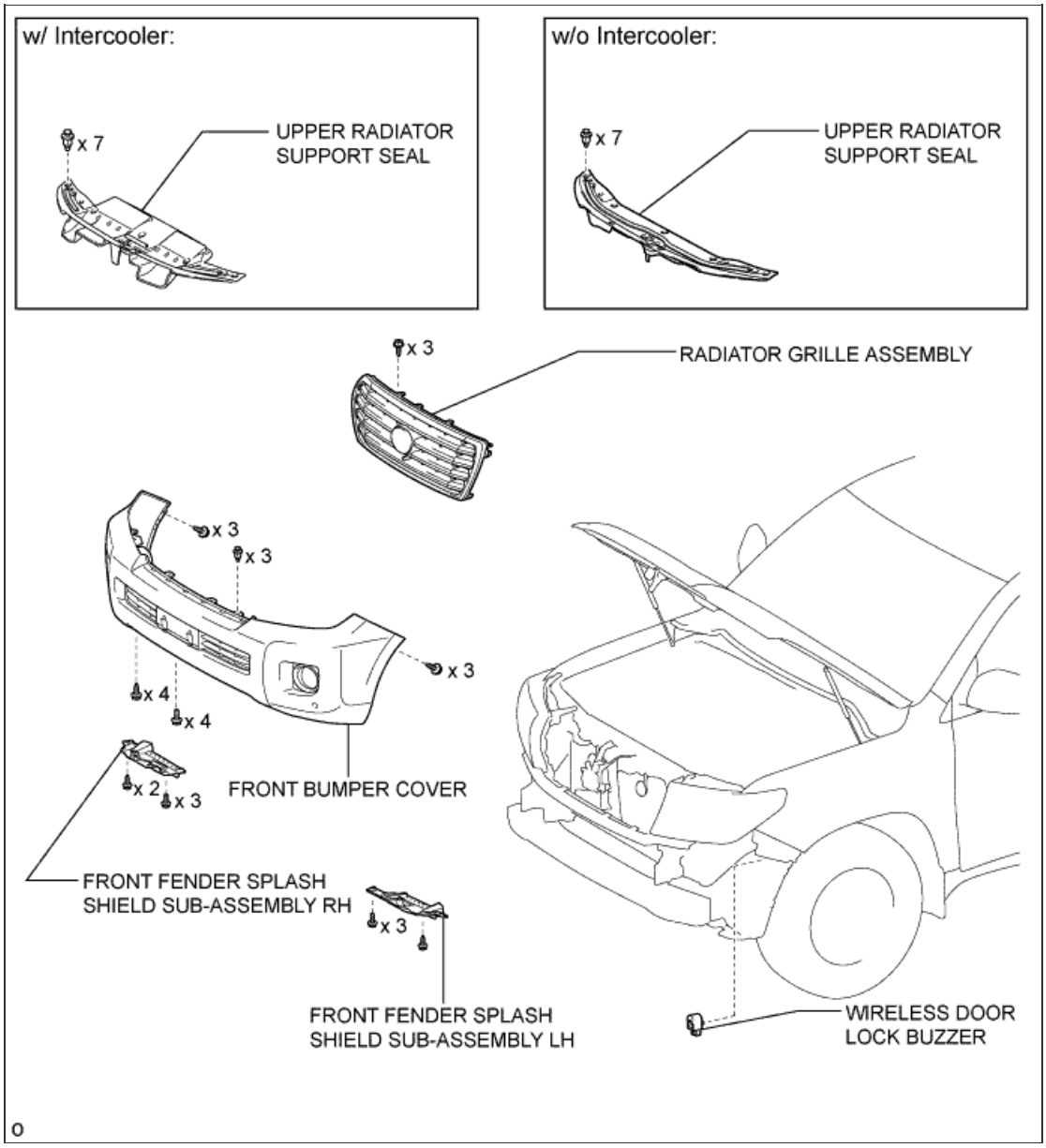

### 9. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

a. Install the rear No. 2 seat assembly RH ( Click here).

### 10. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

a. Install the rear No. 2 seat assembly RH ( Click here).

**for Preparation** Click here



**for Preparation** Click here

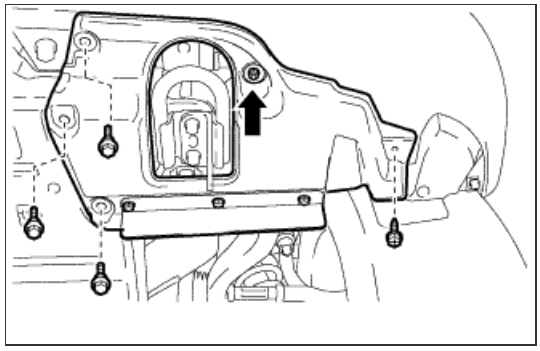
**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. Remove the 3 bolts and screw.

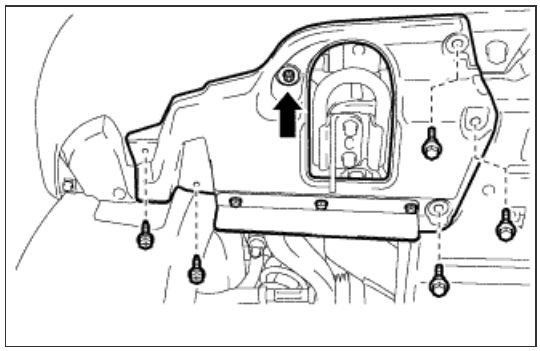
b. Turn the clip indicated by the arrow in the illustration to remove the front fender splash shield sub-assembly LH.



## 2. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

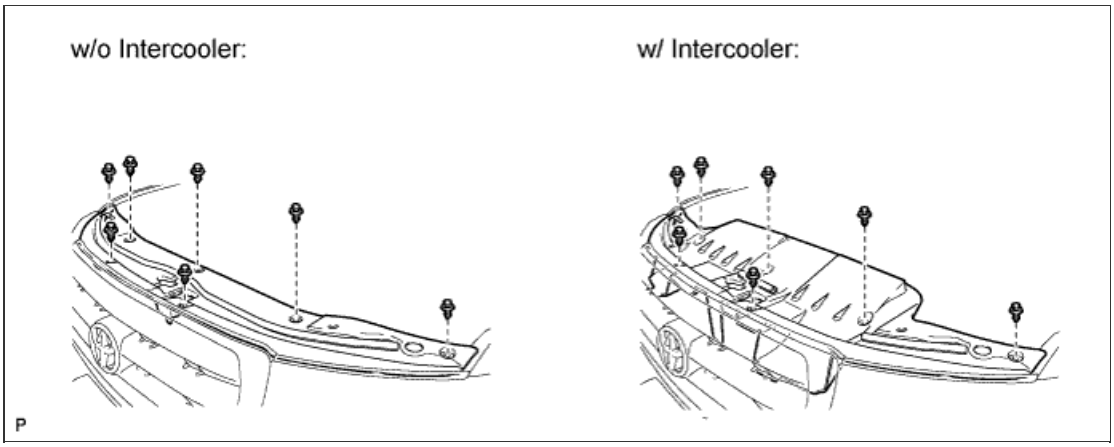
a. Remove the 3 bolts and 2 screws.

b. Turn the clip indicated by the arrow in the illustration to remove the front fender splash shield sub-assembly RH.



## 3. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 4. REMOVE RADIATOR GRILLE ASSEMBLY

a. Put protective tape around the radiator grille assembly.

**Text in Illustration**

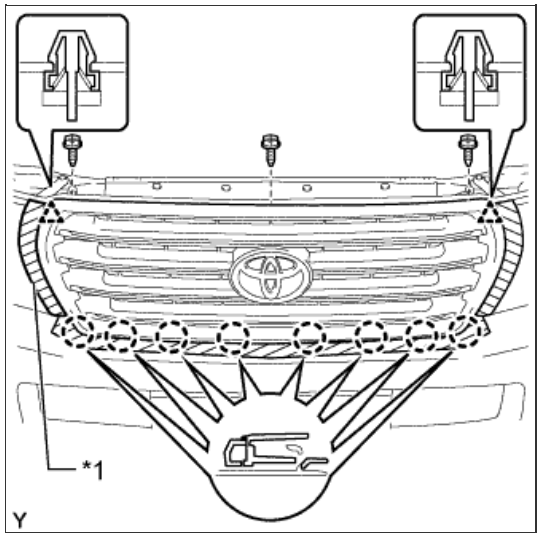
| | |
|---|---|
| *1 | Protective Tape |

b. Remove the 3 screws.

c. Detach the 2 clips and 8 claws, and remove the radiator grille assembly.

d. w/ Wide View Front Monitor System:

i. Disconnect the connector.

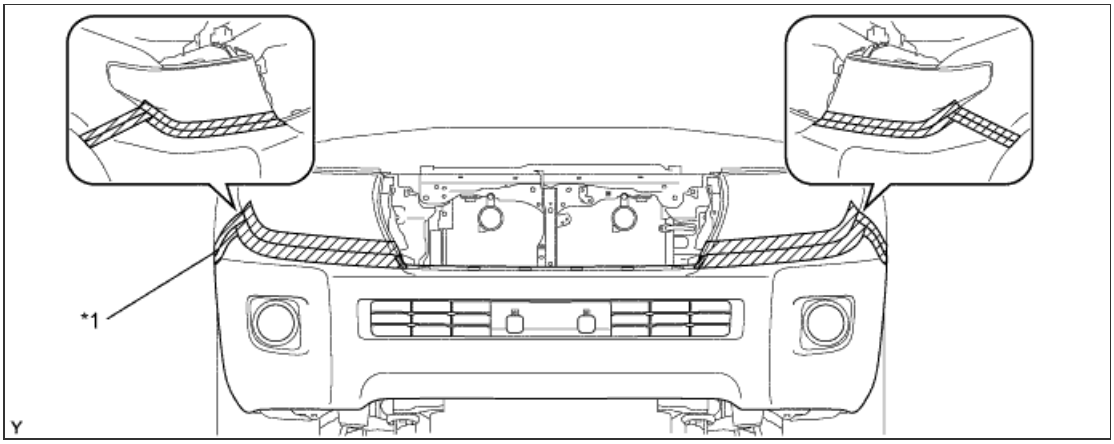



## 5. REMOVE FRONT BUMPER COVER

**HINT:**

For the front bumper cover with garnish, use the procedure described below.

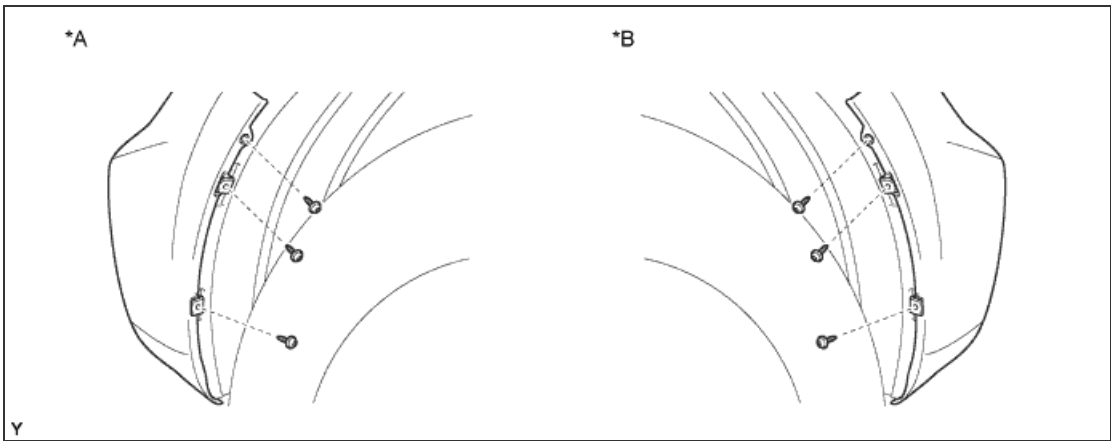
a. Put protective tape around the front bumper cover.



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Protective Tape | - | - |

b. Using a T30 "TORX" socket, remove the 6 screws.

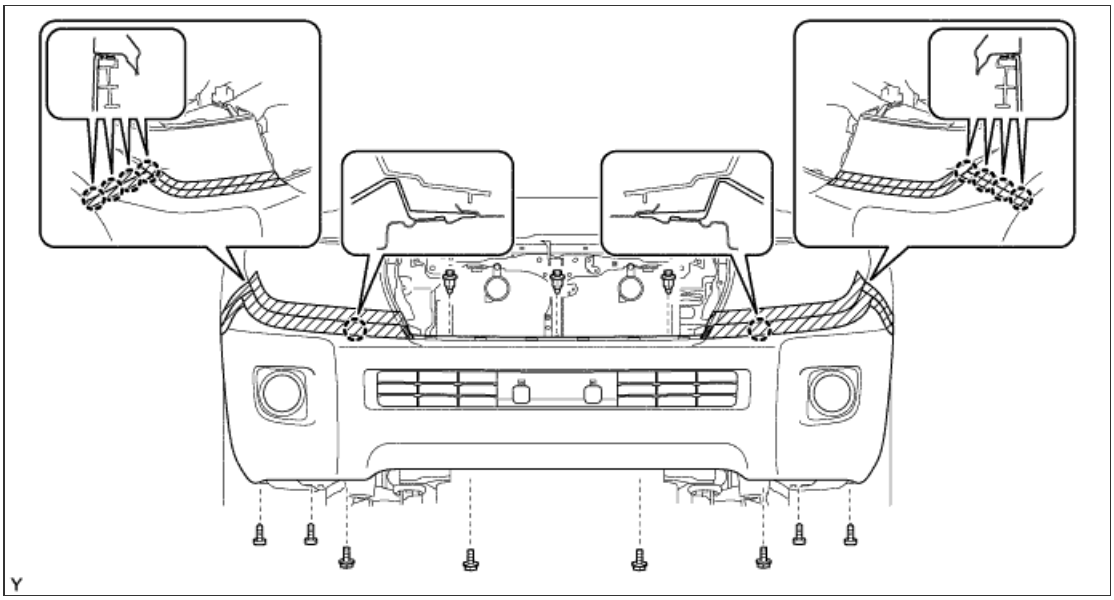



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | LH Side | *B | RH Side |

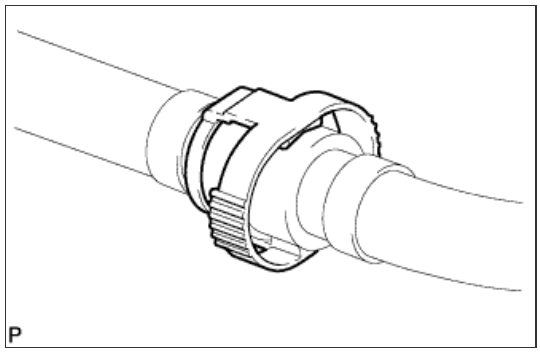
c. Remove the 3 clips, 4 screws and 4 bolts.

d. Detach the 10 claws and remove the front bumper cover.




e. w/ TOYOTA Parking Assist-sensor System or w/ Fog Light:
Disconnect the No. 4 engine room wire connector and remove the front bumper cover.

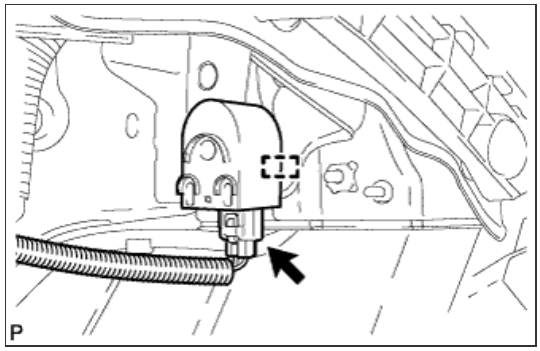
f. w/ Headlight Cleaner System:
Disconnect the headlight cleaner hose and remove the front bumper cover.




## 6. REMOVE WIRELESS DOOR LOCK BUZZER

a. Disconnect the connector.

b. Detach the clamp and remove the buzzer.



**for Preparation** Click here

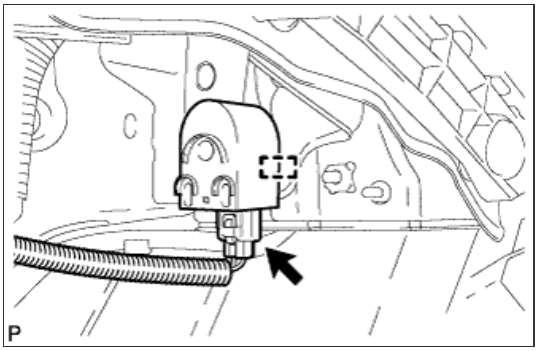
**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. INSTALL WIRELESS DOOR LOCK BUZZER

a. Connect the connector.

b. Attach the clamp to install the buzzer.




## 2. INSTALL FRONT BUMPER COVER

**HINT:**

For the front bumper cover with garnish, use the procedure described below.

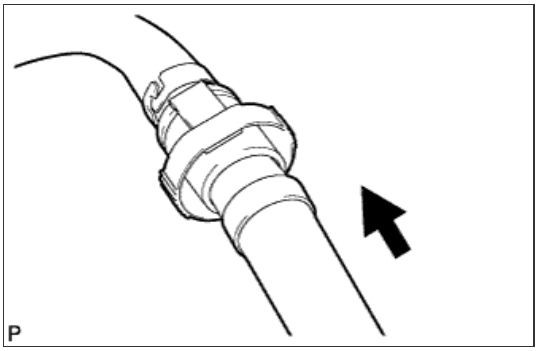
a. w/ Headlight Cleaner System:
Connect the headlight cleaner hose.

b. w/ TOYOTA Parking Assist-sensor System or w/ Fog Light:
Connect the No. 4 engine room wire connector.

c. Attach the 10 claws to install the front bumper cover.

d. Install the 3 clips, 4 screws and 4 bolts.

e. Using a T30 "TORX" socket, install the 6 screws.




## 3. INSTALL RADIATOR GRILLE ASSEMBLY

a. w/ Wide View Front Monitor System:

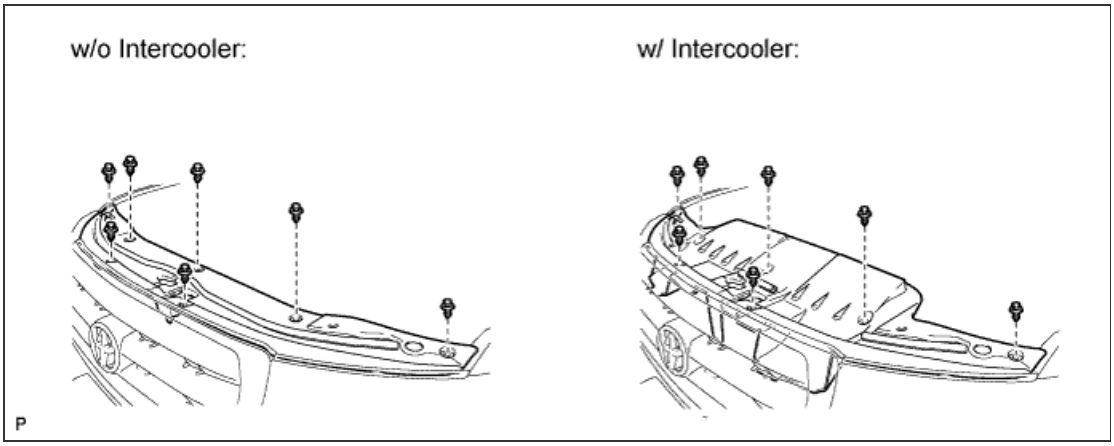
i. Connect the connector.

b. Attach the 2 clips and 8 claws to install the radiator grille assembly.

c. Install the 3 screws.

## 4. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.




### 5. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. Push in the clip to install the front fender splash shield sub-assembly LH.

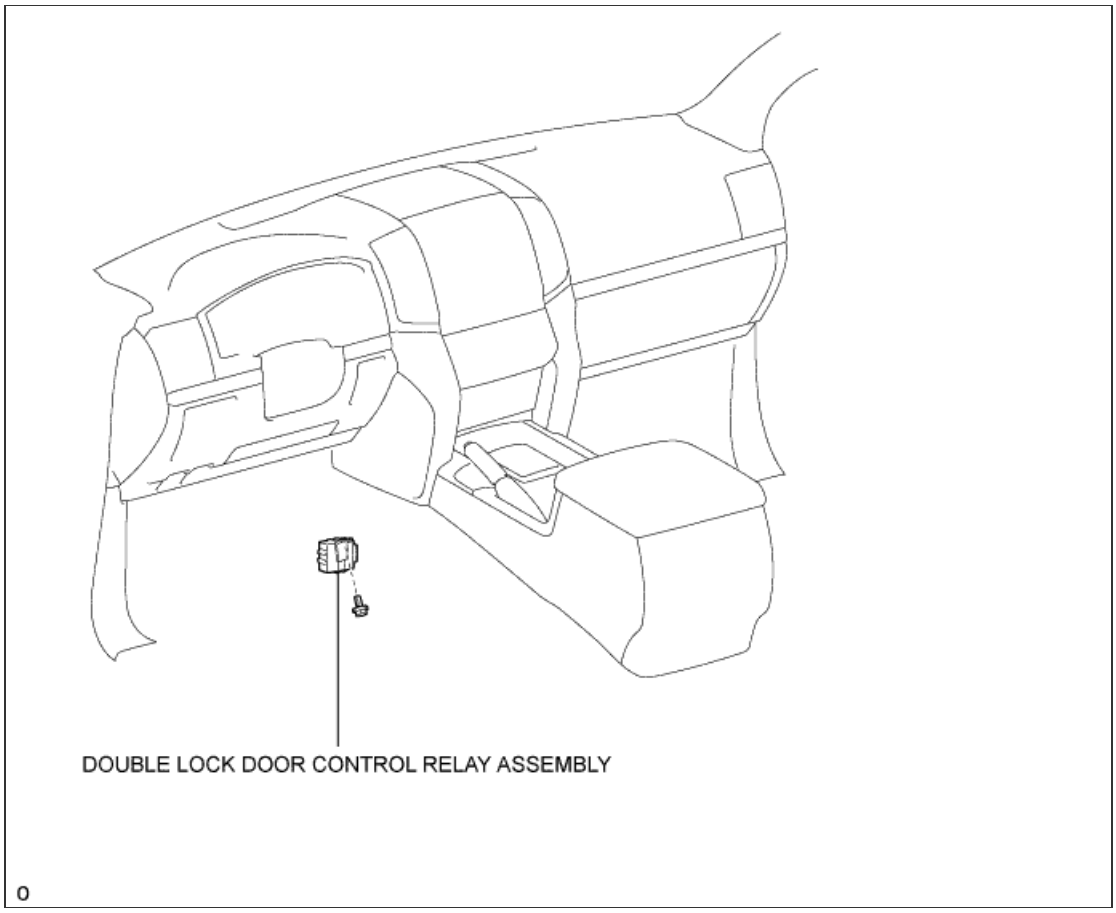
b. Install the 3 bolts and screw.

### 6. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

a. Push in the clip to install the front fender splash shield sub-assembly RH.

b. Install the 3 bolts and 2 screws.

**for Preparation** Click here



**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE STEERING COLUMN ASSEMBLY (for Manual Tilt and Manual Telescopic Steering Column)

(Click here)

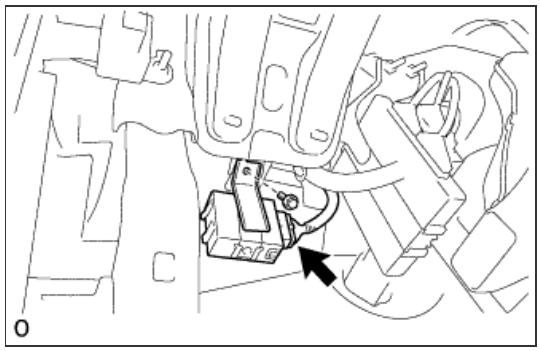
## 4. REMOVE STEERING COLUMN ASSEMBLY (for Power Tilt and Power Telescopic Steering Column)

(Click here)

## 5. REMOVE DOUBLE LOCK DOOR CONTROL RELAY ASSEMBLY

a. Disconnect the connector.

b. Remove the bolt and double lock door control relay assembly.



**for Preparation** Click here

**HINT:**

A bolt without a torque specification is shown in the standard bolt chart ( Click here).

## 1. INSTALL DOUBLE LOCK DOOR CONTROL RELAY ASSEMBLY

a. Install the double door lock control relay assembly with the bolt.

b. Connect the connector.

## 2. INSTALL STEERING COLUMN ASSEMBLY (for Manual Tilt and Manual Telescopic Steering Column)

(Click here)

## 3. INSTALL STEERING COLUMN ASSEMBLY (for Power Tilt and Power Telescopic Steering Column)

(Click here)

## 4. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

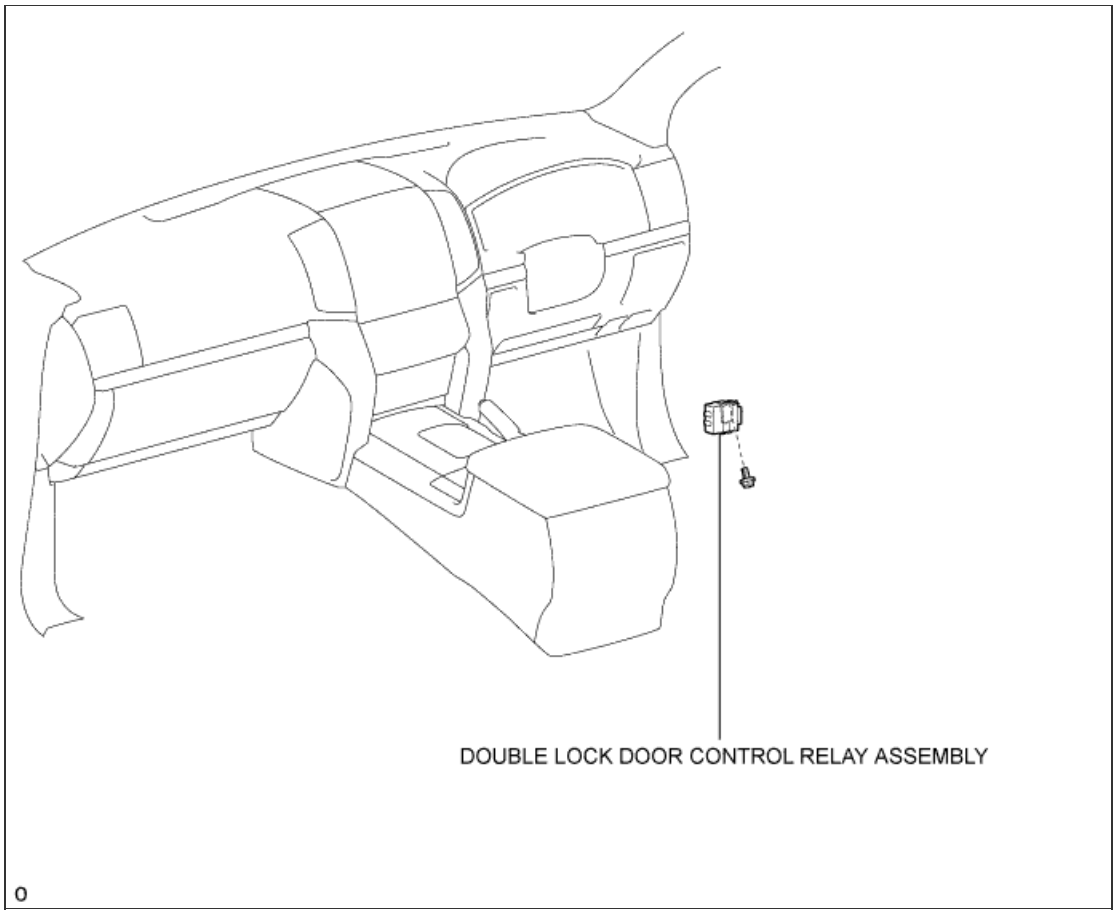
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 5. CHECK SRS WARNING LIGHT

(Click here)

**for Preparation** Click here



# DOOR CONTROL RELAY (for RHD) > REMOVAL

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE STEERING COLUMN ASSEMBLY (for Manual Tilt and Manual Telescopic Steering Column)

(Click here)

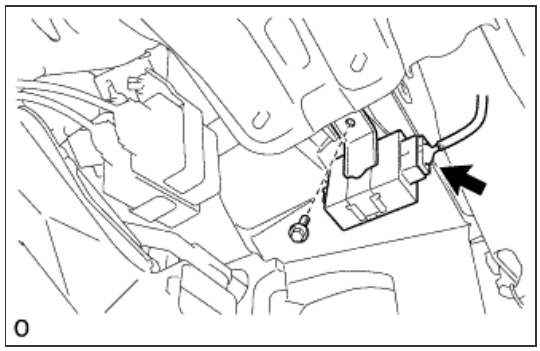
## 4. REMOVE STEERING COLUMN ASSEMBLY (for Power Tilt and Power Telescopic Steering Column)

(Click here)

## 5. REMOVE DOUBLE LOCK DOOR CONTROL RELAY ASSEMBLY

a. Disconnect the connector.

b. Remove the bolt and double lock door control relay assembly.



**for Preparation** Click here

**HINT:**

A bolt without a torque specification is shown in the standard bolt chart ( Click here).

## 1. INSTALL DOUBLE LOCK DOOR CONTROL RELAY ASSEMBLY

a. Install the double lock door control relay assembly with the bolt.

b. Connect the connector.

## 2. INSTALL STEERING COLUMN ASSEMBLY (for Manual Tilt and Manual Telescopic Steering Column)

(Click here)

## 3. INSTALL STEERING COLUMN ASSEMBLY (for Power Tilt and Power Telescopic Steering Column)

(Click here)

## 4. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 5. CHECK SRS WARNING LIGHT

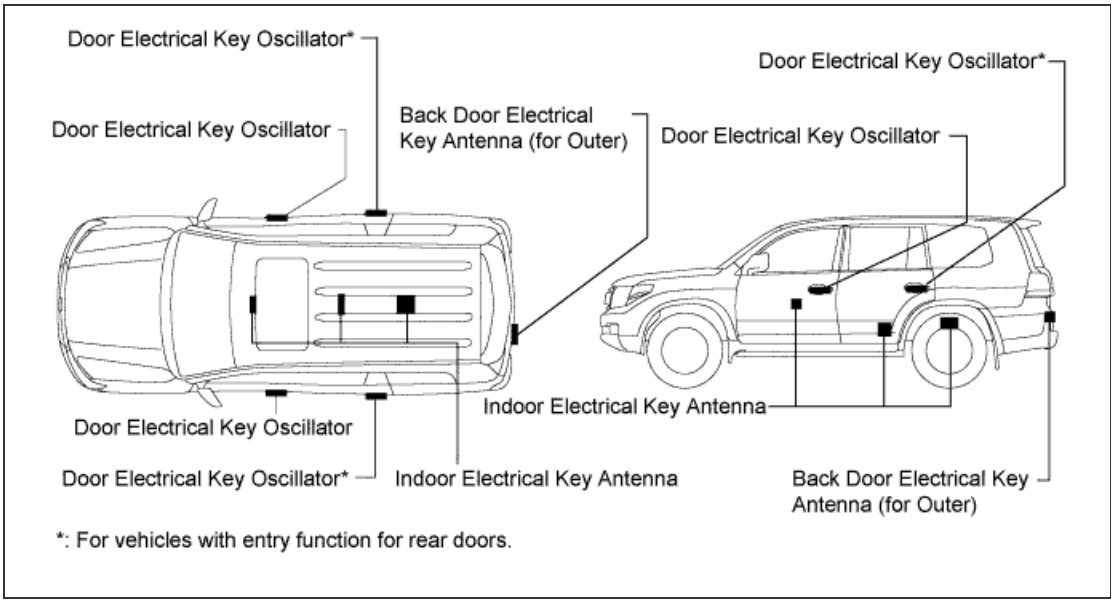
(Click here)

**for Preparation** Click here

## 1.PRECAUTIONS FOR USERS WITH PACEMAKERS

a. Weak electric waves are emitted from the key. If a pacemaker is being used, read the pacemaker instruction manual before using the entry and start system.

- If implanted pacemakers or cardioverter defibrillators are being used, make sure they are not brought near the electrical key antenna and electrical key oscillator. The electric waves may affect them.
- If electric devices (for medical purposes) other than an implantable pacemaker or implantable cardioverter defibrillator are used, confirm with the manufacturer if electric waves affect their operation. Electric waves may affect the electric devices.
- The entry and start system can be set so that it does not operate. Refer to Key Cancel for more information ( Click here).




## 2.PRECAUTIONS FOR ENTRY AND START SYSTEM AND KEY

a. The entry and start system does not operate in the following situations. If it does not operate at all, check that the following is not the cause.

i. The key cancel operation has been performed.

ii. There is no key battery.
(Key indicator does not blink when key switches are pressed).

b. The key must be in the possession of the user.
(A requirement of the entry and start system. This is to make sure the user maintains a habit of carrying the key).

c. As the key only emits weak electric waves, if any of the following conditions are met, the detection area of the key may become smaller or the key may become undetectable.

i. The battery is depleted.

ii. There are TV towers, electric power plants, broadcasting stations, gas stations or other areas of strong electric wave output nearby.

iii. Wireless products such as cell phones, etc. are carried with the key.

iv. The key is covered by or in contact with metal.

v. Electric wave type keyless entry systems are being operated nearby.

vi. The key is placed near high-voltage, electric noise emitting equipment.

vii. Film with some metallic content is stuck to the back glass.

**HINT:**

In this case, remove the cause or unlock the door using the mechanical key.

d. Even if the key is in the vehicle exterior key detection area, the key may not operate properly due to the vehicle body design.

e. Even if the key is in the vehicle exterior key detection area, the key may not be properly detected if the key is near a window, a door handle or the center of a bumper.

f. Even if the key is in the vehicle interior key detection area, the key may not be properly detected if the key is on the instrument panel, on the rear tray, in the glove box or on the floor.

g. Depending on the way the key is held, the key may not operate properly.

## 3.PRECAUTIONS WHEN USING INTELLIGENT TESTER

a. When troubleshooting the entry and start system using the intelligent tester with the engine switch off, connect the intelligent tester to the vehicle and turn any of the courtesy light switches on and off until communication between the intelligent tester and the vehicle begins (the interval between on and off should be less than 1.5 seconds).
(The reason the above procedure is necessary is that when the engine switch is off, the main body ECU may be in sleep mode. When the main body ECU is in sleep mode, communication with the intelligent tester is not possible).

b. After DTCs are all cleared, check if the trouble occurs again 6 seconds after the engine switch is turned on (IG).

## 4.PRECAUTIONS FOR EACH FUNCTION

a. Precautions for the key:
The key is a precision instrument. Be sure to observe the following:

i. Do not drop or strike the key.

ii. Do not keep the key in a high temperature area for a long time.

iii. Do not use an ultrasonic washing machine to clean the key.

iv. Keep the key away from magnets or magnetized items during use.

v. Do not attach any stickers to the key.

vi. If a key is lost, clear all registered key ID codes and then reregister the remaining keys.

b. Precautions for the entry unlock function:

i. As the sensor is built into the backside of the outside door handle, the user must touch the backside part of the handle when performing the unlock function.

ii. If the sensor is touched with gloved hands, the response of the door may be delayed.

iii. During the entry unlock operation, if the door handle is pulled before the door unlocks, the unlock function cannot be completed. Confirm that the door has been unlocked before pulling the door handle to open the door.

iv. Make sure that the doors are unlocked when touching the touch sensor on the outside door handle while the key is being carried. If the doors cannot be unlocked, the certification ECU (smart key ECU assembly) orders the main body ECU to perform the door unlock operation 4 times at intervals of 0.75 seconds.
At this time, the door may not be unlocked because the handle is being pulled due to some mechanical reasons.
Be sure to return the door handle to its original position.
If the door cannot be opened by pulling the handle, perform the entry unlock operation again.

v. If the key is too close to the oscillator on the outside of the vehicle, the door may not be unlocked because the key cannot react to the strong wave output from the transmitter.

vi. If the key is within the vehicle exterior detection area, the door can be unlocked even when a person other than the person carrying the key holds the door handle.
However, the doors other than the door that the codes match will not be unlocked.
(If the key is within the detection area of the driver side door outside the vehicle, the doors will be unlocked when the person carrying the key holds the driver side door handle. However, if any door handle other than that of the driver side door is held, the doors will not be unlocked).

vii. If a door is not opened after the door unlock operation, the doors automatically lock after approximately 30 seconds.

viii. If a large amount of water is applied to the door handle due to a car wash or heavy rain, the key being within the vehicle exterior detection area may cause the doors to be unlocked.
However, the doors will be locked again after approximately 30 seconds if a door is not opened.

ix. If the key of the entry and start system is used while it is being carried with the key of another entry and start system, the time before the entry unlock operation will become more than usual. This is not a malfunction.

c. Precautions for the entry lock function:

i. When performing the entry lock operation, firmly press the lock switch on the outside door handle.
If pressed too quickly or lightly, the entry lock may not operate.

ii. It is possible that signals output from the indoor electrical key antenna may leak through the window. Also, if the key is too close to a door oscillator, the oscillator output signals are too strong and the key cannot respond. As a result, when the key is near the vehicle interior (window, door handle), the entry lock function may not operate. Also, the key reminder warning buzzer may sound and the entry unlock operation may stop functioning. In this situation, move the key away from the vehicle interior (window, door handle), perform the entry lock operation and then perform the entry unlock operation.

iii. Do not touch the lock switch while opening or closing the door.
If the lock switch is pressed when opening or closing the door while the key is being carried, the door ajar warning buzzer sounds (beeps outside the vehicle for 5 seconds).

iv. If the key is on the instrument panel, rear package tray or floor, or in the glove box, the key reminder function may not operate and the key may be locked in the vehicle. Always carry the key.

v. If the key is outside the vehicle but is very close to a window or door handle (the ECU determines that the key is inside the vehicle) and the transmitter or mechanical key is used to lock the doors (entry lock is not used), entry unlock will not operate. To unlock the doors, perform a wireless door unlock operation. The entry lock function operates in this way to prevent the doors from being unlocked by the door oscillator (vehicle exterior) without the knowledge of the user. For example, when a user operates the wireless door lock operation from inside the vehicle, radio waves from a door oscillator may leak into the vehicle interior and the doors may unlock.

vi. To allow the user enough time to check if the doors are locked after performing a door lock operation (entry lock function or wireless door lock operation), the entry unlock function will not be permitted for 3 seconds after the door lock operation.

d. Precautions for the entry ignition function:

i. To start the engine system, first depress the brake pedal firmly until the engine switch indicator illuminates green, and then press the engine switch.
Also, after performing the engine start operation, continue depressing the brake pedal until the engine has completely started.

ii. When operating the engine switch, firmly press the switch. If the switch is pressed too quickly, power source control and engine system starting may not operate.

iii. While the vehicle is being driven normally, operation of the engine switch is disabled. However, if the engine must be stopped in an emergency while the vehicle is being driven, pressing and holding the engine switch for 3 seconds or more or by quickly pressing the engine switch 3 times or more stops the engine and then the power source mode changes from start to on (ACC).
Do not touch the engine switch while driving, except in an emergency.

iv. Do not touch the engine switch with oily hands.

v. If the vehicle has been in a hot location for an extended period of time, be careful when touching the engine switch. It may be very hot and lead to burns.

vi. Take care to avoid spilling beverages on the engine switch. Keep all liquids away from the engine switch.

vii. Do not use the engine switch if it seems to be sticking or feels abnormal.

viii. The vehicle continually records the power source mode (off, on (ACC), on (IG), start). When the battery cable is disconnected and reconnected, the power source mode will return to the mode it was in before disconnecting the battery cable. Always turn the engine switch off before disconnecting the battery cable. When the vehicle battery is fully depleted, power is cut, and the power source mode before the power was cut is unknown, so be extremely careful.

ix. Do not connect any electronic products to the ACC, IG1 or IG2 coil side wiring, as the vehicle power supply may be unable to be turned on, or other problems may occur.

x. When the key battery is depleted and the key is held up to the engine switch to start the engine system, the following warning alarms will sound.

- Driver side door is opened and closed:
  - Shift lever in P power source cut reminder exit warning
  - Shift lever not in P power source cut reminder exit warning
- Door other than driver side door is opened and closed:
  Occupant leaves with key warning

The warning alarms do not indicate an actual malfunction. The alarms sound because the key battery is depleted and the system cannot determine if the key is inside the vehicle or not.

xi. With the engine switch on (ACC), the engine can be started by pressing the engine switch for 15 seconds without depressing the brake pedal.

e. Precautions for back door entry unlock function:
Even if the key is within the back electrical key antenna (for outer) detection area, the back door cannot be opened if the key is in the following areas:

- Near the center of the bumper
- Too close to the ground or in a high place

f. Precautions for the battery built into the key and the vehicle battery:

i. The key is constantly checking for signals from the vehicle, which requires power from the built-in battery. The life of the battery is approximately 1 to 2 years depending on the usage conditions. Also, if the key is in contact with a cell phone while the user walks around (by putting them together into a pocket, etc.), the battery may significantly deplete. Be sure to replace the battery when its power is low. When replacing the battery, do not touch the inner circuit board or other inner parts.

ii. The key is constantly checking for signals from the vehicle and using battery power, whether the key is being used or not. Even if the user is carrying 2 keys and only 1 key is used, both keys will consume battery power.

iii. In order to communicate with the vehicle, the key is constantly checking for signals. Therefore if the key is in contact with a cell phone while the user walks around (by putting them together into a pocket, etc.), the battery may significantly deplete.

iv. The key receives radio waves at approximately 134 kHz. If the key continuously receives strong, identical frequency waves, this may drain the key battery. Store the key at least 1 m (3.28 ft.) from TVs, personal computers, chargers for cell phone, etc. or other electrical products.

v. When the door is being locked, the vehicle battery is used to transmit radio waves. The battery may be fully depleted if the vehicle remains stopped for a long time. If the vehicle is not used for a long time, remove the battery from the vehicle or cancel the entry and start system.

vi. When the door is being locked with the key in the detection area of a door oscillator, the battery is used for regular communication between the key and vehicle. If the vehicle is not used, keep the key away from the vehicle (more than 2 m (6.56 ft.)).

vii. After disconnecting and reconnecting the battery cable, the entry unlock function may not operate. If this occurs, perform a wireless door unlock and lock operation.

viii. When the battery is fully depleted and the engine does not start even after recharging, perform the following: 1) move the shift lever to P; 2) turn the engine switch off, and 3) open and close the driver door. Then start the engine.

ix. When starting the engine system after the removal and installation of the vehicle battery, first perform the following: 1) open and close the driver door; and 2) wait 10 seconds or more. When an engine system start is attempted after the above procedures, the engine system will not start. However, this is not a malfunction. The engine system will start normally starting from the second attempt.

g. Precautions when using the remote start function:

i. When using the remote start, the entry unlock function can be operated. However, depending on the amount of engine noise and other factors, the door oscillator detection area may become smaller.

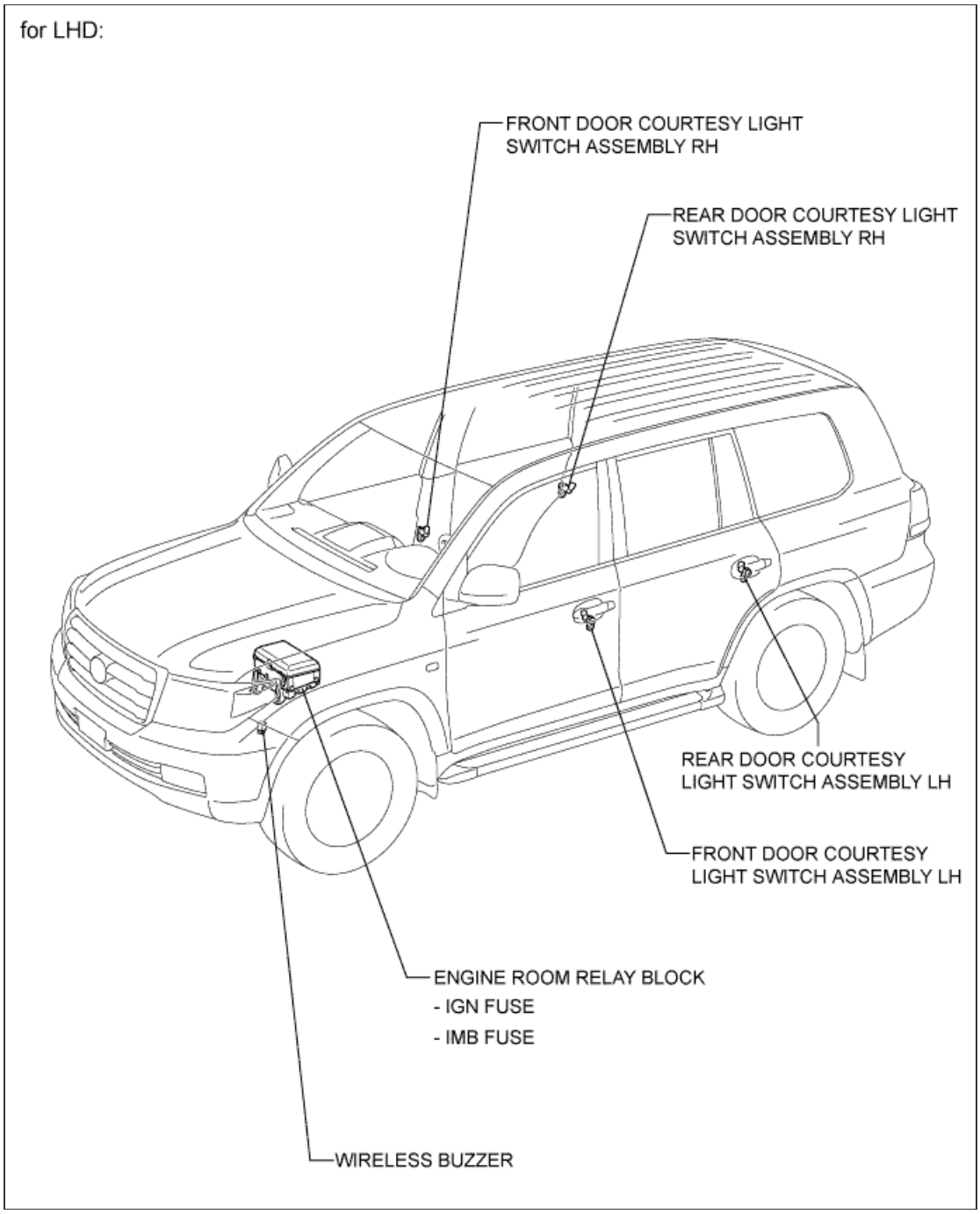
ii. If the remote start is used, a door is unlocked, and the user enters the vehicle, the engine system will automatically turn off. After the engine system turns off, the engine system cannot be started for approximately 5 seconds.

h. Precautions for the entry unlock mode switching function:

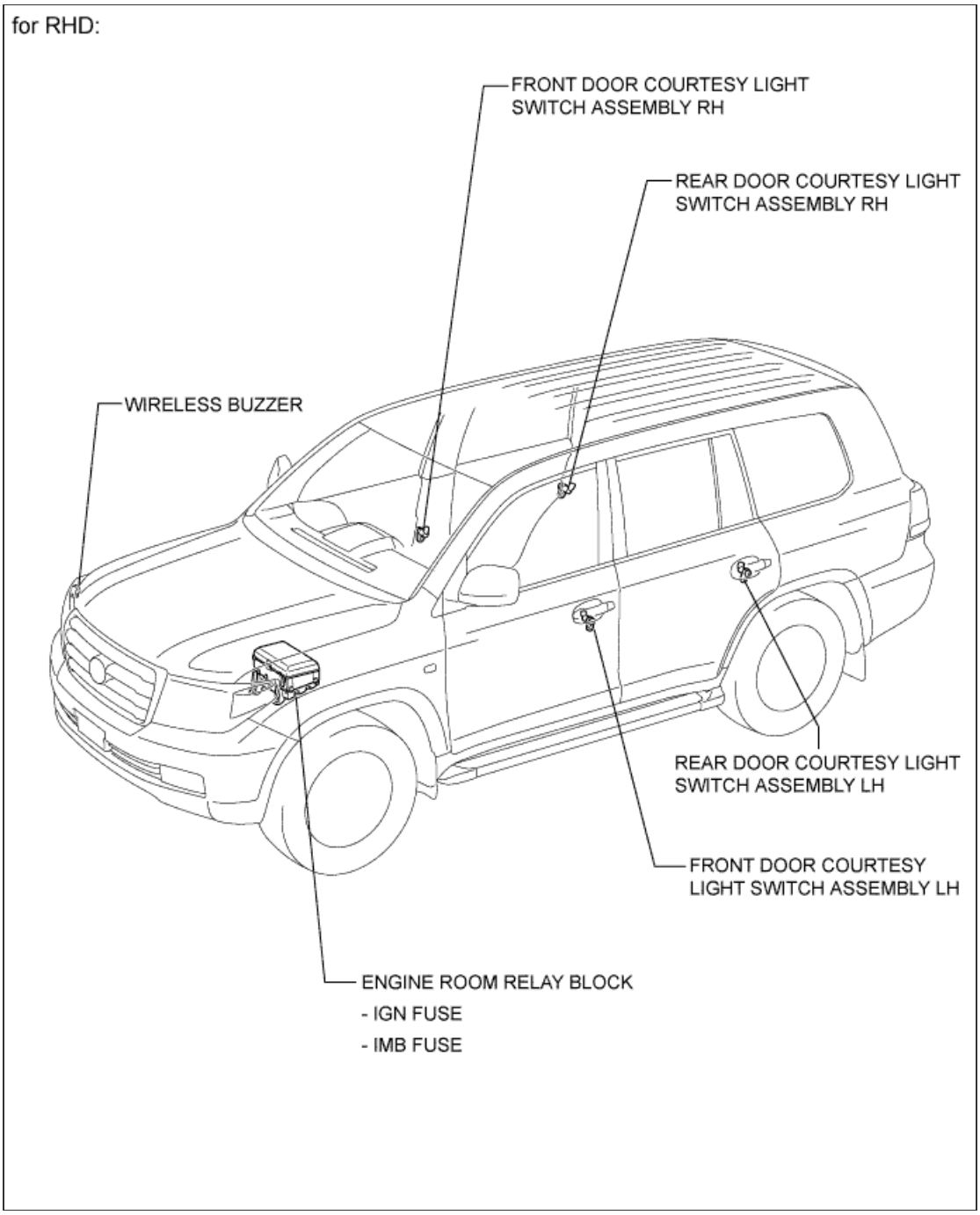
i. Perform the entry unlock mode switching function within a 1 m (3.28 ft.) area around the vehicle or from inside the vehicle.

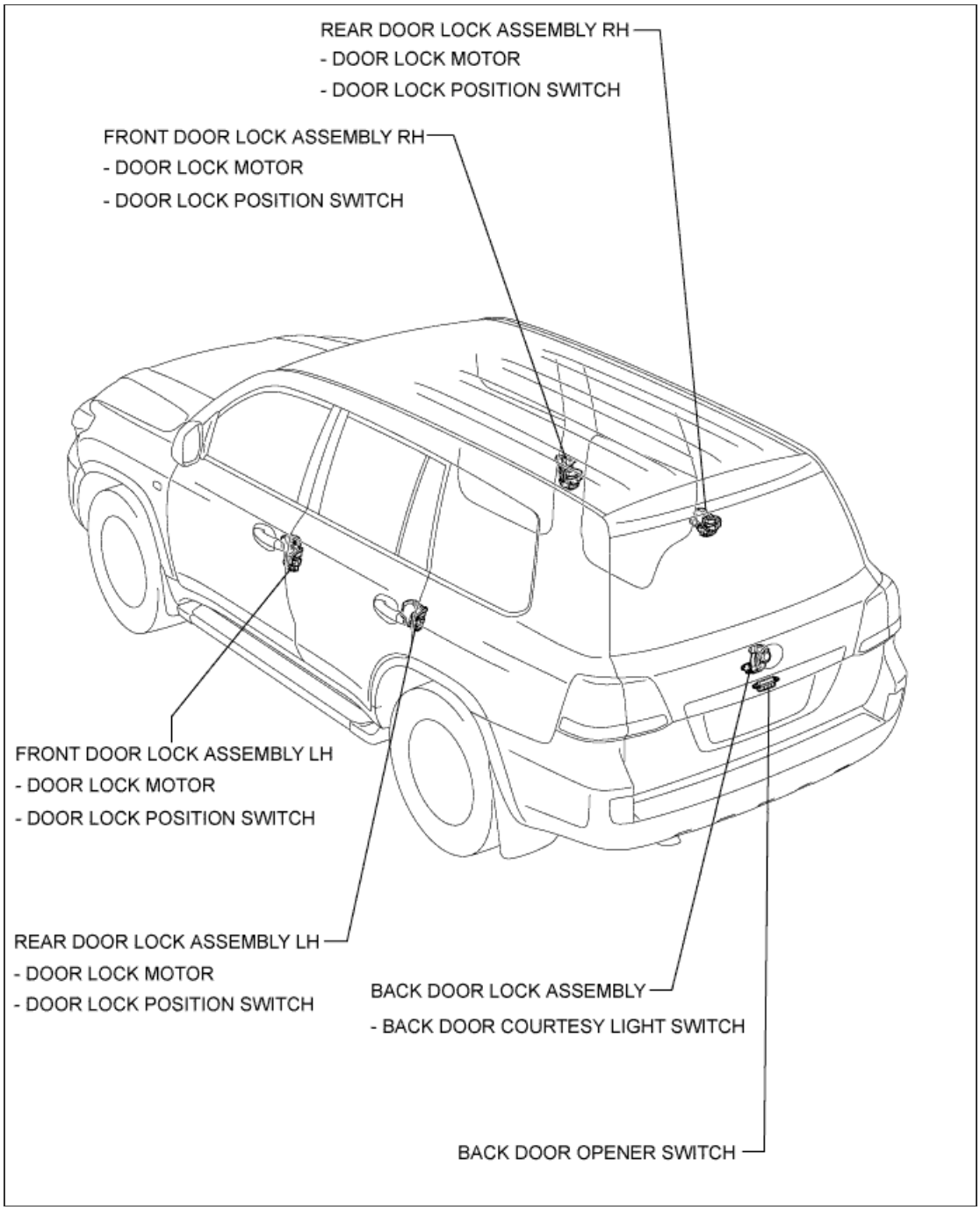
ii. After changing modes, holding down the switch for 5 seconds or more will not change the mode. The switch must be released and then pressed again to change modes.

**for Preparation** Click here

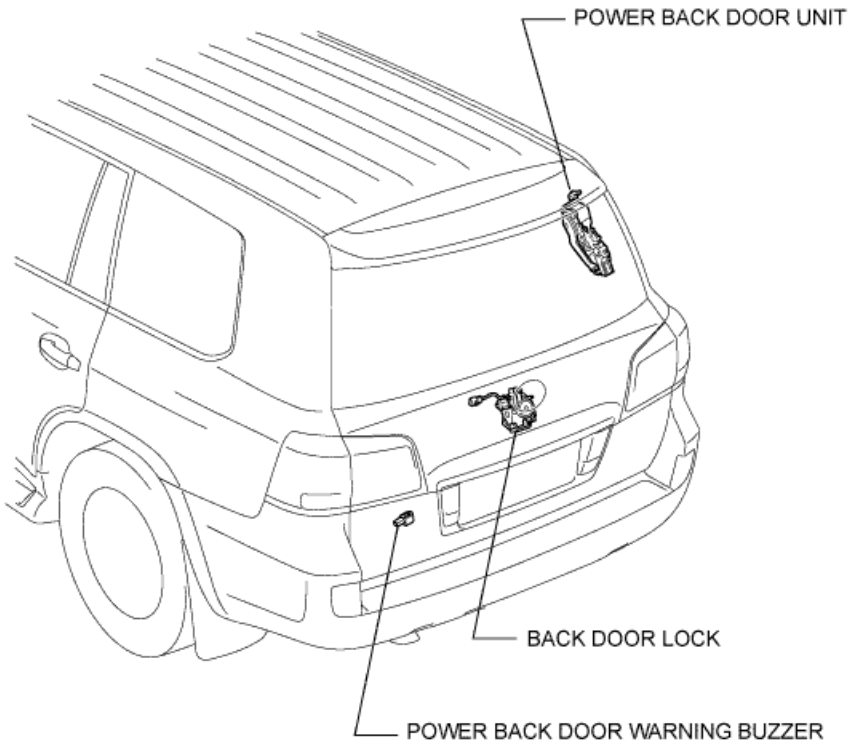


for RHD:

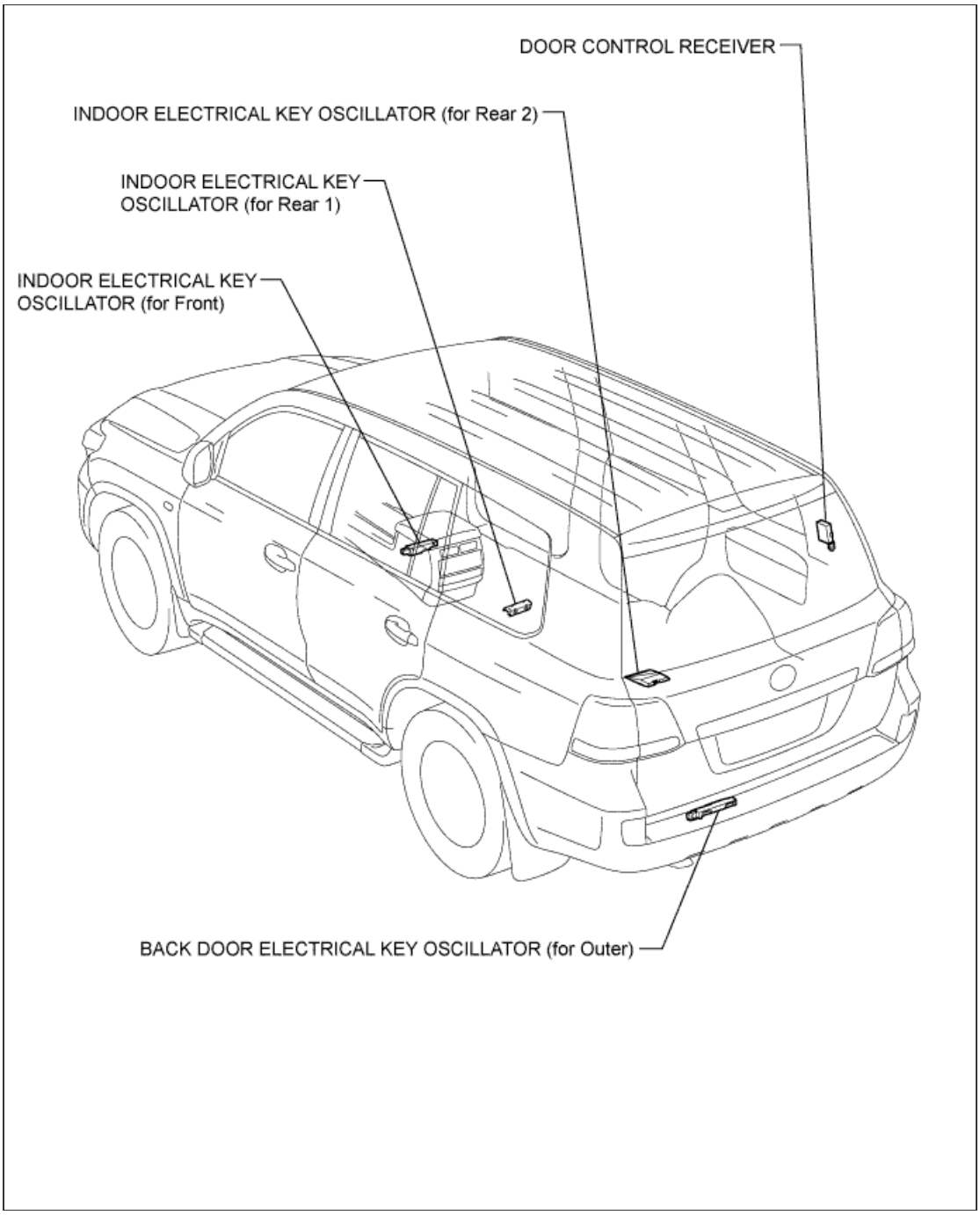

FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY RH
REAR DOOR COURTESY LIGHT SWITCH ASSEMBLY RH
WIRELESS BUZZER
REAR DOOR COURTESY LIGHT SWITCH ASSEMBLY LH
FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY LH
ENGINE ROOM RELAY BLOCK
- IGN FUSE
- IMB FUSE

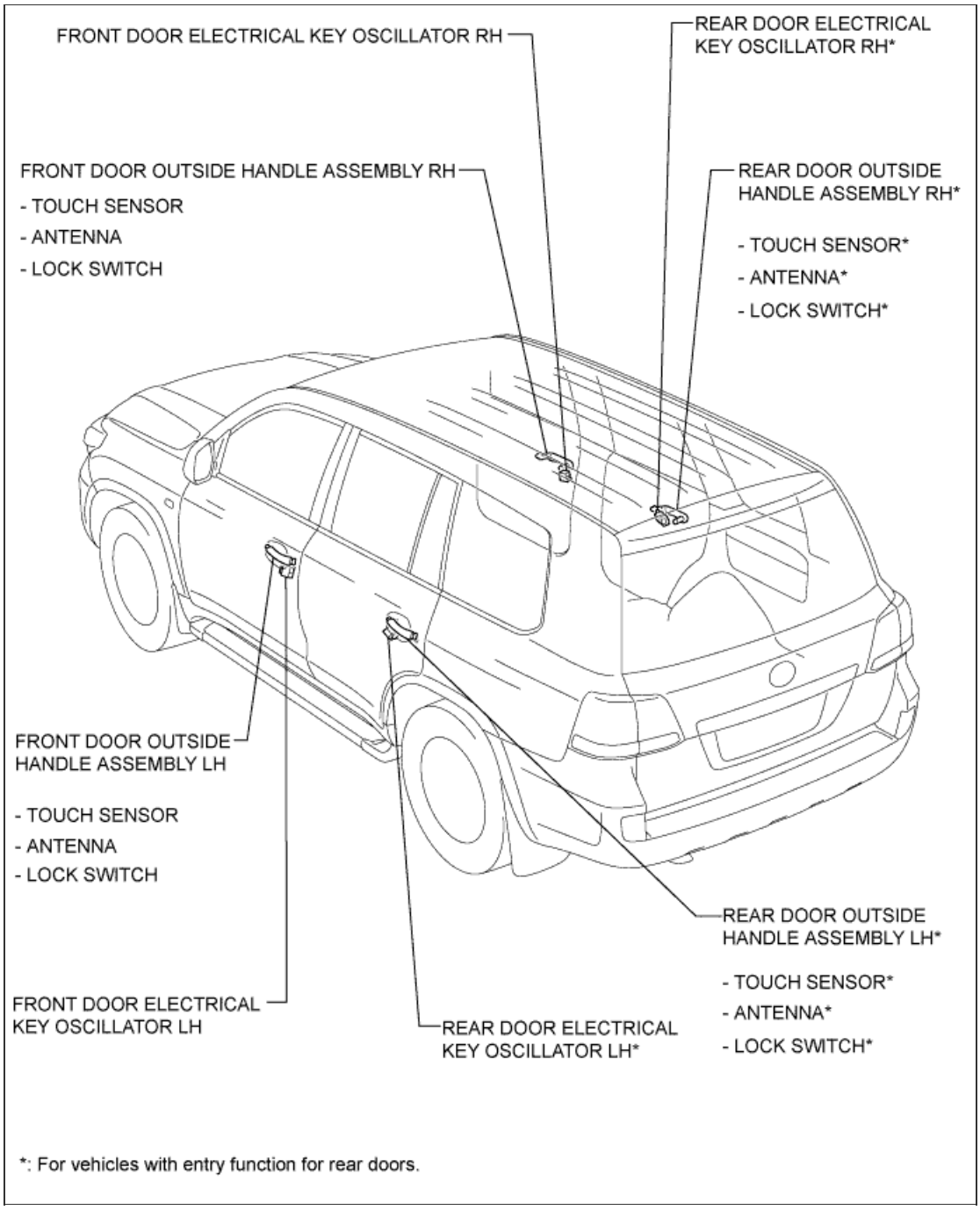

REAR DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
FRONT DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
FRONT DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
REAR DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
BACK DOOR LOCK ASSEMBLY
- BACK DOOR COURTESY LIGHT SWITCH
BACK DOOR OPENER SWITCH

w/ Power Back Door System:



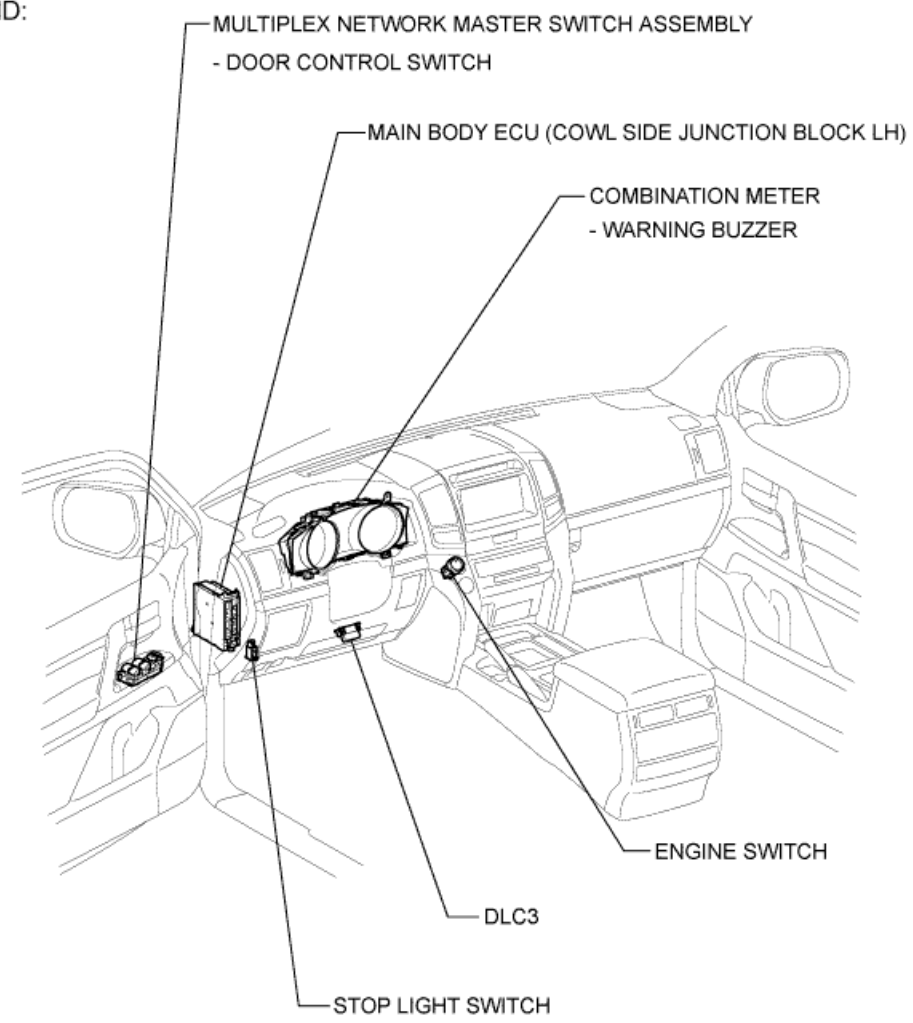

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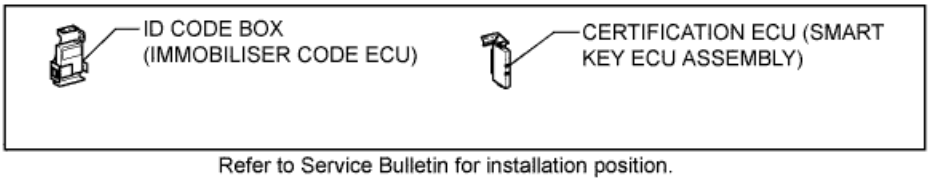

DOOR CONTROL RECEIVER
INDOOR ELECTRICAL KEY OSCILLATOR (for Rear 2)
INDOOR ELECTRICAL KEY OSCILLATOR (for Rear 1)
INDOOR ELECTRICAL KEY OSCILLATOR (for Front)
BACK DOOR ELECTRICAL KEY OSCILLATOR (for Outer)




*: For vehicles with entry function for rear doors.

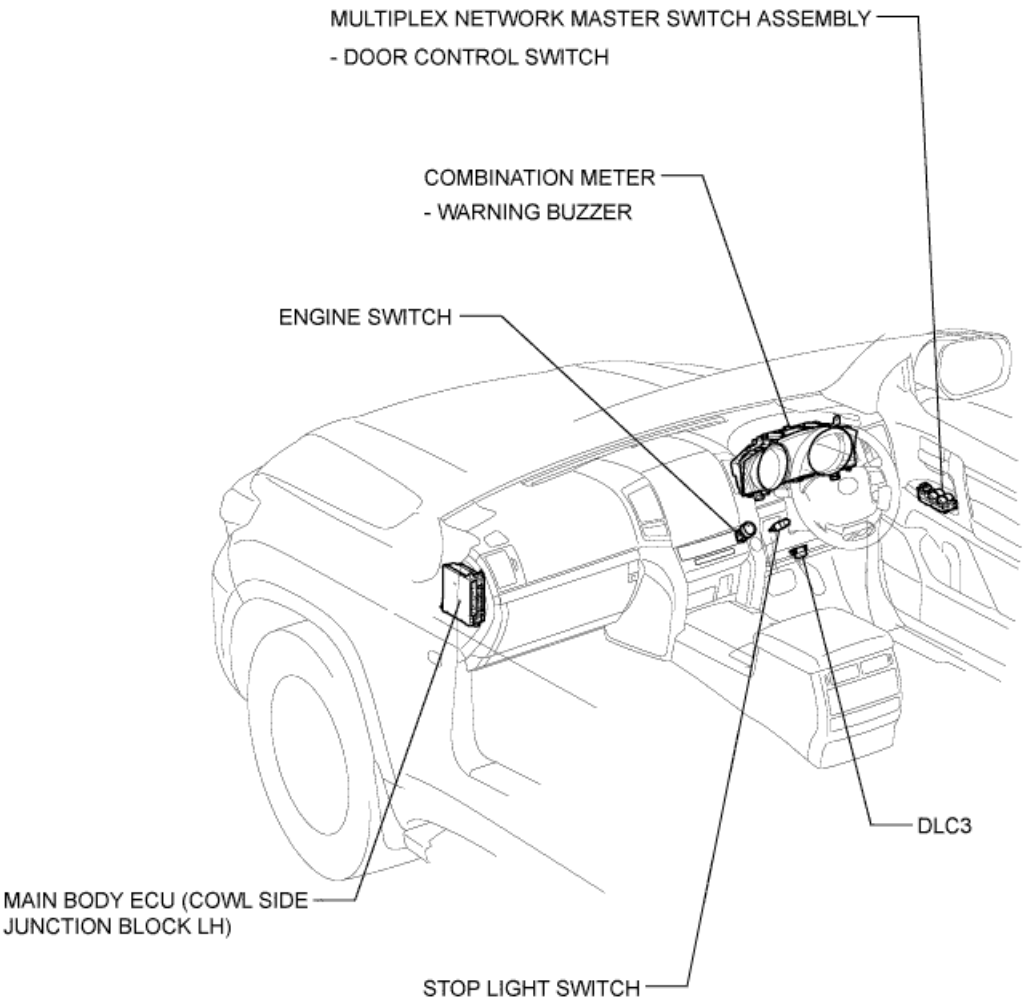
for LHD:

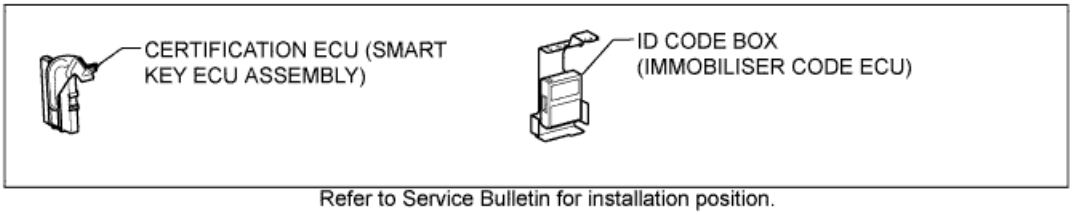



Refer to Service Bulletin for installation position.

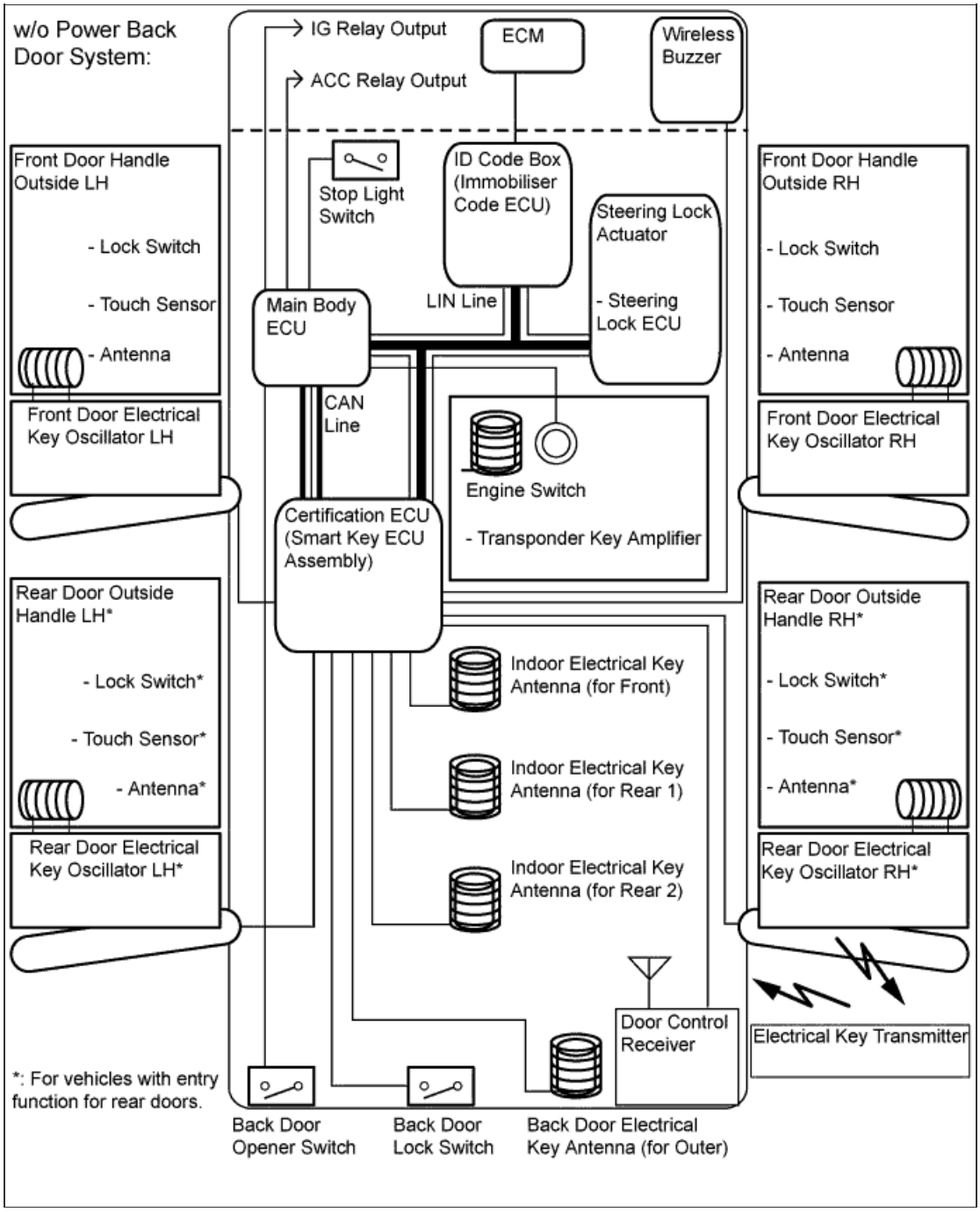
for RHD:

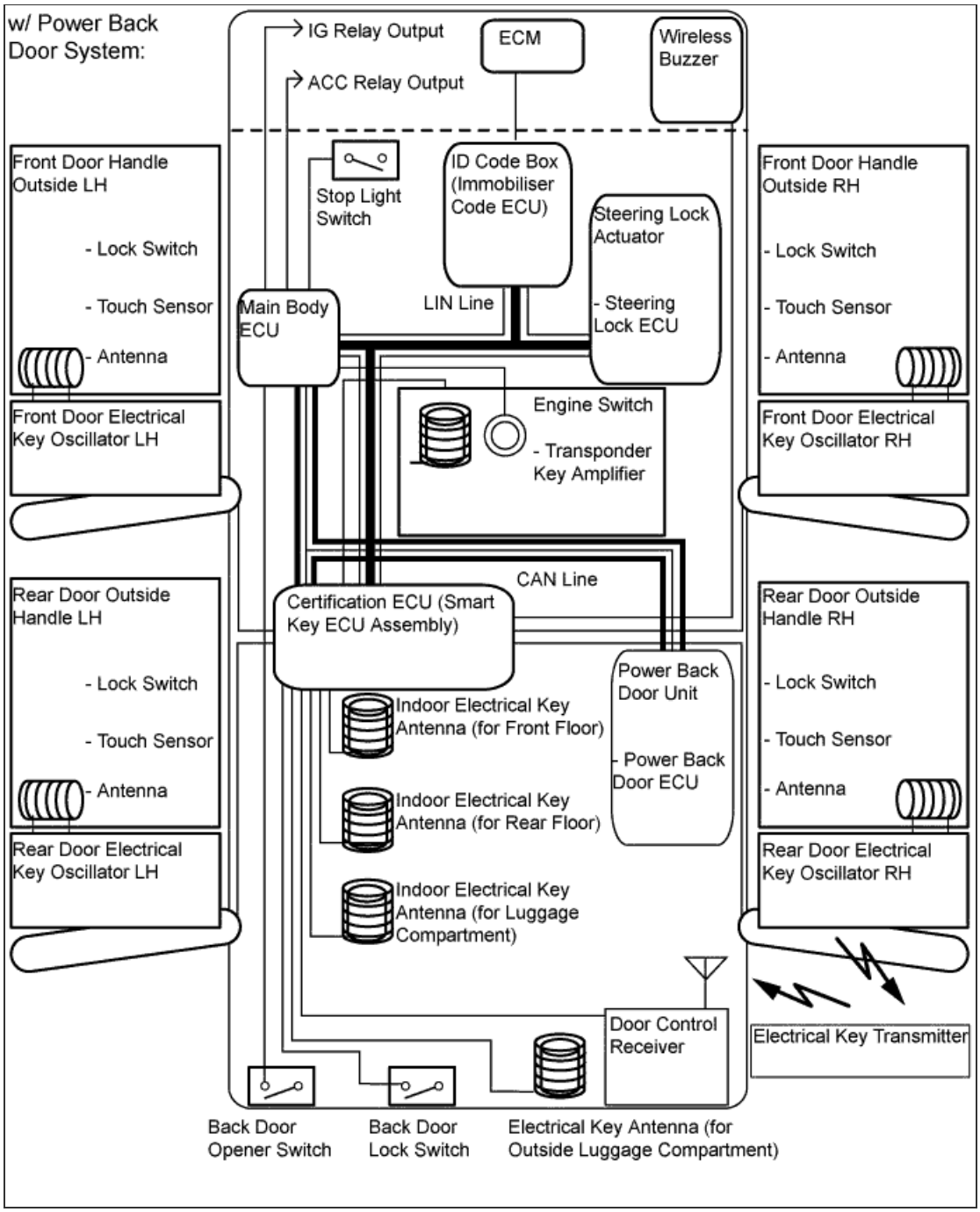



Refer to Service Bulletin for installation position.

**for Preparation** Click here






**Communication table:**

| Sender | Receiver | Signal | Line |
|---|---|---|---|
| Main Body ECU | Certification ECU (Smart key ECU assembly) | • IG signal<br>• ACC signal<br>• Engine switch signal<br>• Driver side door courtesy light switch signal<br>• Passenger side door courtesy light switch signal<br>• Rear LH side door courtesy light switch signal<br>• Rear RH side door courtesy light switch signal<br>• Vehicle type handle signal<br>• Back door courtesy light switch signal<br>• Back door opener switch signal<br>• Wireless door lock buzzer sound signal<br>• Door lock position signal | CAN |
| Main Body ECU | Power Back Door ECU* | Back door opener switch signal* | CAN |
| Meter ECU | • Certification ECU (Smart key ECU assembly)<br>• Main Body ECU | Vehicle speed signal | CAN |
| | | • Encryption code signal<br>• Encryption code finish signal | |

| | | | |
|---|---|---|---|
| Steering Lock ECU | Certification ECU (Smart key ECU assembly) | • Encryption calculate fixed number memory requirement signal<br>• During entry control signal | LIN |
| ID Code Box (Immobiliser code ECU) | Certification ECU (Smart key ECU assembly) | Matching request random number signal | LIN |
| Certification ECU (Smart key ECU assembly) | Meter ECU | • Inside key existence warning signal<br>• Low key battery warning signal<br>• Shift position warning signal<br>• Meter buzzer request signal<br>• Door open indicate signal<br>• Steering lock warning signal | CAN |
| Certification ECU (Smart key ECU assembly) | Main Body ECU | • Entry door lock signal<br>• Entry door unlock signal<br>• Entry lock switch signal<br>• Door lock/unlock standby control signal | CAN |
| Certification ECU (Smart key ECU assembly) | Main Body ECU | • Immobiliser ID entry required signal<br>• Key code check signal | LIN |
| Certification ECU (Smart key ECU assembly) | ID Code Box (Immobiliser code ECU) | Replay code signal | LIN |

*: w/ Power Back Door System

**for Preparation** Click here

**CAUTION:**

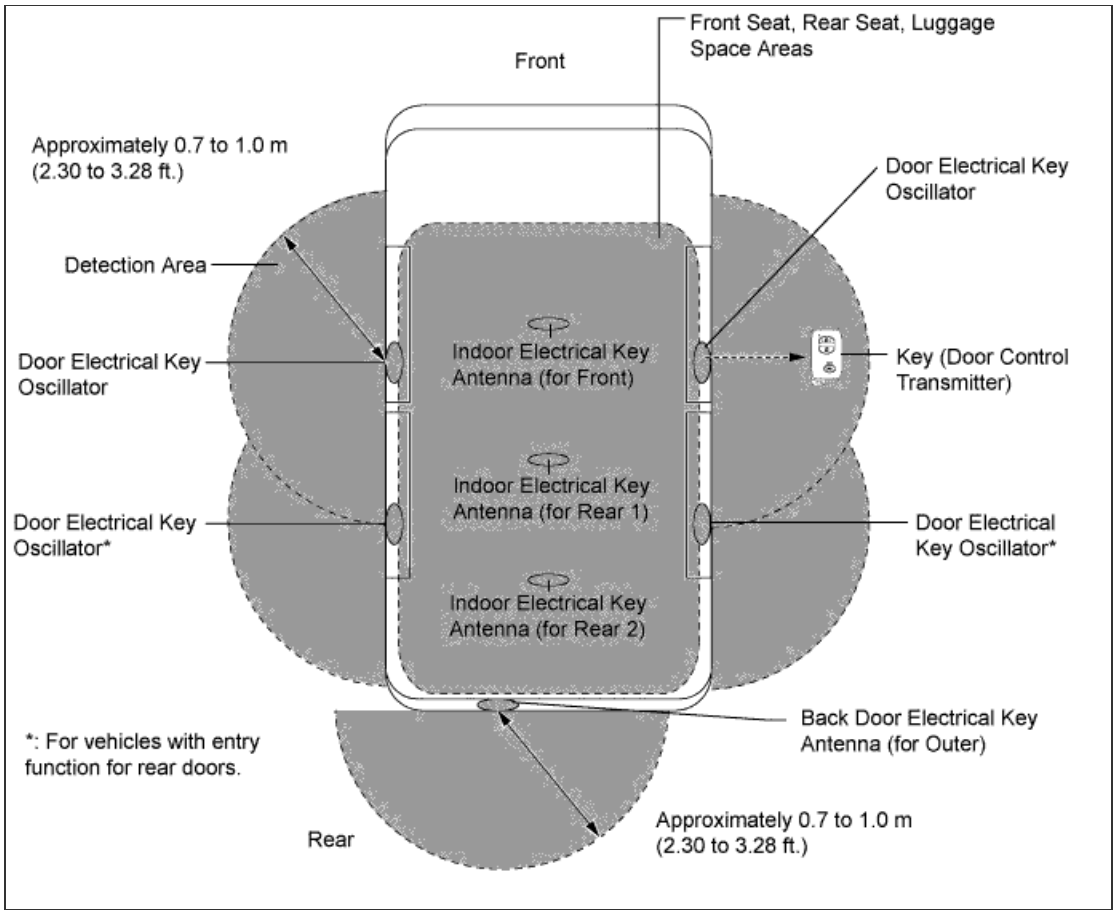
If using a pacemaker, be sure to read the manual of the pacemaker before using the key, as the radio waves of the key may affect the pacemaker.

## ENTRY AND START SYSTEM DESCRIPTION

a. In addition to conventional mechanical key and wireless door lock control functions, the entry and start system enables door locking/unlocking, steering lock releasing, engine control system starting and back door opening without operating the key. The only requirement is that the key is in the possession of the user.

- This system is controlled by the certification ECU (smart key ECU assembly). When the certification ECU (smart key ECU assembly) detects the presence of the key in one of the detection areas, it identifies and checks the ID code, and outputs operation signals to the related ECU in accordance with their functions.
- For vehicle with rear entry function:
  The detection areas are formed by 4 oscillators and 4 antenna (4 door oscillators, back door antenna and 3 indoor antennas).
- For vehicle without rear entry function:
  The detection areas are formed by 2 oscillators and 4 antenna (2 door oscillators, back door antenna and 3 indoor antennas).

## DETECTION AREA




a. Precautions for the entire system:

- Be sure to carry the key during inspection of the entry and start system.
- As weak radio waves are used to detect the key, the key detection area may decrease, or the key may not be detected correctly in the following situations.
  1. The key battery is depleted.
  2. Any facilities that generate strong radio waves, such as a TV tower, power plant, a broadcast station or gas station, are located near the inspection site.
  3. A wireless device, such as a cell phone, is carried with the key.
  4. The key is in contact with or covered with metal.
  5. Electric wave type keyless entry systems are being operated nearby.
  6. The key is located near a device that generates high voltage or noise.

7. Film with some metallic content is stuck to the back glass.

**HINT:**

In this case, remove the cause or unlock the door using the mechanical key.

- Even if the key is in the vehicle exterior key detection area, the key may not operate properly due to the vehicle body design.
- The key may not be detected correctly if it is around the vehicle's windows, the door handle or center of the bumper, even when it is in the detection area outside the vehicle.
- The key may not be detected correctly if it is on the instrument panel, rear package tray or floor, or in the glove box, even when it is in the detection area inside the vehicle.
- The key may not operate if the key is not held properly.
- The entry and start system does not operate in the following conditions:
    1. The entry and start system is canceled.
    2. The key battery is completely depleted (the indicator does not blink when pushing any of the switches on the key).

## FUNCTION OF MAIN COMPONENTS

| Component | Function |
|---|---|
| Certification ECU (Smart key ECU assembly) | Controls the entry and start system in accordance with signals from each oscillator, various switches, ECUs and the key.<br>• Performs key verification.<br>• Performs vehicle interior/exterior transmission.<br>• Performs occupant sensor control.<br>• Sends lock/unlock commands during entry function.<br>• Sends steering lock/unlock commands.<br>• Sends immobiliser set/unset commands.<br>• Records verification codes. |
| Main body ECU | Controls the power source mode function in accordance with signals from various switches, ECUs and the combination meter.<br>• Controls the ACC/IG power source by turning it on/off.<br>• Sends an engine start command to the ECM.<br>• Controls the indicator and word illumination of the engine switch.<br>• Activates starter relay. |
| ID code box (Immobiliser code ECU) | • Receives a command from the certification ECU (smart key ECU assembly), and sends an immobiliser set/unset command to the ECM.<br>• Records verification codes. |
| Indoor electrical key antenna (for front, rear 1 and rear 2) | Receives a request signal from certification ECU (smart key ECU assembly), and forms the detection area in the vehicle interior. |
| Door control receiver | Receives the ID code from the key in the actuation area and transmits it to the certification ECU (smart key ECU assembly). |
| Back door electrical key antenna (for outer) | Receives a request signal from the certification ECU (smart key ECU assembly), and forms the actuation area around the back door. |
| Back door opener switch | Transmits a back door open request signal to the main body ECU. |
| Back door lock switch | Transmits a back door lock request signal to the certification ECU (smart key ECU assembly). |
| Door electrical key oscillator (for driver, front passenger, rear LH*3, rear RH*3 side doors) | Receives a request signal from the certification ECU (smart key ECU assembly), and forms the detection area around each door. |
| Outside door handle (for driver, front passenger, rear LH*3, rear RH*3 side doors) (antenna) | Transmits request signals. |
| Outside door handle (for driver, front passenger, rear LH*3, rear RH*3 side doors) (touch sensor) | Detects when a person touches the inside of the outside handle. |
| Outside door handle (for driver, front passenger, rear LH*3, rear RH*3 side doors) (lock switch) | Transmits door lock request signals to the certification ECU (smart key ECU assembly). |
| Key | • When an LF wave*1 that is output from the vehicle interior/exterior antenna is received, RF wave*2 format conversion is performed on the key ID, vehicle ID and other information, and an RF wave*2 is then output.<br>• When the lock/unlock switch on the key is pressed, the signal is converted to an RF wave*2 and is then output.<br>• When the wave output from the engine switch immobiliser amplifier is received, the key ID, vehicle ID and other information is output through immobiliser communication.<br>• The key is equipped with a mechanical key for unlocking doors when the battery is fully depleted. |

| | |
|---|---|
| Wireless door lock buzzer<br>Combination meter<br>• Multi-information Display<br>• Buzzer | When the certification ECU (smart key ECU assembly) detects human errors such as those below, it warns the driver by sounding the wireless door lock buzzer*, displays information and sounds the buzzer in accordance with the request signal from the ECU.<br>**HINT:**<br>*: Except China<br>Example:<br>• Key is taken outside the vehicle.<br>• Driver leaves the vehicle while the engine is still running.<br>• Driver leaves the vehicle while the shift lever is in a position other than P. |

**HINT:**

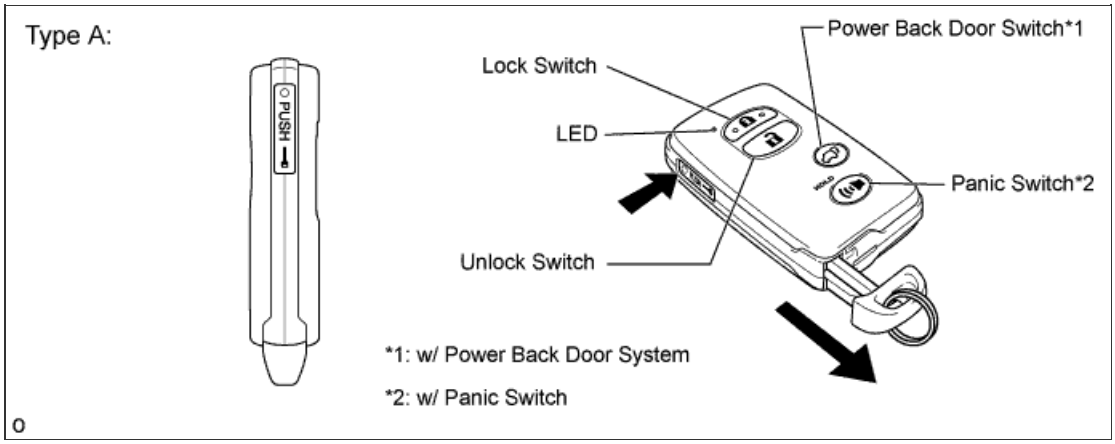
- ***1: LF waves (134 KHz) check if the key is in the vehicle interior or not.**
- ***2: RF waves (314.35 MHz for Australia, 433.92 MHz for Europe and the Middle and Near East, and 315.12 MHz for China) are emitted from the key in response to the LF waves, and are sent to the door control receiver.**
- ***3: For vehicles with entry function for rear doors.**

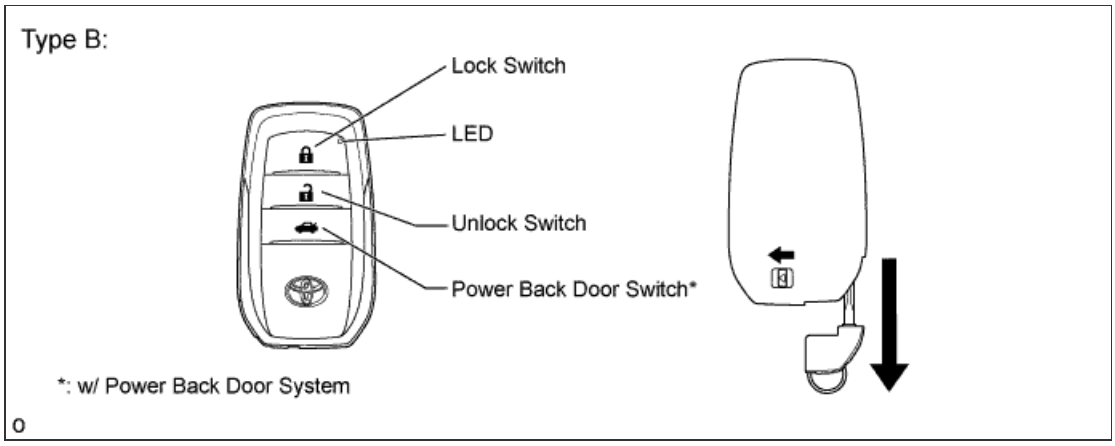
## CONSTRUCTION AND OPERATION

a. Key:
A total of 7 keys can be registered.

i. Electrical key transmitter:
The electrical key transmitter consists of a mechanical key, a transmitter function for the wireless door lock control and a transceiver for the entry and start system.

- The transceiver function for the entry and start system receives the signals from the oscillators and sends the ID code to the door control receiver.
- The transmitter function for the wireless door lock control has a lock switch, unlock switch and panic switch.
- This mechanical key can lock/unlock all the doors. To lock or unlock the doors, remove the cap from the driver door outside handle, insert the key into the door key cylinder, and then turn it to the lock or unlock position.






b. Oscillator (each door oscillator, front, rear 1 and rear 2 indoor antenna, and back door antenna)
Each oscillator transmits the request signal received from the certification ECU (smart key ECU assembly), and forms a key detection area to detect the presence of a key. The detection area formed by each door oscillator and back door outer antenna is approximately 0.7 to 1.0 m (2.30 to 3.28 ft.) from the outside handle of each door or the center of the rear bumper.

- The detection area of each door oscillator is formed by transmitting a request signal every 0.25 seconds while the engine switch is off and each door is locked. In this way, it detects the proximity of a key. During entry lock, the detection area is formed with the lock switch on.
- The detection area of the back door antenna is formed when the back door opener switch is on.
- The detection area of the indoor antenna (for front, rear 1 and rear 2) is formed when the driver door is opened or closed, during starting, when a warning is activated, or when the lock switch is on.

## ENTRY FUNCTION OPERATION

a. The entry and start system has the following functions.

| Function | Outline |
|---|---|
| Mechanical Key | Operation is the same as a conventional mechanical key. |
| Wireless Door Lock Control | This function remotely locks and unlocks all doors and the back door. Operation is the same as the wireless door lock control system. However, receiver in the certification ECU (smart key ECU assembly) uses the entry door control receiver to control locking and unlocking. |
| Entry Illumination | When a person carrying the key enters the detection area, the door will enter unlock standby mode and room light will illuminate. |
| Entry Unlock | When the key is located in the detection area of the door oscillator, the door will unlock by touching the inside of the outside door handle. |
| Entry Unlock Mode Switching (Click here) | Changes the doors that can be unlocked with the entry unlock function between 2 modes.<br>• Driver door unlock mode<br>• All door unlock mode |
| Entry Lock | When the key is located in the detection area of the door oscillator and the engine switch is off, the door can be locked by pressing the lock switch on the outside door handle. |
| Entry Back Door Open | When the key is in the detection area of the back door antenna (outer), the back door opens by pressing the back door opener switch. |
| Memory Call | This function operates the driving position memory system in accordance with the key ID code. |
| • Power Window Close Function*1, *3<br>• Sliding Roof Close Function*1, *4 | Pressing the door handle entry lock switch for approximately 3 seconds or more causes all power windows and the sliding roof to close while sounding the wireless buzzer*2. |
| Key Lock-in Prevention | Prevents lock-in of the key if the door is locked using the outside door handle while the key is still inside the vehicle. |
| Warning | When any of the situations below occur, the entry and start system causes the certification ECU (smart key ECU assembly) to sound the buzzer in the combination meter and the wireless door lock buzzer*2, and display information in order to alert the driver.<br>• Shift lever not in P (power source cut reminder) vehicle exit warning<br>• Key reminder warning |

| | |
|---|---|
| | • Shift lever in P (power source cut reminder) vehicle exit warning<br>• Entry door ajar warning<br>• Passenger has brought key out of vehicle warning<br>• Key is not within detection area warning<br>• Key lock-in prevention function buzzer<br>• Key battery low warning |
| Battery Saving | If the key is constantly located within the actuation area of the door oscillator, the system maintains periodic communication with the key. Therefore, if the vehicle remains parked in that state for a long time, key battery and vehicle battery could be drained. For this reason, the vehicle has controls for saving battery power. |
| Key Cancel (Click here) | The following key functions can be canceled:<br>• Entry Unlock/Lock<br>• Entry Ignition<br>• Memory Call<br>• Entry Back Door Open<br>• Key Lock-in Prevention<br>• Warning |

**HINT:**

*1: w/ Remote Function

*2: except China

*3: This function can be enabled by changing the customize parameter ( Click here).

*4: This function can be enabled by changing the customize parameter ( Click here).

## WIRELESS DOOR LOCK AND UNLOCK AND POWER BACK DOOR*1 AND PANIC*2 FUNCTION

Push the lock/unlock/power back door*1/panic*2 switch on the key to operate each function.

**HINT:**

*1: w/ Power Back Door System

*2: w/ PANIC Switch

## ENTRY UNLOCK FUNCTION

a. The detection area is formed by communication between a door oscillator and the certification ECU (smart key ECU assembly) when the door is locked in order to detect the person carrying the key.

b. When the person carrying the key enters the detection area around the vehicle, the matching of the ID codes for a door oscillator and key will automatically be performed. After the matching is completed, the door will enter unlock standby mode.

c. In unlock standby mode, the antenna built into the outside handle starts sensing. If the outside handle is held (the back side of the handle is touched), the door unlock operation will be performed. At this time, the hazard warning light blinks twice and the wireless door lock buzzer sounds twice*.

**HINT:**

*: except Europe and China

d. If any of the doors are not opened after a door unlock operation, all doors will automatically lock after 30 seconds.

## ENTRY LOCK FUNCTION

a. After leaving the vehicle carrying the key, push the lock switch on the outside handle when all the doors are closed.

b. The certification ECU (smart key ECU assembly) determines whether the key is located inside or outside of the cabin based on the information from a door oscillator and indoor antenna. Then matching of the ID codes is performed.

c. When the matching result shows that the ID codes of the key and indoor antenna do not match and the ID codes of the key and door oscillator match, the door lock function will operate. At this time, the hazard warning lights blink once and the wireless door lock buzzer sounds once*.

**HINT:**

*: except Europe and China

d. If the key is located inside of the cabin, the door lock function will not operate and the alarm buzzer (beep sound) will sound for 2 seconds*.

**HINT:**

*: except China

## ENTRY BACK DOOR OPEN FUNCTION

Stand in front of the back door with the key and push the back door opener switch to start the matching of the ID codes for the back door antenna. If the ID codes match, the back door open operation will be performed.

## PREVENTION OF KEY LOCK-IN FUNCTION

a. If you attempt to lock the door through keyless operation (move the lock knob to the lock position and then close the door) with the key in the cabin, the system determines that the key is located in the cabin and unlocks the door.

b. If the back door is closed with the key in it, the alarm will sound and the back door can be opened only when all the doors are locked in order to prevent key lock-in in the vehicle.

## ENTRY ILLUMINATION FUNCTION

In order to improve ease of entering and exiting the vehicle at night, the vehicle lights illuminate when the key is brought near the vehicle.

## ENTRY POWER WINDOW FUNCTION* [REMOTE FUNCTION] (DOOR WINDOW AND SLIDING ROOF CLOSE OPERATION ONLY)

a. Pressing the door handle lock switch for 3 seconds or more operates the door window close operation of all of the windows and the sliding roof close operation.

b. If the entry power window function is operating and the door handle lock switch is released, the entry power window operation will stop.

**HINT:**

- **For more information about the entry power window function, refer to the Power Window Control System ( Click here).**
- ***: w/ Remote Function**

## MEMORY CALL FUNCTION (w/ Seat Position Memory System)

a. After unlocking the driver door using the key ID and opening the driver door, the seat automatically moves to the position associated with the key ID.

**HINT:**

For more information about the memory call function, refer to the Front Power Seat Control System ( Click here).

## WARNING FUNCTION

a. General:
When any of the situations below occur, the entry and start system responds to alert the driver.

| Warning Function Operation Condition | Situation |
|---|---|
| Shift lever not in P (power source cut reminder) vehicle exit warning | A |
| Key reminder warning | B |
| Shift lever in P (power source cut reminder) vehicle exit warning | C |
| Entry door ajar warning | D |
| Passenger has brought key out of vehicle warning | E |
| Key is not within detection area warning | F |
| Key lock-in prevention function buzzer | G |
| Key battery low warning | H |

b. Situation A:
Shift lever not in P (power source cut reminder) vehicle exit warning

i. With shift lever not in P, door is opened and vehicle exit (while holding key) is attempted

| |
|---|
| Reason for warning: Sudden vehicle start prevention, vehicle theft prevention, vehicle roll-away prevention |
| Warning start condition: Shift lever is not in P, engine switch is on (ACC) or on (IG), driver side door is opened and vehicle speed is 0 km/h (0 mph) |
| Warning stop condition: Engine switch is off, shift lever is in P, vehicle speed is above 0 km/h (0 mph), or driver side door is closed |

| | | | |
|---|---|---|---|
| Warning description | Combination meter buzzer | Multi-buzzer | Sounds continuously (beep) |
| | Combination meter display | Combination meter information | "Shift to P Range" |
| | | Telltale | None |
| | Wireless buzzer | Sounds continuously (beep)*<br>**HINT:**<br>*: except China | |
| Recommended user action | | Move shift lever to P | |

ii. With shift lever not in P, door is opened, key is brought out of vehicle, door is closed, and movement away from vehicle is attempted

| | | | |
|---|---|---|---|
| Reason for warning: Sudden vehicle start prevention, vehicle theft prevention, vehicle roll-away prevention | | | |
| Warning start condition: Shift lever is not in P, engine switch is on (ACC) or on (IG), opened driver side door is closed, vehicle speed is 0 km/h (0 mph) and key is not in detected in vehicle interior and luggage interior | | | |
| Warning stop condition:<br>• Key is detected in vehicle interior and luggage interior:<br>Buzzer stops and "Shift to P Range" is displayed on combination meter<br>• Vehicle speed is more than 0 km/h (0 mph):<br>Buzzer stops, "Key is not detected" - "Check key position" is displayed on combination meter<br>• Engine switch off:<br>All warnings are turned off | | | |
| Warning description | Combination meter buzzer | Multi-buzzer | Sounds continuously (beep) |
| | Combination meter display | Combination meter information | Information below is displayed alternately on combination meter<br>"Shift to P Range"<br>"Key is not detected" - "Check key position" |
| | | Telltale | None |
| | Wireless buzzer | Sounds continuously (beep)*<br>**HINT:**<br>*: except China | |
| Recommended user action | | Move shift lever to P | |

c. Situation B:
Key reminder warning

i. Steering lock/unlock set, driver door is opened and movement away from vehicle is attempted

| | | | |
|---|---|---|---|
| Reason for warning: Vehicle theft prevention, required by law | | | |
| Precondition: Remote start is not operating | | | |
| Warning start condition: One of following conditions is met<br>1. Engine switch on (ACC) or off, and driver door opened<br>2. Engine switch off, steering lock/unlock set and driver door opened | | | |
| Warning stop condition: One of following conditions is met<br>1. Engine switch is on (IG) or driver door is closed<br>2. Engine switch on (ACC) or off, and steering lock/unlock is set | | | |
| Warning description | Combination meter buzzer | Multi-buzzer | Sounds intermittently (several "pon" sounds) |
| | Combination meter display | Combination meter information | None |
| | | Telltale | None |
| | Wireless buzzer | None | |
| Recommended user action | | If engine switch is on (ACC) or on (IG), turn engine switch off and close driver door | |

d. Situation C:
Shift lever in P (power source cut reminder) vehicle exit warning

i. With shift lever in P, driver door is opened, key is brought out of vehicle, driver door is closed, and movement away from vehicle is attempted

<table>
<tr><td colspan="4">Reason for warning: Vehicle theft prevention, "Engine control system cannot be restarted" prevention, battery depletion prevention</td></tr>
<tr><td colspan="4">Warning start condition: Shift lever is in P, engine switch is on (ACC) or on (IG), opened driver side door is closed and key is not in detected in vehicle interior and luggage interior</td></tr>
<tr><td colspan="4">Warning stop condition: Engine switch on (ACC) or off, or key is detected in vehicle interior and luggage interior</td></tr>
<tr><td rowspan="4">Warning description</td><td>Combination meter buzzer</td><td>Multi-buzzer</td><td>Sounds once (1 "pon" sound) (when key is not detected continuously, sounds again when vehicle is first driven)</td></tr>
<tr><td rowspan="2">Combination meter display</td><td>Combination meter information</td><td>"Key is not detected" - "Check key position"</td></tr>
<tr><td>Telltale</td><td>None</td></tr>
<tr><td>Wireless buzzer</td><td colspan="2">Sounds 3 times (short beeps)*<br>HINT:<br>*: except China</td></tr>
<tr><td colspan="2">Recommended user action</td><td colspan="2">Turn engine switch off and exit vehicle while holding key</td></tr>
</table>

ii. With shift lever in P and either engine switch on (ACC) or steering lock/unlock set, driver door is opened, user moves away from vehicle, and door handle lock switch is pressed in an attempt to perform entry lock operation

<table>
<tr><td colspan="4">Reason for warning: Vehicle theft prevention, battery depletion prevention</td></tr>
<tr><td colspan="4">Precondition: Change door control lock switch from off to on</td></tr>
<tr><td colspan="4">Warning start condition: Shift lever is in P, engine switch is on (ACC) or on (IG), all doors closed and key is detected in vehicle exterior, key is not detected in vehicle interior, vehicle speed is 0km/h.</td></tr>
<tr><td colspan="4">Warning stop condition: One of following conditions is met<br>1. Engine switch off.<br>2. Key is detected in vehicle interior and luggage interior.<br>3. Vehicle speed is more than 0km/h.<br>4. Shift lever is not in P.</td></tr>
<tr><td rowspan="4">Warning description</td><td>Combination meter buzzer</td><td>Multi-buzzer</td><td>None</td></tr>
<tr><td rowspan="2">Combination meter display</td><td>Combination meter information</td><td>None</td></tr>
<tr><td>Telltale</td><td>None</td></tr>
<tr><td>Wireless buzzer</td><td colspan="2">Sounds for 60 seconds (long beep)*<br>HINT:<br>*: except China</td></tr>
<tr><td colspan="2">Recommended user action</td><td colspan="2">Turn engine switch off and perform entry lock operation</td></tr>
</table>

e. Situation D:
Entry door ajar warning

i. With one vehicle door open, entry lock operation is attempted

<table>
<tr><td colspan="4">Reason for warning: Vehicle theft prevention</td></tr>
<tr><td colspan="4">Precondition: Engine switch on (ACC) or off, and one door open</td></tr>
<tr><td colspan="4">Warning start condition: After preconditions are met, entry lock operation is performed</td></tr>
<tr><td colspan="4">Warning stop condition: Engine switch is on (ACC) or on (IG), all doors are closed, wireless unlock is performed, entry unlock operation is performed or 5 seconds have passed after warning start</td></tr>
<tr><td rowspan="4">Warning description</td><td>Combination meter buzzer</td><td>Multi-buzzer</td><td>None</td></tr>
<tr><td rowspan="2">Combination meter display</td><td>Combination meter information</td><td>None</td></tr>
<tr><td>Telltale</td><td>None</td></tr>
<tr><td>Wireless buzzer</td><td colspan="2">Sounds continuously (beep)*<br>HINT:<br>*: except China</td></tr>
<tr><td colspan="2">Recommended user action</td><td colspan="2">Close all doors and perform entry lock operation</td></tr>
</table>

f. Situation E:

Passenger has brought key out of vehicle warning

i. With engine switch in condition other than off, key is brought out of vehicle by passenger

| | | | |
|---|---|---|---|
| Reason for warning: "Engine control system cannot be started" prevention | | | |
| Warning start condition: Engine switch is on (ACC) or on (IG), opened door other than driver side door is closed, vehicle speed is 0 km/h (0 mph) and key is not in detected in vehicle interior and luggage interior | | | |
| Warning stop condition: Engine switch on (ACC) or off, or key is detected in vehicle interior and luggage interior or vehicle speed is more than 0 km/h (0 mph) | | | |
| Warning description | Combination meter buzzer | Multi-buzzer | Sounds once (1 "pon" sound) (when key is not detected continuously, sounds again when vehicle is first driven) |
| | Combination meter display | Combination meter information | "Key is not detected" - "Check key position" |
| | | Telltale | Illuminates |
| | Wireless buzzer | Sounds 3 times (short beeps)*<br>**HINT:**<br>*: except China | |
| Recommended user action | | Check if the passenger who exited the vehicle has the key or not | |

g. Situation F:
Key is not within detection area warning

i. With key not in vehicle cabin or key battery depleted, engine switch on (ACC) or on (IG) operation is attempted

| | | | |
|---|---|---|---|
| Reason for warning: User confusion prevention | | | |
| Warning condition: Engine switch is not off and key is not detected in vehicle interior | | | |
| Warning description | Combination meter buzzer | Multi-buzzer | Sounds once (1 "pon" sound) |
| | Combination meter display | Combination meter information | "Key is not detected" - "Check key position" is displayed for 10 seconds, then display ends |
| | | Telltale | None |
| | Wireless buzzer | None | |
| Recommended user action | | Check if the key is within the detection area of the vehicle cabin<br>If key is within the vehicle interior, built-in battery may be depleted<br>If wireless door lock switch on key is pressed, check if indicator on key illuminates<br>If indicator does not illuminate, replace the built-in battery<br>It is recommended that battery be bought at dealer, but battery can be replaced according to user preference | |

h. Situation G:
Key lock-in prevention function buzzer (for cabin)

i. With key in vehicle cabin, vehicle is exited and door handle lock switch is pressed in an attempt to perform entry lock operation

| | | | |
|---|---|---|---|
| Reason for warning: Key reminder vehicle theft warning prevention | | | |
| Warning condition: Engine switch off, all doors closed, door handle lock switch on and key is detected in vehicle interior | | | |
| Warning description | Combination meter buzzer | Multi-buzzer | None |
| | Combination meter display | Combination meter information | None |
| | | Telltale | None |
| | Wireless buzzer | Sounds for 2 seconds (long beep)*<br>**HINT:** | |

| | | |
|---|---|---|
| | | *: except China |
| Recommended user action | | Pick up key that is in vehicle interior and perform entry lock operation again |

i. Situation H:
Key battery low warning

i. Key with almost depleted battery is used to drive vehicle

| | | | |
|---|---|---|---|
| Reason for warning: Helpful function | | | |
| Warning condition: After engine switch not off condition continues for 20 minutes or more, engine switch is changed from not off to off, key battery is low and key is detected in vehicle interior | | | |
| Warning description | Combination meter buzzer | Multi-buzzer | Sound once (1 "pon" sound) |
| | Combination meter display | Combination meter information | "Low Key Battery" - "Have your vehicle checked by a dealer" |
| | | Telltale | None |
| | Wireless buzzer | None | |
| Recommended user action | | Replace key built-in battery with new one<br>It is recommended that battery be bought at dealer, but battery can be replaced according to user preference | |

## BATTERY SAVING

a. Vehicle battery saving function:
In the entry and start system, signals are emitted outside of the vehicle at a prescribed interval (0.25 seconds) when the doors are locked. Therefore, the vehicle battery could be drained if the vehicle remains parked for a long time. For this reason, the controls listed below exist.

| Condition | Control |
|---|---|
| Both conditions below are met for 10 days:<br>• Key is not in detection area<br>• Touch sensor or lock switch operation is not performed | Signal transmission interval is extended from 0.25 to 0.75 seconds |
| Both conditions below are met for 15 days:<br>• Key is not in detection area<br>• Touch sensor or lock switch operation is not performed | Signal transmission interval is extended from 0.75 to 2.25 seconds |
| Both conditions below are met for 30 days:<br>• Key is not in detection area<br>• Touch sensor or lock switch operation is not performed | Automatically deactivates the entry and start system |

Reinstatement Conditions:

- A wireless door lock control signal (lock, unlock) is input and the ID matches.
- A user carries the key and pushes a lock switch on an outside door handle.
- The driver door is locked or unlocked by the mechanical key.

b. Key battery and vehicle battery saving function:
In the entry and start system, if the key is constantly located within the vehicle exterior detection area of the doors, the system maintains periodic communication with the key. Therefore, if the vehicle remains parked in that state for a long time, the key battery and the vehicle battery could be drained. For this reason, if this state continues for more than 10 minutes, the entry and start system automatically becomes deactivated.
Reinstatement Conditions:

- A wireless door lock control signal (lock, unlock) is input and the ID code matches.
- A user carries the key and pushes a lock switch on an outside handle.
- The driver door is locked or unlocked by the mechanical key.

## KEY DIAGNOSTIC MODE (Using the intelligent tester)

**HINT:**

Key diagnostic mode checks if the electrical key transmitter within a selected oscillator/antenna detection area is operating normally. The results are output through the wireless door lock buzzer (in the right front fender).

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Entry & Start / Key Communication Check.

e. Check the values by referring to the table below.

**Entry & Start**

| Tester Display | Inspection Range |
|---|---|
| Overhead + Driver Side [*1] | Door electrical key oscillator (for Driver Side) |
| Overhead + Passenger Side [*2] | Door electrical key oscillator (for Front Passenger Side) |
| Overhead + Driver Side Rear [*3]* | Door electrical key oscillator (for Driver Side Rear) |
| Overhead + Passenger Side Rear [*4]* | Door electrical key oscillator (for Passenger Side Rear) |
| Overhead + Front Room [*5] | Indoor electrical key antenna (for Front Floor) |
| Overhead + Rear 1 Room [*6] | Indoor electrical key antenna (for Rear 1 Floor) |
| Overhead + Back Door (inside) [*7] | Indoor electrical key antenna (for Rear 2 Floor) |
| Overhead + Back Door (outside) [*8] | Back door electrical key antenna (for Outer) |

**HINT:**

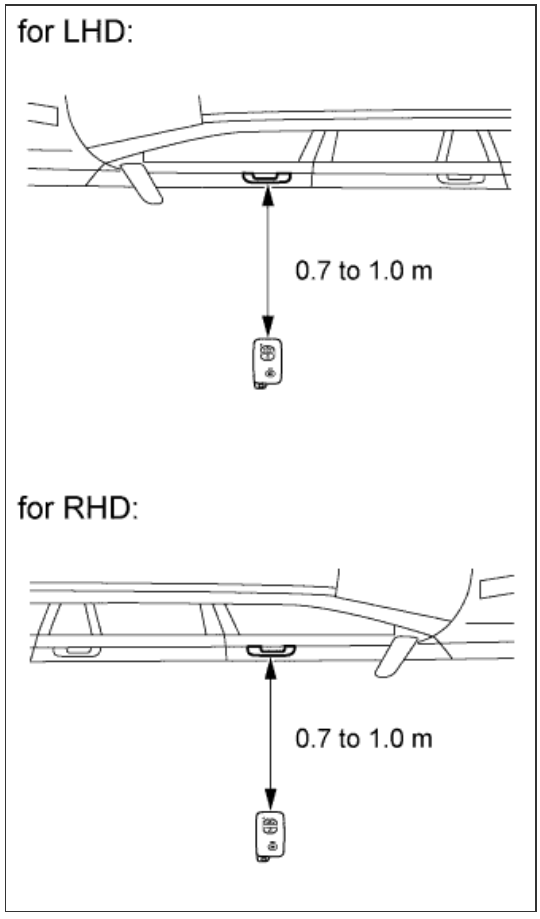
*: For vehicles with entry function for rear doors.

f. When the electrical key transmitter is brought near the selected oscillator/antenna, check that the wireless door lock buzzer sounds.

i. *1: Door electrical key oscillator (for Driver Side)

**HINT:**

- **Hold the key at the same height as the door outside handle (0.7 to 1.0 m (2.30 to 3.28 ft.)). Pay attention to the direction of the key in the illustration.**
- ***2: Perform the same inspection above for the door electrical key oscillator (front passenger seat outside transmitter).**
- ***3: Perform the same inspection above for the door electrical key oscillator (driver side rear seat outside transmitter).**
- ***4: Perform the same inspection above for the door electrical key oscillator (passenger side rear seat outside transmitter).**




ii. *5: Indoor electrical key antenna (front inside transmitter)

**HINT:**

Place the electrical key transmitter on the driver or front passenger seat cushion.

iii. *6: Indoor electrical key antenna (rear 1 inside transmitter)

**HINT:**

Place the electrical key transmitter on the rear 1 seat cushion.

iv. *7: Indoor electrical key antenna (for rear 2 inside transmitter)

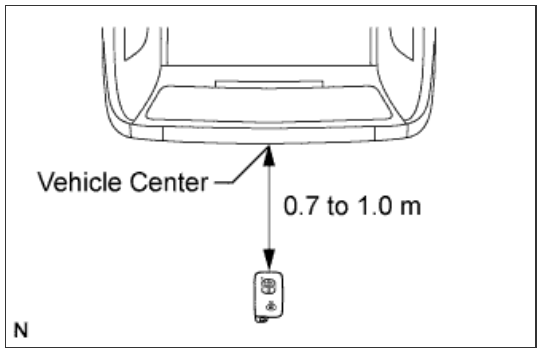
**HINT:**

Place the electrical key transmitter on the rear 2 seat cushion.

v. *8: Back door electrical key antenna (for Outer)

**HINT:**

Hold the electrical key transmitter at the same height as the rear bumper upper surface and aligned with the center of the rear of the vehicle, as shown in the illustration.


Vehicle Center
0.7 to 1.0 m
N

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the entry and start system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.INSPECT COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B. Go to CAN COMMUNICATION SYSTEM (Click here)

C. Go to CAN COMMUNICATION SYSTEM (Click here)

A

## 4.INSPECT COMMUNICATION FUNCTION OF LIN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the LIN communication system is functioning normally.

**Result**

| Result | Proceed to |
|---|---|
| LIN DTC is not output | A |
| LIN DTC is output | B |

B. Go to LIN COMMUNICATION SYSTEM (Click here)

A

## 5.CHECK FOR DTC*

a. Check for DTCs. Based on the DTCs output, try to cause the output of the same steering lock system DTC or engine immobiliser system DTC by simulating the symptoms indicated by the DTC.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| Steering lock system DTC is output | B |
| Engine immobiliser system DTC is output | C |

B. Go to STEERING LOCK SYSTEM (Click here)

C. Go to ENGINE IMMOBILISER SYSTEM (Click here)

A

## 6.PROBLEM SYMPTOMS TABLE

a. Refer to the Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. Go to step 8

A

## 7.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Operation Check (Click here)

b. Data List / Active Test (Click here)

c. Terminals of ECU (Click here)

NEXT

## 8.REPAIR OR REPLACEMENT

NEXT

## 9.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

## ENTRY AND START SYSTEM OPERATION INSPECTION

a. Check the entry unlock function.

i. Use the wireless lock operation to lock the doors. With the key in your possession, touch a door outside handle (touch sensor) and check that the door unlocks.

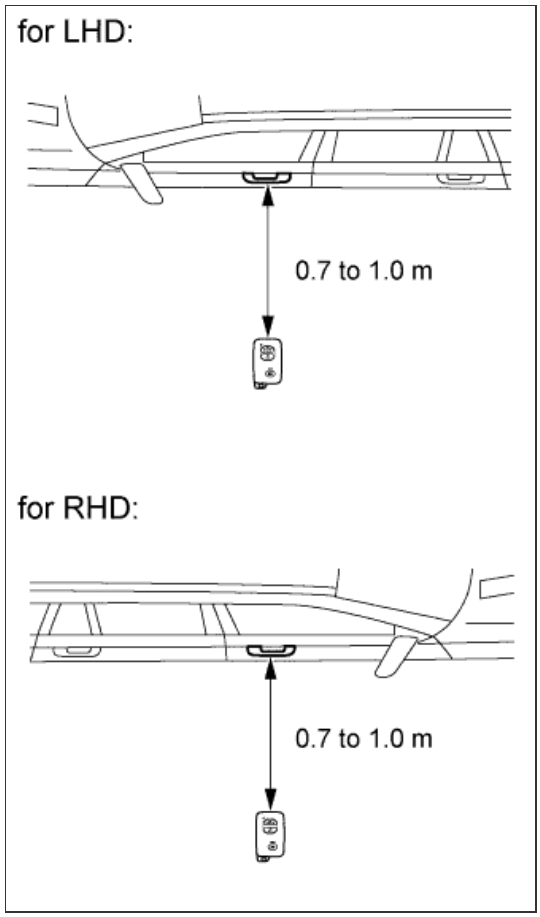
b. Check the entry unlock operation detection area.

i. Step 1: Hold the key at the same height as the door outside handle (approximately 0.8 m (2.62 ft.)). Pay attention to the direction of the key in the illustration.

ii. Step 2: Check that when the key is brought within 0.7 to 1.0 m (2.30 to 3.28 ft.) of the vehicle, the system enters unlock standby mode.

**HINT:**

Unlock standby mode is signified by the red LED of the key illuminating.



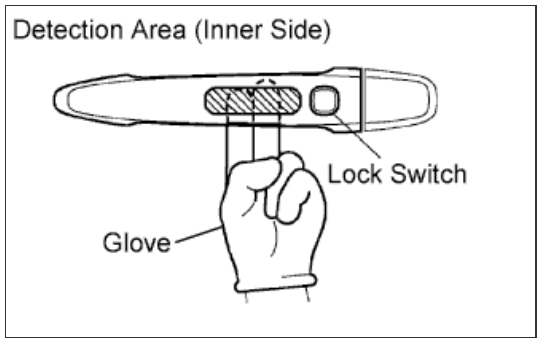

iii. Step 3: After the system enters unlock standby mode, touch the sensor on the outside handle within 3 seconds. Check that the door unlocks.

**NOTICE:**

The key may not be able to communicate with the system within a 0.2 m (0.656 ft.) radius of each outside handle.

iv. Step 4: Repeat step 2 and step 3 for the remaining doors.

v. Step 5: Inspect the door electrical key oscillator response sensitivity. Wear protective gloves, set the system to unlock standby mode, and check that touching the inner side of the outside handle (the



highlighted area in the illustration) with your finger causes the door to unlock.

**NOTICE:**

When touching the highlighted area, tapping too quickly or having extended contact may not trigger the sensor. In such a case, the door will not unlock.

vi. Step 6: Repeat step 5 for the remaining doors*.

**HINT:**

*: For vehicles with entry function for rear doors.

c. Check the entry lock function.

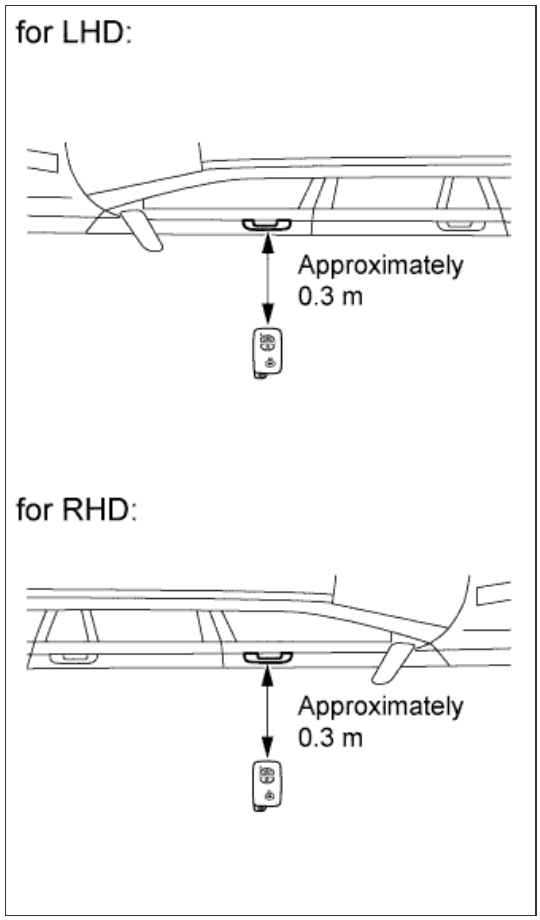
i. Step 1: Close all of the vehicle doors. With the key in your possession outside of the vehicle, check that pressing the lock switch locks the doors.

**HINT:**

- **When pressing the lock switch, hold the electrical key transmitter about 1 m (3.28 ft.) above the ground and about 0.3 m (0.984 ft.) away from the vehicle as shown in the illustration.**
- **Due to the key being unable to communicate with the system within a 0.2 m (0.656 ft.) distance from the outside handle, do not press the lock switch with the same hand that is holding the key. The doors may not lock.**
- **If the key lock-in prevention function buzzer sounds*, radio waves from the indoor electrical key antenna may be leaking from the vehicle.**

**HINT:**

*: except China

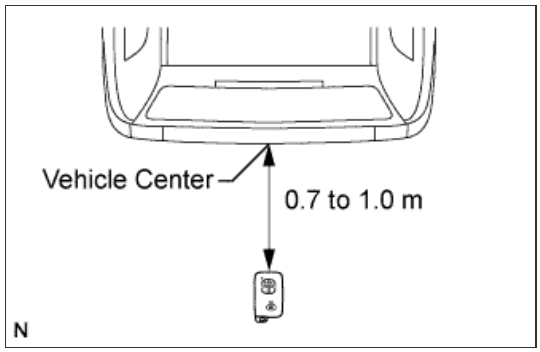



ii. Step 2: Repeat step 1 for the remaining doors.

d. Check the entry back door unlatch function.

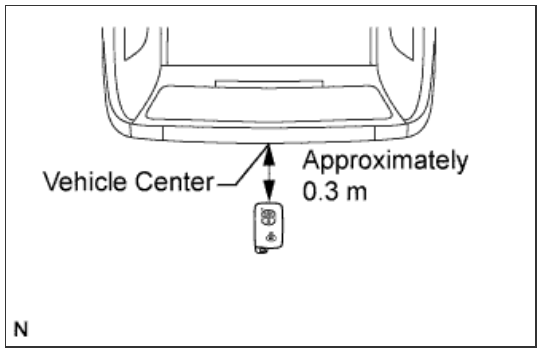
i. Close all the doors and the back door. With the key in your possession, check that pressing the back door opener switch unlocks all the doors and unlatches the back door.

ii. Inspect the detection area of the entry back door open operation. Hold the key at the same height as the back door opener switch (approximately 0.8 m (2.62 ft.)) and aligned with the center of the rear of the vehicle. Pay attention to the direction of the key shown in the illustration. Check that the when the key is brought within 0.7 to 1.0 m (2.30 to 3.28 ft.) of the vehicle, pressing the back door opener switch unlocks all the doors and unlatches the back door.




e. Check the entry back door lock function.

i. Step 1: Close all of the vehicle doors. With the key in your possession outside of the vehicle, check that pressing the back door lock switch locks all the doors.




**HINT:**

- **When pressing the lock switch, hold the electrical key transmitter about 1 m (3.28 ft.) above the ground and about 0.3 m (0.984 ft.) away from the vehicle as shown in the illustration.**
- **Due to the key being unable to communicate with the system within a 0.2 m (0.656 ft.) distance from the center of the rear of the vehicle, do not press the lock switch with the same hand that is holding the key. The doors may not lock.**
- **If the key lock-in prevention function buzzer sounds, radio waves from the indoor electrical key antenna may be leaking from the vehicle.**

f. Check the entry ignition function.

i. When the engine control system is off: With the key in your possession and the brake pedal depressed, check that pressing the engine switch releases the steering wheel lock and starts the engine control system.

**HINT:**

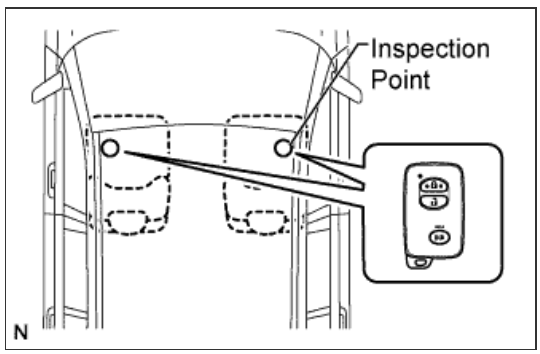
- **The engine control system can be started only when the engine switch indicator illumination in green.**
- **Even when not depressing the brake pedal, continually pressing the engine switch for 15 seconds when the engine switch is on (ACC) can start the engine control system.**

ii. When the engine control system is running: With the key in your possession, check that pressing the engine switch stops the engine control system and activates the steering wheel lock.

**HINT:**

The shift lever must be in P to be able to stop the engine control system.

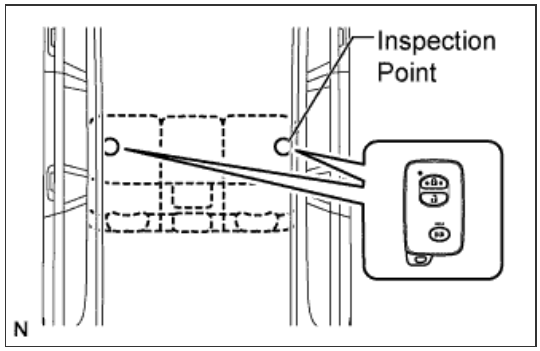
iii. Inspect the detection area of the entry ignition operation (front seat). Pay attention to the direction of the key in the illustration. When the key is in either of the 2 locations in the illustration, check that the engine control system can start.




**NOTICE:**

The engine control system cannot be started when the key is on the instrument panel or rear package tray, or in the glove box.

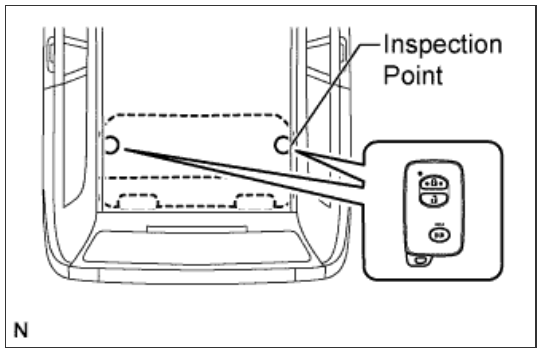
iv. Inspect the detection area of the entry ignition operation (rear 1 seat). Pay attention to the direction of the key in the illustration. When the key is in either of the 2 locations in the illustration, check that the engine control system can start.




**NOTICE:**

The engine control system cannot be started when the key is on the instrument panel or rear package tray, or in the glove box.

v. Inspect the detection area of the entry ignition operation (rear 2 seat). Pay attention to the direction of the key in the illustration. When the key is in either of the 2 locations in the illustration, check that the engine control system can start.




**NOTICE:**

The engine control system cannot be started when the key is on the instrument panel or rear package tray, or in the glove box.

g. Check the key lock-in prevention function.

**NOTICE:**

To prevent key lock-in, perform the inspection with one of the door windows open.

i. Place the key in the vehicle with all doors locked. Check that, when all the doors are locked through keyless operation (move the lock knob to the lock position and then close the door), the wireless buzzer sounds* for seconds and all the doors are unlocked.

**HINT:**

*: except China

**NOTICE:**

If the key in inside a metal storage item, such as a metal briefcase or metal box, the key will not be able to be detected by the system.

h. Check the key cancel function.

i. While the engine switch is on (IG), check that the back door opener switch is the only switch in the entry and start system that can be operated.

ii. While the key cancel function (entry and start system cancel function) is on, check that all functions in the entry and start system cannot be operated.

i. Check the answer-back function (hazard warning light flashing and buzzer sounding).

| Entry Operation | Hazard Warning Light | Buzzer* |
|---|---|---|
| Entry Door Lock | Flashes once | Sounds once |
| Entry Door Unlock | Flashes twice | Sounds twice |
| Entry Back Door Open | Flashes twice | Sounds twice |

**HINT:**

*: except Europe and China

j. Check that the key reminder warning buzzer sounds.

i. Carry the key in the vehicle and close the driver side door. Then turn the engine switch off or on (ACC).

ii. Open the driver side door and check that the buzzer sounds intermittently.

k. Check that the key reminder warning buzzer stops.

i. When the buzzer is sounding, check that the buzzer stops sounding if either of the following are performed:

- Close the driver side door (front door courtesy light switch is off).
- Turn the engine switch on (IG).

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER

**HINT:**

The following items can be customized.

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current setting before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Customize Setting.

e. Select the setting by referring to the table below.

**Entry & Start**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Ignition Area (Entry ignition available area) | ALL | Function to choose the available area for the key to start the engine and cancel the steering lock. | FRONT/ALL* |
| Park Wait Time (Waiting time to permit unlocking door after locking) | 2.5s | Function that sets the waiting time to permit unlocking the door after the door is locked with the entry lock function. | 0.5s/1.5s/2.5s/5s |
| Back Door Opening Operation (Back door open mode when vehicle is locked) | LONG | Back door opening the operation. | LONG/TWICE/OFF |

**Warning**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Passenger Take Key | ON | Warn a key is taken out by fellow passengers | ON/OFF |
| Key Low Battery Warning (Warn when key battery becomes weak) | ON | Function that warns the driver that the key battery power is low. | ON/OFF |
| Key Out Range Warning | ON | Warn Starting E/G when the key is out of range | ON/OFF |

**HINT:**

*: "FRONT" means front, and "ALL" means front, rear 1 and rear 2.

**PSD & PBD Operation (w/ Power Back Door System)**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Wireless PBD Operation | 0.8 s (1Motion)* | Function that operates power back door when door control transmitter is pressed in specified way (1-press, 2-presses, 0.8 sec.- press or off). (Function to turn on/off the power back door wireless one motion open operation.)* | 1 Oper or 2 Oper or 0.8 s or OFF (1Motion or 1 Oper or 2 Oper or 0.8 s or OFF)* |

**HINT:**

*: Except Europe

## CUSTOMIZING FUNCTION WITH MULTI-DISPLAY (w/ Multi-display)

**HINT:**

The following items can be customized.

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current setting before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Turn the engine switch on (IG).

b. Enter the following menus: Setup / Vehicle / Vehicle Settings / Vehicle Customization / Door Lock Settings.

c. Select the setting by referring to the table below.

**Door lock settings**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Select Doors to Unlock | All Doors | Function that sets which doors are unlocked by the entry unlock function. | All Doors or Driver's Door |
| Entry and start system | ON | Function that enables or disables the entry and start system. | On or Off |

## ENTRY UNLOCK MODE SWITCHING FUNCTION

a. To use the entry unlock mode switching function, make sure the engine switch is off and simultaneously press and hold the lock switch on the key and another key switch for 5 seconds.

When the switches are pressed and held for 5 seconds, the entry door unlock mode changes in the following order: all door unlock mode, driver door unlock mode.

**NOTICE:**

After pressing and holding the switches for 5 seconds, wait 5 seconds before performing the same procedure again.

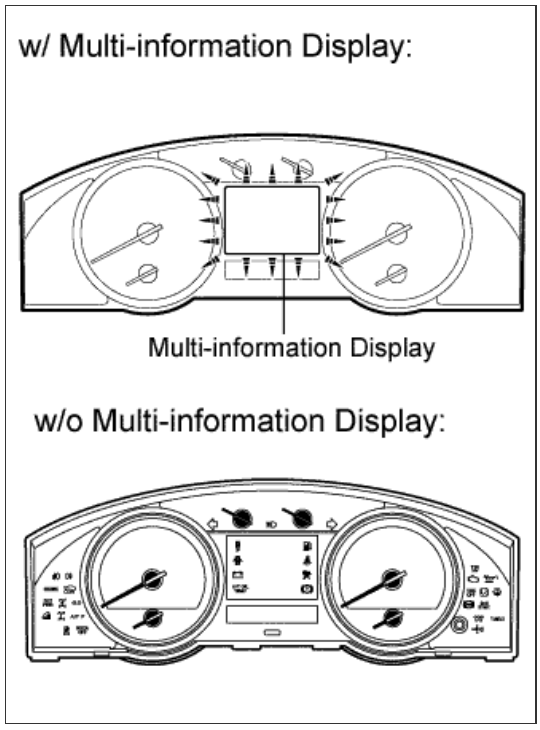
- All door unlock mode (default):
  When a touch sensor is touched, all doors unlock.
- Driver door unlock mode:
  When the driver door touch sensor is touched, only the driver door unlocks. When another touch sensor is touched, all doors unlock.

b. The certification ECU (smart key ECU assembly) receives this signal from the door control receiver and changes the entry and start system to the entry unlock mode.

c. The certification ECU (smart key ECU assembly) sounds the wireless door lock buzzer and combination meter buzzer to inform the user that the mode has been switched.

**HINT:**

The function only changes the entry unlock mode of the entry and start system. It does not switch the unlocking of the wireless door lock control.



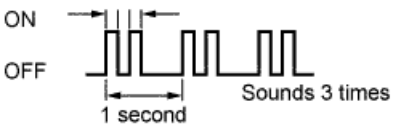

- All door unlock mode:

| Mode | | All Doors (Default) |
|---|---|---|
| Wireless Door Lock Buzzer*1 | |  |
| Combination Meter | Multi-information Display*2 | <br>Displayed for 4 seconds |
| | Buzzer | Sounds once |

**HINT:**

- ***1: except China.**
- ***2: For vehicles with the multi-information display.**

- Driver door unlock mode:

| Mode | | Driver Door (Customized) |
|---|---|---|
| Wireless Door Lock Buzzer*1 | | Each interval approximately 0.13 seconds<br> |
| Combination Meter | Multi-information Display*2 | <br>Displayed for 4 seconds |
| | Buzzer | Sounds once |

**HINT:**

- ***1: except China.**
- ***2: For vehicles with the multi-information display.**
- **The above illustration is for LHD vehicles. For RHD vehicles, the left side and right side are reversed.**

## KEY CANCEL

The key cancel operation disables the following functions:

- Entry Unlock/Lock
- Key Lock-in Prevention
- Memory Call
- Entry Back Door Open
- Warning
- Entry Ignition

a. The operation procedures are as follows:
Precondition:
Engine switch off, driver side door closed and unlocked.

i. Unlock the driver side door once with the unlock switch of the key.

ii. Open the driver door within 5 seconds.

iii. Unlock the driver side door twice with the unlock switch of the key within 5 seconds.

iv. Perform close → open twice for the driver door within 30 seconds.
(Driver door: Open condition → Close → Open → Close → Open)

v. Unlock the driver side door twice with the unlock switch of the key within 5 seconds.

vi. Perform close → open once for the driver door within 30 seconds.
(Driver door: Open condition → Close → Open)

vii. Close the driver door within 5 seconds.
When key cancel is activated, the wireless door lock buzzer sounds twice.
To return to the original condition, perform the procedures again. When the original condition is returned, the wireless door lock buzzer sounds once.

**WIRELESS BUZZER VOLUME ADJUSTMENT ( Click here).**

**for Preparation** Click here

**HINT:**

- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Entry and Start System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Entry Answer-back Buzzer does not Sound | Wireless door lock control system | Click here |
| | Certification ECU (Smart key ECU assembly) | - |
| All Door Entry Lock/Unlock Functions and Wireless Functions do not Operate | Power door lock control system | Click here |
| | Door control transmitter | - |
| | Transmitter battery | - |
| | Fuse (IMB) | - |
| | Harness or connector | - |
| | Door control receiver | - |
| | Certification ECU (Smart key ECU assembly) | - |
| All Door Entry Lock/Unlock Functions do not Operate, but Wireless Functions Operate | Door control transmitter | Click here |
| | Certification ECU (Smart key ECU assembly) | - |
| Driver Side Door Entry Unlock Function does not Operate | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Door outside handle assembly (for Driver side) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Front Passenger Side Door Entry Unlock Function does not Operate | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Door outside handle assembly (for Front passenger side) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Rear Door LH Entry Unlock Function does not Operate* | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Rear door outside handle assembly LH | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Rear Door RH Entry Unlock Function does not Operate* | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Rear door outside handle assembly RH | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Driver Side Door Entry Lock and Unlock Functions do not Operate | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Door outside handle assembly (for Driver side) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Front Passenger Side Door Entry Lock and Unlock Functions do not Operate | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Door outside handle assembly (for Front passenger side) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| | Power door lock control system | Click here |

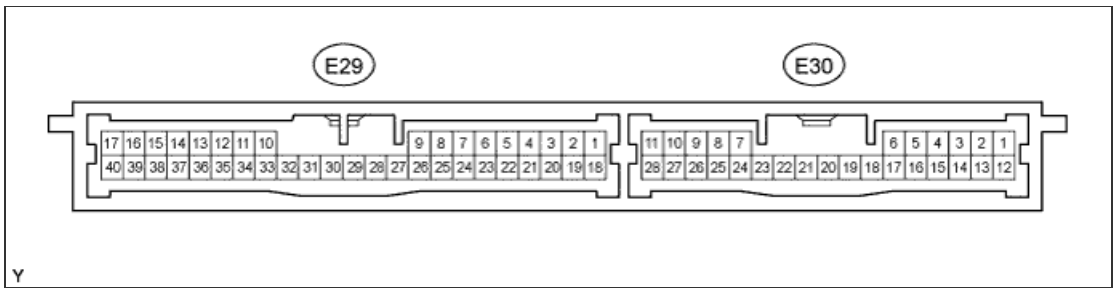
| | | |
|---|---|---|
| Rear Door LH Entry Lock and Unlock Functions do not Operate* | Door electrical key oscillator | - |
| | Rear door outside handle assembly LH | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Rear Door RH Entry Lock and Unlock Functions do not Operate* | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Rear door outside handle assembly RH | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Driver Side Door Entry Lock Function does not Operate | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Door outside handle assembly (for Driver side) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Front Passenger Side Door Entry Lock Function does not Operate | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Door outside handle assembly (for Front passenger side) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Rear Door LH Entry Lock Function does not Operate* | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Rear door outside handle assembly LH | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Rear Door RH Entry Lock Function does not Operate* | Power door lock control system | Click here |
| | Door electrical key oscillator | - |
| | Rear door outside handle assembly RH | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Room Oscillator does not Recognize Key | Indoor electrical key antenna (for front floor) | Click here |
| | Indoor electrical key antenna (for rear 1 floor) | - |
| | Indoor electrical key antenna (for rear 2 floor) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| | Door control transmitter | - |
| Entry Interior Alarm does not Sound | Combination meter | Click here |
| | Certification ECU (Smart key ECU assembly) | - |
| Back Door Entry Unlock Function does not Operate | Power door lock control system | Click here |
| | Back door opener switch | - |
| | Back door electrical key antenna (for outer) | - |
| | Main body ECU | - |
| | Harness or connector | - |
| | Certification ECU (Smart key ECU assembly) | - |
| Back Door Entry Lock and Unlock Functions do not Operate | Power door lock control system | Click here |
| | Back door opener switch | - |
| | Back door electrical key antenna (for outer) | - |
| | Main body ECU | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Harness or connector | - |
| Back Door Entry Lock Function does not Operate | Power door lock control system | Click here |
| | Back door electrical key antenna (for outer) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Main body ECU | - |
| | Harness or connector | - |

**HINT:**

*: For vehicles with entry function for rear doors.

**for Preparation** Click here

## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)




a. Disconnect the E29 ECU connector.

b. Measure the resistance and voltage of the wire harness side connector.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29-17 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E29-1 (+B) - Body ground | B - Body ground | +B power supply | Always | 11 to 14 V |
| E29-18 (IG) - Body ground | B - Body ground | Ignition power supply | Engine switch off | Below 1 V |
| | | | Engine switch on (IG) | 11 to 14 V |
| E29-3 (TSW1) - E29-17 (E) | G - W-B | Door outside handle (driver side) lock switch signal | Switch released | 10 kΩ or higher |
| | | | Switch pressed in | Below 1 Ω |
| E29-4 (TSW2) - E29-17 (E) | BR - W-B | Door outside handle (front passenger side) lock switch signal | Switch released | 10 kΩ or higher |
| | | | Switch pressed in | Below 1 Ω |
| E30-25 (TSW3) - E29-17 (E)*3 | G - W-B | • Door outside handle (rear LH) lock switch signal*1<br>• Door outside handle (rear RH) lock switch signal*2 | Switch released | 10 kΩ or higher |
| | | | Switch pressed in | Below 1 Ω |
| E30-26 (TSW4) - E29-17 (E)*3 | G - W-B | • Door outside handle (rear RH) lock switch signal*1<br>• Door outside handle (rear LH) lock switch signal*2 | Switch released | 10 kΩ or higher |
| | | | Switch pressed in | Below 1 Ω |
| E29-7 (TSW5) - E29-17 (E) | L - W-B | Back door lock switch signal | Switch released | 10 kΩ or higher |
| | | | Switch pressed in | Below 1 Ω |
| E29-10 (LIN) - E29-17 (E) | GR - W-B | LIN line | Always | 10 kΩ or higher |
| E29-27 (CANH) - E29-17 (E) | LG - W-B | CAN line | Always | 10 kΩ or higher |
| E29-28 (CANL) - E29-17 (E) | R - W-B | CAN line | Always | 10 kΩ or higher |

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

- ***3: For vehicles with entry function for rear doors.**

If the result is not as specified, the wire harness side may have a malfunction.

c. Reconnect the E29 ECU connector.

d. Measure the voltage of the connector.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29-33 (CLG1) - E29-34 (CG1B) | L - W | Door electrical key oscillator (driver side) sensor signal | All doors closed, all doors locked and engine switch off | Alternating between 5 V and below 1 V |
| | | | Door unlocked or door open | Below 1 V |
| E29-22 (SEN1) - E29-17 (E) | R - W-B | Touch sensor detection signal | Door outside handle touched | 11 to 14 V |
| | | | Door outside handle not touched | Below 1 V |
| E29-5 (SEL1) - E29-17 (E) | Y - W-B | Touch sensor activation control signal | Key at least 5 m (16.4 ft.) away from door | 11 to 14 V |
| | | | Key moved near outside door handle | Below 1 V |
| E29-35 (CLG2) - E29-36 (CG2B) | L - R | Door electrical key oscillator (front passenger side) sensor signal | All doors closed, all doors locked and engine switch off | Alternating between 5 V and below 1 V |
| | | | Door unlocked or door open | Below 1 V |
| E29-23 (SEN2) - E29-17 (E) | R - W-B | Touch sensor detection signal | Door outside handle touched | 11 to 14 V |
| | | | Door outside handle not touched | Below 1 V |
| E29-6 (SEL2) - E29-17 (E) | Y - W-B | Touch sensor activation control signal | Key at least 5 m (16.4 ft.) away from door | 11 to 14 V |
| | | | Key moved near outside door handle | Below 1 V |
| E30-8 (CLG3) - E30-9 (CG3B)*3 | L - W | • Door electrical key oscillator (rear LH) sensor signal*1<br>• Door electrical key oscillator (rear RH) sensor signal*2 | All doors closed, all doors locked and engine switch off | Alternating between 5 V and below 1 V |
| | | | Door unlocked or door open | Below 1 V |
| E30-28 (SEN3) - E29-17 (E)*3 | R - W-B | Touch sensor detection signal | Door outside handle touched | 11 to 14 V |
| | | | Door outside handle not touched | Below 1 V |
| E30-1 (SEL3) - E29-17 (E)*3 | Y - W-B | Touch sensor activation control signal | Key at least 5 m (16.4 ft.) away from door | 11 to 14 V |
| | | | Key moved near outside door handle | Below 1 V |
| E30-10 (CLG4) - E30-11 (CG4B)*3 | L - W | • Door electrical key oscillator (rear RH) sensor signal*1<br>• Door electrical key oscillator (rear LH) sensor signal*2 | All doors closed, all doors locked and engine switch off | Alternating between 5 V and below 1 V |
| | | | Door unlocked or door open | Below 1 V |

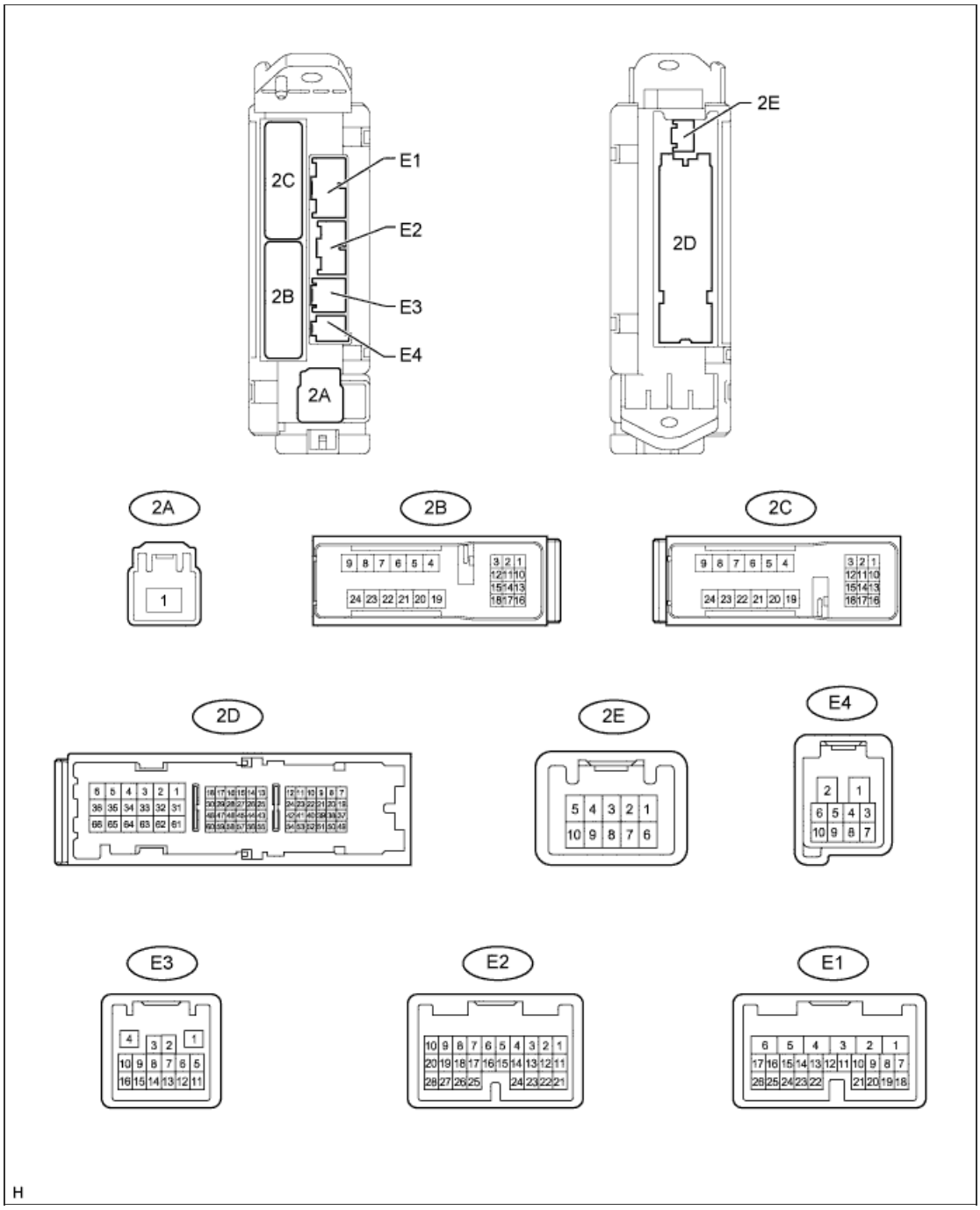
| | | | | |
|---|---|---|---|---|
| E30-27 (SEN4) - E29-17 (E)*3 | R - W-B | Touch sensor detection signal | Door outside handle touched | 11 to 14 V |
| | | | Door outside handle not touched | Below 1 V |
| E30-2 (SEL4) - E29-17 (E)*3 | Y - W-B | Touch sensor activation control signal | Key at least 5 m (16.4 ft.) away from door | 11 to 14 V |
| | | | Key moved near outside door handle | Below 1 V |
| E29-11 (CLG5) - E29-12 (CG5B) | SB - V | Indoor electrical key antenna (for front) sensor signal | 30 seconds after driver side door opened and closed, engine switch off | Alternating between 5 V and below 1 V |
| | | | Within 30 seconds after driver side door opened and closed, engine switch off | Below 1 V |
| E29-13 (CLG6) - E29-14 (CG6B) | R - SB | Indoor electrical key antenna (for rear 1) sensor signal | 30 seconds after driver side door opened and closed, engine switch off | Alternating between 5 V and below 1 V |
| | | | Within 30 seconds after driver side door opened and closed, engine switch off | Below 1 V |
| E29-15 (CLG7) - E29-16 (CG7B) | GR - W | Indoor electrical key antenna (for rear 2) sensor signal | 30 seconds after driver side door opened and closed, engine switch off | Alternating between 5 V and below 1 V |
| | | | Within 30 seconds after driver side door opened and closed, engine switch off | Below 1 V |
| E29-31 (CLG8) - E29-32 (CG8B) | G - GR | Back door electrical key antenna (for outer) sensor signal | Back door opener switch off | Alternating between 5 V and below 1 V |
| | | | Back door opener switch on | Below 1 V |
| E29-29 (RCO) - E29-17 (E) | B - W-B | Door control receiver power source | Engine switch off, all doors closed and transmitter switch not pressed → pressed | Below 1 V → 4.6 to 5.4 V → Below 1 V |
| E29-39 (RSSI) - E29-17 (E) | L - W-B | Door control receiver electric wave existence signal | Engine switch off, all doors closed and transmitter switch not pressed → pressed | 11 to 14 V → Below 1 V |
| E29-38 (RDA) - E29-17 (E) | LG - W-B | Door control receiver data input signal | Engine switch off, all doors closed and transmitter switch not pressed → pressed | Below 1 V → 11 to 14 V → Below 1 V |
| E29-21 (BZR) - E29-17 (E) | LG - W-B | Wireless door lock buzzer signal | Answer-back on | Pulse generation |
| | | | Answer-back off | Below 1 V |

**HINT:**

- ***1: for LHD**
- ***2: for RHD**
- ***3: For vehicles with entry function for rear doors.**

If the result is not as specified, the ECU may have a malfunction.

**CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)**




a. Disconnect the E1, E2, E3, 2A, 2B and 2D ECU connectors.

b. Measure the resistance and voltage of the wire harness side connectors.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| 2A-1 (ALTB) - Body ground | B - Body ground | ALTB power supply | Always | 11 to 14 V |
| 2B-20 (BATB) - Body ground | L - Body ground | BATB power supply | Always | 11 to 14 V |
| E1-6 (AM1) - Body ground | W - Body ground | AM1 power supply | Always | 11 to 14 V |
| E2-1 (AM2) - Body ground | W - Body ground | AM2 power supply | Always | 11 to 14 V |
| 2A-1 (IG) - Body ground | G - Body ground | IG1 signal | Engine switch on (IG) | 11 to 14 V |
| | | | Engine switch off | Below 1 V |
| 2D-8 (ACC) - Body ground | GR - Body ground | ACC signal | Engine switch on (ACC) | 11 to 14 V |
| | | | Engine switch off | Below 1 V |
| | | | | |

| | | | | |
|---|---|---|---|---|
| E3-5 (CANH) - Body ground | SB - Body ground | CAN communication line | Always | 10 kΩ or higher |
| E3-6 (CANL) - Body ground | B - Body ground | CAN communication line | Always | 10 kΩ or higher |
| E3-15 (CANN) - Body ground | R - Body ground | CAN communication line | Always | 10 kΩ or higher |
| E3-16 (CANP) - Body ground | GR - Body ground | CAN communication line | Always | 10 kΩ or higher |
| 2D-20 (LIN1) - Body ground | GR - Body ground | LIN communication line | Always | 10 kΩ or higher |
| E3-10 (LIN2) - Body ground | G - Body ground | LIN communication line | Always | 10 kΩ or higher |

If the result is not as specified, the wire harness side may have a malfunction.

c. Reconnect the E1, E2, E3, 2A, 2B and 2D ECU connectors.

d. Measure the voltage of the connectors.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-24 (DCTY) - Body ground | L - Body ground*1<br>Y - Body ground*2 | Driver side door courtesy switch input | Driver side door open | Below 1 V |
| | | | Engine switch off, and driver side door courtesy switch off | Pulse generation (see waveform 1 or 2) |
| E2-21 (PCTY) - Body ground | Y - Body ground*1<br>L - Body ground*2 | Front passenger side door courtesy switch input | Front passenger side door open | Below 1 V |
| | | | Engine switch off, and passenger side door courtesy switch off | Pulse generation (see waveform 3 or 4) |
| 2C-2 (LCTY) - Body ground | W - Body ground | Rear door LH courtesy light switch input | Rear door LH open | Below 1 V |
| | | | Engine switch off, and rear LH side door courtesy switch off | Pulse generation (see waveform 5 or 6) |
| E2-7 (RCTY) - Body ground | G - Body ground | Rear door RH courtesy light switch input | Rear door RH open | Below 1 V |
| | | | Engine switch off, and rear RH side door courtesy switch off | Pulse generation (see waveform 7 or 8) |
| E2-25 (BCTY) - Body ground | W - Body ground | Back door courtesy light switch input | Back door open | Below 1 V |
| | | | Engine switch off, and back door closed | Pulse generation (see waveform 9 or 10) |
| E3-7 (HZSW) - Body ground | BE - Body ground | Hazard warning light signal | Answer-back on | Below 1 V |
| | | | Answer-back off | 11 to 14 V |
| E1-26 (BDSU) - Body ground | L - Body ground | Back door opener switch input | Back door lock opener switch off | Below 1 V |
| | | | Back door lock opener switch on | Pulse generation (see waveform 11 or 12) |

**HINT:**

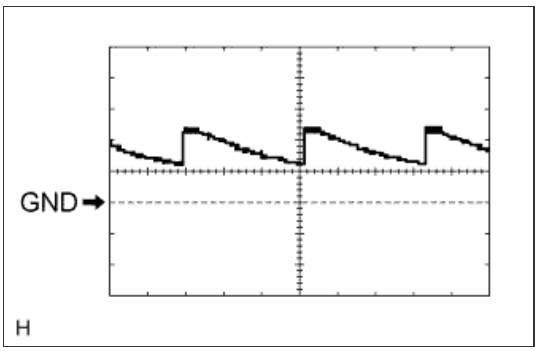
- ***1: for LHD**
- ***2: for RHD**

If the result is not as specified, the ECU may have a malfunction.

e. Using an oscilloscope, check waveform 1.

**Waveform 1 (Reference)**

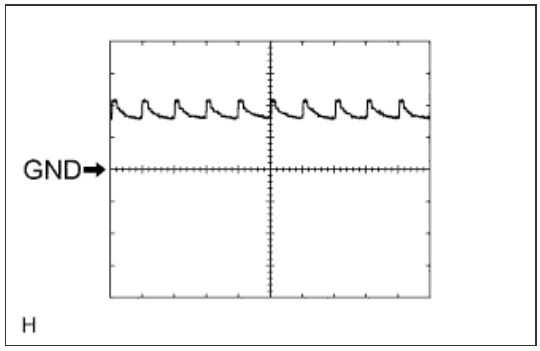
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-24 (DCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and driver side door courtesy switch off |



f. Using an oscilloscope, check waveform 2.

**Waveform 2 (Reference)**

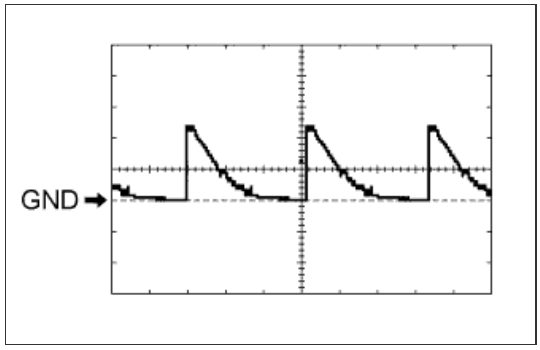
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-24 (DCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and driver side door courtesy switch off |




g. Using an oscilloscope, check waveform 3.

**Waveform 3 (Reference)**

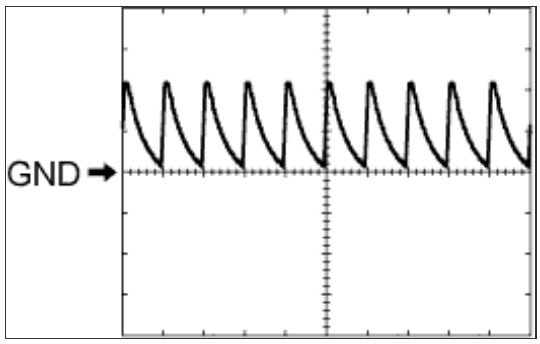
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-21 (PCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and passenger side door courtesy switch off |




h. Using an oscilloscope, check waveform 4.

**Waveform 4 (Reference)**

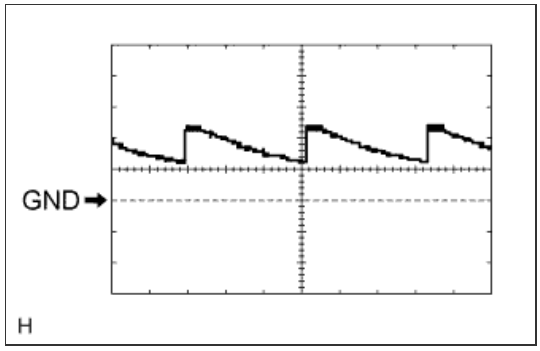
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-21 (PCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and passenger side door courtesy switch off |




i. Using an oscilloscope, check waveform 5.

**Waveform 5 (Reference)**

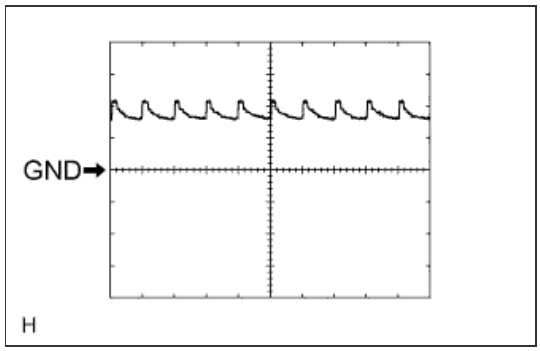
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2C-2 (LCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear LH side door courtesy switch off |




j. Using an oscilloscope, check waveform 6.

**Waveform 6 (Reference)**

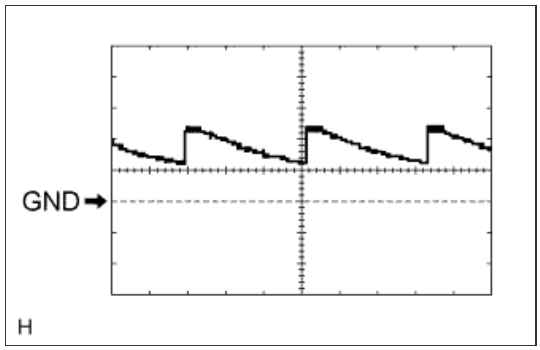
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2C-2 (LCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear LH side door courtesy switch off |



k. Using an oscilloscope, check waveform 7.

**Waveform 7 (Reference)**

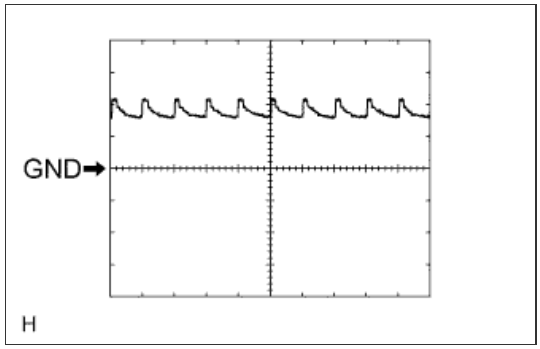
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-7 (RCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear RH side door courtesy switch off |




l. Using an oscilloscope, check waveform 8.

**Waveform 8 (Reference)**

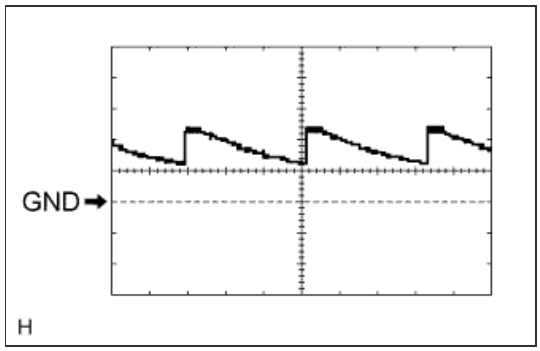
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-7 (RCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear RH side door courtesy switch off |




m. Using an oscilloscope, check waveform 9.

**Waveform 9 (Reference)**

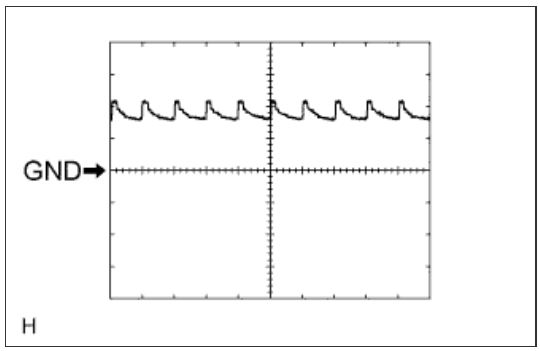
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-25 (BCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and back door closed |




n. Using an oscilloscope, check waveform 10.

**Waveform 10 (Reference)**

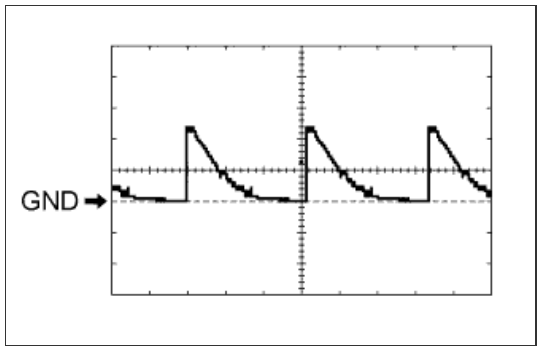
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-25 (BCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and back door closed |




o. Using an oscilloscope, check waveform 11.

**Waveform 11 (Reference)**

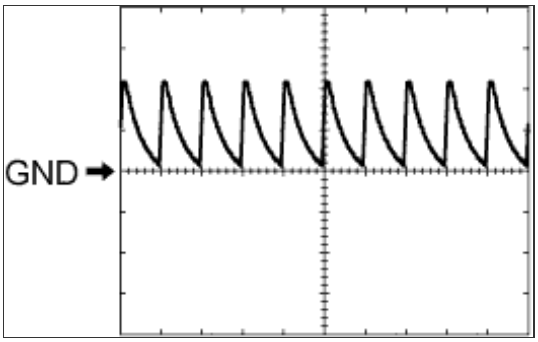
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-26 (BDSU) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and Back door lock opener switch on |



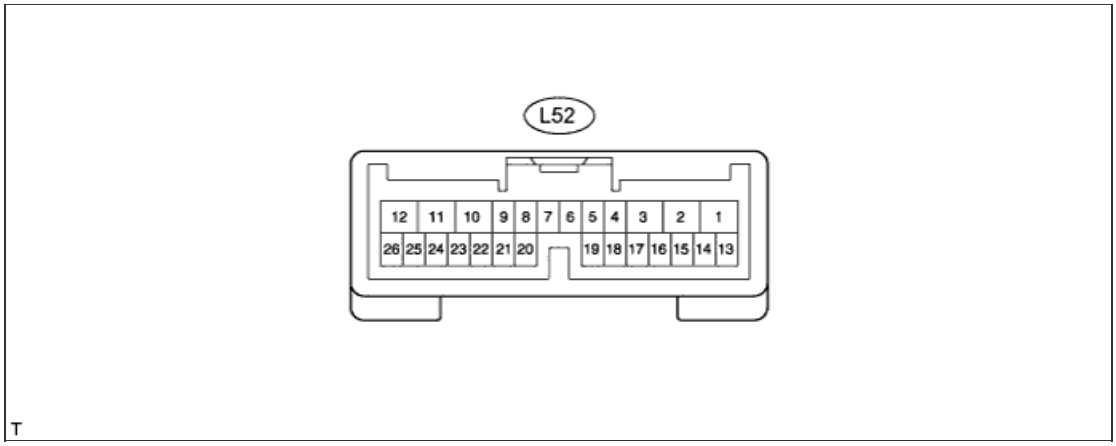

p. Using an oscilloscope, check waveform 12.

**Waveform 12 (Reference)**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-26 (BDSU) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and Back door lock opener switch on |




## CHECK POWER BACK DOOR UNIT (w/ Power Back Door)




a. Disconnect the L52 unit connector.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| L52-10 (ECUB) - Body ground | R - Body ground | ECUB power supply | Always | 11 to 14 V |
| L52-11 (GND) - Body ground | W-B - Body ground | Body ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the L52 unit connector.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| L52-2 (DC+) - L52-1 (DC-) | R - B | Power back door lock motor circuit | Back door lock motor is operating | 11 to 14 V |
| L52-2 (DC+) - L52-1 (DC-) | R - B | Power back door lock motor circuit | Back door lock motor is stopped | Below 1 V |

If the result is not as specified, the ECU may have a malfunction.

**for Preparation** Click here

## READ DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Data List.

e. According to the display on the intelligent tester, read the Data List.

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Power Save Cnt 10 Min. | Power save counter - 10 minutes / Min: 0, Max: 225 | Within range from 0 to 225 | - |
| Power Save Cnt 9 Days | Power save counter - 9 days / Min: 0, Max: 225 | Within range from 0 to 225 | - |
| Power Save Cnt 14 Days | Power save counter - 14 days / Min: 0, Max: 225 | Within range from 0 to 225 | - |
| Power Save Cnt 30 Days | Power save counter - 30 days / Min: 0, Max: 225 | Within range from 0 to 225 | - |
| Unmatched Vehicle-ID | No communication condition between vehicle and electrical key transmitter (vehicle-ID) / Yes or No | Yes: Key ID code not matched to vehicle<br>No: Key ID code matched to vehicle | - |
| No Response | No communication condition between vehicle and electrical key transmitter (response) / Yes or No | Yes: Key ID code not matched to vehicle<br>No: Key ID code matched to vehicle | - |
| Unmatch Code or Form | No communication condition between vehicle and electrical key transmitter (response code and format) / Yes or No | Yes: Key ID code not matched to vehicle<br>No: Key ID code matched to vehicle | - |
| Key Low Battery | Key low battery / Yes or No | Yes: Key battery voltage low<br>No: Key battery voltage normal | - |
| ID Code Difference(Resp) | No communication condition between vehicle and electrical key transmitter (ID code) / Yes or No | Yes: Key ID code not matched to vehicle<br>No: Key ID code matched to vehicle | - |
| C Code Difference | No communication condition between vehicle and electrical key transmitter (challenge code) / Yes or No | Yes: Key ID code not matched to vehicle<br>No: Key ID code matched to vehicle | - |
| Door Unlock Mode | Door unlock mode / All, Each, D_Door, Side | Mode status displayed | - |
| Auto Entry Cancel SW | Entry door lock function cancel / ON or OFF | Mode status displayed | - |
| Trunk Open Mode | Luggage compartment door open mode with vehicle locked / ON or OFF | Customization status displayed | - |
| Ignition Available Area | Ignition available area / Front or All | Customization status displayed | - |
| D-Door Touch Sensor | Driver side door touch sensor / ON or OFF | ON: Driver side door sensor touched<br>OFF: Driver side door sensor not touched | - |
| D-Door Trigger | Driver side door outside handle lock switch / ON or OFF | ON: Driver side door outside handle lock switch pushed | - |

| | | | |
|---|---|---|---|
| Switch | | OFF: Driver side door outside handle lock switch not pushed | |
| P-Door Touch Sensor | Front passenger side door touch sensor / ON or OFF | ON: Front passenger side door sensor touched<br>OFF: Front passenger side door sensor not touched | - |
| P-Door Trigger Switch | Front passenger side door outside handle lock switch / ON or OFF | ON: Front passenger side door outside handle lock switch pushed<br>OFF: Front passenger side door outside handle lock switch not pushed | - |
| Dr-Door Touch Sensor* | Driver side rear door touch sensor / ON or OFF | ON: Driver side rear door sensor touched<br>OFF: Driver side rear door sensor not touched | - |
| Dr-Door Trigger Switch* | Driver side rear door outside handle lock switch / ON or OFF | ON: Driver side rear door outside handle lock switch pushed<br>OFF: Driver side rear door outside handle lock switch not pushed | - |
| Pr-Door Touch Sensor* | Passenger side rear door touch sensor / ON or OFF | ON: Passenger side rear door sensor touched<br>OFF: Passenger side rear door sensor not touched | - |
| Pr-Door Trigger Switch* | Passenger side rear door outside handle lock switch / ON or OFF | ON: Passenger side rear door outside handle lock switch pushed<br>OFF: Passenger side rear door outside handle lock switch not pushed | - |
| Tr/B-Door Lock SW | Back door lock switch / ON or OFF | ON: Back door lock switch pushed<br>OFF: Back door lock switch not pushed | - |

**HINT:**

*: For vehicles with entry function for rear doors.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| IG SW | Engine switch on (IG) / ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| ACC SW | Engine switch on (ACC) / ON or OFF | ON: Engine switch on (ACC)<br>OFF: Engine switch off | - |
| D Door Courtesy SW | Driver side door courtesy light switch signal / ON or OFF | ON: Driver side door opened<br>OFF: Driver side door closed | - |
| P Door Courtesy SW | Front passenger side door courtesy light switch signal / ON or OFF | ON: Front passenger side door opened<br>OFF: Front passenger side door closed | - |
| RL Door Courtesy SW | Rear LH side door courtesy light switch signal / ON or OFF | ON: Rear side door LH opened<br>OFF: Rear side door LH closed | - |
| RR Door Courtesy SW | Rear RH side door courtesy light switch signal / ON or OFF | ON: Rear side door RH opened<br>OFF: Rear side door RH closed | - |
| D Door Lock Position SW | Driver side door lock position switch signal / ON or OFF | ON: Driver side door unlocked<br>OFF: Driver side door locked | - |
| P Door Lock Position SW | Front passenger side door lock position switch signal / ON or OFF | ON: Front passenger side door unlocked<br>OFF: Front passenger side door locked | - |
| DR Door Lock Position SW | Driver side rear door lock position switch signal / ON or OFF | ON: Driver side rear door unlocked<br>OFF: Driver side rear door locked | - |
| PR Door Lock Position SW | Passenger side rear door lock position switch signal / ON or OFF | ON: Passenger side rear door unlocked<br>OFF: Passenger side rear door locked | - |
| Back Door Handle SW | Back door opener switch / ON or OFF | ON: Back door opener switch pushed<br>OFF: Back door opener switch not pushed | - |

| | | | |
|---|---|---|---|
| Back Door Courtesy SW | Back door courtesy light switch signal / ON or OFF | ON: Back door opened<br>OFF: Back door closed | - |

**Back Door (w/ Power Back Door System)**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Door Lock Status | Back door lock status signal / ON or OFF | ON: Back door unlocked<br>OFF: Back door locked | - |

## PERFORM ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Entry & Start / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Entry & Start**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Overhead Tuner Power Supply ON | Door control receiver | ON or OFF | - |
| D-Seat Outside Transmitter | Door electrical key oscillator (for Driver Side) | ON or OFF | - |
| P-Seat Outside Transmitter | Door electrical key oscillator (for Front Passenger Side) | ON or OFF | - |
| DR-Seat Outside Transmitter* | Door electrical key oscillator (for Driver Side Rear) | ON or OFF | - |
| PR-Seat Outside Transmitter* | Door electrical key oscillator (for Passenger Side Rear) | ON or OFF | - |
| Fr-Seat Inside Transmitter | Indoor electrical key antenna (for Front Floor) | ON or OFF | - |
| Rr-Seat Inside Transmitter | Indoor electrical key antenna (for Rear 1 Floor) | ON or OFF | - |
| Inside Trunk/Backdoor Transmitter | Indoor electrical key antenna (for Rear 2 Floor) | ON or OFF | - |
| Outside Trunk/Backdoor Transmitter | Back door electrical key antenna (for Outer) | ON or OFF | - |
| D-Seat Select | Driver side select | ON or OFF | - |
| P-Seat Select | Front passenger side select | ON or OFF | - |
| Dr-Seat Select* | Driver side rear select | ON or OFF | - |
| Pr-Seat Select* | Passenger side rear select | ON or OFF | - |
| Wireless Buzzer Operation | Wireless buzzer | ON or OFF | - |

**HINT:**

*: For vehicles with entry function for rear doors.

**for Preparation** Click here

## DESCRIPTION

The entry and start system uses the wireless door lock buzzer to perform various vehicle exterior warnings. When the conditions of each warning are met, the certification ECU (smart key ECU assembly) sends a buzzer signal to the wireless buzzer, and the wireless door lock buzzer sounds*.

**HINT:**

*: For Europe and China, the wireless door lock buzzer does not sound.

## INSPECTION PROCEDURE

**NOTICE:**

Before performing the inspection, check that there are no problems related to the "CAN Communication System" and "LIN Communication System".

**1.CHECK WIRELESS DOOR LOCK BUZZER OPERATION**

a. When the wireless operation is used to lock and unlock the doors, check that the wireless door lock buzzer sounds normally ( Click here).

NG → GO TO WIRELESS DOOR LOCK CONTROL SYSTEM (Click here)

OK

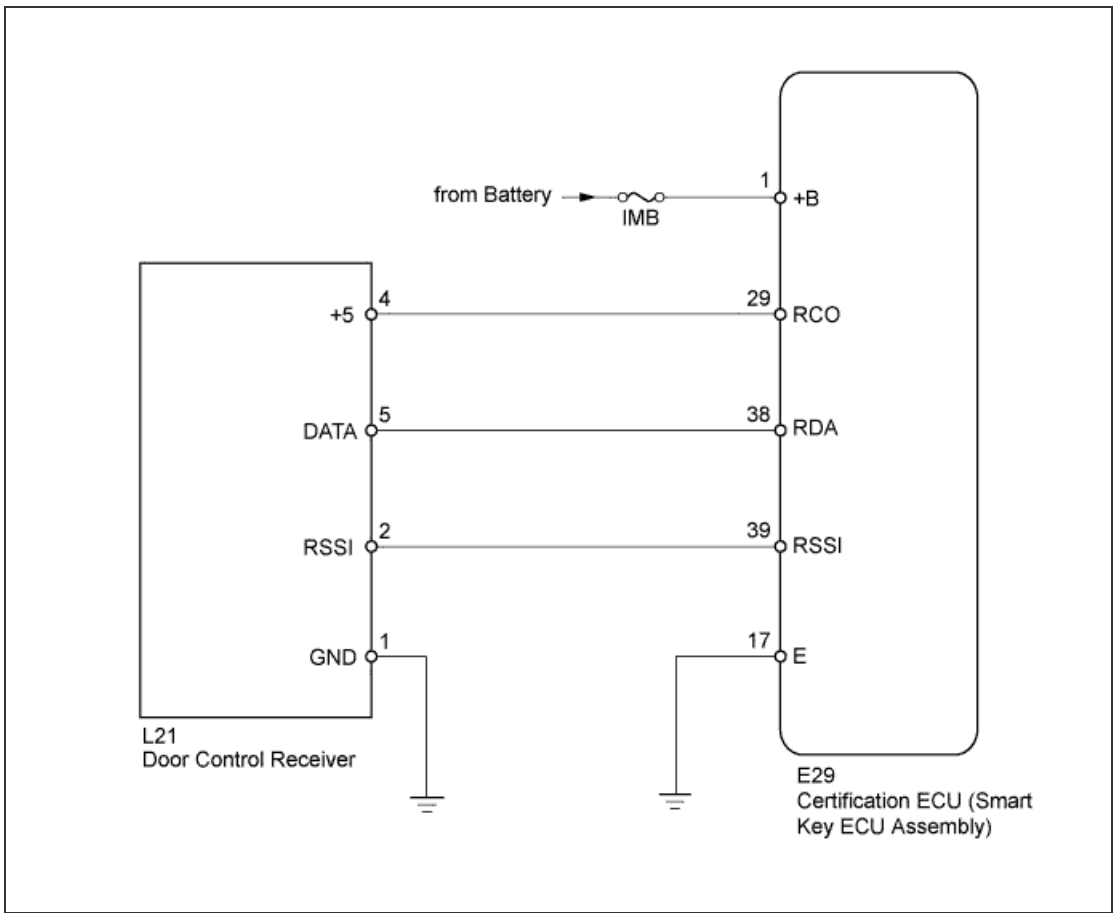
**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

**for Preparation** Click here

## DESCRIPTION

When the entry operation and wireless operation door lock function does not operate, a malfunction or wave interference may be occurring in either of the following: 1) the signal communication line between the door control receiver and certification ECU (smart key ECU assembly) (line is used by entry and wireless); or 2) the door control transmitter.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **Before performing the inspection, check that there are no problems related to the "CAN Communication System" and "LIN Communication System".**
- **Check that there are no door control transmitters in the vehicle.**
- **Before performing the inspection, check that DTC B1242 is not output ( Click here).**

### 1.CHECK POWER DOOR LOCK CONTROL SYSTEM

a. When the master switch door control switch is operated, check that the locked doors unlock ( Click here).

**OK:**
**Locked doors unlock.**

**NG** → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

**OK**

### 2.CHECK DOOR CONTROL TRANSMITTER

a. When another registered door control transmitter is used, check that the wireless and entry function operates normally ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| Entry function operates and door control transmitter that did not operate is electrical key transmitter | A |
| Entry function does not operate | B |

B → Go to step 5

A

### 3.CHECK DOOR CONTROL TRANSMITTER (LED)

a. Check the transmitter battery level of the electrical key transmitter that was checked first.

i. Press and hold the lock switch of the transmitter for 5 seconds and check the number of times that the transmitter LED illuminates.

**Result**

| Result | Proceed to |
|---|---|
| Transmitter LED does not illuminate when switch is pressed and held | A |
| Transmitter LED illuminates 3 times or more when switch is pressed and held | B |
| Transmitter LED illuminates once or twice but not a third time | C |

**HINT:**

- **The electrical key transmitter sends voltage information to the certification ECU (smart key ECU assembly) when it is being used. The certification ECU (smart key ECU assembly) displays "Yes" for the "Key Low Battery" item of the Data List when this voltage information indicates 2.5 V or less (Click here).**
- **Even if the transmitter battery is depleted, it is still possible to start the engine by holding the electrical key transmitter against the engine switch, depressing the brake pedal and pressing the engine switch.**

B → REPLACE DOOR CONTROL TRANSMITTER

C → REPLACE TRANSMITTER BATTERY (Click here)

A

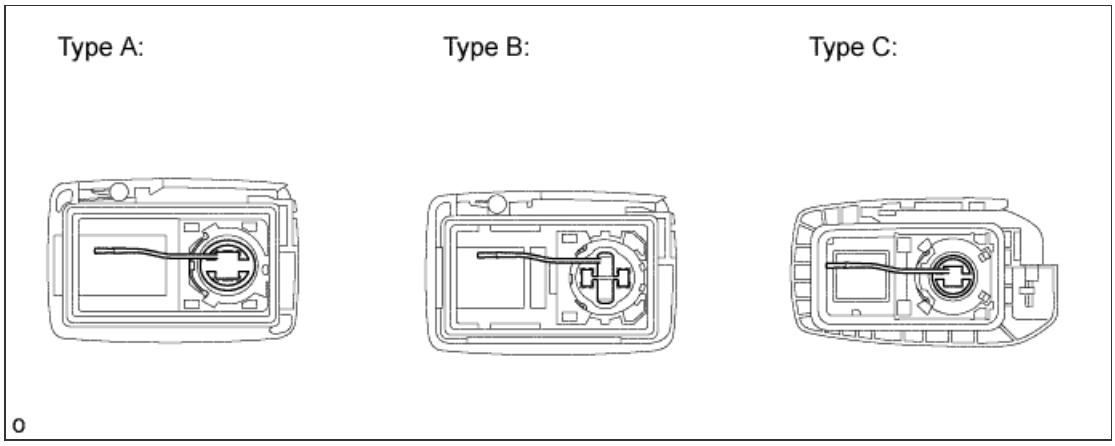
### 4.INSPECT TRANSMITTER BATTERY (VOLTAGE)

a. Electrical key transmitter

**HINT:**

- **Type A: for Australia**
- **Type B: except Australia, China**
- **Type C: for China**

i. Remove the battery from the electrical key transmitter that does not operate. Attach a lead wire (0.6 mm (0.0236 in.) or less in diameter including wire sheath) with tape or equivalent to the negative terminal (Click here).




**NOTICE:**

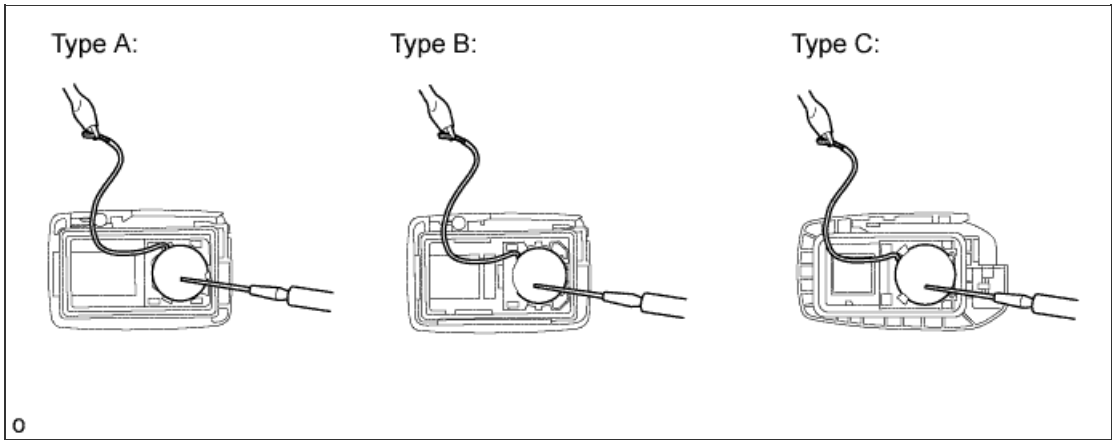
Do not wrap the lead wire around a terminal, wedge it between terminals, or solder it. A terminal may be deformed or damaged, and the battery will not be able to be installed correctly.

ii. Carefully pull the lead wire out from the position shown in the illustration and install the previously removed transmitter battery.

iii. Check the transmitter battery voltage waveform.

**HINT:**

When measuring the battery voltage, while operating the lock switch of a door handle, bring the electrical key transmitter within the entry operating range to perform the measurement. For the entry operating range, refer to System Description (Click here).




**OK:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Transmitter battery positive (+) - Transmitter battery negative (-) | Engine switch off, all doors closed and lock switch pushed | 2.5 to 3.2 V |

NG → REPLACE TRANSMITTER BATTERY (Click here)

OK → REPLACE DOOR CONTROL TRANSMITTER

**5.CHECK WAVE ENVIRONMENT**

a. Bring the door control transmitter near the door control receiver, and perform a wireless and entry function operation check.

**HINT:**

- **When the door control transmitter is brought near the door control receiver, the possibility of wave interference**

decreases, and it can be determined if wave interference is causing the problem symptom.

- If the inspection result is that the problem only occurs in certain locations or times of day, the possibility of wave interference is high. Also, added vehicle components may cause wave interference. If installed, remove them and perform the operation check.

**OK:**

**Wireless and entry functions operate normally.**

NG → Go to step 6

OK →

**AFFECTED BY WAVE INTERFERENCE**

**6.INSPECT FUSE (IMB)**

a. Remove the IMB fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IMB fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK →

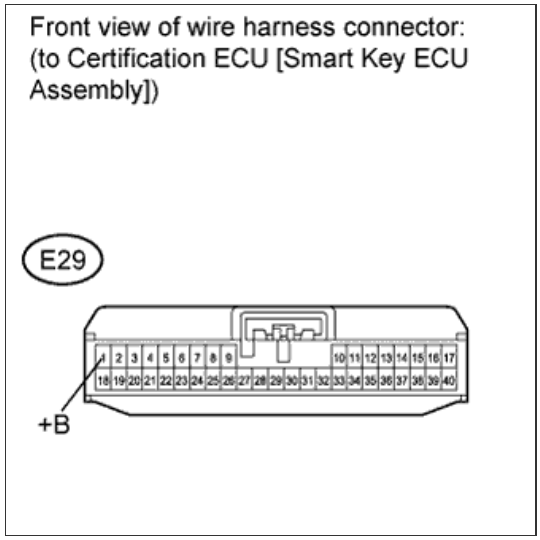
**7.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - BATTERY)**

a. Disconnect the E29 ECU connector.

b. Measure the voltage according to the value(s) in the tables below.

**Standard Voltage:**

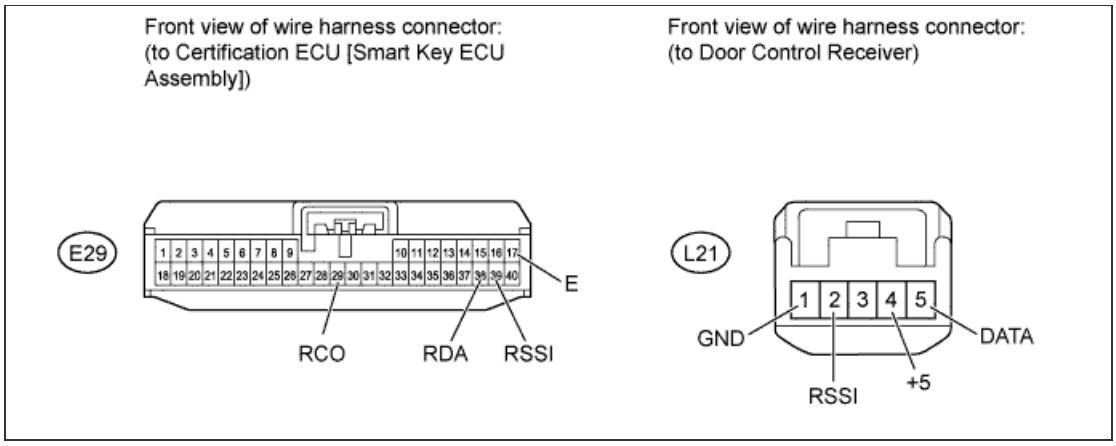
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-1 (+B) - Body ground | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

**8.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR CONTROL RECEIVER AND BODY GROUND)**




a. Disconnect the L21 receiver connector.

b. Disconnect the E29 ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-29 (RCO) - L21-4 (+5) | Always | Below 1 Ω |
| E29-38 (RDA) - L21-5 (DATA) | Always | Below 1 Ω |
| E29-39 (RSSI) - L21-2 (RSSI) | Always | Below 1 Ω |
| E29-17(E) - Body ground | Always | Below 1 Ω |
| L21-1 (GND) - Body ground | Always | Below 1 Ω |
| E29-29 (RCO) or L21-4 (+5) - Body ground | Always | 10 kΩ or higher |
| E29-38 (RDA) or L21-5 (DATA) - Body ground | Always | 10 kΩ or higher |
| E29-39 (RSSI) or L21-2 (RSSI) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**9.CHECK DOOR CONTROL RECEIVER (OPERATION)**

a. Temporarily replace the door control receiver with a new one ( Click here).

b. Check that the wireless and entry functions operate normally.

**OK:**
**Wireless and entry functions operate normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

**END (DOOR CONTROL RECEIVER IS DEFECTIVE)**

**for Preparation** Click here

## DESCRIPTION

When the wireless operation can be used to lock and unlock the doors, the communication line between the door control receiver and certification ECU (smart key ECU assembly) is normal. When the entry operation does not operate, one of the following may be the cause: 1) entry cancel function is set through customization; 2) malfunction in entry and start system communication line (electrical key transmitter and vehicle); or 3) wave interference.

## INSPECTION PROCEDURE

**NOTICE:**

Before performing the inspection, check that there are no problems related to the "Can Communication System" and "LIN Communication System"

### 1.READ VALUE USING INTELLIGENT TESTER (KEY CANCEL SWITCH)

a. Using the intelligent tester, read the Data List.

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Auto Entry Cancel SW | Entry function cancel/ON or OFF | Mode status displayed | - |

**Result**

| Result | Proceed to |
|---|---|
| Entry function cancel is OFF | A |
| Entry function cancel is ON | B |

B → PERFORM CANCELLATION OF ENTRY KEY CANCEL FUNCTION (Click here)

A

### 2.CHECK WAVE ENVIRONMENT

a. Move the electrical key transmitter as described below and perform the operation inspection ( Click here).

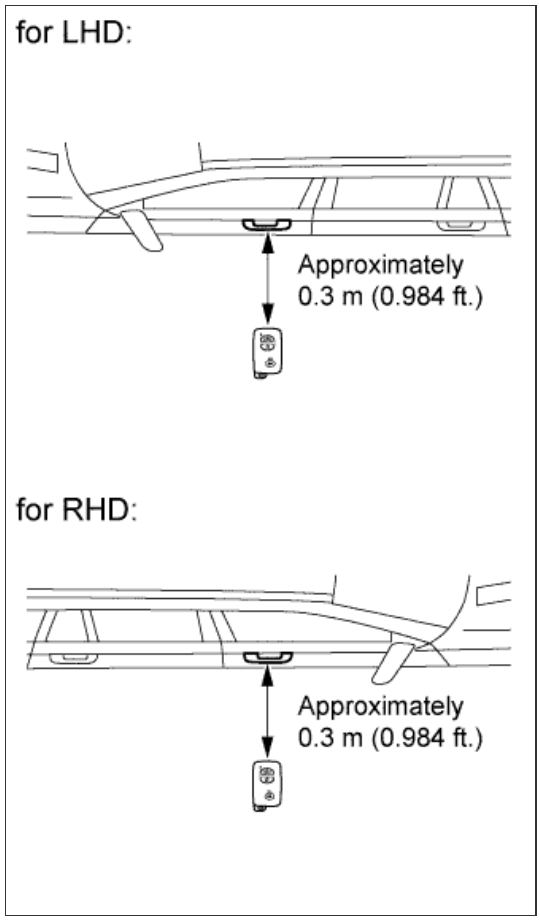
**HINT:**

- **When the electrical key transmitter is brought near the door outside handle or electrical key antenna, the possibility of wave interference decreases, and it can be determined if wave interference is causing the problem symptom.**
- **The transmitting wave of the wireless function and entry function are the same, but the wave logic is different. As a result, it is possible that only the wireless function or only the entry function is affected by wave interference.**

i. Bring the electrical key transmitter near the door outside handle (for driver side), and perform a driver door entry lock and unlock operation check.

**NOTICE:**

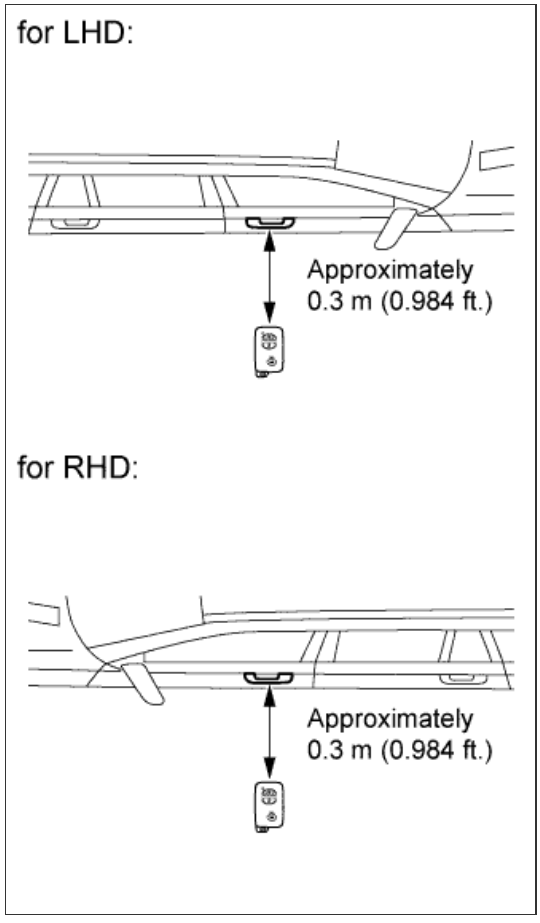
If the key is brought within 0.2 m (0.656 ft.) of the door handle, communication may not possible.




ii. Bring the electrical key transmitter near the door outside handle (for front passenger side), and perform a front passenger door entry lock and unlock operation check.

**NOTICE:**

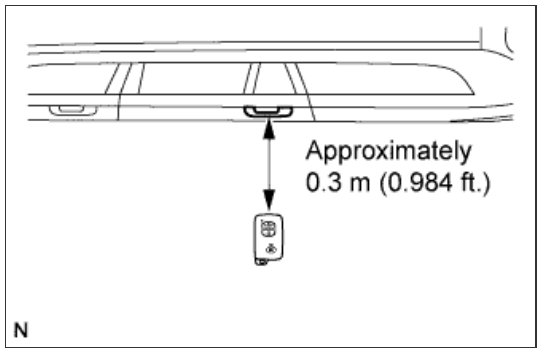
If the key is brought within 0.2 m (0.656 ft.) of the door handle, communication may not possible.




iii. Bring the electrical key transmitter near the rear door outside handle LH, and perform a rear left door entry lock and unlock operation check.

**NOTICE:**

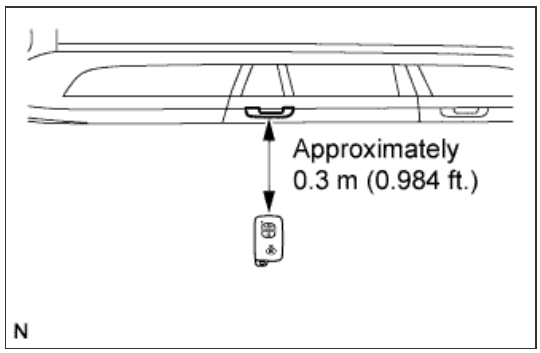
If the key is brought within 0.2 m (0.656 ft.) of the door handle, communication may not possible.




iv. Bring the electrical key transmitter near the rear door outside handle RH, and perform a rear right door entry lock and unlock operation check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the door handle, communication may not possible.




v. Bring the electrical key transmitter near the indoor electrical key antenna (in center console), and perform an engine start check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the center console, communication may not possible.

vi. Bring the electrical key transmitter near the indoor electrical key antenna (in rear No. 1 seat cushion), and perform an engine start check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the rear No. 1 seat cushion, communication may not possible.

vii. Bring the electrical key transmitter near the indoor electrical key antenna (in rear No. 2 seat cushion), and perform an engine start check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the rear No. 2 seat cushion, communication may not possible.

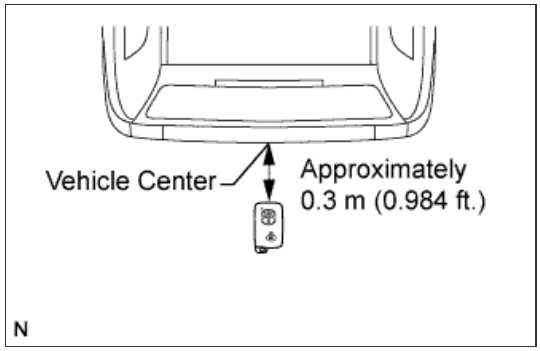
viii. Bring the electrical key transmitter near the electrical key antenna (in rear bumper), and perform an entry back door open function check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the rear bumper, communication may not possible.

**HINT:**

If the inspection result is that the problem only occurs in certain locations or times of day, the possibility of wave interference is high. Also, added vehicle components may cause wave interference. If installed, remove them and perform the operation check.




**Result**

| Result | Proceed to |
|---|---|
| All operation checks fail | A |
| Some operation checks are normal | B |

B → AFFECTED BY WAVE INTERFERENCE

A → 3.KEY DIAGNOSTIC MODE

a. Diagnostic mode inspection (door electrical key oscillator).

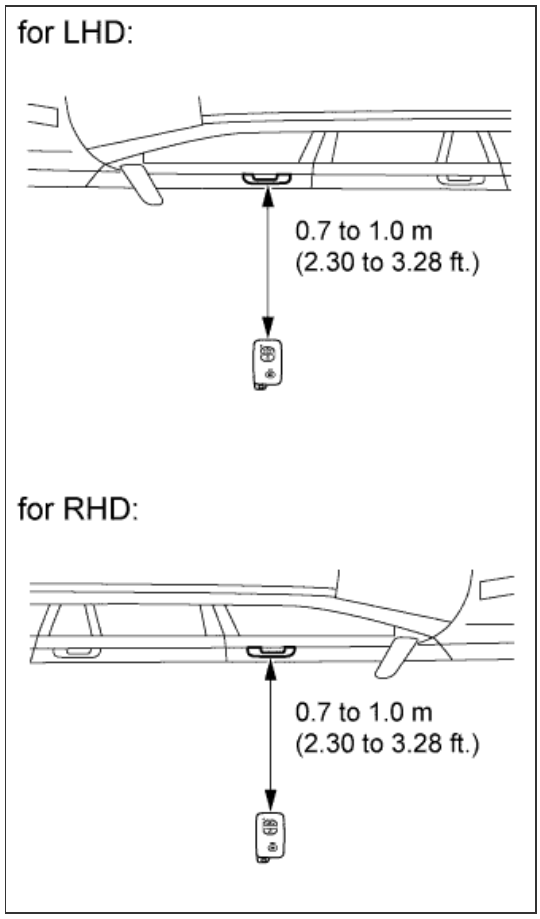
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Driver Side.

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.




b. Diagnostic mode inspection (door electrical key oscillator).

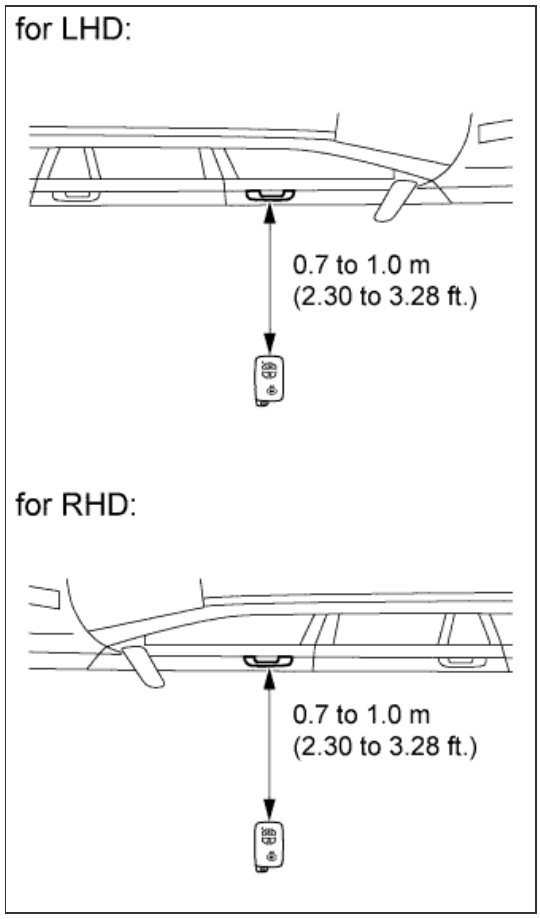
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Passenger Side.

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.




c. Diagnostic mode inspection (door electrical key oscillator).

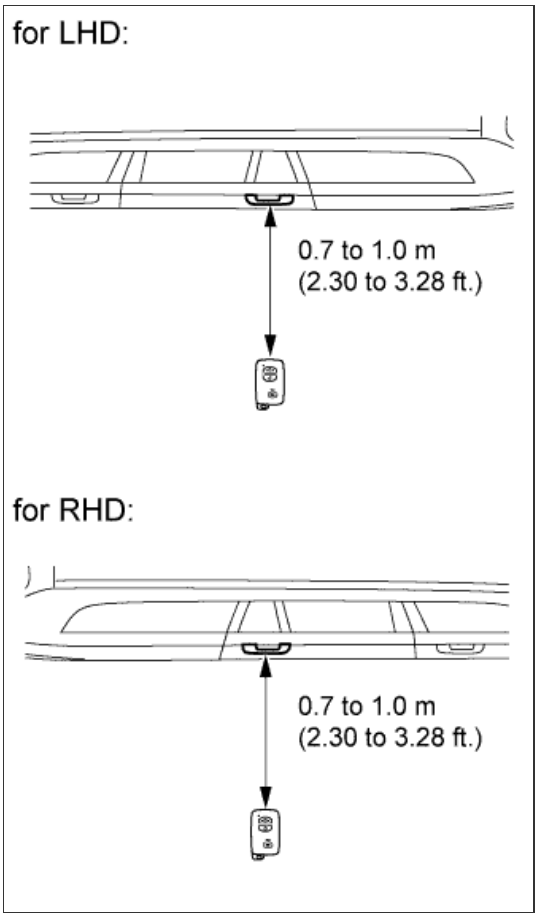
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Driver Side Rear.

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.




d. Diagnostic mode inspection (door electrical key oscillator).

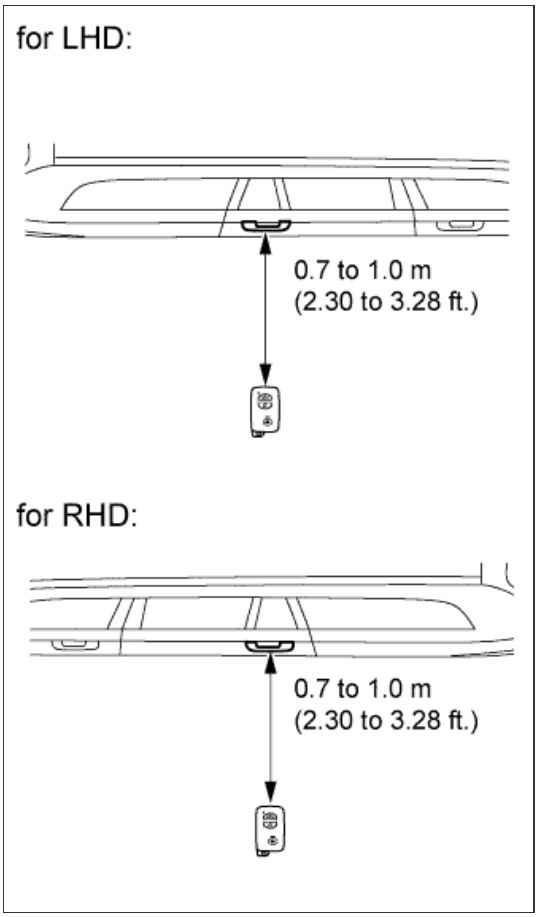
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Passenger Side Rear.

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.




e. Diagnostic mode inspection (indoor electrical key antenna (for Front Floor)).

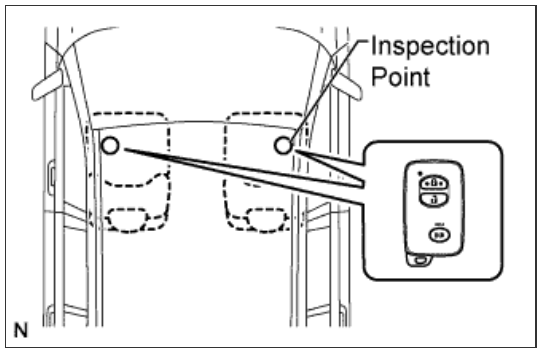
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Front Room.

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.




f. Diagnostic mode inspection (indoor electrical key antenna (for Rear 1 Floor)).

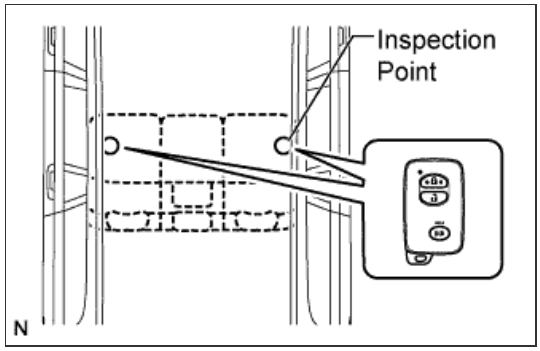
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Rear Room.

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.




g. Diagnostic mode inspection (indoor electrical key antenna (for Rear 2 Floor)).

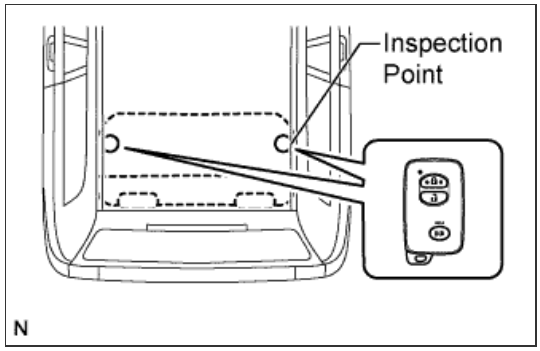
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Back Door (inside).

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.




h. Diagnostic mode inspection (electrical key antenna).

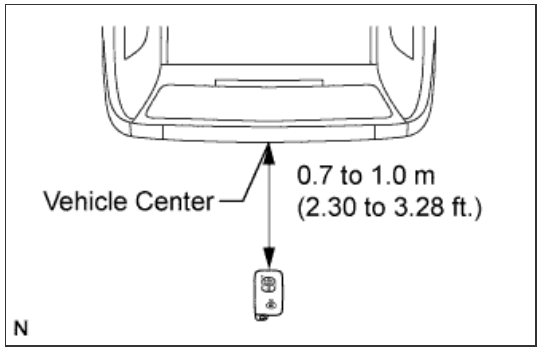
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Back Door (outside).

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.




**Result**

| Result | Proceed to |
|---|---|
| All diagnostic mode inspections fail | A |
| Some diagnostic mode inspections fail (door) | B |
| Some diagnostic mode inspections fail (interior) | C |
| Some diagnostic mode inspections fail (back door) | D |
| All diagnostic mode inspections are normal | E |

GO TO DTC OF OTHER COMPONENTS (PROCEED TO PROBLEM SYMPTOM FLOWCHART FOR EACH DOOR) (Click

| | |
|---|---|
| B | here) |
| C | GO TO OTHER FLOWCHART (Click here) |
| D | GO TO OTHER FLOWCHART (Click here) |
| E | REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) |

A

**4.REPLACE ELECTRICAL KEY TRANSMITTER**

a. Replace the electrical key transmitter with a new one.

b. Perform the registration procedure (Refer to Service Bulletin for registration).

NEXT

**5.CHECK OPERATION**

a. Check the operation of the entry lock function ( Click here).

**OK:**
**Operates normally.**

| | |
|---|---|
| NG | REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) |

OK

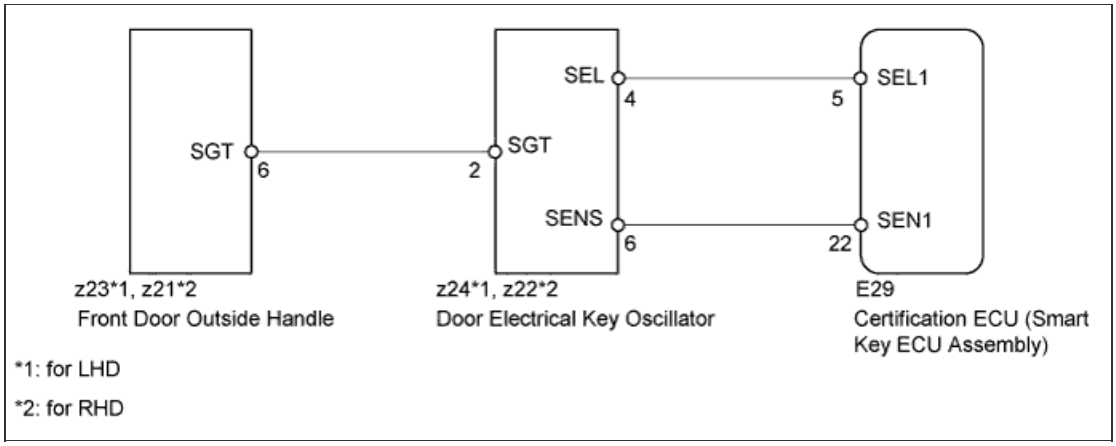
**END (ELECTRICAL KEY TRANSMITTER IS DEFECTIVE)**

**for Preparation** Click here

## DESCRIPTION

If the driver side door entry unlock function does not operate but the entry lock function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be a touch sensor circuit (certification ECU (smart key ECU assembly) → driver side door outside handle → driver side door electrical key oscillator).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Door Lock Position SW | Driver side door lock position switch signal / ON or OFF | ON: Driver side door unlocked<br>OFF: Driver side door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Driver Door LOCK/UNLOCK Functions do not Operate) (Click here)

OK

### 3.READ VALUE USING INTELLIGENT TESTER (TOUCH SENSOR)

a. Using the intelligent tester, read the Data List.

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D-Door Touch Sensor | Driver side door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |

**OK:**
**"ON" (sensor is touched) and "OFF" (sensor is not touched) appears on the screen.**

NG → Go to step 4

OK

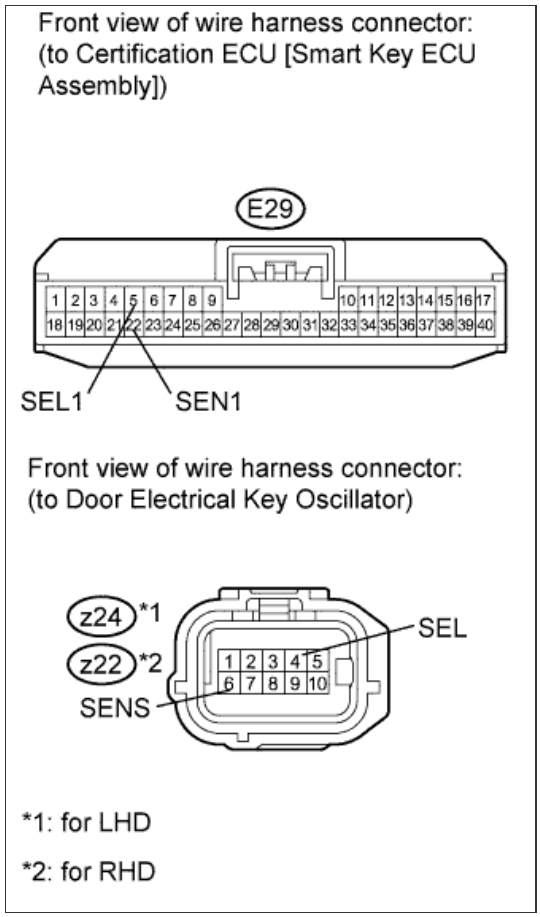
### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

### 4.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR ELECTRICAL KEY OSCILLATOR)

a. Disconnect the E29 ECU connector.

b. Disconnect the z24 or z22 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**
**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-5 (SEL1) - z24-4 (SEL) | Always | Below 1 Ω |
| E29-22 (SEN1) - z24-6 (SENS) | Always | Below 1 Ω |
| E29-5 (SEL1) - Body ground | Always | 10 kΩ or higher |
| E29-22 (SEN1) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-5 (SEL1) - z22-4 (SEL) | Always | Below 1 Ω |
| E29-22 (SEN1) - z22-6 (SENS) | Always | Below 1 Ω |
| E29-5 (SEL1) - Body ground | Always | 10 kΩ or higher |
| E29-22 (SEN1) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

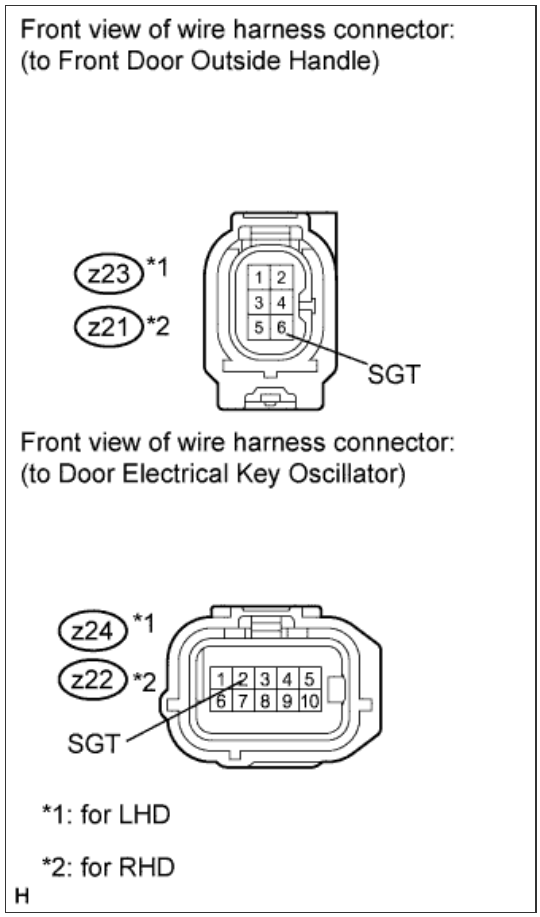
OK

**5.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - FRONT DOOR OUTSIDE HANDLE)**

a. Disconnect the z23 or z21 handle connector.

b. Disconnect the z24 or z22 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z23-6 (SGT) - z24-2 (SGT) | Always | Below 1 Ω |
| z23-6 (SGT) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z21-6 (SGT) - z22-2 (SGT) | Always | Below 1 Ω |
| z21-6 (SGT) - Body | | |

| | | |
|---|---|---|
| ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**6.REPLACE DOOR ELECTRICAL KEY OSCILLATOR**

a. Replace the door electrical key oscillator (Click here).

NEXT

**7.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)**

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → Go to step 8

OK

**END (DOOR ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)**

**8.REPLACE FRONT DOOR OUTSIDE HANDLE**

a. Replace the front door outside handle (Click here).

NEXT

**9.CHECK FRONT DOOR OUTSIDE HANDLE (OPERATION)**

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

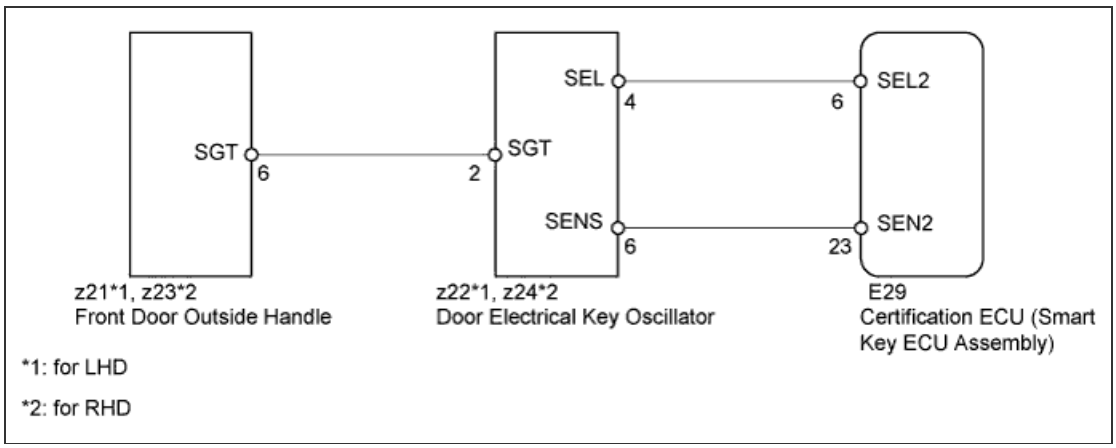
**END (FRONT DOOR OUTSIDE HANDLE IS DEFECTIVE)**

**for Preparation** Click here

## DESCRIPTION

If the front passenger side door entry unlock function does not operate but the entry lock function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be a touch sensor circuit (certification ECU (smart key ECU assembly) → front passenger side door outside handle → front passenger side door electrical key oscillator).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P Door Lock Position SW | Front passenger side door lock position switch signal / ON or OFF | ON: Front passenger side door unlocked<br>OFF: Front passenger side door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Passenger Door LOCK/UNLOCK Functions do not

Operate) (Click here)

OK

## 3.READ VALUE USING INTELLIGENT TESTER (TOUCH SENSOR)

a. Using the intelligent tester, read the Data List.

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P-Door Touch Sensor | Front passenger side door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |

**OK:**
**"ON" (sensor is touched) and "OFF" (sensor is not touched) appears on the screen.**

NG → Go to step 4

OK

## REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

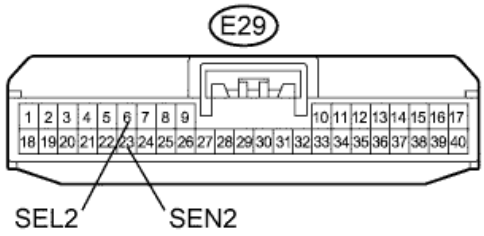
## 4.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR ELECTRICAL KEY OSCILLATOR)

a. Disconnect the E29 ECU connector.

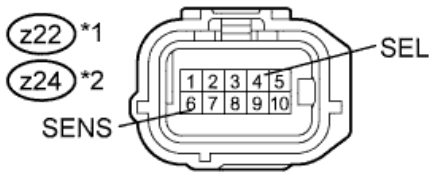
b. Disconnect the z22 or z24 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Door Electrical Key Oscillator)




*1: for LHD

*2: for RHD

**Standard Resistance:**
**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-6 (SEL2) - z22-4 (SEL) | Always | Below 1 Ω |
| E29-23 (SEN2) - z22-6 (SENS) | Always | Below 1 Ω |
| | | |

| | | |
|---|---|---|
| E29-6 (SEL2) - Body ground | Always | 10 kΩ or higher |
| E29-23 (SEN2) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-6 (SEL2) - z24-4 (SEL) | Always | Below 1 Ω |
| E29-23 (SEN2) - z24-6 (SENS) | Always | Below 1 Ω |
| E29-6 (SEL2) - Body ground | Always | 10 kΩ or higher |
| E29-23 (SEN2) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

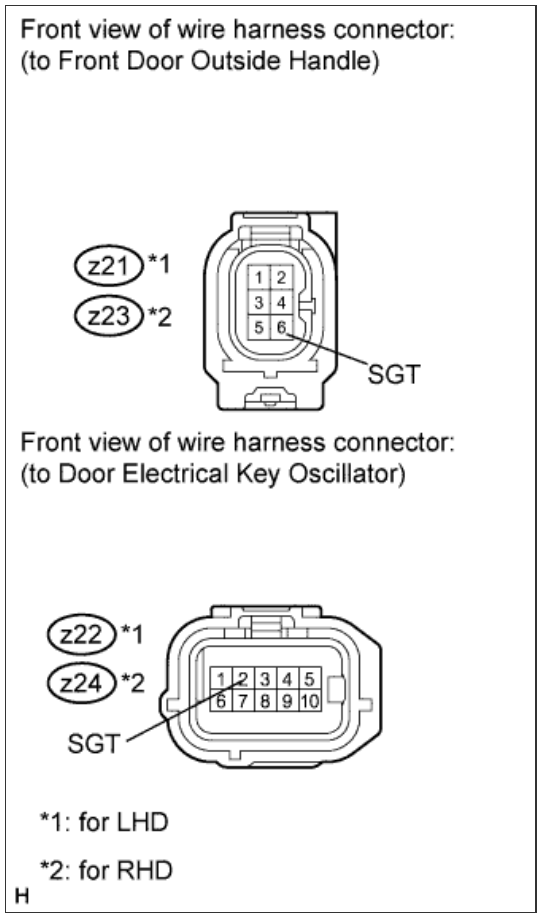
OK

## 5.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - FRONT DOOR OUTSIDE HANDLE)

a. Disconnect the z21 or z23 handle connector.

b. Disconnect the z22 or z24 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z21-6 (SGT) - z22-2 (SGT) | Always | Below 1 Ω |
| z21-6 (SGT) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified |
|---|---|---|

| | | Condition |
|---|---|---|
| z23-6 (SGT) - z24-2 (SGT) | Always | Below 1 Ω |
| z23-6 (SGT) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**6.REPLACE DOOR ELECTRICAL KEY OSCILLATOR**

a. Replace the door electrical key oscillator (Click here).

NEXT

**7.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)**

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → Go to step 8

OK

**END (DOOR ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)**

**8.REPLACE FRONT DOOR OUTSIDE HANDLE**

a. Replace the front door outside handle (Click here).

NEXT

**9.CHECK FRONT DOOR OUTSIDE HANDLE (OPERATION)**

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

**END (FRONT DOOR OUTSIDE HANDLE IS DEFECTIVE)**

**for Preparation** Click here

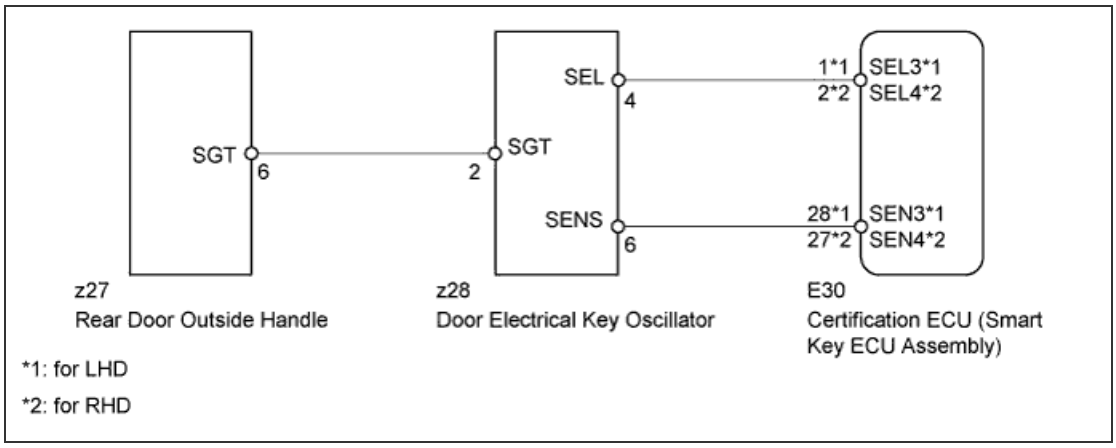
## DESCRIPTION

If the rear door LH entry unlock function does not operate but the entry lock function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be a touch sensor circuit (certification ECU (smart key ECU assembly) → rear door outside handle LH → rear door electrical key oscillator LH).

**HINT:**

For vehicles with entry function for rear doors.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

i. for LHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| DR Door Lock Position SW | Driver side rear door lock position switch signal / ON or OFF | ON: Driver side rear door unlocked<br>OFF: Driver side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

ii. for RHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| PR Door Lock Position SW | Passenger side rear door lock position switch signal / ON or OFF | ON: Passenger side rear door unlocked<br>OFF: Passenger side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Rear Door LH LOCK/UNLOCK Functions do not Operate) (Click here)

OK

**3.READ VALUE USING INTELLIGENT TESTER (TOUCH SENSOR)**

a. Using the intelligent tester, read the Data List.

i. for LHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Dr-Door Touch Sensor | Driver side rear door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |

**OK:**
**"ON" (sensor is touched) and "OFF" (sensor is not touched) appears on the screen.**

ii. for RHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Pr-Door Touch Sensor | Passenger side rear door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |

**OK:**
**"ON" (sensor is touched) and "OFF" (sensor is not touched) appears on the screen.**

NG → Go to step 4

OK

**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

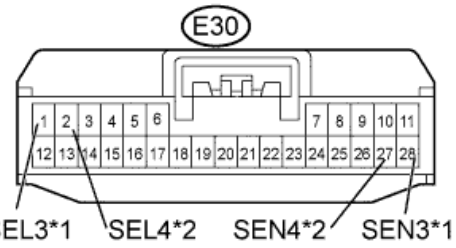
**4.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR ELECTRICAL KEY OSCILLATOR)**

a. Disconnect the E30 ECU connector.

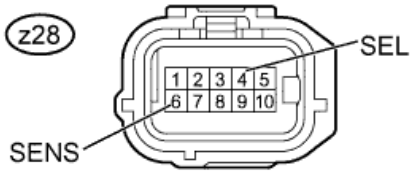
b. Disconnect the z28 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Door Electrical Key Oscillator)




*1: for LHD

*2: for RHD

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-1 (SEL3) - z28-4 (SEL) | Always | Below 1 Ω |
| E30-28 (SEN3) - z28-6 (SENS) | Always | Below 1 Ω |
| E30-1 (SEL3) - Body ground | Always | 10 kΩ or higher |
| E30-28 (SEN3) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-2 (SEL4) - z28-4 (SEL) | Always | Below 1 Ω |
| E30-27 (SEN4) - z28-6 (SENS) | Always | Below 1 Ω |
| E30-2 (SEL4) - Body ground | Always | 10 kΩ or higher |
| E30-27 (SEN4) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**5.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - REAR DOOR OUTSIDE HANDLE)**

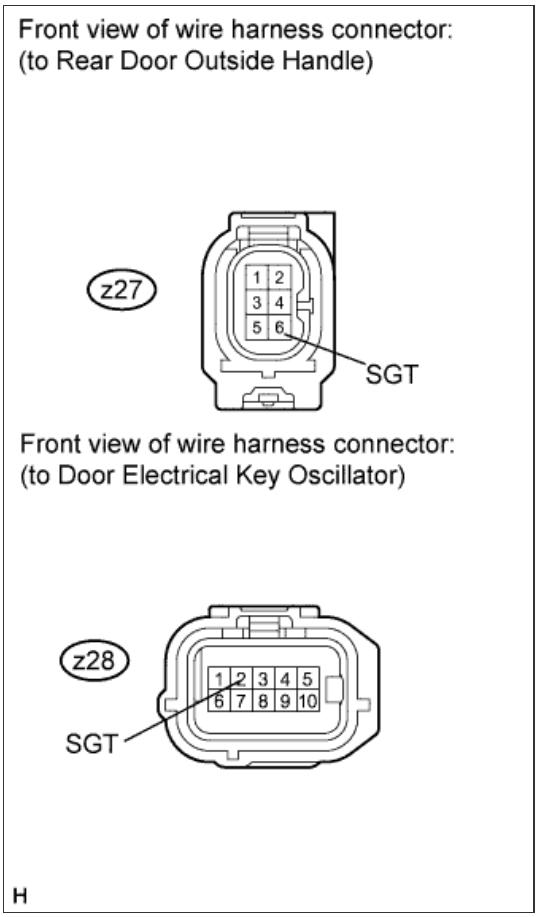
a. Disconnect the z27 handle connector.

b. Disconnect the z28 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z27-6 (SGT) - z28-2 (SGT) | Always | Below 1 Ω |
| z27-6 (SGT) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 6.REPLACE DOOR ELECTRICAL KEY OSCILLATOR

a. Replace the door electrical key oscillator (Click here).

NEXT

## 7.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → Go to step 8

OK

END (DOOR ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)

## 8.REPLACE REAR DOOR OUTSIDE HANDLE

a. Replace the rear door outside handle (Click here).

NEXT

## 9.CHECK REAR DOOR OUTSIDE HANDLE (OPERATION)

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

**NG** → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

**OK**

END (REAR DOOR OUTSIDE HANDLE IS DEFECTIVE)

**for Preparation** Click here

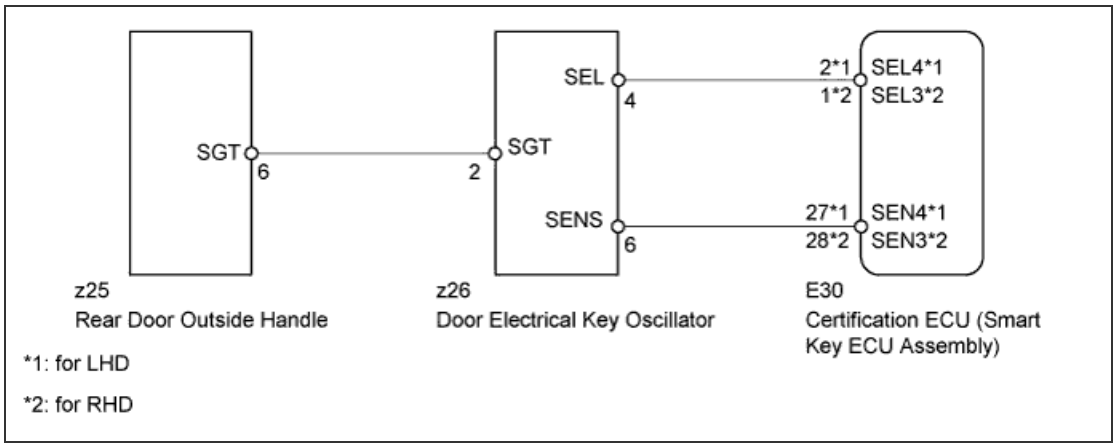
## DESCRIPTION

If the rear door RH entry unlock function does not operate but the entry lock function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be a touch sensor circuit (certification ECU (smart key ECU assembly) → rear door outside handle RH → rear door electrical key oscillator RH).

**HINT:**

For vehicles with entry function for rear doors.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

i. for LHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| PR Door Lock Position SW | Passenger side rear door lock position switch signal / ON or OFF | ON: Passenger side rear door unlocked<br>OFF: Passenger side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

ii. for RHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| DR Door Lock Position SW | Driver side rear door lock position switch signal / ON or OFF | ON: Driver side rear door unlocked<br>OFF: Driver side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → **GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Rear Door RH LOCK/UNLOCK Functions do not Operate) (Click here)**

OK

**3.READ VALUE USING INTELLIGENT TESTER (TOUCH SENSOR)**

a. Using the intelligent tester, read the Data List.

i. for LHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Pr-Door Touch Sensor | Passenger side rear door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |

**OK:**
**"ON" (sensor is touched) and "OFF" (sensor is not touched) appears on the screen.**

ii. for RHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Dr-Door Touch Sensor | Driver side rear door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |

**OK:**
**"ON" (sensor is touched) and "OFF" (sensor is not touched) appears on the screen.**

NG → **Go to step 4**

OK

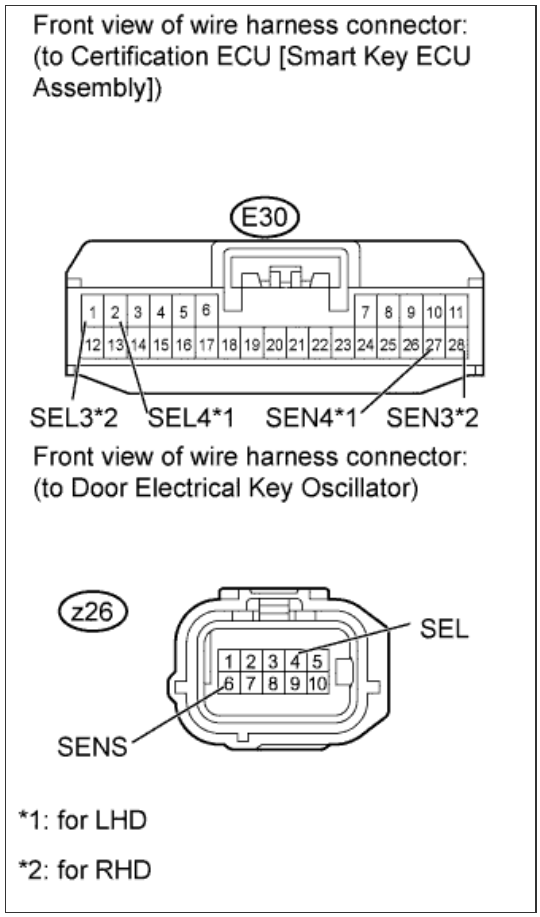
**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

**4.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR ELECTRICAL KEY OSCILLATOR)**

a. Disconnect the E30 ECU connector.

b. Disconnect the z26 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-2 (SEL4) - z26-4 (SEL) | Always | Below 1 Ω |
| E30-27 (SEN4) - z26-6 (SENS) | Always | Below 1 Ω |
| E30-2 (SEL4) - Body ground | Always | 10 kΩ or higher |
| E30-27 (SEN4) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-1 (SEL3) - z26-4 (SEL) | Always | Below 1 Ω |
| E30-28 (SEN3) - z26-6 (SENS) | Always | Below 1 Ω |
| E30-1 (SEL3) - Body ground | Always | 10 kΩ or higher |
| E30-28 (SEN3) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**5.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - REAR DOOR OUTSIDE HANDLE)**

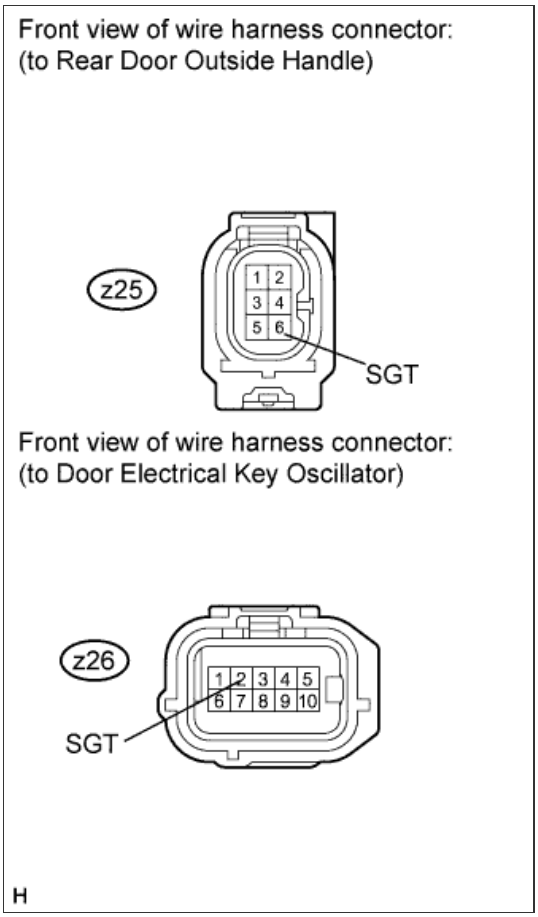
a. Disconnect the z25 handle connector.

b. Disconnect the z26 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z25-6 (SGT) - z26-2 (SGT) | Always | Below 1 Ω |
| z25-6 (SGT) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 6.REPLACE DOOR ELECTRICAL KEY OSCILLATOR

a. Replace the door electrical key oscillator (Click here).

NEXT

## 7.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → Go to step 8

OK

END (DOOR ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)

## 8.REPLACE REAR DOOR OUTSIDE HANDLE

a. Replace the rear door outside handle (Click here).

NEXT

## 9.CHECK REAR DOOR OUTSIDE HANDLE (OPERATION)

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

**NG** → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

**OK**

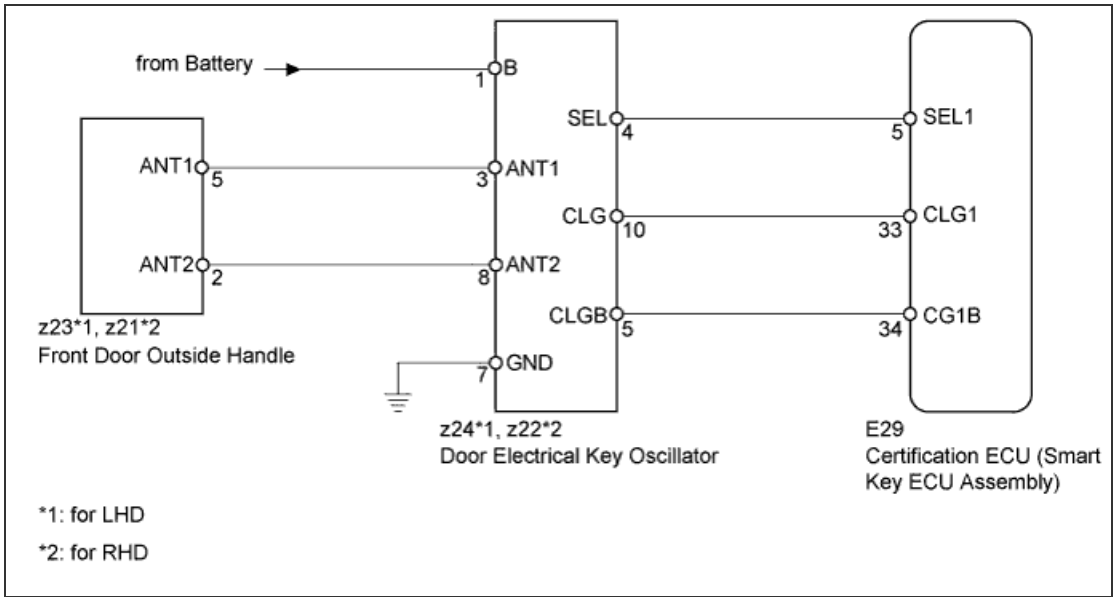
END (REAR DOOR OUTSIDE HANDLE IS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

When the driver side door entry lock and unlock functions do not operate, one of the following may be malfunctioning: 1) power door lock system, 2) driver side door electrical key oscillator, or 3) certification ECU (smart key ECU assembly).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**

**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Door Lock Position SW | Driver side door lock position switch signal / ON or OFF | ON: Driver side door unlocked<br>OFF: Driver side door locked | - |

**OK:**

**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to

NG → Only Driver Door LOCK/UNLOCK Functions do not Operate) (Click here)

OK

## 3.READ VALUE USING INTELLIGENT TESTER (TOUCH SENSOR)

a. Using the intelligent tester, read the Data List.

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D-Door Touch Sensor | Driver side door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |
| D-Door Trigger Switch | Driver side door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**Result**

| Result | Proceed to |
|---|---|
| Display changes according to manual operation | A |
| Display does not change according to manual operation | B |

B → Go to step 6

A

## 4.CHECK WAVE ENVIRONMENT

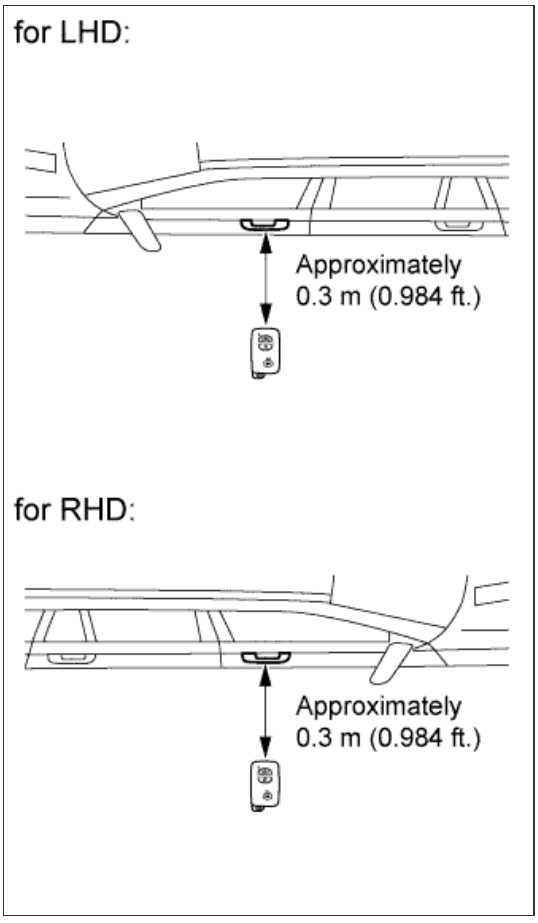
a. Bring the electrical key transmitter near the driver side door outside handle, and perform a driver side door entry lock and unlock operation check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the door handle, communication is not possible.

**HINT:**

- **When the electrical key transmitter is brought near the driver side door outside handle, the possibility of wave interference decreases, and it can be determined if wave interference is causing the problem symptom.**
- **If the operation check is normal, the possibility of wave interference is high. Also, added vehicle components may cause wave interference. If installed, remove them and perform the operation check.**




**Result**

| Result | Proceed to |
|---|---|
| Operation check fails | A |
| Operation check is normal | B |

B → AFFECTED BY WAVE INTERFERENCE

A

## 5.PERFORM KEY DIAGNOSTIC MODE INSPECTION

a. Diagnostic mode inspection (driver side door electrical key oscillator).

i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Driver Side.

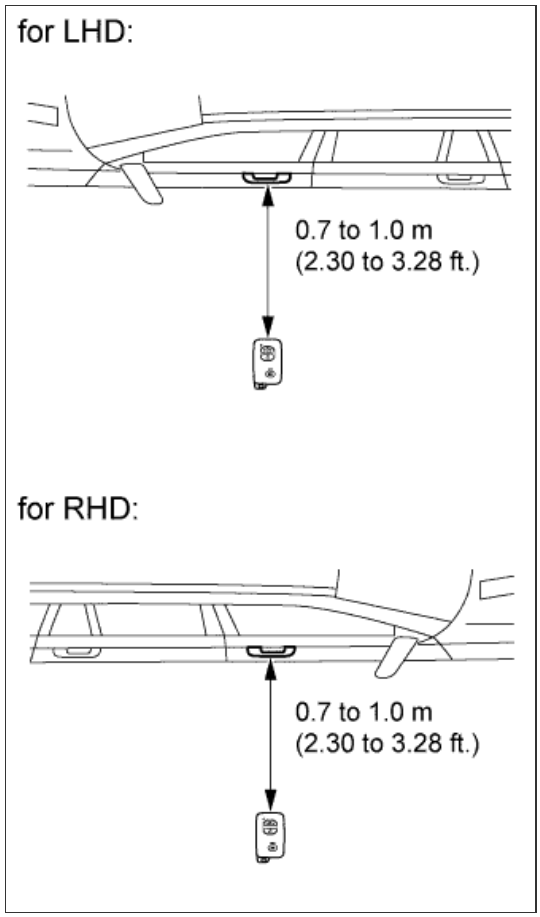
v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.

**HINT:**

If the buzzer sounds, it can be determined that the driver seat outside transmitter is operating normally.

**OK:**

**Wireless door lock buzzer sounds.**




NG → Go to step 6

OK

## REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

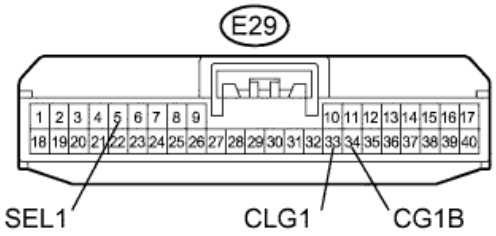
## 6.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR ELECTRICAL KEY OSCILLATOR)

a. Disconnect the E29 ECU connector.

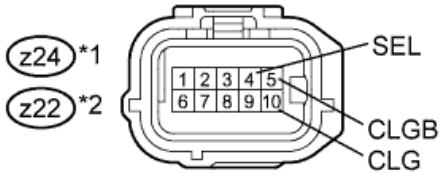
b. Disconnect the z24 or z22 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Door Electrical Key Oscillator)




*1: for LHD

*2: for RHD

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-5 (SEL1) - z24-4 (SEL) | Always | Below 1 Ω |
| E29-33 (CLG1) - z24-10 (CLG) | Always | Below 1 Ω |
| E29-34 (CG1B) - z24-5 (CLGB) | Always | Below 1 Ω |
| E29-5 (SEL1) - Body ground | Always | 10 kΩ or higher |
| E29-33 (CLG1) - Body ground | Always | 10 kΩ or higher |
| E29-34 (CG1B) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-5 (SEL1) - z22-4 (SEL) | Always | Below 1 Ω |
| E29-33 (CLG1) - z22-10 (CLG) | Always | Below 1 Ω |
| E29-34 (CG1B) - z22-5 (CLGB) | Always | Below 1 Ω |
| E29-5 (SEL1) - Body ground | Always | 10 kΩ or higher |
| E29-33 (CLG1) - Body ground | Always | 10 kΩ or higher |
| E29-34 (CG1B) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

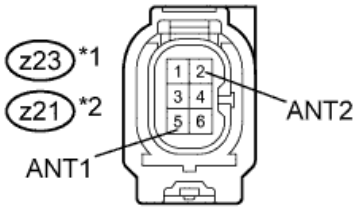
## 7.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - FRONT DOOR OUTSIDE HANDLE)

a. Disconnect the z23 or z21 handle connector.

b. Disconnect the z24 or z22 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector:
(to Front Door Outside Handle)




Front view of wire harness connector:
(to Door Electrical Key Oscillator)




*1: for LHD

*2: for RHD

H

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z23-2 (ANT2) - z24-8 (ANT2) | Always | Below 1 Ω |
| z23-5 (ANT1) - z24-3 (ANT1) | Always | Below 1 Ω |
| z23-2 (ANT2) - Body ground | Always | 10 kΩ or higher |
| z23-5 (ANT1) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z21-2 (ANT2) - z22-8 (ANT2) | Always | Below 1 Ω |
| z21-5 (ANT1) - z22-3 (ANT1) | Always | Below 1 Ω |
| z21-2 (ANT2) - Body ground | Always | 10 kΩ or higher |
| z21-5 (ANT1) - Body ground | Always | 10 kΩ or higher |

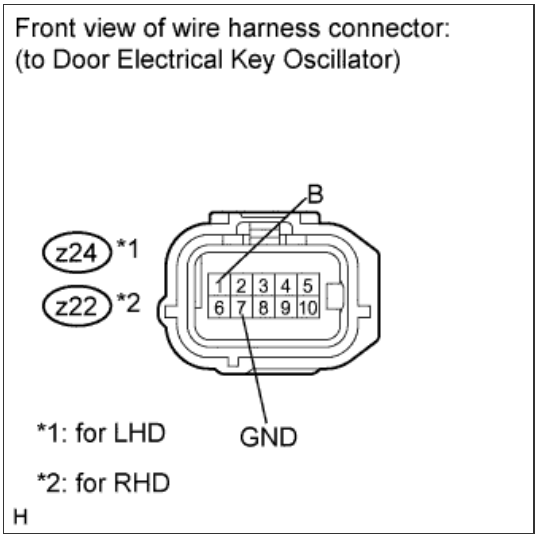
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - BATTERY AND BODY GROUND)

a. Disconnect the z24 or z22 oscillator connector.

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z24-1 (B) - z24-7 (GND) | Always | 11 to 14 V |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z22-1 (B) - z22-7 (GND) | Always | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 9.REPLACE DOOR ELECTRICAL KEY OSCILLATOR

a. Replace the door electrical key oscillator (Click here).

NEXT

## 10.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)

a. Check that the entry function operates normally.

**OK:**

**Operates normally.**

NG → Go to step 11

OK

END (DOOR ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)

## 11.REPLACE FRONT DOOR OUTSIDE HANDLE

a. Replace the front door outside handle (Click here).

NEXT

12.CHECK FRONT DOOR OUTSIDE HANDLE OPERATION

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

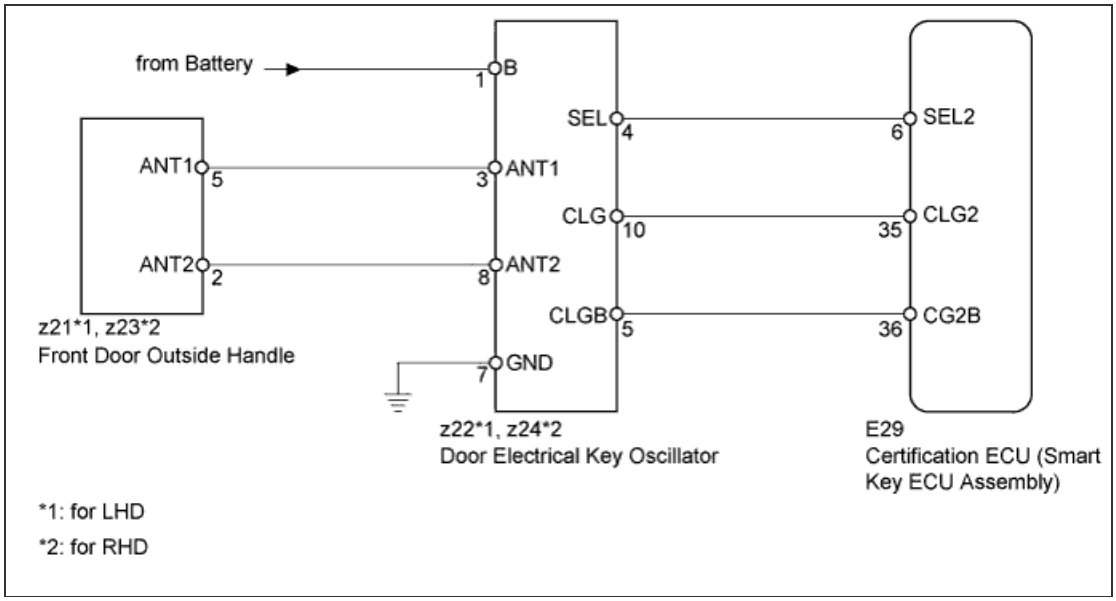
END (FRONT DOOR OUTSIDE HANDLE IS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

When the front passenger side door entry lock and unlock functions do not operate, one of the following may be malfunctioning: 1) power door lock system, 2) front passenger side door electrical key oscillator, or 3) certification ECU (smart key ECU assembly).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P Door Lock Position SW | Front passenger side door lock position switch signal / ON or OFF | ON: Front passenger side door unlocked<br>OFF: Front passenger side door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Passenger Door LOCK/UNLOCK Functions do not Operate) (Click here)

OK

### 3.READ VALUE USING INTELLIGENT TESTER (TOUCH SENSOR)

a. Using the intelligent tester, read the Data List.

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P-Door Touch Sensor | Front passenger side door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |
| P-Door Trigger Switch | Front passenger side door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**Result**

| Result | Proceed to |
|---|---|
| Display changes according to manual operation | A |
| Display does not change according to manual operation | B |

B → Go to step 6

A

### 4.CHECK WAVE ENVIRONMENT

a. Bring the electrical key transmitter near the front passenger side door outside handle, and perform a front passenger side door entry lock and unlock operation check.

**NOTICE:**

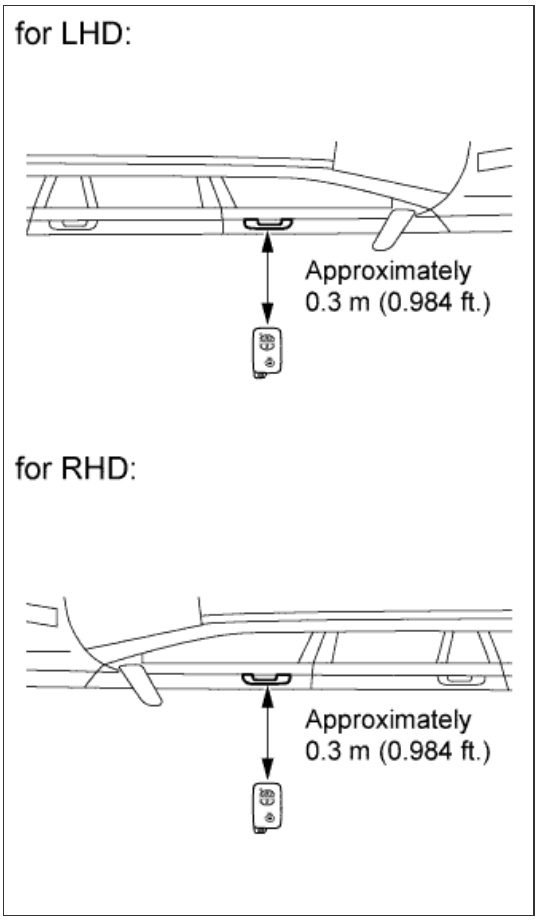
If the key is brought within 0.2 m (0.656 ft.) of the door handle, communication is not possible.

**HINT:**

- **When the electrical key transmitter is brought near the front passenger side door outside handle, the possibility of wave interference decreases, and it can be determined if wave interference is causing the problem symptom.**
- **If the operation check is normal, the possibility of wave interference is high. Also, added vehicle components may cause wave interference. If installed, remove them and perform the operation check.**

**Result**

| Result | Proceed to |
|---|---|
| Operation check fails | A |
| Operation check is normal | B |




B → AFFECTED BY WAVE INTERFERENCE

A

## 5.PERFORM KEY DIAGNOSTIC MODE INSPECTION

a. Diagnostic mode inspection (front passenger side door electrical key oscillator).

i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Passenger Side.

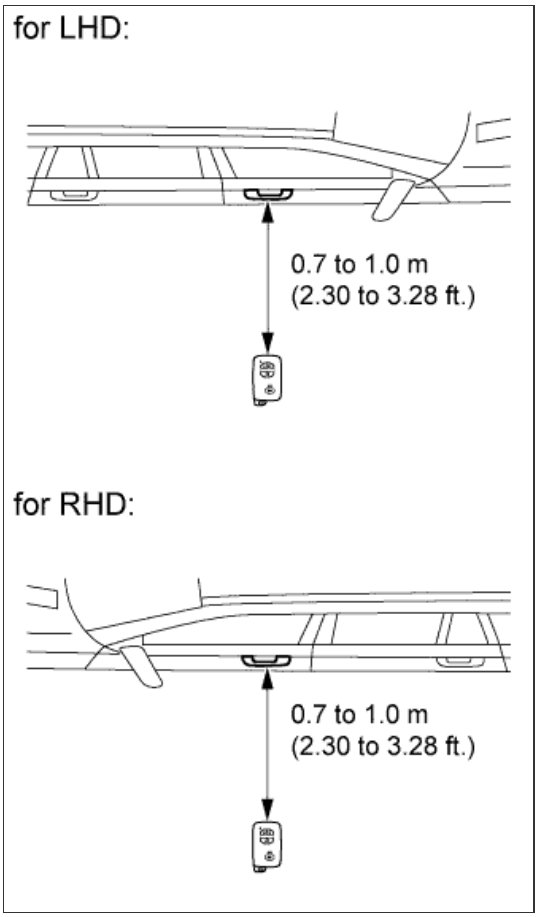
v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.

**HINT:**

If the buzzer sounds, it can be determined that the front passenger seat outside transmitter is operating normally.

**OK:**

**Wireless door lock buzzer sounds.**




NG → Go to step 6

OK

REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

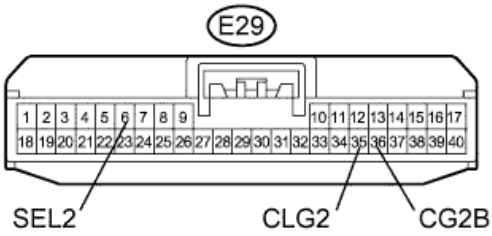
6.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR ELECTRICAL KEY OSCILLATOR)

a. Disconnect the E29 ECU connector.

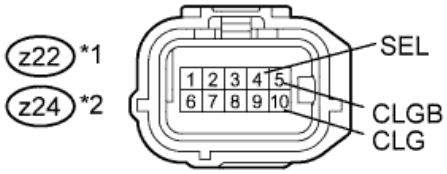
b. Disconnect the z22 or z24 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Door Electrical Key Oscillator)




*1: for LHD

*2: for RHD

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-6 (SEL2) - z22-4 (SEL) | Always | Below 1 Ω |
| E29-35 (CLG2) - z22-10 (CLG) | Always | Below 1 Ω |
| E29-36 (CG2B) - z22-5 (CLGB) | Always | Below 1 Ω |
| E29-6 (SEL2) - Body ground | Always | 10 kΩ or higher |
| E29-35 (CLG2) - Body ground | Always | 10 kΩ or higher |
| E29-36 (CG2B) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-6 (SEL2) - z24-4 (SEL) | Always | Below 1 Ω |
| E29-35 (CLG2) - z24-10 (CLG) | Always | Below 1 Ω |
| E29-36 (CG2B) - z24-5 (CLGB) | Always | Below 1 Ω |
| E29-6 (SEL2) - Body ground | Always | 10 kΩ or higher |
| E29-35 (CLG2) - Body ground | Always | 10 kΩ or higher |
| E29-36 (CG2B) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

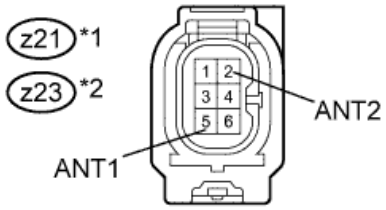
## 7.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - FRONT DOOR OUTSIDE HANDLE)

a. Disconnect the z21 or z23 handle connector.

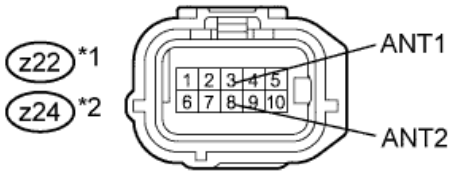
b. Disconnect the z22 or z24 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector:
(to Front Door Outside Handle)




Front view of wire harness connector:
(to Door Electrical Key Oscillator)




*1: for LHD

*2: for RHD

H

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z21-2 (ANT2) - z22-8 (ANT2) | Always | Below 1 Ω |
| z21-5 (ANT1) - z22-3 (ANT1) | Always | Below 1 Ω |
| z21-2 (ANT2) - Body ground | Always | 10 kΩ or higher |
| z21-5 (ANT1) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z23-2 (ANT2) - z24-8 (ANT2) | Always | Below 1 Ω |
| z23-5 (ANT1) - z24-3 (ANT1) | Always | Below 1 Ω |
| z23-2 (ANT2) - Body ground | Always | 10 kΩ or higher |
| z23-5 (ANT1) - Body ground | Always | 10 kΩ or higher |

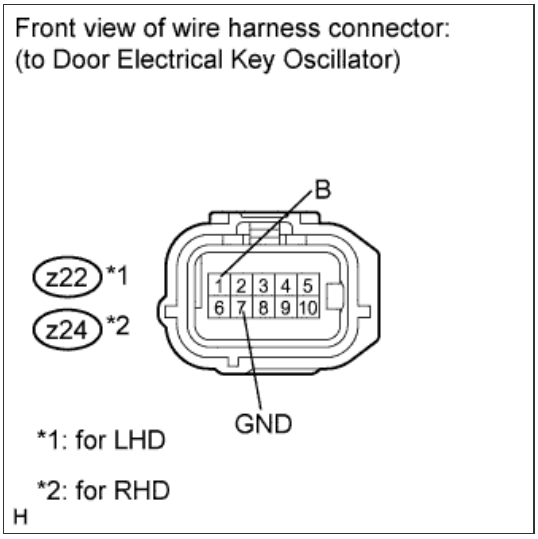
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - BATTERY AND BODY GROUND)

a. Disconnect the z22 or z24 oscillator connector.

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z22-1 (B) - z22-7 (GND) | Always | 11 to 14 V |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z24-1 (B) - z24-7 (GND) | Always | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 9.REPLACE DOOR ELECTRICAL KEY OSCILLATOR

a. Replace the door electrical key oscillator (Click here).

NEXT

## 10.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)

a. Check that the entry function operates normally.

**OK:**

**Operates normally.**

NG → Go to step 11

OK

END (DOOR ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)

## 11.REPLACE FRONT DOOR OUTSIDE HANDLE

a. Replace the front door outside handle (Click here).

NEXT

12.CHECK FRONT DOOR OUTSIDE HANDLE OPERATION

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

END (FRONT DOOR OUTSIDE HANDLE IS DEFECTIVE)

**for Preparation** Click here

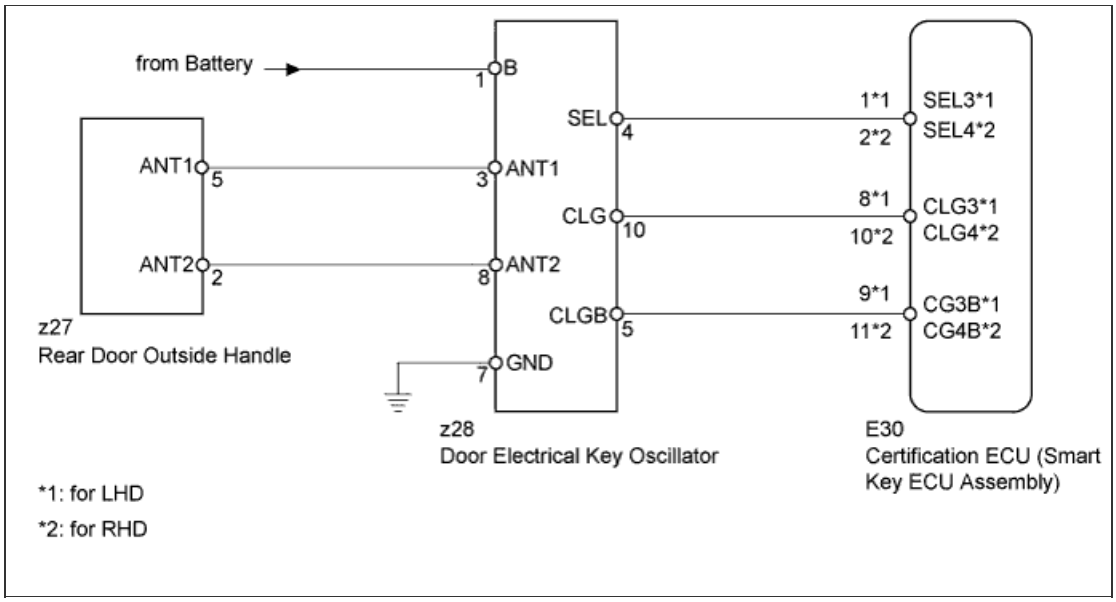
## DESCRIPTION

When the rear door LH entry lock and unlock functions do not operate, one of the following may be malfunctioning: 1) power door lock system, 2) rear door electrical key oscillator LH, or 3) certification ECU (smart key ECU assembly).

**HINT:**

For vehicles with entry function for rear doors.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

i. for LHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | ON: Driver side rear door | |

| | | | |
|---|---|---|---|
| DR Door Lock Position SW | Driver side rear door lock position switch signal / ON or OFF | unlocked<br>OFF: Driver side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

ii. for RHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| PR Door Lock Position SW | Passenger side rear door lock position switch signal / ON or OFF | ON: Passenger side rear door unlocked<br>OFF: Passenger side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → **GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Rear Door LH LOCK/UNLOCK Functions do not Operate) (Click here)**

OK

## 3.READ VALUE USING INTELLIGENT TESTER (TOUCH SENSOR)

a. Using the intelligent tester, read the Data List.

i. for LHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Dr-Door Touch Sensor | Driver side rear door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |
| Dr-Door Trigger Switch | Driver side rear door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

ii. for RHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Pr-Door Touch Sensor | Passenger side rear door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |
| Pr-Door Trigger Switch | Passenger side rear door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**Result**

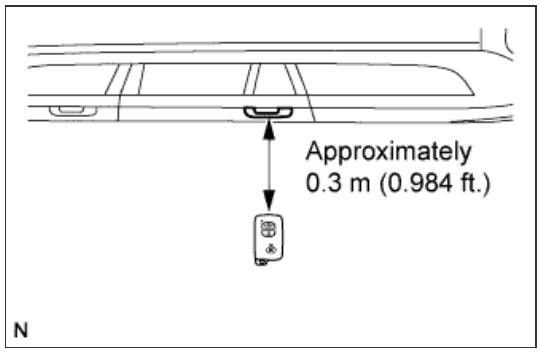
| Result | Proceed to |
|---|---|
| Display changes according to manual operation | A |
| Display does not change according to manual operation | B |

B → **Go to step 6**

A

## 4.CHECK WAVE ENVIRONMENT

a. Bring the electrical key transmitter near the rear door outside handle LH, and perform a rear door LH entry lock and unlock operation check.




**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the door handle, communication is not possible.

**HINT:**

- **When the electrical key transmitter is brought near the rear door outside handle LH, the possibility of wave interference decreases, and it can be determined if wave interference is causing the problem symptom.**
- **If the operation check is normal, the possibility of wave interference is high. Also, added vehicle components may cause wave interference. If installed, remove them and perform the operation check.**

**Result**

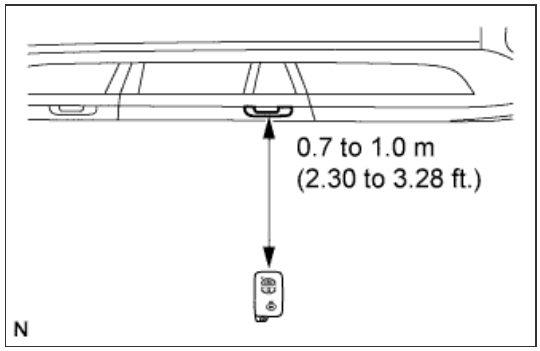
| Result | Proceed to |
|---|---|
| Operation check fails | A |
| Operation check is normal | B |

B → AFFECTED BY WAVE INTERFERENCE

A

**5.PERFORM KEY DIAGNOSTIC MODE INSPECTION**

a. Diagnostic mode inspection (rear door electrical key oscillator LH).




i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus:
for LHD
Select: Body / Entry & Start / Key Communication Check / Overhead + Driver Side Rear.
for RHD
Select: Body / Entry & Start / Key Communication Check / Overhead + Passenger Side Rear.

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.

**HINT:**

If the buzzer sounds, it can be determined that the rear LH seat outside transmitter is operating normally.

**OK:**
**Wireless door lock buzzer sounds.**

NG → Go to step 6

OK

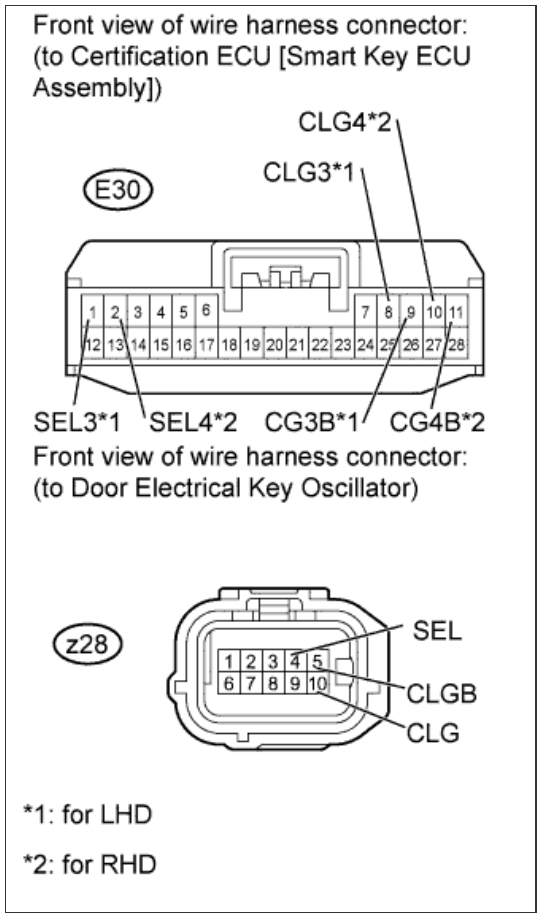
**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

**6.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR ELECTRICAL KEY OSCILLATOR)**

a. Disconnect the E30 ECU connector.

b. Disconnect the z28 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-1 (SEL3) - z28-4 (SEL) | Always | Below 1 Ω |
| E30-8 (CLG3) - z28-10 (CLG) | Always | Below 1 Ω |
| E30-9 (CG3B) - z28-5 (CLGB) | Always | Below 1 Ω |
| E30-1 (SEL3) - Body ground | Always | 10 kΩ or higher |
| E30-8 (CLG3) - Body ground | Always | 10 kΩ or higher |
| E30-9 (CG3B) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-2 (SEL4) - z28-4 (SEL) | Always | Below 1 Ω |
| E30-10 (CLG4) - z28-10 (CLG) | Always | Below 1 Ω |
| E30-11 (CG4B) - z28-5 (CLGB) | Always | Below 1 Ω |
| E30-2 (SEL4) - Body ground | Always | 10 kΩ or higher |
| E30-10 (CLG4) - Body ground | Always | 10 kΩ or higher |
| E30-11 (CG4B) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 7.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - REAR DOOR OUTSIDE HANDLE)

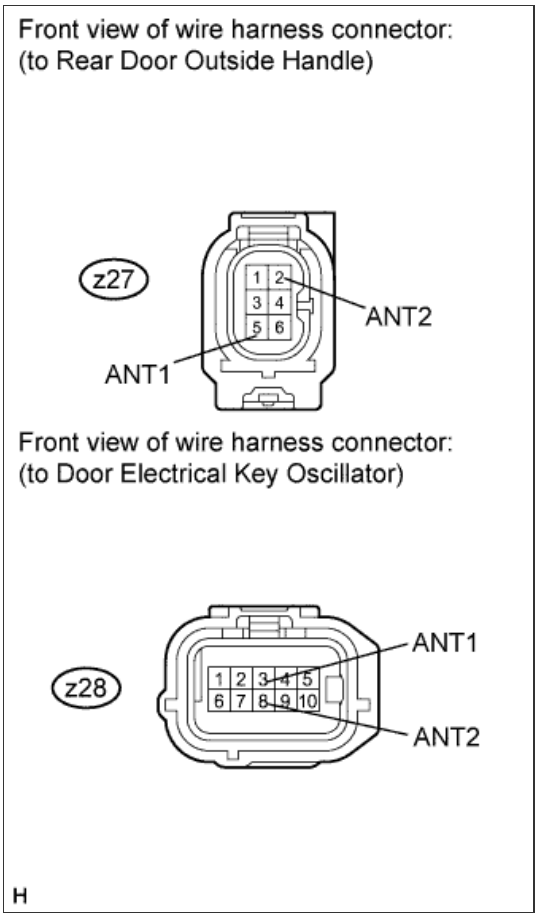
a. Disconnect the z27 handle connector.

b. Disconnect the z28 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z27-2 (ANT2) - z28-8 (ANT2) | Always | Below 1 Ω |
| z27-5 (ANT1) - z28-3 (ANT1) | Always | Below 1 Ω |
| z27-2 (ANT2) - Body ground | Always | 10 kΩ or higher |
| z27-5 (ANT1) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

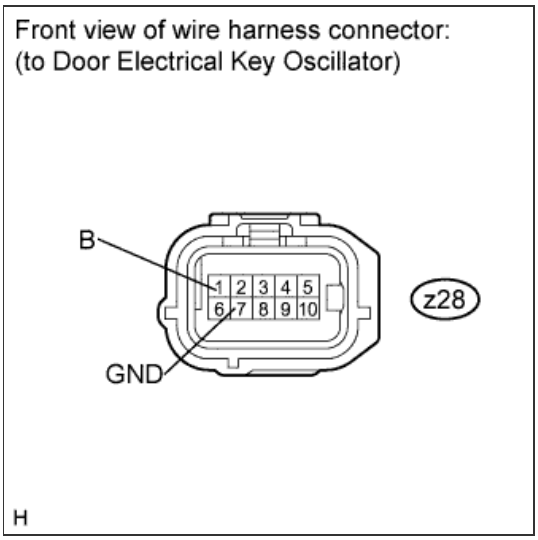
## 8.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - BATTERY AND BODY GROUND)

a. Disconnect the z28 oscillator connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z28-1 (B) - z28-7 (GND) | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

9.REPLACE DOOR ELECTRICAL KEY OSCILLATOR

a. Replace the door electrical key oscillator (Click here).

NEXT

10.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → Go to step 11

OK

END (DOOR ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)

11.REPAIR REAR DOOR OUTSIDE HANDLE

a. Replace the rear door outside handle (Click here).

NEXT

12.CHECK REAR DOOR OUTSIDE HANDLE OPERATION

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

END (REAR DOOR OUTSIDE HANDLE IS DEFECTIVE)

**for Preparation** Click here

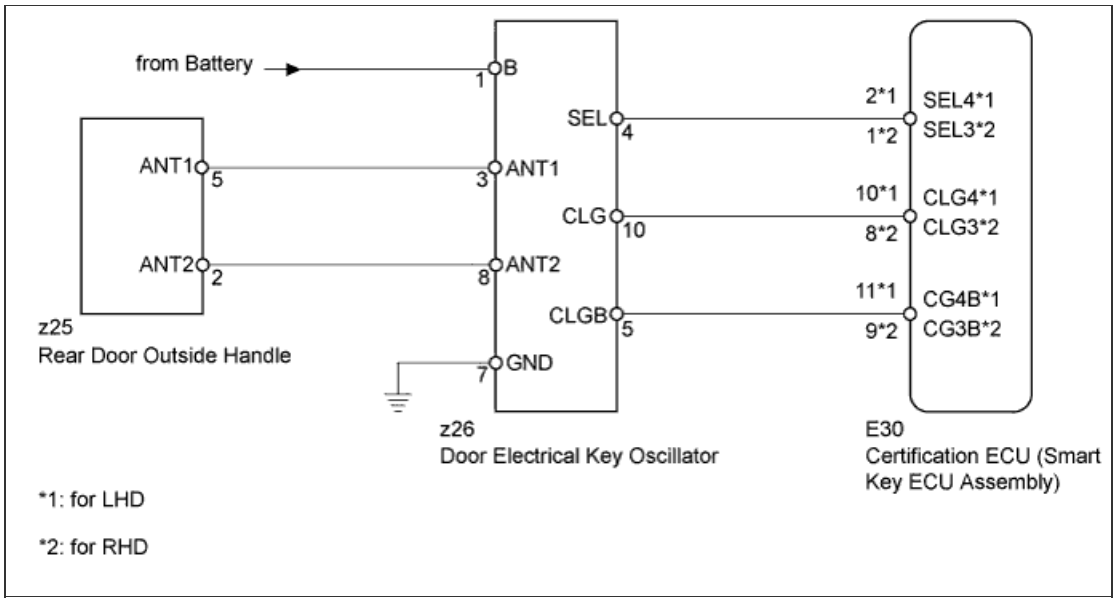
## DESCRIPTION

When the rear door RH entry lock and unlock functions do not operate, one of the following may be malfunctioning: 1) power door lock system, 2) rear door electrical key oscillator RH, or 3) certification ECU (smart key ECU assembly).

**HINT:**

For vehicles with entry function for rear doors.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

i. for LHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | ON: Passenger side rear door | |

| | | | |
|---|---|---|---|
| PR Door Lock Position SW | Passenger side rear door lock position switch signal / ON or OFF | unlocked<br>OFF: Passenger side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

ii. for RHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| DR Door Lock Position SW | Driver side rear door lock position switch signal / ON or OFF | ON: Driver side rear door unlocked<br>OFF: Driver side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

**NG** → **GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Rear Door RH LOCK/UNLOCK Functions do not Operate) (Click here)**

**OK**

## 3.READ VALUE USING INTELLIGENT TESTER (TOUCH SENSOR)

a. Using the intelligent tester, read the Data List.

i. for LHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Pr-Door Touch Sensor | Passenger side rear door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |
| Pr-Door Trigger Switch | Passenger side rear door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

ii. for RHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Dr-Door Touch Sensor | Driver side rear door touch sensor / ON or OFF | ON: Touch sensor touched<br>OFF: Touch sensor not touched | - |
| Dr-Door Trigger Switch | Driver side rear door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**Result**

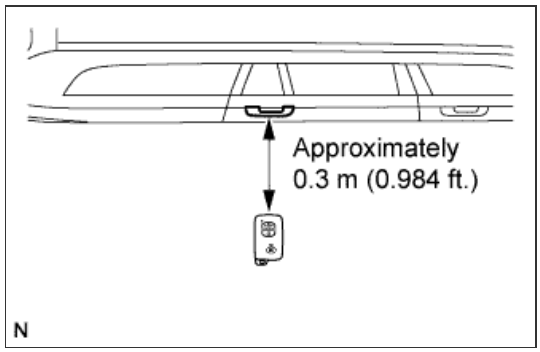
| Result | Proceed to |
|---|---|
| Display changes according to manual operation | A |
| Display does not change according to manual operation | B |

**B** → **Go to step 6**

**A**

## 4.CHECK WAVE ENVIRONMENT

a. Bring the electrical key transmitter near the rear door outside handle RH, and perform a rear door RH entry lock and unlock operation check.




**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the door handle, communication is not possible.

**HINT:**

- **When the electrical key transmitter is brought near the rear door outside handle RH, the possibility of wave interference decreases, and it can be determined if wave interference is causing the problem symptom.**
- **If the operation check is normal, the possibility of wave interference is high. Also, added vehicle components may cause wave interference. If installed, remove them and perform the operation check.**

**Result**

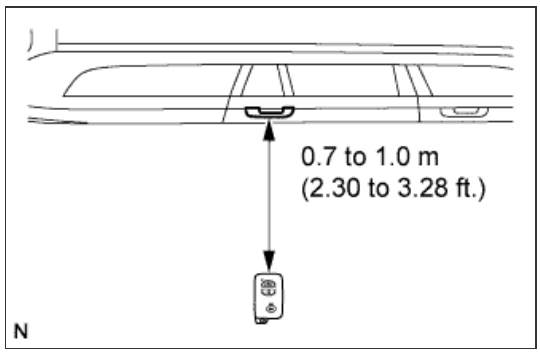
| Result | Proceed to |
|---|---|
| Operation check fails | A |
| Operation check is normal | B |

B → AFFECTED BY WAVE INTERFERENCE

A

**5.PERFORM KEY DIAGNOSTIC MODE INSPECTION**

a. Diagnostic mode inspection (rear door electrical key oscillator RH).




i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus:
for LHD
Select: Body / Entry & Start / Key Communication Check / Overhead + Passenger Side Rear.
for RHD
Select: Body / Entry & Start / Key Communication Check / Overhead + Driver Side Rear.

v. When the electrical key transmitter is in the position shown in the illustration, check that the wireless door lock buzzer sounds.

**HINT:**

If the buzzer sounds, it can be determined that the rear RH seat outside transmitter is operating normally.

**OK:**
**Wireless door lock buzzer sounds.**

NG → Go to step 6

OK

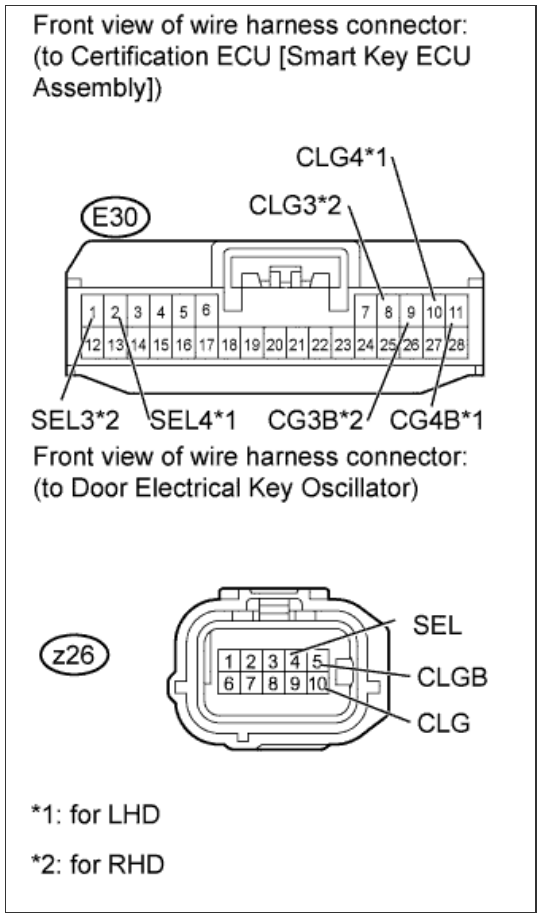
**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

**6.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - DOOR ELECTRICAL KEY OSCILLATOR)**

a. Disconnect the E30 ECU connector.

b. Disconnect the z26 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-2 (SEL4) - z26-4 (SEL) | Always | Below 1 Ω |
| E30-10 (CLG4) - z26-10 (CLG) | Always | Below 1 Ω |
| E30-11 (CG4B) - z26-5 (CLGB) | Always | Below 1 Ω |
| E30-2 (SEL4) - Body ground | Always | 10 kΩ or higher |
| E30-10 (CLG4) - Body ground | Always | 10 kΩ or higher |
| E30-11 (CG4B) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-1 (SEL3) - z26-4 (SEL) | Always | Below 1 Ω |
| E30-8 (CLG3) - z26-10 (CLG) | Always | Below 1 Ω |
| E30-9 (CG3B) - z26-5 (CLGB) | Always | Below 1 Ω |
| E30-1 (SEL3) - Body ground | Always | 10 kΩ or higher |
| E30-8 (CLG3) - Body ground | Always | 10 kΩ or higher |
| E30-9 (CG3B) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 7.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - REAR DOOR OUTSIDE HANDLE)

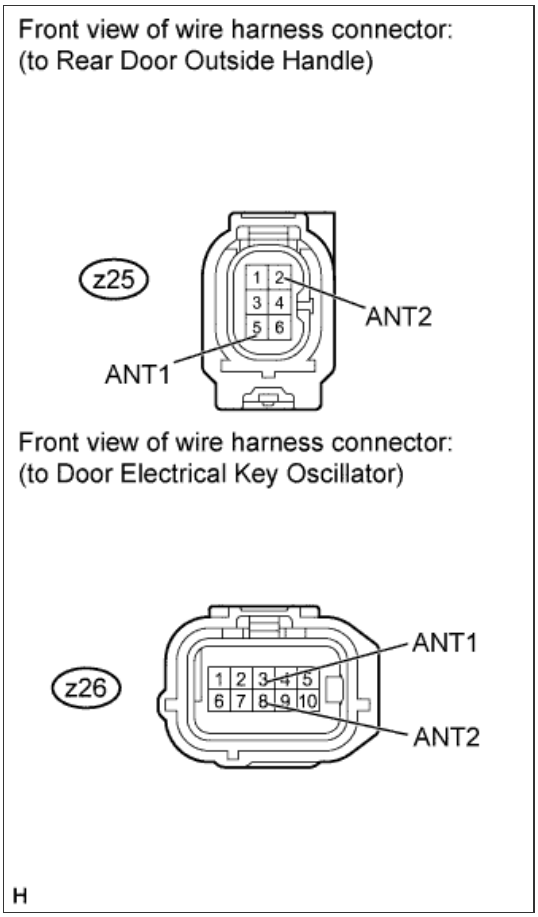
a. Disconnect the z25 handle connector.

b. Disconnect the z26 oscillator connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z25-2 (ANT2) - z26-8 (ANT2) | Always | Below 1 Ω |
| z25-5 (ANT1) - z26-3 (ANT1) | Always | Below 1 Ω |
| z25-2 (ANT2) - Body ground | Always | 10 kΩ or higher |
| z25-5 (ANT1) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

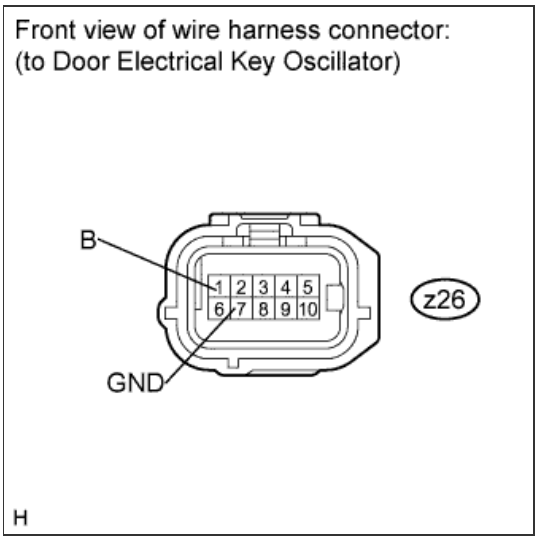
## 8.CHECK HARNESS AND CONNECTOR (DOOR ELECTRICAL KEY OSCILLATOR - BATTERY AND BODY GROUND)

a. Disconnect the z26 oscillator connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z26-1 (B) - z26-7 (GND) | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

9.REPLACE DOOR ELECTRICAL KEY OSCILLATOR

a. Replace the door electrical key oscillator (Click here).

NEXT

10.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → Go to step 11

OK

END (DOOR ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)

11.REPLACE REAR DOOR OUTSIDE HANDLE

a. Replace the rear door outside handle (Click here).

NEXT

12.CHECK REAR DOOR OUTSIDE HANDLE OPERATION

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

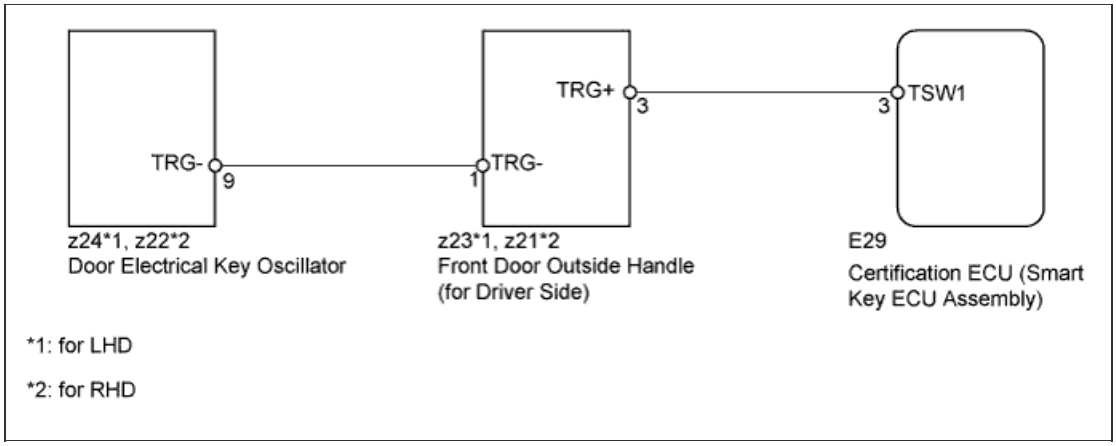
END (REAR DOOR OUTSIDE HANDLE IS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

If the driver side door entry lock function does not operate but the entry unlock function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be an entry lock switch circuit (certification ECU (smart key ECU assembly) → driver side door outside handle (entry lock switch) → driver side door electrical key oscillator).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Door Lock Position SW | Driver side door lock position switch signal / ON or OFF | ON: Driver side door unlocked<br>OFF: Driver side door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Driver Door LOCK/UNLOCK Functions do not Operate) (Click here)

OK

### 3.READ VALUE USING INTELLIGENT TESTER (LOCK SWITCH)

a. Using the intelligent tester, read the Data List.

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D-Door Trigger Switch | Driver side door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**OK:**

**On tester screen, item changes between ON and OFF according to above chart.**

NG → Go to step 4

OK

### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

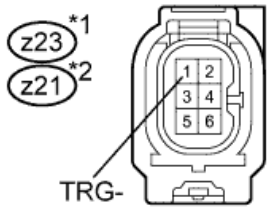
### 4.CHECK HARNESS AND CONNECTOR (FRONT DOOR OUTSIDE HANDLE - DOOR ELECTRICAL KEY OSCILLATOR)

a. Disconnect the z24 or z22 oscillator connector.

b. Disconnect the z23 or z21 handle connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector:
(to Front Door Outside Handle)




Front view of wire harness connector:
(to Door Electrical Key Oscillator)




*1: for LHD

*2: for RHD

H

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z24-9 (TRG-) - z23-1 (TRG-) | Always | Below 1 Ω |
| z24-9 (TRG-) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| z22-9 (TRG-) - z21-1 (TRG-) | Always | Below 1 Ω |
| z22-9 (TRG-) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

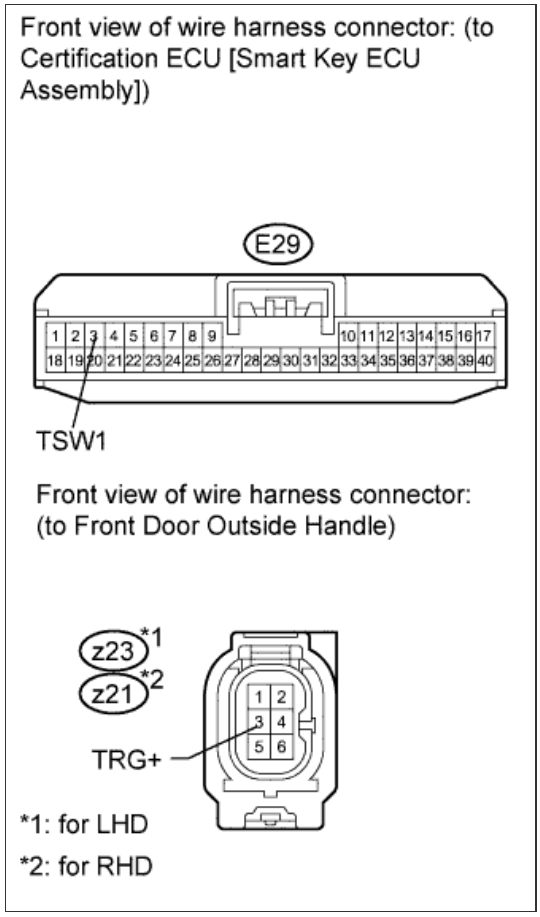
OK

## 5.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - FRONT DOOR OUTSIDE HANDLE)

a. Disconnect the E29 ECU connector.

b. Disconnect the z23 or z21 handle connector.

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-3 (TSW1) - z23-3 (TRG+) | Always | Below 1 Ω |
| E29-3 (TSW1) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

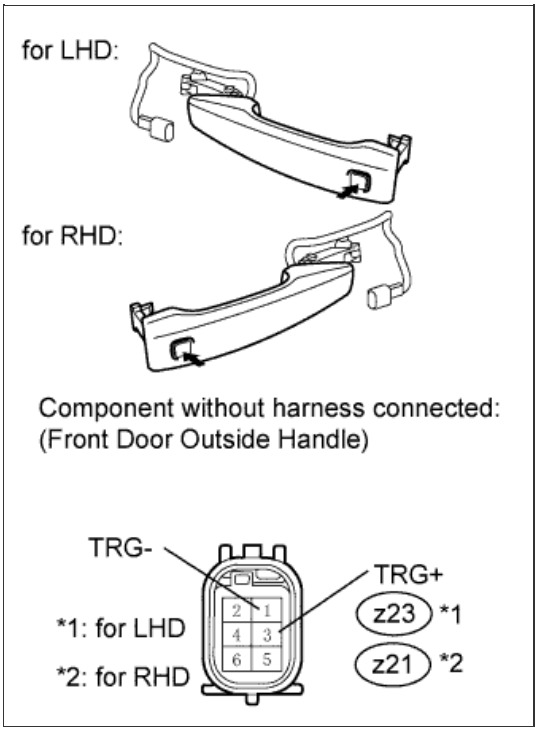
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-3 (TSW1) - z21-3 (TRG+) | Always | Below 1 Ω |
| E29-3 (TSW1) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 6.INSPECT FRONT DOOR OUTSIDE HANDLE (for Driver Side)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z23-1 (TRG-) - z23-3 (TRG+) | Lock switch not pushed | 10 kΩ or higher |
| | Lock switch pushed | Below 1 Ω |

**for RHD:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z21-1 (TRG-) - z21-3 (TRG+) | Lock switch not pushed | 10 kΩ or higher |
| | Lock switch pushed | Below 1 Ω |

NG → REPLACE FRONT DOOR OUTSIDE HANDLE (Click here)

OK

## 7.REPLACE DOOR ELECTRICAL KEY OSCILLATOR

a. Replace the door electrical key oscillator (Click here).

NEXT

## 8.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)

a. Check that the entry function operates normally.

**OK:**

**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

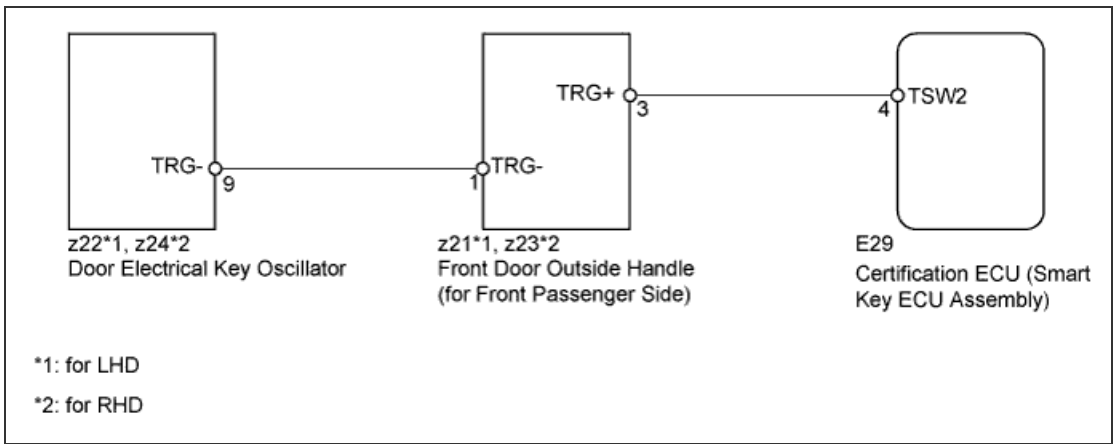
END (DOOR ELECTRICAL OSCILLATOR IS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

If the front passenger side door entry lock function does not operate but the entry unlock function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be an entry lock switch circuit (certification ECU (smart key ECU assembly) → front passenger side door outside handle (entry lock switch) → front passenger side door electrical key oscillator).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P Door Lock Position SW | Front passenger side door lock position switch signal / ON or OFF | ON: Front passenger side door unlocked<br>OFF: Front passenger side door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Passenger Door LOCK/UNLOCK Functions do not

Operate) (Click here)

OK

3.READ VALUE USING INTELLIGENT TESTER (LOCK SWITCH)

a. Using the intelligent tester, read the Data List.

Entry & Start

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P-Door Trigger Switch | Front passenger side door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**OK:**
**On tester screen, item changes between ON and OFF according to above chart.**

NG → Go to step 4

OK

REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

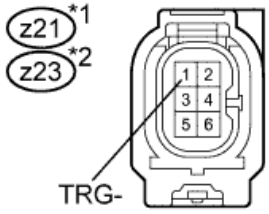
4.CHECK HARNESS AND CONNECTOR (FRONT DOOR OUTSIDE HANDLE - DOOR ELECTRICAL KEY OSCILLATOR)

a. Disconnect the z22 or z24 oscillator connector.

b. Disconnect the z21 or z23 handle connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector:
(to Front Door Outside Handle)




Front view of wire harness connector:
(to Door Electrical Key Oscillator)




*1: for LHD

*2: for RHD

H

**Standard Resistance:**
**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z22-9 (TRG-) - z21-1 (TRG-) | Always | Below 1 Ω |
| z22-9 (TRG-) - Body | Always | 10 kΩ or higher |

| | | |
|---|---|---|
| ground | | |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z24-9 (TRG-) - z23-1 (TRG-) | Always | Below 1 Ω |
| z24-9 (TRG-) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

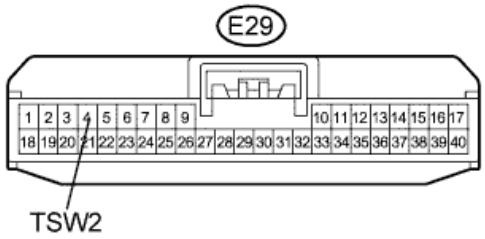
## 5.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - FRONT DOOR OUTSIDE HANDLE)

a. Disconnect the E29 ECU connector.

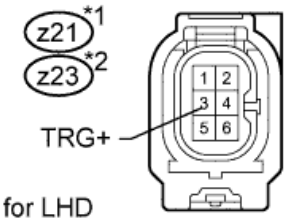
b. Disconnect the z21 or z23 handle connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector: (to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector: (to Front Door Outside Handle)




*1: for LHD

*2: for RHD

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-4 (TSW2) - z21-3 (TRG+) | Always | Below 1 Ω |
| E29-4 (TSW2) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

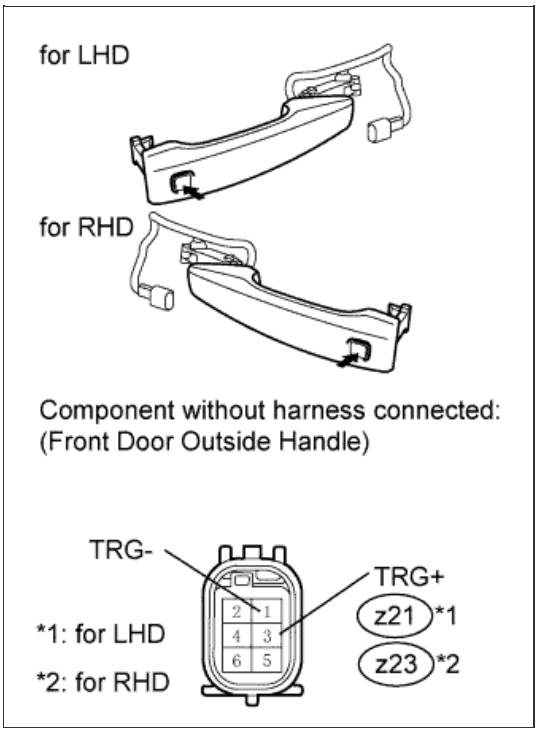
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-4 (TSW2) - z23-3 (TRG+) | Always | Below 1 Ω |
| E29-4 (TSW2) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 6.INSPECT FRONT DOOR OUTSIDE HANDLE (for Front Passenger Side)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z21-1 (TRG-) - z21-3 (TRG+) | Lock switch not pushed | 10 kΩ or higher |
| | Lock switch pushed | Below 1 Ω |

**for RHD:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z23-1 (TRG-) - z23-3 (TRG+) | Lock switch not pushed | 10 kΩ or higher |
| | Lock switch pushed | Below 1 Ω |

NG → REPLACE FRONT DOOR OUTSIDE HANDLE (Click here)

OK

## 7.REPLACE DOOR ELECTRICAL KEY OSCILLATOR

a. Replace the door electrical key oscillator (Click here).

NEXT

## 8.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)

a. Check that the entry function operates normally.

OK:
Operates normally.

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

END (DOOR ELECTRICAL OSCILLATOR IS DEFECTIVE)

**for Preparation** Click here

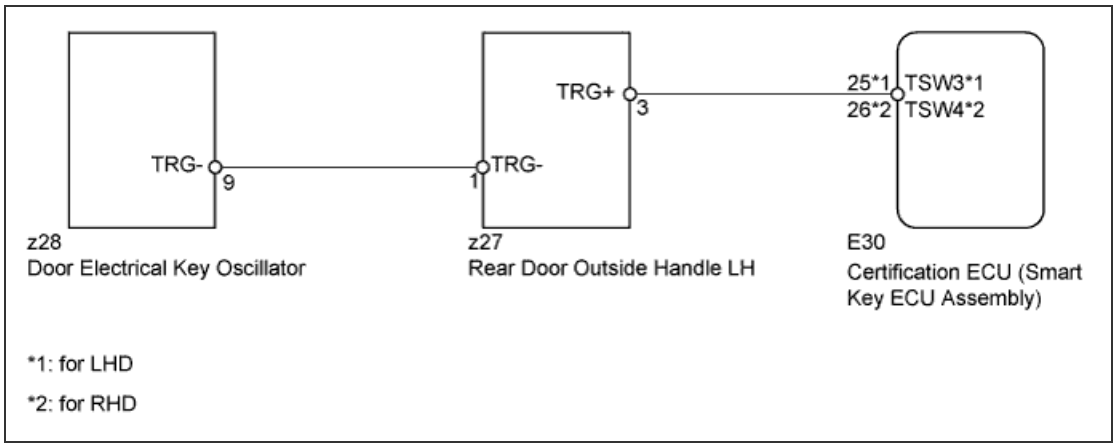
## DESCRIPTION

If the rear door LH entry lock function does not operate but the entry unlock function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be an entry lock switch circuit (certification ECU (smart key ECU assembly) → rear door outside handle LH (entry lock switch) → rear door electrical key oscillator LH).

**HINT:**

For vehicles with entry function for rear doors.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

i. for LHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| DR Door Lock Position SW | Driver side rear door lock position switch signal / ON or OFF | ON: Driver side rear door unlocked<br>OFF: Driver side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

ii. for RHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| PR Door Lock Position SW | Passenger side rear door lock position switch signal / ON or OFF | ON: Passenger side rear door unlocked<br>OFF: Passenger side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Rear Door LH LOCK/UNLOCK Functions do not Operate) (Click here)

OK

**3.READ VALUE USING INTELLIGENT TESTER (LOCK SWITCH)**

a. Using the intelligent tester, read the Data List.

i. for LHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Dr-Door Trigger Switch | Driver side rear door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**OK:**
**On tester screen, item changes between ON and OFF according to above chart.**

ii. for RHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Pr-Door Trigger Switch | Passenger side rear door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**OK:**
**On tester screen, item changes between ON and OFF according to above chart.**

NG → Go to step 4

OK

**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

**4.CHECK HARNESS AND CONNECTOR (REAR DOOR OUTSIDE HANDLE - DOOR ELECTRICAL KEY OSCILLATOR)**

a. Disconnect the z28 oscillator connector.

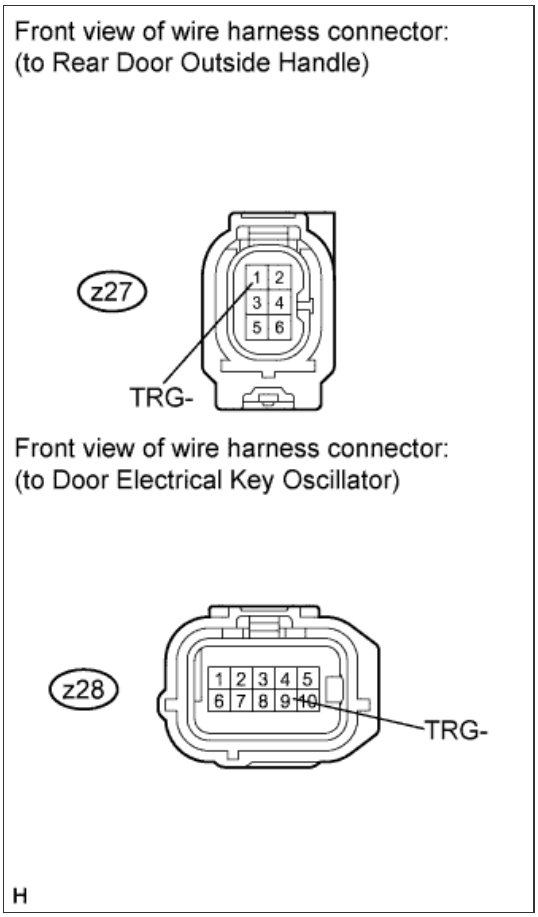
b. Disconnect the z27 handle connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| z28-9 (TRG-) - z27-1 (TRG-) | Always | Below 1 Ω |
| z28-9 (TRG-) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

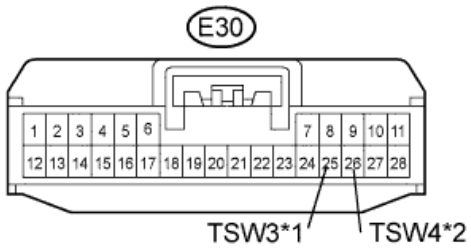
**5.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - REAR DOOR OUTSIDE HANDLE)**

a. Disconnect the E30 ECU connector.

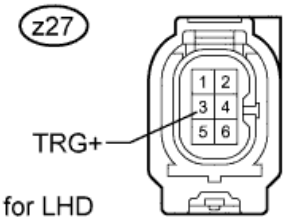
b. Disconnect the z27 handle connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector: (to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector: (to Rear Door Outside Handle)




*1: for LHD

*2: for RHD

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-25 (TSW3) - z27-3 (TRG+) | Always | Below 1 Ω |
| E30-25 (TSW3) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-26 (TSW4) - z27-3 (TRG+) | Always | Below 1 Ω |
| E30-26 (TSW4) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

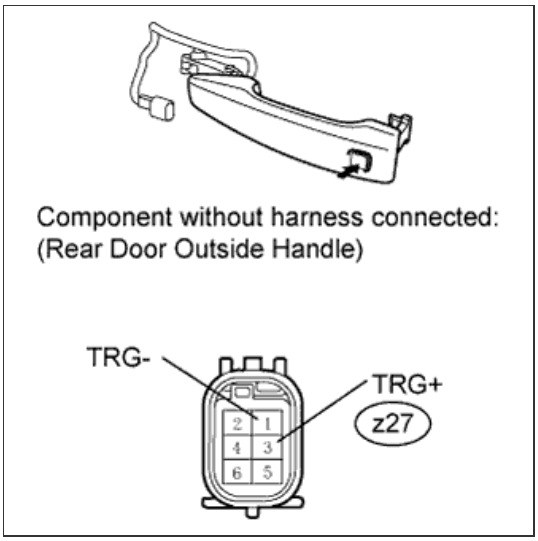
OK

## 6.INSPECT REAR DOOR OUTSIDE HANDLE LH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z27-1 (TRG-) - z27-3 (TRG+) | Lock switch not pushed | 10 kΩ or higher |
| | Lock switch pushed | Below 1 Ω |




NG → REPLACE REAR DOOR OUTSIDE HANDLE (Click here)

OK

**7.REPLACE DOOR ELECTRICAL KEY OSCILLATOR**

a. Replace the door electrical key oscillator (Click here).

NEXT

**8.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)**

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

**END (DOOR ELECTRICAL OSCILLATOR IS DEFECTIVE)**

**for Preparation** Click here

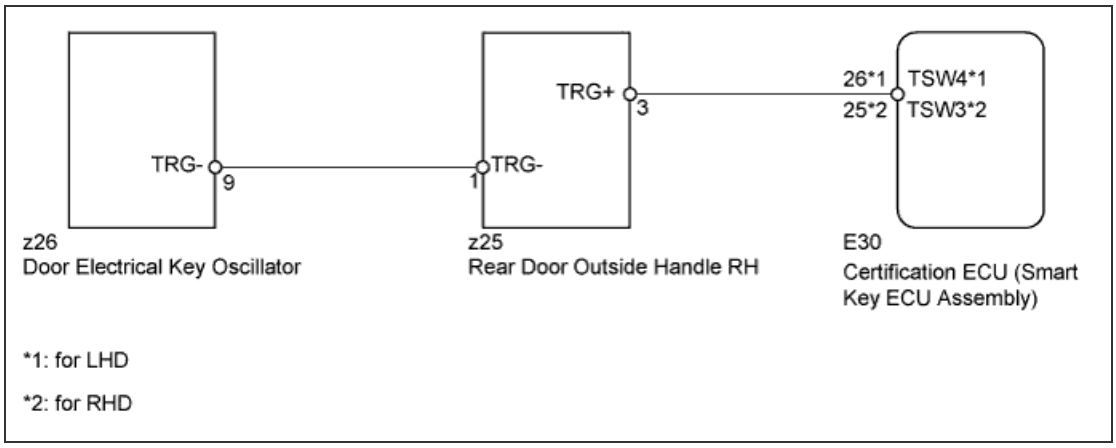
## DESCRIPTION

If the rear door RH entry lock function does not operate but the entry unlock function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be an entry lock switch circuit (certification ECU (smart key ECU assembly) → rear door outside handle RH (entry lock switch) → rear door electrical key oscillator RH).

**HINT:**

For vehicles with entry function for rear doors.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the master switch assembly door control switch is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

i. for LHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| PR Door Lock Position SW | Passenger side rear door lock position switch signal / ON or OFF | ON: Passenger side rear door unlocked<br>OFF: Passenger side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

ii. for RHD

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| DR Door Lock Position SW | Driver side rear door lock position switch signal / ON or OFF | ON: Driver side rear door unlocked<br>OFF: Driver side rear door locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Rear Door RH LOCK/UNLOCK Functions do not Operate) (Click here)

OK

**3.READ VALUE USING INTELLIGENT TESTER (LOCK SWITCH)**

a. Using the intelligent tester, read the Data List.

i. for LHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Pr-Door Trigger Switch | Passenger side rear door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**OK:**
**On tester screen, item changes between ON and OFF according to above chart.**

ii. for RHD

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Dr-Door Trigger Switch | Driver side rear door outside handle lock switch / ON or OFF | ON: Entry lock switch pushed<br>OFF: Entry lock switch not pushed | - |

**OK:**
**On tester screen, item changes between ON and OFF according to above chart.**

NG → Go to step 4

OK

**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

**4.CHECK HARNESS AND CONNECTOR (REAR DOOR OUTSIDE HANDLE - DOOR ELECTRICAL KEY OSCILLATOR)**

a. Disconnect the z26 oscillator connector.

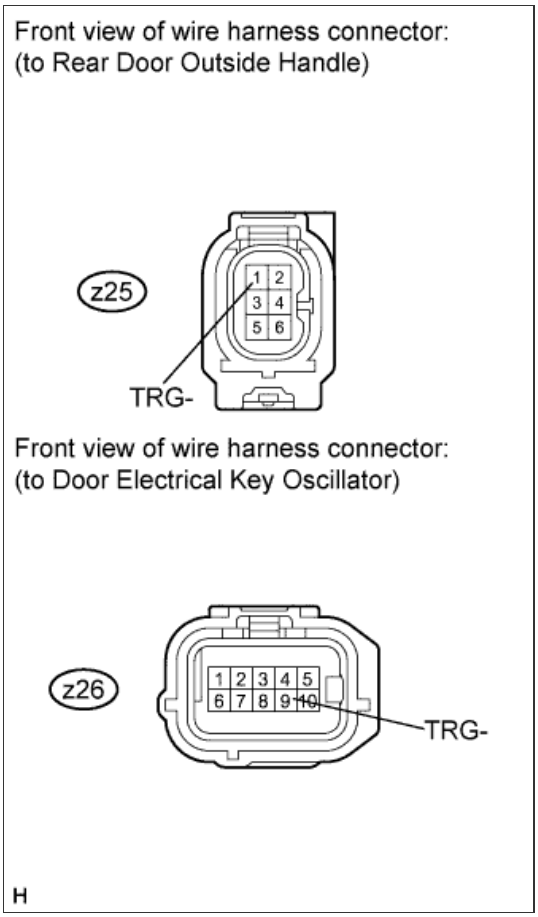
b. Disconnect the z25 handle connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| z26-9 (TRG-) - z25-1 (TRG-) | Always | Below 1 Ω |
| z26-9 (TRG-) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

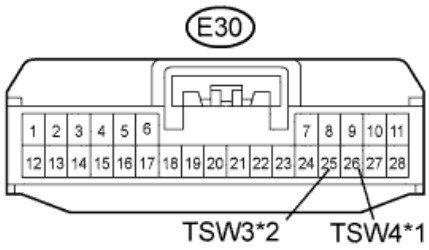
**5.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - REAR DOOR OUTSIDE HANDLE)**

a. Disconnect the E30 ECU connector.

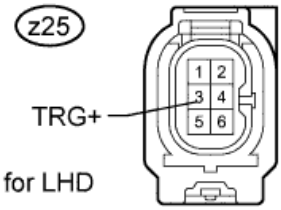
b. Disconnect the z25 handle connector.

c. Measure the resistance according to the value(s) in the table below.

Front view of wire harness connector: (to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector: (to Rear Door Outside Handle)




*1: for LHD

*2: for RHD

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-26 (TSW4) - z25-3 (TRG+) | Always | Below 1 Ω |
| E30-26 (TSW4) - Body ground | Always | 10 kΩ or higher |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-25 (TSW3) - z25-3 (TRG+) | Always | Below 1 Ω |
| E30-25 (TSW3) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

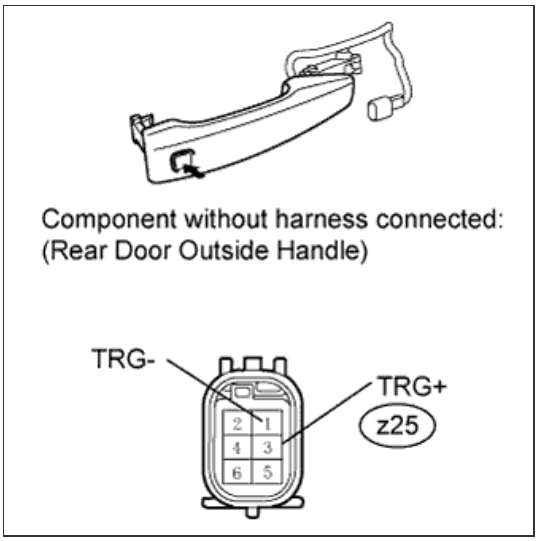
OK

## 6.INSPECT REAR DOOR OUTSIDE HANDLE RH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z25-1 (TRG-) - z25-3 (TRG+) | Lock switch not pushed | 10 kΩ or higher |
| | Lock switch pushed | Below 1 Ω |




NG → REPLACE REAR DOOR OUTSIDE HANDLE (Click here)

OK

**7.REPLACE DOOR ELECTRICAL KEY OSCILLATOR**

a. Replace the door electrical key oscillator (Click here).

NEXT

**8.CHECK DOOR ELECTRICAL KEY OSCILLATOR (OPERATION)**

a. Check that the entry function operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

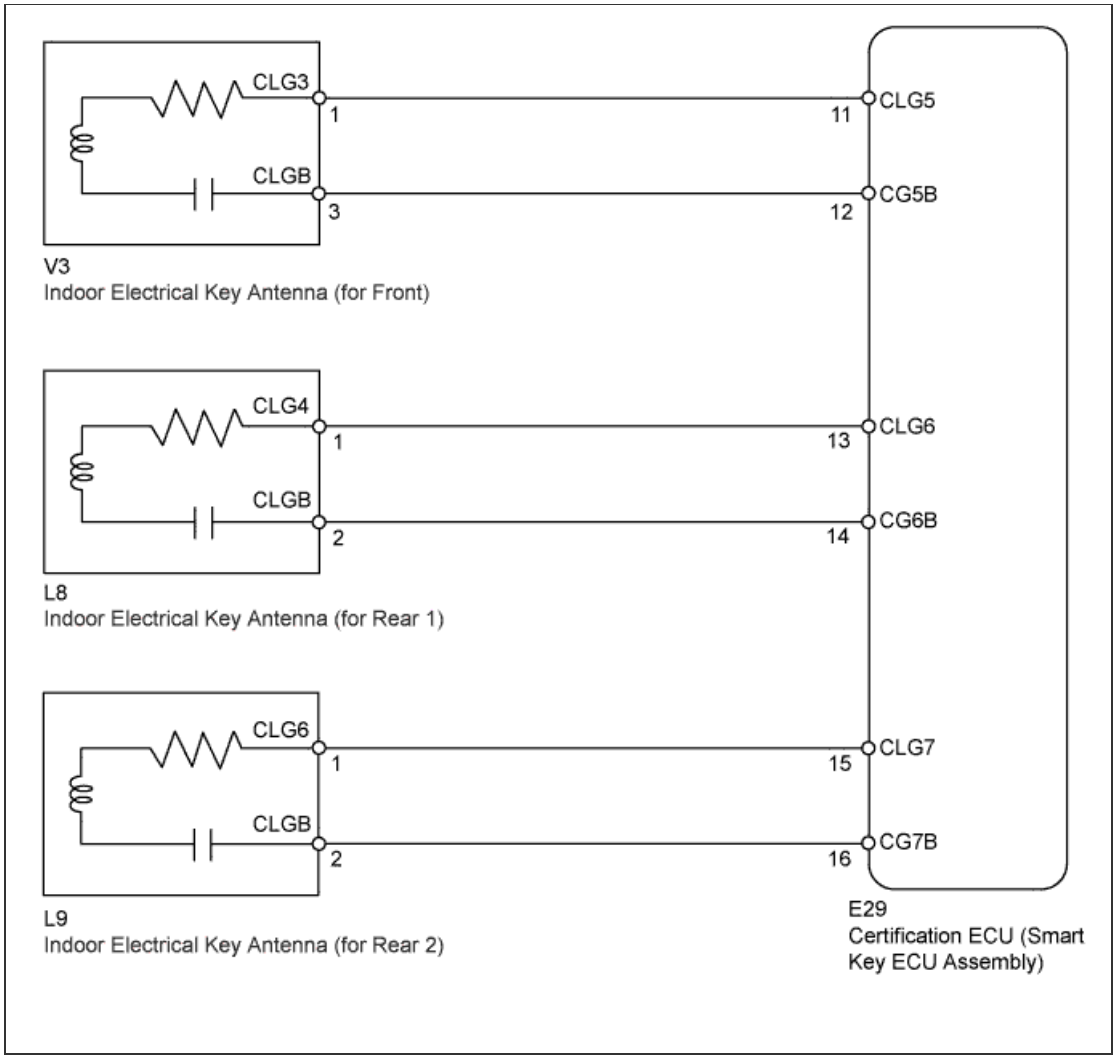
**END (DOOR ELECTRICAL OSCILLATOR IS DEFECTIVE)**

**for Preparation** Click here

## DESCRIPTION

If the room oscillator does not recognize the key, one of the following may be the cause: 1) communication between the indoor electrical key antenna (for Front) and electrical key transmitter cannot be performed; or 2) communication between the indoor electrical key antenna (for Rear 1) and electrical key transmitter cannot be performed; or 3) communication between the indoor electrical key antenna (for Rear 2) and electrical key transmitter cannot be performed.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **Before performing the inspection, check that there are no problems related to the "CAN Communication System" and "LIN Communication System".**
- **When using the intelligent tester with the engine switch off to troubleshoot: Connect the intelligent tester to the vehicle, and turn a courtesy light switch on and off at 1.5 second intervals until communication between the tester and vehicle begins.**

**1.CHECK ENTRY AND START SYSTEM (ENTRY FUNCTION)**

a. Check that the entry lock and unlock function can be operated at each door ( Click here).

**NG** → **Go to DTC OF OTHER COMPONENTS (PROCEED TO PROBLEM SYMPTOM FLOWCHART FOR EACH DOOR) (Click here)**

**OK**

## 2.CHECK ENTRY AND START SYSTEM (START FUNCTION)

a. Remove the battery of the electrical key transmitter ( Click here).

b. With the brake pedal depressed, touch the key to the engine switch, as shown in the illustration.

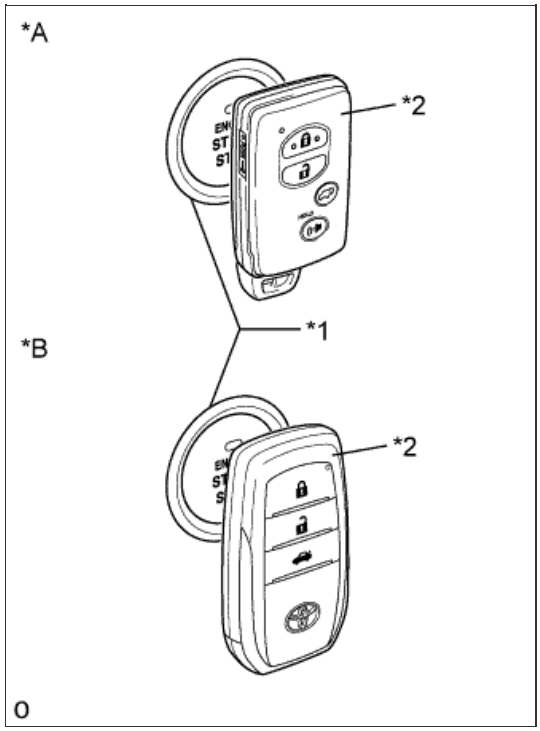
c. When operating the engine switch, check whether the power source mode changes.

**OK:**

**Power source mode changes.**

**HINT:**

- **When the electrical key transmitter cannot be verified even though it is in the operating range of the start function, the engine start check can be performed by removing the transmitter battery from the electrical key transmitter and holding the transmitter against the engine switch.**
- **When performing the check, if the power source mode changes, there is a problem with key certification inside the cabin.**




NG → **Go to ENTRY AND START SYSTEM (Power Source Mode does not Change) (Click here)**

OK

## 3.CHECK WAVE ENVIRONMENT

a. Install the battery to the electrical key transmitter ( Click here).

b. Bring the electrical key transmitter near the indoor electrical key antenna (in center console), and perform an engine control system start check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the center console, communication is not possible.

**OK:**

**Engine starts.**

c. Bring the electrical key transmitter near the indoor electrical key antenna (in rear No. 1 seat cushion), and perform an engine control system start check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the rear No. 1 seat cushion, communication is not possible.

**OK:**

**Engine starts.**

d. Bring the electrical key transmitter near the indoor electrical key antenna (in rear No. 2 seat cushion), and perform an engine control system start check.

**NOTICE:**

If the key is brought within 0.2 m (0.656 ft.) of the rear No. 2 seat cushion, communication is not possible.

**HINT:**

- **When the electrical key transmitter is brought near the indoor electrical key antenna, the possibility of wave interference decreases, and it can be determined if wave interference is causing the problem symptom.**
- **If the inspection result is that the operation check is normal, the possibility of wave interference is high. Also, added vehicle components may cause wave interference, If installed, remove them and perform the operation check.**

**OK:**

Engine starts.

NG → Go to step 4

OK

AFFECTED BY WAVE INTERFERENCE

4.KEY DIAGNOSTIC MODE

a. Diagnostic mode inspection (indoor electrical key antenna (for Front)).

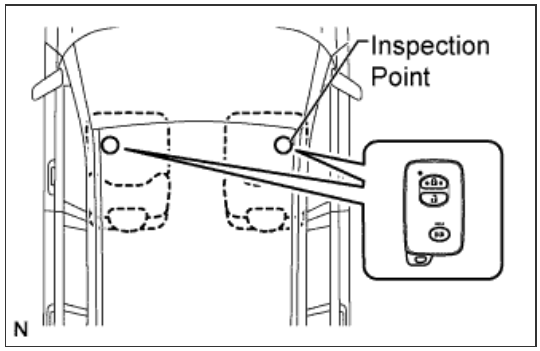
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Front Room.

v. When the electrical key transmitter is placed on the driver seat or front passenger seat cushion, check that the wireless door lock buzzer sounds.




b. Diagnostic mode inspection (indoor electrical key antenna (for Rear 1)).

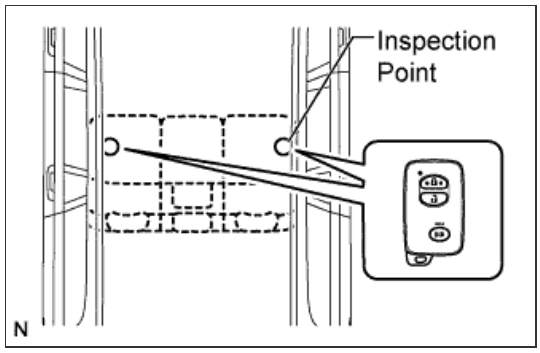
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Rear Room.

v. When the electrical key transmitter is placed on the rear seat cushion, check that the wireless door lock buzzer sounds.




c. Diagnostic mode inspection (indoor electrical key antenna (for Rear 2)).

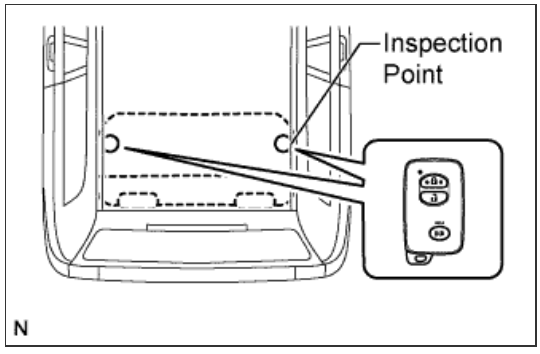
i. Connect the intelligent tester to the DLC3.

ii. Turn the engine switch on (IG).

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Entry & Start / Key Communication Check / Overhead + Back Door (inside) Room.

v. When the electrical key transmitter is placed on the rear seat cushion, check that the wireless door lock buzzer sounds.




**HINT:**

- **If the buzzer sounds, it can be determined that the vehicle interior transmitters are operating normally.**
- **It is possible to check which indoor electrical key antenna (front, rear 1 or rear 2) is operating by sounding the buzzer.**
- **If the buzzer does not sound for any indoor electrical key antennas, the certification ECU (smart key ECU assembly) circuit may have a malfunction.**

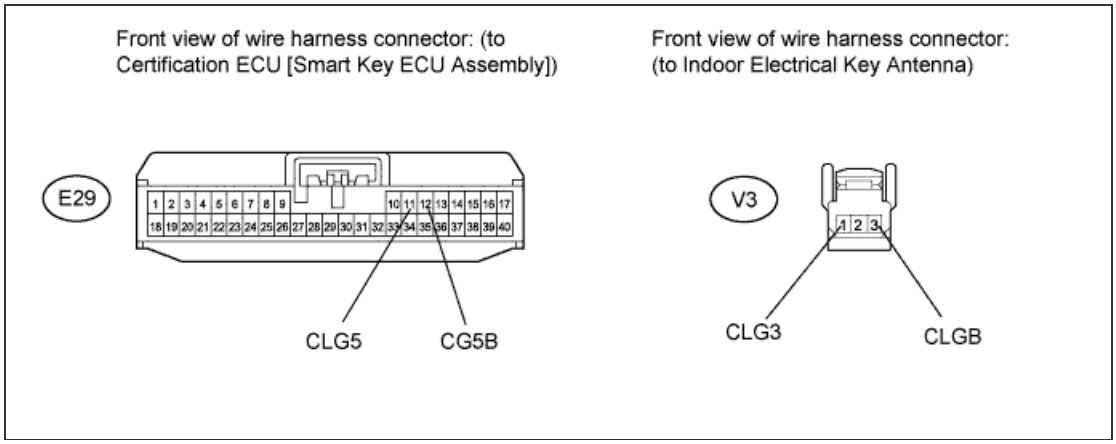
Result

| Result | Proceed to |
|---|---|
| Front operation check fails | A |
| Rear 1 operation check fails | B |
| Rear 2 operation check fails | C |
| Front, rear 1 and rear 2 operation checks are normal or fail | D |

| | |
|---|---|
| B | Go to step 7 |
| C | Go to step 9 |
| D | REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) |

A

5.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - INDOOR ELECTRICAL KEY ANTENNA)




a. Disconnect the E29 ECU connector.

b. Disconnect the V3 antenna connector.

c. Measure the resistance according to the value(s) in the table below.

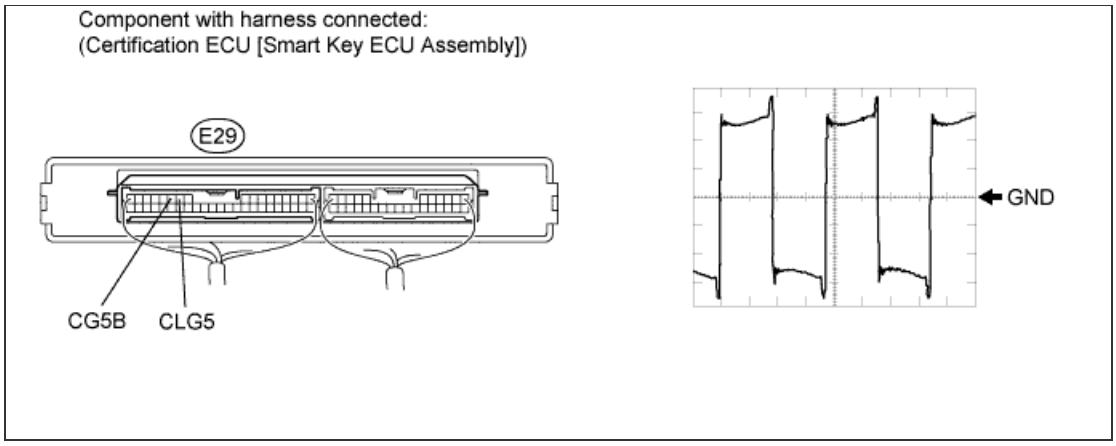
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| V3-1 (CLG3) - E29-11 (CLG5) | Always | Below 1 Ω |
| V3-3 (CLGB) - E29-12 (CG5B) | Always | Below 1 Ω |
| V3-1 (CLG3) - Body ground | Always | 10 kΩ or higher |
| V3-3 (CLGB) - Body ground | Always | 10 kΩ or higher |

| | |
|---|---|
| NG | REPAIR OR REPLACE HARNESS OR CONNECTOR |

OK

6.CHECK INDOOR ELECTRICAL KEY ANTENNA (for Front Floor)




a. Measure the voltage according to the value(s) in the table below.

**OK:**

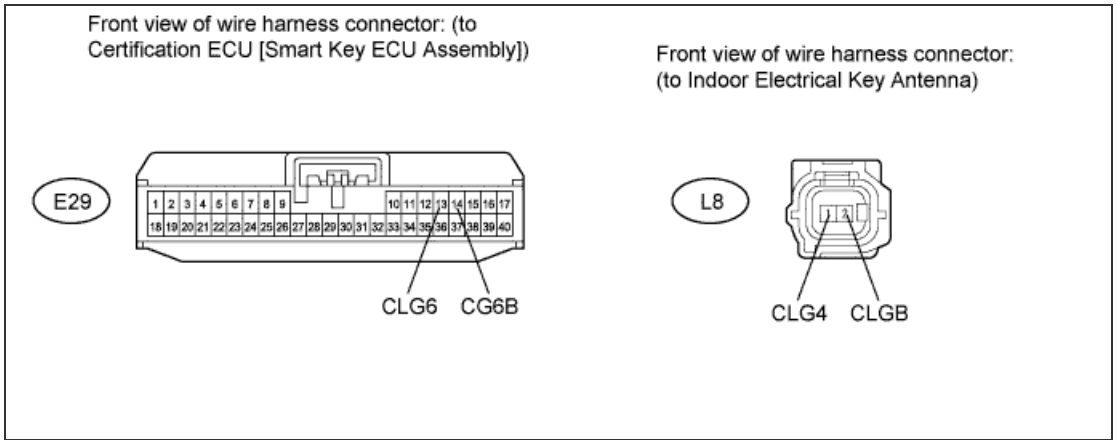
| Tester Connection | Tool Setting | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-11 (CLG5) - E29-12 (CG5B) | 2 V/DIV, 2 µsec./DIV. (Reference) | Engine switch on (IG) | Pulse generation |

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

REPLACE INDOOR ELECTRICAL KEY ANTENNA (for Front Floor) ( Click here)

7.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - INDOOR ELECTRICAL KEY ANTENNA)




a. Disconnect the E29 ECU connector.

b. Disconnect the L8 antenna connector.

c. Measure the resistance according to the value(s) in the table below.

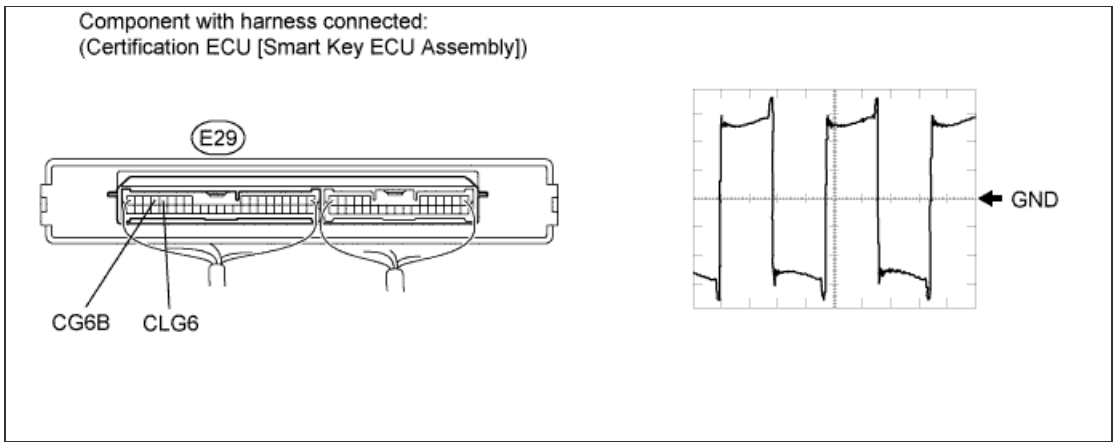
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L8-1 (CLG4) - E29-13 (CLG6) | Always | Below 1 Ω |
| L8-2 (CLGB) - E29-14 (CG6B) | Always | Below 1 Ω |
| L8-1 (CLG4) - Body ground | Always | 10 kΩ or higher |
| L8-2 (CLGB) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.CHECK INDOOR ELECTRICAL KEY ANTENNA (for Rear 1 Floor)




a. Measure the voltage according to the value(s) in the table below.

**OK:**

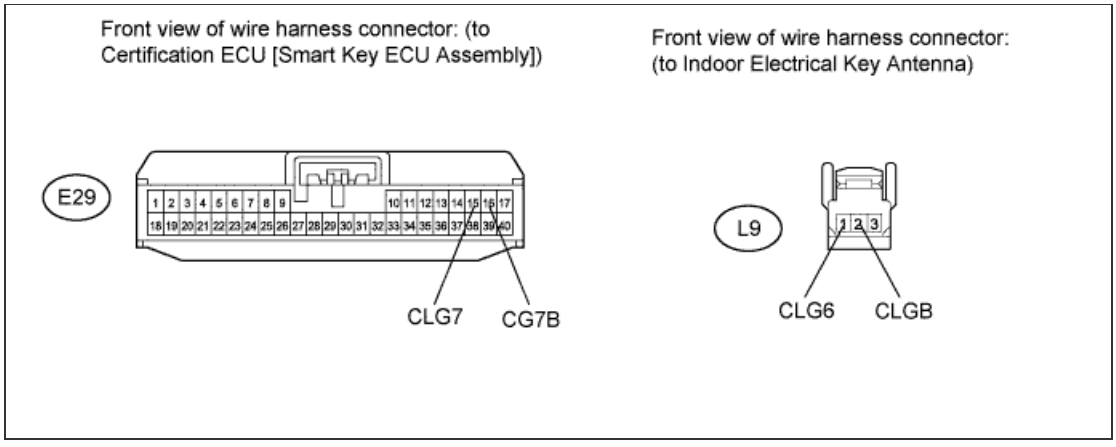
| Tester Connection | Tool Setting | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-13 (CLG6) - E29-14 (CG6B) | 2 V/DIV., 2 µsec./DIV. (Reference) | Engine switch on (IG) | Pulse generation |

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

REPLACE INDOOR ELECTRICAL KEY ANTENNA (for Rear 1 Floor) ( Click here)

## 9.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - INDOOR ELECTRICAL KEY ANTENNA)




a. Disconnect the E29 ECU connector.

b. Disconnect the L9 antenna connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

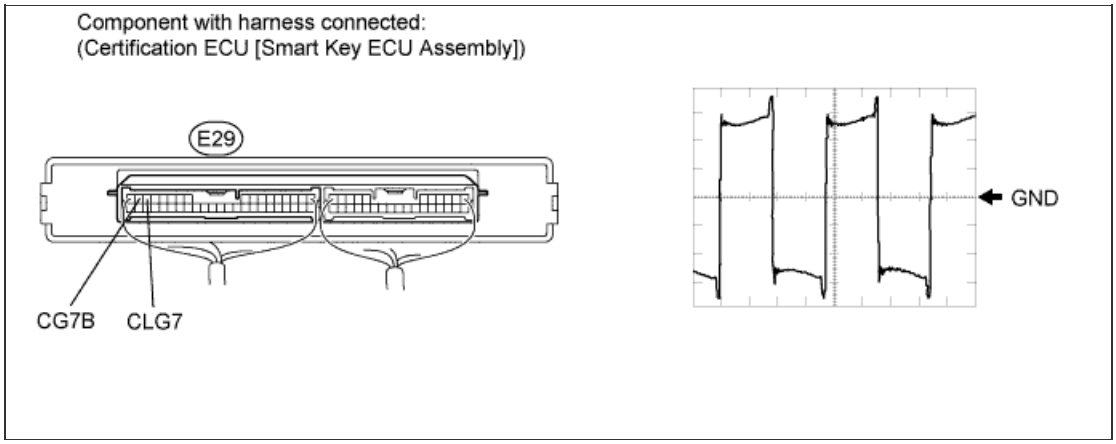
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L9-1 (CLG6) - E29-15 (CLG) | Always | Below 1 Ω |
| | | |

| | | |
|---|---|---|
| L9-2 (CLGB) - E29-16 (CG7B) | Always | Below 1 Ω |
| L9-1 (CLG6) - Body ground | Always | 10 kΩ or higher |
| L9-2 (CLGB) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**10.CHECK INDOOR ELECTRICAL KEY ANTENNA (for Rear 2 Floor)**




a. Measure the voltage according to the value(s) in the table below.

**OK:**

| Tester Connection | Tool Setting | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-15 (CLG7) - E29-16 (CG7B) | 2 V/DIV., 2 µsec./DIV. (Reference) | Engine switch on (IG) | Pulse generation |

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

REPLACE INDOOR ELECTRICAL KEY ANTENNA (for Rear 2 Floor) ( Click here)

**for Preparation** Click here

## DESCRIPTION

The entry and start system uses the combination meter buzzer to perform various vehicle interior warnings. When the conditions of each warning are met, the certification ECU (smart key ECU assembly) sends a buzzer signal to the meter ECU, and the combination meter buzzer sounds.

## INSPECTION PROCEDURE

**1.CHECK COMBINATION METER ASSEMBLY (OPERATION)**

a. Turn the engine switch on (IG). Place luggage on the passenger seat to cause the passenger seat belt warning light to blink.

b. When driving the vehicle at 15 km/h (9.3 mph) or more, check that the seat belt warning buzzer sounds to inform that the passenger seat belt is not fastened.

**HINT:**

The entry and start system sounds the buzzer built into the combination meter for indoor warnings. This buzzer is also used for the seat belt warning system. Therefore, check the operation of the combination meter buzzer by checking if the buzzer sounds to inform that the seat belt is not fastened.

**OK:**

**Combination meter buzzer sounds.**

NG → GO TO METER / GAUGE SYSTEM (Click here)

OK

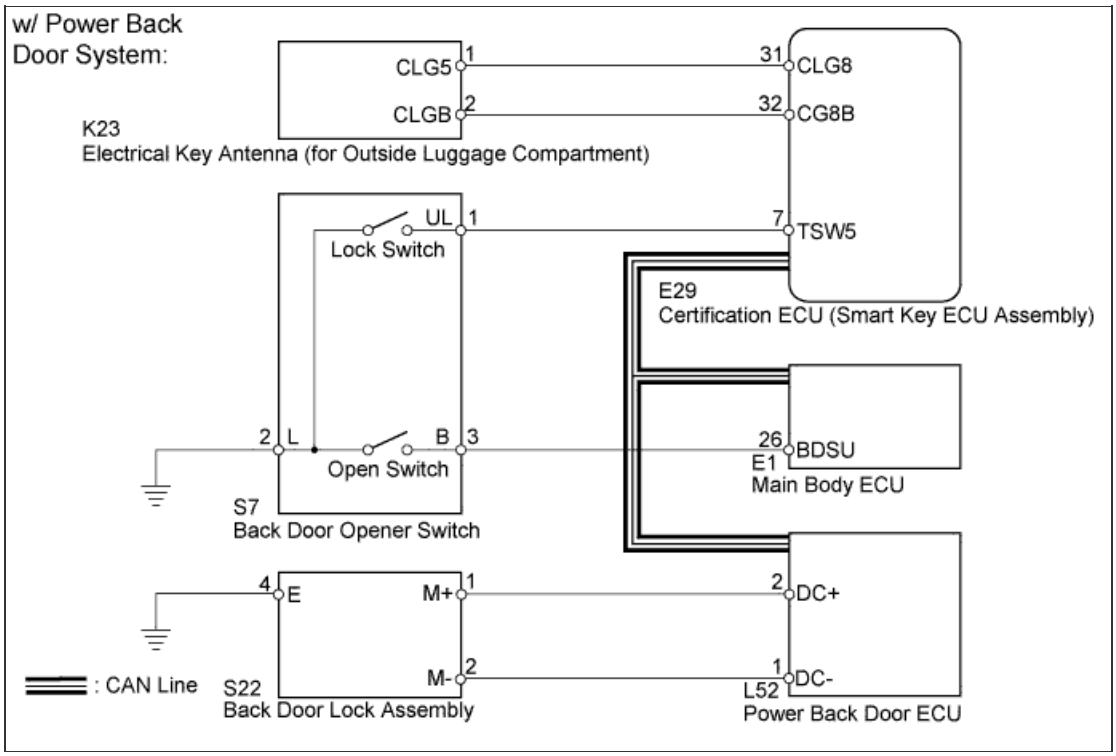
**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

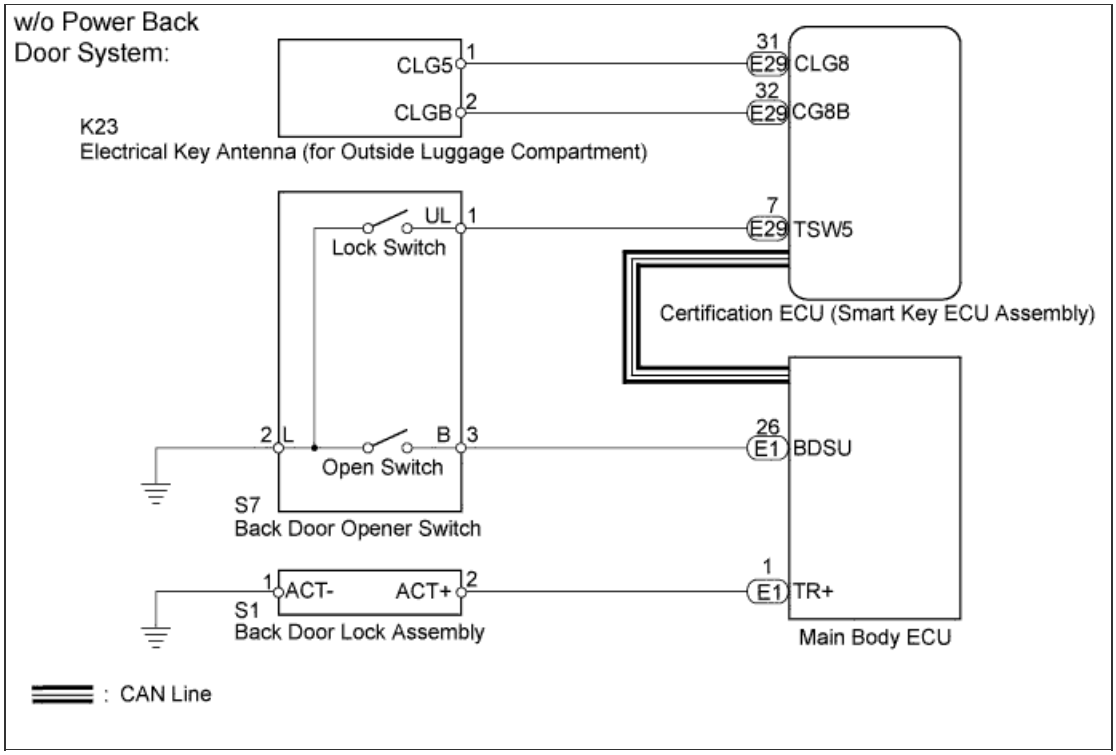
**for Preparation** Click here

## DESCRIPTION

When the back door opener switch is turned on, the certification ECU (smart key ECU assembly) uses the electrical key antenna (for outside luggage compartment) and antenna to output a request signal to the outside of the vehicle for a distance of approximately 1.0 m (3.28 ft.) from the back door. A key near the back door detects this request and transmits its ID code. The door control receiver receives the ID code and sends this ID code to the certification ECU (smart key ECU assembly). The certification ECU (smart key ECU assembly) checks if the ID code is valid. When the ID code is valid, the certification ECU (smart key ECU assembly) sends a back door open signal to the main body ECU using the CAN communication line and stops outputting request signals. The main body ECU then unlocks the back door.

## WIRING DIAGRAM



## INSPECTION PROCEDURE

**NOTICE:**

Before performing the inspection, check that there are no problems related to the "CAN Communication System" and "LIN Communication System".

### 1.CHECK POWER DOOR LOCK OPERATION

a. When the door control switch of the master switch assembly is operated, check that the locked doors unlock.

**OK:**

**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

### 2.CHECK VEHICLE EQUIPMENT

a. Check if the power back door is equipped on the vehicle.

**Result**

| Result | Proceed to |
|---|---|
| w/ Power Back Door System | A |
| w/o Power Back Door System | B |

B → Go to step 4

A

### 3.CHECK POWER BACK DOOR OPERATION

a. When the power back door switch is operated, check that the power back door opens.

**OK:**

**Power back door system is normal.**

**Result**

| Result | Proceed to |
|---|---|
| Power back door system is abnormal | A |
| Power back door system is normal | B |

B → Go to step 5

A

GO TO POWER BACK DOOR SYSTEM (Click here)

### 4.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item / Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Back Lock Pos switch | Back door lock position switch signal / ON or OFF | ON: Back door unlocked<br>OFF: Back door locked | - |

**OK:**

On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Back Door LOCK/UNLOCK Functions do not Operate) (Click here)

OK

## 5.READ VALUE USING INTELLIGENT TESTER (BACK DOOR HANDLE SW)

a. Using the intelligent tester, read the Data List.

Main Body

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Back Door Handle SW | Back door opener switch / ON or OFF | ON: Back door open switch is pushed<br>OFF: Back door open switch is not pushed | - |

OK:
"ON" (switch is pushed) and "OFF" (switch is not pushed) appears on the screen.

NG → Go to step 6

OK

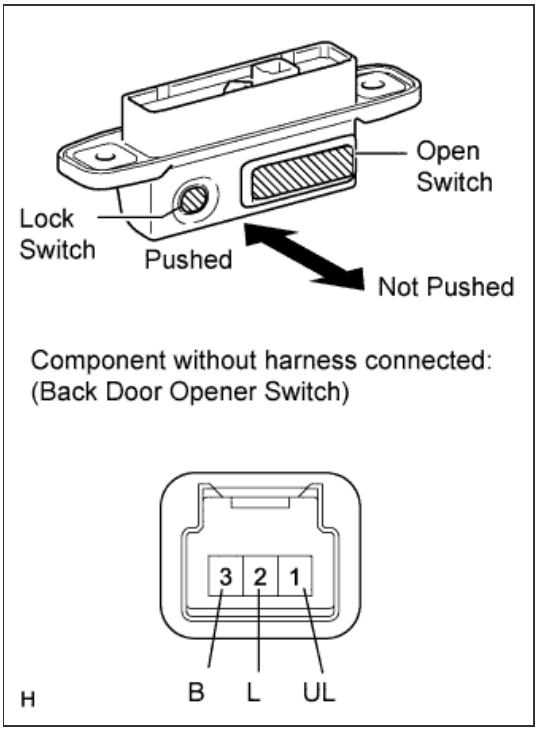
REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

## 6.CHECK BACK DOOR OPENER SWITCH

a. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (B) - 2 (L) | Not pushed | 10 kΩ or higher |
| 3 (B) - 2 (L) | Open switch pushed | Below 1 Ω |




NG → REPLACE BACK DOOR OPENER SWITCH (Click here)

OK

## 7.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BACK DOOR OPENER SWITCH)

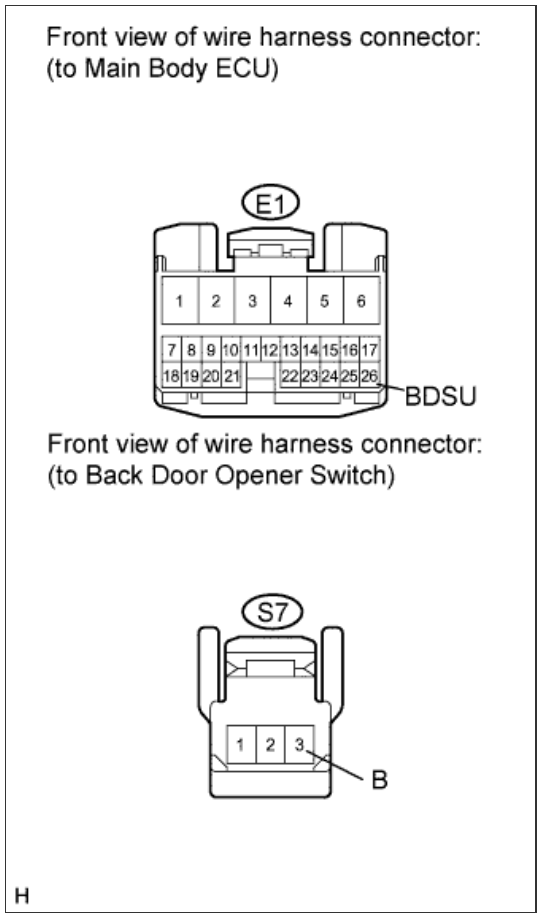
a. Disconnect the E1 ECU connector.

b. Disconnect the S7 switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-26 (BDSU) - S7-3 (B) | Always | Below 1 Ω |
| E1-26 (BDSU) or S7-3 (B) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

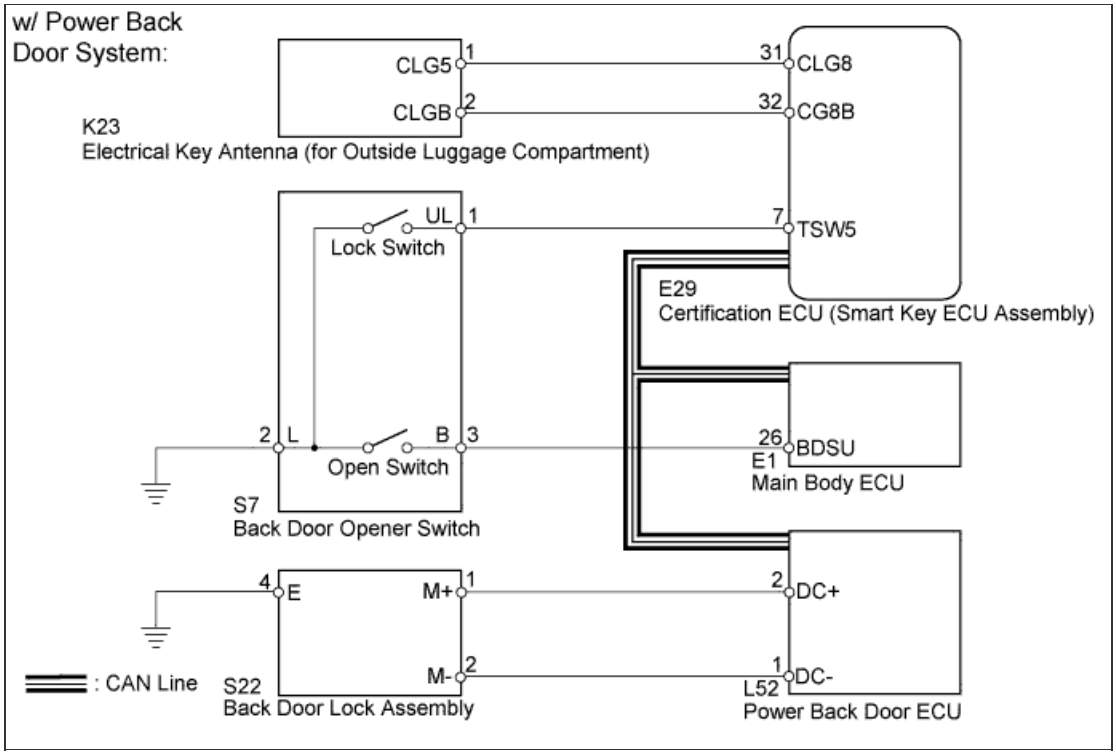
OK → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

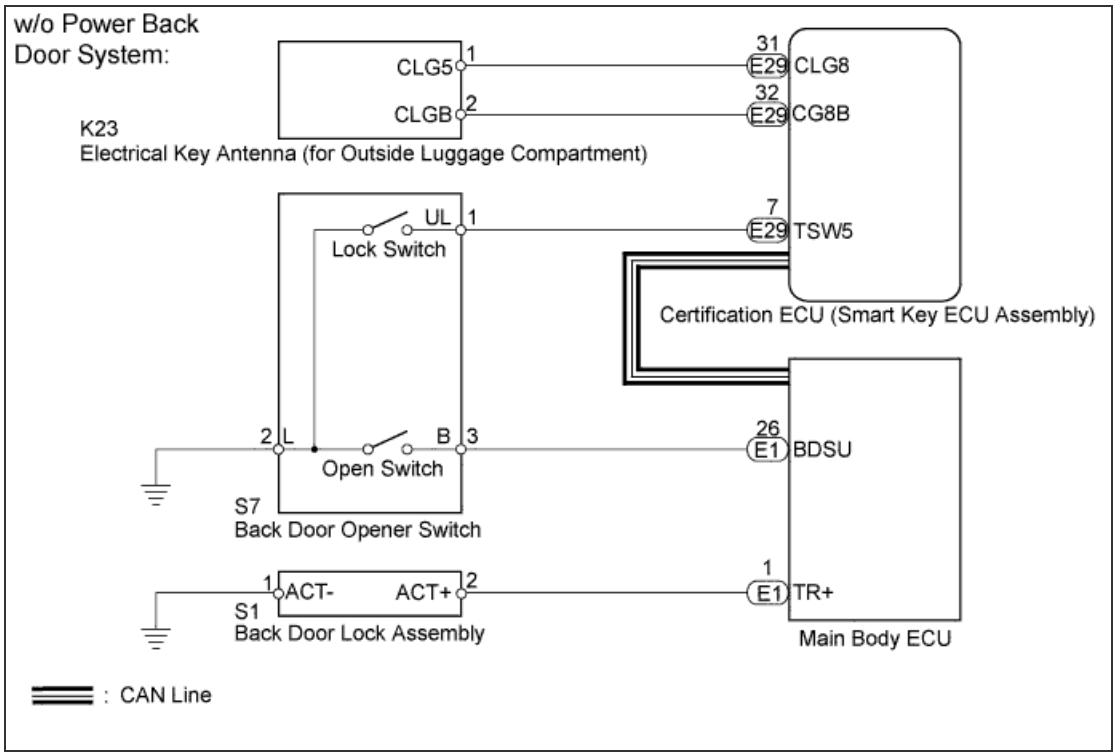
**for Preparation** Click here

## DESCRIPTION

When the back door entry lock and unlock functions do not operate, one of the following may be malfunctioning: 1) power door lock control system, or 2) electrical key antenna (for outside luggage compartment), or 3) main body ECU (cowl side junction block LH), or 4) certification ECU (smart key ECU assembly).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Before performing the inspection, check that there are no problems related to the "CAN Communication System" and "LIN Communication System".

## 1.CHECK POWER DOOR LOCK OPERATION

a. When the door control switch of the master switch assembly is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

## 2.CHECK VEHICLE EQUIPMENT

a. Check if the power back door is equipped on the vehicle.

**Result**

| Result | Proceed to |
|---|---|
| w/ Power Back Door System | A |
| w/o Power Back Door System | B |

B → Go to step 4

A

## 3.CHECK POWER BACK DOOR OPERATION

a. When the power back door switch is operated, check that the power back door open and close.

**OK:**
**Power back door system is normal.**

**Result**

| Result | Proceed to |
|---|---|
| Power back door system is abnormal | A |
| Power back door system is normal | B |

B → Go to step 5

A

GO TO POWER BACK DOOR SYSTEM (Click here)

## 4.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item / Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Back Lock Pos switch | Back door lock position switch signal / ON or OFF | ON: Back door is unlocked<br>OFF: Back door is locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG

GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Back Door LOCK/UNLOCK Functions do not Operate) (Click here)

OK

5.READ VALUE USING INTELLIGENT TESTER (BACK DOOR LOCK SWITCH, BACK DOOR OPEN SWITCH)

a. Using the intelligent tester, read the Data List.

Main Body

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Back Door Handle SW | Back door open switch / ON or OFF | ON: Back door open switch is pushed<br>OFF: Back door open switch is not pushed | - |

Entry&Start

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Tr/B-Door Lock SW | Back door lock switch / ON or OFF | ON: Back door lock switch is pushed<br>OFF: Back door lock switch is not pushed | - |

**OK:**

**"ON" (switch is pushed) and "OFF" (switch is not pushed) appears on the screen.**

NG

Go to step 9

OK

6.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - BACK DOOR ELECTRICAL KEY ANTENNA [for Outer])

a. Disconnect the E29 ECU connector.

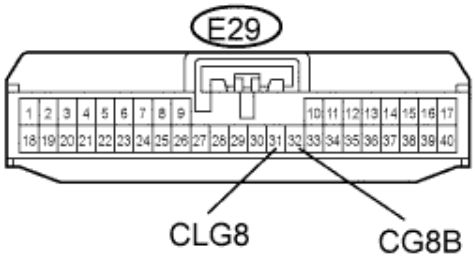
b. Disconnect the K23 antenna connector.

c. Measure the resistance according to the value(s) in the table below.

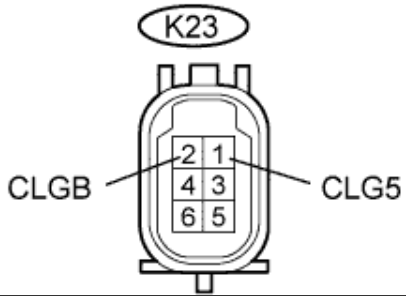
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-31 (CLG8) - K23-1 (CLG5) | Always | Below 1 Ω |
| E29-32 (CG8B) - K23-2 (CLGB) | Always | Below 1 Ω |
| E29-31 (CLG8) - Body ground | Always | 10 kΩ or higher |
| E29-32 (CG8B) - Body ground | Always | 10 kΩ or higher |

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Electrical Key Antenna [for Outside Luggage Compartment])




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**7.REPLACE BACK DOOR ELECTRICAL KEY ANTENNA (for Outer)**

a. Replace the back door electrical key antenna ( Click here).

NEXT

**8.CHECK BACK DOOR ELECTRICAL KEY ANTENNA [for Outer] (OPERATION)**

a. Check that the entry functions operate normally.

**OK:**
**Entry functions operate normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

**END (ELECTRICAL KEY ANTENNA [for Outside Luggage Compartment] IS DEFECTIVE)**

**9.CHECK HARNESS AND CONNECTOR (BACK DOOR OPENER SWITCH - BODY GROUND)**

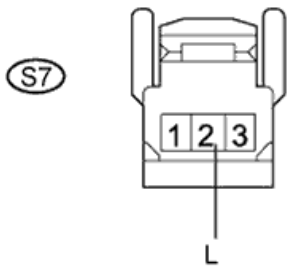
a. Disconnect the S7 switch connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| S7-2 (L) - Body ground | Always | Below 1 Ω |

Front view of wire harness connector:
(to Back Door Opener Switch)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

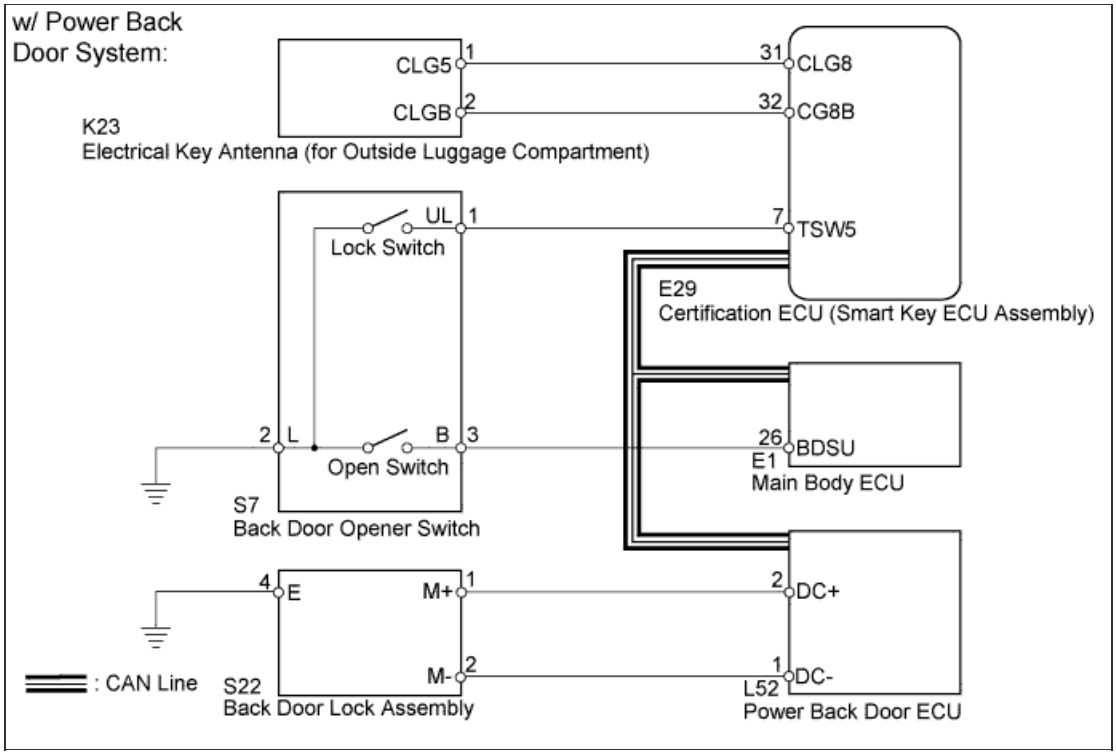
OK → REPLACE BACK DOOR OPENER SWITCH ( Click here )

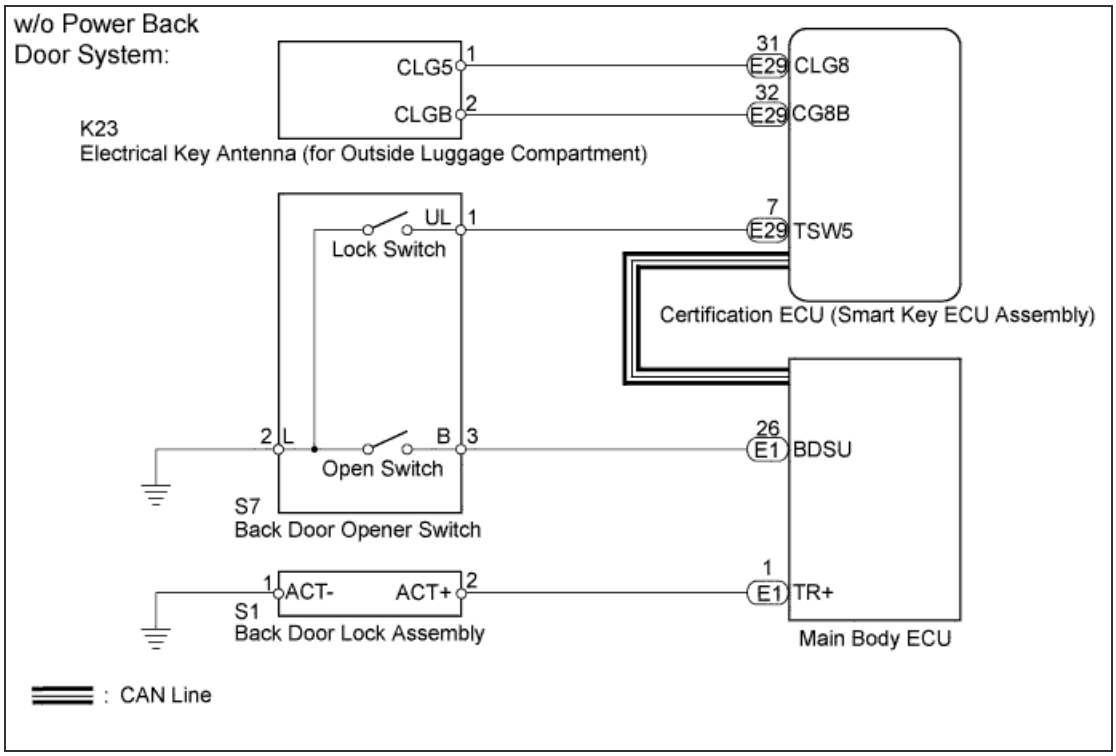
**for Preparation** Click here

## DESCRIPTION

If the back door entry lock function does not operate but the back door open function operates, the communication line between the vehicle and electrical key transmitter is normal. The part at fault may be the entry lock switch circuit (certification ECU (smart key ECU assembly) → back door opener switch).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Before performing the inspection, check that there are no problems related to the "CAN Communication System" and "LIN Communication System".

## 1.CHECK POWER DOOR LOCK OPERATION

a. When the door control switch of the master switch assembly is operated, check that the locked doors unlock.

**OK:**
**Door locks operate normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK

## 2.CHECK VEHICLE EQUIPMENT

a. Check if the power back door is equipped on the vehicle.

**Result**

| Result | Proceed to |
|---|---|
| w/ Power Back Door System | A |
| w/o Power Back Door System | B |

B → Go to step 4

A

## 3.CHECK POWER BACK DOOR OPERATION

a. When the power back door switch is operated, check that the power back door closes.

**OK:**
**Power back door system is normal.**

**Result**

| Result | Proceed to |
|---|---|
| Power back door system is abnormal | A |
| Power back door system is normal | B |

B → Go to step 5

A

GO TO POWER BACK DOOR SYSTEM (Click here)

## 4.READ VALUE USING INTELLIGENT TESTER (DOOR LOCK POSITION SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item / Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Back Lock Pos switch | Back door lock position switch signal / ON or OFF | ON: Back door is unlocked<br>OFF: Back door is locked | - |

**OK:**
**On the intelligent tester screen, the display changes between ON and OFF as shown in the chart above.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Proceed to Only Back Door LOCK/UNLOCK Functions do not Operate) (Click here)

OK

## 5.READ VALUE USING INTELLIGENT TESTER (BACK DOOR LOCK SWITCH)

a. Using the intelligent tester, read the Data List.

**Entry&Start**

| Tester Display | Measurement Item/Display | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Tr/B-Door Lock SW | Back door lock switch / ON or OFF | ON: Back door lock switch is pushed<br>OFF: Back door lock switch is not pushed | - |

**OK:**

**"ON" (switch is pushed) and "OFF" (switch is not pushed) appears on the screen.**

NG → Go to step 6

OK

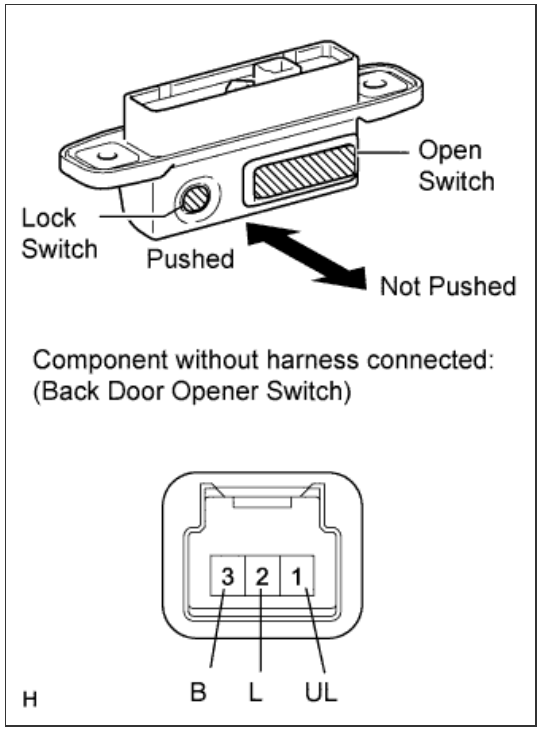
## REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

## 6.CHECK BACK DOOR OPENER SWITCH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (UL) - 2 (L) | Lock switch pushed | Below 1 Ω |
| 1 (UL) - 2 (L) | Lock switch not pushed | 10 kΩ or higher |




NG → REPLACE BACK DOOR OPENER SWITCH (Click here)

OK

## 7.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - BACK DOOR OPENER SWITCH)

a. Disconnect the E29 ECU connector.

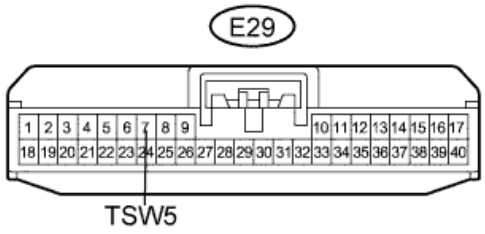
b. Disconnect the S7 switch connector.

c. Measure the resistance according to the value(s) in the table below.

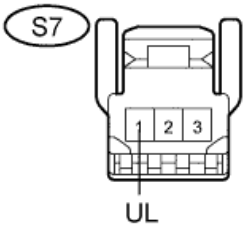
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-7 (TSW5) - S7-1 (UL) | Always | Below 1 Ω |
| E29-7 (TSW5) - Body ground | Always | 10 kΩ or higher |

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Back Door Opener Switch)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

**for Preparation** Click here

## 1.PRECAUTIONS FOR PUSH-BUTTON START FUNCTION:

a. Before starting the engine, firmly depress the brake pedal (for A/T) or clutch pedal (for M/T) until the indicator in the engine switch turns green.

b. The power source mode (off, on (ACC), on (IG)) is always retained in memory by the vehicle. If the battery is disconnected, the power source mode that was present before the disconnection will be restored after the battery is reconnected. Be sure to turn the engine switch off before disconnecting the cable from the negative battery terminal. Be careful if the power source mode of a vehicle with a discharged battery is not known.

c. After the battery is reconnected, be sure to wait 10 seconds or more before attempting to start the engine. The engine may not start immediately after the battery is reconnected.

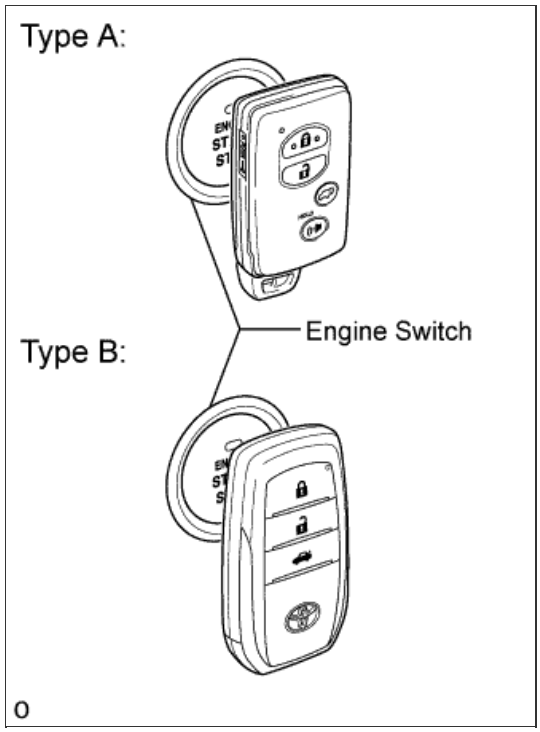
d. If the key is touched to the engine switch as shown in the illustration to start the engine when the key battery is depleted or affected by wave noise, etc., the following warnings will sound:

i. for A/T:
Driver door open → closed

- An exit warning will sound if the shift lever is in a position other than P and the power source is in a mode other than off.
- An exit warning will sound if the shift lever is in P and the power source is in a mode other than off.

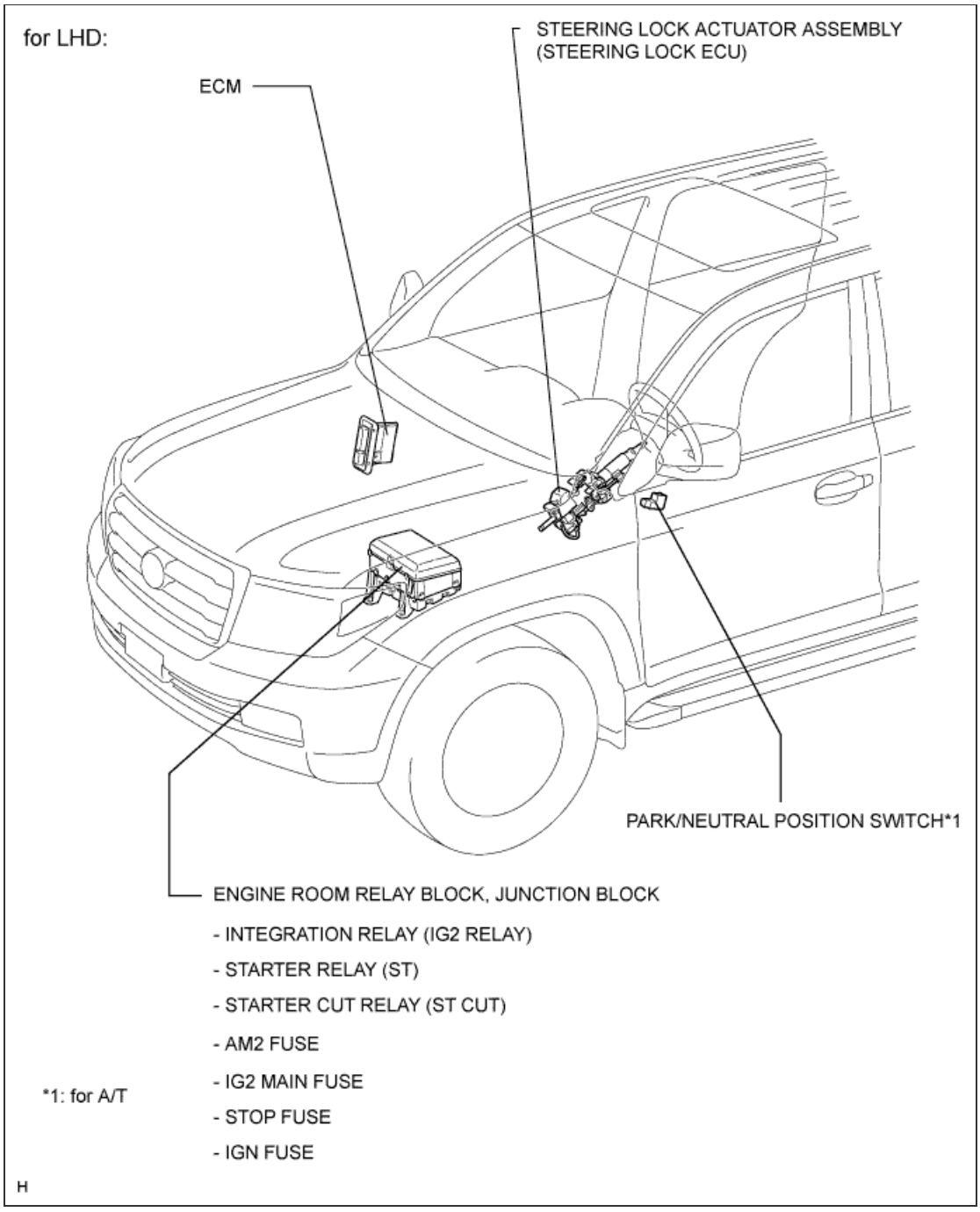
ii. Doors other than the driver door open → closed

- A warning will sound to indicate that the key has been taken out of the vehicle.

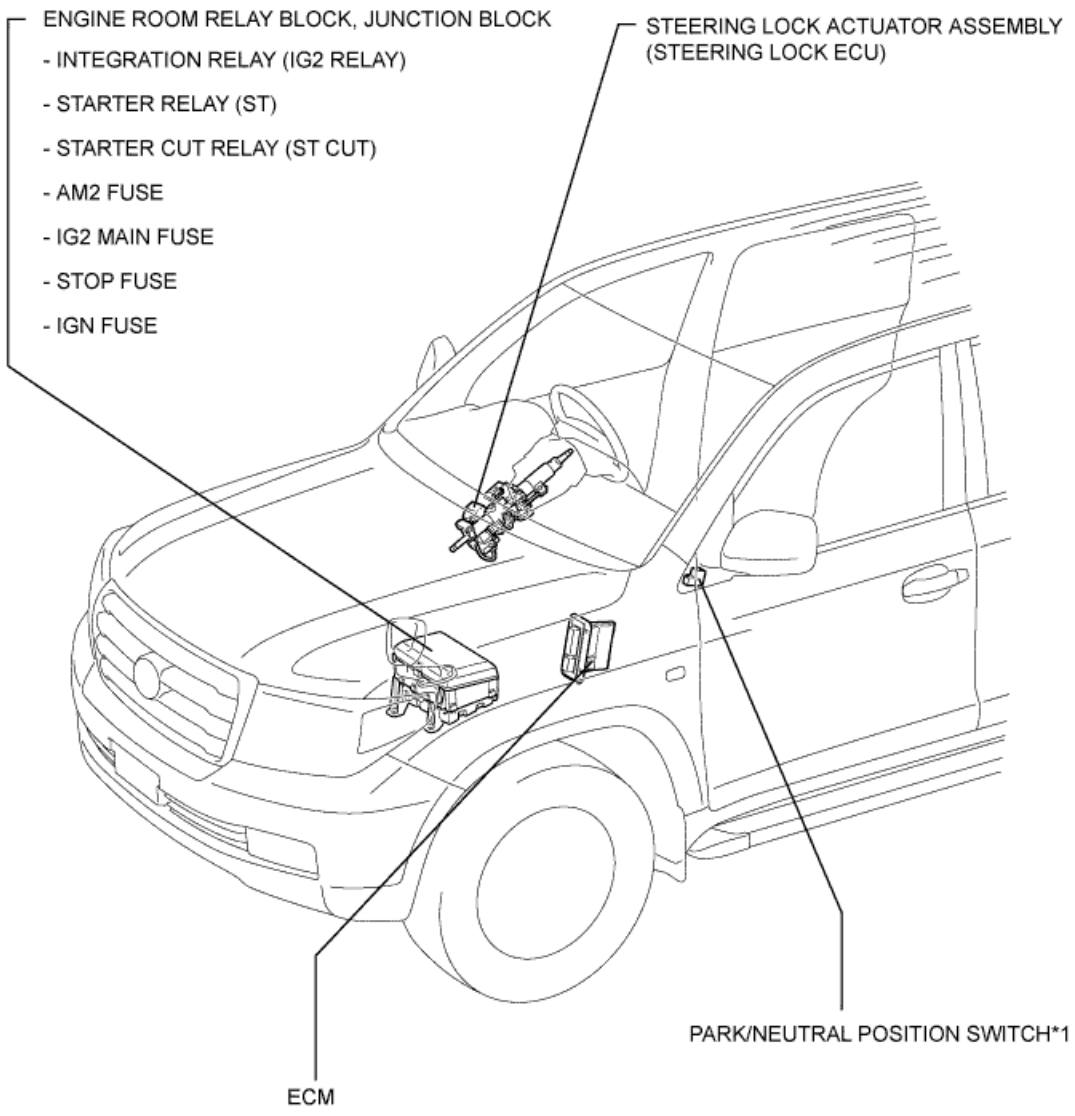



These warnings will sound because it is not possible for the vehicle to determine if the key is present in the vehicle due to the depleted key battery. These warnings do not indicate system malfunctions.

**for Preparation** Click here



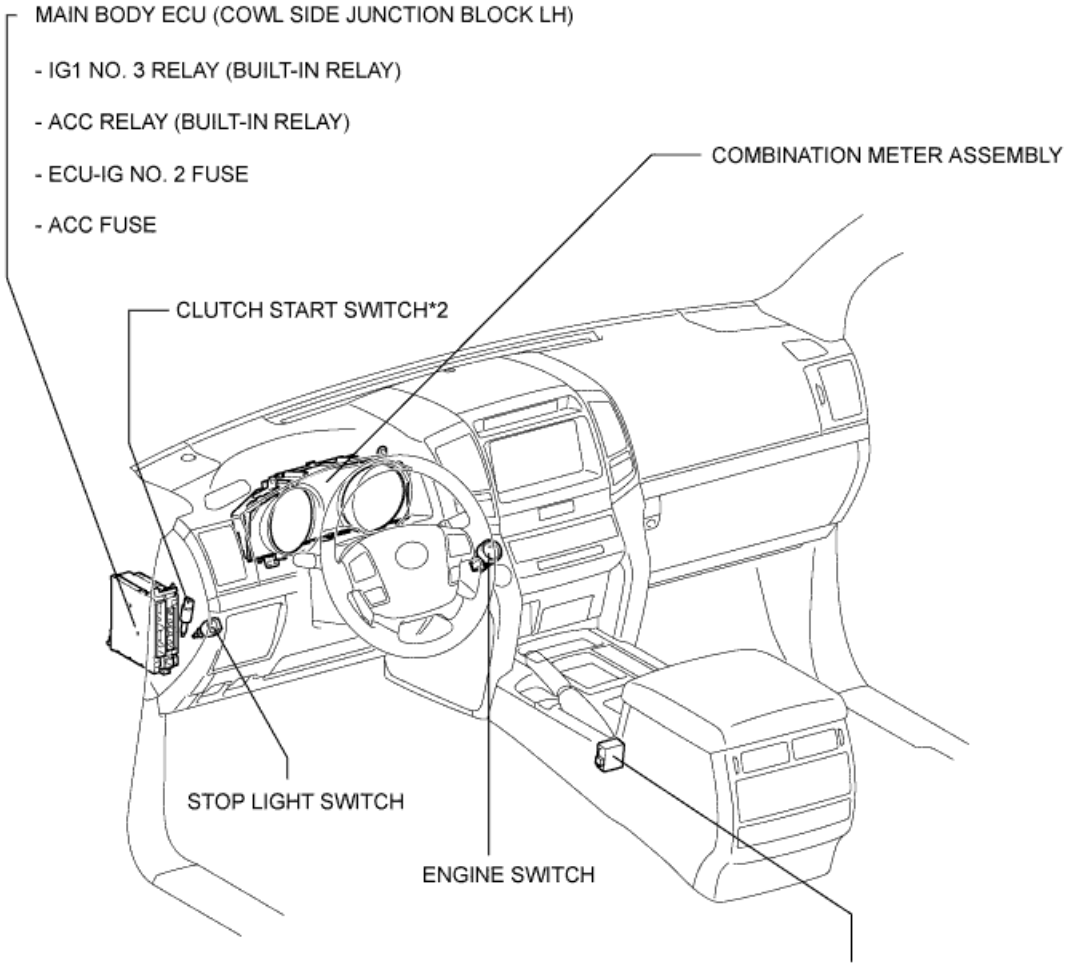
for RHD:




*1: for A/T

H

for LHD:




*1: for A/T

*2: for M/T

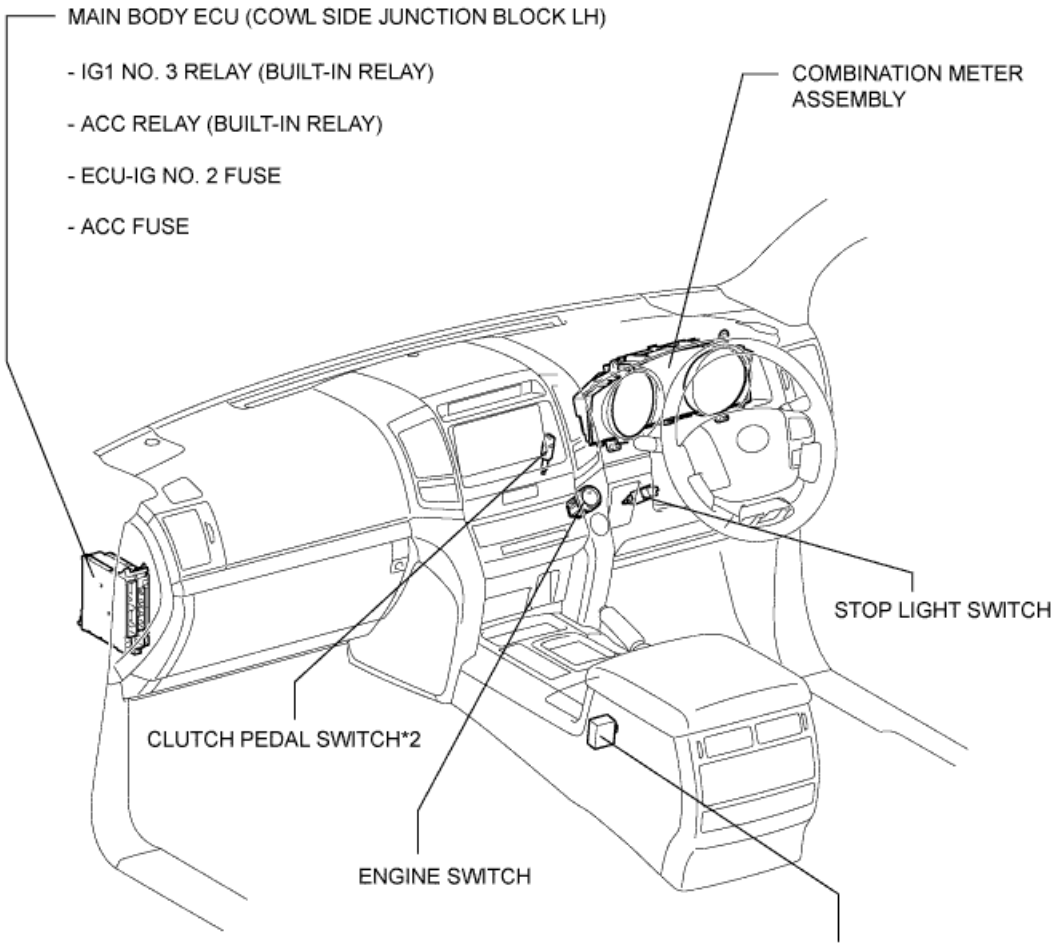
Refer to Service Bulletin for Installation Position

ID CODE BOX
(IMMOBILISER CODE ECU)

CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

H

for RHD:




*1: for A/T

*2: for M/T

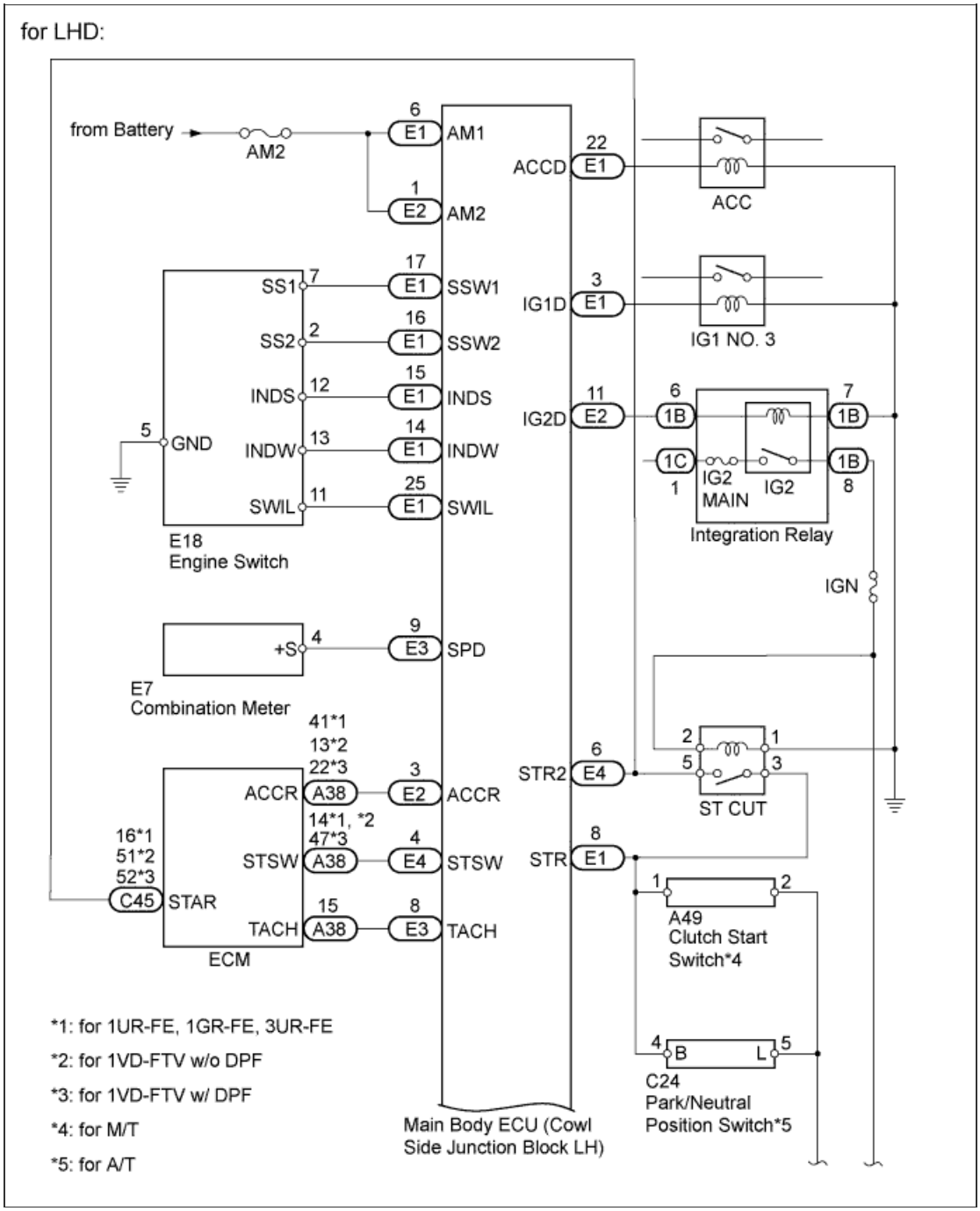
Refer to Service Bulletin for Installation Position

ID CODE BOX (IMMOBILISER CODE ECU)

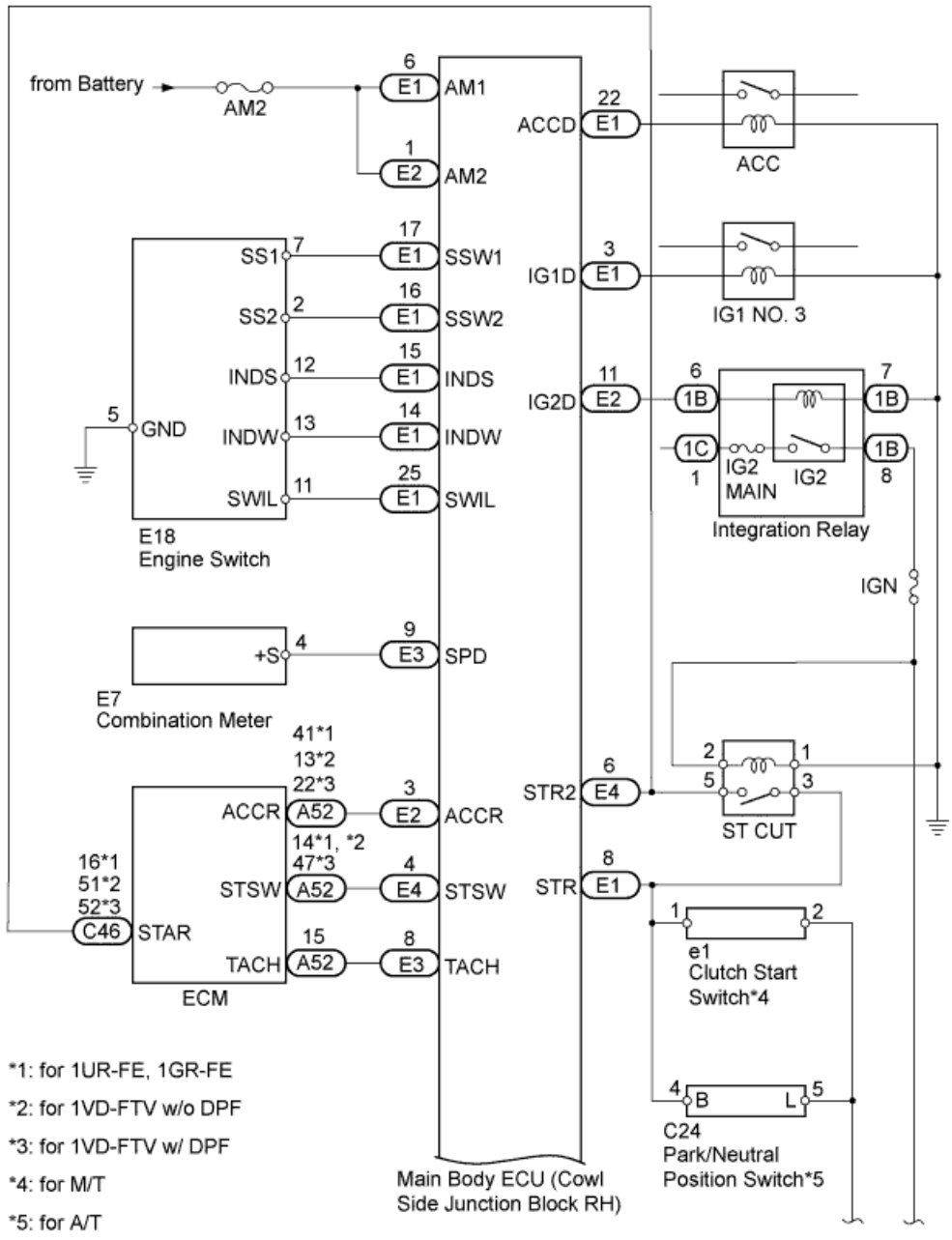
CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

H

**for Preparation** Click here



for RHD:



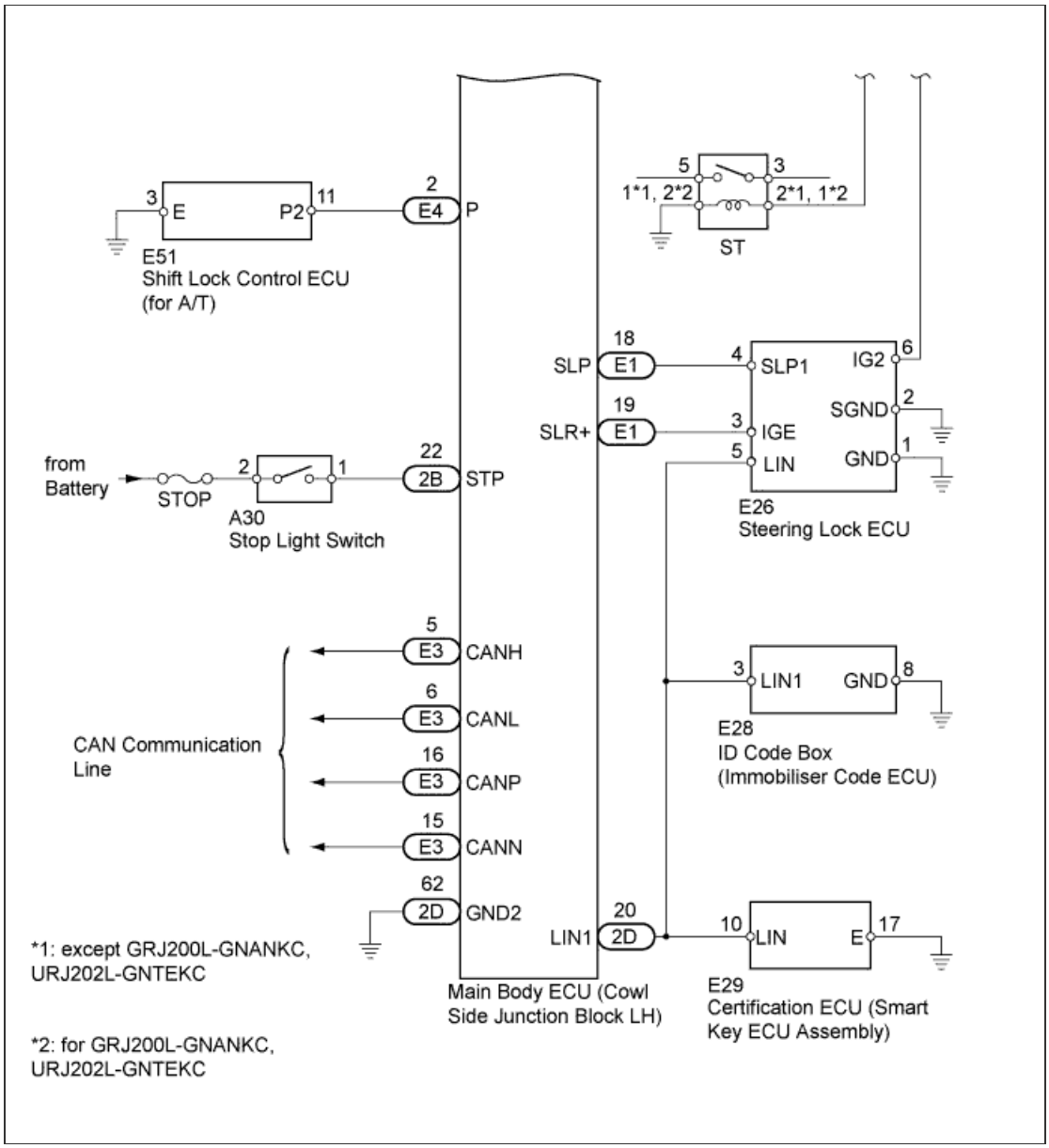

*1: for 1UR-FE, 1GR-FE

*2: for 1VD-FTV w/o DPF

*3: for 1VD-FTV w/ DPF

*4: for M/T

*5: for A/T




### Communication Table

| Sender | Receiver | Signal | Line |
|---|---|---|---|
| ECM | Main body ECU | Engine speed signal | CAN |
| Combination meter | Main body ECU | Vehicle speed signal | CAN |
| Steering lock ECU | Main body ECU | Steering lock/unlock signal | LIN |
| Certification ECU (smart key ECU assembly) | Main body ECU | LIN master signal | LIN |
| Main body ECU | ID code box (immobiliser code ECU) | ID required signal | LIN |
| Main body ECU | Certification ECU (smart key ECU assembly) | Key existence condition signal | LIN |

**for Preparation** Click here

## PUSH-BUTTON START DESCRIPTION

a. The push-button start uses a push-type engine switch, which the driver can operate by merely carrying the key. This system consists primarily of the main body ECU, engine switch, ID code box (immobiliser code ECU), steering lock ECU, key, ACC relay, IG1 No. 3 relay, integration relay (IG2 relay) and certification ECU (smart key ECU assembly). The main body ECU controls the system. This function operates in cooperation with the entry and start system. The table below shows the transition of the engine switch, which depends on whether the brake pedal (for A/T) or clutch pedal (for M/T) is depressed or released.

## PUSH-BUTTON START FUNCTION OPERATION

a. for A/T:
This system has different power source mode patterns depending on the brake pedal condition and shift lever position.

| Brake Pedal | Shift Lever | Power Source Mode Pattern |
|---|---|---|
| Depressed | P or N position | When the engine switch is pushed once.<br>• off → engine start<br>• on (ACC) → engine start<br>• on (IG) → engine start |
| Not depressed | P position | Each time the engine switch is pushed.<br>• off → on (ACC) → on (IG) → off |
| | Except P position | Each time the engine switch is pushed.<br>• off → on (ACC) → on (IG) → on (ACC) |
| - | P position | When the engine switch is pushed in the on (IG) condition (engine running).<br>• on (IG) → off |
| - | Except P position | When the engine switch is pushed in the on (IG) condition (engine running).<br>• on (IG) → on (ACC) |

When the battery of the key is low, the push-button start function can be operated by touching the key to the engine switch.

b. for M/T:
The start function has different power source patterns depending onthe clutch pedal condition.

| Clutch Pedal | Power Source Mode Pattern |
|---|---|
| Depressed | When the engine switch is pushed once.<br>• off → engine start<br>• on (ACC) → engine start<br>• on (IG) → engine start |
| Not depressed | Each time the engine switch is pushed.<br>• off → on (ACC) → on (IG) → off |
| - | When the engine switch is pushed in the on (IG) condition (engine running).<br>• on (IG) → off |

When the battery of the key is low, the push-button start function can be operated by touching the key to the engine switch.

## FUNCTION OF COMPONENT

| Component | Function |
|---|---|
| Engine Switch<br>(Transponder Key Amplifier) | • Transmits engine switch signal to main body ECU.<br>• Informs driver of power source mode or system abnormality with indicator light illumination.<br>• Receives ID code and transmits it to certification ECU (smart key ECU assembly) when key battery is low or affected by wave noise, etc. |
| Key | Receives signals from oscillators and returns ID code to entry door control receiver. |
| Indoor Key Oscillator | Receives request signal from certification ECU (smart key ECU assembly) and forms detection area in vehicle interior. |
| Door Control Receiver | Receives ID code from key and transmits it to certification ECU (smart key ECU assembly). |
| | • Changes power source mode in 4 stages (off, on (ACC), on (IG), start) in accordance with state of park/neutral position switch. |

| | |
|---|---|
| Main Body ECU | • Controls push-button start function in accordance with signals received from switches and each ECU. |
| Certification ECU (Smart Key ECU Assembly) | Certifies ID code received from entry door control receiver and transmits certification results to ID code box (immobiliser code ECU) and steering lock ECU. |
| Shift Lock Control ECU*1 | Outputs state of shift position to main body ECU. |
| Stop Light Switch | Outputs state of brake pedal to main body ECU. |
| Clutch Start Switch*2 | Outputs state of clutch pedal to main body ECU. |
| ID Code Box (Immobiliser Code ECU) | Receives steering unlock or engine immobiliser unset signals from certification ECU (smart key ECU assembly), certifies them, and transmits each unset signal to steering lock ECU or ECM. |
| ECM | • Receives engine start request signal from main body ECU, turns on ST relay, and starts engine.<br>• Receives signal from ID code box (immobiliser code ECU) and performs engine ignition and fuel injection. |

**HINT:**

*1: for A/T

*2: for M/T

## SYSTEM FUNCTION

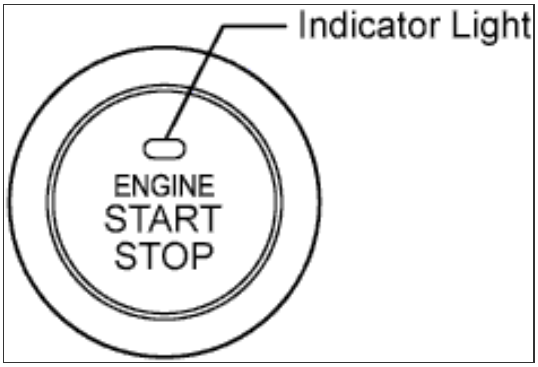
The electric controls of the push-button start function are described below:

| Control | Outline |
|---|---|
| Engine Switch Control | • When the driver operates the engine switch with a key in driver possession, the certification ECU (smart key ECU assembly) starts the indoor key oscillator, which transmits a request signal to the key. Upon receiving this signal, the key transmits an ID code signal to the door control receiver.<br>• The ID code box (immobiliser code ECU) verifies the check results received from the certification ECU (smart key ECU assembly) via the LIN line and sends them to the main body ECU. Based on these results, the main body ECU authorizes operation of the engine switch. |
| Diagnosis | When the main body ECU detects a malfunction, the main body ECU diagnoses and memorizes which section failed. |

## CONSTRUCTION AND OPERATION

a. Engine switch:
The engine switch consists of a momentary type switch, 3 colored LED (amber, green, greenish white) and the transponder key amplifier.

- The greenish white LED is for illumination.
- The amber and green LEDs are for the indicator light. The driver can check the present power source mode and whether the engine can start or not in accordance with the illumination state of the indicator light.
- When the main body ECU detects an abnormality in the entry and start system, it makes the amber indicator light flash. If the engine is stopped in this state, it might not be possible to restart it.




b. Indicator Light Condition

**Engine Switch Indicator Light Condition**

| Power Source Mode/Condition | Indicator Light Condition | | |
|---|---|---|---|
| | Brake pedal released (for A/T)<br>Clutch pedal released (for M/T) | Brake pedal depressed, shift lever in P or N (for A/T) | Clutch pedal depressed (for M/T) |
| Off | Off | Illuminates (Green) | Illuminates (Green) |
| On (ACC, IG) | Illuminates (Amber) | Illuminates (Green) | Illuminates (Green) |
| Engine running | Off | Off | Off |
| Steering lock not unlocked | Flashes (Green) for 30 sec. | Flashes (Green) for 30 sec. | Flashes (Green) for 30 sec. |
| System malfunction | Flashes (Amber) for 15 sec. | Flashes (Amber) for 15 sec. | Flashes (Amber) for 15 sec. |

| | | | |
|---|---|---|---|
| Clutch start switch malfunction (for M/T) | Flashes (Green) for 15 sec. | Flashes (Green) for 15 sec. | Flashes (Green) for 15 sec. |

c. Main body ECU:
The main body ECU consists of the IG1 No. 3 relay and ACC relay actuation circuits and CPU.

## SYSTEM NOT OPERATING NORMALLY (DUE TO KEY BATTERY DEPLETION, ELECTRICAL NOISE, ETC.)

a. To operate the push-button start function when the key battery is low or affected by wave noise, etc., touch the key to the engine switch as shown in the illustration while depressing the brake pedal with the shift lever in P (for A/T), or depressing the clutch pedal (for M/T).

b. The main body ECU transmits a key verification request signal from the stop light switch to the certification ECU (smart key ECU assembly).

c. The certification ECU (smart key ECU assembly) does not receive an ID code response from the door control receiver, so it activates the transponder key amplifier built into the engine switch.

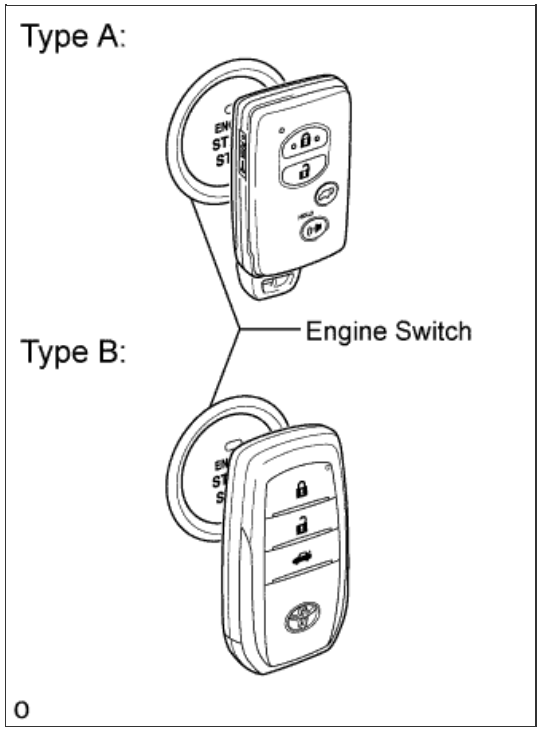
d. The transponder key amplifier outputs an engine immobiliser radio wave to the key.

e. The key receives the radio wave, and returns a radio wave response to the transponder key amplifier.

f. The transponder key amplifier combines the key ID codes with the radio wave response, and transmits it to the certification ECU (smart key ECU assembly).

g. The certification ECU (smart key ECU assembly) judges and verifies the ID code, and transmits a key verification OK signal to the main body ECU. The buzzer in the combination meter sounds at the same time.

h. After the buzzer sounds, with the shift lever in P (for A/T), if the engine switch is pressed within 10 seconds with the brake pedal (for A/T) or clutch pedal (for M/T) not depressed, the power source mode changes to on (ACC) or on (IG), as in the normal condition.




## DIAGNOSIS

The main body ECU can detect malfunctions in the push-button start function when the power source mode is on (IG).
When the ECU detects a malfunction, the amber indicator light of the engine switch flashes to warn the driver. At the same time, the ECU stores the 5-digit DTC (Diagnostic Trouble Code) in memory.

- The indicator light warning continues for 15 seconds even after the power source mode is changed to off.
- The DTC can be read by connecting the intelligent tester to the DLC3.
- The push-button start function cannot be operated if a malfunction occurs.

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the push-button start function.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

**NEXT**

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

**NEXT**

## 3.INSPECT COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Using the intelligent tester, check if the CAN communication system is functioning normally.

- For LHD vehicles, use the following procedures (Click here).
- For RHD vehicles, use the following procedures (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output (for LHD) | B |
| DTC is output (for RHD) | C |

**B.** → GO TO CAN COMMUNICATION SYSTEM (DIAGNOSTIC TROUBLE CODE CHART) (**Click here**)

**C.** → GO TO CAN COMMUNICATION SYSTEM (DIAGNOSTIC TROUBLE CODE CHART) (**Click here**)

**A**

## 4.CHECK FOR DTC*

a. Check for DTCs and note any stored DTCs (Click here).

b. Clear the DTCs.

c. Check whether the same DTC(s) relevant to the SFI system, EDU system or entry and start system recurs by reproducing the symptoms indicated by the noted DTC(s) in the first step above.

**Result**

| Result | Proceed to |
|---|---|
| DTC output does not reoccur | A |
| SFI system DTC output reoccurs (for 1GR-FE) | B |
| SFI system DTC output reoccurs (for 1UR-FE) | C |
| SFI system DTC output reoccurs (for 3UR-FE) | D |
| ECD system DTC output reoccurs (for 1VD-FTV | |

| | |
|---|---|
| w/o DPF) | E |
| ECD system DTC output reoccurs (for 1VD-FTV w/ DPF) | F |
| Entry and start system DTC output reoccurs | G |

| | |
|---|---|
| B. | GO TO SFI SYSTEM (DIAGNOSTIC TROUBLE CODE CHART) ( Click here) |
| C. | GO TO SFI SYSTEM (DIAGNOSTIC TROUBLE CODE CHART) ( Click here) |
| D. | GO TO SFI SYSTEM (DIAGNOSTIC TROUBLE CODE CHART) ( Click here) |
| E. | GO TO ECD SYSTEM (DIAGNOSTIC TROUBLE CODE CHART) (Click here) |
| F. | GO TO ECD SYSTEM (DIAGNOSTIC TROUBLE CODE CHART) (Click here |
| G. | GO TO STEP 7 |

A

## 5.PROBLEM SYMPTOMS TABLE

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

| | |
|---|---|
| B. | GO TO STEP 7 |

A

## 6.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here)

b. Data List / Active Test (Click here)

NEXT

## 7.ADJUST, REPAIR OR REPLACE

NEXT

## 8.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE)

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Utility / Customize.

e. Select the setting by referring to the table below.

**Entry & Start**

| Display | Default | Content | Setting |
|---|---|---|---|
| Ignition Available Area | All | Function to choose the available area for the key to start the engine and cancel the steering lock. | Front/All |

**for Preparation** Click here

**HINT:**

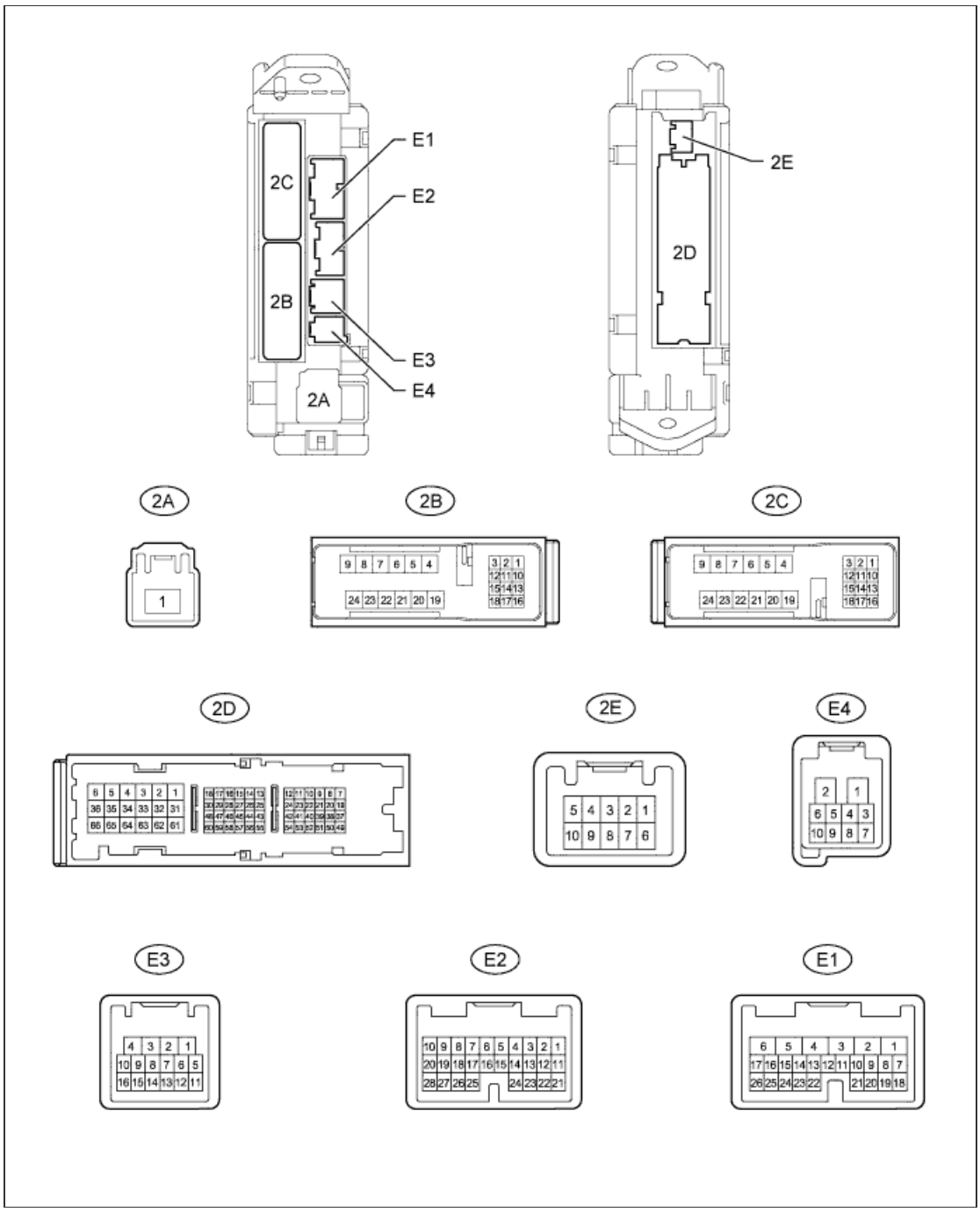
Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

**Entry and Start System (for Start Function)**

| Symptom | Suspected Area | See page |
|---|---|---|
| Power source mode does not change | AM2 fuse | Click here |
| | IGN fuse | Click here |
| | IG2 MAIN fuse | Click here |
| | Integration relay (IG2 relay) (for 1GR-FE) | Click here |
| | Integration relay (IG2 relay) (for 1UR-FE) | Click here |
| | Integration relay (IG2 relay) (for 3UR-FE) | Click here |
| | Integration relay (IG2 relay) (for 1VD-FTV) | Click here |
| | Engine switch (for 1GR-FE) | Click here |
| | Engine switch (for 1UR-FE) | Click here |
| | Engine switch (for 3UR-FE) | Click here |
| | Engine switch (for 1VD-FTV) | Click here |
| | Main body ECU | Click here |
| | Room oscillator does not recognize key | Click here |
| | Harness or connector | Click here |
| Engine does not start | STOP fuse | Click here |
| | Stop light switch | Click here |
| | ST relay (for 1GR-FE) | Click here |
| | ST relay (for 1UR-FE) | Click here |
| | ST relay (for 3UR-FE) | Click here |
| | ST relay (for 1VD-FTV) | Click here |
| | Park/neutral position switch (for A750F) | Click here |
| | Park/neutral position switch (for AB60F) | Click here |
| | Shift lock control ECU (for A750F) | Click here |
| | Shift lock control ECU (for AB60F) | Click here |
| | Steering lock actuator assembly (Steering lock control ECU) | Click here |
| | ID code box (Immobiliser code ECU) | - |
| | Certification ECU (Smart key ECU assembly) | - |
| | Main body ECU | Click here |
| | Steering lock system | Click here |
| | ECM (for 1GR-FE) | Click here |
| | ECM (for 1UR-FE) | Click here |
| | ECM (for 3UR-FE) | Click here |
| | ECM (for 1VD-FTV w/ DPF) | Click here |
| | ECM (for 1VD-FTV w/o DPF) | Click here |
| | Power source mode does not change | Click here |
| | Harness or connector | Click here |
| Engine switch indicator circuit | Engine switch (for 1GR-FE) | Click here |
| | Engine switch (for 1UR-FE) | Click here |
| | Engine switch (for 3UR-FE) | Click here |
| | Engine switch (for 1VD-FTV) | Click here |
| | Main body ECU | Click here |
| | Harness or connector | Click here |

**for Preparation** Click here

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)




a. Disconnect the E1, E2 and 2D main body ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-6 (AM1) - Body ground | W - Body ground | +B power supply | Always | 11 to 14 V |
| E2-1 (AM2) - Body ground | W - Body ground | +B power supply | Always | 11 to 14 V |
| E1-17 (SSW1) - Body ground | B - Body ground | Engine switch 1 input | Engine switch pushed | Below 1 Ω |
| E1-17 (SSW1) - Body ground | B - Body ground | Engine switch 1 input | Engine switch not pushed | 10 kΩ or higher |

| | | | | |
|---|---|---|---|---|
| E1-16 (SSW2) - Body ground | B - Body ground | Engine switch 2 input | Engine switch pushed | Below 1 Ω |
| E1-16 (SSW2) - Body ground | B - Body ground | Engine switch 2 input | Engine switch not pushed | 10 kΩ or higher |
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| 2D-20 (LIN1) - Body ground | GR - Body ground | LIN line | Always | 10 kΩ or higher |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E1, E2 and 2D main body ECU connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-22 (ACCD) - 2D-62 (GND2) | P - W-B | ACC relay drive signal | Engine switch on (ACC) | 11 to 14 V |
| E1-22 (ACCD) - 2D-62 (GND2) | P - W-B | ACC relay drive signal | Engine switch off | Below 1 V |
| E1-3 (IG1D) - 2D-62 (GND2) | G - W-B | IG1 No. 3 relay drive signal | Engine switch on (IG) | 11 to 14 V |
| E1-3 (IG1D) - 2D-62 (GND2) | G - W-B | IG1 No. 3 relay drive signal | Engine switch on (ACC) | Below 1 V |
| E2-11 (IG2D) - 2D-62 (GND2) | B - W-B | Integration relay (IG2 relay) drive signal | Engine switch on (IG) | 11 to 14 V |
| E2-11 (IG2D) - 2D-62 (GND2) | B - W-B | Integration relay (IG2 relay) drive signal | Engine switch on (ACC) | Below 1 V |
| E1-19 (SLR+) - 2D-62 (GND2) | G - W-B | Steering lock power supply | Steering lock motor operating | Below 1 V |
| E1-19 (SLR+) - 2D-62 (GND2) | G - W-B | Steering lock power supply | Steering lock motor not operating | 11 to 14 V |
| E1-8 (STR) - 2D-62 (GND2) | L - W-B | Park/neutral position switch signal*1<br>Clutch pedal switch signal*2 | Engine switch on (IG), shift lever not in P or N → P or N*1<br>Engine switch on (IG), Clutch pedal switch released → Depressed*2 | Below 2 V → Pulse generation*3 |
| E1-18 (SLP) - 2D-62 (GND2) | SB - W-B | Steering lock actuator position signal | Steering lock locked | 11 to 14 V |
| E1-18 (SLP) - 2D-62 (GND2) | SB - W-B | Steering lock actuator position signal | Steering lock released | Below 1 V |
| E3-9 (SPD) - 2D-62 (GND2) | V - W-B | Speed signal from combination meter | Engine switch on (IG), driving wheel rotating slowly | Pulse generation (see waveform 1) |
| E3-8 (TACH) - 2D-62 (GND2) | W - W-B | Tachometer signal | Engine running | Pulse generation (see waveform 2) |
| E4-2 (P) - 2D-62 (GND2)*1 | L - W-B | Shift lock signal | Shift lever in P | Pulse generation (see waveform 3) |
| E4-2 (P) - 2D-62 (GND2)*1 | L - W-B | Shift lock signal | Shift lever not in P | Below 1 V |
| E4-4 (STSW) - 2D-62 (GND2) | R - W-B | Starter activation request signal | Brake pedal depressed, engine switch depressed*1<br>Clutch pedal depressed, engine switch depressed*2 | 11 to 14 V |
| E1-15 (INDS) - 2D-62 (GND2) | W - W-B | Vehicle condition signal | Brake pedal released with shift lever in P or N, engine switch off, on (ACC), or on (IG)*1<br>Clutch pedal released, engine switch off, on (ACC), or on (IG)*2 | 9 to 14 V |
| E1-14 (INDW) - 2D-62 (GND2) | W - W-B | Vehicle condition signal | Brake pedal released with shift lever in P or N, engine switch off, on (ACC), or on (IG)*1<br>Clutch pedal released, | 9 to 14 V |

| | | | | |
|---|---|---|---|---|
| | | | engine switch off, on (ACC), or on (IG)*2 | |
| E1-25 (SWIL) - 2D-62 (GND2) | R - W-B | Illumination signal | Light control switch tail or head | 11 to 14 V |
| 2B-22 (STP) - 2D-62 (GND2) | R - W-B | Stop light switch signal | Brake pedal depressed | 11 to 14 V |
| 2B-22 (STP) - 2D-62 (GND2) | R - W-B | Stop light switch signal | Brake pedal released | Below 1 V |

**HINT:**

*1: for A/T

*2: for M/T

*3: Remove the ST CUT relay before measuring the voltage.

If the result is not as specified, the ECU may have a malfunction.

e. Using an oscilloscope, check the signal waveform of the ECU.

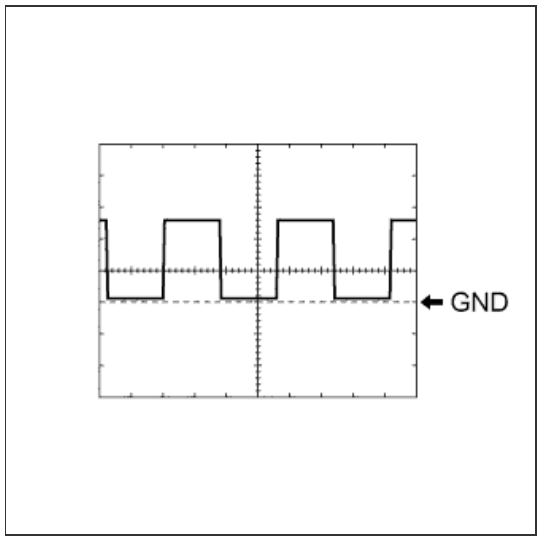
i. Waveform 1

**Reference**

| Terminal No. (Symbol) | Tool Setting | Condition |
|---|---|---|
| E3-9 (SPD) - 2D-62 (GND2) | 5 V/DIV., 100 msec./DIV. | Driving at approx. 20 km/h (12 mph) |

**HINT:**

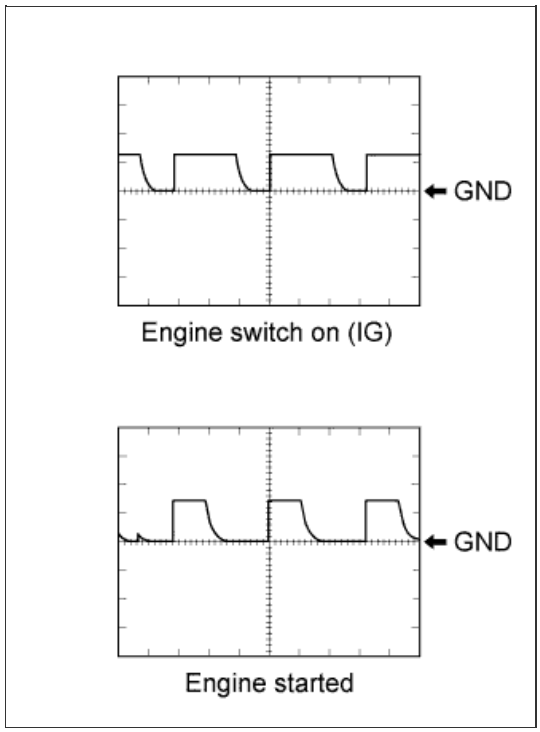
As the vehicle speed increases, the wavelength shortens.




ii. Waveform 2

**Reference**

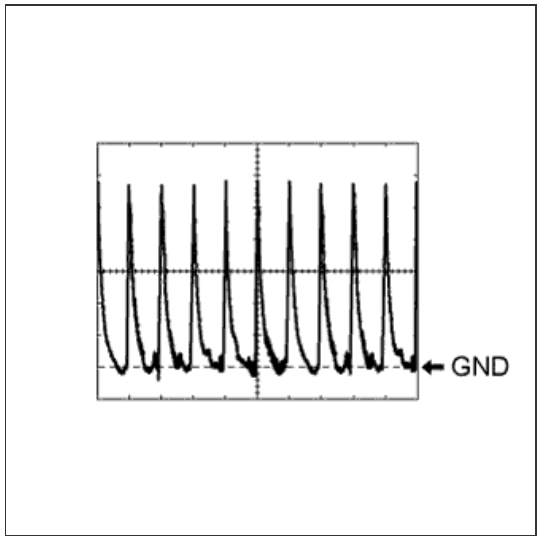
| Terminal No. (Symbol) | Tool Setting | Condition |
|---|---|---|
| E3-8 (TACH) - 2D-62 (GND2) | 10 V/DIV., 10 msec./DIV. | Engine switch on (IG) or engine started |



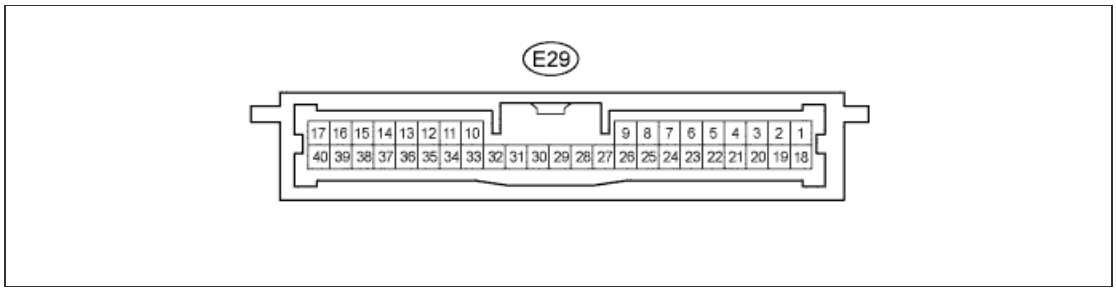
iii. Waveform 3

**Reference**

| Terminal No. (Symbol) | Tool Setting | Condition |
|---|---|---|
| E4-2 (P) - 2D-62 (GND2) | 2 V/DIV., 20 msec./DIV. | Shift lever in P |




## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)




a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29-1 (+B) - Body ground | B - Body ground | +B power supply | Always | 11 to 14 V |
| E29-10 (LIN) - Body ground | GR - Body ground | LIN line | Always | 10 kΩ or higher |
| E29-17 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E29 certification ECU (smart key ECU assembly) connector.

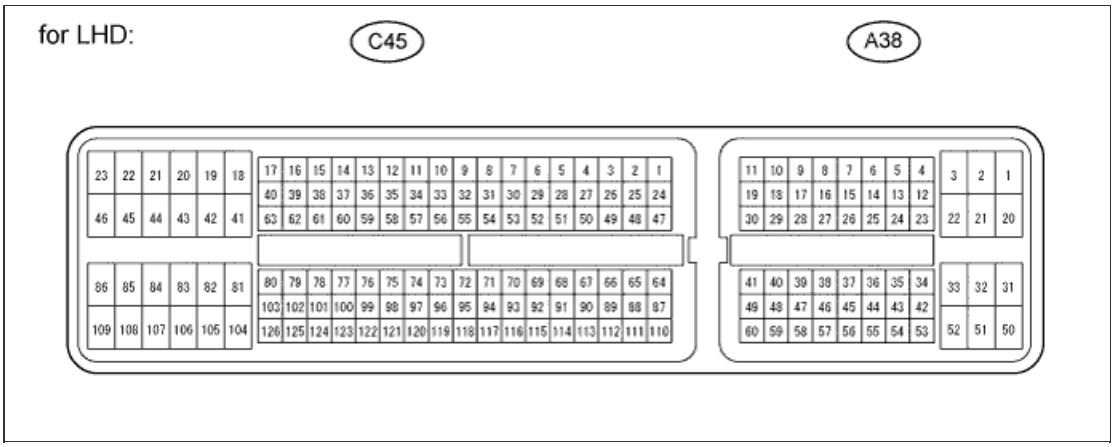
d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29-18 (IG) - Body ground | B - Body ground | Ignition power supply | Engine switch on (IG) | 11 to 14 V |
| E29-18 (IG) - Body ground | B - Body ground | Ignition power supply | Engine switch off | Below 1 V |

If the result is not as specified, the certification ECU (smart key ECU assembly) may have a malfunction.

## CHECK ECM

a. for LHD:
Disconnect the A38 and C45 ECM connectors.




b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| A38-1 (BATT) - C45-81 (E1)*1, *2, *3<br>A38-20 (BATT) - C45-81 (E1)*4, *5 | L - BR*1, *2, *4, *5<br>L - W-B*3 | Battery (for measuring battery voltage and for ECM memory) | Always | 11 to 14 V |
| A38-3 (+B) - C45-81 (E1)*1, *2, *3<br>A38-2 (+B) - C45-81 (E1)*4, *5 | B - BR*1, *2, *4, *5<br>B - W-B*3 | Power source of ECM | Engine switch on (IG) | 11 to 14 V |
| A38-28 (IGSW) - C45-81 (E1) | B - BR*1, *2, *4, *5<br>B - W-B*3 | Engine switch signal | Always | 11 to 14 V |
| C45-81 (E1) - Body ground | BR - Body ground*1, *2, *4, *5<br>W-B - Body ground*3 | Ground | Always | Below 1 Ω |
| C45-43 (E01) - Body ground*1, *2, *3<br>C45-22 (E01) - Body ground*4, *5 | W-B - Body ground | Ground | Always | Below 1 Ω |
| C45-42 (E02) - Body ground*1, *2, *3<br>C45-21 (E02) - Body ground*4, *5 | BR - Body ground | Ground | Always | Below 1 Ω |
| C45-46 (E03) - Body ground*1, *2, *3 | W-B - Body ground | Ground | Always | Below 1 Ω |
| C45-23 (E04) - Body ground*1, *2, *3<br>C45-44 (E04) - Body ground*5 | W-B - Body ground*1, *2, *3<br>BR - Body ground*5 | Ground | Always | Below 1 Ω |
| C45-21 (E05) - Body ground*1, *2, *3<br>C45-23 (E05) - Body ground*5 | W-B - Body ground | Ground | Always | Below 1 Ω |

**HINT:**

*1: for 1UR-FE

*2: for 1GR-FE

*3: for 3UR-FE

*4: for 1VD-FTV w/o DPF

*5: for 1VD-FTV w/DPF

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the ECM connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| A38-46 (STA) - C45-81 (E1)*1, *2, *3, *6<br>A38-48 (STA) - C45-81 | R - BR*1, *2, *4, *5<br>R - W-B*3 | ST relay operation signal | Cranking | 5.5 V or more |

| | | | | |
|---|---|---|---|---|
| (E1)*4, *5 | R-B - BR*6 | | | |
| A38-14 (STSW) - C45-81 (E1)*1, *2, *3, *4, *6<br>A38-47 (STSW) - C45-81 (E1)*5 | R - BR*1, *2, *4, *5, *6<br>R - W-B*3 | Starter activation request signal | Brake pedal depressed, engine switch on (IG) | Output voltage at terminal AM1 or AM2 is - 2 V or more |
| A38-41 (ACCR) - C45-81 (E1)*1, *2, *3, *6<br>A38-13 (ACCR) - C45-81 (E1)*4<br>A38-22 (ACCR) - C45-81 (E1)*5 | L-Y - BR*1, *2, *4, *5, *6<br>L-Y - W-B*3 | ACC relay cut signal (output) | Engine switch on (IG) → Cranking | 11 to 14 V → Below 1 V |
| A38-15 (TACH) - C45-81 (E1) | W - BR*1, *2, *4, *5<br>W - W-B*3<br>W-G - BR*6 | Engine speed signal (output) | Idling | Pulse generation (see waveform 1) |
| C45-16 (STAR) - C45-81 (E1)*1, *2, *3, *6<br>C45-51 (STAR) - C45-81 (E1)*4<br>C45-52 (STAR) - C45-81 (E1)*5 | L - BR*1, *2, *4, *5, *6<br>L - W-B*3 | ST relay drive signal | Cranking | 11 to 14 V |

**HINT:**

*1: for 1UR-FE (except URJ202L-GNTEKC)

*2: for 1GR-FE (except GRJ200L-GNANKC)

*3: for 3UR-FE

*4: for 1VD-FTV w/o DPF

*5: for 1VD-FTV w/ DPF

*6: for GRJ200L-GNANKC, URJ202L-GNTEKC

If the result is not as specified, the ECM may have a malfunction.

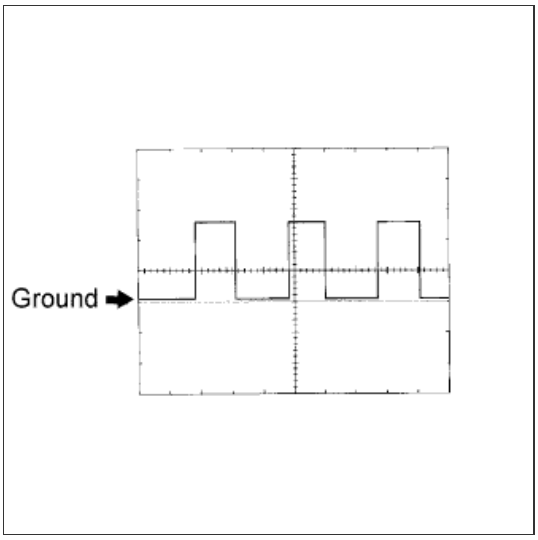
e. Using an oscilloscope, check the signal waveform of the ECM.

**Reference**

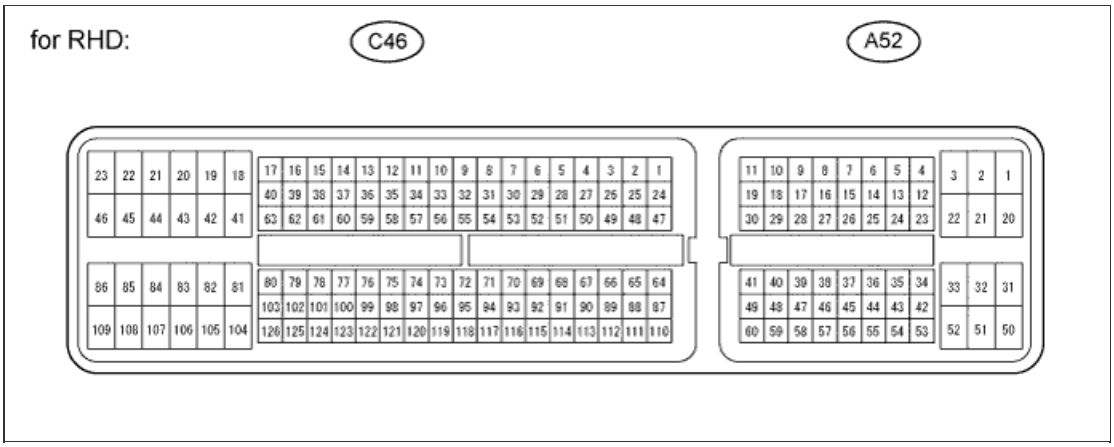
| Terminal No. (Symbol) | Tool Setting | Condition |
|---|---|---|
| A38-15 (TACH) - C45-81 (E1) | 5 V/DIV., 10 ms./DIV. | Engine idling |

**HINT:**

As the engine speed increases, the wavelength shortens.




f. for RHD:
Disconnect the A52 and C46 ECM connectors.




g. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| A52-1 (BATT) - C46-81 (E1)*1. *2<br>A52-20 (BATT) - C46-81 (E1)*3, *4 | L - BR | Battery (for measuring battery voltage and for ECM memory) | Always | 11 to 14 V |
| A52-3 (+B) - C46-81 (E1)*1, *2<br>A52-2 (+B) - C46-81 (E1)*3, *4 | B - BR | Power source of ECM | Engine switch on (IG) | 11 to 14 V |
| A52-28 (IGSW) - C46-81 (E1) | B - BR | Engine switch signal | Always | 11 to 14 V |
| C46-81 (E1) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| C46-43 (E01) - Body ground*1, *2<br>C46-22 (E01) - Body ground*3, *4 | W-B - Body ground | Ground | Always | Below 1 Ω |
| C46-42 (E02) - Body ground*1, *2<br>C46-21 (E02) - Body ground*3, *4 | BR - Body ground | Ground | Always | Below 1 Ω |
| C46-46 (E03) - Body ground*1, *2 | W-B - Body ground | Ground | Always | Below 1 Ω |
| C46-23 (E04) - Body ground*1, *2<br>C46-44 (E04) - Body ground*4 | W-B - Body ground*1, *2<br>BR - Body ground*4 | Ground | Always | Below 1 Ω |
| C46-21 (E05) - Body ground*1, *2<br>C46-23 (E05) - Body ground*4 | W-B - Body ground | Ground | Always | Below 1 Ω |

**HINT:**

*1: for 1UR-FE

*2: for 1GR-FE

*3: for 1VD-FTV w/o DPF

*4: for 1VD-FTV w/ DPF

If the result is not as specified, there may be a malfunction on the wire harness side.

h. Reconnect the ECM connectors.

i. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| A52-46 (STA) - C46-81 (E1)*1, *2, *5<br>A52-48 (STA) - C46-81 (E1)*3, *4 | R - BR*1, *2, *3, *4<br>R-B - BR*5 | ST relay operation signal | Cranking | 5.5 V or more |
| A52-14 (STSW) - C46-81 (E1)*1, *2, *3, *5 | | Starter activation request | Brake pedal depressed, | Output voltage at |

| | | | | |
|---|---|---|---|---|
| A52-47 (STSW) - C46-81 (E1)*4 | R - BR | signal | engine switch on (IG) | terminal AM1 or AM2 is - 2 V or more |
| A52-41 (ACCR) - C46-81 (E1)*1, *2, *5<br>A52-13 (ACCR) - C46-81 (E1)*3<br>A52-22 (ACCR) - C46-81 (E1)*4 | L-Y - BR | ACC relay cut signal (output) | Engine switch on (IG) → Cranking | 11 to 14 V → Below 1 V |
| A52-15 (TACH) - C46-81 (E1) | W - BR*1, *2, *3, *4<br>W-G - BR*5 | Engine speed signal (output) | Idling | Pulse generation (see waveform 1) |
| C46-16 (STAR) - C46-81 (E1)*1, *2, *5<br>C46-51 (STAR) - C46-81 (E1)*3<br>C46-52 (STAR) - C46-81 (E1)*4 | L - BR | ST relay drive signal | Cranking | 11 to 14 V |

**HINT:**

*1: for 1UR-FE (except URJ202L-GNTEKC)

*2: for 1GR-FE (except GRJ200L-GNANKC)

*3: for 1VD-FTV w/o DPF

*4: for 1VD-FTV w/ DPF

*5: for GRJ200L-GNANKC, URJ202L-GNTEKC

If the result is not as specified, the ECM may have a malfunction.

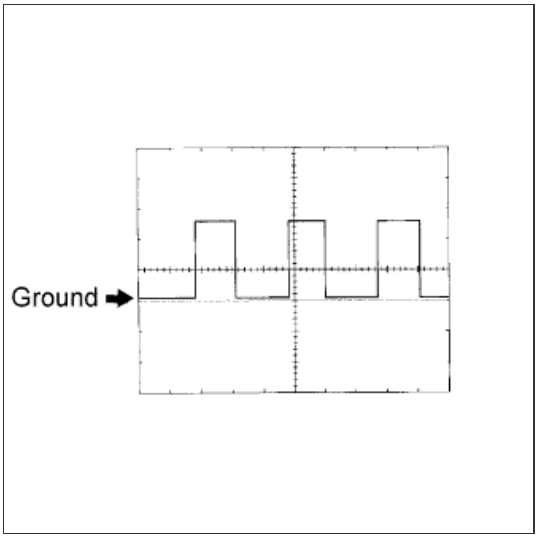
j. Using an oscilloscope, check the signal waveform of the ECM.

**Reference**

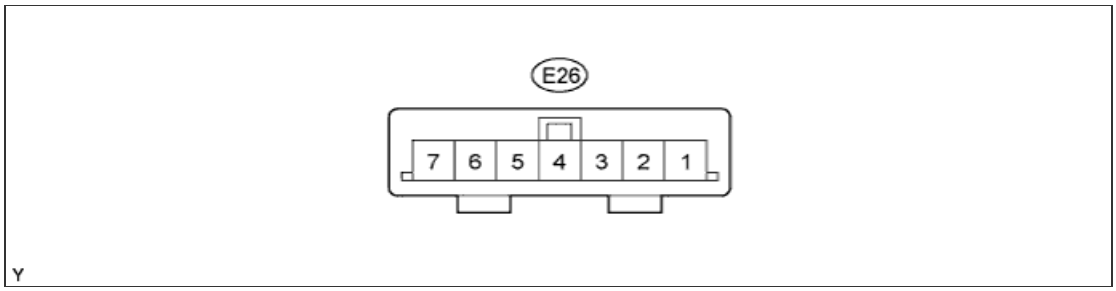
| Terminal No. (Symbol) | Tool Setting | Condition |
|---|---|---|
| A52-15 (TACH) - C46-81 (E1) | 5 V/DIV., 10 ms./DIV. | Engine idling |

**HINT:**

As the engine speed increases, the wavelength shortens.




## CHECK STEERING LOCK ECU




a. Disconnect the E26 steering lock ECU connector.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E26-7 (B) - Body ground | R - Body ground | +B power supply | Always | 11 to 14 V |
| E26-6 (IG2) - Body ground | B - Body ground | Ignition power supply | Engine switch on (IG) | 11 to 14 V |

| | | | | |
|---|---|---|---|---|
| E26-6 (IG2) - Body ground | B - Body ground | Ignition power supply | Engine switch off | Below 1 V |
| E26-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E26-2 (SGND) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E26 steering lock ECU connector.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E26-4 (SLP1) - E26-1 (GND) | SB - W-B | Steering lock actuator position signal | Steering locked | 11 to 14 V |
| E26-4 (SLP1) - E26-1 (GND) | SB - W-B | Steering lock actuator position signal | Steering released | Below 1 V |

If the result is not as specified, the ECU may have a malfunction.

**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / DTC.

e. Read the DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / DTC.

e. Clear the DTCs.

**for Preparation** Click here

## READ DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Data List.

e. According to the display on the intelligent tester, read the Data List.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| ACC SW | Engine switch on (ACC)/ON or OFF | ON: Engine switch on (ACC)<br>OFF: Engine switch off | - |
| IG SW | Engine switch on (IG)/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| Stop Light SW | Stop light switch/ON or OFF | ON: Brake pedal depressed<br>OFF: Brake pedal released | - |
| Start Switch1 | Start switch 1/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| Start Switch2 | Start switch 2/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| Steering Unlock Switch | Steering lock condition/ON or OFF | ON: Steering unlocked<br>OFF: Steering locked | - |
| Neutral SW/ Clutch SW | Park/neutral position switch (A/T), clutch start switch (M/T)/ON or OFF | ON: Shift lever in P or N (A/T), clutch pedal depressed (M/T)<br>OFF: Shift lever not in P or N (A/T), clutch pedal released (M/T) | - |
| Shift P Signal | Shift P position signal/ON or OFF | ON: Shift lever in P<br>OFF: Shift lever not in P | - |
| Vehicle Speed Signal | Vehicle speed signal/STOP or RUN | STOP: Vehicle stopped<br>RUN: Vehicle running | - |
| Engine Condition | Engine condition/STOP or RUN | STOP: Engine stopped<br>RUN: Engine running | - |
| IG1 Relay Monitor(Outside) | IG1 No. 3 relay outer relay monitor/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| IG2 Relay Monitor(Outside) | Integration relay (IG2 relay) outer relay monitor/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| IG1 Relay Monitor(Inside) | IG1 No. 3 relay inner relay monitor/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| IG2 Relay Monitor(Inside) | Integration relay (IG2 relay) inner relay monitor/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| ACC Relay Monitor | ACC relay monitor/ON or OFF | ON: Engine switch on (ACC)<br>OFF: Engine switch off | - |
| Latch Circuit | Latch circuit/ON or OFF | ON: Engine switch on (ACC)<br>OFF: Engine switch off, on (ACC) | - |
| Starter Request Signal | Starter request signal/ON or OFF | ON: ST relay ON<br>OFF: ST relay OFF | - |
| | | ALL OFF: All relays OFF | |

| | | | |
|---|---|---|---|
| Power Supply Condition | Power supply condition/ALL OFF, ACC ON, IG2 ON, ST ON | ACC ON: ACC relay ON<br>IG2 ON: Integration relay (IG2 relay) ON<br>ST ON: STSW signal ON | - |
| ACC Relay Cut Signal | ACC relay cut signal/ON or OFF | ON: Engine cranking<br>OFF: Engine not cranking | - |
| Starter Relay Monitor | ST relay monitor/ON or OFF | ON: Engine cranking<br>OFF: Engine not cranking | - |
| Communication Smart/Wireless | Communication to certification ECU (smart key ECU assembly)/OK or STOP | OK: Communication<br>STOP: No communication | - |
| The Number of DTC | Number of diagnostic trouble codes/Min: 0, Max: 255 | - | - |

**Entry & Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Ignition Switch | Engine switch/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| Unmatched Vehicle-ID | Key ID/YES or NO | YES: Key ID matches<br>NO: Key ID differs | - |
| No Response | No Communication condition between vehicle and electrical key transmitter (response) / Yes or No | Yes: Key ID code not matched to vehicle<br>No: Key ID code matched to vehicle | - |
| Unmatch Code or Form | Code format/YES or NO | YES: Code format matches<br>NO: Code format differs | - |
| Key Low Battery | Key battery conditions/Yes or No | Yes: Key battery voltage low<br>No: Key battery voltage normal | - |
| #Codes | Number of diagnostic trouble codes/Min: 0, Max: 255 | - | - |
| ID Code Difference(Resp) | ID code/YES or NO | YES: ID code matches<br>NO: ID code differs | - |
| C Code Difference | Challenge code/YES or NO | YES: Challenge code matches<br>NO: Challenge code differs | - |
| Engine Start Condition | Engine start condition by certification ECU (smart key ECU assembly)/OK or NG | OK: Engine start permitted<br>NG: Engine start prohibited | - |
| S Code Check | S code certification result/NG or OK | OK: S code certification result normal<br>NG: S code certification result abnormal | - |
| L Code Check | L code certification result/NG or OK | OK: L code certification result normal<br>NG: L code certification result abnormal | - |
| Ignition Available Area | Key area where engine start is possible/All or Front | All: All areas<br>Front: Front only | - |

## PERFORM ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Main Body**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Indicator for Lighting | Indicator illumination | ON/OFF | - |
| | | | |

| | | | |
|---|---|---|---|
| Indicator Condition | Indicator light illumination pattern | Green/Amber/No Sig | - |
| P Supply for Steering Lock | Steering lock ECU power supply | ON/OFF | - |

**Entry & Start**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Fr-Seat Inside Transmitter | Indoor key antenna (for front) | ON/OFF | - |
| Rr-Seat Inside Transmitter | Indoor key antenna (for rear1) | ON/OFF | - |
| Inside Trunk/Backdoor Transmitter | Indoor key antenna (for rear2) | ON/OFF | - |
| Outside Trunk/Backdoor Transmitter | Electrical key antenna | ON/OFF | - |

**for Preparation** Click here

**HINT:**

If a trouble code is output during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.

**Entry and Start System (for Start Function)**

| DTC Code | Detection Item | See page |
|---|---|---|
| B2271 | Ignition Hold Monitor Malfunction | Click here |
| B2272 | Ignition 1 Monitor Malfunction | Click here |
| B2273 | Ignition 2 Monitor Malfunction | Click here |
| B2274 | ACC Monitor Malfunction | Click here |
| B2275 | STSW Monitor Malfunction | Click here |
| B2276 | ACCR Signal Circuit Malfunction | Click here |
| B2277 | Detecting Vehicle Submersion | Click here |
| B2278 | Engine Switch Circuit Malfunction | Click here |
| B2281 | "P" Signal Malfunction | Click here |
| B2282 | Vehicle Speed Signal Malfunction | Click here |
| B2283 | Vehicle Speed Sensor Malfunction | Click here |
| B2284 | Brake Signal Malfunction | Click here |
| B2285 | Steering Lock Position Signal Circuit Malfunction | Click here |
| B2286 | Runnable Signal Malfunction | Click here |
| B2288 | Steering Lock Signal Circuit Malfunction | Click here |
| B2289 | Key Collation Waiting Time Over | Click here |

## DTC B2271 Ignition Hold Monitor Malfunction

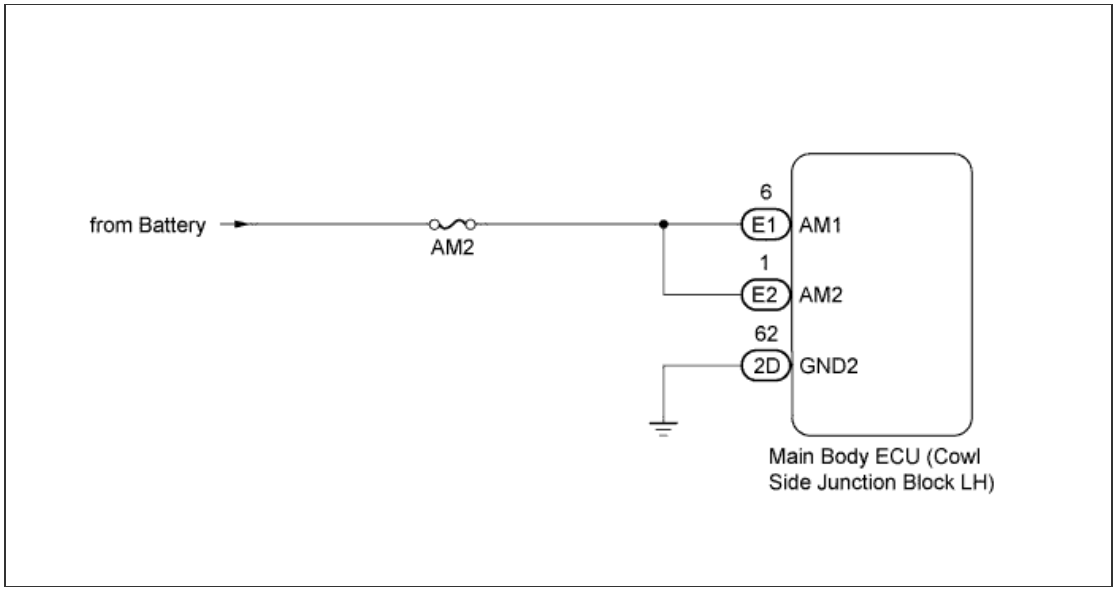
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when the IG output circuits inside the main body ECU are open or shorted.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2271 | The IG1 No. 3 relay actuation circuit or integration relay (IG2 relay) actuation circuit inside the main body ECU is abnormal. | • Main body ECU<br>• AM2 fuse<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK WHETHER DTC OUTPUT RECURS**

a. Clear the DTCs (Click here).

b. Check whether DTC B2271 is output.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2271 output | A |
| No DTC output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

**2.INSPECT FUSE (AM2)**

a. Remove the AM2 fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

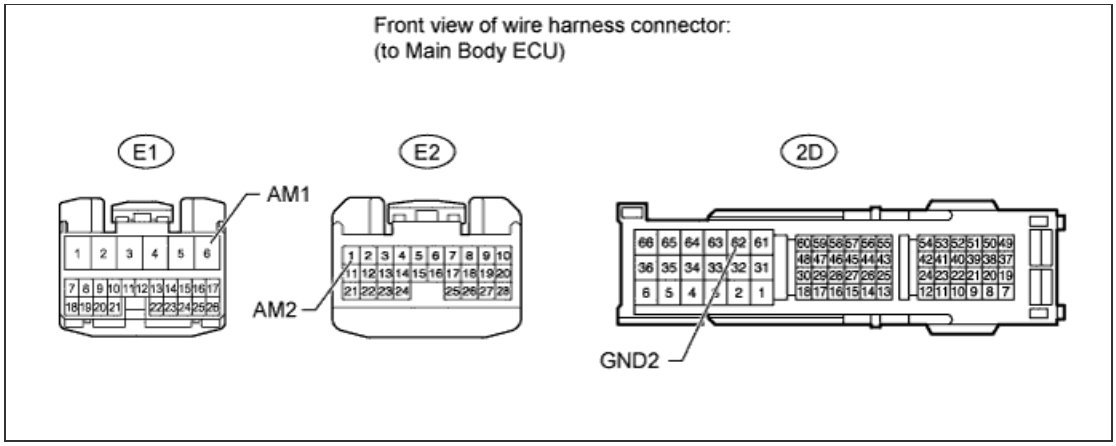
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AM2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)




a. Disconnect the E1, E2 and 2D main body ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-6 (AM1) - Body ground | Always | 11 to 14 V |
| E2-1 (AM2) - Body ground | Always | 11 to 14 V |

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

## DTC B2281 "P" Signal Malfunction

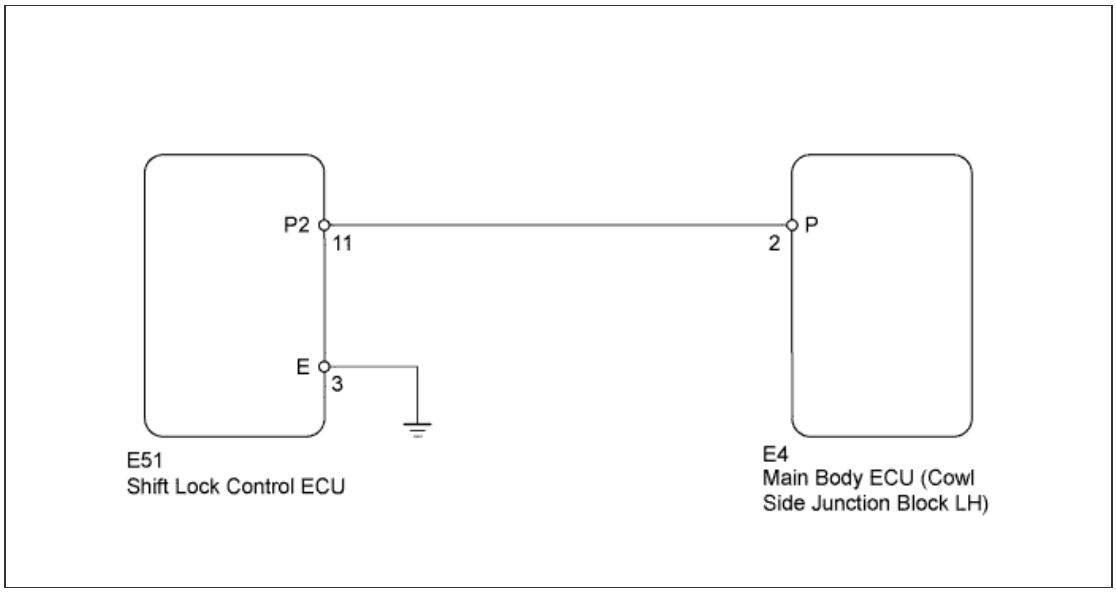
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when there is an abnormal circuit between the main body ECU and the shift lock control ECU.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2281 | Communication or the communication line is abnormal between the main body ECU and shift lock control ECU. | • Main body ECU<br>• Shift lock control ECU<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.READ VALUE USING INTELLIGENT TESTER (SHIFT P SIGNAL)**

a. Use the Data List to check if the shift position signal is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Shift P Signal | Shift P position signal/ON or OFF | ON: Shift lever in P<br>OFF: Shift lever not in P | - |

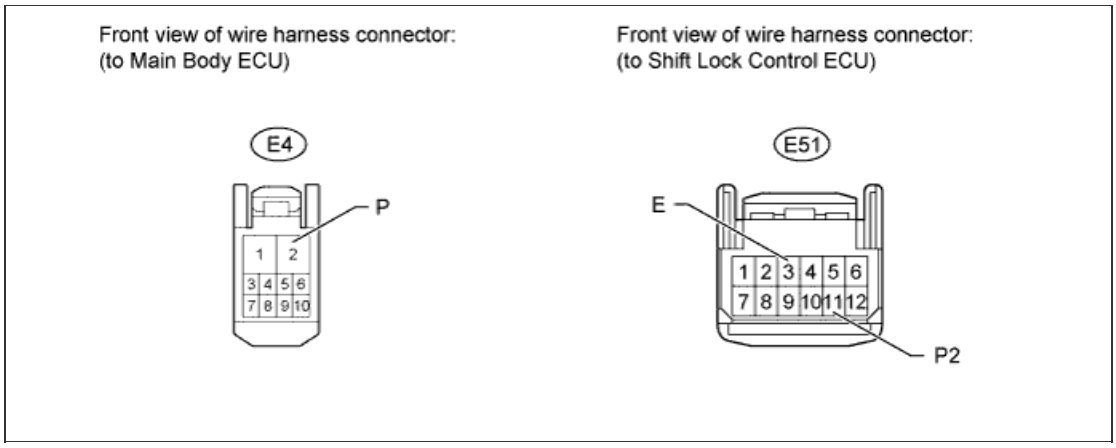
**Result**

| Result | Proceed to |
|---|---|
| Display on the intelligent tester does not change according to shift lever operation | A |
| Display on the intelligent tester changes according to shift lever operation | B |

B → REPLACE MAIN BODY ECU

A

**2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - SHIFT LOCK CONTROL ECU AND BODY GROUND)**




a. Disconnect the E4 main body ECU connector.

b. Disconnect the E51 shift lock control ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E4-2 (P) - E51-11 (P2) | Always | Below 1 Ω |
| E51-3 (E) - Body ground | Always | Below 1 Ω |
| E4-2 (P) or E51-11 (P2) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.INSPECT SHIFT LOCK CONTROL ECU

a. Check the signal waveform according to the condition(s) in the table below.

**Reference**

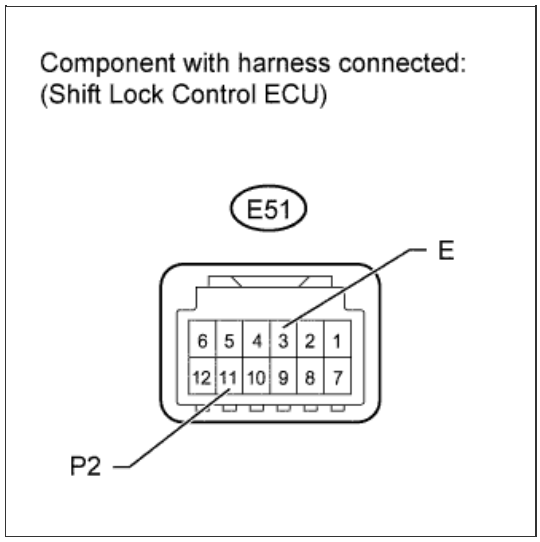
| Terminal No. (Symbol) | Tool Setting | Condition |
|---|---|---|
| E51-11 (P2) - E51-3 (E) | 2 V/DIV., 20 msec./DIV. | Shift lever in P |

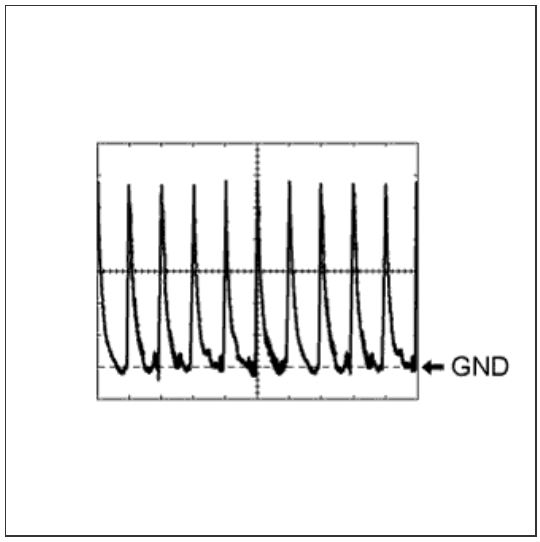
**OK:**

**The waveform is similar to that shown in the illustration.**

**Result**

| Result | | Proceed to |
|---|---|---|
| OK | | A |
| NG | for 1GR-FE | B |
| | for 1VD-FTV, 3UR-FE, 1UR-FE | C |






B → REPLACE SHIFT LOCK CONTROL ECU (Click here)

C → REPLACE SHIFT LOCK CONTROL ECU (Click here)

A

REPLACE MAIN BODY ECU

## DTC B2272 Ignition 1 Monitor Malfunction

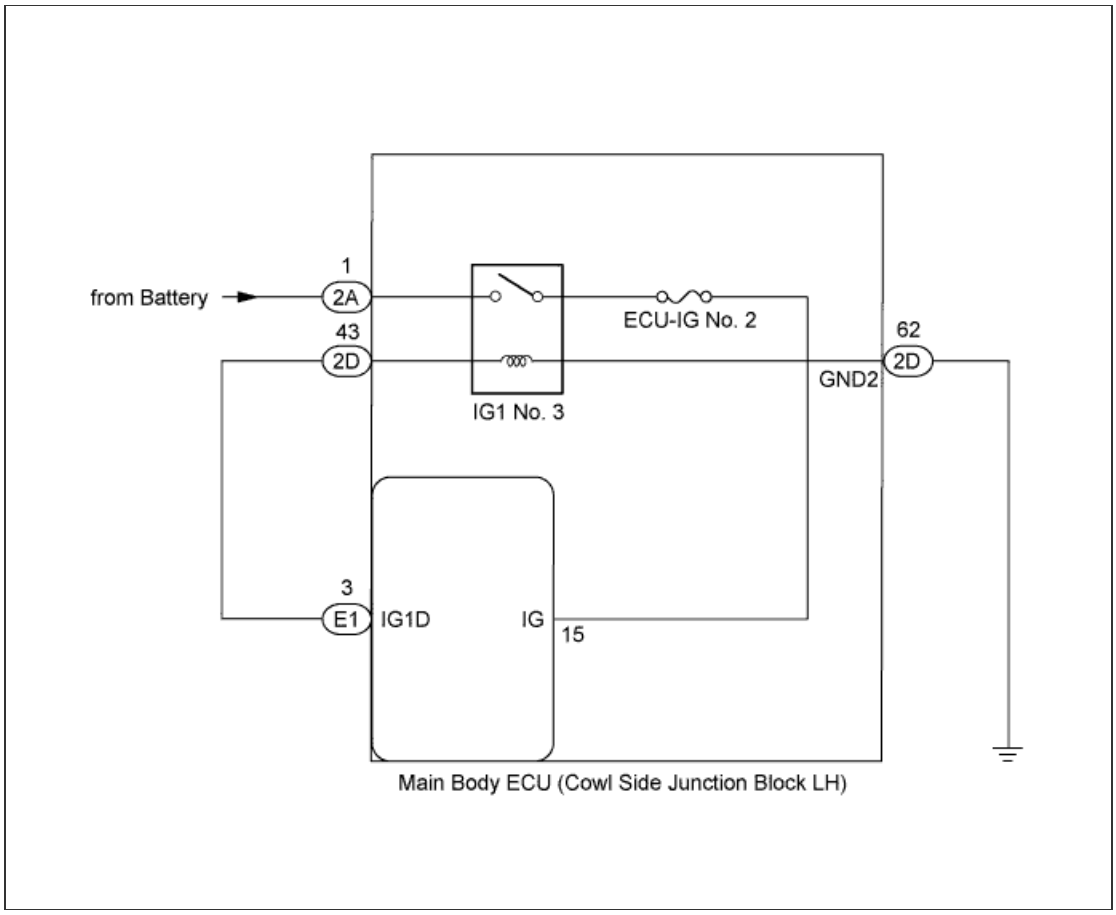
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when a malfunction occurs in the IG1D output circuit, which is between the IG1 No. 3 relay actuation circuit inside the main body ECU and the IG1 No. 3 relay.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2272 | The IG1 No. 3 relay actuation circuit inside the main body ECU or other related circuit is malfunctioning. | • Main body ECU<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.READ VALUE USING INTELLIGENT TESTER (IG1 RELAY MONITOR (OUTSIDE))**

a. Use the Data List to check if the IG1 No. 3 relay is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| IG1 Relay Monitor (Outside) | IG1 No. 3 relay outer relay monitor/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |

**OK:**

**When the engine switch is turned on (IG), ON is displayed on the intelligent tester.**

NG → Go to step 3

OK

## 2.CHECK WHETHER DTC OUTPUT RECURS

a. Clear the DTCs (Click here).

b. Turn the engine switch on (IG), wait at least 10 seconds, and check whether DTC B2272 is output.

**Result**

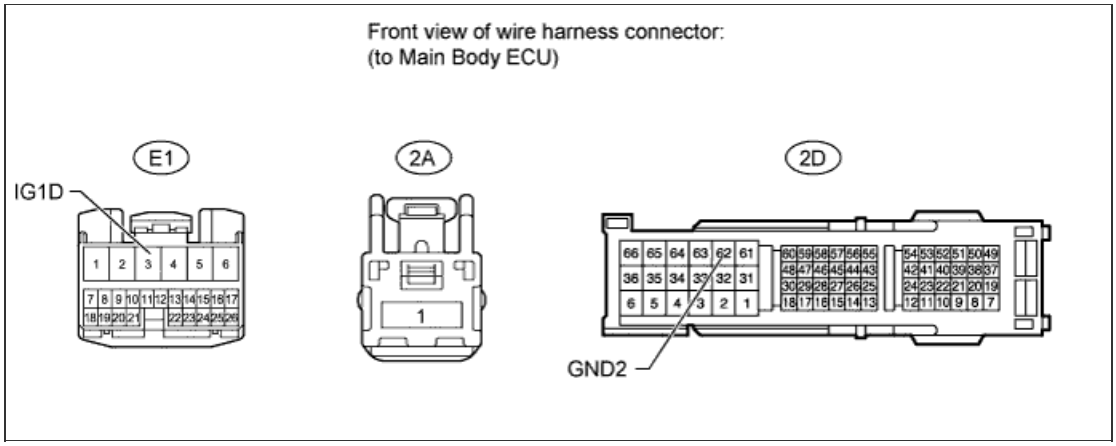
| Result | Proceed to |
|---|---|
| No DTC output | A |
| DTC B2272 output | B |

B → REPLACE MAIN BODY ECU

A

## USE SIMULATION METHOD TO CHECK (Click here)

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)




a. Disconnect the E1, 2A and 2D main body ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 - Body ground | Always | 11 to 14 V |

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-3 (IG1D) - 2D-43 | Always | Below 1 Ω |
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E1-3 (IG1D) or 2D-43 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## REPLACE MAIN BODY ECU

## DTC B2282 Vehicle Speed Signal Malfunction

## DTC B2283 Vehicle Speed Sensor Malfunction

**for Preparation** Click here

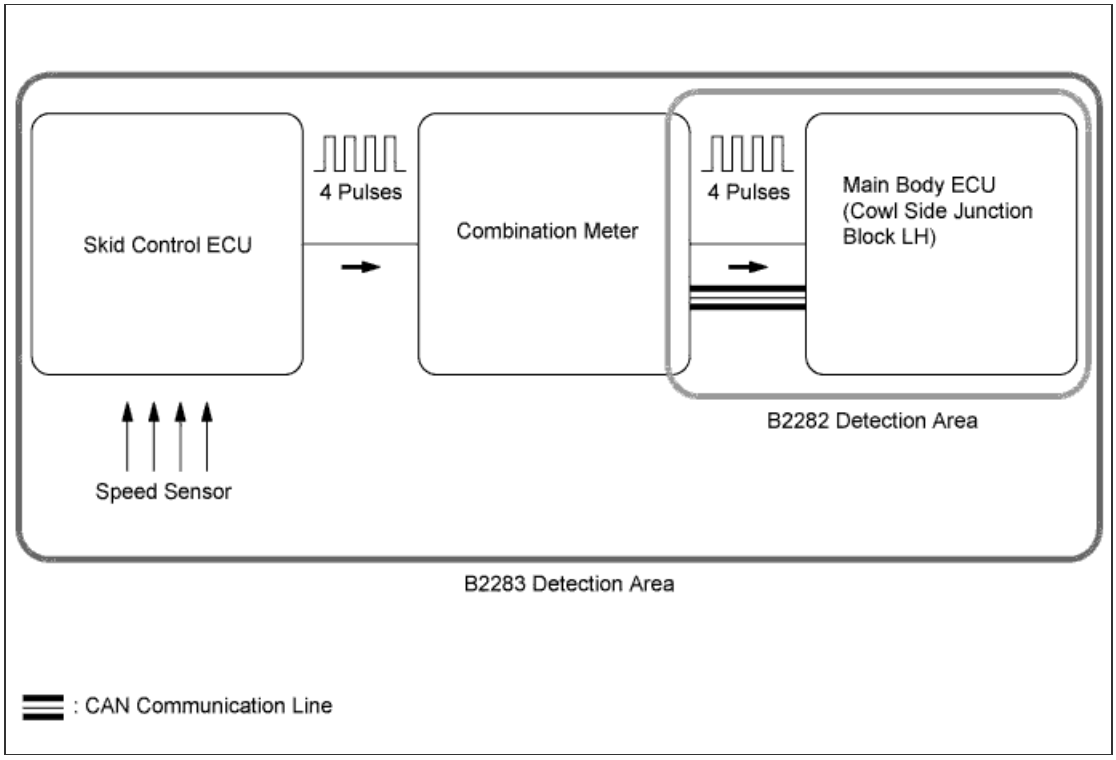
### DESCRIPTION

The main body ECU and the combination meter are connected with a cable and the CAN communication line. DTC B2282 is stored when signals, transmitted through the cable and communication line, do not match.

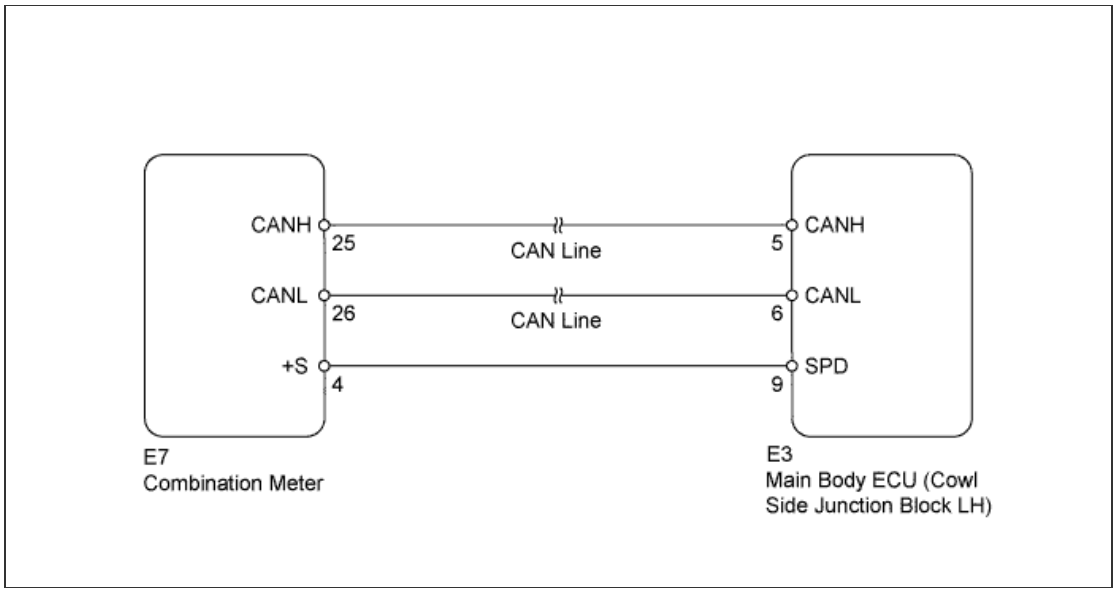
| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2282 | When the following conditions are met:<br>• Signals between the main body ECU and combination meter are inconsistent.<br>• A malfunction is detected in the circuit between the vehicle speed sensor and combination meter. | • Main body ECU<br>• Combination meter assembly<br>• Harness or connector |

The skid control ECU converts signals from the speed sensor into 4-pulse signals and sends them to the combination meter. After these signals are converted into a more precise rectangular waveform by the waveform shaping circuit inside the combination meter, they are then transmitted to the main body ECU. The main body ECU determines the vehicle speed based on the frequencies of these pulse signals.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2283 | When both of the conditions below are met:<br>• Vehicle speed decreases significantly.<br>• Vehicle speed does not correspond with engine speed. | • Main body ECU<br>• Combination meter assembly<br>• Speed sensor<br>• Skid control ECU<br>• Harness or connector |




### WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (VEHICLE SPEED SIGNAL)

a. Use the Data List to check if the vehicle speed signal is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Vehicle Speed Signal | Vehicle speed signal/STOP or RUN | STOP: Vehicle stopped<br>RUN: Vehicle running | - |

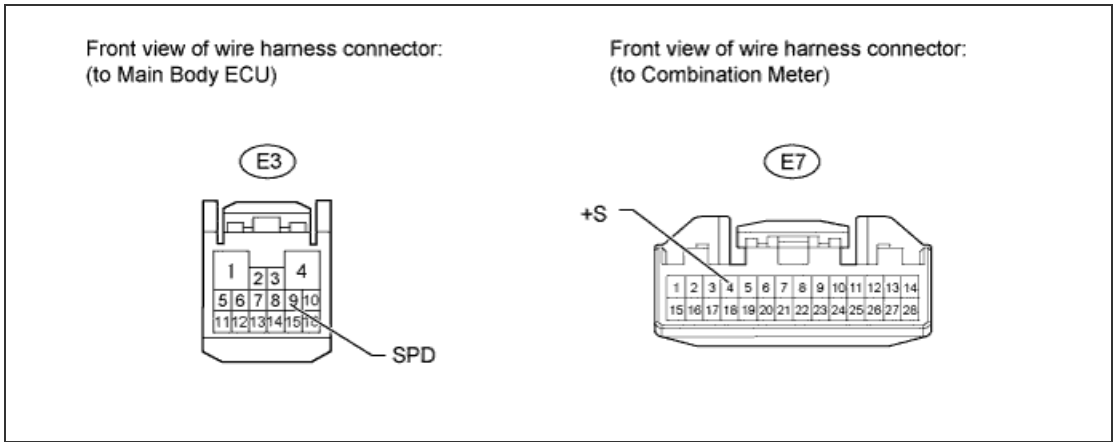
**Result**

| Result | Proceed to |
|---|---|
| Display on the intelligent tester does not change according to vehicle condition | A |
| Display on the intelligent tester changes according to vehicle condition | B |

B → REPLACE MAIN BODY ECU

A

### 2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - COMBINATION METER)




a. Disconnect the E3 main body ECU connector.

b. Disconnect the E7 combination meter connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-9 (SPD) - E7-4 (+S) | Always | Below 1 Ω |
| E3-9 (SPD) or E7-4 (+S) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**3.REPLACE MAIN BODY ECU**

a. Temporarily replace the main body ECU with a new or normally functioning one.

b. Check whether DTC B2282 and B2283 are output.

**Result**

| Result | Proceed to |
|---|---|
| DTC not output | A |
| DTC output (w/ Multi-information Display) | B |
| DTC output (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER (Click here)

C → REPLACE COMBINATION METER (Click here)

A

END

## DTC B2273 Ignition 2 Monitor Malfunction

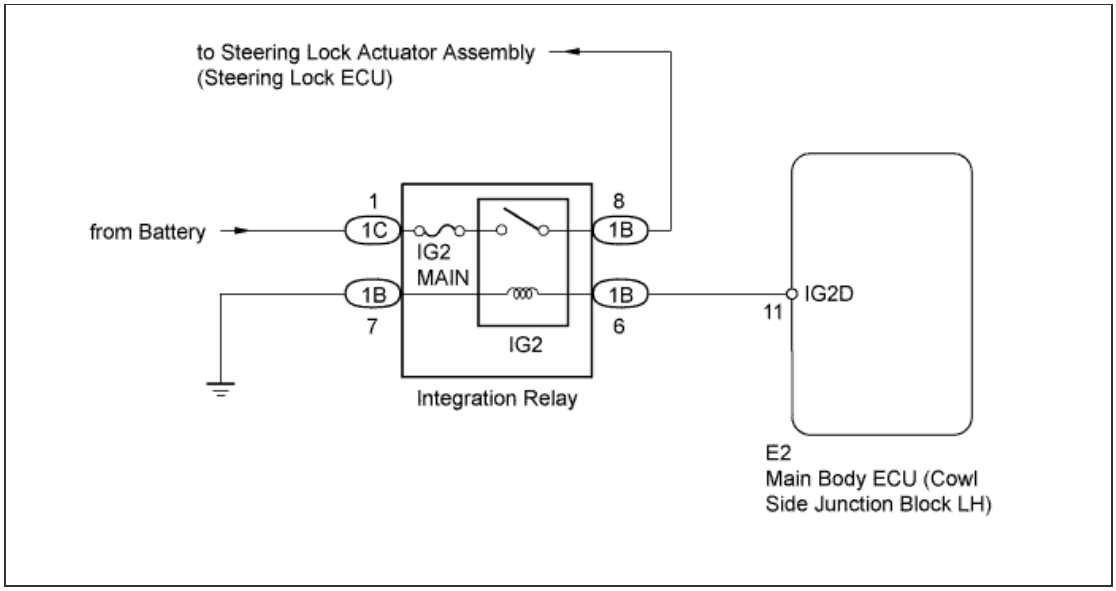
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when a malfunction occurs in the IG2D output circuit, which is between the integration relay (IG2 relay) actuation circuit inside the main body ECU and the integration relay (IG2 relay).

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2273 | The integration relay (IG2 relay) actuation circuit inside the main body ECU or other related circuit is malfunctioning. | • Main body ECU<br>• IG2 MAIN fuse<br>• Integration relay (IG2 relay)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.READ VALUE USING INTELLIGENT TESTER (IG2 RELAY MONITOR (INSIDE))**

a. Use the Data List to check if the integration relay (IG2 relay) is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| IG2 Relay Monitor (Inside) | Integration relay (IG2 relay) inner relay monitor/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |

**OK:**

**When the engine switch is turned on (IG), ON is displayed on the tester.**

NG → Go to step 3

OK

**2.CHECK WHETHER DTC OUTPUT RECURS**

a. Clear the DTCs (Click here).

b. Turn the engine switch on (IG), wait at least 10 seconds, and check whether DTC B2273 is output.

**Result**

| Result | Proceed to |
|---|---|
| No DTC output | A |
| DTC B2273 output | B |

B → REPLACE MAIN BODY ECU

A

USE SIMULATION METHOD TO CHECK (Click here)

## 3.INSPECT FUSE (IG2 MAIN)

a. Remove the IG2 MAIN fuse from the integration relay.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IG2 MAIN fuse | Always | Below 1 Ω |

NG → REPLACE FUSE (IG2 MAIN)

OK

## 4.INSPECT INTEGRATION NO.1 RELAY (IG2 RELAY)

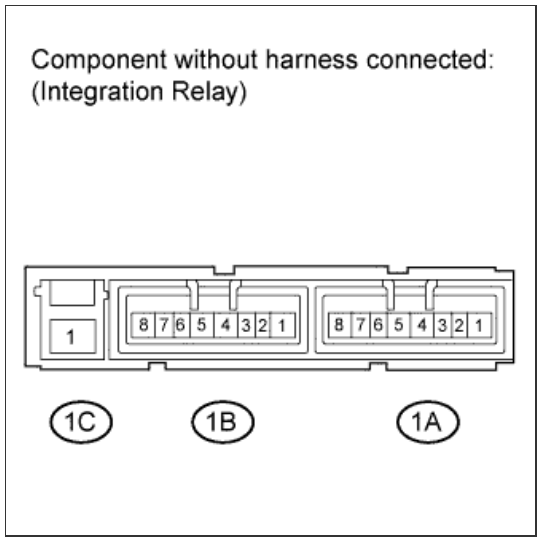
a. Install the IG2 MAIN fuse to the integration relay.

b. Remove the integration relay from the engine room relay block.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

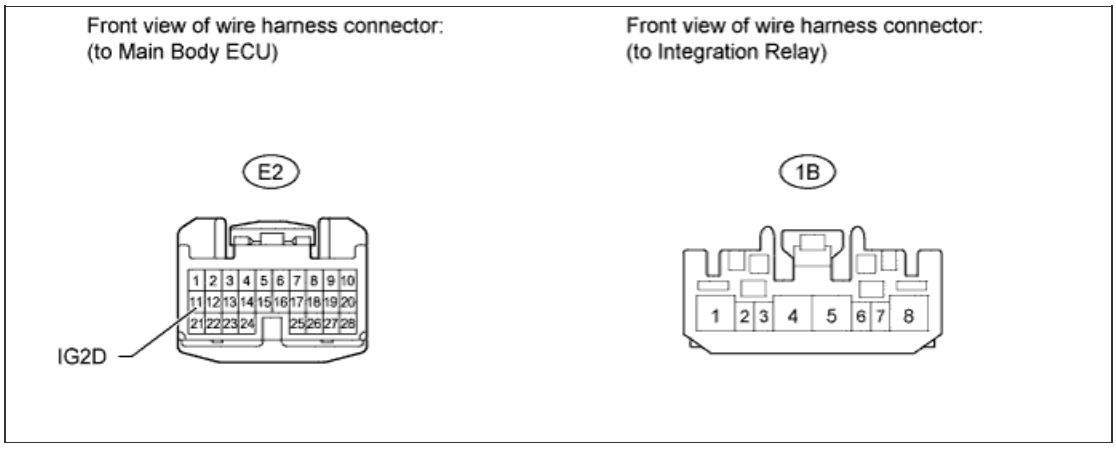
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1B-8 - 1C-1 | Battery voltage applied to terminals 1B-6 and 1B-7 | Below 1 Ω |
| 1B-8 - 1C-1 | Battery voltage not applied to terminals 1B-6 and 1B-7 | 10 kΩ or higher |




NG → REPLACE INTEGRATION NO.1 RELAY (IG2 RELAY)

OK

## 5.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - INTEGRATION RELAY (IG2 RELAY) AND BODY GROUND)




a. Disconnect the E2 main body ECU connector.

b. Disconnect the 1B integration relay connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E2-11 (IG2D) - 1B-6 | Always | Below 1 Ω |
| 1B-7 - Body ground | Always | Below 1 Ω |
| E2-11 (IG2D) or 1B-6 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MAIN BODY ECU

## DTC B2282 Vehicle Speed Signal Malfunction

## DTC B2283 Vehicle Speed Sensor Malfunction

**for Preparation** Click here

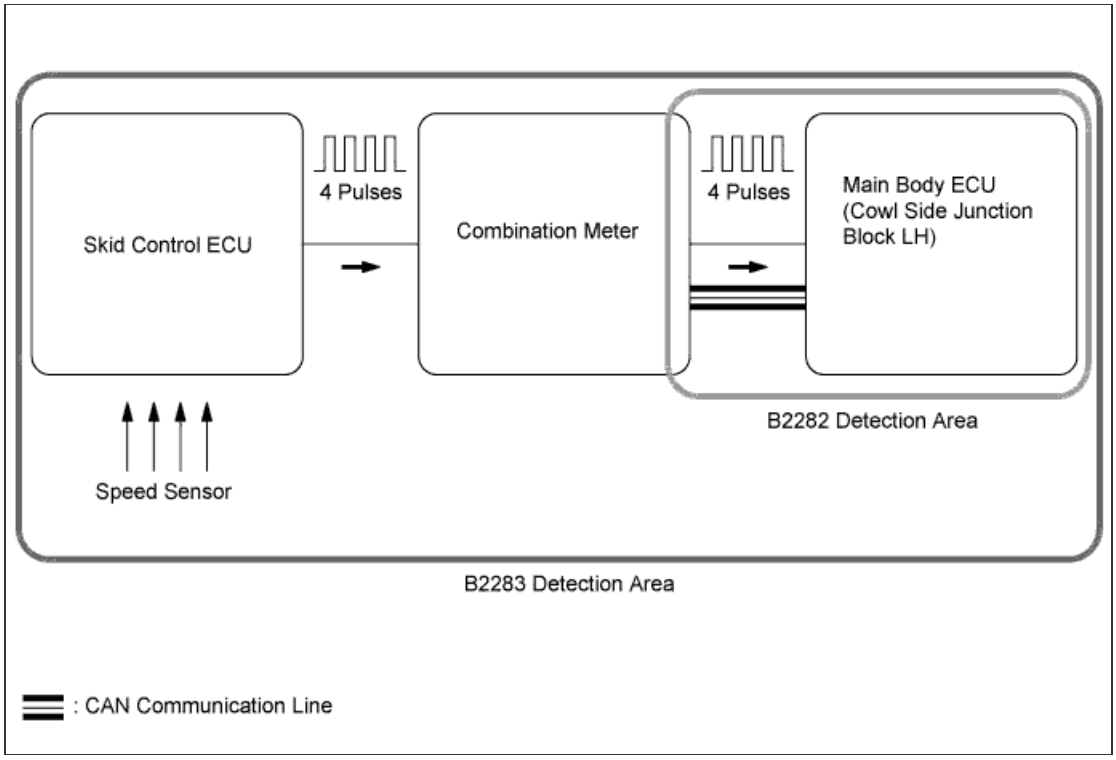
### DESCRIPTION

The main body ECU and the combination meter are connected with a cable and the CAN communication line. DTC B2282 is stored when signals, transmitted through the cable and communication line, do not match.

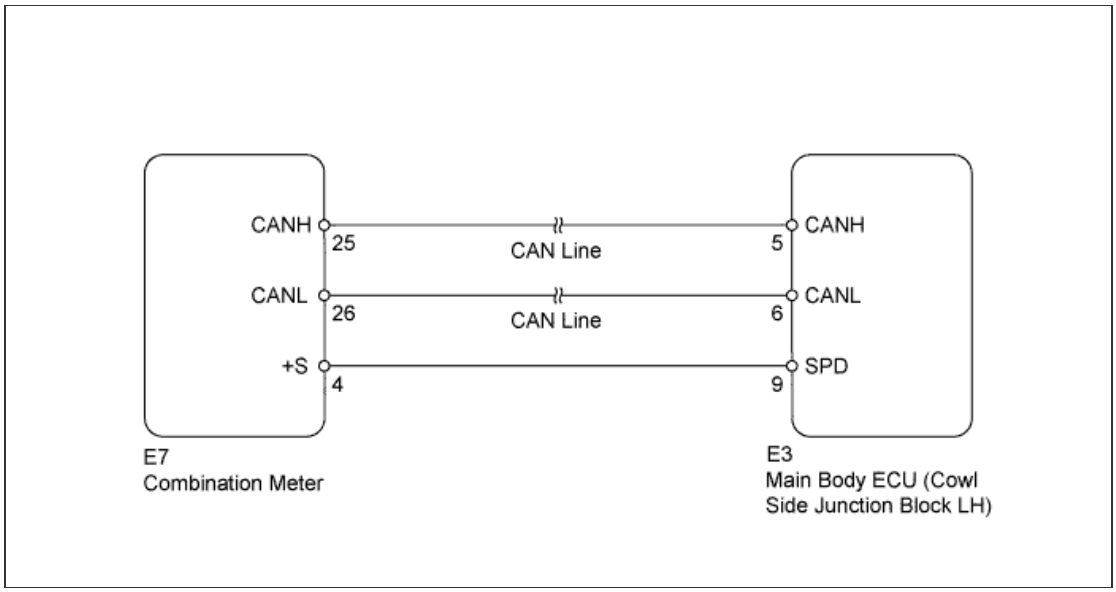
| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2282 | When the following conditions are met:<br>• Signals between the main body ECU and combination meter are inconsistent.<br>• A malfunction is detected in the circuit between the vehicle speed sensor and combination meter. | • Main body ECU<br>• Combination meter assembly<br>• Harness or connector |

The skid control ECU converts signals from the speed sensor into 4-pulse signals and sends them to the combination meter. After these signals are converted into a more precise rectangular waveform by the waveform shaping circuit inside the combination meter, they are then transmitted to the main body ECU. The main body ECU determines the vehicle speed based on the frequencies of these pulse signals.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2283 | When both of the conditions below are met:<br>• Vehicle speed decreases significantly.<br>• Vehicle speed does not correspond with engine speed. | • Main body ECU<br>• Combination meter assembly<br>• Speed sensor<br>• Skid control ECU<br>• Harness or connector |




### WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (VEHICLE SPEED SIGNAL)

a. Use the Data List to check if the vehicle speed signal is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Vehicle Speed Signal | Vehicle speed signal/STOP or RUN | STOP: Vehicle stopped<br>RUN: Vehicle running | - |

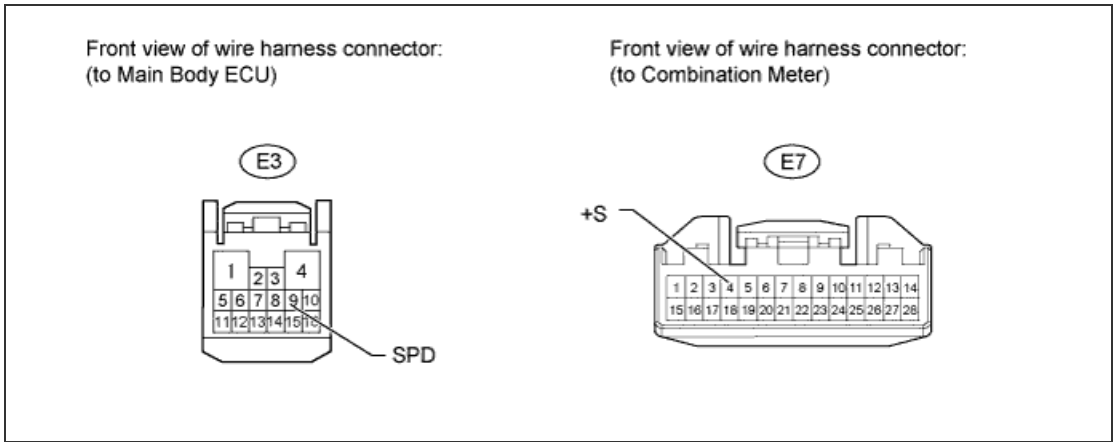
**Result**

| Result | Proceed to |
|---|---|
| Display on the intelligent tester does not change according to vehicle condition | A |
| Display on the intelligent tester changes according to vehicle condition | B |

B → REPLACE MAIN BODY ECU

A

### 2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - COMBINATION METER)




a. Disconnect the E3 main body ECU connector.

b. Disconnect the E7 combination meter connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-9 (SPD) - E7-4 (+S) | Always | Below 1 Ω |
| E3-9 (SPD) or E7-4 (+S) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**3.REPLACE MAIN BODY ECU**

a. Temporarily replace the main body ECU with a new or normally functioning one.

b. Check whether DTC B2282 and B2283 are output.

**Result**

| Result | Proceed to |
|---|---|
| DTC not output | A |
| DTC output (w/ Multi-information Display) | B |
| DTC output (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER (Click here)

C → REPLACE COMBINATION METER (Click here)

A

END

## DTC B2274 ACC Monitor Malfunction

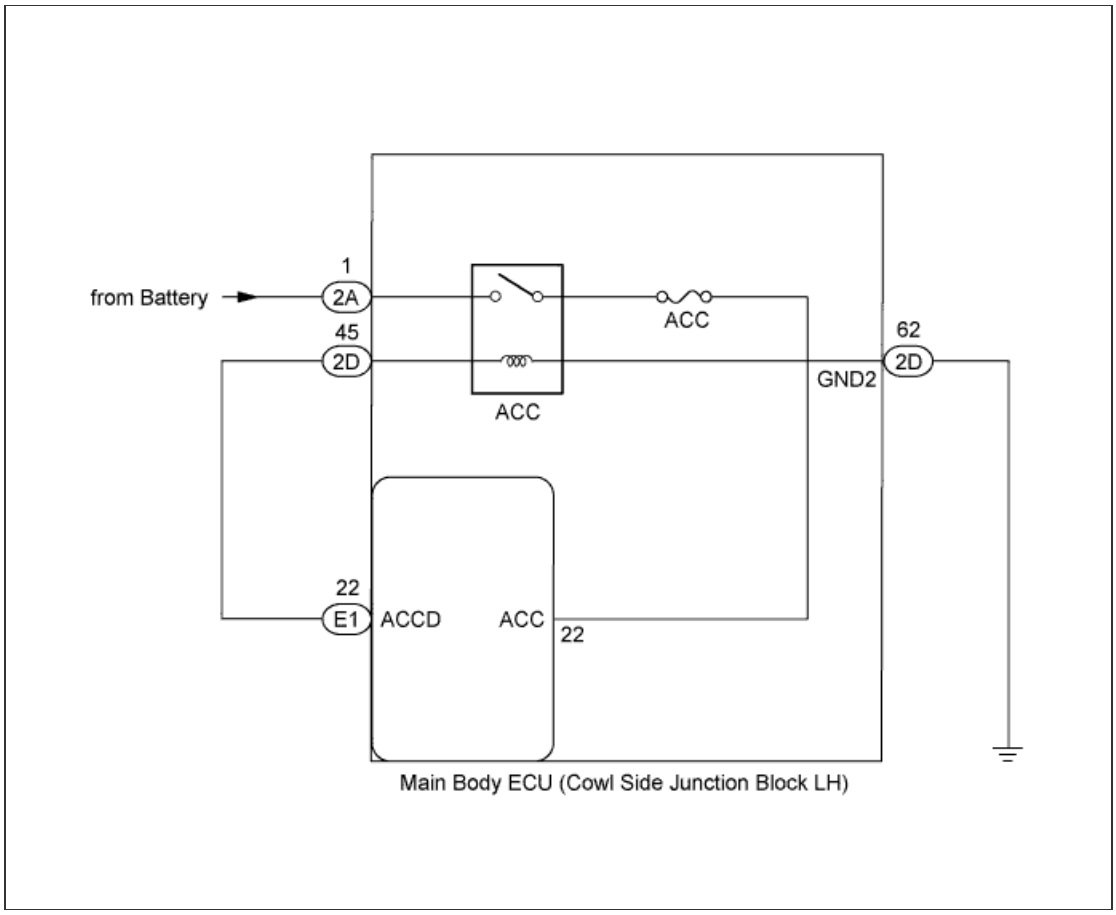
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when a malfunction occurs in the ACCD output circuit, which is between the ACC relay actuation circuit inside the main body ECU and the ACC relay.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2274 | The ACC relay actuation circuit inside the main body ECU or other related circuit is malfunctioning. | • Main body ECU<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.READ VALUE USING INTELLIGENT TESTER (ACC RELAY MONITOR)**

a. Use the Data List to check if the ACC relay is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| ACC Relay Monitor | ACC relay monitor/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |

**OK:**

**When the engine switch is turned on (IG), ON is displayed on the intelligent tester.**

NG → Go to step 3

OK

## 2.CHECK WHETHER DTC OUTPUT RECURS

a. Clear the DTCs (Click here).

b. Turn the engine switch on (IG), wait at least 10 seconds, and check whether DTC B2274 is output.

**Result**

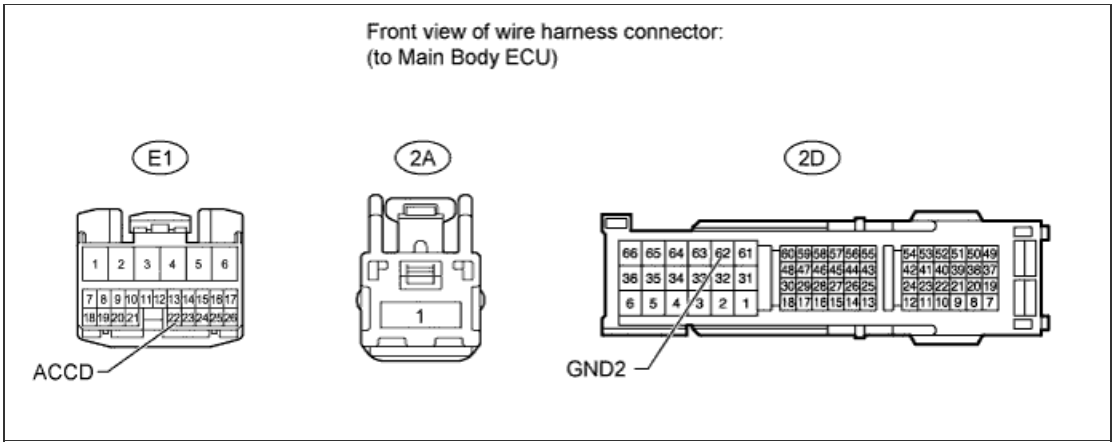
| Result | Proceed to |
|---|---|
| No DTC output | A |
| DTC B2274 output | B |

**B** → REPLACE MAIN BODY ECU

**A**

## USE SIMULATION METHOD TO CHECK (Click here)

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)




a. Disconnect the E1, 2A and 2D main body ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 - Body ground | Always | 11 to 14 V |

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-22 (ACCD) - 2D-45 | Always | Below 1 Ω |
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E1-22 (ACCD) or 2D-45 - Body ground | Always | 10 kΩ or higher |

**NG** → REPAIR OR REPLACE HARNESS OR CONNECTOR

**OK**

## REPLACE MAIN BODY ECU

# DTC B2284 Brake Signal Malfunction

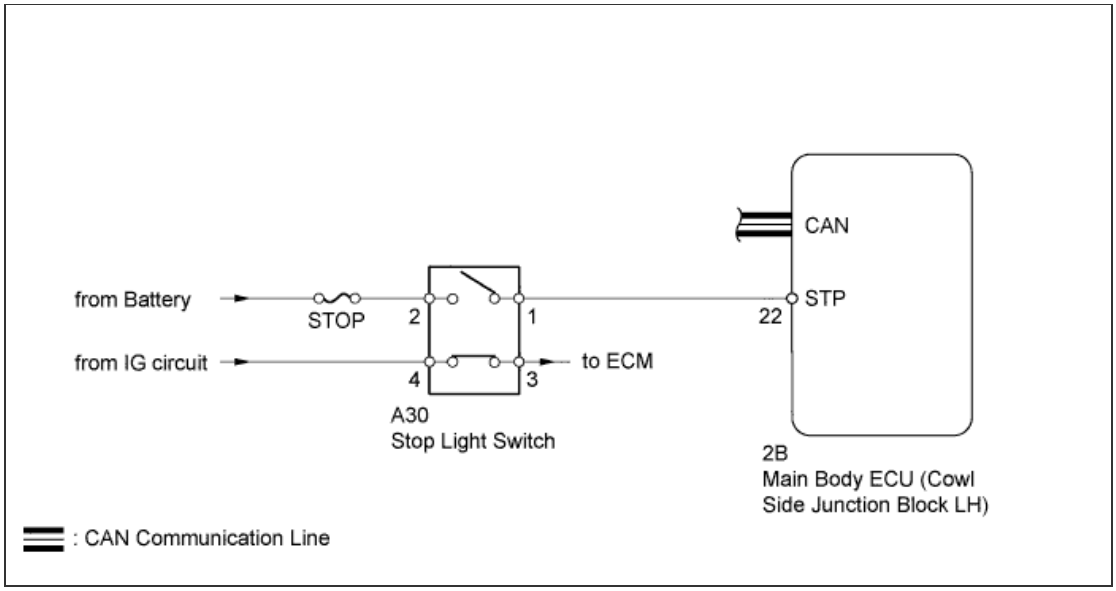
**for Preparation** Click here

## DESCRIPTION

This DTC is stored when there is an inconsistency between the circuit between the main body ECU and stop light switch, and the CAN communication signal between the main body ECU and ECM.

| DTC No. | Detection Condition | Trouble Area |
|---|---|---|
| B2284 | The circuit between the main body ECU and stop light switch, and the CAN communication signal between the main body ECU and ECM are inconsistent. | • Main body ECU<br>• Stop light switch<br>• STOP fuse<br>• Harness or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (STOP LIGHT SWITCH)

a. Use the Data List to check if the stop light switch is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Stop Light SW | Stop light switch/ON or OFF | ON: Brake pedal depressed<br>OFF: Brake pedal released | - |

**Result**

| Result | Proceed to |
|---|---|
| Display on the intelligent tester does not change according to brake pedal operation | A |
| Display on the intelligent tester changes according to brake pedal operation | B |

B → REPLACE MAIN BODY ECU

A

### 2.INSPECT FUSE (STOP)

a. Remove the STOP fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| STOP fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

## 3.INSPECT STOP LIGHT SWITCH

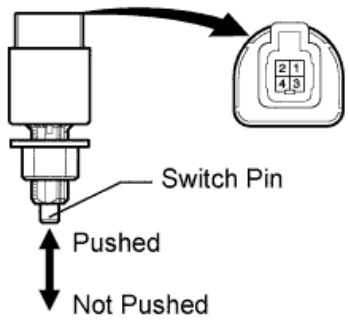
a. Disconnect the A30 stop light switch connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Stop light switch pin not pushed | Below 1 Ω |
| 3 - 4 | Stop light switch pin pushed | Below 1 Ω |
| 1 - 2 | Stop light switch pin pushed | 10 kΩ or higher |
| 3 - 4 | Stop light switch pin not pushed | 10 kΩ or higher |

Component without harness connected:
(Stop Light Switch)

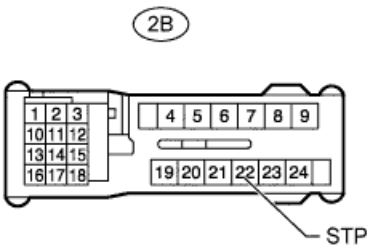



NG → REPLACE STOP LIGHT SWITCH (Click here)

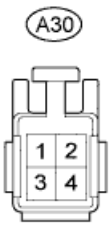
OK

## 4.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND STOP LIGHT SWITCH)

Front view of wire harness connector:
(to Main Body ECU)




Front view of wire harness connector:
(to Stop Light Switch)




a. Disconnect the 2B main body ECU connector.

b. Disconnect the A30 stop light switch connector.

c. Measure the voltage and resistance according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A30-2 - Body ground | Always | 11 to 14 V |

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2B-22 (STP) - | | |

| | | |
|---|---|---|
| A30-1 | Always | Below 1 Ω |
| 2B-22 (STP) or A30-1 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MAIN BODY ECU

## DTC B2275 STSW Monitor Malfunction

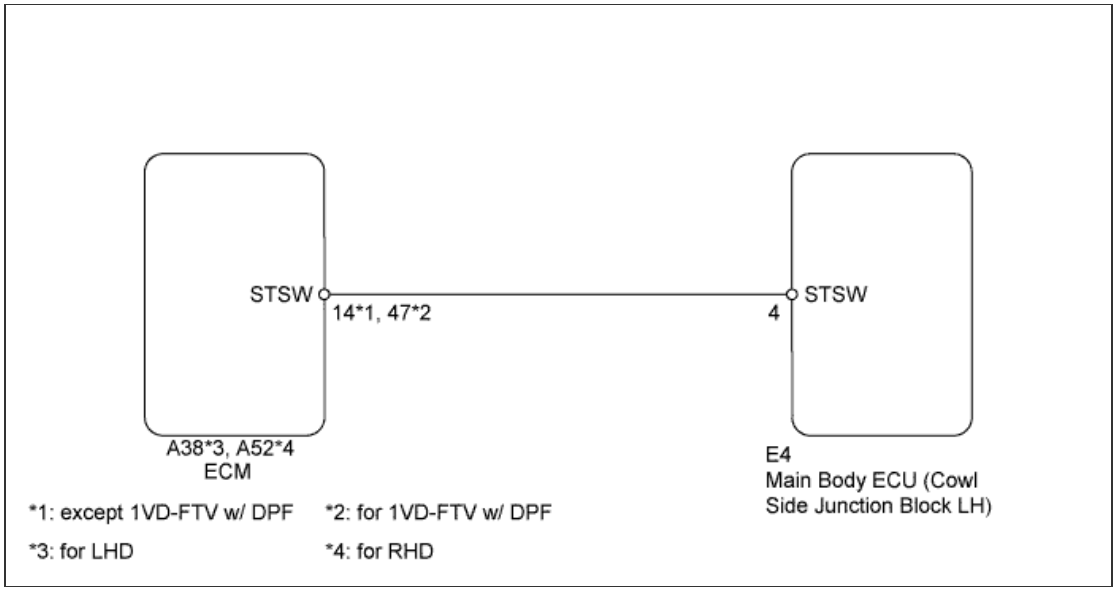
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when the engine start request signal circuit inside the main body ECU is open or shorted.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2275 | The engine start request signal circuit inside the main body ECU or other related circuit is malfunctioning. | • Main body ECU<br>• ECM<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK WHETHER DTC OUTPUT RECURS**

a. Clear the DTCs (Click here).

b. Depress the brake pedal (for A/T) or clutch pedal (for M/T) with the engine switch on (IG), wait at least 15 seconds, and check whether DTC B2275 is output.

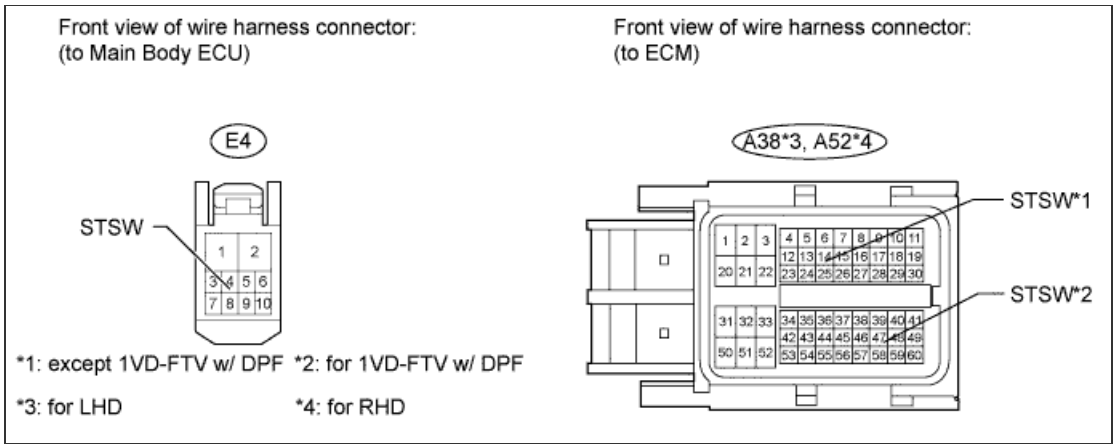
**Result**

| Result | Proceed to |
|---|---|
| DTC B2275 output | A |
| No DTC output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

**2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - ECM)**




a. Disconnect the E4 main body ECU connector.

b. Disconnect the A38 (for LHD) or A52 (for RHD) ECM connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance (except 1VD-FTV w/ DPF):**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E4-4 (STSW) - A38-14 (STSW)*1<br>E4-4 (STSW) - A52-14 (STSW)*2 | Always | Below 1 Ω |
| E4-4 (STSW) or A38-14 (STSW) - Body ground*1<br>E4-4 (STSW) or A52-14 (STSW) - Body ground*2 | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD

**Standard Resistance (for 1VD-FTV w/ DPF):**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E4-4 (STSW) - A38-47 (STSW)*1<br>E4-4 (STSW) - A52-47 (STSW)*2 | Always | Below 1 Ω |
| E4-4 (STSW) or A38-47 (STSW) - Body ground*1<br>E4-4 (STSW) or A52-47 (STSW) - Body ground*2 | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.INSPECT MAIN BODY ECU

a. Measure the voltage according to the value(s) in the table below.

**HINT:**

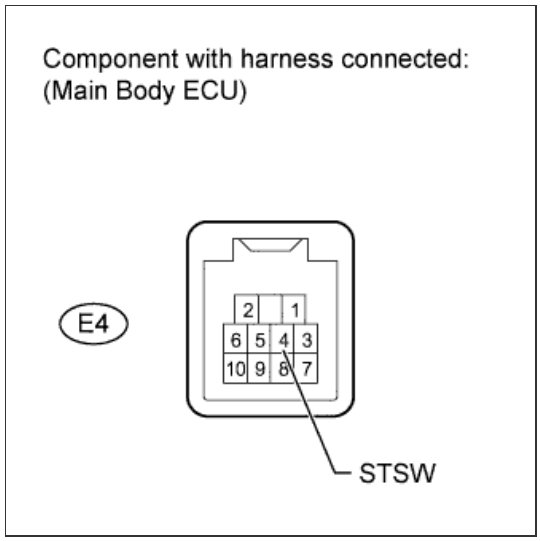
The voltage is generated at terminal STSW for 0.3 seconds when the engine cranks.

**Standard Voltage (for A/T):**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E4-4 (STSW) - Body ground | Brake pedal depressed with shift lever in P, engine switch pushed once | 11 to 14 V |

**Standard Voltage (for M/T):**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E4-4 (STSW) - Body ground | Clutch pedal depressed, engine switch pushed once | 11 to 14 V |




**Result**

| Result | Proceed to |
|---|---|
| Outside specified range | A |
| Within specified range (for 1GR-FE) | B |
| Within specified range (for 1UR-FE) | C |
| Within specified range (for 3UR-FE) | D |
| Within specified range (for 1VD-FTV) | E |

B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

D → REPLACE ECM (Click here)

E → REPLACE ECM (Click here)

A → REPLACE MAIN BODY ECU

## DTC B2285 Steering Lock Position Signal Circuit Malfunction

## DTC B2288 Steering Lock Signal Circuit Malfunction

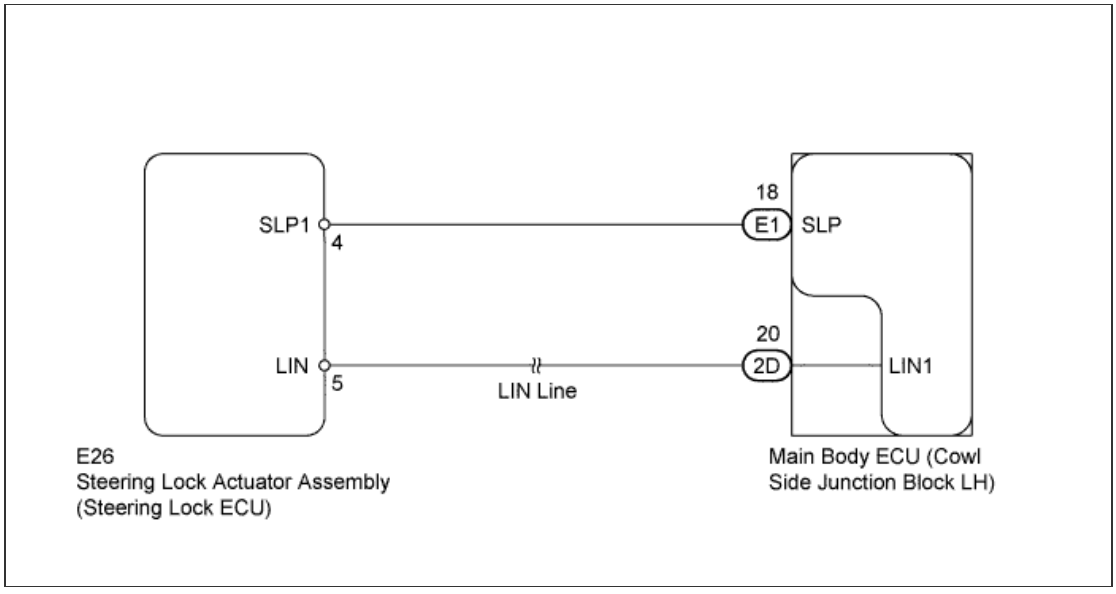
**for Preparation** Click here

### DESCRIPTION

The main body ECU and the steering lock ECU are connected by a cable and the LIN communication line. These DTCs are stored when: 1) signals, transmitted through the cable and the communication line, do not match; or 2) a malfunction is detected in the circuit between the main body ECU and the steering lock ECU.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2285 | The cable and LIN information between the main body ECU and steering lock ECU is inconsistent. | • Main body ECU<br>• Steering lock actuator assembly (steering lock ECU)<br>• Harness or connector |
| B2288 | After turning the engine switch from off to on (IG), the steering wheel does not unlock for a certain period of time (the ECU unlocks the steering wheel only when it receives an unlock signal from LIN communication and the cable). | • Main body ECU<br>• Steering lock actuator assembly (steering lock ECU)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (STEERING UNLOCK SWITCH)

a. Use the Data List to check if the steering lock is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Steering Unlock Switch | Steering lock condition/ON or OFF | ON: Steering unlocked<br>OFF: Steering locked | - |

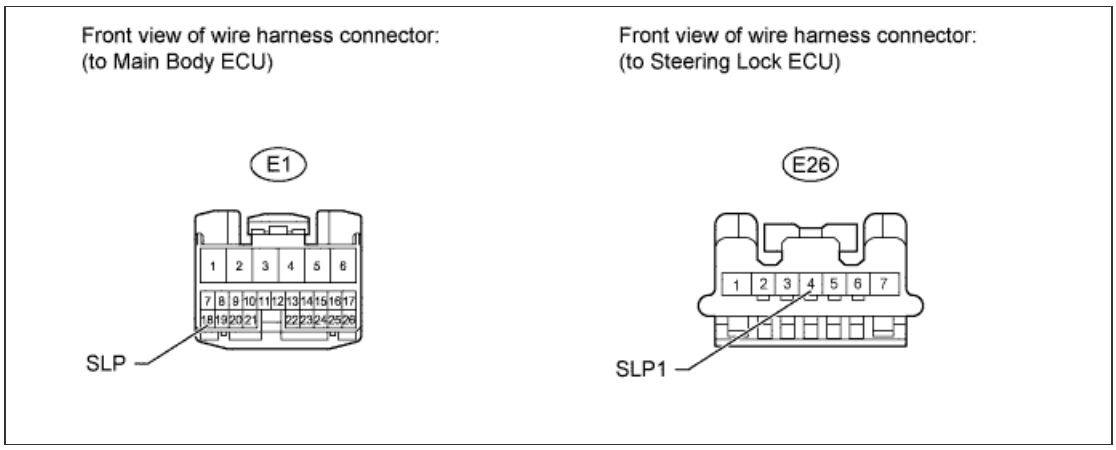
**Result**

| Result | Proceed to |
|---|---|
| Display on the intelligent tester does not change according to steering lock position | A |
| Display on the intelligent tester changes according to steering lock position | B |

B → REPLACE MAIN BODY ECU

A

## 2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - STEERING LOCK ECU)




a. Disconnect the E1 main body ECU connector.

b. Disconnect the E26 steering lock ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-18 (SLP) - E26-4 (SLP1) | Always | Below 1 Ω |
| E1-18 (SLP) or E26-4 (SLP1) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.REPLACE MAIN BODY ECU

a. Temporarily replace the main body ECU with a new or normally functioning one.

b. Check whether DTC B2285 and B2288 are output.

**Result**

| Result | Proceed to |
|---|---|
| DTC not output | A |
| DTC output (for Power tilt and telescopic) | B |
| DTC output (for Manual tilt and telescopic) | C |

B → REPLACE STEERING LOCK ACTUATOR ASSEMBLY (STEERING LOCK ECU) (Click here)

C → REPLACE STEERING LOCK ACTUATOR ASSEMBLY (STEERING LOCK ECU) (Click here)

A

END

# DTC B2276 ACCR Signal Circuit Malfunction

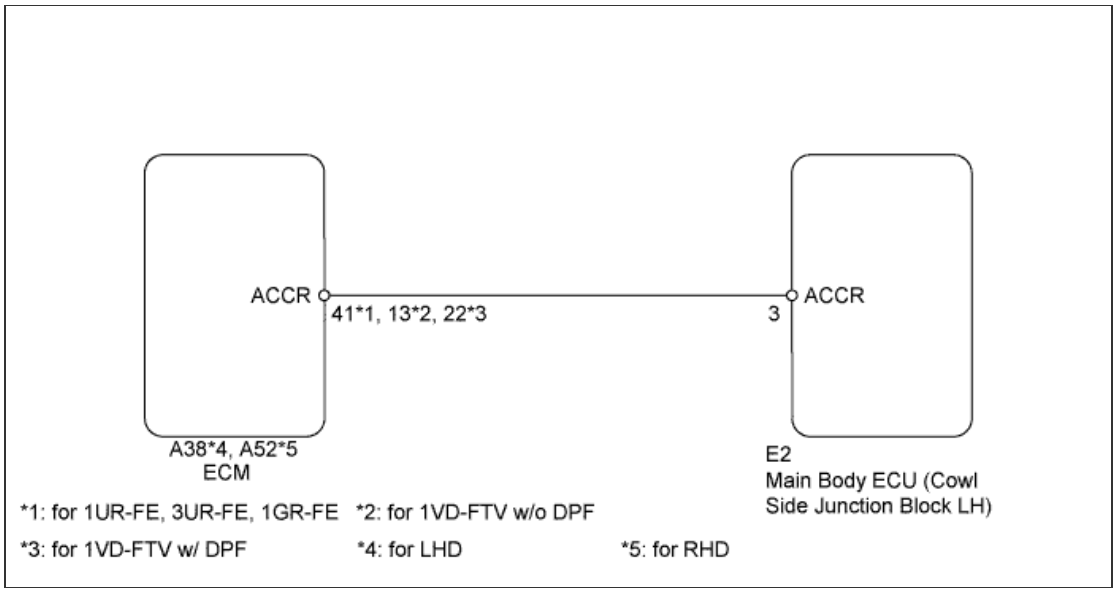
**for Preparation** Click here

## DESCRIPTION

This DTC is stored when a malfunction is detected in the ACCR signal output by the main body ECU.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2276 | The ACCR output circuit inside the main body ECU or other related circuit is malfunctioning. | • Main body ECU<br>• ECM<br>• Harness or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK WHETHER DTC OUTPUT RECURS

a. Clear the DTCs (Click here).

b. Check whether DTC B2276 is output 50 seconds or more after the engine switch is turned on (IG).

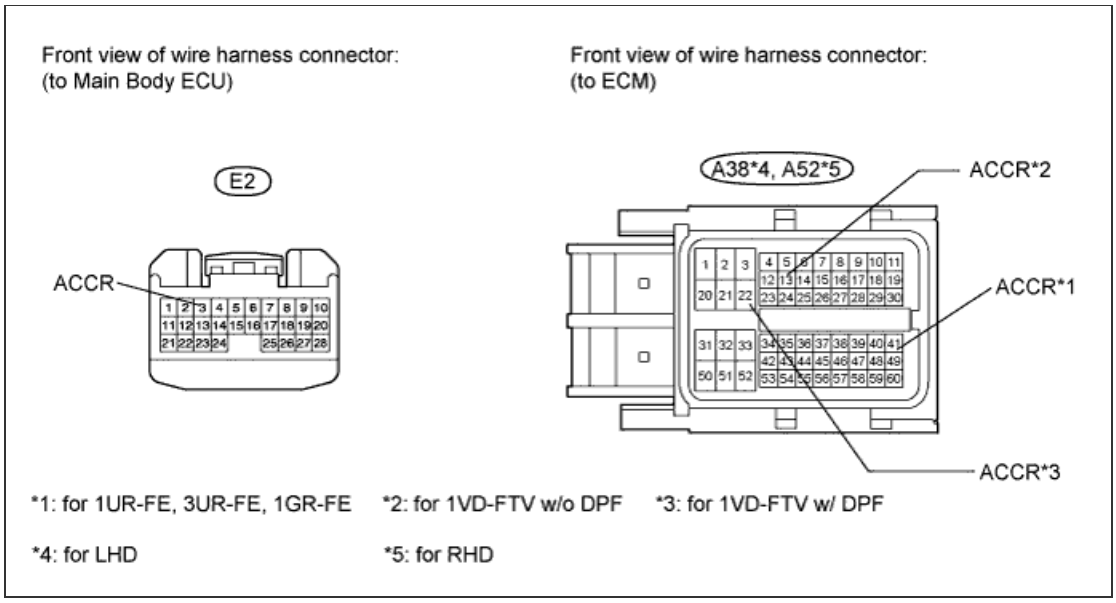
**Result**

| Result | Proceed to |
|---|---|
| DTC B2276 output | A |
| No DTC output | B |

B → USE SIMULATION METHOD TO CHECK (SYSTEM IS OK) ( Click here)

A

### 2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - ECM)




a. Disconnect the E2 main body ECU connector.

b. Disconnect the A38 (for LHD) or A52 (for RHD) ECM connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance (for 1UR-FE, 3UR-FE, 1GR-FE):**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E2-3 (ACCR) - A38-41 (ACCR)*1<br>E2-3 (ACCR) - A52-41 (ACCR)*2 | Always | Below 1 Ω |
| E2-3 (ACCR) or A38-41 (ACCR) - Body ground*1<br>E2-3 (ACCR) or A52-41 (ACCR) - Body ground*2 | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD

**Standard Resistance (for 1VD-FTV w/o DPF):**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E2-3 (ACCR) - A38-13 (ACCR)*1<br>E2-3 (ACCR) - A52-13 (ACCR)*2 | Always | Below 1 Ω |
| E2-3 (ACCR) or A38-13 (ACCR) - Body ground*1<br>E2-3 (ACCR) or A52-13 (ACCR) - Body ground*2 | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD

**Standard Resistance (for 1VD-FTV w/ DPF):**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E2-3 (ACCR) - A38-22 (ACCR)*1<br>E2-3 (ACCR) - A52-22 (ACCR)*2 | Always | Below 1 Ω |

| | | |
|---|---|---|
| E2-3 (ACCR) or A38-22 (ACCR) - Body ground*1<br>E2-3 (ACCR) or A52-22 (ACCR) - Body ground*2 | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

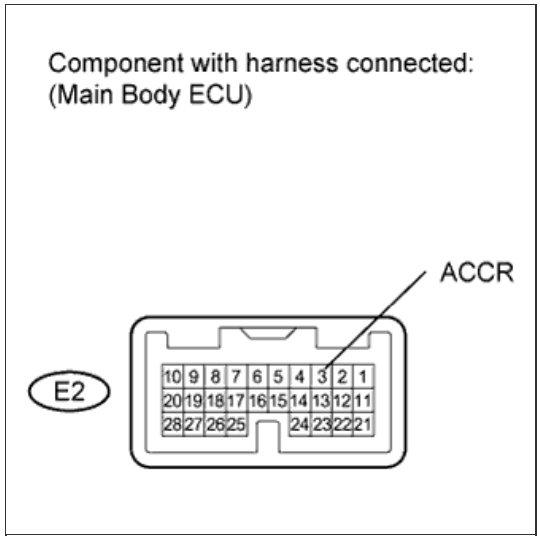
OK

**3.INSPECT MAIN BODY ECU**

a. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E2-3 (ACCR) - Body ground | Engine switch pressed and engine cranking | 11 to 14 V |




**Result**

| Result | Proceed to |
|---|---|
| Outside specified range | A |
| Within specified range (for 1GR-FE) | B |
| Within specified range (for 1UR-FE) | C |
| Within specified range (for 3UR-FE) | D |
| Within specified range (for 1VD-FTV) | E |

B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

D → REPLACE ECM (Click here)

E → REPLACE ECM (Click here)

A

**REPLACE MAIN BODY ECU**

## DTC B2285 Steering Lock Position Signal Circuit Malfunction

## DTC B2288 Steering Lock Signal Circuit Malfunction

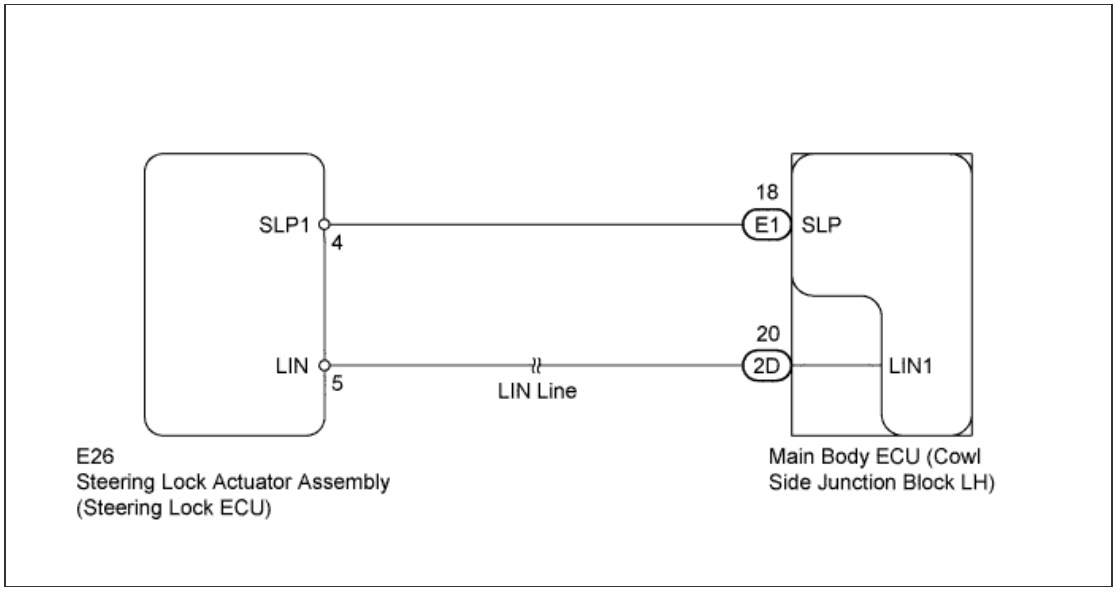
**for Preparation** Click here

### DESCRIPTION

The main body ECU and the steering lock ECU are connected by a cable and the LIN communication line. These DTCs are stored when: 1) signals, transmitted through the cable and the communication line, do not match; or 2) a malfunction is detected in the circuit between the main body ECU and the steering lock ECU.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2285 | The cable and LIN information between the main body ECU and steering lock ECU is inconsistent. | • Main body ECU<br>• Steering lock actuator assembly (steering lock ECU)<br>• Harness or connector |
| B2288 | After turning the engine switch from off to on (IG), the steering wheel does not unlock for a certain period of time (the ECU unlocks the steering wheel only when it receives an unlock signal from LIN communication and the cable). | • Main body ECU<br>• Steering lock actuator assembly (steering lock ECU)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (STEERING UNLOCK SWITCH)

a. Use the Data List to check if the steering lock is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Steering Unlock Switch | Steering lock condition/ON or OFF | ON: Steering unlocked<br>OFF: Steering locked | - |

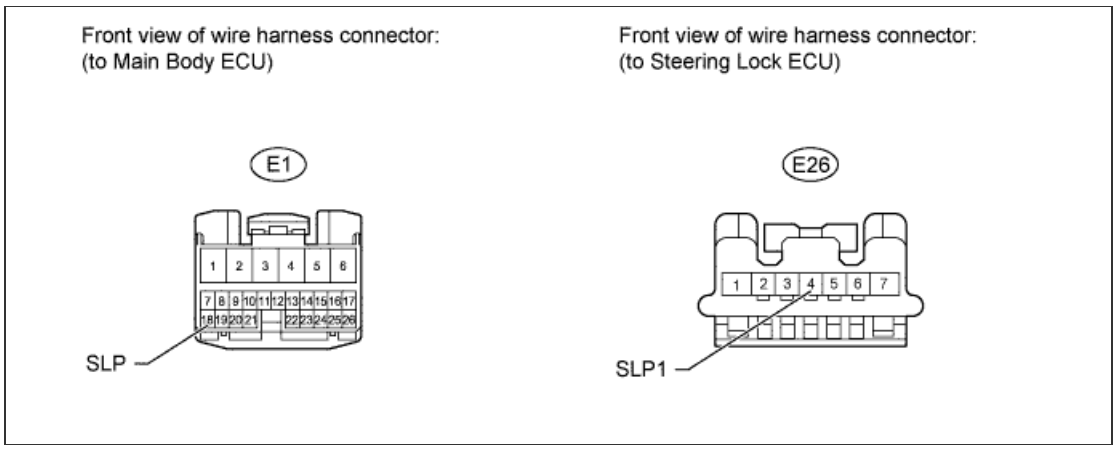
**Result**

| Result | Proceed to |
|---|---|
| Display on the intelligent tester does not change according to steering lock position | A |
| Display on the intelligent tester changes according to steering lock position | B |

B → REPLACE MAIN BODY ECU

A

## 2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - STEERING LOCK ECU)




a. Disconnect the E1 main body ECU connector.

b. Disconnect the E26 steering lock ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-18 (SLP) - E26-4 (SLP1) | Always | Below 1 Ω |
| E1-18 (SLP) or E26-4 (SLP1) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.REPLACE MAIN BODY ECU

a. Temporarily replace the main body ECU with a new or normally functioning one.

b. Check whether DTC B2285 and B2288 are output.

**Result**

| Result | Proceed to |
|---|---|
| DTC not output | A |
| DTC output (for Power tilt and telescopic) | B |
| DTC output (for Manual tilt and telescopic) | C |

B → REPLACE STEERING LOCK ACTUATOR ASSEMBLY (STEERING LOCK ECU) (Click here)

C → REPLACE STEERING LOCK ACTUATOR ASSEMBLY (STEERING LOCK ECU) (Click here)

A

END

# DTC B2277 Detecting Vehicle Submersion

**for Preparation** Click here

## DESCRIPTION

This DTC is stored when the submersion circuit monitor inside the main body ECU detects that the vehicle has been submerged in water.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2277 | The submersion circuit monitor inside the main body ECU detects that the vehicle is submerged in water. | Main body ECU |

## INSPECTION PROCEDURE

**HINT:**

Before commencing troubleshooting, check if the main body ECU is wet. If it is, replace the main body ECU.

**1.CHECK WHETHER DTC OUTPUT RECURS**

a. Clear the DTCs (Click here).

b. Check whether DTC B2277 is output 30 seconds or more after the engine switch is turned on (IG).

**OK:**
**No DTC is output.**

NG → **REPLACE MAIN BODY ECU**

OK ↓

**USE SIMULATION METHOD TO CHECK (Click here)**

## DTC B2286 Runnable Signal Malfunction

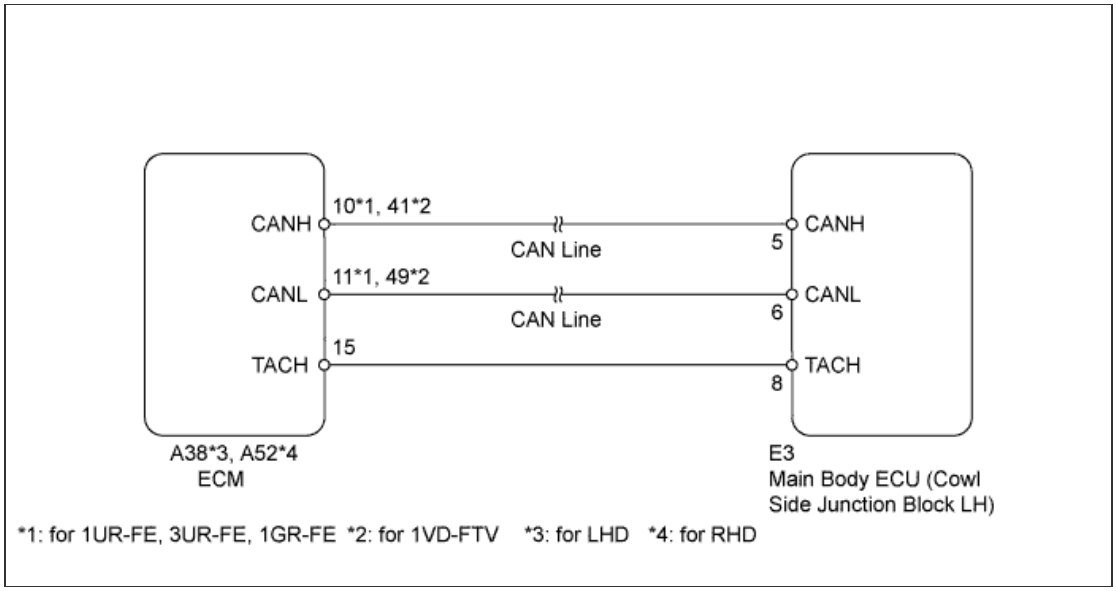
**for Preparation** Click here

### DESCRIPTION

The main body ECU and ECM are connected by a cable and the CAN communication line. If the cable information and CAN information are inconsistent, this DTC is stored.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2286 | The cable and CAN information between the main body ECU and ECM is inconsistent. | • Main body ECU<br>• ECM<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (ENGINE CONDITION)

a. Use the Data List to check if the engine start is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Engine Condition | Engine condition/RUN or STOP | RUN: Engine running<br>STOP: Engine stopped | - |

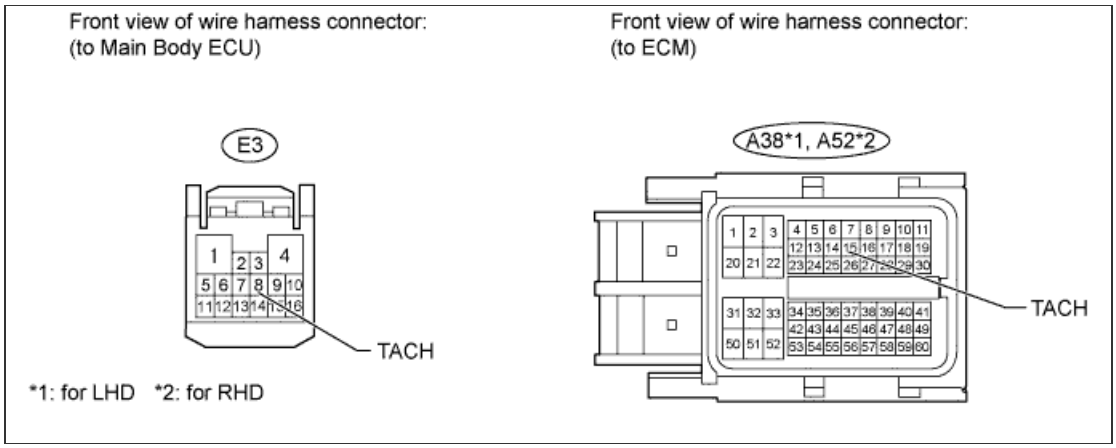
**Result**

| Result | Proceed to |
|---|---|
| Display on the intelligent tester does not change according to engine condition | A |
| Display on the intelligent tester changes according to engine condition | B |

B → REPLACE MAIN BODY ECU

A

#### 2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - ECM)




a. Disconnect the E3 main body ECU connector.

b. Disconnect the A38 (for LHD) or A52 (for RHD) ECM connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-8 (TACH) - A38-15 (TACH)*1<br>E3-8 (TACH) - A52-15 (TACH)*2 | Always | Below 1 Ω |
| E3-8 (TACH) or A38-15 (TACH) - Body ground*1<br>E3-8 (TACH) or A52-15 (TACH) - Body ground*2 | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**3.REPLACE MAIN BODY ECU**

a. Temporarily replace the main body ECU with a new or normally functioning one.

b. Check whether DTC B2286 is output.

**Result**

| Result | Proceed to |
|---|---|
| DTC not output | A |
| DTC output (for 1GR-FE) | B |
| DTC output (for 1UR-FE) | C |
| DTC output (for 3UR-FE) | D |
| DTC output (for 1VD-FTV) | E |

B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

D → REPLACE ECM (Click here)

E → REPLACE ECM (Click here)

A

END

## DTC B2278 Engine Switch Circuit Malfunction

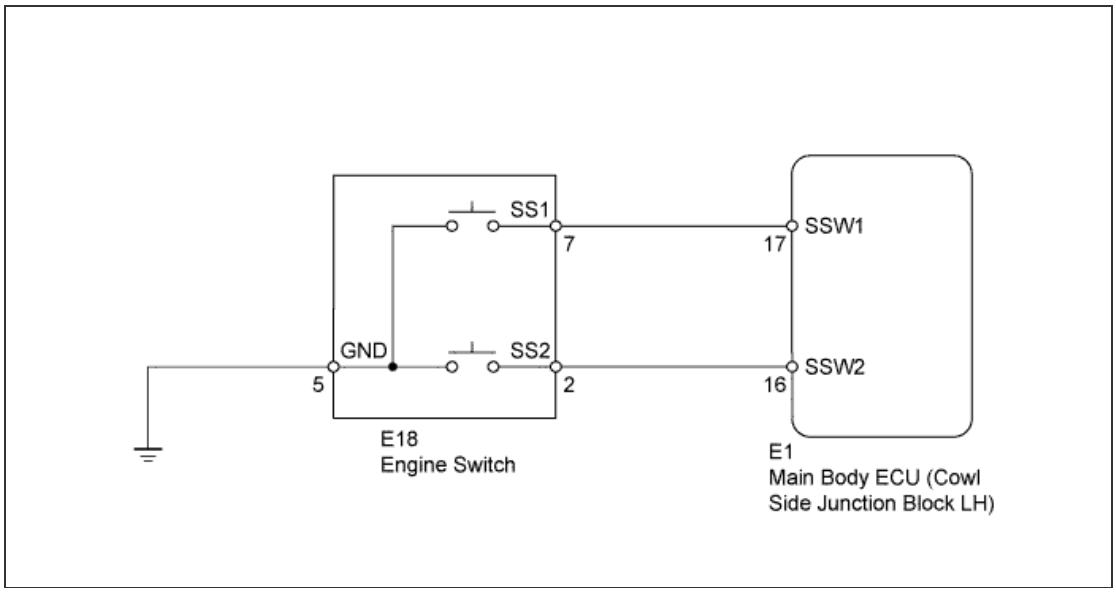
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when: 1) a malfunction is detected between the main body ECU and the engine switch; or 2) either of the switches inside the engine switch is malfunctioning.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2278 | Communication is abnormal between the main body ECU and engine switch or the engine switch is defective. | • Main body ECU<br>• Engine switch<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (START SWITCH 1, 2)

a. Use the Data List to check if the engine switch is functioning properly.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Start Switch 1 | Start Switch 1/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| Start Switch 2 | Start Switch 2/ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |

**OK:**

**When the engine switch is turned on (IG), ON is displayed on the intelligent tester.**

NG → Go to step 3

OK

#### 2.CHECK WHETHER DTC OUTPUT RECURS

a. Clear the DTCs (Click here).

b. Turn the engine switch on (IG), and check whether DTC B2278 is output.

**Result**

| Result | Proceed to |
|---|---|
| No DTC output | A |

| | |
|---|---|
| DTC B2278 output | B |

B → REPLACE MAIN BODY ECU

A

USE SIMULATION METHOD TO CHECK (Click here)

## 3.INSPECT ENGINE SWITCH

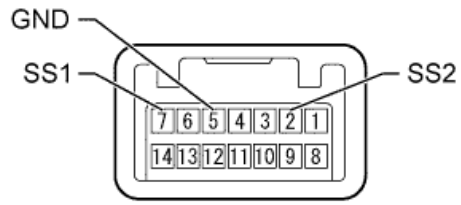
a. Disconnect the E18 engine switch connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 7 (SS1) - 5 (GND) | Pushed | Below 1 Ω |
| 2 (SS2) - 5 (GND) | Pushed | Below 1 Ω |
| 7 (SS1) - 5 (GND) | Not pushed | 10 kΩ or higher |
| 2 (SS2) - 5 (GND) | Not pushed | 10 kΩ or higher |

Component without harness connected:
(Engine Switch)




**Result**

| Result | Proceed to |
|---|---|
| Within specified range | A |
| Outside specified range (for 1GR-FE) | B |
| Outside specified range (for 1UR-FE) | C |
| Outside specified range (for 3UR-FE) | D |
| Outside specified range (for 1VD-FTV) | E |

B → REPLACE ENGINE SWITCH (Click here)

C → REPLACE ENGINE SWITCH (Click here)

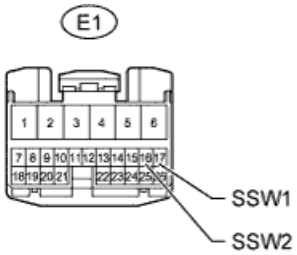
D → REPLACE ENGINE SWITCH (Click here)

E → REPLACE ENGINE SWITCH (Click here)

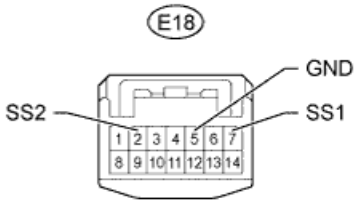
A

## 4.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - ENGINE SWITCH AND BODY GROUND)

Front view of wire harness connector:
(to Main Body ECU)




Front view of wire harness connector:
(to Engine Switch)




a. Disconnect the E1 main body ECU connector.

b. Disconnect the E18 engine switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-17 (SSW1) - E18-7 (SS1) | Always | Below 1 Ω |
| E1-16 (SSW2) - E18-2 (SS2) | Always | Below 1 Ω |
| E18-5 (GND) - Body ground | Always | Below 1 Ω |
| E1-17 (SSW1) or E18-7 (SS1) - Body ground | Always | 10 kΩ or higher |
| E1-16 (SSW2) or E18-2 (SS2) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MAIN BODY ECU

# DTC B2289 Key Collation Waiting Time Over

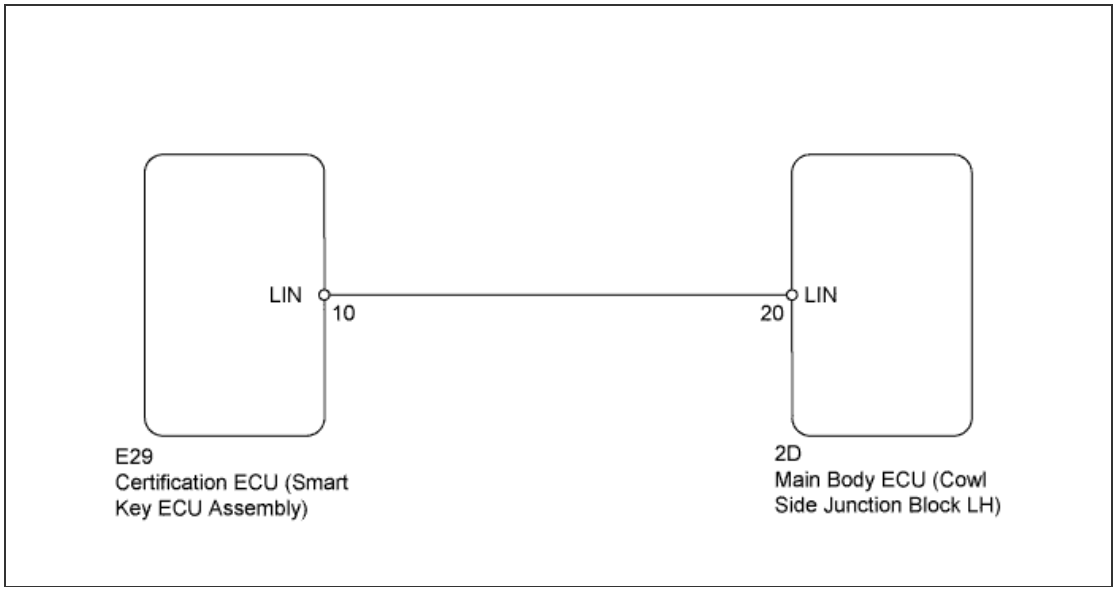
**for Preparation** Click here

## DESCRIPTION

This DTC is stored when there is a LIN communication problem between the main body ECU and certification ECU (smart key ECU assembly) or when there is a problem in the engine immobiliser system.

| DTC Code | Detection Condition | Trouble Area |
|---|---|---|
| B2289 | When either of the following conditions is met:<br>• Communication or the communication line is abnormal among the main body ECU, certification ECU (smart key ECU assembly), steering lock ECU and ID code box (immobiliser code ECU).<br>• The immobiliser system malfunctions. | • Main body ECU<br>• Engine switch<br>• Certification ECU (smart key ECU assembly)<br>• Key<br>• Engine immobiliser system<br>• Harness or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK WHETHER DTC OUTPUT RECURS

a. Clear the DTCs (Click here).

b. Check whether DTC B2289 is output.

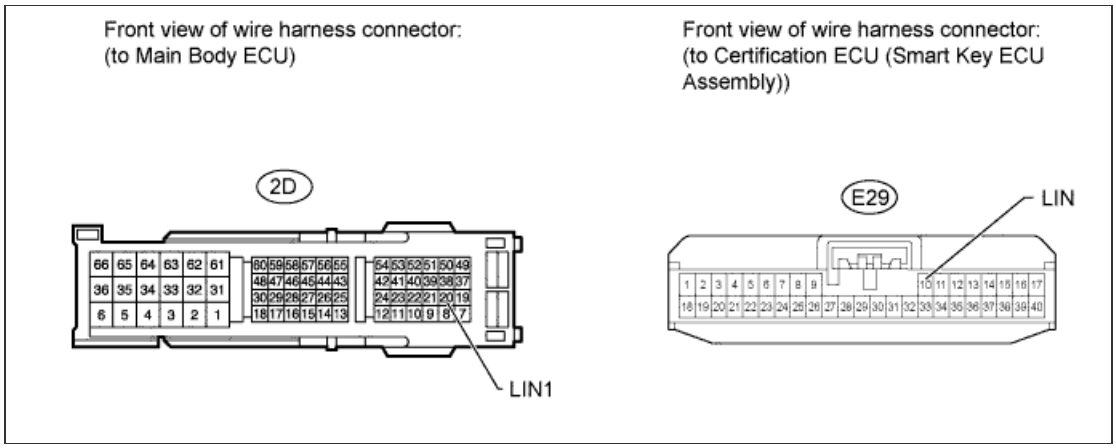
**Result**

| Result | Proceed to |
|---|---|
| DTC B2289 output | A |
| No DTC output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

### 2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))




a. Disconnect the 2D main body ECU connector.

b. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-20 (LIN1) - E29-10 (LIN) | Always | Below 1 Ω |
| 2D-20 (LIN) or E29-10 (LIN) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

**3.REPLACE MAIN BODY ECU**

a. Temporarily replace the main body ECU with a new or normally functioning one.

b. Check whether DTC B2289 is output.

**OK:**
**No DTC is output.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK ↓

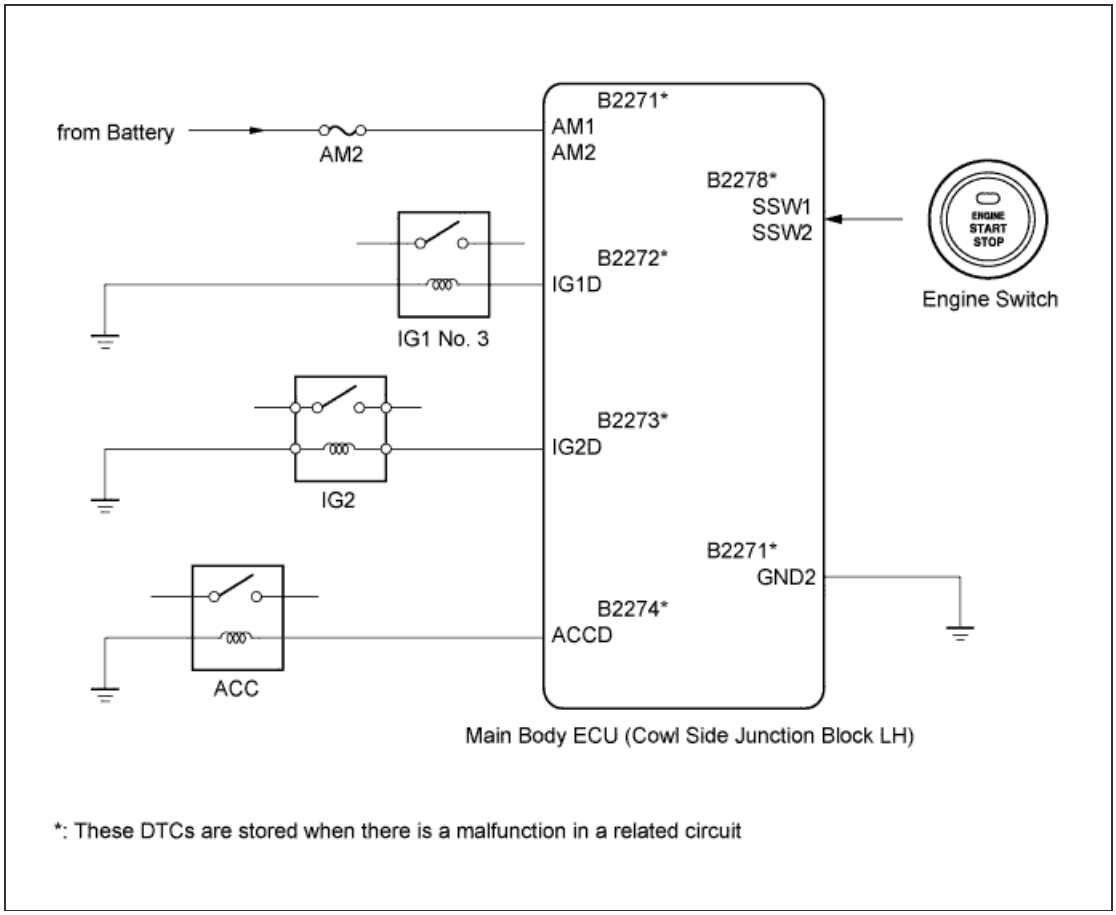
**END**

**for Preparation** Click here

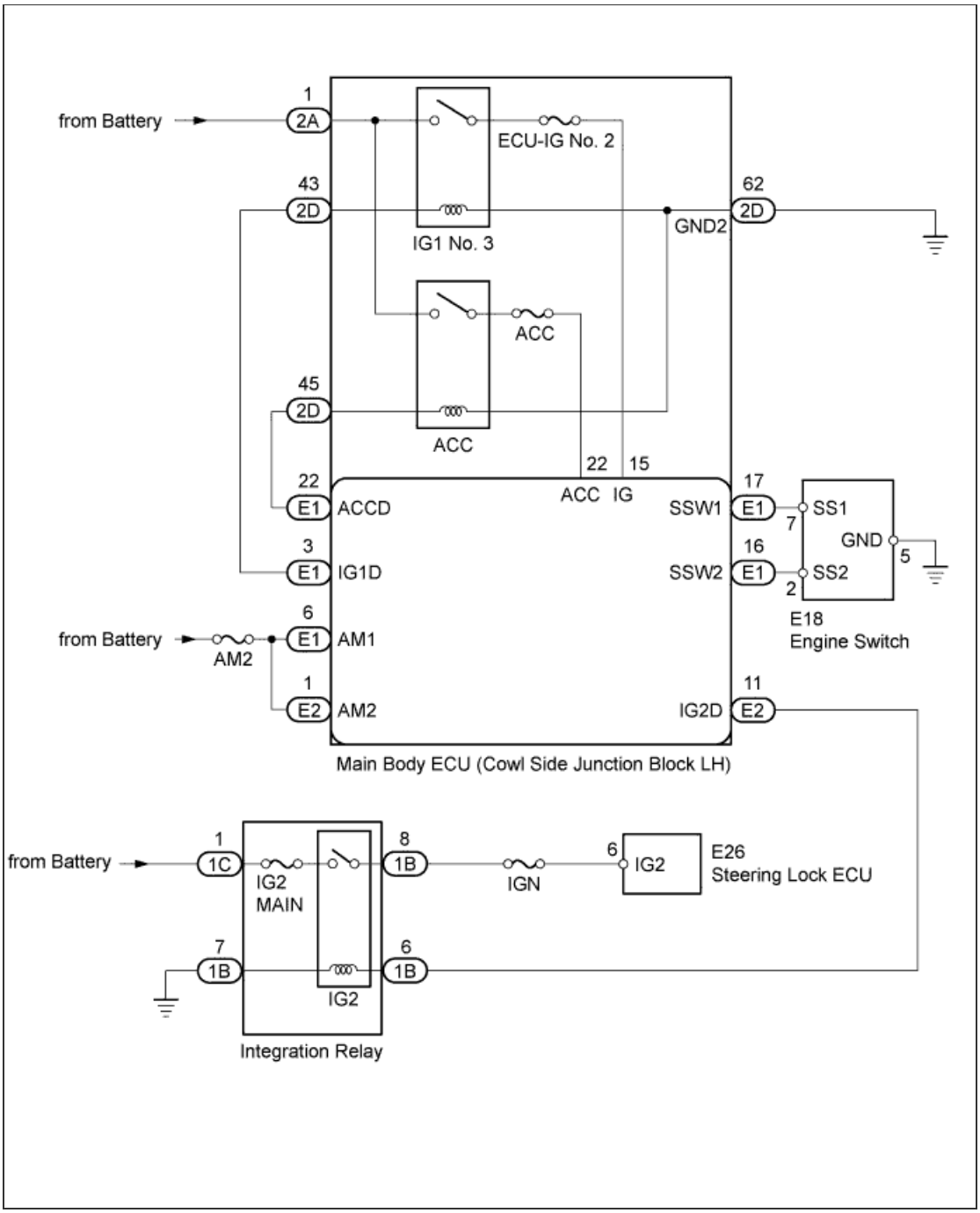
## DESCRIPTION

When the certification ECU (smart key ECU assembly) has detected the key inside the cabin before the brake pedal (for A/T) or clutch pedal (for M/T) is depressed, the power source mode can be changed in the following order sequentially by pressing the engine switch: off → on (ACC) → on (IG) → off. When one of the DTCs shown in the illustration below is detected, troubleshoot the DTC(s) by following the troubleshooting procedure relevant to the DTC(s). If the power source mode still cannot be changed normally, despite troubleshooting, one of the following may have occurred:

- The LIN communication line is malfunctioning.
- The certification ECU (smart key ECU assembly) has determined that no key is inside the cabin.
- The engine switch is malfunctioning.
- The main body ECU is malfunctioning.




## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

If the vehicle is in key cancel mode, change to normal mode ( Click here).

### 1.CHECK DTC OUTPUT

a. Check whether a DTC is output (Click here).

**Result**

| Result | Proceed to |
|---|---|
| No DTC output | A |
| DTC output | B |

**B** → GO TO ENTRY AND START SYSTEM (FOR START FUNCTION) (DIAGNOSTIC TROUBLE CODE CHART) (Click here)

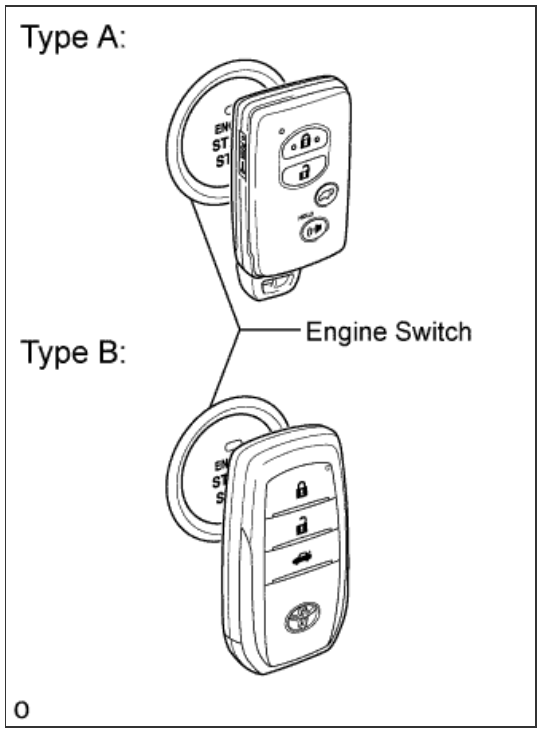
**A**

### 2.CHECK ENTRY AND START SYSTEM

a. Remove the battery of the electrical key transmitter (Click here).

b. With the brake pedal (for A/T) or clutch pedal (for M/T) depressed, touch the key to the engine switch, as shown in the illustration.

c. When operating the engine switch, check whether the engine switch changes to on (ACC) or on (IG).




**HINT:**

- **When the electrical key transmitter cannot be verified even when it is in the operational area, the engine start check can be performed by removing the transmitter battery from the electrical key transmitter and holding the transmitter against the engine switch.**
- **When performing the check, if the engine switch turns on (ACC) or on (IG), there is a problem with key certification inside the cabin.**

**Result**

| Result | Proceed to |
|---|---|
| Does not change to on (ACC) | A |
| Does not change to on (IG) | B |
| Does not change to on (ACC) and on (IG) | C |
| Changes to on (ACC) and on (IG) | D |

B → Go to step 5

C → Go to step 11

D → GO TO ENTRY AND START SYSTEM (FOR ENTRY FUNCTION) (ROOM OSCILLATOR DOES NOT RECOGNIZE KEY) (Click here)

A

### 3.INSPECT FUSE (AM2)

a. Remove the AM2 fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

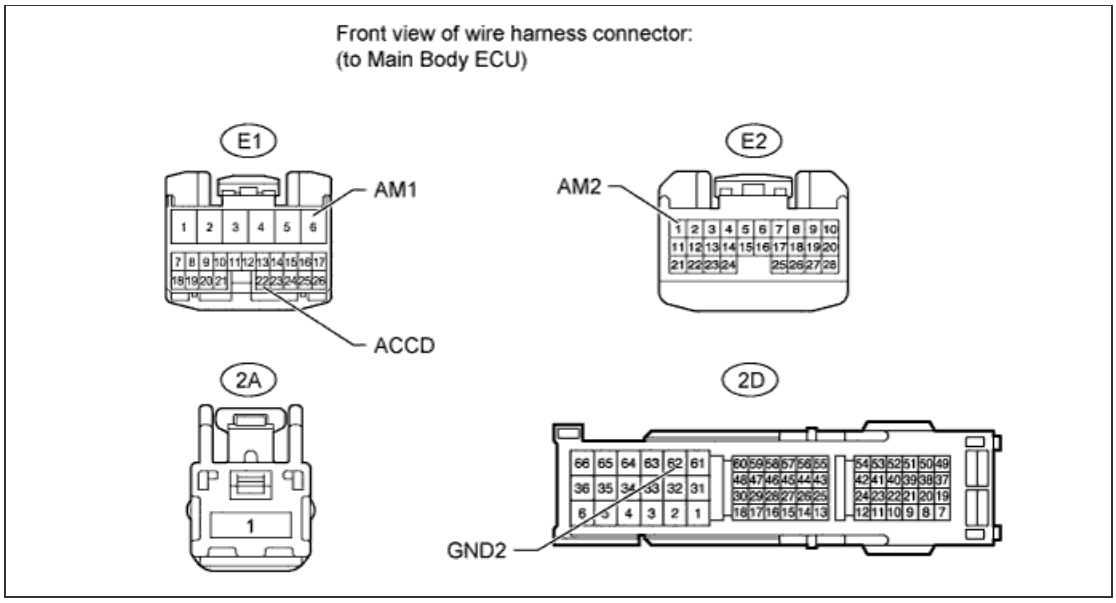
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AM2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 4.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)




a. Disconnect the E1, E2, 2A and 2D main body ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-6 (AM1) - Body ground | Always | 11 to 14 V |
| E2-1 (AM2) - Body ground | Always | 11 to 14 V |
| 2A-1 - Body ground | Always | 11 to 14 V |

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-22 (ACCD) - 2D-45 | Always | Below 1 Ω |
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E1-22 (ACCD) or 2D-45 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

5.INSPECT FUSE (AM2)

a. Remove the AM2 fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

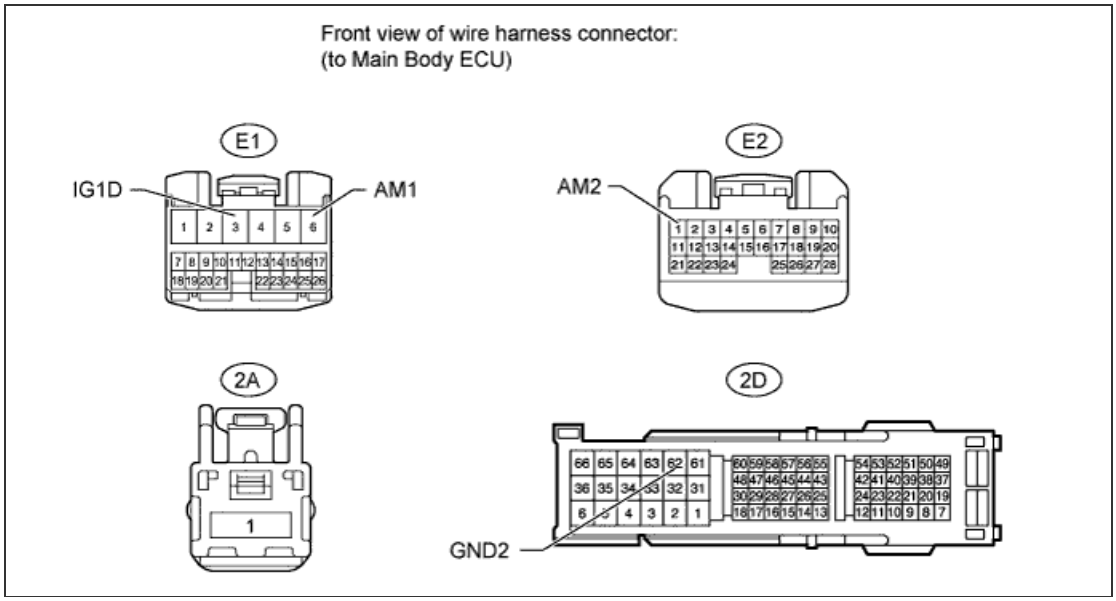
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AM2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

6.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)




a. Disconnect the E1, E2, 2A and 2D main body ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-6 (AM1) - Body ground | Always | 11 to 14 V |
| E2-1 (AM2) - Body ground | Always | 11 to 14 V |
| 2A-1 - Body ground | Always | 11 to 14 V |

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-3 (IG1D) - 2D-43 | Always | Below 1 Ω |
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E1-3 (IG1D) or 2D-43 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

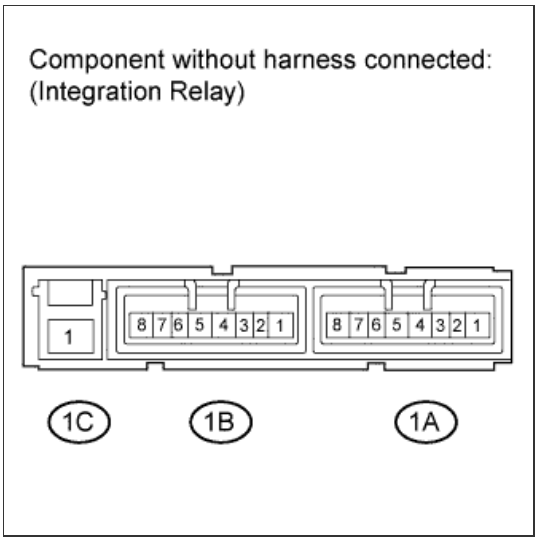
## 7.INSPECT INTEGRATION RELAY (IG2 RELAY)

a. Remove the integration relay from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

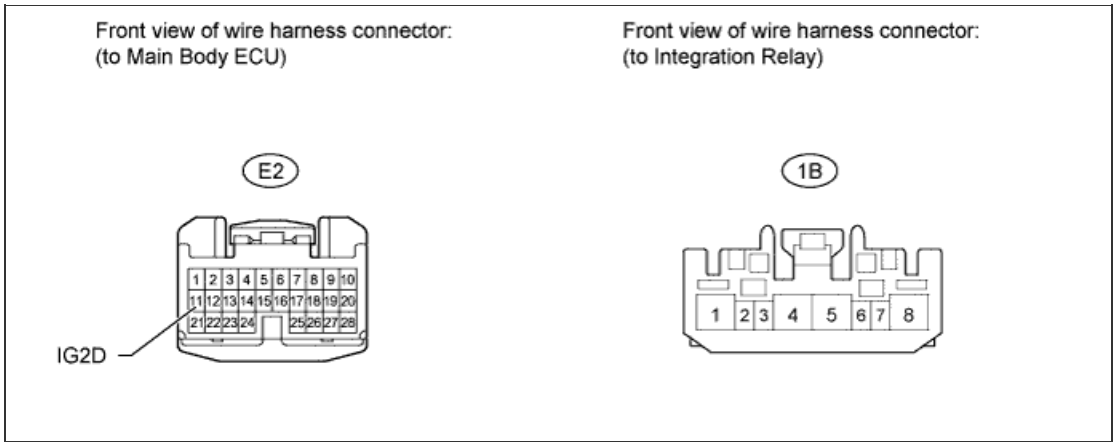
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1B-8 - 1C-1 | Battery voltage applied to terminals 1B-6 and 1B-7 | Below 1 Ω |
| 1B-8 - 1C-1 | Battery voltage not applied to terminals 1B-6 and 1B-7 | 10 kΩ or higher |




NG → REPLACE INTEGRATION NO.1 RELAY (IG2 RELAY)

OK

## 8.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - INTEGRATION RELAY (IG2 RELAY))




a. Disconnect the E2 main body ECU connector.

b. Disconnect the 1B integration relay connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E2-11 (IG2D) - 1B-6 | Always | Below 1 Ω |
| 1B-7 - Body ground | Always | Below 1 Ω |
| E2-11 (IG2D) or 1B-6 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 9.INSPECT FUSE (IGN, IG2 MAIN)

a. Remove the IGN fuse and IG2 MAIN fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

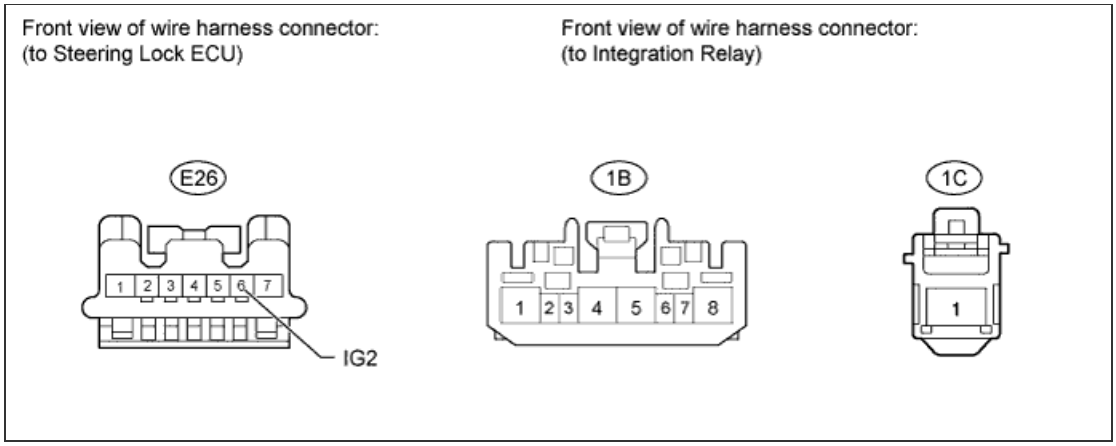
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IGN fuse | Always | Below 1 Ω |
| IG2 MAIN fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

## 10.CHECK HARNESS AND CONNECTOR (STEERING LOCK ECU - INTEGRATION RELAY (IG2 RELAY))




a. Disconnect the E26 steering lock ECU connector.

b. Disconnect the 1B and 1C integration relay connectors.

c. Measure the voltage and resistance according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1C-1 - Body ground | Always | 11 to 14 V |

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E26-6 (IG2) - 1B-8 | Always | Below 1 Ω |
| E26-6 (IG2) or 1B-8 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

## 11.INSPECT FUSE (AM2)

a. Remove the AM2 fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

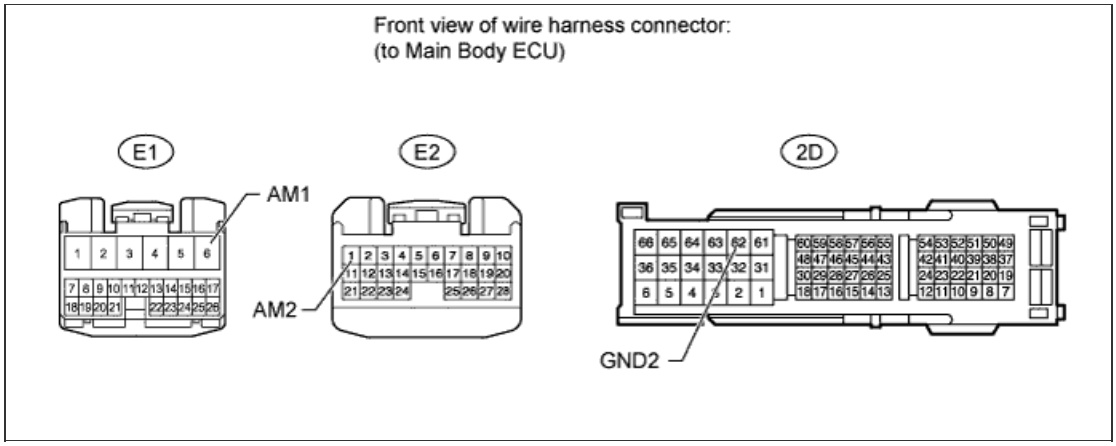
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AM2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

## 12.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)




a. Disconnect the E1, E2 and 2D main body ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-6 (AM1) - Body ground | Always | 11 to 14 V |
| E2-1 (AM2) - Body ground | Always | 11 to 14 V |

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |

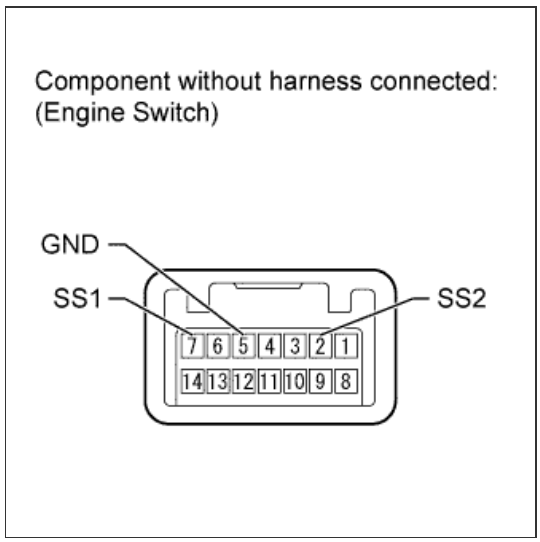
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 13.INSPECT ENGINE SWITCH

a. Disconnect the E18 engine switch connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 7 (SS1) - 5 (GND) | Pushed | Below 1 Ω |
| 2 (SS2) - 5 (GND) | Pushed | Below 1 Ω |
| 7 (SS1) - 5 (GND) | Not pushed | 10 kΩ or higher |
| 2 (SS2) - 5 (GND) | Not pushed | 10 kΩ or higher |

**Result**

| Result | Proceed to |
|---|---|
| Within specified range | A |
| Outside specified range (for 1GR-FE) | B |
| Outside specified range (for 1UR-FE) | C |
| Outside specified range (for 3UR-FE) | D |
| Outside specified range (for 1VD-FTV) | E |

B → REPLACE ENGINE SWITCH (Click here)

C → REPLACE ENGINE SWITCH (Click here)

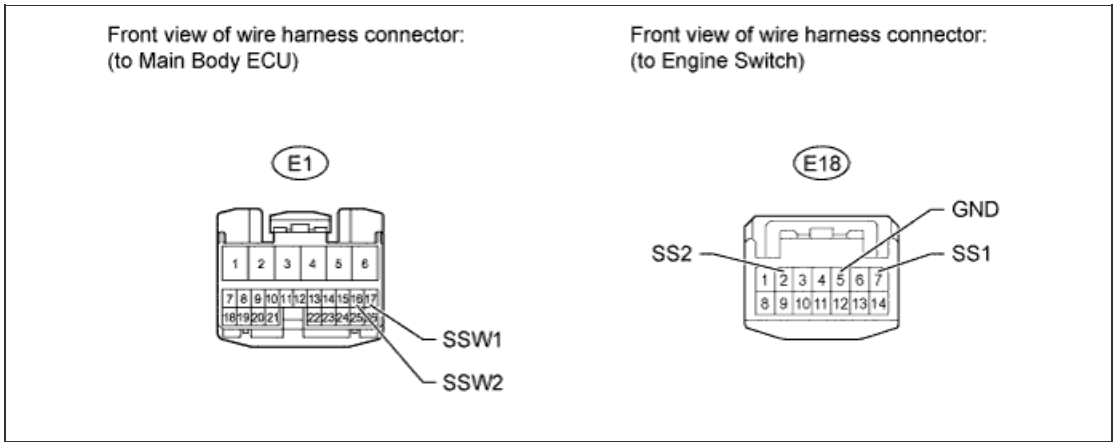
D → REPLACE ENGINE SWITCH (Click here)

E

REPLACE ENGINE SWITCH (Click here)

A

14.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - ENGINE SWITCH AND BODY GROUND)




a. Disconnect the E1 main body ECU connector.

b. Disconnect the E18 engine switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-17 (SSW1) - E18-7 (SS1) | Always | Below 1 Ω |
| E1-16 (SSW2) - E18-2 (SS2) | Always | Below 1 Ω |
| E18-5 (GND) - Body ground | Always | Below 1 Ω |
| E1-17 (SSW1) or E18-7 (SS1) - Body ground | Always | 10 kΩ or higher |
| E1-16 (SSW2) or E18-2 (SS2) - Body ground | Always | 10 kΩ or higher |

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

**for Preparation** Click here

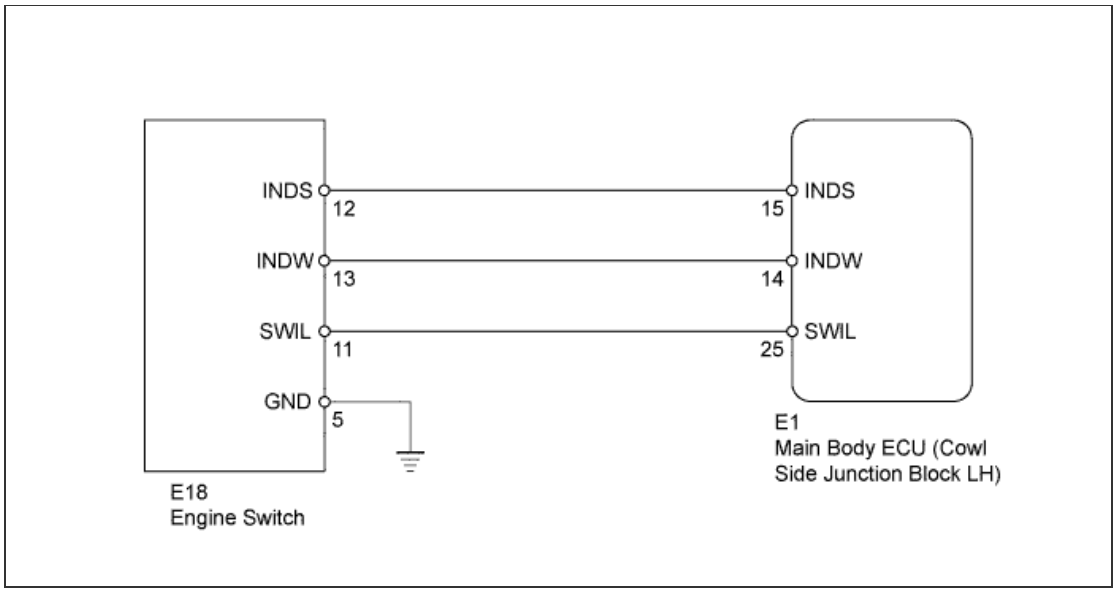
## DESCRIPTION

Engine switch condition (power source mode) or system malfunctions can be checked by observing the status of the engine switch indicator light.

**Engine Switch Indicator Light Condition**

| Power Source Mode/Condition | Indicator Light Condition | | |
|---|---|---|---|
| | Brake pedal released (for A/T) Clutch pedal released (for M/T) | Brake pedal depressed, shift lever in P or N (for A/T) | Clutch pedal depressed (for M/T) |
| Off | Off | Illuminates (Green) | Illuminates (Green) |
| On (ACC, IG) | Illuminates (Amber) | Illuminates (Green) | Illuminates (Green) |
| Engine running | Off | Off | Off |
| Steering lock not unlocked | Flashes (Green) for 30 sec. | Flashes (Green) for 30 sec. | Flashes (Green) for 30 sec. |
| System malfunction | Flashes (Amber) for 15 sec. | Flashes (Amber) for 15 sec. | Flashes (Amber) for 15 sec. |
| Clutch start switch malfunction (for M/T) | Flashes (Green) for 15 sec. | Flashes (Green) for 15 sec. | Flashes (Green) for 15 sec. |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT ENGINE SWITCH

a. Disconnect the E18 engine switch connector.

b. Apply battery voltage between the terminals of the engine switch, and check the illumination condition of the engine switch indicator light.

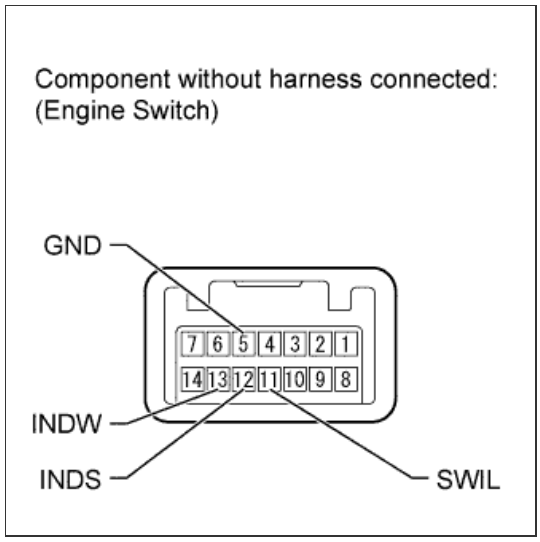
**NOTICE:**

- **If the positive (+) lead and the negative (-) lead are incorrectly connected, the engine switch indicator light will not illuminate.**
- **If the voltage is too low, the indicator light will not illuminate.**

**OK:**

| Measurement Condition | Condition | Specified Condition |
|---|---|---|
| Battery terminal (+) → Terminal 11 (SWIL) - Battery terminal (-) → Terminal 5 (GND) | | |
| | | |

| | | |
|---|---|---|
| Battery terminal (+) → Terminal 12 (INDS) - Battery terminal (-) → Terminal 5 (GND) | Battery voltage is applied to the terminals | Illuminates |
| Battery terminal (+) → Terminal 13 (INDW) - Battery terminal (-) → Terminal 5 (GND) | | |



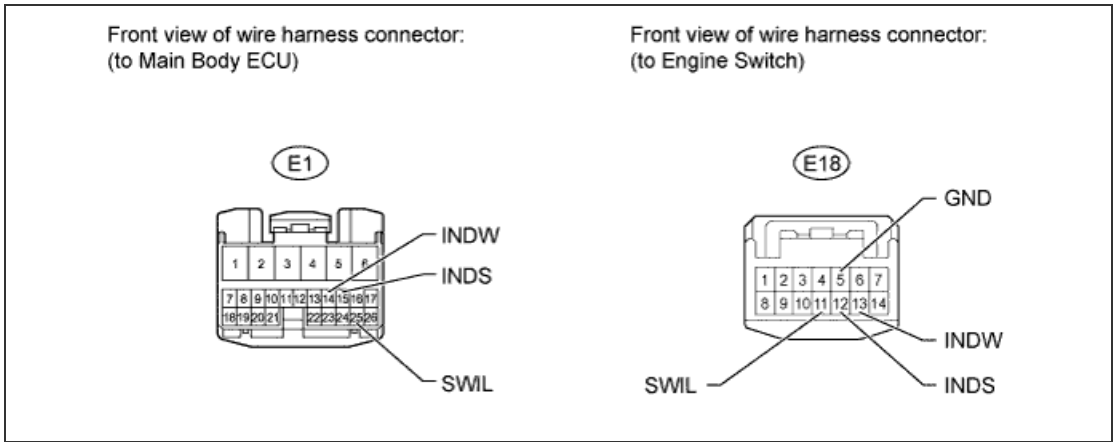

**Result**

| Result | Proceed to |
|---|---|
| Illuminates | A |
| Does not illuminate (for 1GR-FE) | B |
| Does not illuminate (for 1UR-FE) | C |
| Does not illuminate (for 3UR-FE) | D |
| Does not illuminate (for 1VD-FTV) | E |

| | |
|---|---|
| B | REPLACE ENGINE SWITCH (Click here) |
| C | REPLACE ENGINE SWITCH (Click here) |
| D | REPLACE ENGINE SWITCH (Click here) |
| E | REPLACE ENGINE SWITCH (Click here) |

A

**2.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - ENGINE SWITCH AND BODY GROUND)**




a. Disconnect the E1 main body ECU connector.

b. Disconnect the E18 engine switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-25 (SWIL) - E18-11 (SWIL) | Always | Below 1 Ω |
| E1-15 (INDS) - E18-12 (INDS) | Always | Below 1 Ω |
| E1-14 (INDW) - E18-13 (INDW) | Always | Below 1 Ω |
| E18-5 (GND) - Body ground | Always | Below 1 Ω |
| E1-25 (SWIL) or E18-11 (SWIL) - Body ground | Always | 10 kΩ or higher |

| | | |
|---|---|---|
| E1-15 (INDS) or E18-12 (INDS) - Body ground | Always | 10 kΩ or higher |
| E1-14 (INDW) or E18-13 (INDW) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MAIN BODY ECU

**for Preparation** Click here

## 1.PRECAUTIONS WHEN USING THE INTELLIGENT TESTER

a. When using the intelligent tester with the engine switch off to troubleshoot: Connect the intelligent tester to the vehicle, and turn a courtesy light switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

b. After all DTCs are cleared, check if the trouble occurs again 6 seconds after turning the engine switch on (IG).

## 2.PRECAUTIONS FOR EACH FUNCTION

a. Precautions for the key:

The key is a precision instrument. Be sure to observe the following:

i. Do not drop or strike the key.

ii. Do not keep the key in a high temperature area for a long time.

iii. Do not use an ultrasonic washing machine to clean the key.

iv. Keep the key away from magnets or magnetized items during use.

v. Do not attach any stickers to the key.

b. Precautions for the engine start function:

i. Before starting the engine, firmly depress the brake pedal until the indicator of the engine switch illuminates in green.

ii. Be sure to turn the engine switch off before disconnecting the cable from the negative (-) battery terminal. When the battery cable is disconnected, the power source mode (off, on (ACC), on (IG)) is memorized. When battery depletion causes the vehicle power to be cut, be careful to remember the power source mode.

iii. After the battery is removed and reinstalled, be sure to wait 10 seconds or more before the next engine start. The engine may not start immediately after the battery is reinstalled.

iv. When the key battery is depleted, affected by wave noise, etc. and it is held close to the engine switch to start the engine, several warnings may sound. However, the warnings most likely sound because the vehicle cannot determine if the key is in the vehicle or not, and not because there is an actual malfunction. The following warnings may sound:

1. Driver side door open → closed:
   - Warning to inform that the shift lever is in a position other than P, and the power source mode is not off.
   - Warning to inform that the shift lever is in P but the power source mode is not off.
2. Door other than the driver side door open → closed:
   - Warning to inform that a passenger is carrying the key out of the vehicle.

c. Precautions for the battery built into the key and the vehicle battery:

i. When the door is being locked, the vehicle battery is used to transmit a radio wave. The battery may be fully depleted if the vehicle remains stopped for a long time. If the vehicle is not used for a long time, recharge or replace the battery or cancel the entry and start system (for Entry Function) (Click here).

ii. When the door is being locked with the key in the detection area of the door oscillator, the battery is used to regulate communication between the key and vehicle. If the vehicle is not used, keep the key away from the vehicle (more than 2 m (6.56 ft.)).

## 3.PRECAUTIONS FOR BATTERY

a. Immediately after removing and installing the battery, door unlock by the entry and start system (for Entry Function) may not operate. In that case, after performing a door unlock/lock operation with the door control transmitter, door unlock operation by the entry and start system returns.

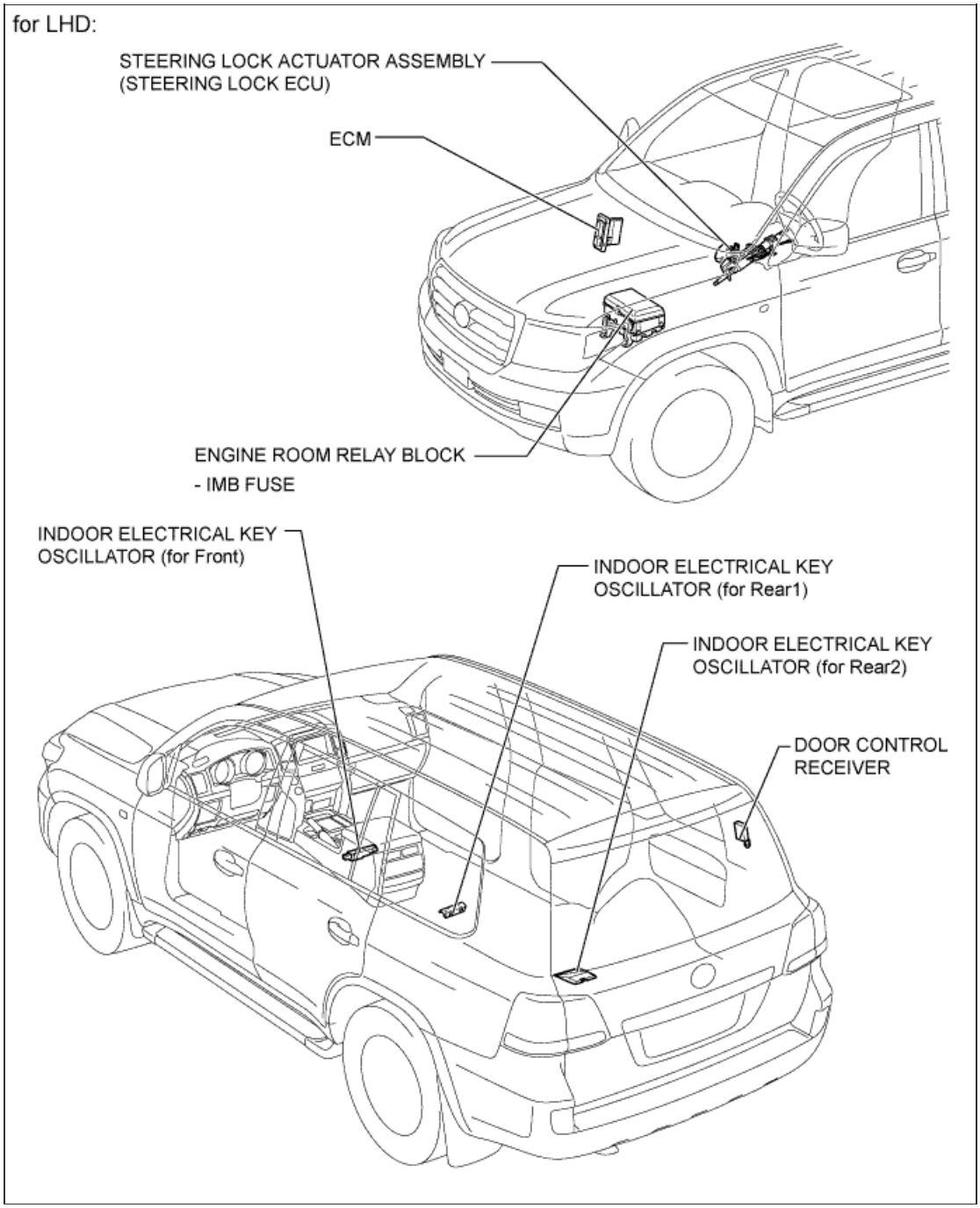
b. When the battery is fully depleted and it is recharged using another vehicle battery, start the engine by performing the following: (1) Put the shift lever in P; (2) with the engine switch off, open and close the driver door once; and (3) start the engine.

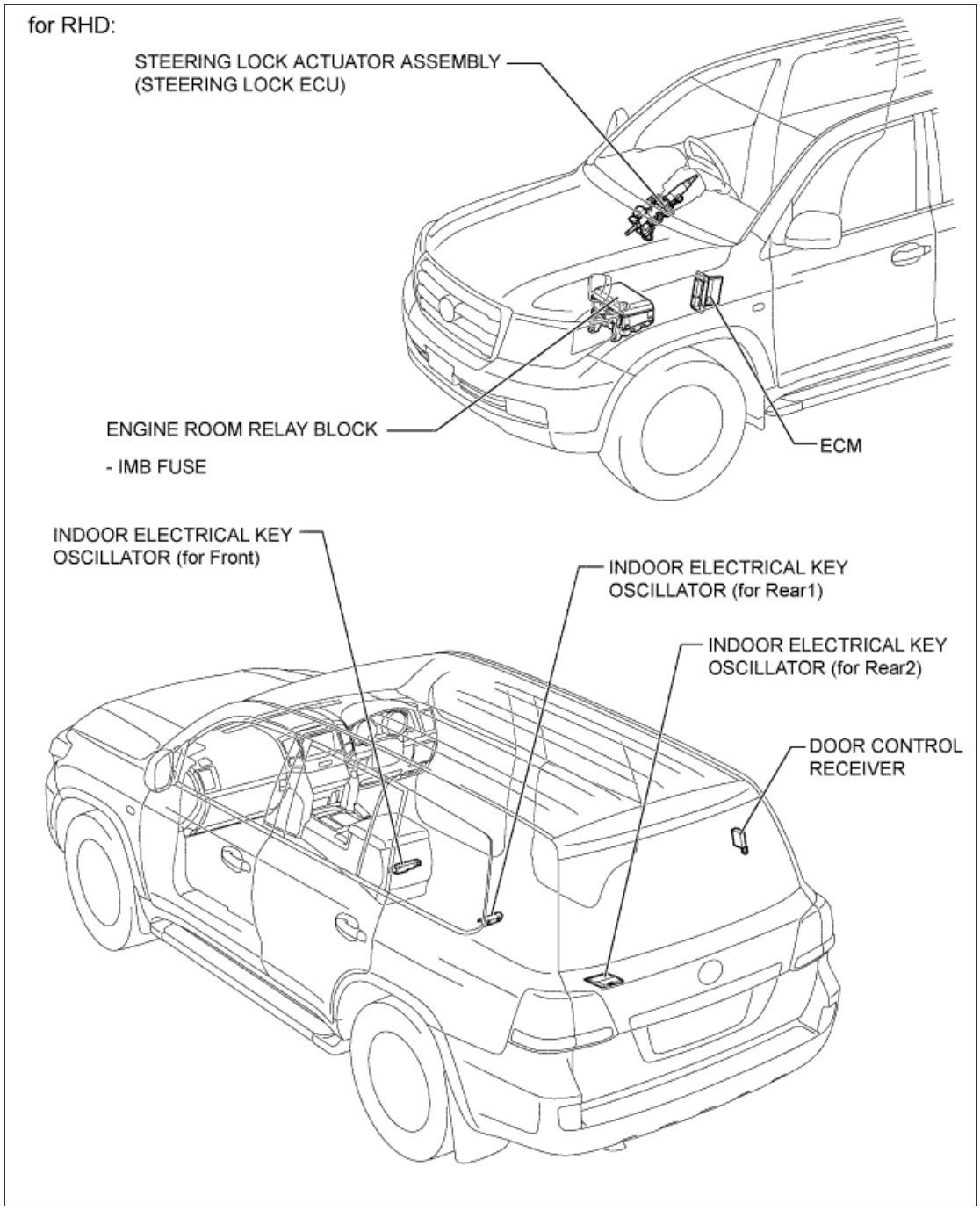
c. When starting the engine after removing and installing the battery, open and close the driver door and wait 10 seconds before starting the system.

**HINT:**

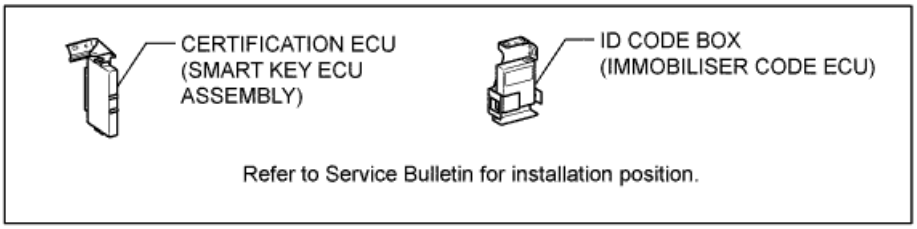
If the engine does not start the first time after removing and installing the battery, the engine will start normally from the second time onward.

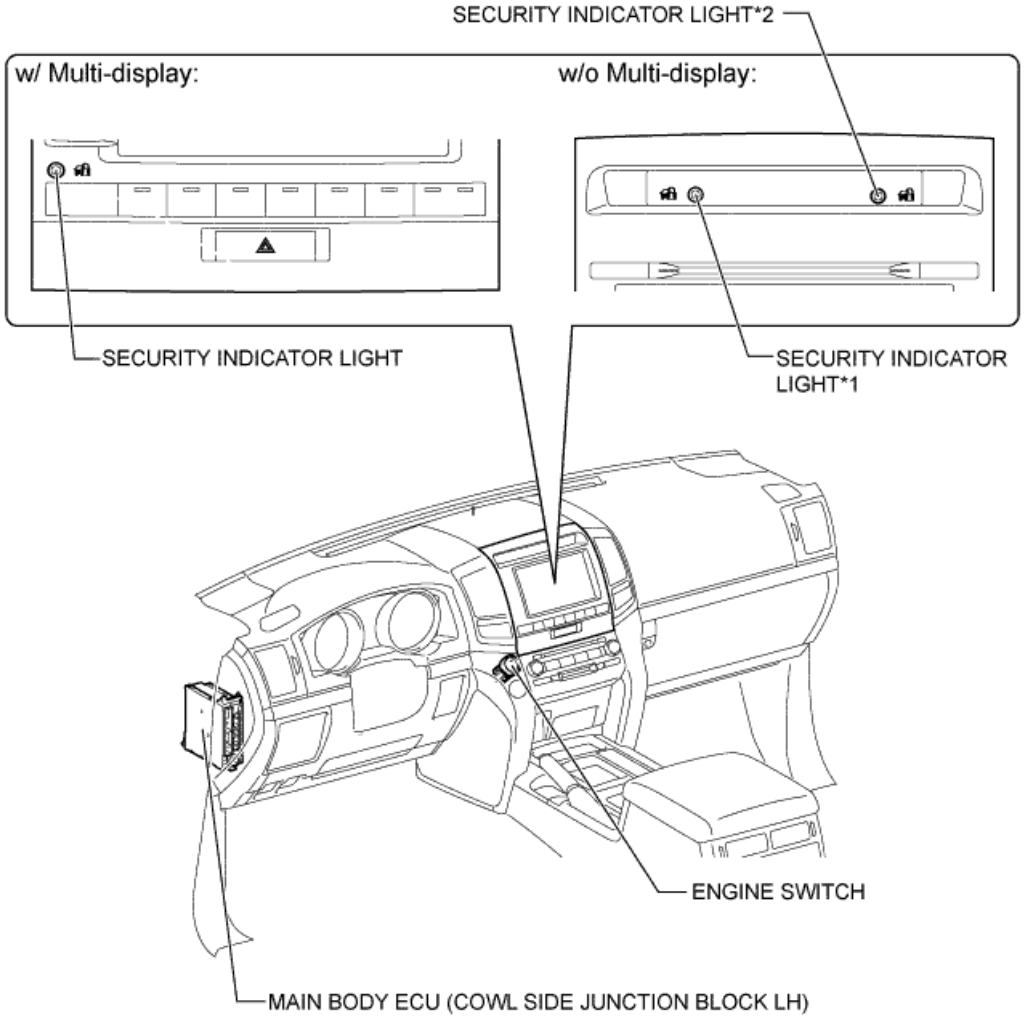
**for Preparation** Click here




for RHD:
STEERING LOCK ACTUATOR ASSEMBLY
(STEERING LOCK ECU)
ENGINE ROOM RELAY BLOCK
- IMB FUSE
ECM
INDOOR ELECTRICAL KEY
OSCILLATOR (for Front)
INDOOR ELECTRICAL KEY
OSCILLATOR (for Rear1)
INDOOR ELECTRICAL KEY
OSCILLATOR (for Rear2)
DOOR CONTROL
RECEIVER

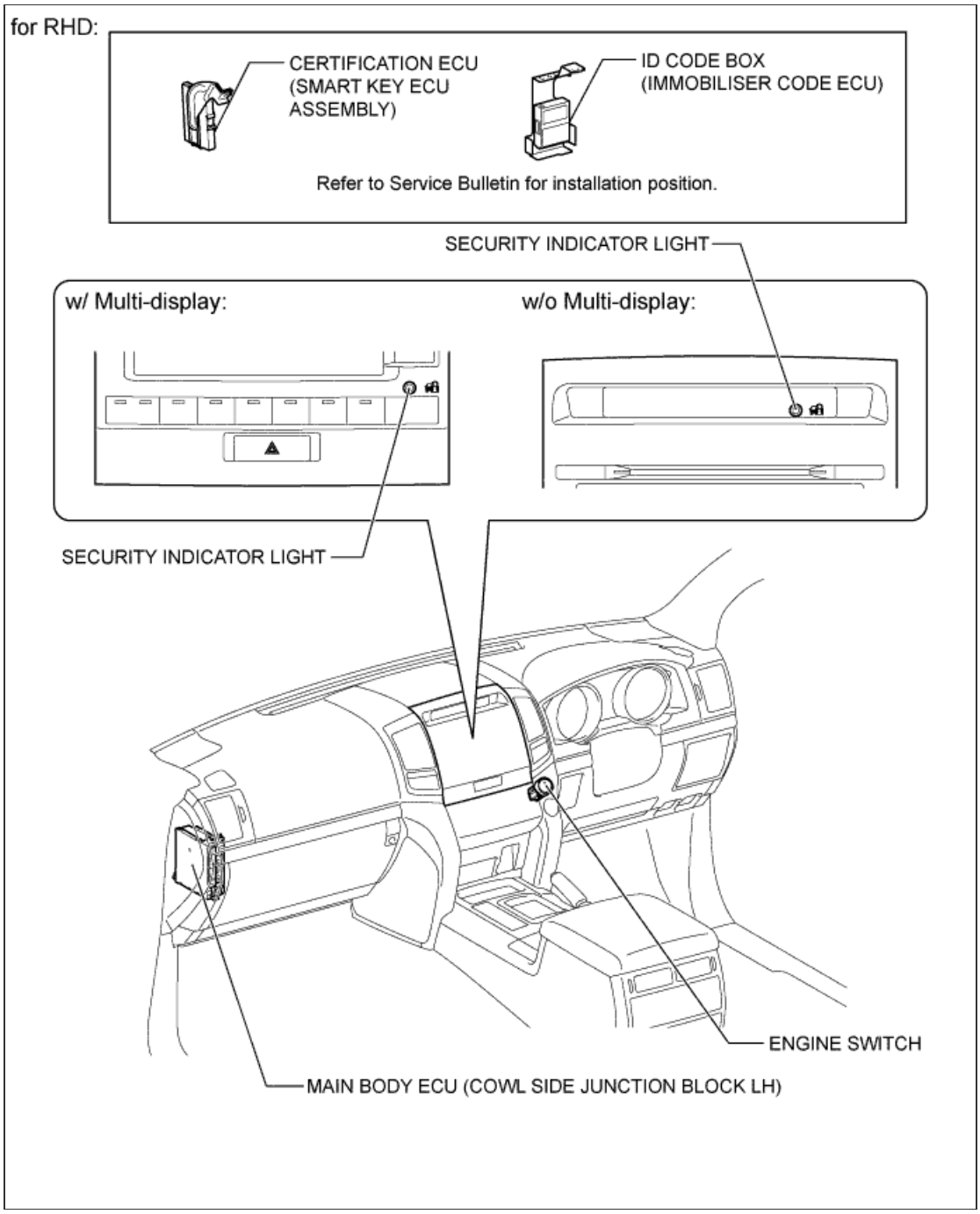
for LHD:



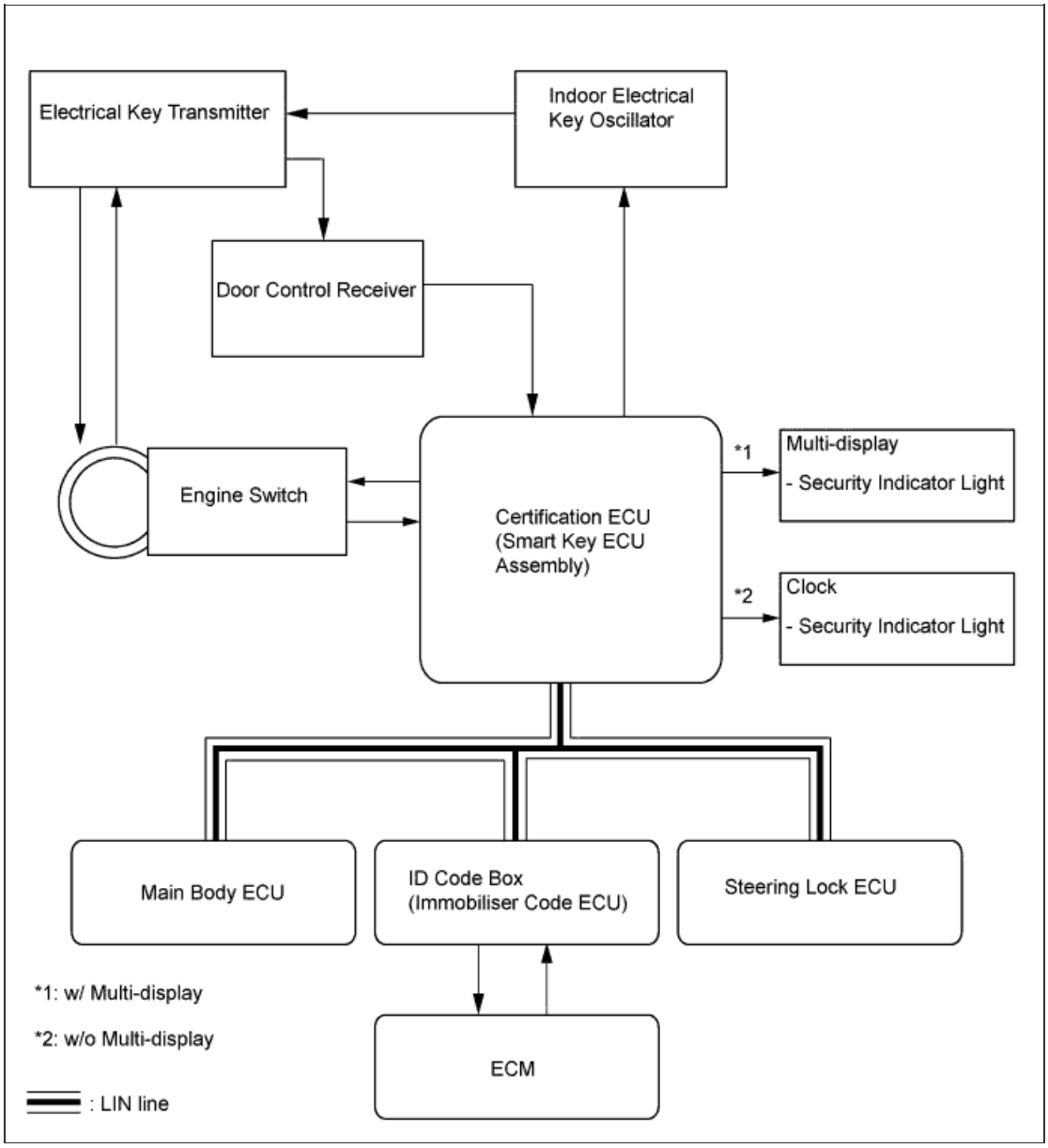




*1: except Europe

*2: for Europe


for RHD:
CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)
ID CODE BOX (IMMOBILISER CODE ECU)
Refer to Service Bulletin for installation position.
SECURITY INDICATOR LIGHT
w/ Multi-display:
w/o Multi-display:
SECURITY INDICATOR LIGHT
ENGINE SWITCH
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**for Preparation** Click here




### Communication Table

| Transmitting ECU (Transmitter) | Receiving ECU (Receiver) | Signals | Communication Method |
|---|---|---|---|
| Certification ECU | Main body ECU | • Double lock fail-safe unset signal<br>• Security indicator light flash signal<br>• Security indicator light illumination signal<br>• Engine immobiliser system set/unset signal | LIN |
| | | • Engine start signal<br>• Transponder valid signal<br>• Steering unlock demand signal<br>• Steering lock demand signal | |
| Main body ECU | Certification ECU | • Key code recognition signal<br>• Engine start operation signal<br>• ACC relay activation signal<br>• IG relay activation signal | |
| | | • Matching request random number signal<br>• EFI code reception signal<br>• Engine start permission demand reception signal<br>• S code verification result signal | |

| | | | |
|---|---|---|---|
| ID code box | Certification ECU | • L code verification result signal<br>• Steering unlock demand reception signal<br>• Steering lock demand reception signal | |
| | Steering lock ECU | • Steering lock release signal<br>• Matching request random number signal | |
| Steering lock ECU | Certification ECU | L code verification signal | |

**for Preparation** Click here

## ENGINE IMMOBILISER SYSTEM DESCRIPTION

a. The engine immobiliser system determines whether or not to disable starting of the SFI system*1 or ECD system*2 based on a comparison of the key ID code and the vehicle pre-registered code. The engine immobiliser system compares the vehicle certification ECU (smart key ECU assembly) pre-registered ID code with the key-embedded transponder chip ID code. If the ID codes do not match, the engine immobiliser system activates and the SFI system*1 or ECD system*2 cannot be started. The certification ECU (smart key ECU assembly) manages communication with the SFI system*1 or ECD system*2, main body ECU, steering lock ECU and ID code box (immobiliser code ECU). When the ID codes of the transponder chip and certification ECU (smart key ECU assembly) match, the certification ECU (smart key ECU assembly) authorizes the starting of the SFI system*1 or ECD system*2.

**HINT:**

- ***1: for 1GR-FE, 1UR-FE, 3UR-FE**
- ***2: for 1VD-FTV**

## FUNCTION OF MAIN COMPONENT

| Component | Outline |
|---|---|
| Transponder key coil/amplifier (built into engine switch) | Receives the key ID code, amplifies the ID code and outputs it to the certification ECU (smart key ECU assembly). |
| Indoor electrical key oscillator | Transmits the key detection signals within the detection area in the vehicle interior upon receiving a transmission request signal from the certification ECU (smart key ECU assembly).<br>The certification ECU (smart key ECU assembly) request signal is activated when the key is brought into the vehicle interior and the engine switch is pushed. |
| Door control receiver | Receives the ID code from the key in the actuation area and transmits it to the certification ECU (smart key ECU assembly). |
| Security indicator light | Illuminates or starts blinking.<br>The Illumination is controlled by the certification ECU (smart key ECU assembly). |

## SYSTEM FUNCTION

a. Using the entry function (for Manual Transmission)

i. When the driver (or an occupant) gets in the vehicle and depresses the brake pedal and clutch pedal while carrying the key, the main body ECU recognizes that the brake pedal and clutch pedal have been depressed and sends a key certification request signal to the certification ECU (smart key ECU assembly). Then the certification ECU (smart key ECU assembly) generates a request signal and sends it to the indoor electrical key oscillator. When the request signal is received, the indoor electrical key oscillator sends another request signal in order to detect whether the key is inside the vehicle. When the key receives this request signal, it sends back an ID code which includes a response code. The ID code sent from the key is sent to the certification ECU (smart key ECU assembly) via the door control receiver. When the ID code is received, the certification ECU (smart key ECU assembly) analyzes the code. If the certification result is normal, the certification ECU (smart key ECU assembly) sends a key certification compatible response signal to the main body ECU. At this time, the engine switch indicator illuminates in green. When the indicator illuminates in green and the driver presses the engine switch, the main body ECU recognizes the engine start signal, changes the ACC relay to on, and changes the IG1 and IG2 relays to on in that order after 0.025 seconds. At this time, the certification ECU (smart key ECU assembly) confirms that the power source mode has changed, and sends a steering unlock command signal to the main body ECU. After this signal is received, the main body ECU supplies the steering lock actuator with power. Then (via the ID code box (immobiliser code ECU)) the steering lock ECU confirms that the certification ECU (smart key ECU assembly) is the proper ECU, and drives the steering actuator motor until the steering lock is unlocked. After the steering lock is unlocked, the steering lock ECU sends an unlock completion signal to the certification ECU (smart key ECU assembly) and main body ECU. When this signal is received, the certification ECU (smart key ECU assembly) sends an immobiliser unset command signal to the ID code box (immobiliser code ECU). Once this signal is received, the ID code box (immobiliser code ECU) sends an immobiliser unset command signal to the SFI system*1 or ECD system*2 after confirming that the certification ECU (smart key ECU assembly) is the proper ECU. Then the certification ECU (smart key ECU assembly) sends a security indicator light off signal to the clock*3 or multi-display*4.

**HINT:**

***1: for 1GR-FE, 1UR-FE, 3UR-FE**
***2: for 1VD-FTV**
***3: w/o Multi-display**
***4: w/ Multi-display**

b. Using the entry function (for Automatic Transmission)

i. When the driver (or an occupant) gets in the vehicle and depresses the brake pedal while carrying the key, the main body ECU recognizes that the brake pedal has been depressed and sends a key certification request signal to the certification ECU (smart key ECU assembly). Then the certification ECU (smart key ECU assembly) generates a request signal and sends it to the indoor electrical key oscillator. When the request signal is received, the indoor electrical key oscillator sends another request signal in order to detect whether the key is inside the vehicle. When the key receives this request signal, it sends back an ID code which includes a response code. The ID code sent from the key is sent to the certification ECU (smart key ECU assembly) via the door control receiver. When the ID code is received, the certification ECU (smart key ECU assembly) analyzes the code. If the certification result is normal, the certification ECU (smart key ECU assembly) sends a key certification compatible response signal to the main body ECU. At this time, the engine switch indicator illuminates in green. When the indicator illuminates in green and the driver presses the engine switch, the main body ECU recognizes the engine start signal, changes the ACC relay to on, and changes the IG1 and IG2 relays to on in that order after 0.025 seconds. At this time, the certification ECU (smart key ECU assembly) confirms that the power source mode has changed, and sends a steering unlock command signal to the main body ECU. After this signal is received, the main body ECU supplies the steering lock actuator with power. Then (via the ID code box (immobiliser code ECU)) the steering lock ECU confirms that the certification ECU (smart key ECU assembly) is the proper ECU, and drives the steering actuator motor until the steering lock is unlocked. After the steering lock is unlocked, the steering lock ECU sends an unlock completion signal to the certification ECU (smart key ECU assembly) and main body ECU. When this signal is received, the certification ECU (smart key ECU assembly) sends an immobiliser unset command signal to the ID code box (immobiliser code ECU). Once this signal is received, the ID code box (immobiliser code ECU) sends an immobiliser unset command signal to the SFI system*1 or ECD system*2 after confirming that the certification ECU (smart key ECU assembly) is the proper ECU. Then the certification ECU (smart key ECU assembly) sends a security indicator light off signal to the clock*3 or multi-display*4.

**HINT:**

***1: for 1GR-FE, 1UR-FE, 3UR-FE**
***2: for 1VD-FTV**
***3: w/o Multi-display**
***4: w/ Multi-display**

c. Not using the entry function (when battery is depleted, transmitter is affected by wave noise, etc.) (for Manual Transmission)

i. When the driver is sitting in the vehicle while carrying the key and the brake pedal and the clutch pedal are depressed, the main body ECU recognizes that the stop light switch is on and sends a key confirmation request signal to the certification ECU (smart key ECU assembly). Upon receipt of this signal, the certification ECU (smart key ECU assembly) drives the motor of the engine switch built-in immobiliser amplifier. At this time, the engine switch outputs an RF (Radio Frequency) wave communication signal. If the driver holds the key up to the engine switch at this time, the key receives the immobiliser RF (Radio Frequency) wave signal and responds by sending a radio wave signal. When the engine switch receives the radio wave signal from the key, it duplicates the signal and sends an ID code to the certification ECU (smart key ECU assembly). Upon receipt of the ID code, the code is analyzed. If the certification passes, a key certification pass response signal is sent to the main body ECU while simultaneously sending a sound buzzer request signal to the meter ECU. When the main body ECU receives this signal, the ACC relay is switched on and the IG1 and IG2 relays are switched on in sequence after 0.025 seconds. At this time, the engine switch indicator illuminates in green. Then the certification ECU (smart key ECU assembly) checks that the power source mode has been changed and sends a steering lock command signal to the main body ECU. After receiving this signal, the main body ECU supplies power to the steering lock actuator. Then (via the ID code box (immobiliser code ECU)) the steering lock ECU confirms that the certification ECU (smart key ECU assembly) is certified and drives the steering actuator motor until the steering lock is unlocked. After unlocking the steering lock, an unlock completed signal is sent to the certification ECU (smart key ECU assembly). Upon receipt of this signal, the certification ECU (smart key ECU assembly) sends an unset command signal to the ID code box (immobiliser code ECU). Once this signal is received, the ID code box (immobiliser code ECU) confirms that the certification ECU (smart key ECU assembly) is certified, sends an immobiliser unset command signal to the SFI system*1 or ECD system*2, and then the certification ECU (smart key ECU assembly) sends a security indicator light off signal to the clock*3 or multi-display*4.

**HINT:**

***1: for 1GR-FE, 1UR-FE, 3UR-FE**
***2: for 1VD-FTV**
***3: w/o Multi-display**
***4: w/ Multi-display**

d. Not using the entry function (when battery is depleted, transmitter is affected by wave noise, etc.) (for Automatic Transmission)

i. When the driver is sitting in the vehicle while carrying the key and the brake pedal is depressed, the main body ECU recognizes that the stop light switch is on and sends a key confirmation request signal to the certification ECU (smart key ECU assembly). Upon receipt of this signal, the certification ECU (smart key ECU assembly) drives the motor of the engine switch built-in immobiliser amplifier. At this time, the engine switch outputs an RF (Radio Frequency) wave communication signal. If the driver holds the key up to the engine switch at this time, the key receives the immobiliser RF (Radio Frequency) wave signal and responds by sending a radio wave signal. When the engine switch receives the radio wave signal from the key, it duplicates the signal and sends an ID code to the certification ECU (smart key ECU assembly). Upon receipt of the ID code, the code is analyzed. If the certification passes, a key certification pass response signal is sent to the main body ECU while simultaneously sending a sound buzzer request signal to the meter ECU. When the main body ECU receives this signal, the ACC relay is switched on and the IG1 and IG2 relays are switched on in sequence after 0.025 seconds. At this time, the engine switch indicator illuminates in green. Then the certification ECU (smart key ECU assembly) checks that the power source mode has been changed and sends a steering lock command signal to the main body ECU. After receiving this signal, the main body ECU supplies power to the steering lock actuator. Then (via the ID code box (immobiliser code ECU)) the steering lock ECU confirms that the certification ECU (smart key ECU assembly) is certified and drives the steering actuator motor until the steering lock is unlocked.

After unlocking the steering lock, an unlock completed signal is sent to the certification ECU (smart key ECU assembly). Upon receipt of this signal, the certification ECU (smart key ECU assembly) sends an unset command signal to the ID code box (immobiliser code ECU). Once this signal is received, the ID code box (immobiliser code ECU) confirms that the certification ECU (smart key ECU assembly) is certified, sends an immobiliser unset command signal to the SFI system*1 or ECD system*2, and then the certification ECU (smart key ECU assembly) sends a security indicator light off signal to the clock*3 or multi-display*4.

**HINT:**

***1: for 1GR-FE, 1UR-FE, 3UR-FE**
***2: for 1VD-FTV**
***3: w/o Multi-display**
***4: w/ Multi-display**

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the engine immobiliser system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.CHECK FOR DTC*

a. Check for DTCs and make a note of any codes that are output ( Click here).

b. Clear the DTCs (Click here).

c. Recheck for DTCs (Click here). Based on the DTCs output above, try to cause the output of the same SFI system or ECD system DTC, LIN communication system DTC, steering lock system DTC or engine immobiliser system DTC by simulating the symptoms indicated by the DTC.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| SFI system (for 1GR-FE) DTC is output | B |
| SFI system (for 1UR-FE) DTC is output | C |
| ECD system (for 1VD-FTV) DTC is output | D |
| SFI system (for 3UR-FE) DTC is output | E |
| LIN communication system DTC is output | F |
| Steering lock system DTC is output | G |
| Engine immobiliser system DTC is output | H |

B. Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

C. Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

D. Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

E. Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

F. Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

G. Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

H. Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

A

## 4.PROBLEM SYMPTOMS TABLE

a. Refer to the problem symptoms table ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

**B.** → **Go to step 6**

**A**

## 5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Data List/Active Test (Click here)

b. Terminals of ECU (Click here)

**NEXT**

## 6.ADJUST, REPAIR OR REPLACE

**NEXT**

## 7.CONFIRMATION TEST

**NEXT**

## END

**for Preparation** Click here

**HINT:**

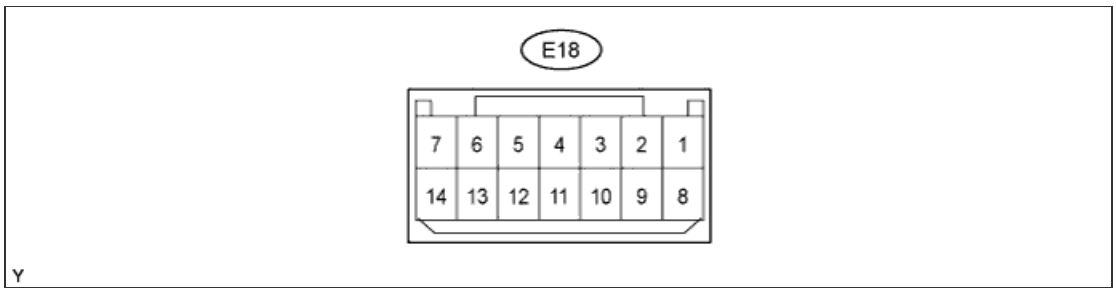
- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Engine Immobiliser System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Engine does not start | LIN communication system | Click here |
| | ID code box power source circuit | Click here |
| | Certification ECU power source circuit | Click here |
| | Steering lock ECU power source circuit | Click here |
| | Entry and start system (for Starting function) | Click here |
| | SFI system (for 1GR-FE) | Click here |
| | SFI system (for 1UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| Security indicator light malfunction | Security indicator light circuit | Click here |

**for Preparation** Click here

## CHECK ENGINE SWITCH




a. Disconnect the E18 switch connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E18-5 (GND) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E18 switch connector.

d. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E18-8 (AGND) - Body ground | L - Body ground | Ground | Always | Below 1 Ω |
| E18-14 (VC5) - E18-8 (AGND) | P - L | Power supply | Key not in cabin | Below 1 V |
| | | | Engine switch pressed* | 4.6 to 5.4 V |
| E18-10 (CODE) - E18-8 (AGND) | G - L | Demodulated signal of key code output | Key not in cabin | Below 1 V |
| | | | Engine switch pressed and key held close to engine switch* | Pulse generation (see waveform 1) |
| E18-9 (TXCT) - E18-8 (AGND) | SB - L | Key code input signal | Key not in cabin | Below 1 V |
| | | | Engine switch pressed and key held close to engine switch* | Pulse generation (see waveform 2) |

**HINT:**

*: Remove the key battery before performing this inspection.

If the result is not as specified, the switch may have a malfunction.

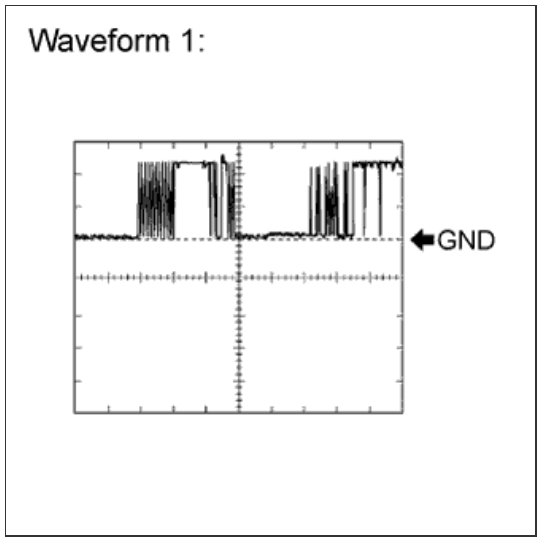
e. Using an oscilloscope, check waveform 1.

**Waveform 1 (Reference)**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E18-10 (CODE) - E18-8 (AGND) |
| Tool Setting | 2 V/DIV., 20 msec./DIV. |
| Condition | Engine switch pressed and key held close to engine switch* |

**HINT:**

*: Remove the key battery before performing this inspection.



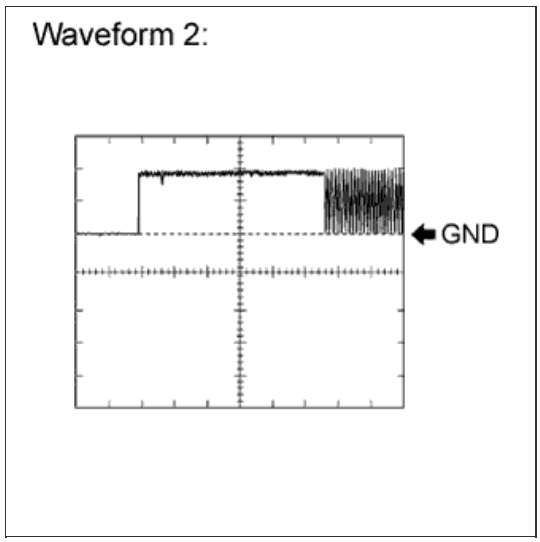

f. Using an oscilloscope, check waveform 2.

**Waveform 2 (Reference)**

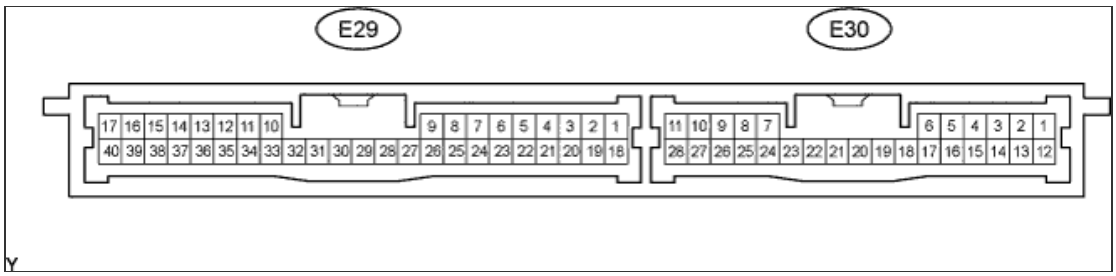
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E18-9 (TXCT) - E18-8 (AGND) |
| Tool Setting | 2 V/DIV., 20 msec./DIV. |
| Condition | Engine switch pressed and key held close to engine switch* |

**HINT:**

*: Remove the key battery before performing this inspection.




## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)




a. Disconnect the E29 ECU connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29 -17 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E29-1 (+B) - E29-17 (E) | B - W-B | +B power supply | Always | 11 to 14 V |
| E29-18 (IG) - E29-17 (E) | B - W-B | Ignition power supply | Engine switch off | Below 1 V |
| | | | Engine switch on | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E29 ECU connector.

d. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29-40 (AGND) - Body | | | | |

| | | | | |
|---|---|---|---|---|
| ground | L - Body ground | Engine switch ground | Always | Below 1 Ω |
| E29-30 (VC5) - E29-40 (AGND) | P - L | Engine switch power supply | Key not in cabin | Below 1 V |
| | | | Engine switch pressed* | 4.6 to 5.4 V |
| E29-9 (CODE) - E29-40 (AGND) | G- L | Engine switch CODE input | Key not in cabin | Below 1 V |
| | | | Engine switch pressed and key held close to engine switch* | Pulse generation (see waveform 1) |
| E29-8 (TXCT) - E29-40 (AGND) | SB - L | Engine switch TX output | Key not in cabin | Below 1 V |
| | | | Engine switch pressed and key held close to engine switch* | Pulse generation (see waveform 2) |

**HINT:**

*: Remove the key battery before performing this inspection.

If the result is not as specified, the ECU may have a malfunction.

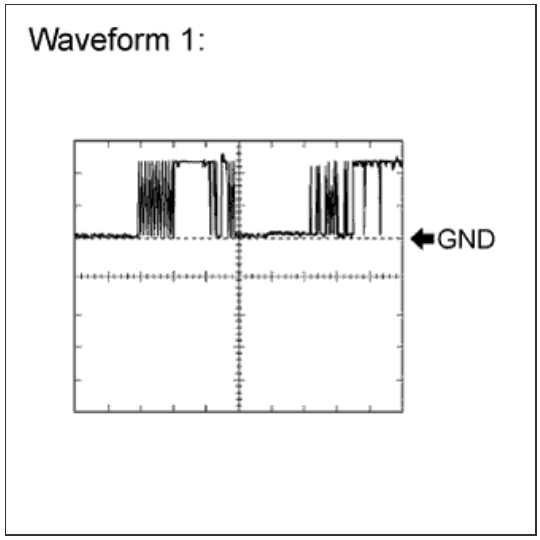
e. Using an oscilloscope, check waveform 1.

**Waveform 1 (Reference)**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E29-9 (CODE) - E29-40 (AGND) |
| Tool Setting | 2 V/DIV., 20 msec./DIV. |
| Condition | Engine switch pressed and key held close to engine switch* |

**HINT:**

*: Remove the key battery before performing this inspection.



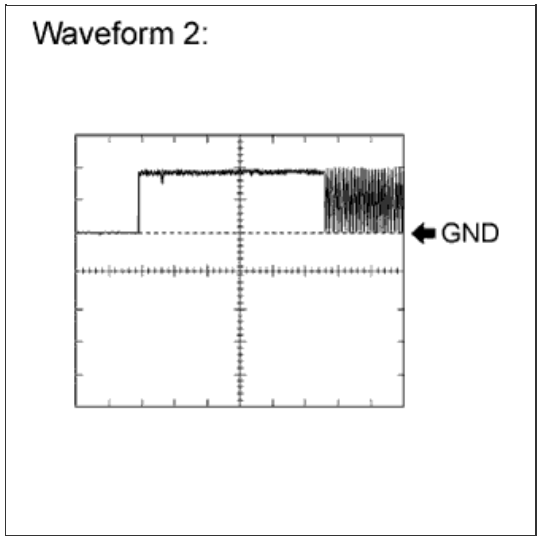

f. Using an oscilloscope, check waveform 2.

**Waveform 2 (Reference)**

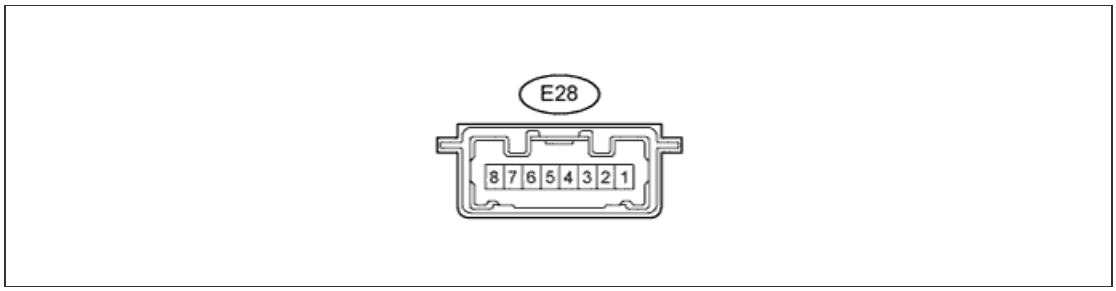
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E29-8 (TXCT) - E29-40 (AGND) |
| Tool Setting | 2 V/DIV., 20 msec./DIV. |
| Condition | Engine switch pressed and key held close to engine switch* |

**HINT:**

*: Remove the key battery before performing this inspection.




**CHECK ID CODE BOX (IMMOBILISER CODE ECU)**




a. Disconnect the E28 box connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E28-8 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E28-1 (+B) - E28-8 (GND) | B - W-B | +B power supply | Always | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E28 box connector.

d. Measure the voltage according to the value(s) in the table below.

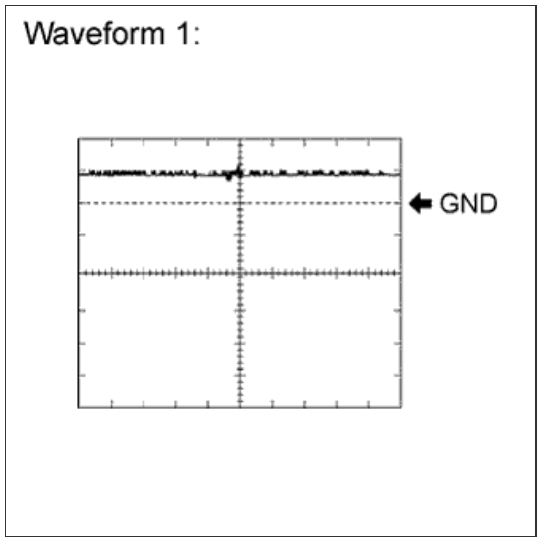
| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E28-5 (EFII) - E28-8 (GND) | W - W-B | ECM input signal | Engine switch off | Below 1 V |
| | | | Engine switch on (IG) | Pulse generation (see waveform 1) |
| E28-6 (EFIO) - E28-8 (GND) | R - W-B | ECM output signal | Engine switch off | Below 1 V |
| | | | Engine switch on (IG) | Pulse generation (see waveform 2) |

If the result is not as specified, the ID code box (immobiliser code ECU) may have a malfunction.

e. Using an oscilloscope, check waveform 1.

**Waveform 1 (Reference)**

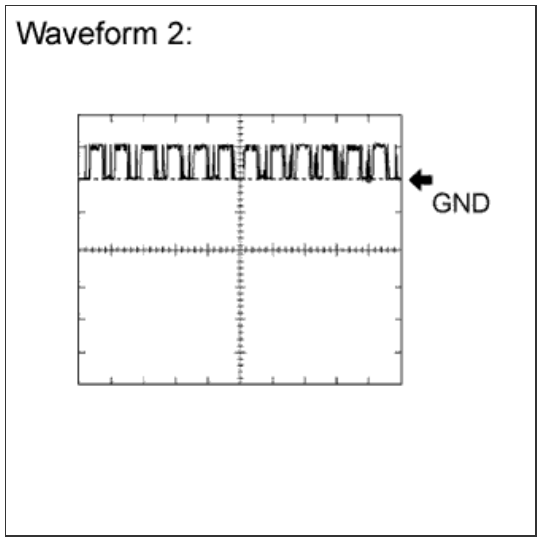
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E28-5 (EFII) - E28-8 (GND) |
| Tool Setting | 10 V/DIV., 100 msec./DIV. |
| Condition | Engine switch on (IG) |



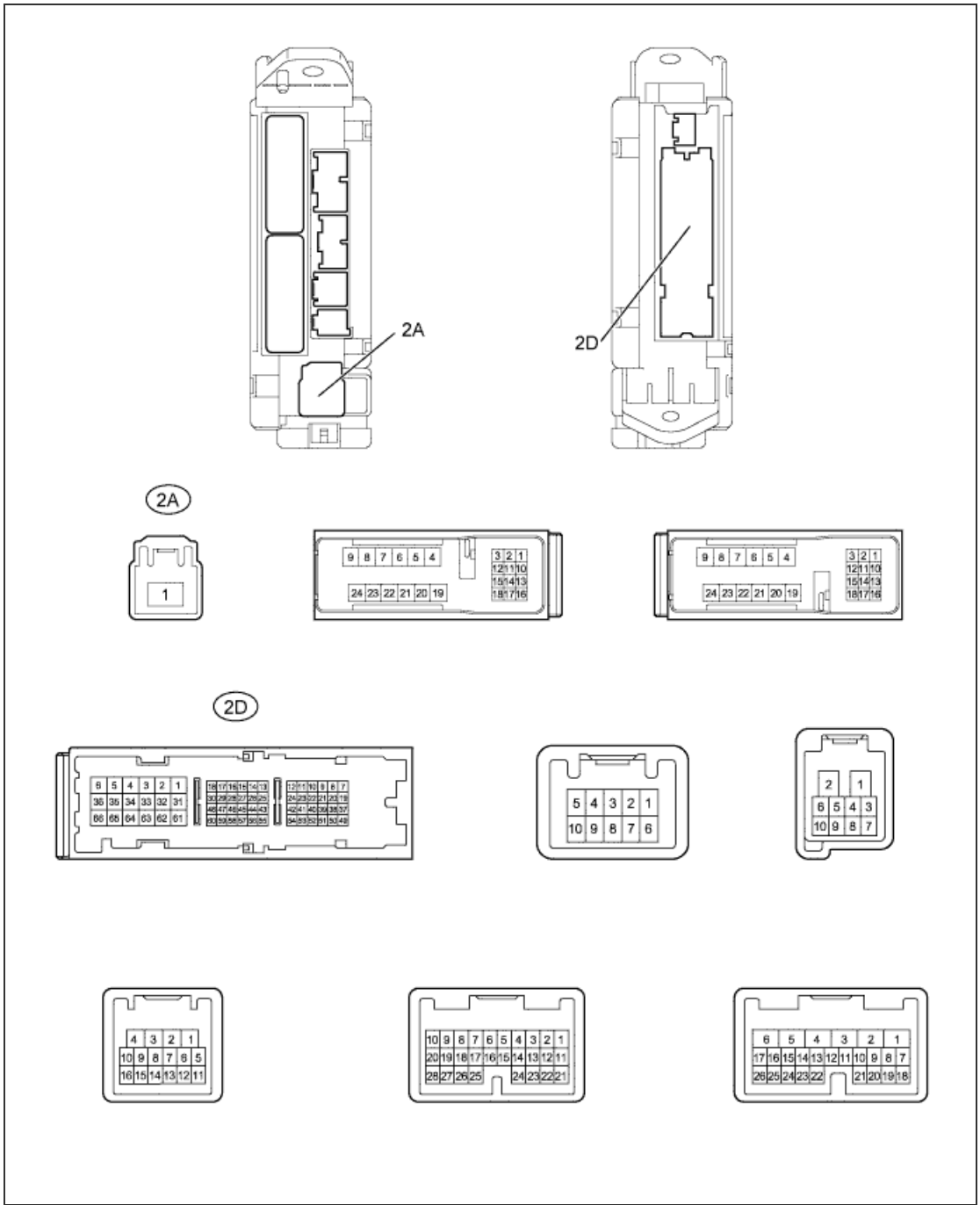

f. Using an oscilloscope, check waveform 2.

**Waveform 2 (Reference)**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E28-6 (EFIO) - E28-8 (GND) |
| Tool Setting | 10 V/DIV., 100 msec./DIV. |
| Condition | Engine switch on (IG) |




## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)



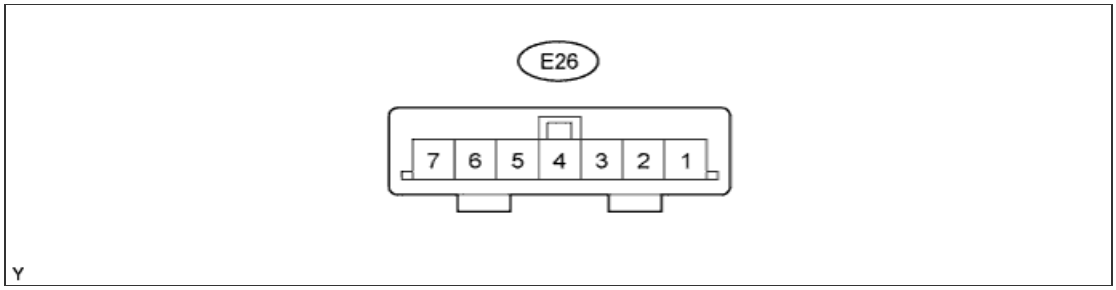

a. Disconnect the 2D and 2A ECU connectors.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| 2D-8 (ACC) - 2D-62 (GND2) | GR - W-B | ACC power supply | Engine switch off | Below 1 V |
| | | | Engine switch on (ACC) | 11 to 14 V |
| 2A-1 (IG) - 2D-62 (GND2) | B - W-B | IG power supply | Engine switch off | Below 1 V |
| | | | Engine switch on (IG) | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

## CHECK STEERING LOCK ACTUATOR (STEERING LOCK ECU)




a. Disconnect the E26 ECU connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E26-2 (SGND) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| E26-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E26-7 (B) - Body ground | R - Body ground | +B power supply | Always | 11 to 14 V |
| E26-6 (IG2) - Body ground | B - Body ground | Ignition power supply | Engine switch off | Below 1 V |
| | | | Engine switch on (IG) | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

**for Preparation** Click here

## CHECK DTC

**HINT:**

- **When using the intelligent tester with the engine switch off to troubleshoot: Connect the intelligent tester to the vehicle, and turn a courtesy light switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.**
- **Refer to the intelligent tester operator manual for further details.**

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body or Powertrain / (desired system) / Trouble Codes.

e. Check the DTCs.

## CLEAR DTC

**HINT:**

- **When using the intelligent tester with the engine switch off to troubleshoot: Connect the intelligent tester to the vehicle, and turn a courtesy light switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.**
- **Refer to the intelligent tester operator manual for further details.**

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body or Powertrain / (desired system) / Trouble Codes.

e. Clear the DTCs.

**for Preparation** Click here

## READ DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Entry&Start / Data List.

e. According to the display on the intelligent tester, read the Data List.

**Entry&Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Ignition Switch | Engine switch on (IG) signal / ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| #Codes | Number of trouble codes / Min: 0, Max: 255 | - | - |
| Immobiliser | Engine immobiliser system status / Set or Unset | Set: Key not in cabin<br>Unset: Key in cabin | - |
| Master Key | Master key code signal / Match or No Match | Match: Master key code is sent<br>No Match: Unmatched master key code sent | - |
| BCC Malfunction | Transponder chip signal / OK or NG | OK: Correct data sent<br>NG: Incorrect data sent | - |
| Abnormal Status | Transponder chip data / OK or NG | OK: Data OK<br>NG: Data error | - |
| Different Encrypt Code | Transponder chip signal / OK or NG | OK: Correct data sent<br>NG: Incorrect data sent | - |
| Different Serial Number | Transponder chip signal / OK or NG | OK: Correct data sent<br>NG: Incorrect data sent | - |
| Frame Error | Transponder chip signal / OK or NG | OK: Correct data sent<br>NG: Incorrect data sent | - |
| Response | Transponder chip signal / OK or NG | OK: Correct data sent<br>NG: Incorrect data sent | - |
| ID-BOX Sleep Condition | ID code box condition / Yes or No | Yes: ID code box in sleep condition<br>No: ID code box not in sleep condition | - |
| ID-BOX Start Condition | ID code box condition / Yes or No | Yes: ID code box sends wake up signal<br>No: ID code box does not send wake up signal | - |
| Engine Start Request | ID code box start request condition / OK or NG | OK: Start request condition signal received (past)<br>NG: Start request condition signal not received (past) | - |
| S Code Check | S code verification result / OK or NG | OK: Verification confirmed<br>NG: Verification not confirmed | - |
| L Code Check | L code verification result / OK or NG | OK: Verification confirmed<br>NG: Verification not confirmed | - |
| Unlock Request Receive | Steering unlock command reception status / OK or NG | OK: Steering unlock request received<br>NG: Steering unlock request not received | - |
| Lock Request Receive | Steering lock command reception status / OK or NG | OK: Steering lock request received<br>NG: Steering lock request is not received | - |

| | | | |
|---|---|---|---|
| S Code Check (Past) | S code verification result (past) / OK or NG | OK: Verification confirmed (past)<br>NG: Verification not confirmed (past) | - |
| L Code Check (Past) | L code verification result (past) / OK or NG | OK: Verification confirmed (past)<br>NG: Verification not confirmed (past) | - |
| EFI Code Receive | SFI*1 or ECD*2 code receive (when DTC stored) / OK or NG | OK: SFI*1 or ECD*2 code received<br>NG: SFI*1 or ECD*2 code not received | - |
| EFI communication | SFI*1 or ECD*2 communication / OK or NG | OK: SFI*1 or ECD*2 communication normal<br>NG: SFI*1 or ECD*2 communication abnormal | - |

**HINT:**

- ***1: for 1GR-FE, 1UR-FE, 3UR-FE**
- ***2: for 1VD-FTV**

## PERFORM ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Entry&Start / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Entry&Start**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Indicator | Security indicator light | ON or OFF | - |

**for Preparation** Click here

**HINT:**

If a trouble code is output during the DTC check, check the circuit listed for that code in the table below. Then proceed to the "See page" below.

**Certification ECU**

| DTC Code | Detection Item | Trouble Area | See page |
|---|---|---|---|
| B2784 | Antenna Coil Open / Short | - Certification ECU (smart key ECU)<br>- Engine switch | Click here |
| B278A | Short to GND in Immobiliser System Power Source Circuit | - Harness or connector<br>- Engine switch<br>- Certification ECU (smart key ECU) | Click here |
| B2790 | ID BOX EEPROM Malfunction | ID code box | Click here |

**HINT:**

The DTCs for the engine immobiliser system are specified above. If other codes are output, check the DTC chart for the hybrid control system.

**ECM**

| DTC Code | Detection Item | Trouble Area | See page |
|---|---|---|---|
| B2799 | Engine Immobiliser System Malfunction | - Harness or connector<br>- ECM<br>- ID code box (immobiliser code ECU) | Click here |
| B279A | Theft Deterrent System Communication Line High Fixation | - Harness or connector<br>- ECM<br>- ID code box (immobiliser code ECU) | Click here |
| B279C | Theft Deterrent System Presence Detection | ECM | Click here |

# DTC B2784 Antenna Coil Open / Short

**for Preparation** Click here

## DESCRIPTION

This DTC is output when there is an open or short malfunction in the transponder key coil (built into the engine switch).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2784 | The antenna coil is open/shorted. | • Certification ECU (Smart key ECU assembly)<br>• Engine switch |

## INSPECTION PROCEDURE

### 1.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

### 2.CHECK FOR DTC

a. Check for DTCs (Click here).

**OK:**
**DTC B2784 is not output.**

NG → Go to step 3

OK

### USE SIMULATION METHOD TO CHECK (Click here)

### 3.REPLACE ENGINE SWITCH

a. for 1GR-FE

i. Temporarily replace the engine switch with a new one ( Click here).

b. for 1UR-FE

i. Temporarily replace the engine switch with a new one ( Click here).

c. for 1VD-FTV

i. Temporarily replace the engine switch with a new one ( Click here).

d. for 3UR-FE

i. Temporarily replace the engine switch with a new one ( Click here).

NEXT

### 4.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

### 5.CHECK FOR DTC

a. Recheck for DTCs (Click here).

OK:
DTC B2784 is not output.

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

END (ENGINE SWITCH IS DEFECTIVE)

## DTC B2799 Engine Immobiliser System Malfunction

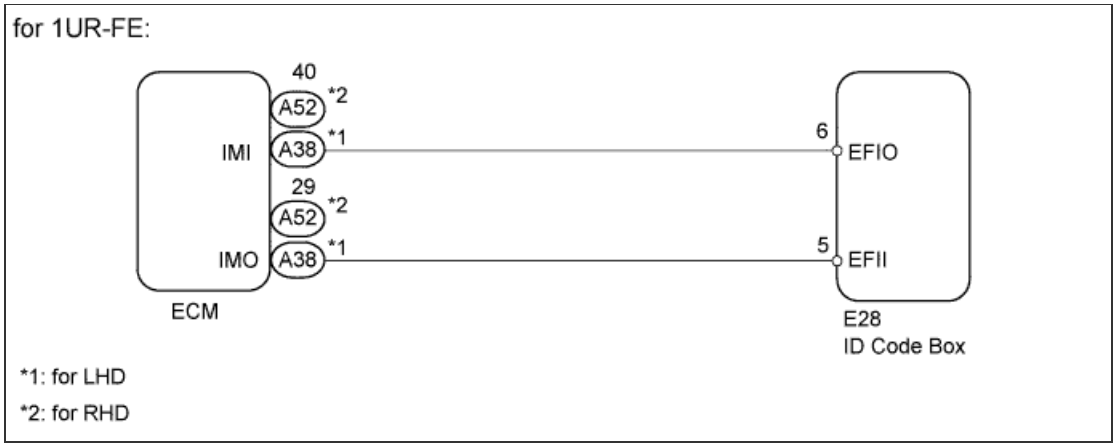
**for Preparation** Click here

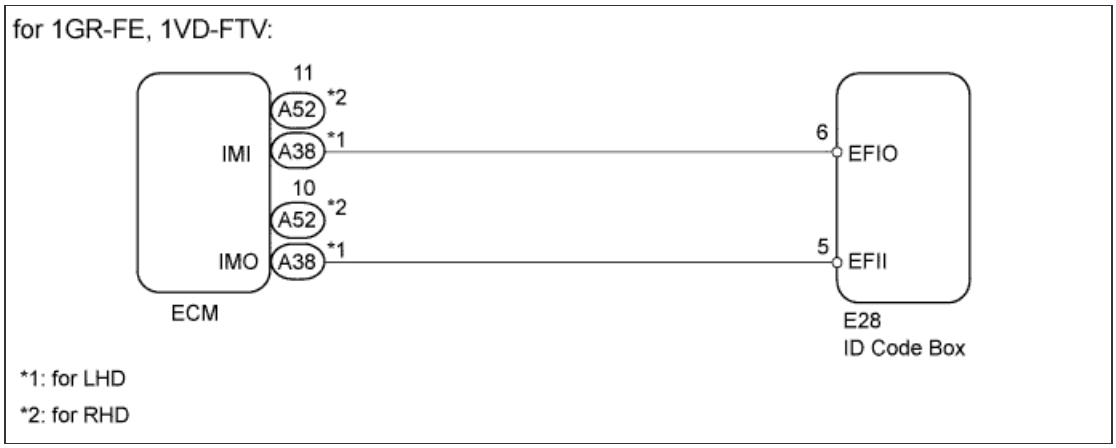
### DESCRIPTION

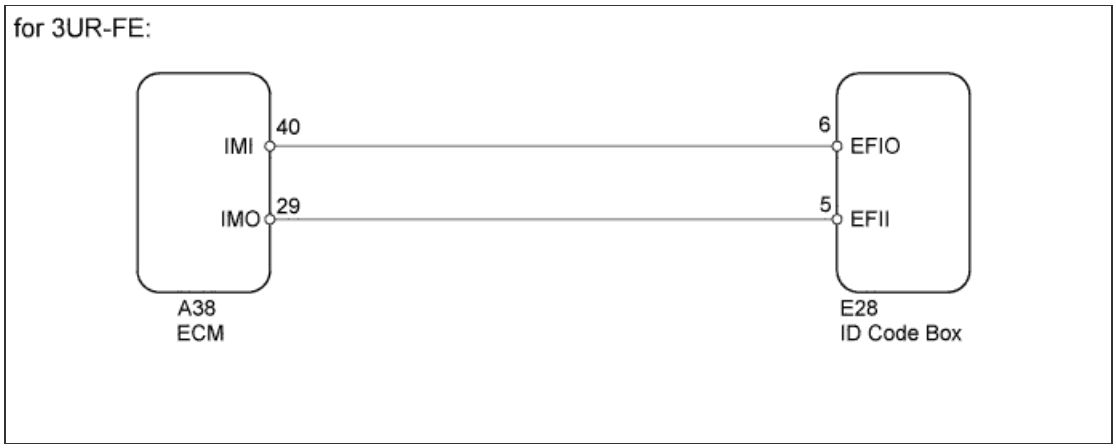
This DTC is output when one of the following occurs: 1) the ECM detected errors in its own communications with the ID code box (immobiliser code ECU); 2) the ECM detects errors in the communication lines; or 3) the ECU communication ID between the ID code box (immobiliser code ECU) and ECM is different and an engine start is attempted.
Before troubleshooting for this DTC, make sure no certification ECU DTCs are stored. If stored, troubleshoot the certification ECU DTCs first.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2799 | One of following conditions is met:<br>• Error in the communication between the ECM and the ID code box (immobiliser code ECU).<br>• Error in the communication lines.<br>• The communication ID is different during communication with the ID code box (immobiliser code ECU). | • Harness or connector<br>• ECM<br>• ID code box (immobiliser code ECU) |

### WIRING DIAGRAM






## INSPECTION PROCEDURE

### 1.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

### 2.CHECK FOR DTC

a. Check for DTCs (Click here).

**OK:**
**DTC B2799 is not output.**

NG → Go to step 3

OK

### USE SIMULATION METHOD TO CHECK (Click here)

### 3.REREGISTER ECU CODE

a. Reregister the recognition codes in the ECUs.

NEXT

### 4.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

### 5.CHECK FOR DTC

a. Check for DTCs (Click here).

**OK:**
**DTC B2799 is not output.**

NG → Go to step 6

OK

### END (RECOGNITION CODE IN ECU IS DEFECTIVE)

### 6.CHECK CONNECTION OF CONNECTOR

a. Turn the engine switch off.

b. Check that the connectors are properly connected to the ECM and the ID code box.

**OK:**

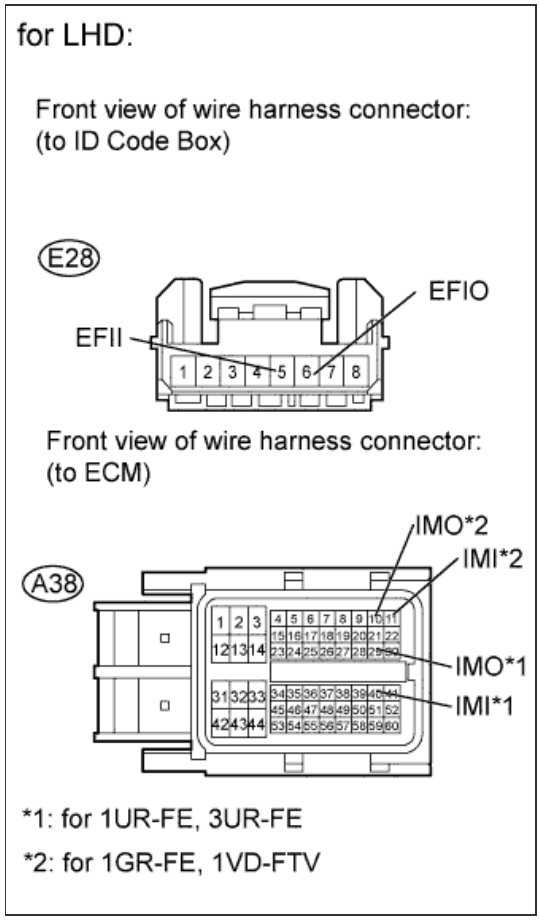
**Connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 7.CHECK HARNESS AND CONNECTOR (ID CODE BOX (IMMOBILISER CODE ECU) - ECM)

a. Disconnect the E28 ID code box connector.




b. Disconnect the A38*1 or A52*2 ECU connector.

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

c. Measure the resistance according to the value(s) in the table below.

i. for 1UR-FE

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-5 (EFII) - A38*1-29 (IMO) | Always | Below 1 Ω |
| E28-6 (EFIO) - A38*1-40 (IMI) | | |
| E28-5 (EFII) or A38*1-29 (IMO) - Body ground | Always | 10 kΩ or higher |

| | | |
|---|---|---|
| E28-6 (EFIO) or A38*1-40 (IMI) - Body ground | | |
| E28-5 (EFII) - A52*2-29 (IMO) | Always | Below 1 Ω |
| E28-6 (EFIO) - A52*2-40 (IMI) | | |
| E28-5 (EFII) or A52*2-29 (IMO) - Body ground | Always | 10 kΩ or higher |
| E28-6 (EFIO) or A52*2-40 (IMI) - Body ground | | |

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

ii. for 1GR-FE, 1VD-FTV

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-5 (EFII) - A38*1-10 (IMO) | Always | Below 1 Ω |
| E28-6 (EFIO) - A38*1-11 (IMI) | | |
| E28-5 (EFII) or A38*1-10 (IMO) - Body ground | Always | 10 kΩ or higher |
| E28-6 (EFIO) or A38*1-11 (IMI) - Body ground | | |
| E28-5 (EFII) - A52*2-10 (IMO) | Always | Below 1 Ω |
| E28-6 (EFIO) - A52*2-11 (IMI) | | |
| E28-5 (EFII) or A52*2-10 (IMO) - Body ground | Always | 10 kΩ or higher |
| E28-6 (EFIO) or A52*2-11 (IMI) - Body ground | | |

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

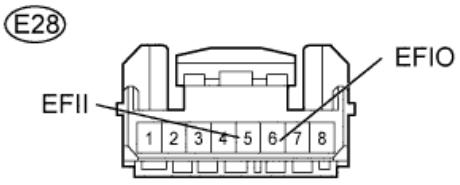
iii. for 3UR-FE

**Standard Resistance:**

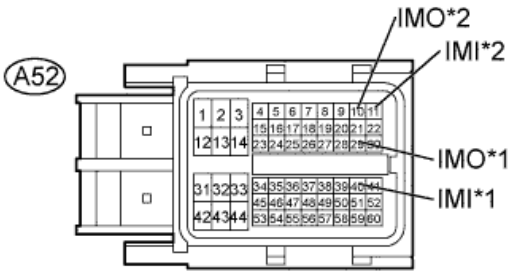
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-5 (EFII) - A38-29 (IMO) | Always | Below 1 Ω |
| E28-6 (EFIO) - A38-40 (IMI) | | |
| E28-5 (EFII) or A38-29 (IMO) - Body ground | Always | 10 kΩ or higher |
| E28-6 (EFIO) or A38-40 (IMI) - Body ground | | |

for RHD:

Front view of wire harness connector:
(to ID Code Box)




Front view of wire harness connector:
(to ECM)




*1: for 1UR-FE

*2: for 1GR-FE, 1VD-FTV

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**8.REPLACE ECM**

a. for 1GR-FE

i. Temporarily replace the ECM with a new one ( Click here).

b. for 1UR-FE

i. Temporarily replace the ECM with a new one ( Click here).

c. for 1VD-FTV

i. Temporarily replace the ECM with a new one ( Click here).

d. for 3UR-FE

i. Temporarily replace the ECM with a new one ( Click here).

NEXT

**9.REGISTER ECU CODE**

a. Register the recognition codes in the ECUs.

NEXT

**10.CLEAR DTC**

a. Clear the DTCs (Click here).

NEXT

**11.CHECK FOR DTC**

a. Check for DTCs (Click here).

**OK:**
**DTC B2799 is not output.**

NG → **REPLACE ID CODE BOX (IMMOBILISER CODE ECU)**

OK

**END (ECM IS DEFECTIVE)**

## DTC B278A Short to GND in Immobiliser System Power Source Circuit

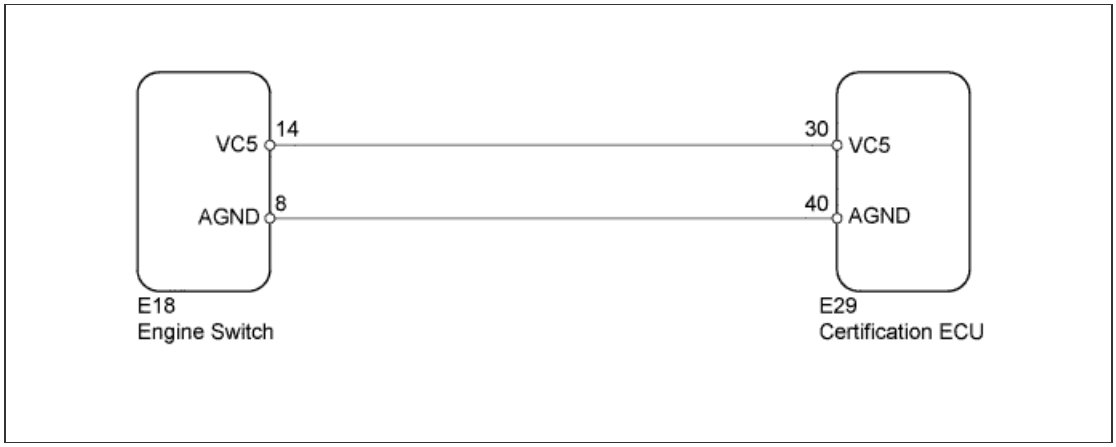
**for Preparation** Click here

### DESCRIPTION

This DTC is output when the engine switch power source supply line is open or shorted.

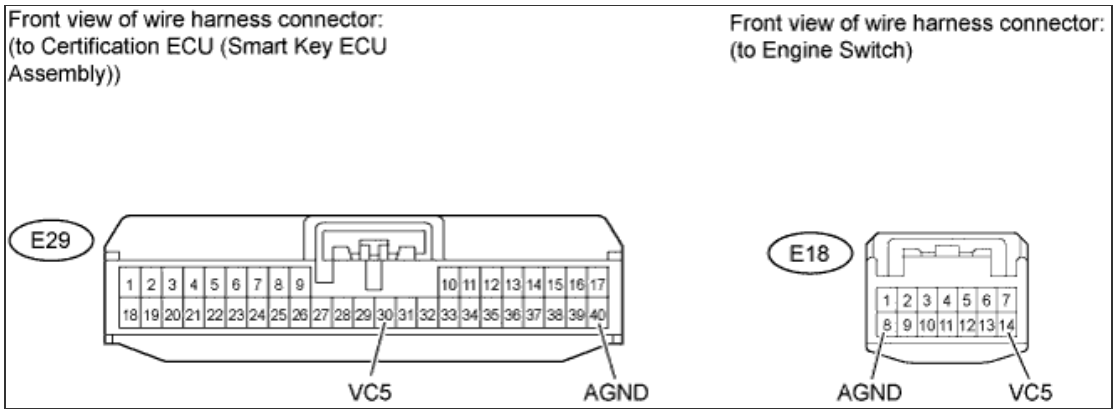
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B278A | The engine switch power source supply line is open or shorted. | • Harness or connector<br>• Engine switch<br>• Certification ECU (Smart key ECU) |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) - ENGINE SWITCH)**




a. Disconnect the E29 ECU connector.

b. Disconnect the E18 switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-30 (VC5) - E18-14 (VC5) | Always | Below 1 Ω |
| E29-40 (AGND) - E18-8 (AGND) | | |
| E29-30 (VC5) or E18-14 (VC5) - Body ground | | |

| | | |
|---|---|---|
| E29-40 (AGND) or E18-8 (AGND) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 2.REPLACE ENGINE SWITCH

a. for 1GR-FE

i. Temporarily replace the engine switch with a new one ( Click here).

b. for 1UR-FE

i. Temporarily replace the engine switch with a new one ( Click here).

c. for 1VD-FTV

i. Temporarily replace the engine switch with a new one ( Click here).

d. for 3UR-FE

i. Temporarily replace the engine switch with a new one ( Click here).

NEXT

## 3.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

## 4.CHECK FOR DTC

a. Check for DTCs (Click here).

**OK:**
**DTC B278A is not output.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

## END (ENGINE SWITCH IS DEFECTIVE)

## DTC B279A Theft Deterrent System Communication Line High Fixation

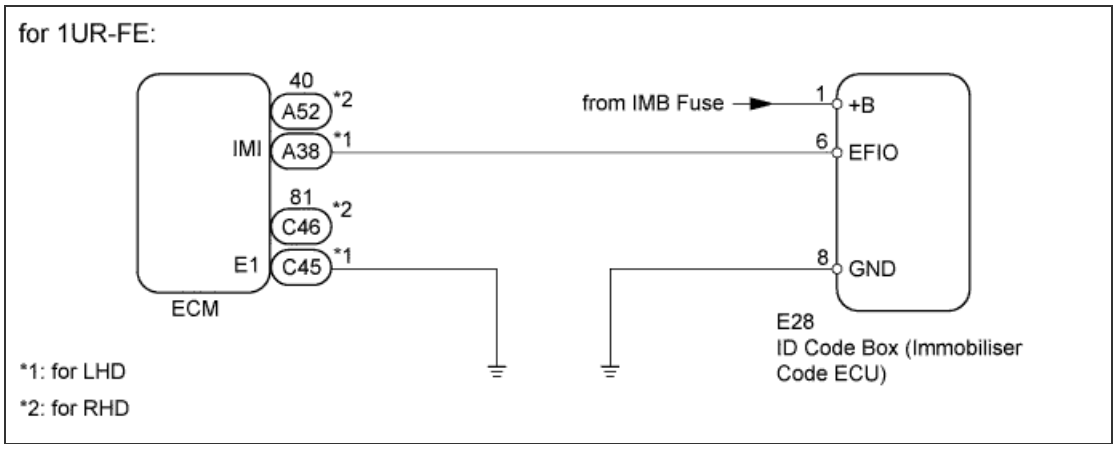
**for Preparation** Click here

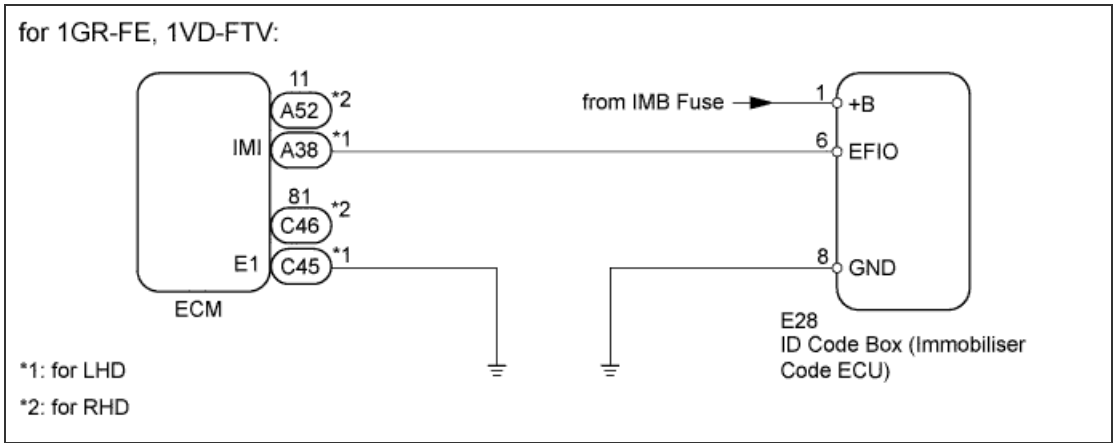
### DESCRIPTION

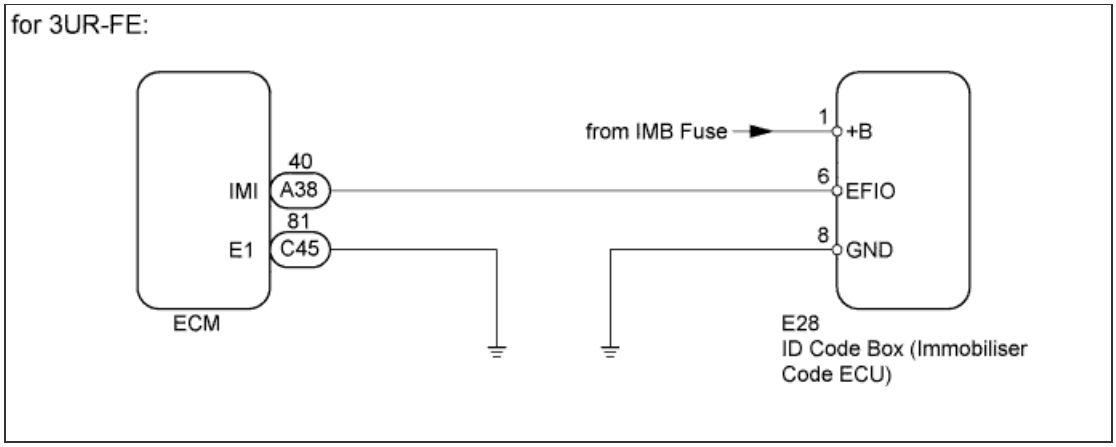
If the communication line (EFIO-IMI) to the ID code box (immobiliser code ECU) is stuck on HI output, the ECM outputs this DTC.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B279A | When the communication line (EFIO-IMI) between the ECM and the ID code box (immobiliser code ECU) is stuck on HI output. | • Harness or connector<br>• ID code box (immobiliser code ECU)<br>• ECM |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

## 1.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

## 2.CHECK FOR DTC

a. Check for DTCs (Click here).

**HINT:**

If DTCs other than DTC B279A are output, troubleshoot those DTCs first.

**Result**

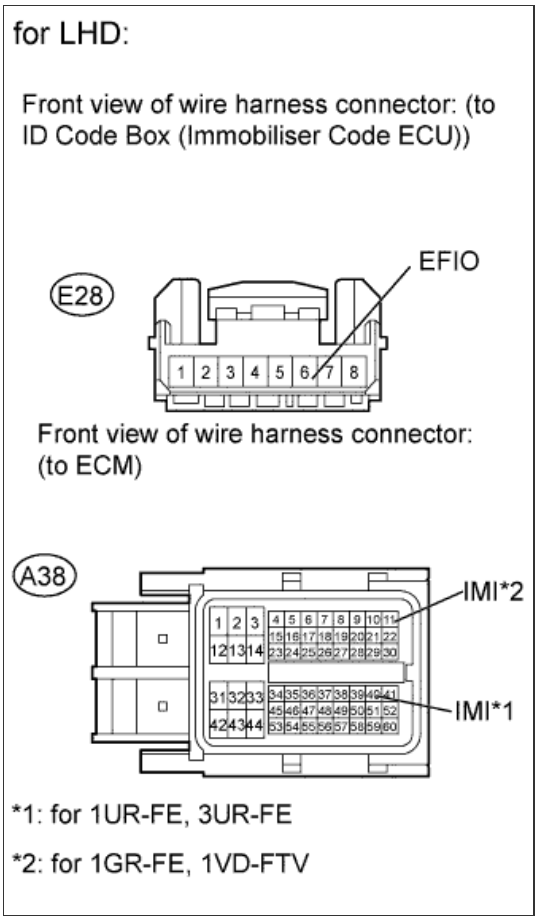
| Result | Proceed to |
|---|---|
| DTC B279A is output | A |
| DTC B279A and other DTCs are output | B |

B → Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (ID CODE BOX (IMMOBILISER CODE ECU) - ECM)

a. Disconnect the E28 ID code box connector.




b. Disconnect the A38*1 or A52*2 ECU connector.

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

c. Measure the resistance and voltage according to the value(s) in the table below.

i. for 1UR-FE

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-6 (EFIO) - A38*1-40 (IMI) | Always | Below 1 Ω |
| E28-6 (EFIO) or A38*1-40 (IMI) - Body ground | Always | 10 kΩ or higher |
| E28-6 (EFIO) - A52*2-40 (IMI) | Always | Below 1 Ω |
| E28-6 (EFIO) or A52*2-40 (IMI) - Body ground | Always | 10 kΩ or higher |

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-6 (EFIO) - Body ground | Always | Below 1 V |
| A38*1-40 (IMI) - Body ground | | |
| A52*2-40 (IMI) - Body ground | | |

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

ii. for 1GR-FE, 1VD-FTV

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-6 (EFIO) - A38*1-11 (IMI) | Always | Below 1 Ω |
| E28-6 (EFIO) or A38*1-11 (IMI) - Body ground | Always | 10 kΩ or higher |
| E28-6 (EFIO) - A52*2-11 (IMI) | Always | Below 1 Ω |
| E28-6 (EFIO) or A52*2-11 (IMI) - Body ground | Always | 10 kΩ or higher |

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

**Standard Voltage:**

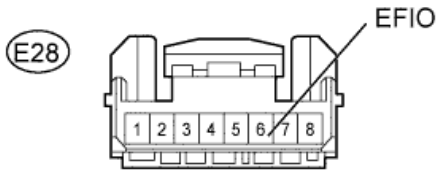
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-6 (EFIO) - Body ground | Always | Below 1 V |
| A38*1-11 (IMI) - Body ground | | |
| A52*2-11 (IMI) - Body ground | | |

**HINT:**

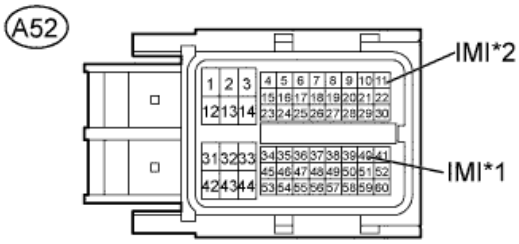
- ***1: for LHD**
- ***2: for RHD**

for RHD:

Front view of wire harness connector: (to ID Code Box (Immobiliser Code ECU))




Front view of wire harness connector: (to ECM)




*1: for 1UR-FE

*2: for 1GR-FE, 1VD-FTV

iii. for 3UR-FE

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-6 (EFIO) - A38-40 (IMI) | Always | Below 1 Ω |
| E28-6 (EFIO) or A38-40 (IMI) - Body ground | Always | 10 kΩ or higher |

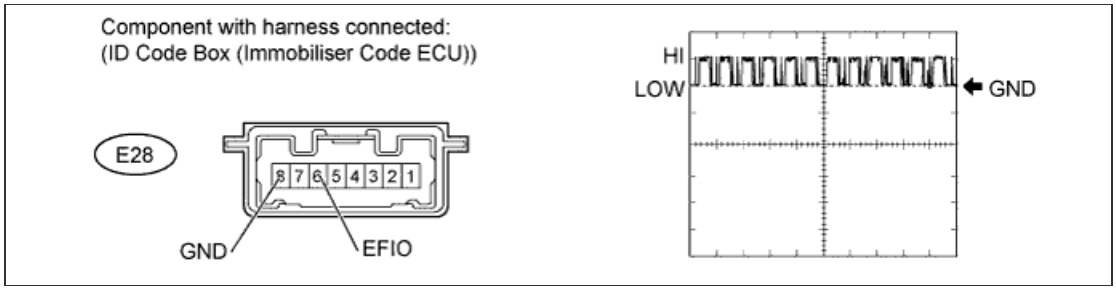
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-6 (EFIO) - Body ground | Always | Below 1 V |
| A38-40 (IMI) - Body ground | | |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**4.CHECK ID CODE BOX (IMMOBILISER CODE ECU) (OUTPUT)**




a. Using an oscilloscope, check the waveform.

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E28-6 (EFIO) - E28-8 (GND) |
| Tool Setting | 10 V/DIV., 100 msec./DIV. |
| Condition | Engine switch on (IG) |

**OK:**

**Waveform is output normally (see illustration).**

**Result**

| Result | Proceed to |
|---|---|
| NG | A |
| OK (for 1GR-FE) | B |
| OK (for 1UR-FE) | C |
| OK (for 1VD-FTV) | D |
| OK (for 3UR-FE) | E |

B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

D → REPLACE ECM (Click here)

E → REPLACE ECM (Click here)

A

## 5.CHECK ID CODE BOX (IMMOBILISER CODE ECU) (POWER SOURCE AND BODY GROUND)

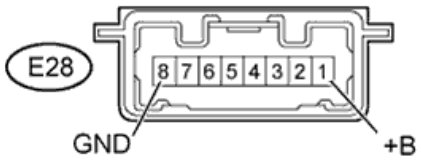
a. Turn the engine switch on (IG).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connector | Condition | Specified Condition |
|---|---|---|
| E28-1 (+B) - E28-8 (GND) | Always | 11 to 14 V |

Component with harness connected:
(ID Code Box (Immobiliser Code ECU))




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE ID CODE BOX (IMMOBILISER CODE ECU)

## DTC B2790 ID BOX EEPROM Malfunction

**for Preparation** Click here

### DESCRIPTION

This DTC is output when the ID code box detects an internal malfunction.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2790 | The ID code box detects an internal malfunction. | ID code box |

### INSPECTION PROCEDURE

**1.REPLACE ID CODE BOX**

a. Replace the ID code box.

**NEXT**

**2.REGISTER ECU CODE**

a. Reregister the recognition codes in the ECUs.

**NEXT**

**END**

## DTC B279C Theft Deterrent System Presence Detection

**for Preparation** Click here

### DESCRIPTION

If an ECM that is incompatible with the engine immobiliser system is installed, the ECM outputs this DTC.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B279C | When an ECM that is incompatible with the engine immobiliser system is installed. | ECM |

### INSPECTION PROCEDURE

**1.REPLACE CURRENT ECM WITH PROPER ECM**

a. for 1GR-FE

i. Replace the current ECM with the proper ECM ( Click here).

b. for 1UR-FE

i. Replace the current ECM with the proper ECM ( Click here)

c. for 1VD-FTV

i. Replace the current ECM with the proper ECM ( Click here)

d. for 3UR-FE

i. Replace the current ECM with proper ECM ( Click here).

NEXT

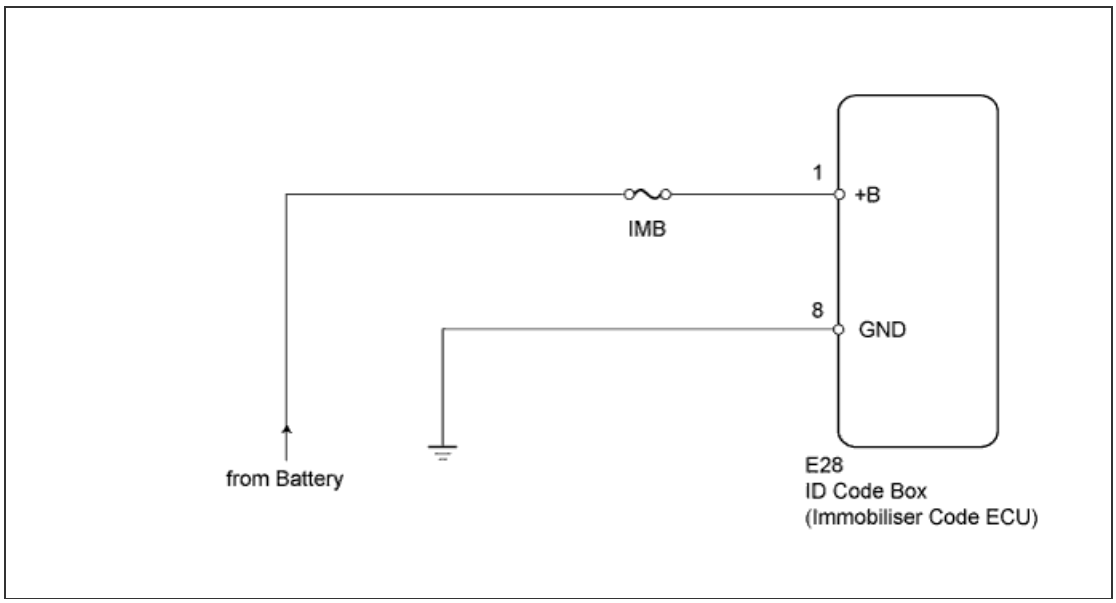
END

**for Preparation** Click here

## DESCRIPTION

This circuit provides power to operate the ID code box.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (IMB)

a. Remove the IMB fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IMB fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (ID CODE BOX (IMMOBILISER CODE ECU) - BATTERY AND BODY GROUND)

a. Disconnect the E28 ID code box connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

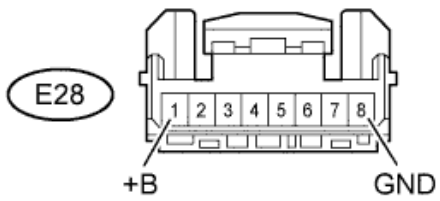
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-8 (GND) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-1 (+B) - Body ground | Always | 11 to 14 V |

Front view of wire harness connector: (to ID Code Box (Immobiliser Code ECU))



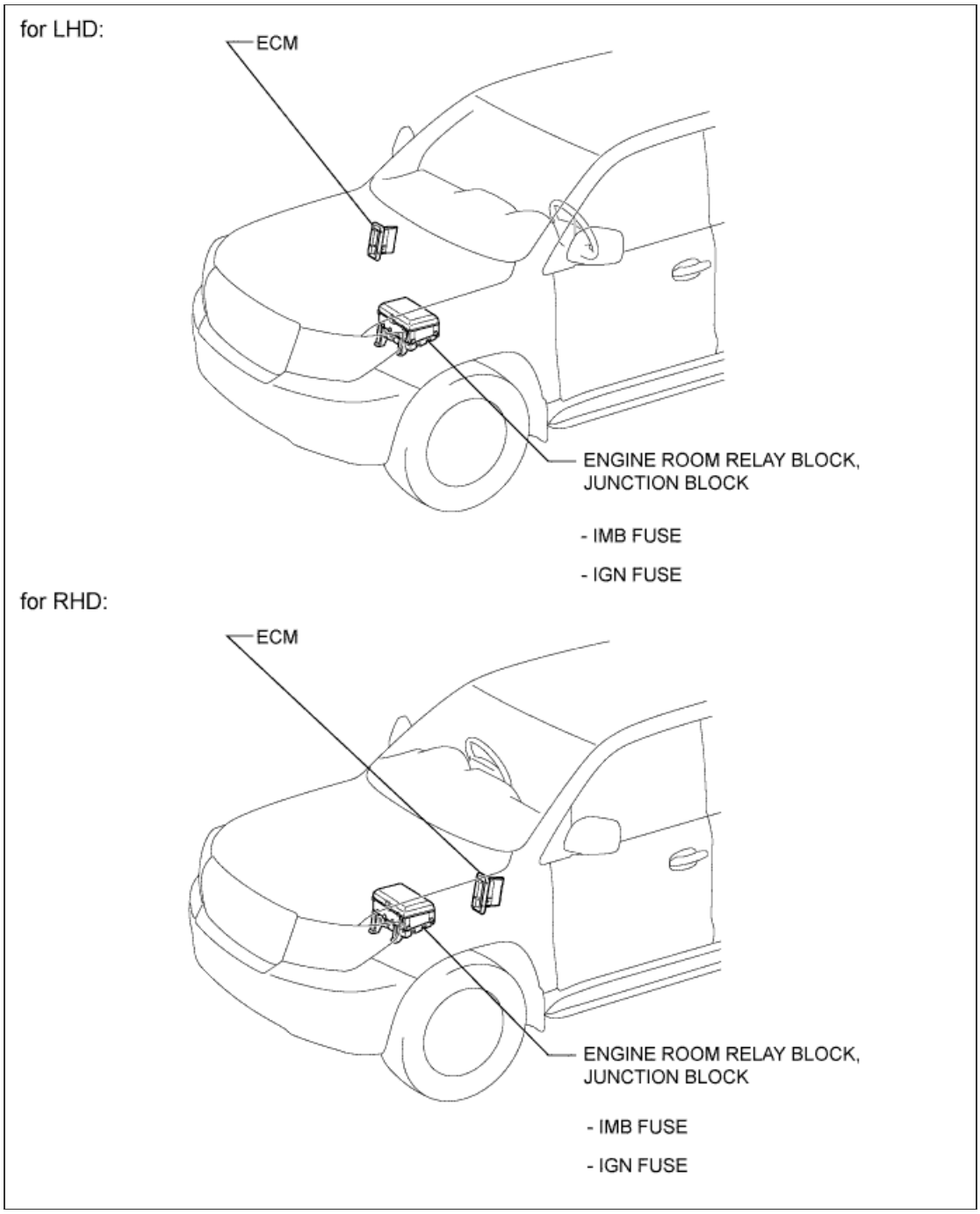

Y

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

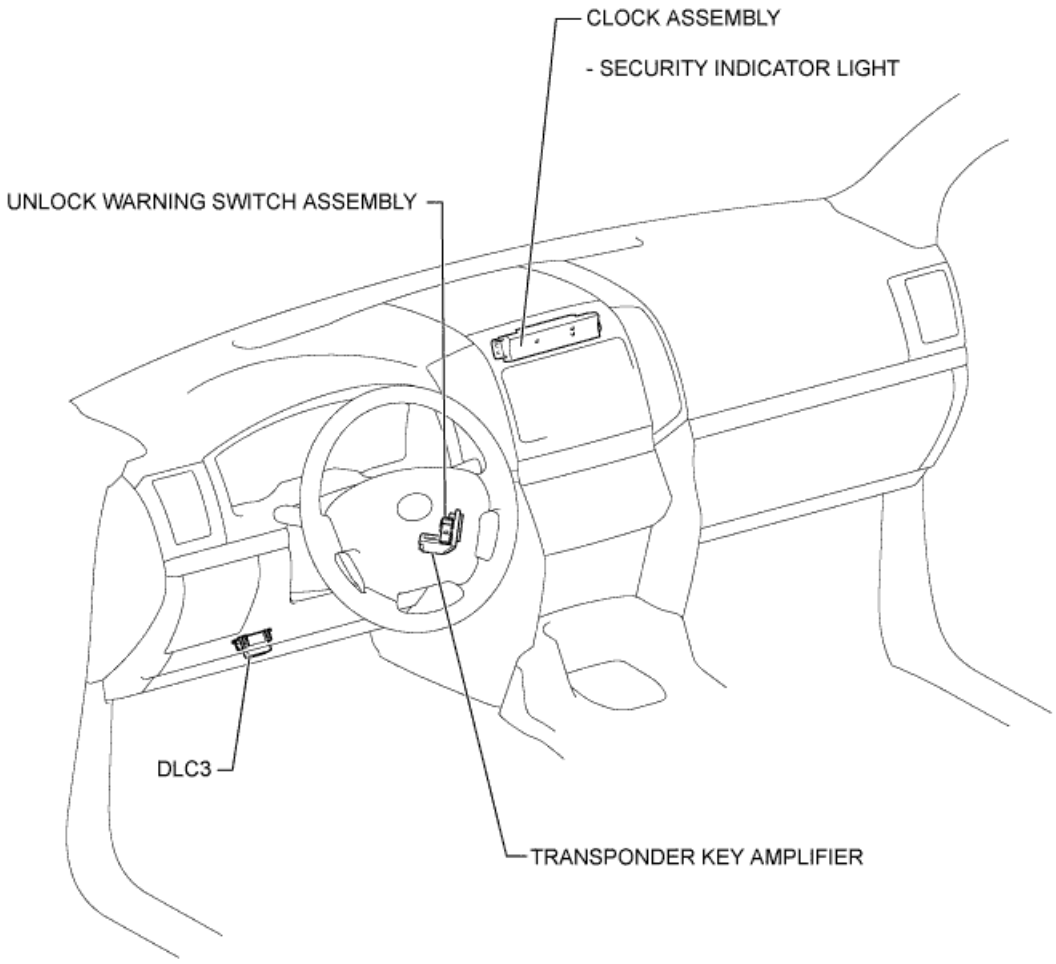
OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**for Preparation** Click here



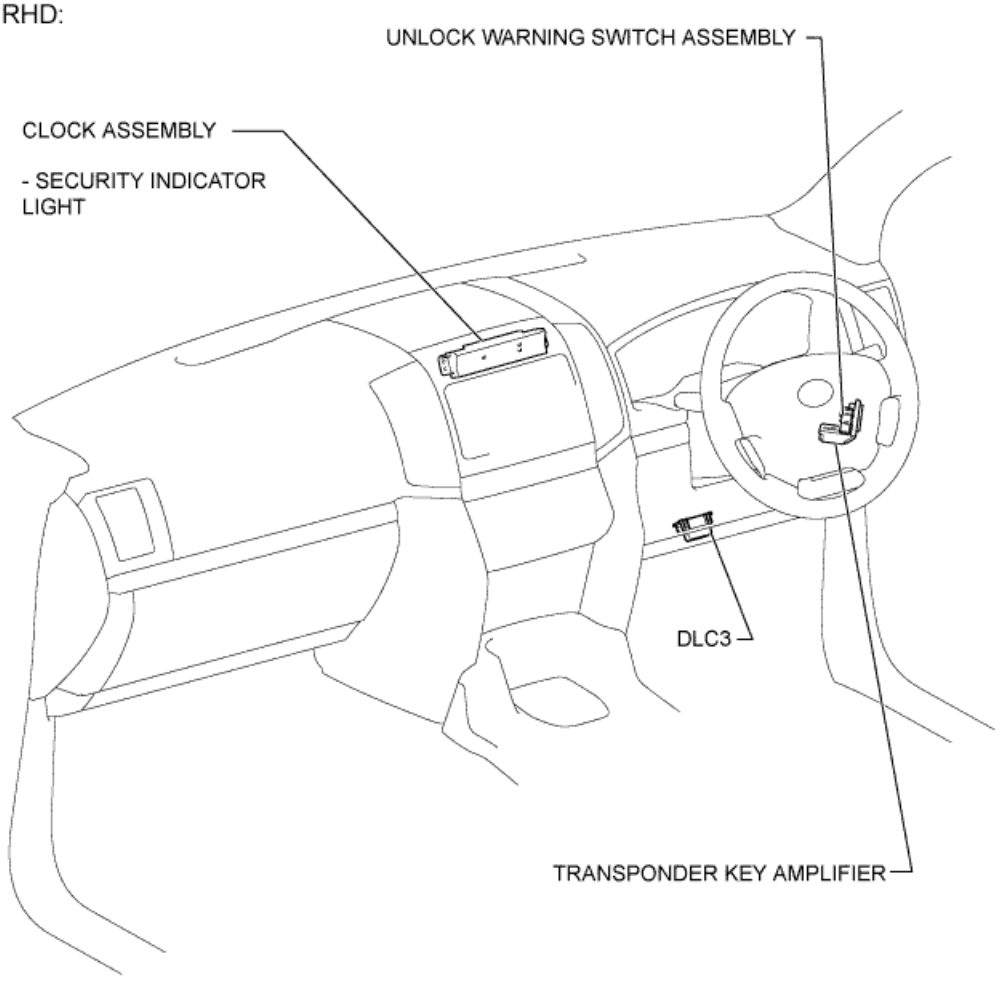
for LHD:


CLOCK ASSEMBLY
- SECURITY INDICATOR LIGHT
UNLOCK WARNING SWITCH ASSEMBLY
DLC3
TRANSPONDER KEY AMPLIFIER


TRANSPONDER KEY ECU ASSEMBLY
Refer to Service Bulletin for installation position of the part

o

for RHD:



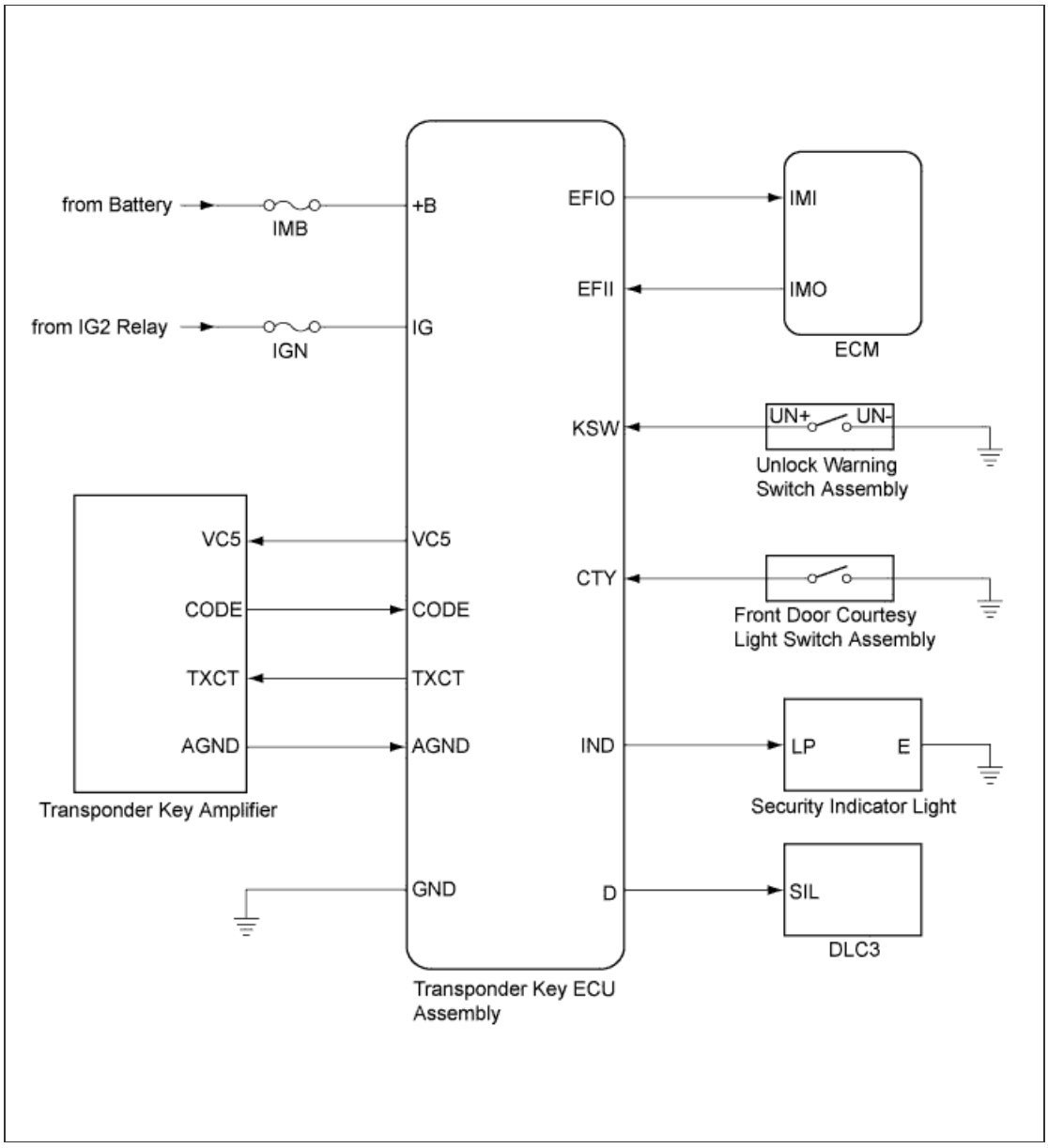




Refer to Service Bulletin for installation position of the part

o

**for Preparation** Click here



**for Preparation** Click here

## ENGINE IMMOBILISER SYSTEM DESCRIPTION

a. The engine immobiliser system is designed to prevent the vehicle from being stolen. This system uses a transponder key ECU assembly that stores the key codes of authorized ignition keys. If an attempt is made to start the engine using an unauthorized key, the transponder key ECU assembly sends a signal to the ECM to prohibit fuel delivery and ignition, effectively disabling the engine.

## FUNCTION OF MAIN COMPONENTS

| Component | Outline |
|---|---|
| Transponder key ECU assembly | Checks the ID code received from the transponder key amplifier and if the results match, an engine start permission signal is sent to the ECM. |
| Transponder key amplifier | When the key is inserted into the ignition key cylinder, the antenna coil receives the key code. Then the amplifier amplifies the ID code and outputs it to the transponder key ECU assembly. |
| ECM | Receives the ID verification results from the transponder key ECU assembly and verifies the ECUs. Then the judgment of whether or not to disable the engine is made. |
| Unlock warning switch assembly | Detects whether the key is in the ignition key cylinder and outputs the results to the transponder key ECU assembly. |

## SYSTEM FUNCTION

a. When the transponder key ECU assembly detects that the unlock warning switch assembly is on, the transponder key ECU assembly provides current to the antenna coil and produces a weak electric wave. A transponder chip in the key grip receives the electric wave. Upon receiving the electric wave, the transponder chip outputs a key ID code signal. The transponder key coil receives this signal, and the signal is then amplified by the transponder key amplifier and transmitted to the transponder key ECU assembly.

b. The transponder key ECU assembly compares the key ID code with the vehicle ID code, which was previously registered in the transponder key ECU assembly, and communicates the results to the ECM. After the identification results show that the key ID code matches the vehicle ID code and the transponder key ECU assembly has confirmed their match, the engine immobiliser system is canceled and the engine starting controls (fuel injection control and ignition control) enter standby mode.

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the engine immobiliser system.**
- ***: Use the intelligent tester.**
- **If the ignition switch cannot be turned to ON, communication with the intelligent tester can be performed by connecting the intelligent tester to the vehicle and turning a courtesy light switch on and off at intervals of 1.5 seconds or less until communication between the intelligent tester and vehicle begins.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

**HINT:**

A simple method to determine whether the battery is depleted is to operate the horn.

NEXT

## 3.CRANK ENGINE FOR MORE THAN 10 SECONDS

NEXT

## 4.CHECK FOR DTC*

a. Check for DTCs and note any codes that are output ( Click here).

b. Based on the DTCs output above, proceed to each diagnostic procedure.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| SFI system DTC is output (for 1GR-FE) | B |
| ECD system DTC is output (for 1VD-FTV) | C |
| Engine immobiliser system DTC is output | D |

B. GO TO SFI SYSTEM (Click here)

C. GO TO ECD SYSTEM (Click here)

D. GO TO DIAGNOSTIC TROUBLE CODE CHART ( Click here)

A

## 5.PROBLEM SYMPTOMS TABLE

a. Refer to Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. → Go to step 7

A

## 6.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Data List / Active Test (Click here).

b. Terminals of ECU (Click here).

NEXT

## 7.ADJUST, REPAIR OR REPLACE

NEXT

## 8.CHECK FOR DTC*

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" of each diagnostic procedure ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| Engine immobiliser system DTC is output | B |

B. → GO TO DIAGNOSTIC TROUBLE CODE CHART ( **Click here**)

A

END

**for Preparation** Click here

**HINT:**

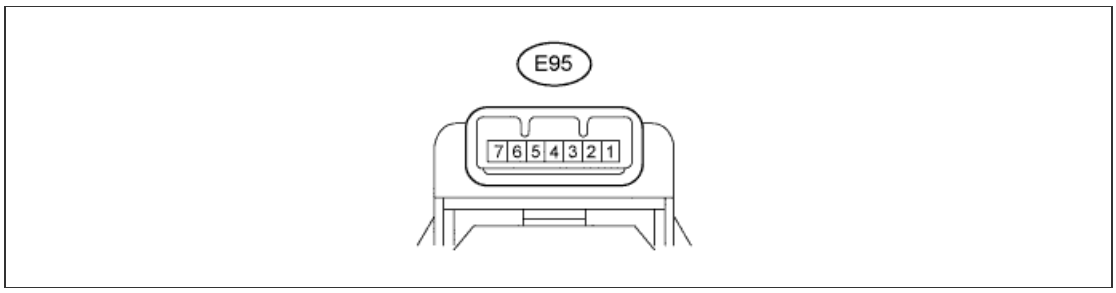
- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Engine Immobiliser System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Engine does not start because no initial combustion | Proceed to "Engine does not Start because No Initial Combustion" | Click here |
| Engine does not start but initial combustion occurs | Proceed to "Engine does not Start but Initial Combustion Occurs" | Click here |
| Security indicator light does not blink | Proceed to "Security Indicator Light Does not Blink" | Click here |
| Key cannot be registered | Proceed to "Key Cannot be Registered" | Click here |

**for Preparation** Click here

## CHECK TRANSPONDER KEY AMPLIFIER




a. Measure the resistance and voltage, and check for pulses according to the value(s) in the table below.

| Terminal No. (Symbol) | Input/Output | Wiring Color | Terminal Description | Condition | Specified Condition | Related Data List Item/DTC |
|---|---|---|---|---|---|---|
| E95-7 (AGND) - Body ground | - | SB - Body ground | Ground | Always | Below 1 Ω | - |
| E95-1 (VC5) - E95-7 (AGND) | Input | P - SB | Transponder key amplifier power supply | No key in ignition key cylinder | Below 1 V | - |
| E95-4 (CODE) - E95-7 (AGND) | Output | V - SB | Demodulated signal of key code data | No key in ignition key cylinder | Below 1 V | - |
| E95-5 (TXCT) - E95-7 (AGND) | Input | LG - SB | Key code output signal | No key in ignition key cylinder | Below 1 V | - |

b. Check for pulses according to the value(s) in the table below.

| Terminal No. (Symbol) | Input/Output | Wiring Color | Terminal Description | Condition | Specified Condition | Related Data List Item/DTC |
|---|---|---|---|---|---|---|
| E95-1 (VC5) - E95-7 (AGND) | Input | P - SB | Transponder key amplifier power supply | Key inserted in ignition key cylinder | Pulse generation (See waveform 1) | • BCC Malfunction<br>• Abnormal Status<br>• Different Encrypt Code<br>• Different Serial Number<br>(If immobiliser key code certification communication is not performed correctly, the malfunction may be indicated by one or more of the Data List items listed above.) |
| E95-4 (CODE) - E95-7 (AGND) | Output | V - SB | Demodulated signal of key code data | Key inserted in ignition key cylinder | Pulse generation (See waveform 2) | |
| E95-5 (TXCT) - E95-7 (AGND) | Input | LG - SB | Key code output signal | Key inserted in ignition key cylinder | Pulse generation (See waveform 3) | |

c. Inspect using an oscilloscope.

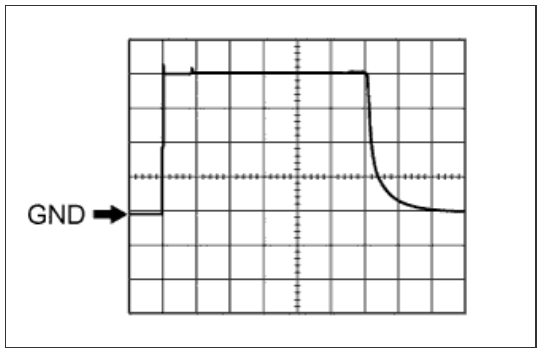
**NOTICE:**

The waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.

i. Waveform 1 (Reference)

**Measurement Condition**

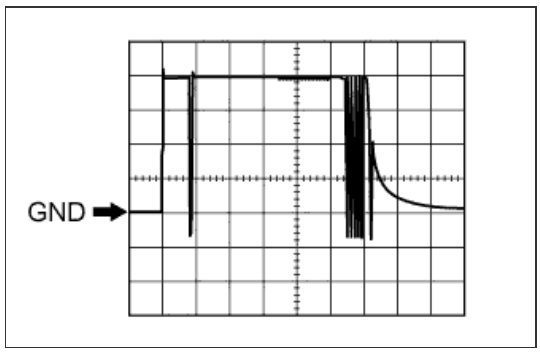
| Item | Content |
|---|---|
| Tester Connection | E95-1 (VC5) - E95-7 (AGND) |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |




ii. Waveform 2 (Reference)

**Measurement Condition**

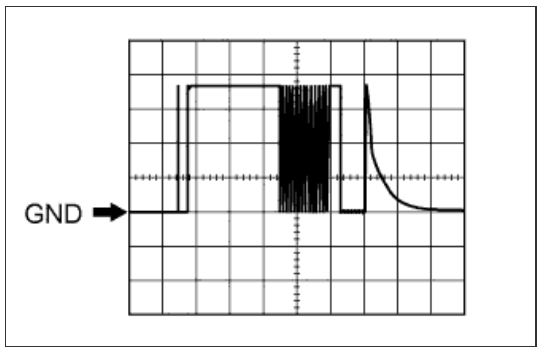
| Item | Content |
|---|---|
| Tester Connection | E95-4 (CODE) - E95-7 (AGND) |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |



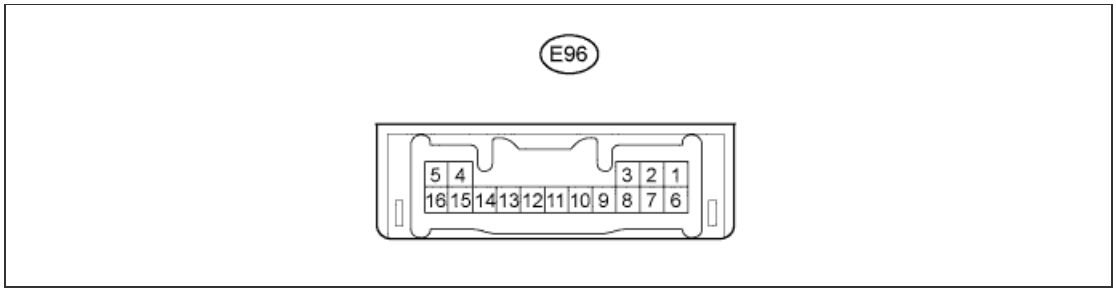

iii. Waveform 3 (Reference)

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E95-5 (TXCT) - E95-7 (AGND) |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |




## CHECK TRANSPONDER KEY ECU ASSEMBLY




a. Disconnect the E96 transponder key ECU assembly connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Input/Output | Wiring Color | Terminal Description | Condition | Specified Condition | Related Data List Item/DTC |
|---|---|---|---|---|---|---|
| E96-16 (GND) - Body ground | - | W-B - Body ground | Ground | Always | Below 1 Ω | - |
| E96-1 (+B) - E96-16 (GND) | Input | B - W-B | Battery | Always | 11 to 14 V | +B |
| E96-2 (IG) - E96-16 (GND) | Input | B - W-B | Ignition switch | Ignition switch off | Below 1 V | IG SW |
| | | | | Ignition switch ON | 11 to 14 V | |
| | | | | No key in ignition key | 10 kΩ or higher | |

| | | | | | | |
|---|---|---|---|---|---|---|
| E96-3 (KSW) - E96-16 (GND) | Input | G - W-B | Unlock warning switch | cylinder | | Key SW/B2780 |
| | | | | Key inserted in ignition key cylinder | Below 1 Ω | |

c. Reconnect the E96 transponder key ECU connector.

d. Measure the resistance and voltage, and check for pulses according to the value(s) in the table below.

| Terminal No. (Symbol) | Input/Output | Wiring Color | Terminal Description | Condition | Specified Condition | Related Data List Item/DTC |
|---|---|---|---|---|---|---|
| E96-14 (VC5) - E96-16 (GND) | Input | P - W-B | Transponder key amplifier power supply | No key in ignition key cylinder | Below 1 V | • BCC Malfunction<br>• Abnormal Status<br>• Different Encrypt Code<br>• Different Serial Number<br>(If immobiliser key code certification communication is not performed correctly, the malfunction may be indicated by one or more of the Data List items listed above.) |
| | | | | Key inserted in ignition key cylinder | Pulse generation (See waveform 1) | |
| E96-4 (TXCT) - E96-16 (GND) | Input | LG - W-B | Key code output signal | No key in ignition key cylinder | Below 1 V | |
| | | | | Key inserted in ignition key cylinder | Pulse generation (See waveform 2) | |
| E96-15 (CODE) - E96-16 (GND) | Output | V - W-B | Demodulated signal of key code data | No key in ignition key cylinder | Below 1 V | |
| | | | | Key inserted in ignition key cylinder | Pulse generation (See waveform 3) | |
| E96-13 (EFIO) - E96-16 (GND) | Input | R - W-B | ECM output signal | Ignition switch off | Below 1 V | E/G Start Permission |
| | | | | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected | Pulse generation (See waveform 4) | |
| E96-12 (EFII) - E96-16 (GND) | Output | W - W-B | ECM input signal | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected | Pulse generation (See waveform 5) | E/G Start Permission |
| E96-9 (D) - E96-16 (GND) | Input/Output | R - W-B | Diagnosis tester communication | Always | Pulse generation | - |
| E96-5 (AGND) - Body ground | - | SB - Body ground | Transponder key amplifier ground | Always | Below 1 Ω | - |
| E96-8 (IND) - Body ground | Output | V - Body ground | Security indicator signal | No key in ignition key cylinder, or 20 sec. elapsed after turning the ignition switch to ACC or off (engine immobiliser system set) | Pulse generation | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Key in ignition key cylinder (engine immobiliser system unset) | Below 1 V | |

e. Inspect using an oscilloscope.

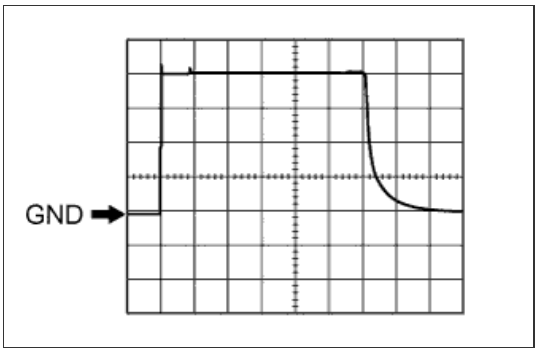
**NOTICE:**

The waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.

i. Waveform 1 (Reference)

**Measurement Condition**

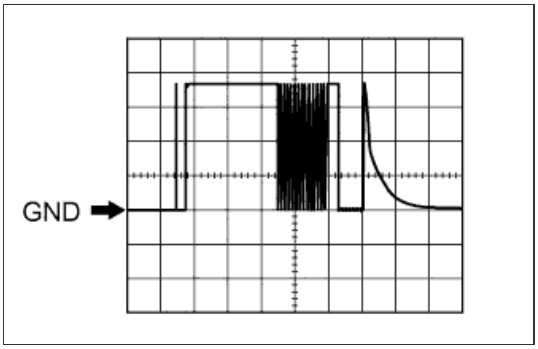
| Item | Content |
|---|---|
| Tester Connection | E96-14 (VC5) - E96-16 (GND) |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |




ii. Waveform 2 (Reference)

**Measurement Condition**

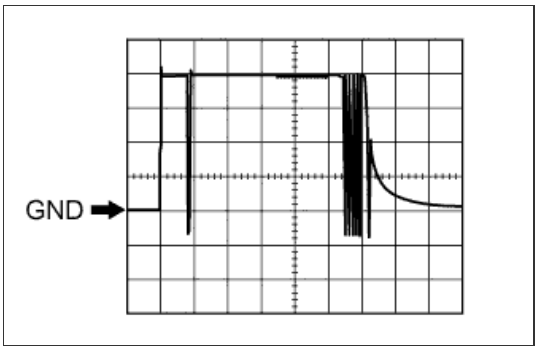
| Item | Content |
|---|---|
| Tester Connection | E96-4 (TXCT) - E96-16 (GND) |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |



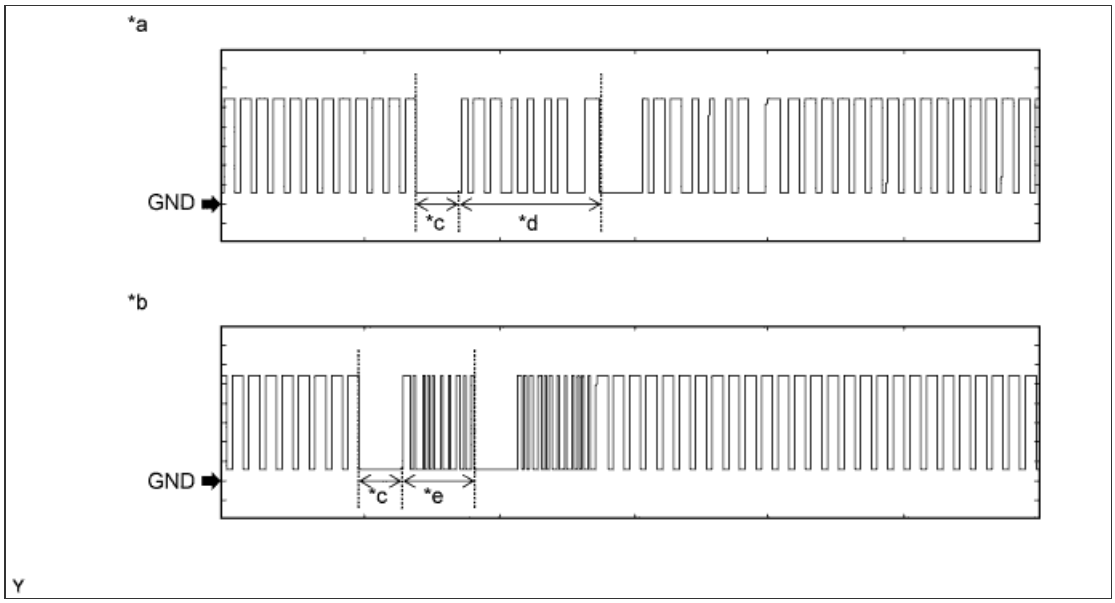

iii. Waveform 3 (Reference)

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E96-15 (CODE) - E96-16 (GND) |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |




iv. Waveform 4 (Reference)



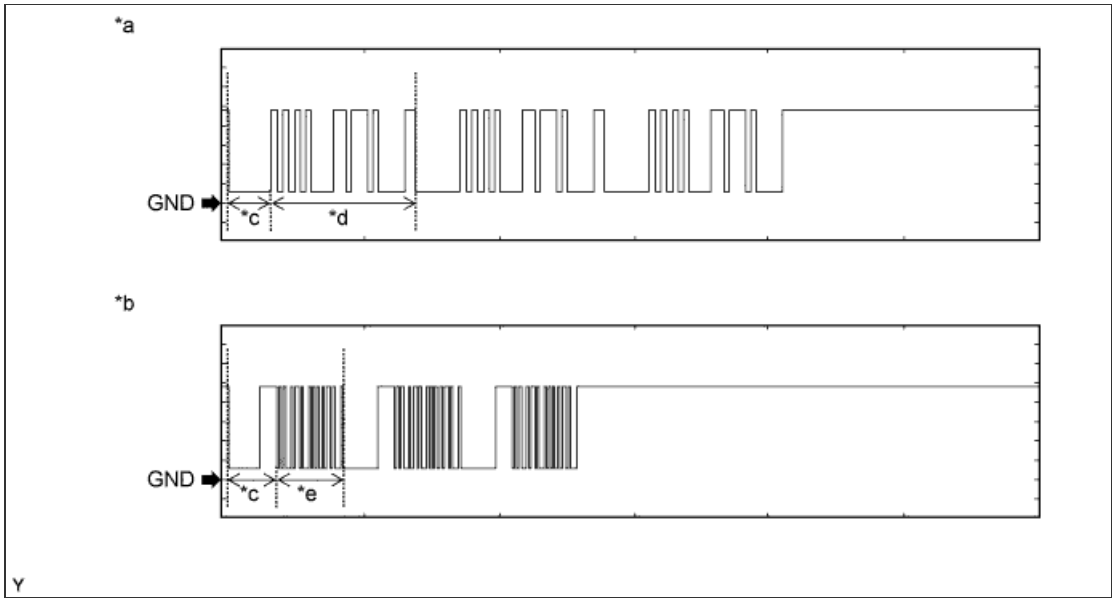

**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Waveform A | *b | Waveform B |
| *c | Approximately 160 ms | *d | Approximately 510 ms |
| *e | Approximately 270 ms | - | - |

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E96-13 (EFIO) - E96-16 (GND) |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

v. Waveform 5 (Reference)




**Text in Illustration**

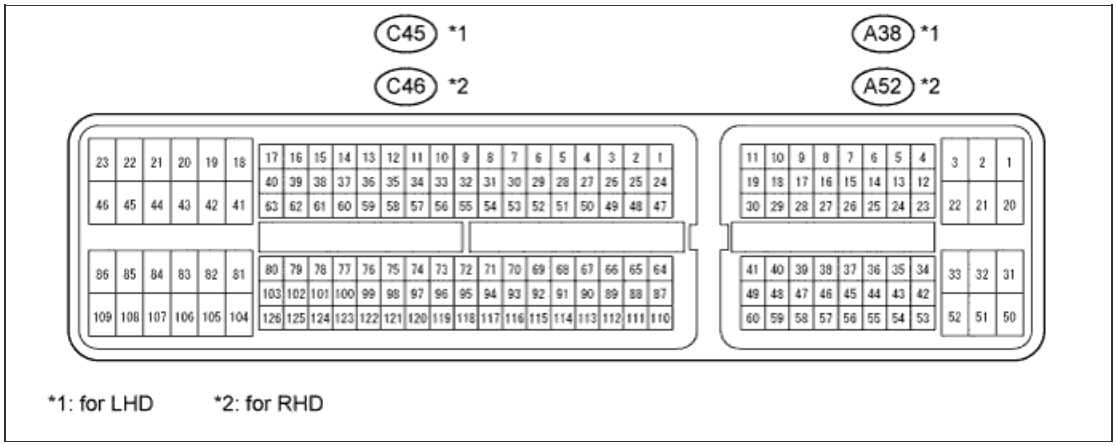
| | | | |
|---|---|---|---|
| *a | Waveform A | *b | Waveform B |
| *c | Approximately 160 ms | *d | Approximately 510 ms |
| | | | |

| | | | |
|---|---|---|---|
| *e | Approximately 270 ms | - | - |

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E96-12 (EFII) - E96-16 (GND) |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

**CHECK ECM (for 1GR-FE)**




a. for LHD:

i. Measure the voltage and check for pulses according to the value(s) in the table below.

| Terminal No. (Symbol) | Input/Output | Wiring Color | Terminal Description | Condition | Specified Condition | Related Data List Item/DTC |
|---|---|---|---|---|---|---|
| C45-81 (E1) - Body ground | - | BR - Body ground | Ground | Always | Below 1 Ω | - |
| A38-20 (BATT) - C45-81 (E1) | Input | L - BR | +B power supply | Always | 11 to 14 V | - |
| A38-1 (+B2) - C45-81 (E1) | Input | B - BR | +B power supply | Ignition switch ON | 11 to 14 V | - |
| A38-2 (+B) - C45-81 (E1) | Input | B - BR | +B power supply | Ignition switch ON | 11 to 14 V | - |
| A38-10 (IMO) - C45-81 (E1) | Input | W - BR | Transponder key ECU assembly communication input | Ignition switch off | 11 to 14 V | - |
| | | | Transponder key ECU assembly communication input | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected. | Pulse generation (See waveform 1) | - |
| | | | Transponder key ECU | Ignition switch | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| A38-11 (IMI) - C45-81 (E1) | Output | R - BR | assembly communication output | off | 11 to 14 V | - |
| | | | Transponder key ECU assembly communication output | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected. | Pulse generation (See waveform 2) | - |

**b.** for RHD:

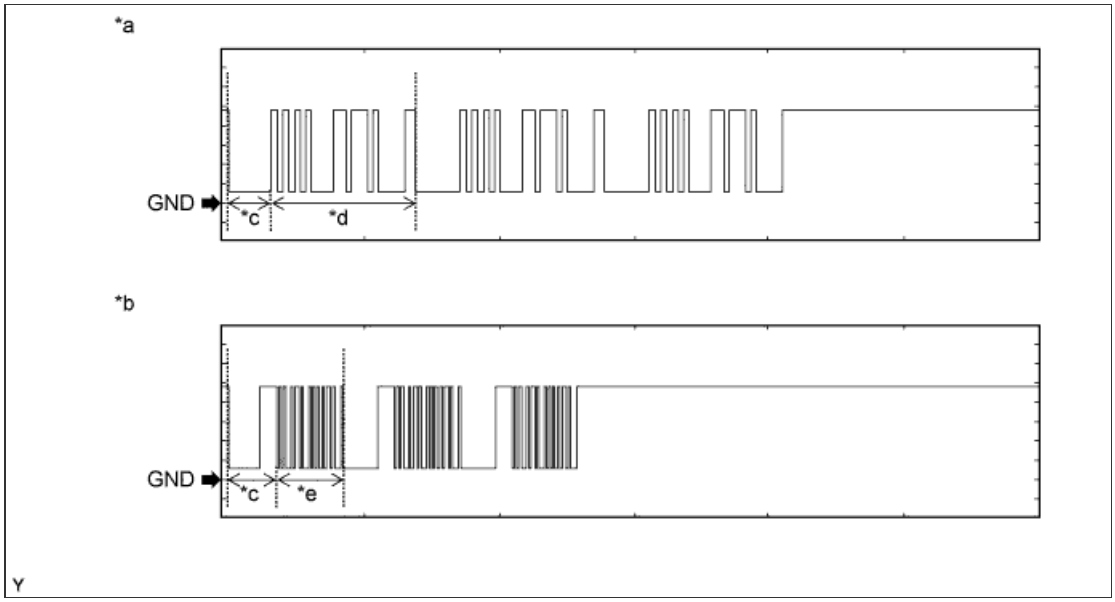
**i.** Measure the voltage and check for pulses according to the value(s) in the table below.

| Terminal No. (Symbol) | Input/Output | Wiring Color | Terminal Description | Condition | Specified Condition | Related Data List Item/DTC |
|---|---|---|---|---|---|---|
| C46-81 (E1) - Body ground | - | BR - Body ground | Ground | Always | Below 1 Ω | - |
| A52-20 (BATT) - C46-81 (E1) | Input | L - BR | +B power supply | Always | 11 to 14 V | - |
| A52-1 (+B2) - C46-81 (E1) | Input | B - BR | +B power supply | Ignition switch ON | 11 to 14 V | - |
| A52-2 (+B) - C46-81 (E1) | Input | B - BR | +B power supply | Ignition switch ON | 11 to 14 V | - |
| A52-10 (IMO) - C46-81 (E1) | Input | W - BR | Transponder key ECU assembly communication input | Ignition switch off | 11 to 14 V | - |
| | | | Transponder key ECU assembly communication input | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected. | Pulse generation (See waveform 1) | - |
| A52-11 (IMI) - C46-81 (E1) | Output | R - BR | Transponder key ECU assembly communication output | Ignition switch off | 11 to 14 V | - |
| | | | Transponder key ECU assembly communication output | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after | Pulse generation (See waveform 2) | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | battery disconnected and reconnected. | | |

c. Inspect using an oscilloscope.

i. Waveform 1 (Reference)




**Text in Illustration**

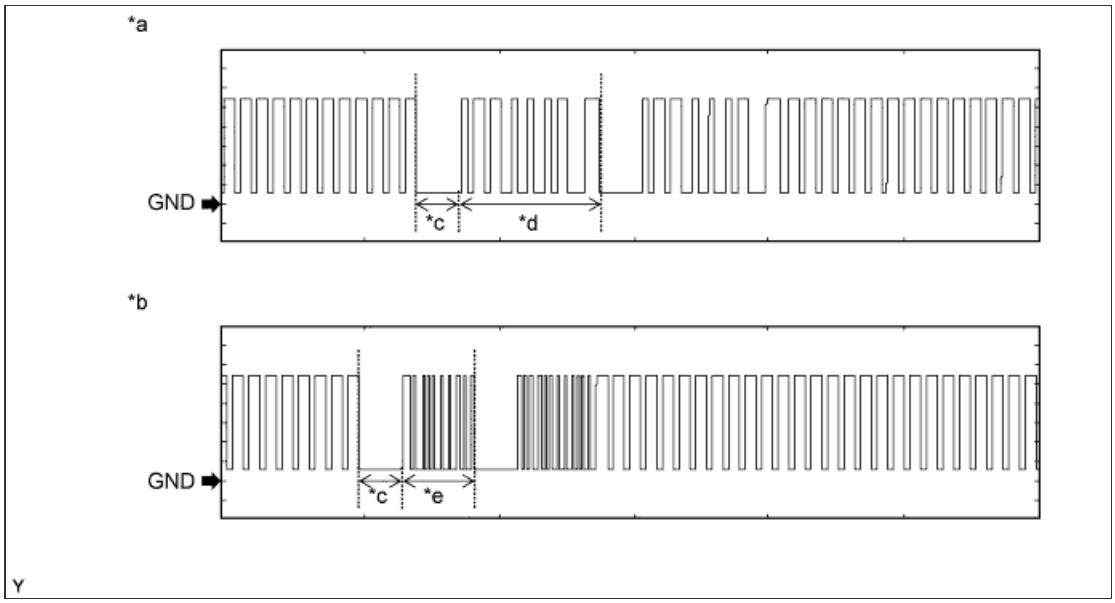
| | | | |
|---|---|---|---|
| *a | Waveform A | *b | Waveform B |
| *c | Approximately 160 ms | *d | Approximately 510 ms |
| *e | Approximately 270 ms | - | - |

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | A38-10 (IMO) - C45-81 (E1)*1<br>A52-10 (IMO) - C46-81 (E1)*2 |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

ii. Waveform 2 (Reference)




**Text in Illustration**

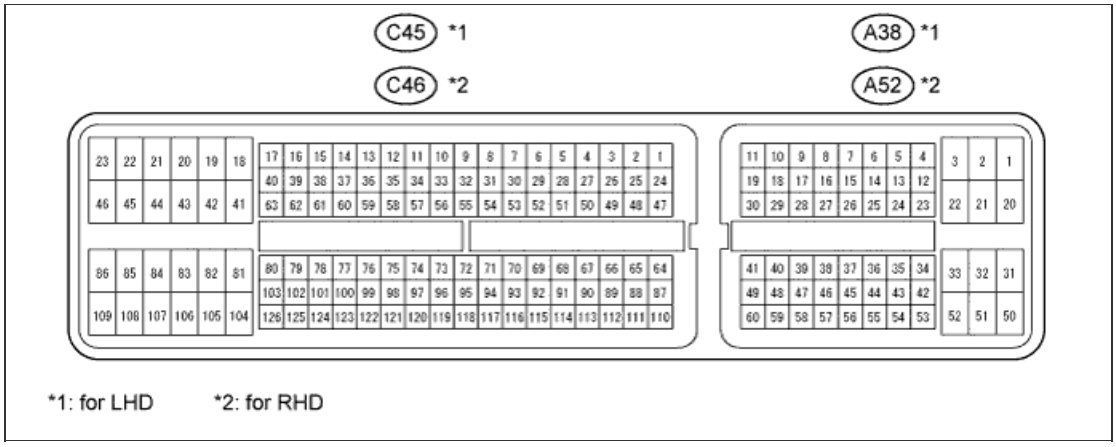
| | | | |
|---|---|---|---|
| *a | Waveform A | *b | Waveform B |
| *c | Approximately 160 ms | *d | Approximately 510 ms |
| *e | Approximately 270 ms | - | - |

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | A38-11 (IMI) - C45-81 (E1)*1<br>A52-11 (IMI) - C46-81 (E1)*2 |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

## CHECK ECM (for 1VD-FTV)




a. for LHD:

i. Measure the voltage and check for pulses according to the value(s) in the table below.

| Terminal No. (Symbol) | Input/Output | Wiring Color | Terminal Description | Condition | Specified Condition | Related Data List Item/DTC |
|---|---|---|---|---|---|---|
| C45-81 (E1) - Body ground | - | BR - Body ground | Ground | Always | Below 1 Ω | - |
| A38-20 (BATT) | Input | L - BR | +B power | Always | 11 to 14 V | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| - C45-81 (E1) | | | supply | | | |
| A38-2 (+B) - C45-81 (E1) | Input | B - BR | +B power supply | Ignition switch ON | 11 to 14 V | - |
| A38-10 (IMO) - C45-81 (E1) | Input | W - BR | Transponder key ECU assembly communication input | Ignition switch off | 11 to 14 V | - |
| | | | Transponder key ECU assembly communication input | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected. | Pulse generation (See waveform 1) | - |
| A38-11 (IMI) - C45-81 (E1) | Output | R - BR | Transponder key ECU assembly communication output | Ignition switch off | 11 to 14 V | - |
| | | | Transponder key ECU assembly communication output | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected. | Pulse generation (See waveform 2) | - |

**b.** for RHD:

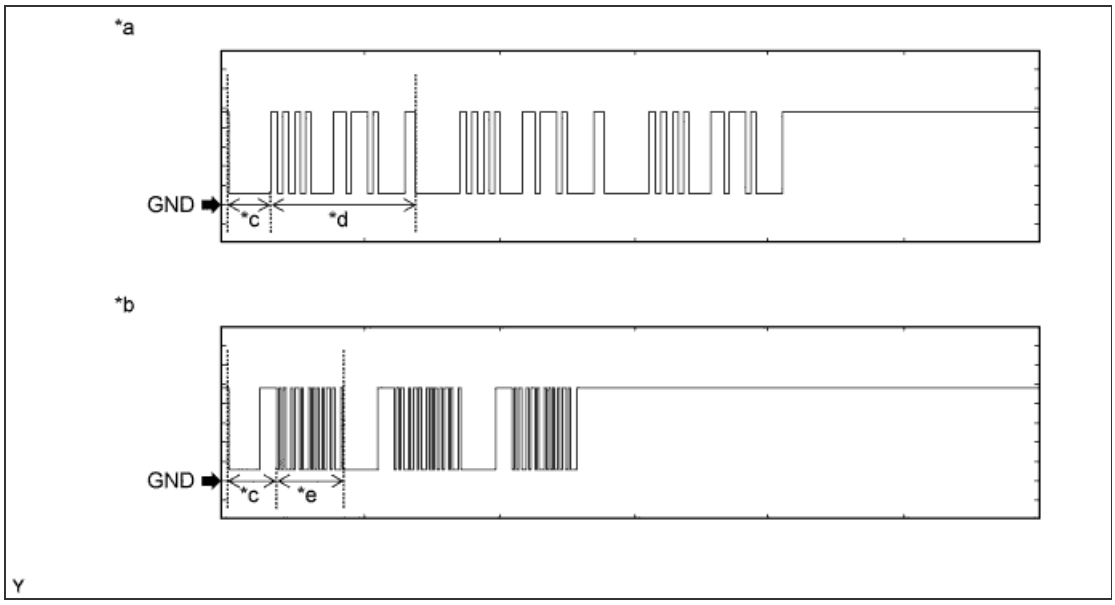
**i.** Measure the voltage and check for pulses according to the value(s) in the table below.

| Terminal No. (Symbol) | Input/Output | Wiring Color | Terminal Description | Condition | Specified Condition | Related Data List Item/DTC |
|---|---|---|---|---|---|---|
| C46-81 (E1) - Body ground | - | BR - Body ground | Ground | Always | Below 1 Ω | - |
| A52-20 (BATT) - C46-81 (E1) | Input | L - BR | +B power supply | Always | 11 to 14 V | - |
| A52-2 (+B) - C46-81 (E1) | Input | B - BR | +B power supply | Ignition switch ON | 11 to 14 V | - |
| A52-10 (IMO) - C46-81 (E1) | Input | W - BR | Transponder key ECU assembly communication input | Ignition switch off | 11 to 14 V | - |
| | | | Transponder key ECU assembly communication | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after | Pulse generation (See waveform | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | input | ignition switch first turned to ON after battery disconnected and reconnected. | 1) | |
| A52-11 (IMI) - C46-81 (E1) | Output | R - BR | Transponder key ECU assembly communication output | Ignition switch off | 11 to 14 V | - |
| | | | Transponder key ECU assembly communication output | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected. | Pulse generation (See waveform 2) | - |

c. Inspect using an oscilloscope.

i. Waveform 1 (Reference)




**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Waveform A | *b | Waveform B |
| *c | Approximately 160 ms | *d | Approximately 510 ms |
| *e | Approximately 270 ms | - | - |

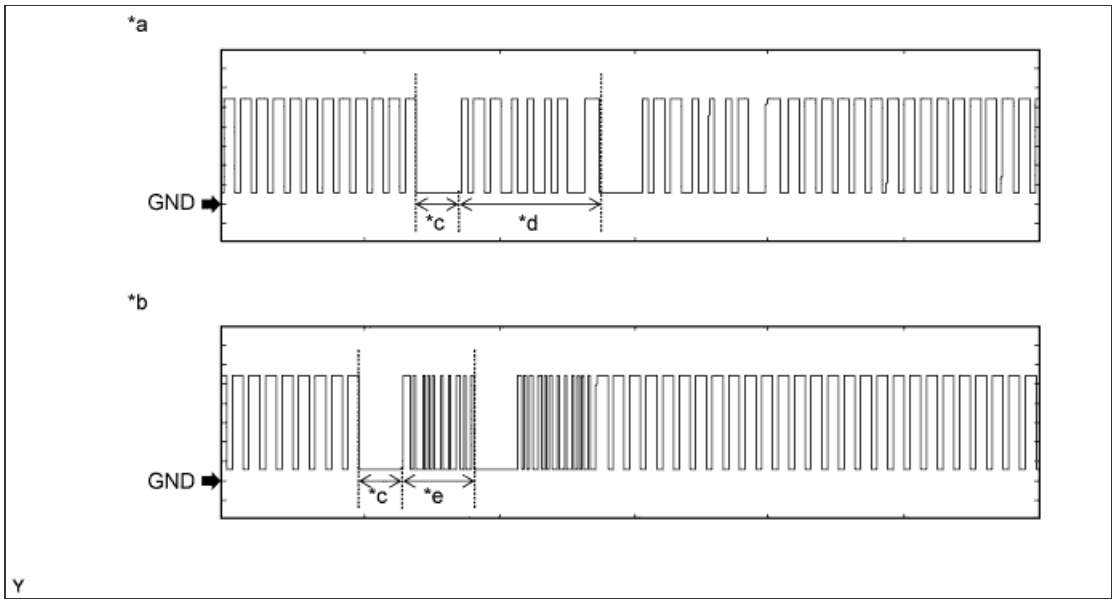
**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | A38-10 (IMO) - C45-81 (E1)*1<br>A52-10 (IMO) - C46-81 (E1)*2 |
| Tool | |

| | |
|---|---|
| Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

ii. Waveform 2 (Reference)




**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Waveform A | *b | Waveform B |
| *c | Approximately 160 ms | *d | Approximately 510 ms |
| *e | Approximately 270 ms | - | - |

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | A38-11 (IMI) - C45-81 (E1)*1<br>A52-11 (IMI) - C46-81 (E1)*2 |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

**for Preparation** Click here

**HINT:**

- **If the ignition switch cannot be turned to ON, communication with the intelligent tester can be performed by connecting the intelligent tester to the vehicle and turning a courtesy light switch on and off at intervals of 1.5 seconds or less until communication between the intelligent tester and vehicle begins.**
- **Refer to the intelligent tester operator's manual for further details.**

## CHECK FOR TRANSPONDER KEY ECU ASSEMBLY DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Immobiliser / DTC.

e. Check for DTCs.

## CHECK FOR ECM DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Powertrain / Engine and ECT / DTC.

e. Check for DTCs.

## CLEAR TRANSPONDER KEY ECU ASSEMBLY DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Immobiliser / DTC.

e. Clear the DTCs.

## CLEAR ECM DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Powertrain / Engine and ECT / DTC.

e. Clear the DTCs.

**for Preparation** Click here

## DATA LIST

**HINT:**

- **Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.**
- **If the ignition switch cannot be turned to ON, communication with the intelligent tester can be performed by connecting the intelligent tester to the vehicle and turning a courtesy light switch on and off at intervals of 1.5 seconds or less until communication between the intelligent tester and vehicle begins.**

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Immobiliser / Data List.

e. Enter the following menus: Powertrain / Engine and ECT / Data List.

f. According to the display on the intelligent tester, read the Data List.

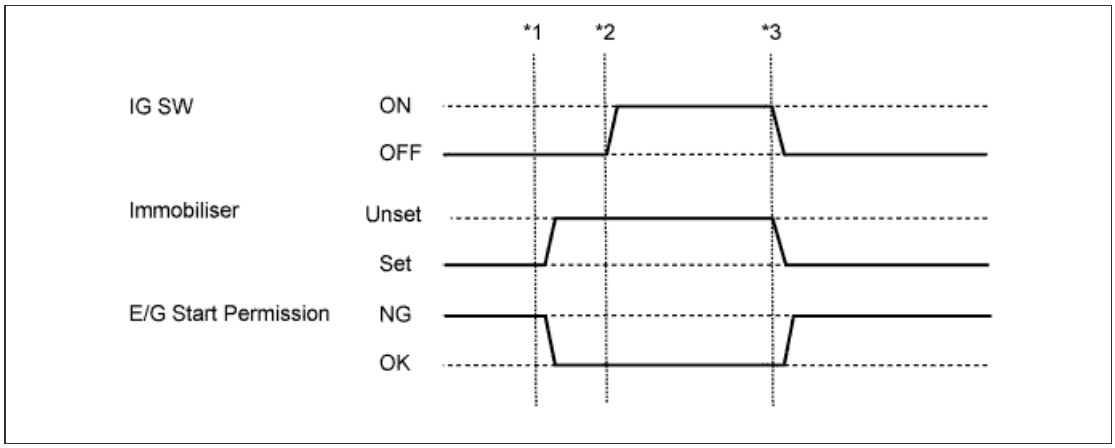
### Immobiliser

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Door Courtesy SW | Driver door courtesy light switch signal / ON or OFF | ON: Driver door open<br>OFF: Driver door closed | - |
| Key SW | Unlock warning switch signal / ON or OFF | ON: Key inserted in ignition key cylinder<br>OFF: No key in ignition key cylinder | - |
| IG SW*2 | Ignition switch signal / ON or OFF | ON: Ignition switch ON<br>OFF: Ignition switch ACC or off | - |
| Immobiliser*2 | Engine immobiliser system status determined by transponder key ECU assembly / Set or Unset | Set: Engine immobiliser set (engine start prohibited [no key in ignition key cylinder])<br>Unset: Engine immobiliser unset (engine start permitted [key inserted in ignition key cylinder]) | When the engine immobiliser system does not change to the unset state, this item can be used to determine if the cause is the transponder key ECU assembly. |
| Response | Key response to signal from transponder key ECU assembly / OK or NG | OK: Key responds to signal from transponder key ECU assembly<br>NG: Key does not respond to signal from transponder key ECU assembly | Problems may be caused by the following:<br>• A key from a different vehicle is being used.<br>• Malfunctions in the key, transponder key ECU assembly or transponder key amplifier. |
| Frame Error | State of data sent from key / OK or NG | OK: No problem with data sent from key<br>NG: Problem with data sent from key | Problems may be caused by the following:<br>• Communication errors due to external electric wave noise.<br>• Malfunctions in the key, transponder key ECU assembly or transponder key amplifier. |
| Different Serial Number*1 | Vehicle serial number / OK or NG | OK: Signal from transponder chip and vehicle serial number stored in transponder key ECU assembly match<br>NG: Signal from transponder chip and vehicle serial number stored in transponder key ECU assembly do not match | Problems may be caused by the following:<br>• A key from a different vehicle is being used.<br>• Malfunctions in the key, transponder key ECU assembly or transponder key amplifier. |
| | | OK: Codes of transponder chip and | Problems may be caused by the following: |

| | | | |
|---|---|---|---|
| Different Encrypt Code*1 | Code status between transponder chip and transponder key ECU assembly / OK or NG | transponder key ECU assembly match<br>NG: Codes of transponder chip and transponder key ECU assembly do not match | • A key from a different vehicle is being used.<br>• Malfunctions in the key, transponder key ECU assembly or transponder key amplifier. |
| Abnormal Status*1 | Transponder chip status signal / OK or NG | OK: Transponder chip status signal normal<br>NG: Transponder chip status signal malfunction (malfunction in code computation in key/transponder key ECU assembly) | Problems may be caused by the following:<br>• Communication errors due to external electric wave noise (LF).<br>• Malfunctions in the key, transponder key ECU assembly or transponder key amplifier. |
| Bcc Malfunction*1 | BCC signal status of transponder chip / OK or NG | OK: BCC signal normal<br>NG: BCC signal malfunction (malfunction in code computation in key/transponder key ECU assembly) | Problems may be caused by the following:<br>• Communication errors due to external electric wave noise (LF).<br>• Malfunctions in the key, transponder key ECU assembly or transponder key amplifier. |
| Sub Key | Whether sub-key ID code matches ID code registered in transponder key ECU assembly / Reg or Unreg | Reg: ID code of sub-key matches ID code registered in transponder key ECU assembly<br>Unreg: ID code of sub-key does not match ID code registered in transponder key ECU assembly | - |
| Master Key | Whether master key ID code matches ID code registered in transponder key ECU assembly / Reg or Unreg | Reg: ID code of master key matches ID code registered in transponder key ECU assembly<br>Unreg: ID code of master key does not match ID code registered in transponder key ECU assembly | - |
| Transponder S-code | Number of registered sub-keys / min.: 0, max.: 3 | Number of registered sub-keys | - |
| Transponder M-code | Number of registered master keys / min.: 0, max.: 5 | Number of registered master keys | - |
| Reg Code Space Full | Key registration code memory space full / Yes or No | No: Possible to register more key codes<br>Yes: Cannot register any more key codes | - |
| +B | +B judgment / Normal or Break | Normal: Battery power supply normal<br>Break: Battery power supply malfunctioning | - |
| Antenna Coil Status | Antenna coil condition / Normal or Fail | Normal: Antenna coil normal<br>Fail: Antenna coil malfunctioning | - |
| EEPROM Status | EEPROM status / OK or NG | OK: Data OK<br>NG: Data error | - |
| E/G Start Permission*2 | Engine start permission / OK or NG | OK: Engine start permitted<br>NG: Engine start not permitted | - |
| Immobi ECU Comm Spd | Immobiliser ECU communication speed / Unknown, 50bps, 200bps or No Res | Unknown: ECU communication speed unknown<br>50bps: ECU communication speed 50 bps<br>200bps: ECU communication speed 200 bps<br>No Res: No response regarding ECU communication speed | - |
| The Number of DTCs | Number of DTCs / Min.: 0, Max.: 255 | Number of stored DTCs | - |

**HINT:**

- ***1: This indicates that there is a problem with the communication format between the key and transponder key ECU assembly. Electric wave interference, key or transponder key ECU assembly malfunctions, the key of another vehicle being used, etc. are possible causes.**
- ***2: Refer to the following Data List items of an actual vehicle.**




*1: Without depressing the brake pedal (for Automatic Transaxle) or clutch pedal (for Manual Transaxle), insert the key into the ignition key cylinder and turn the ignition switch to ACC.
*2: Without depressing the brake pedal (for Automatic Transaxle) or clutch pedal (for Manual Transaxle), turn the ignition switch to ON.
*3: Turn the ignition switch off and remove the key from the ignition key cylinder.

### Engine and ECT

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Immobiliser Fuel Cut* | Status of immobiliser fuel cut / ON or OFF | - | - |

*: for 1GR-FE

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Immobiliser / Active Test.

e. Perform the Active Test according to the display on the intelligent tester.

### Immobiliser

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Indicator | Security Indicator Light | ON/OFF | - |

**for Preparation** Click here

**HINT:**

If a trouble code is output during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.

**Transponder Key ECU Assembly**

| DTC Code | Detection Item | Detection Enabling Condition (DTC Output Confirmation Operation) | See page |
|---|---|---|---|
| B2780 | Push Switch / Key Unlock Warning Switch Malfunction | Insert the key into the ignition key cylinder. | Click here |
| B2784 | Antenna Coil Open / Short | Insert the key into the ignition key cylinder. | Click here |
| B2793 | Transponder Chip Malfunction | Insert the key into the ignition key cylinder. | Click here |
| B2794 | Unmatched Encryption Code | Insert the key into the ignition key cylinder. | Click here |
| B2795 | Unmatched Key Code | Insert the key into the ignition key cylinder. | Click here |
| B2796 | No Communication in Immobiliser System | Insert the key into the ignition key cylinder. | Click here |
| B2797 | Communication Malfunction No. 1 | Insert the key into the ignition key cylinder. | Click here |
| B2798 | Communication Malfunction No. 2 | Insert the key into the ignition key cylinder. | Click here |

**ECM**

| DTC Code | Detection Item | Detection Enabling Condition (DTC Output Confirmation Operation) | See page |
|---|---|---|---|
| B2799 | Engine Immobiliser System Malfunction | Either condition is met:-<br>- Within 10 seconds of an engine start operation being performed an engine start operation refers to turning the ignition witch to ON with the shift lever in P and the brake pedal depressed*1, or the shift lever in N and the brake pedal and clutch pedal depressed*2. If there is a malfunction, the engine stops (communication begins within 3 seconds of the engine start operation being performed, and DTCs are stored after 6 seconds).<br>- 10 seconds after the ignition switch is turned to ON after reconnecting the cable to the negative (-) battery terminal (communication begins within 3 seconds of the ignition switch being turned to ON, and DTCs are stored after 6 seconds). | Click here |
| B279A | Theft Deterrent System Communication Line High Fixation | Turn the ignition switch to ON and wait 6 seconds. | Click here |
| B279C | Theft Deterrent System Presence Detection | Check for DTCs. | Click here |

*1: for Automatic Transmission
*2: for Manual Transmission

# DTC B2780 Push Switch / Key Unlock Warning Switch Malfunction

**for Preparation** Click here

## DESCRIPTION

This DTC is stored if the transponder key ECU assembly does not detect that the unlock warning switch assembly is on even when the ignition switch is ON. Under normal conditions, the unlock warning switch assembly is on when the ignition switch is ON.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2780 | The unlock warning switch assembly is not detected as being on when the ignition switch is ON (1 trip detection logic*). | • Transponder key ECU assembly<br>• Unlock warning switch assembly<br>• Harness or connector | Insert the key into the ignition key cylinder. |

*: Only output while a malfunction is present.

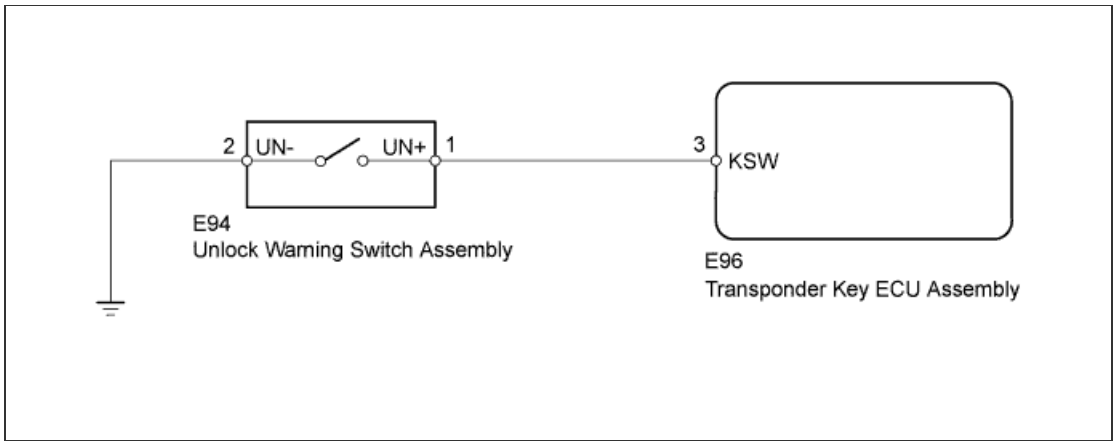
### Vehicle Condition and Fail-safe Operation when Malfunction Detected

| Vehicle Condition when Malfunction Detected | Fail-safe Operation when Malfunction Detected |
|---|---|
| Engine cannot be started | - |

### Related Data List and Active Test

| DTC Code | Data List and Active Test |
|---|---|
| B2780 | Key SW |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the transponder key ECU assembly, refer to the Service Bulletin.**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

### 1.CLEAR DTC

a. Clear the DTCs (Click here).

**NEXT**

### 2.CHECK FOR DTC

a. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.

**OK:**
**DTC B2780 is not output.**

NG → Go to step 3

OK

USE SIMULATION METHOD TO CHECK (Click here)

3.INSPECT UNLOCK WARNING SWITCH ASSEMBLY

a. Inspect the unlock warning switch assembly (Click here).

NG → REPLACE UNLOCK WARNING SWITCH ASSEMBLY (Click here)

OK

4.CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH ASSEMBLY - TRANSPONDER KEY ECU ASSEMBLY AND BODY GROUND)

a. Disconnect the E94 unlock warning switch assembly connector.

b. Disconnect the E96 transponder key ECU assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E94-1 (UN+) - E96-3 (KSW) | Always | Below 1 Ω |
| E94-2 (UN-) - Body ground | Always | Below 1 Ω |
| E94-1 (UN+) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE TRANSPONDER KEY ECU ASSEMBLY

# DTC B2795 Unmatched Key Code

**for Preparation** Click here

## DESCRIPTION

This DTC is stored when a key with a different vehicle serial number is inserted into the ignition key cylinder.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2795 | A key with a different vehicle serial number is inserted into the ignition key cylinder (1 trip detection logic*). | • Key<br>• Transponder key ECU assembly | Insert the key into the ignition key cylinder. |

*: Only output while a malfunction is present.

### Vehicle Condition and Fail-safe Operation when Malfunction Detected

| Vehicle Condition when Malfunction Detected | Fail-safe Operation When Malfunction Detected |
|---|---|
| Engine cannot be started | - |

### Related Data List and Active Test

| DTC Code | Data List and Active Test |
|---|---|
| B2795 | Different Serial Number |

## INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the key or transponder key ECU assembly, refer to the Service Bulletin.**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

### 1.CLEAR DTC

a. Clear the DTCs (Click here).

**NEXT**

### 2.CHECK FOR DTC

a. Insert and remove each registered key one at a time, and check for DTCs each time ( Click here).

**HINT:**

- **Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.**
- **If DTC B2795 is output, check for DTCs with the next key after clearing the DTCs.**

**OK:**
**DTC B2795 is not output.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (any key) | B |
| NG (all keys) | C |

**B** → **Go to step 3**

**C** → **Go to step 5**

**A**

### USE SIMULATION METHOD TO CHECK (Click here)

3.CHECK IGNITION SWITCH (OPERATION)

a. Check that the ignition switch can be turned to ON using the key for which the DTC was stored.

**OK:**
**Ignition switch can be turned to ON using the key for which the DTC was stored.**

NG → REPLACE KEY THAT CANNOT START ENGINE

OK

4.REREGISTER MALFUNCTIONING KEY

a. Clear the DTCs (Click here).

b. Reregister the key code with the transponder key ECU assembly (refer to the Service Bulletin).

**OK:**
**Registration procedure can be completed.**

NG → REPLACE KEY THAT CANNOT START ENGINE

OK

END (KEY CODE WAS NOT REGISTERED NORMALLY)

5.REPLACE TRANSPONDER KEY ECU ASSEMBLY

a. Replace the transponder key ECU assembly (refer to the Service Bulletin).

NEXT

6.REGISTER KEY

a. Reregister the key (refer to the Service Bulletin).

NEXT

7.REGISTER ECU COMMUNICATION ID

a. Register the ECU communication ID (refer to the Service Bulletin).

NEXT

8.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

9.CHECK FOR DTC

a. Check for DTCs (Click here).

**HINT:**

- **Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.**
- **If DTC B2795 is output, check for DTCs with the next key after clearing the DTCs.**

**OK:**
**DTC B2795 is not output.**

NG → REPLACE KEY THAT CANNOT START ENGINE

OK

END (TRANSPONDER KEY ECU ASSEMBLY WAS DEFECTIVE)

## DTC B2784 Antenna Coil Open / Short

**for Preparation** Click here

### DESCRIPTION

The antenna coil receives key code signals from the transponder chip in the key grip. The antenna coil is built into the transponder key amplifier, which amplifies the key code signals and outputs the signals to the transponder key ECU assembly.
This DTC is stored when there is an open or short in the antenna coil.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2784 | The antenna coil built into the transponder key amplifier is open or shorted (determined by communication with the transponder key ECU assembly) (1 trip detection logic*).<br>• Terminal VC5, TXCT or CODE is open.<br>• The antenna coil built into the transponder key amplifier is open. | • Harness or connector<br>• Transponder key amplifier<br>• Transponder key ECU assembly | Insert the key into the ignition key cylinder. |

*: Only output while a malfunction is present.

**Vehicle Condition and Fail-safe Operation when Malfunction Detected**

| Vehicle Condition when Malfunction Detected | Fail-safe Operation when Malfunction Detected |
|---|---|
| Engine cannot be started | - |

**Related Data List and Active Test**

| DTC Code | Data List and Active Test |
|---|---|
| B2784 | Antenna Coil Status |

### INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the transponder key ECU assembly, refer to the Service Bulletin.**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

**1.CLEAR DTC**

a. Clear the DTCs (Click here).

**NEXT**

**2.CHECK FOR DTC**

a. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.

**OK:**
**DTC B2784 is not output.**

**NG** → **Go to step 3**

**OK**

**USE SIMULATION METHOD TO CHECK (Click here)**

### 3.CHECK TRANSPONDER KEY AMPLIFIER (OUTPUT)

a. Using an oscilloscope, check the waveform.

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected (Transponder Key Amplifier) |
| *b | Waveform |

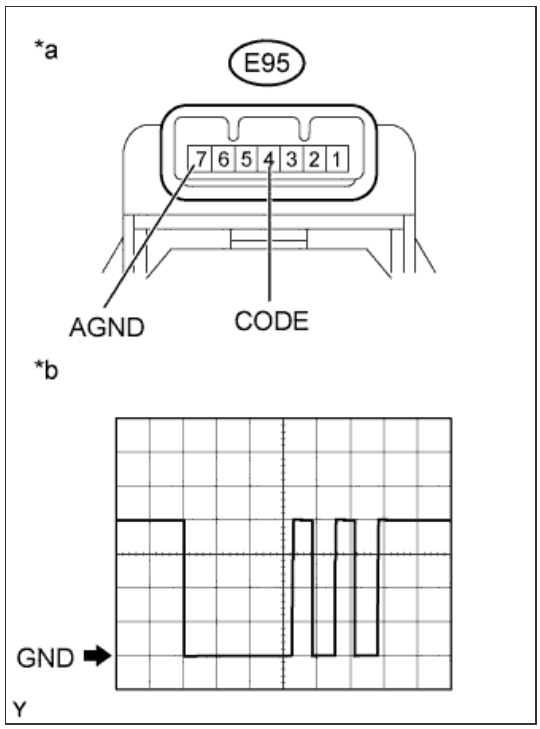
i. Waveform (Reference)

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E95-4 (CODE) - E95-7 (AGND) |
| Tool Setting | 1 V/DIV., 100 µs./DIV. |
| Condition | Key inserted in ignition key cylinder |

**OK:**

**Waveform is output normally (refer to illustration).**




NG → REPLACE TRANSPONDER KEY AMPLIFIER (Click here)

OK

### 4.REPLACE TRANSPONDER KEY ECU ASSEMBLY

a. Replace the transponder key ECU assembly (refer to the Service Bulletin).

NEXT

### 5.REGISTER KEY

a. Reregister the key (refer to the Service Bulletin).

NEXT

### 6.REGISTER ECU COMMUNICATION ID

a. Register the ECU communication ID (refer to the Service Bulletin).

NEXT

### 7.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

### 8.CHECK FOR DTC

a. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.

**OK:**

**DTC B2784 is not output.**

NG → REPLACE TRANSPONDER KEY AMPLIFIER (Click here)

OK

END (TRANSPONDER KEY ECU ASSEMBLY WAS DEFECTIVE)

## DTC B2796 No Communication in Immobiliser System

**for Preparation** Click here

### DESCRIPTION

DTC B2796 is stored when a key is inserted into the ignition key cylinder but no communication occurs between the key and transponder key ECU assembly.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2796 | The key code cannot be transmitted (1 trip detection logic*). | • Key<br>• Harness or connector<br>• Transponder key ECU assembly<br>• Transponder key amplifier | Insert the key into the ignition key cylinder. |

*: Only output while a malfunction is present.

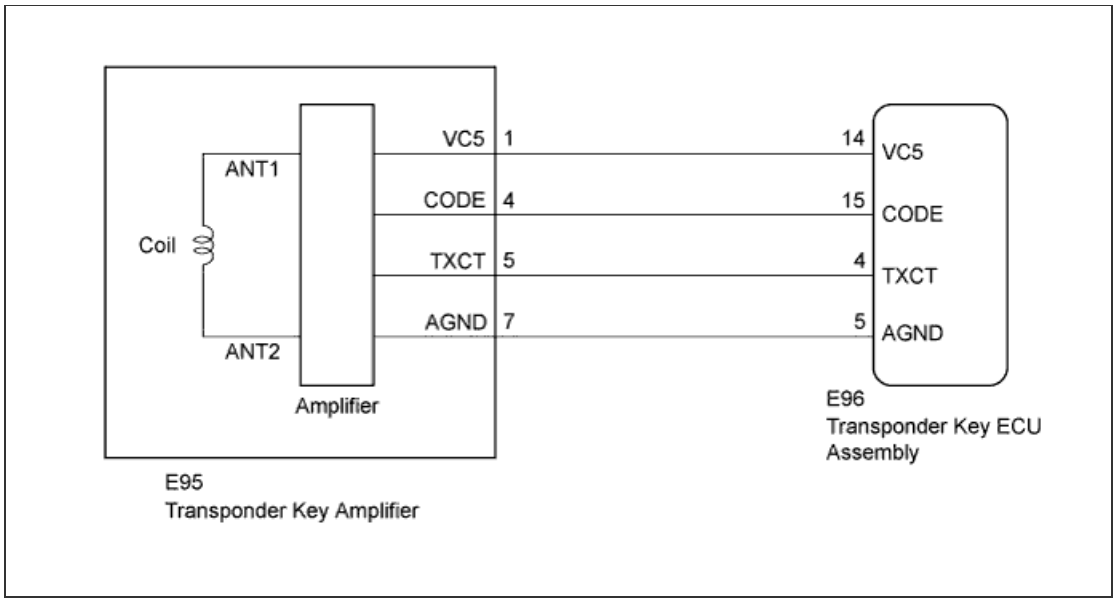
**Vehicle Condition and Fail-safe Operation when Malfunction Detected**

| Vehicle Condition when Malfunction Detected | Fail-safe Operation when Malfunction Detected |
|---|---|
| Engine cannot be started | - |

**Related Data List and Active Test**

| DTC Code | Data List and Active Test |
|---|---|
| B2796 | Response |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the transponder key ECU assembly or key, refer to the Service Bulletin.**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

**1.CLEAR DTC**

a. Clear the DTCs (Click here).

**NEXT**

2.CHECK FOR DTC

a. Insert and remove each registered key one at a time, and check for DTCs each time ( Click here).

**HINT:**

- **Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.**
- **If DTC B2796 is output, check for DTCs with the next key after clearing the DTCs.**

**OK:**
**DTC B2796 is not output.**

Result

| Result | Proceed to |
|---|---|
| OK | A |
| NG (all keys) | B |
| NG (any key) | C |

B → Go to step 3

C → REPLACE KEY THAT CANNOT START ENGINE

A

USE SIMULATION METHOD TO CHECK (Click here)

3.CHECK CONNECTION OF CONNECTOR

a. Check the connection of the transponder key ECU assembly and transponder key amplifier connectors.

b. Visually inspect the terminals of the transponder key ECU assembly and transponder key amplifier connectors.

**OK:**
**Connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

4.CHECK WHETHER ENGINE STARTS

a. Check that the engine starts with an already registered vehicle key.

**OK:**
**Engine starts normally.**

NG → Go to step 7

OK

5.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

6.CHECK FOR DTC

a. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.

**OK:**
**DTC B2796 is not output.**

| | |
|---|---|
| NG | Go to step 7 |

OK

END (CONNECTOR WAS NOT PROPERLY CONNECTED)

## 7.CHECK TRANSPONDER KEY AMPLIFIER

a. Using an oscilloscope, check the waveform.

i. Waveform 1 (Reference)

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E95-1 (VC5) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

ii. Waveform 2 (Reference)

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E95-5 (TXCT) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

iii. Waveform 3 (Reference)

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E95-4 (CODE) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

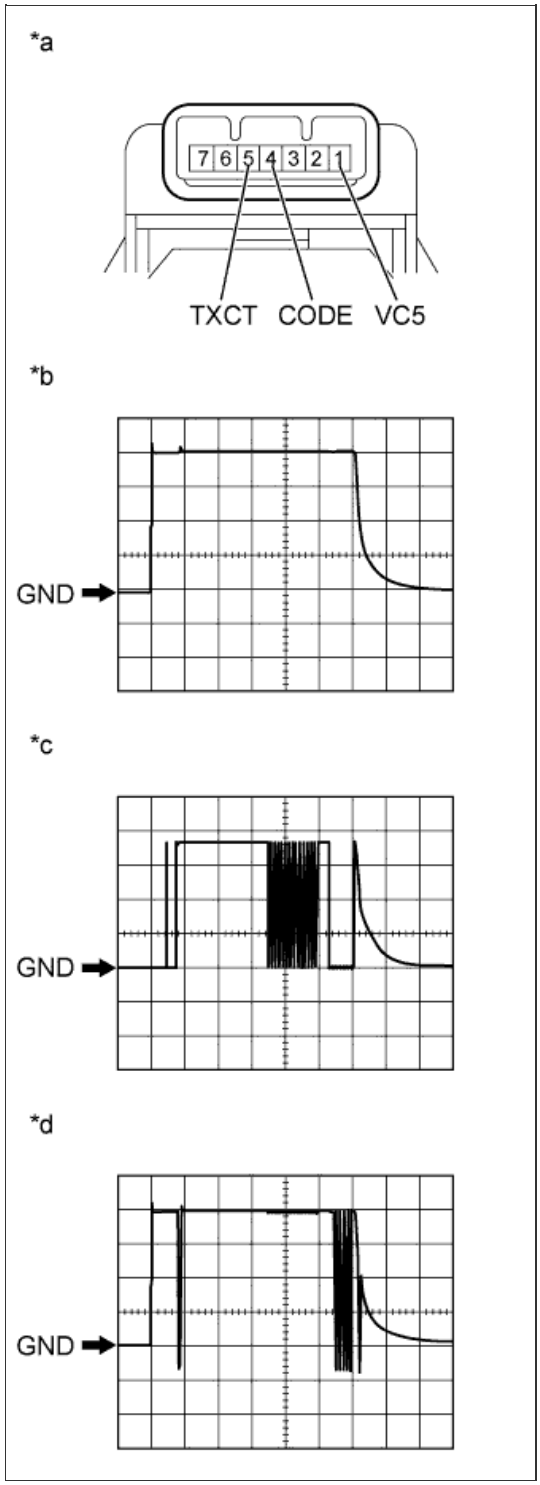
**OK:**
**Waveform is output normally (refer to illustration).**

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected (Transponder Key Amplifier) |
| *b | Waveform 1 |
| *c | Waveform 2 |
| *d | Waveform 3 |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (Waveform 1) | B |
| NG (Waveform 2) | C |
| NG (Waveform 3) | D |




| | |
|---|---|
| B | Go to step 8 |
| | |

| | |
|---|---|
| C | Go to step 10 |
| D | Go to step 12 |

A

REPLACE TRANSPONDER KEY ECU ASSEMBLY

8.CHECK TRANSPONDER KEY AMPLIFIER (VC5)

a. Disconnect the E95 transponder key amplifier connector.

b. Using an oscilloscope, check the waveform.

i. Waveform (Reference)

**Measurement Condition**

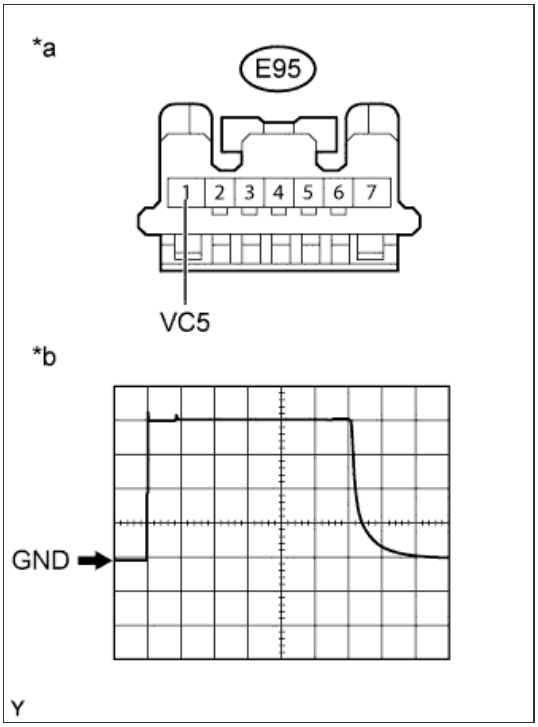
| Item | Content |
|---|---|
| Tester Connection | E95-1 (VC5) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

**OK:**

**Waveform is output normally (refer to illustration).**

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Transponder Key Amplifier) |
| *b | Waveform |




| | |
|---|---|
| NG | Go to step 9 |

OK

REPLACE TRANSPONDER KEY AMPLIFIER (Click here)

9.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY AMPLIFIER - TRANSPONDER KEY ECU ASSEMBLY)

a. Disconnect the E95 transponder key amplifier connector.

b. Disconnect the E96 transponder key ECU assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E95-1 (VC5) - E96-14 (VC5) | Always | Below 1 Ω |
| E95-7 (AGND) - E96-5 (AGND) | Always | Below 1 Ω |
| E95-1 (VC5) - Body ground | Always | 10 kΩ or higher |

| | |
|---|---|
| NG | REPAIR OR REPLACE HARNESS OR CONNECTOR |

OK

REPLACE TRANSPONDER KEY ECU ASSEMBLY

## 10.CHECK TRANSPONDER KEY AMPLIFIER (TXCT)

a. Disconnect the E95 transponder key amplifier connector.

b. Using an oscilloscope, check the waveform.

i. Waveform (Reference)

**Measurement Condition**

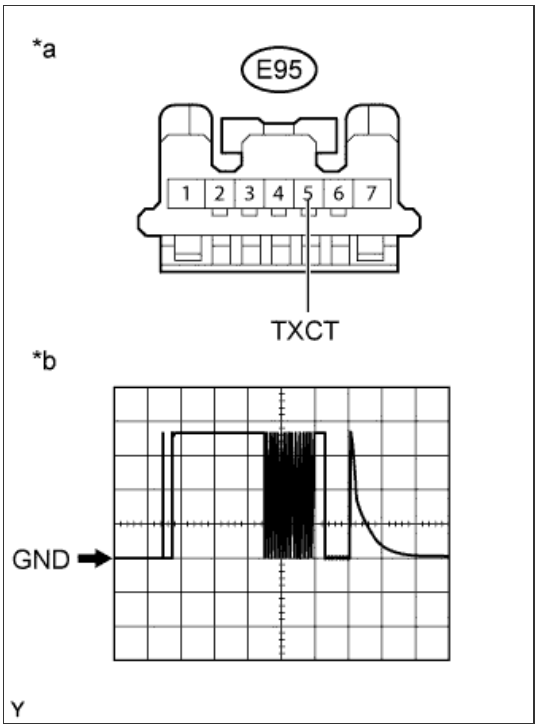
| Item | Content |
|---|---|
| Tester Connection | E95-5 (TXCT) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

**OK:**

**Waveform is output normally (refer to illustration).**

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Transponder Key Amplifier) |
| *b | Waveform |




NG → Go to step 11

OK →

REPLACE TRANSPONDER KEY AMPLIFIER (Click here)

## 11.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY AMPLIFIER - TRANSPONDER KEY ECU ASSEMBLY)

a. Disconnect the E95 transponder key amplifier connector.

b. Disconnect the E96 transponder key ECU assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E95-5 (TXCT) - E96-4 (TXCT) | Always | Below 1 Ω |
| E95-5 (TXCT) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

REPLACE TRANSPONDER KEY ECU ASSEMBLY

## 12.CHECK TRANSPONDER KEY AMPLIFIER (CODE)

a. Disconnect the E95 transponder key amplifier connector.

b. Using an oscilloscope, check the waveform.

i. Waveform (Reference)

**Measurement Condition**

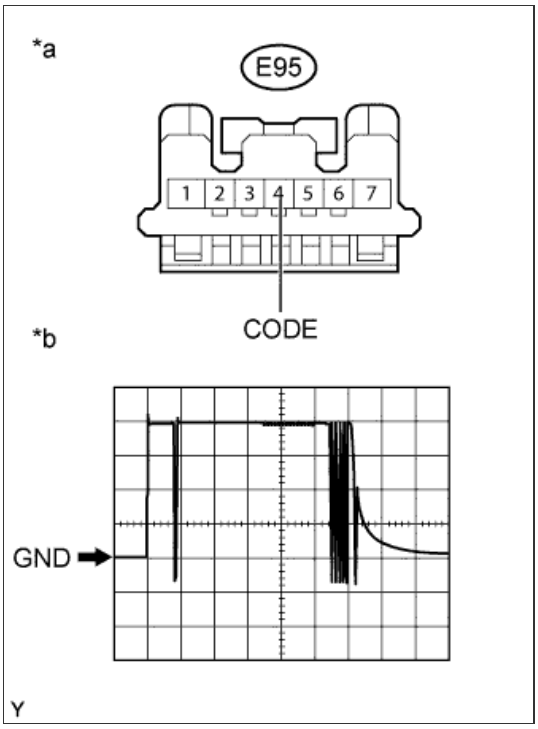
| Item | Content |
|---|---|
| Tester Connection | E95-4 (CODE) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

**OK:**

**Waveform is output normally (refer to illustration).**

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Transponder Key Amplifier) |
| *b | Waveform |




NG → Go to step 13

OK →

REPLACE TRANSPONDER KEY AMPLIFIER (Click here)

## 13.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY AMPLIFIER - TRANSPONDER KEY ECU ASSEMBLY)

a. Disconnect the E95 transponder key amplifier connector.

b. Disconnect the E96 transponder key ECU assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E95-4 (CODE) - E96-15 (CODE) | Always | Below 1 Ω |
| E95-4 (CODE) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

REPLACE TRANSPONDER KEY ECU ASSEMBLY

## DTC B2793 Transponder Chip Malfunction

## DTC B2794 Unmatched Encryption Code

## DTC B2797 Communication Malfunction No. 1

## DTC B2798 Communication Malfunction No. 2

**for Preparation** Click here

### DESCRIPTION

DTC B2793 is stored when a malfunction is found in the key during key code registration or a key code is not registered normally. Replace the key if key code registration cannot be performed normally and this DTC is output.
DTC B2794 is stored when a key with an incomplete key code is inserted into the ignition key cylinder.
DTC B2797 is stored when a key with a Bcc malfunction is inserted into the ignition key cylinder.
DTC B2798 is stored when a key is inserted into the ignition key cylinder but a communication error occurs between the key and transponder key ECU assembly.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2793 | A transponder chip malfunction (1 trip detection logic*). | • Key<br>• Harness or connector<br>• Transponder key amplifier<br>• Transponder key ECU assembly | Insert the key into the ignition key cylinder. |
| B2794 | A key with an incomplete key code is inserted into the ignition key cylinder (1 trip detection logic*). | | |
| B2797 | A key with a Bcc malfunction is inserted into the ignition key cylinder (1 trip detection logic*). | | |
| B2798 | Key code identification cannot be completed within the specified time (1 trip detection logic*). | | |

*: Only output while a malfunction is present.

**Vehicle Condition and Fail-safe Operation when Malfunction Detected**

| Vehicle Condition when Malfunction Detected | Fail-safe Operation When Malfunction Detected |
|---|---|
| Engine cannot be started | - |

**Related Data List and Active Test**

| DTC Code | Data List and Active Test |
|---|---|
| B2793 | Abnormal Status |
| B2794 | Different Encrypt Code |
| B2797 | Bcc Malfunction |
| B2798 | Frame Error |

### INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the key and transponder key ECU assembly, refer to the Service Bulletin.**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

#### 1.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

#### 2.CHECK FOR DTC

a. Insert and remove each registered key one at a time, and check for DTCs each time ( Click here).

**HINT:**

- **Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.**
- **If a DTC is output, clear the DTCs before checking the next key.**

**OK:**
**DTCs B2793, B2974, B2797 and B2798 are not output.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (all keys) | B |
| NG (any key) | C |

B → Go to step 3

C → REPLACE KEY THAT CANNOT START ENGINE

A

USE SIMULATION METHOD TO CHECK (Click here)

**3.CHECK CONNECTION OF CONNECTOR**

a. Check that the connectors are properly connected to the transponder key amplifier.

b. Check that the engine starts with the key.

**OK:**
**Engine starts.**

NG → Go to step 4

OK

END (CONNECTOR WAS NOT CONNECTED PROPERLY)

**4.REPLACE TRANSPONDER KEY AMPLIFIER**

a. Clear the DTCs. (Click here).

b. Replace the transponder key amplifier (Click here).

c. Check that the engine starts with the key.

**OK:**
**Engine starts.**

NG → REPLACE TRANSPONDER KEY ECU ASSEMBLY

OK

END (TRANSPONDER KEY AMPLIFIER WAS DEFECTIVE)

## DTC B2799 Engine Immobiliser System Malfunction

**for Preparation** Click here

### DESCRIPTION

This DTC is stored when one of the following occurs: 1) the ECM detects errors in its own communications with the transponder key ECU assembly; 2) the ECM detects errors in the communication lines; or 3) the ECU - ECM communication ID between the transponder key ECU assembly and ECM is different and an engine start is attempted. Before troubleshooting for this DTC, make sure no engine immobiliser DTCs are output. If output, troubleshoot the engine immobiliser DTCs first.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2799 | Either condition is met (1 trip detection logic*3):<br>• A malfunction occurs in the communication or communication lines between the ECM and transponder key ECU assembly.<br>• A communication code cannot be verified during communication between the ECM and transponder key ECU assembly. | • Harness or connector<br>• Transponder key ECU assembly<br>• ECM | Either condition is met:<br>• Within 10 seconds of an engine start operation being performed an engine start operation refers to turning the ignition switch to ON with the shift lever in P and the brake pedal depressed*1, or the shift lever in N and the brake pedal and clutch pedal depressed*2. If there is a malfunction, the engine stops (communication begins within 3 seconds of the engine start operation being performed, and DTCs are stored after 6 seconds).<br>• 10 seconds after the ignition switch is turned to ON after reconnecting the cable to the negative (-) battery terminal (communication begins within 3 seconds of the ignition switch being turned to ON, and DTCs are stored after 6 seconds). |

*1: for Automatic Transmission
*2: for Manual Transmission

*3: Only output while a malfunction is present.

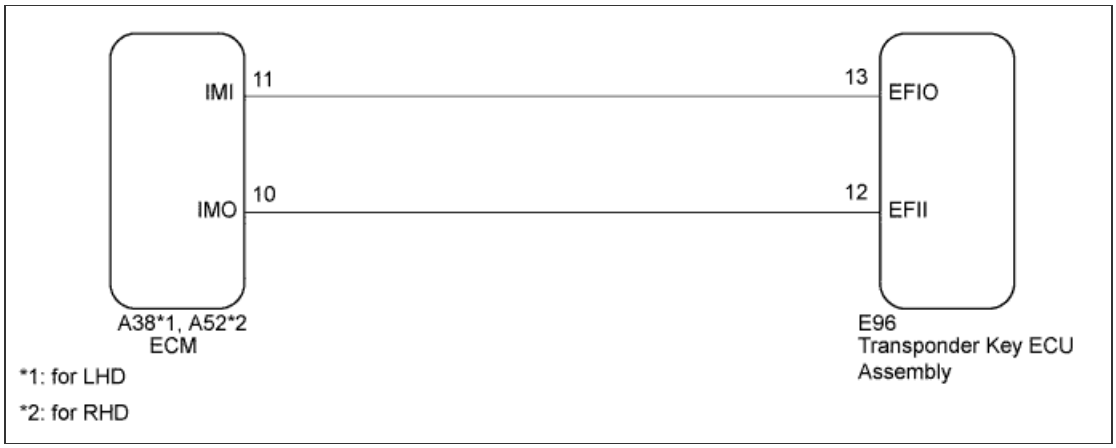
#### Vehicle Condition and Fail-safe Operation when Malfunction Detected

| Vehicle Condition when Malfunction Detected | Fail-safe Operation when Malfunction Detected |
|---|---|
| Engine cannot be started | - |

#### Related Data List and Active Test

| DTC Code | Data List and Active Test |
|---|---|
| B2799 | - |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the transponder key ECU assembly, refer to the Service Bulletin.**
- **When replacing the ECM, refer to Initialization (Click here).**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

### 1.CLEAR DTC

a. Clear the DTCs (Click here).

**NEXT**

### 2.CHECK FOR DTC

a. Start the engine.

b. Wait 10 seconds or more.

c. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.

**OK:**

**DTC B2799 is not output.**

Result

| Result | Proceed to |
|---|---|
| OK | A |
| NG (DTC B2799 is output) | B |
| NG (Other DTCs are output) | C |

**B** → Go to step 3

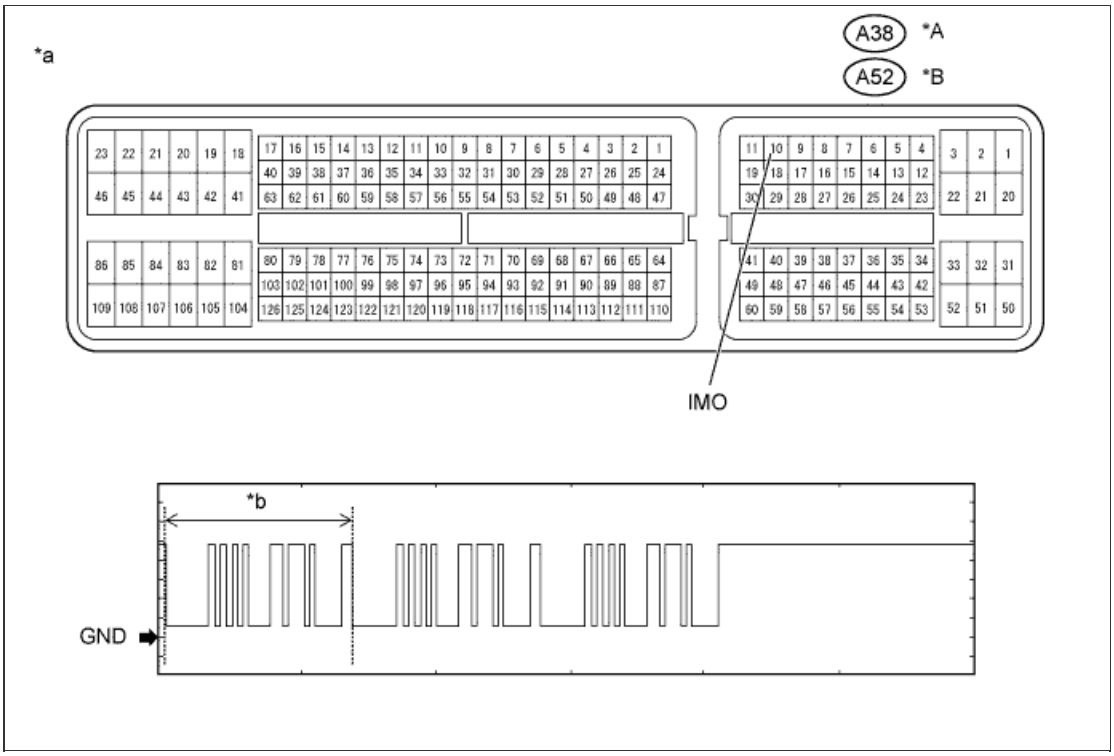
**C** → GO TO DIAGNOSTIC TROUBLE CODE CHART (Click here)

**A**

USE SIMULATION METHOD TO CHECK (Click here)

### 3.INSPECT ECM (TERMINAL IMO)

a. Using an oscilloscope, check the waveform.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for LHD | *B | for RHD |
| *a | Component with harness connected (ECM) | *b | Waveform |

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | A38-10 (IMO) - Body ground*1<br>A52-10 (IMO) - Body ground*2 |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

**HINT:**

The waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.

**OK:**

**Waveform is output normally (refer to illustration).**

**Result**

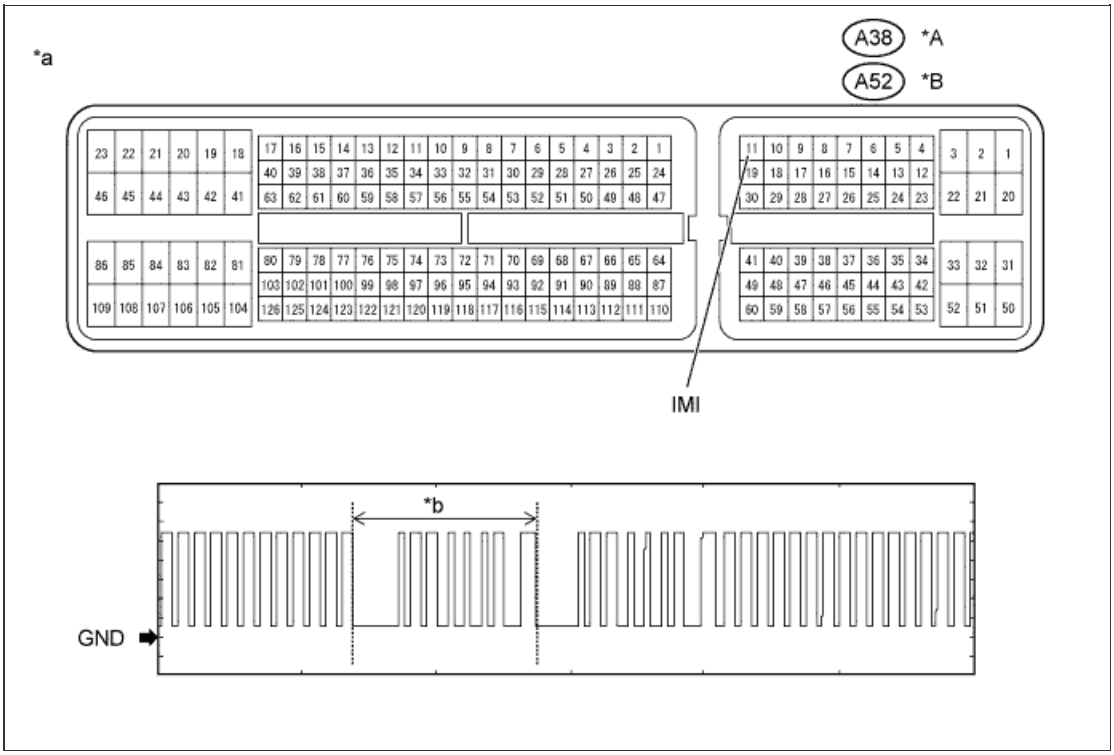
| Result | Proceed to |
|---|---|
| Normal waveform | A |
| Terminal IMO stuck low (2.4 V or less) | B |
| Terminal IMO stuck high (12 V) or abnormal waveform | C |

| | |
|---|---|
| B | Go to step 7 |
| C | Go to step 13 |

A

**4.INSPECT ECM (TERMINAL IMI)**

a. Using an oscilloscope, check the waveform.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for LHD | *B | for RHD |
| *a | Component with harness connected (ECM) | *b | Waveform |

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | A38-11 (IMI) - Body ground*1<br>A52-11 (IMI) - Body ground*2 |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

**HINT:**

The waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.

**OK:**

**Waveform is output normally (refer to illustration).**

**Result**

| Result | Proceed to |
|---|---|
| Normal waveform | A |
| Not output waveform or abnormal waveform | B |

B → Go to step 9

A

**5.REGISTER ECU COMMUNICATION ID**

a. Reregister the ECU communication ID (refer to the Service Bulletin).

NEXT

## 6.CHECK WHETHER ENGINE STARTS

a. Check that the engine starts with an already registered vehicle key.

**OK:**
**Engine starts normally.**

NG → Go to step 13

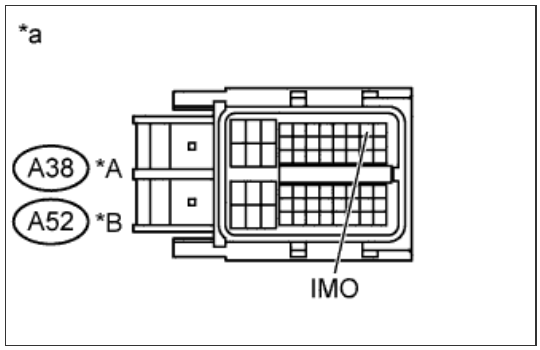
OK

## END (COMMUNICATION ID REGISTRATION WAS DEFECTIVE)

## 7.INSPECT ECM (IMO TERMINAL VOLTAGE)

a. Disconnect the A38*1 or A52*2 ECM connector.

*1: for LHD
*2: for RHD




b. Turn the ignition switch to ON.

c. Measure the voltage according to the value(s) in the table below.

**Text in Illustration**

| | |
|---|---|
| *A | for LHD |
| *B | for RHD |
| *a | Front view of wire harness connector (to ECM) |

**Result**

| Result | Proceed to |
|---|---|
| Terminal IMO stuck low (2.4 V or less) | A |
| Terminal IMO stuck high (12 V) | B |

B → Go to step 13

A

## 8.CHECK HARNESS AND CONNECTOR (ECM - TRANSPONDER KEY ECU AND BODY GROUND)

a. Disconnect the E96 transponder key ECU assembly connector.

b. Disconnect the A38*1 or A52*2 ECM connector.

*1: for LHD
*2: for RHD

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E96-12 (EFII) - A38-10 (IMO) | Always | Below 1 Ω |
| F96-12 (EFII) - Body ground | Always | 10 kΩ or higher |

**for RHD**

| | | Specified |
|---|---|---|

| Tester Connection | Condition | Condition |
|---|---|---|
| E96-12 (EFII) - A52-10 (IMO) | Always | Below 1 Ω |
| E96-12 (EFII) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**9.REPLACE TRANSPONDER KEY ECU ASSEMBLY**

a. Replace the transponder key ECU assembly (refer to the Service Bulletin).

NEXT

**10.REGISTER KEY**

a. Reregister the key (refer to the Service Bulletin).

NEXT

**11.REGISTER ECU COMMUNICATION ID**

a. Reregister the ECU communication ID (refer to the Service Bulletin).

NEXT

**12.CHECK WHETHER ENGINE STARTS**

a. Check that the engine starts with an already registered vehicle key.

**OK:**
**Engine starts normally.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1VD-FTV) | C |

B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

A

**END (TRANSPONDER KEY ECU WAS DEFECTIVE)**

**13.REPLACE ECM**

a. Temporarily replace the ECM with a new one.

**HINT:**

- **for 1GR-FE (Click here).**
- **for 1VD-FTV (Click here).**

NEXT

**14.REGISTER ECU COMMUNICATION ID**

a. Reregister the ECU communication ID (refer to the Service Bulletin).

NEXT

**15.CHECK WHETHER ENGINE STARTS**

a. Check that the engine starts with the key.

**OK:**
**Engine starts normally.**

NG → **REPLACE TRANSPONDER KEY ECU ASSEMBLY**

OK

**END (ECM WAS DEFECTIVE)**

## DTC B2793 Transponder Chip Malfunction

## DTC B2794 Unmatched Encryption Code

## DTC B2797 Communication Malfunction No. 1

## DTC B2798 Communication Malfunction No. 2

**for Preparation** Click here

### DESCRIPTION

DTC B2793 is stored when a malfunction is found in the key during key code registration or a key code is not registered normally. Replace the key if key code registration cannot be performed normally and this DTC is output.
DTC B2794 is stored when a key with an incomplete key code is inserted into the ignition key cylinder.
DTC B2797 is stored when a key with a Bcc malfunction is inserted into the ignition key cylinder.
DTC B2798 is stored when a key is inserted into the ignition key cylinder but a communication error occurs between the key and transponder key ECU assembly.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2793 | A transponder chip malfunction (1 trip detection logic*). | • Key<br>• Harness or connector<br>• Transponder key amplifier<br>• Transponder key ECU assembly | Insert the key into the ignition key cylinder. |
| B2794 | A key with an incomplete key code is inserted into the ignition key cylinder (1 trip detection logic*). | | |
| B2797 | A key with a Bcc malfunction is inserted into the ignition key cylinder (1 trip detection logic*). | | |
| B2798 | Key code identification cannot be completed within the specified time (1 trip detection logic*). | | |

*: Only output while a malfunction is present.

**Vehicle Condition and Fail-safe Operation when Malfunction Detected**

| Vehicle Condition when Malfunction Detected | Fail-safe Operation When Malfunction Detected |
|---|---|
| Engine cannot be started | - |

**Related Data List and Active Test**

| DTC Code | Data List and Active Test |
|---|---|
| B2793 | Abnormal Status |
| B2794 | Different Encrypt Code |
| B2797 | Bcc Malfunction |
| B2798 | Frame Error |

### INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the key and transponder key ECU assembly, refer to the Service Bulletin.**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

#### 1.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

#### 2.CHECK FOR DTC

a. Insert and remove each registered key one at a time, and check for DTCs each time ( Click here).

**HINT:**

- **Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.**
- **If a DTC is output, clear the DTCs before checking the next key.**

**OK:**
**DTCs B2793, B2974, B2797 and B2798 are not output.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (all keys) | B |
| NG (any key) | C |

B → Go to step 3

C → REPLACE KEY THAT CANNOT START ENGINE

A

USE SIMULATION METHOD TO CHECK (Click here)

**3.CHECK CONNECTION OF CONNECTOR**

a. Check that the connectors are properly connected to the transponder key amplifier.

b. Check that the engine starts with the key.

**OK:**
**Engine starts.**

NG → Go to step 4

OK

END (CONNECTOR WAS NOT CONNECTED PROPERLY)

**4.REPLACE TRANSPONDER KEY AMPLIFIER**

a. Clear the DTCs. (Click here).

b. Replace the transponder key amplifier (Click here).

c. Check that the engine starts with the key.

**OK:**
**Engine starts.**

NG → REPLACE TRANSPONDER KEY ECU ASSEMBLY

OK

END (TRANSPONDER KEY AMPLIFIER WAS DEFECTIVE)

# DTC B279A Theft Deterrent System Communication Line High Fixation

**for Preparation** Click here

## DESCRIPTION

When the communication line (IMI - EFIO) between the ECM and transponder key ECU assembly is stuck on HI output, the ECM stores this DTC.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B279A | The communication line (IMI - EFIO) between the ECM and transponder key ECU assembly is stuck on HI output (1 trip detection logic*). | • Harness or connector<br>• Transponder key ECU assembly<br>• ECM | Turn the ignition switch to ON and wait 6 seconds. |

*: Only output while a malfunction is present.

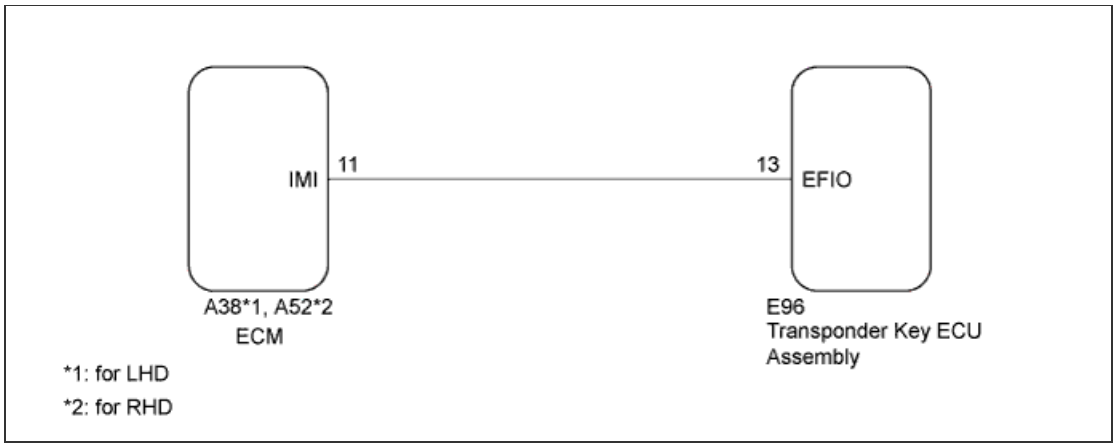
### Vehicle Condition and Fail-safe Operation when Malfunction Detected

| Vehicle Condition when Malfunction Detected | Fail-safe Operation when Malfunction Detected |
|---|---|
| Engine cannot be started (initial ignition occurs and engine cranks, then ignition stops) | Engine start is prohibited |

### Related Data List and Active Test

| DTC Code | Data List and Active Test |
|---|---|
| B279A | - |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the transponder key ECU assembly, refer to the Service Bulletin.**
- **When replacing the ECM, refer to Initialization (Click here).**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

### 1.CLEAR DTC

a. Clear the DTCs (Click here).

**NEXT**

### 2.CHECK FOR DTC

a. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.

**OK:**
**DTC B279A is not output.**

NG → Go to step 3

OK

USE SIMULATION METHOD TO CHECK (Click here)

### 3.CHECK CONNECTION OF CONNECTOR

a. Check that the connectors are properly connected to the ECM and transponder key amplifier assembly.

**OK:**
**Connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

### 4.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY ECU ASSEMBLY - ECM)

a. Disconnect the E96 transponder key ECU assembly connector.

b. Disconnect the A38*1 or A52*2 ECM connector.

*1: for LHD
*2: for RHD

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E96-13 (EFIO) - A38-11 (IMI) | Always | Below 1 Ω |
| E96-13 (EFIO) - Body ground | Always | 10 kΩ or higher |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E96-13 (EFIO) - A52-11 (IMI) | Always | Below 1 Ω |
| E96-13 (EFIO) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 5.REPLACE TRANSPONDER KEY ECU ASSEMBLY

a. Replace the transponder key ECU assembly.

NEXT

### 6.REGISTER KEY

a. Register the key (refer to the Service Bulletin).

NEXT

## 7.REGISTER ECU COMMUNICATION ID

a. Register the ECU communication ID (refer to the Service Bulletin).

NEXT

## 8.CHECK WHETHER ENGINE STARTS

a. Check that the engine starts with the key.

**OK:**
**Engine starts normally.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1VD-FTV) | C |

B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

A

## END (TRANSPONDER KEY ECU WAS DEFECTIVE)

## DTC B2793 Transponder Chip Malfunction

## DTC B2794 Unmatched Encryption Code

## DTC B2797 Communication Malfunction No. 1

## DTC B2798 Communication Malfunction No. 2

**for Preparation** Click here

### DESCRIPTION

DTC B2793 is stored when a malfunction is found in the key during key code registration or a key code is not registered normally. Replace the key if key code registration cannot be performed normally and this DTC is output.
DTC B2794 is stored when a key with an incomplete key code is inserted into the ignition key cylinder.
DTC B2797 is stored when a key with a Bcc malfunction is inserted into the ignition key cylinder.
DTC B2798 is stored when a key is inserted into the ignition key cylinder but a communication error occurs between the key and transponder key ECU assembly.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2793 | A transponder chip malfunction (1 trip detection logic*). | • Key<br>• Harness or connector<br>• Transponder key amplifier<br>• Transponder key ECU assembly | Insert the key into the ignition key cylinder. |
| B2794 | A key with an incomplete key code is inserted into the ignition key cylinder (1 trip detection logic*). | | |
| B2797 | A key with a Bcc malfunction is inserted into the ignition key cylinder (1 trip detection logic*). | | |
| B2798 | Key code identification cannot be completed within the specified time (1 trip detection logic*). | | |

*: Only output while a malfunction is present.

**Vehicle Condition and Fail-safe Operation when Malfunction Detected**

| Vehicle Condition when Malfunction Detected | Fail-safe Operation When Malfunction Detected |
|---|---|
| Engine cannot be started | - |

**Related Data List and Active Test**

| DTC Code | Data List and Active Test |
|---|---|
| B2793 | Abnormal Status |
| B2794 | Different Encrypt Code |
| B2797 | Bcc Malfunction |
| B2798 | Frame Error |

### INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the key and transponder key ECU assembly, refer to the Service Bulletin.**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

#### 1.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

#### 2.CHECK FOR DTC

a. Insert and remove each registered key one at a time, and check for DTCs each time ( Click here).

**HINT:**

- **Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.**
- **If a DTC is output, clear the DTCs before checking the next key.**

**OK:**
**DTCs B2793, B2974, B2797 and B2798 are not output.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (all keys) | B |
| NG (any key) | C |

B → Go to step 3

C → REPLACE KEY THAT CANNOT START ENGINE

A

USE SIMULATION METHOD TO CHECK (Click here)

**3.CHECK CONNECTION OF CONNECTOR**

a. Check that the connectors are properly connected to the transponder key amplifier.

b. Check that the engine starts with the key.

**OK:**
**Engine starts.**

NG → Go to step 4

OK

END (CONNECTOR WAS NOT CONNECTED PROPERLY)

**4.REPLACE TRANSPONDER KEY AMPLIFIER**

a. Clear the DTCs. (Click here).

b. Replace the transponder key amplifier (Click here).

c. Check that the engine starts with the key.

**OK:**
**Engine starts.**

NG → REPLACE TRANSPONDER KEY ECU ASSEMBLY

OK

END (TRANSPONDER KEY AMPLIFIER WAS DEFECTIVE)

# DTC B279C Theft Deterrent System Presence Detection

**for Preparation** Click here

## DESCRIPTION

This code is stored when an ECM that is incompatible with the engine immobiliser system is installed to the vehicle.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B279C | An ECM that is incompatible with the engine immobiliser system is installed (1 trip detection logic*). | ECM | Check for DTCs. |

*: Only output while a malfunction is present.

### Vehicle Condition and Fail-safe Operation when Malfunction Detected

| Vehicle Condition when Malfunction Detected | Fail-safe Operation when Malfunction Detected |
|---|---|
| Engine cannot be started | - |

### Related Data List and Active Test

| DTC Code | Data List and Active Test |
|---|---|
| B279C | - |

## INSPECTION PROCEDURE

**NOTICE:**

After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.

**1.REPLACE CURRENT ECM WITH PROPER ECM**

a. Replace the current ECM with the proper ECM.

**HINT:**

- **for 1GR-FE (Click here)**
- **for 1VD-FTV (Click here)**

**NEXT**

**END**

## DTC B2793 Transponder Chip Malfunction

## DTC B2794 Unmatched Encryption Code

## DTC B2797 Communication Malfunction No. 1

## DTC B2798 Communication Malfunction No. 2

**for Preparation** Click here

### DESCRIPTION

DTC B2793 is stored when a malfunction is found in the key during key code registration or a key code is not registered normally. Replace the key if key code registration cannot be performed normally and this DTC is output.
DTC B2794 is stored when a key with an incomplete key code is inserted into the ignition key cylinder.
DTC B2797 is stored when a key with a Bcc malfunction is inserted into the ignition key cylinder.
DTC B2798 is stored when a key is inserted into the ignition key cylinder but a communication error occurs between the key and transponder key ECU assembly.

| DTC Code | DTC Detection Condition | Trouble Area | DTC Output Confirmation Operation |
|---|---|---|---|
| B2793 | A transponder chip malfunction (1 trip detection logic*). | • Key<br>• Harness or connector<br>• Transponder key amplifier<br>• Transponder key ECU assembly | Insert the key into the ignition key cylinder. |
| B2794 | A key with an incomplete key code is inserted into the ignition key cylinder (1 trip detection logic*). | | |
| B2797 | A key with a Bcc malfunction is inserted into the ignition key cylinder (1 trip detection logic*). | | |
| B2798 | Key code identification cannot be completed within the specified time (1 trip detection logic*). | | |

*: Only output while a malfunction is present.

**Vehicle Condition and Fail-safe Operation when Malfunction Detected**

| Vehicle Condition when Malfunction Detected | Fail-safe Operation When Malfunction Detected |
|---|---|
| Engine cannot be started | - |

**Related Data List and Active Test**

| DTC Code | Data List and Active Test |
|---|---|
| B2793 | Abnormal Status |
| B2794 | Different Encrypt Code |
| B2797 | Bcc Malfunction |
| B2798 | Frame Error |

### INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the key and transponder key ECU assembly, refer to the Service Bulletin.**
- **After performing repairs, perform the operation that fulfills the DTC output confirmation operation, and then confirm that no DTCs are output again.**

#### 1.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

#### 2.CHECK FOR DTC

a. Insert and remove each registered key one at a time, and check for DTCs each time ( Click here).

**HINT:**

- **Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.**
- **If a DTC is output, clear the DTCs before checking the next key.**

**OK:**
**DTCs B2793, B2974, B2797 and B2798 are not output.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (all keys) | B |
| NG (any key) | C |

B → Go to step 3

C → REPLACE KEY THAT CANNOT START ENGINE

A

USE SIMULATION METHOD TO CHECK (Click here)

**3.CHECK CONNECTION OF CONNECTOR**

a. Check that the connectors are properly connected to the transponder key amplifier.

b. Check that the engine starts with the key.

**OK:**
**Engine starts.**

NG → Go to step 4

OK

END (CONNECTOR WAS NOT CONNECTED PROPERLY)

**4.REPLACE TRANSPONDER KEY AMPLIFIER**

a. Clear the DTCs. (Click here).

b. Replace the transponder key amplifier (Click here).

c. Check that the engine starts with the key.

**OK:**
**Engine starts.**

NG → REPLACE TRANSPONDER KEY ECU ASSEMBLY

OK

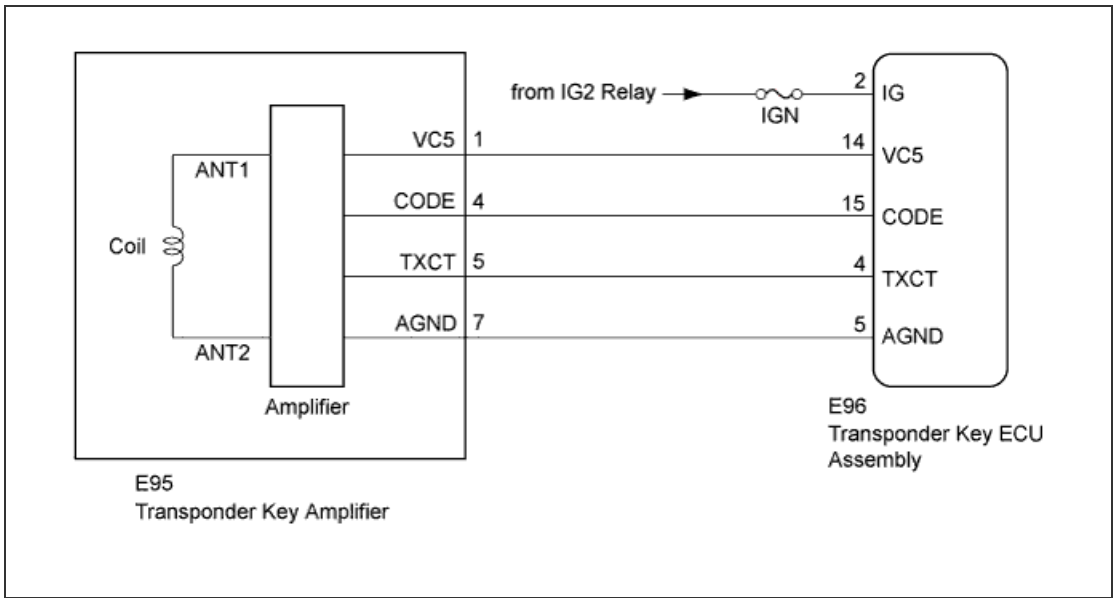
END (TRANSPONDER KEY AMPLIFIER WAS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

- When the key is inserted into the ignition key cylinder, the antenna coil receives the key code. Then the amplifier amplifies the ID code and outputs it to the transponder key ECU assembly.
- If this symptom occurs, there may be a communication problem between the transponder key amplifier and the transponder key ECU assembly.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the key and transponder key ECU assembly, refer to the Service Bulletin.**
- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**

### 1.CLEAR DTC

a. Clear the DTCs (Click here).

**NEXT**

### 2.CHECK FOR DTC

a. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.

**Result**

| Result | Proceed to |
|---|---|
| No DTC output | A |
| DTC output | B |

**B** → GO TO DIAGNOSTIC TROUBLE CODE CHART ( Click here)

**A**

## 3.CONFIRM ENGINE MODELS

a. Check the vehicle specifications.

**Result**

| Result | Proceed to |
|---|---|
| for 1GR-FE | A |
| for 1VD-FTV | B |

B → Go to step 5

A

## 4.READ VALUE USING INTELLIGENT TESTER (IMMOBILISER FUEL CUT)

a. Turn the ignition switch off.

b. Connect the intelligent tester to the DLC3.

c. Turn the ignition switch to ON.

d. Turn the intelligent tester on.

e. Enter the following menus: Powertrain / Engine and ECT / Data List.

**Engine and ECT**

| Tester Display | Measurement Item/Range | Normal Condition | Stored as Freeze Frame Data |
|---|---|---|---|
| Immobiliser Fuel Cut | Status of immobiliser fuel cut/ ON or OFF | - | Yes |

**OK:**

**The item in the Data List indicates "OFF".**

NG → Go to step 5

OK

## GO TO SFI SYSTEM (Click here)

## 5.READ VALUE USING INTELLIGENT TESTER (IMMOBILISER)

a. Turn the ignition switch off.

b. Connect the intelligent tester to the DLC3.

c. Turn the ignition switch to ON.

d. Turn the intelligent tester on.

e. Enter the following menus: Body / Immobiliser / Data List.

**Immobiliser**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Immobiliser | Engine immobiliser system status determined by transponder key ECU assembly / Set or Unset | Set: Engine immobiliser set (engine start prohibited (no key in ignition key cylinder)) Unset: Engine immobiliser unset (engine start permitted (key inserted in ignition key cylinder)) | When the engine immobiliser system does not change to the unset state, this item can be used to determine if the cause is the transponder key ECU assembly. |

**OK:**

**On the intelligent tester screen, the display changes between Set and Unset as shown in the table above.**

NG → Go to step 6

OK

GO TO ENGINE DOES NOT START BUT INITIAL COMBUSTION OCCURS ( Click here)

## 6.READ VALUE USING INTELLIGENT TESTER (IMMOBILISER)

a. Perform inspection using a different key that has been registered to the vehicle.

b. Turn the ignition switch off.

c. Connect the intelligent tester to the DLC3.

d. Turn the ignition switch to ON.

e. Turn the intelligent tester on.

f. Enter the following menus: Body / Immobiliser / Data List.

**Immobiliser**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Immobiliser | Engine immobiliser system status determined by transponder key ECU assembly / Set or Unset | Set: Engine immobiliser set (engine start prohibited (no key in ignition key cylinder)) Unset: Engine immobiliser unset (engine start permitted (key inserted in ignition key cylinder)) | When the engine immobiliser system does not change to the unset state, this item can be used to determine if the cause is the transponder key ECU assembly. |

**OK:**

**On the intelligent tester screen, the display changes between Set and Unset as shown in the table above.**

NG → Go to step 8

OK

## 7.CHECK WHETHER ENGINE STARTS WITH OTHER KEYS

a. Perform inspection using a different key that has been registered to the vehicle.

b. Turn the ignition switch to ON, wait for 5 seconds, and then attempt to start the engine.

**Result**

| Result | Proceed to |
|---|---|
| Engine cannot be started | A |
| Engine can be started | B |

B → Go to step 20

A

GO TO ENGINE DOES NOT START BUT INITIAL COMBUSTION OCCURS ( Click here)

## 8.CHECK TRANSPONDER KEY AMPLIFIER (VC5 SIGNAL)

a. Disconnect the E95 transponder key amplifier connector.

b. Using an oscilloscope, check the waveform.

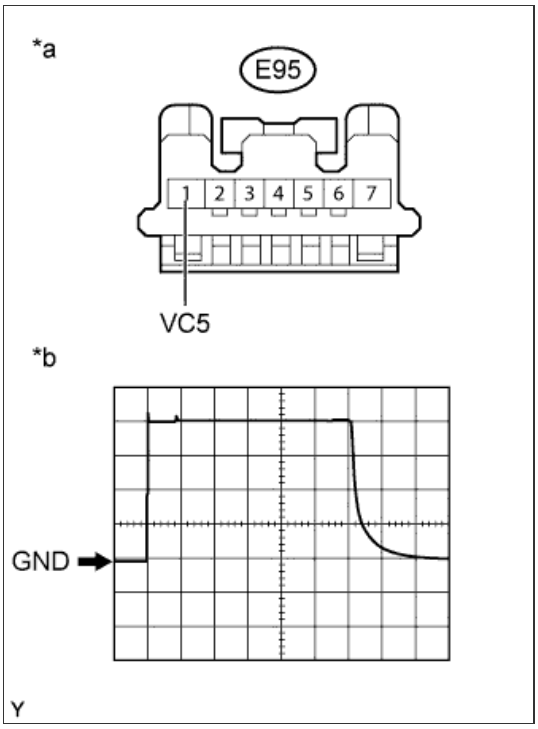
i. Waveform (Reference)

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E95-1 (VC5) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

**OK:**

**Waveform is output normally (refer to illustration).**




**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Transponder Key Amplifier) |
| *b | Waveform |

NG → Go to step 9

OK

**REPLACE TRANSPONDER KEY ECU ASSEMBLY**

**9.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY AMPLIFIER - TRANSPONDER KEY ECU ASSEMBLY, IG TERMINAL VOLTAGE)**

a. Disconnect the E95 transponder key amplifier connector.

b. Disconnect the E96 transponder key ECU assembly connector.

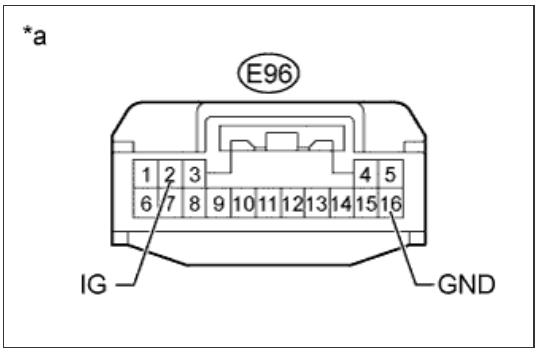
c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E95-1 (VC5) - E96-14 (VC5) | Always | Below 1 Ω |
| E95-7 (AGND) - E96-5 (AGND) | Always | Below 1 Ω |
| E95-1 (VC5) - Body ground | Always | 10 kΩ or higher |

d. Reconnect the transponder key amplifier connector.

e. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E96-2 (IG) - E96-16 (GND) | Ignition switch ON | 11 to 14 V |

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Transponder Key ECU Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

10.CHECK TRANSPONDER KEY AMPLIFIER (TXCT SIGNAL)

a. Disconnect the E95 transponder key amplifier connector.

b. Using an oscilloscope, check the waveform.

i. Waveform (Reference)

**Measurement Condition**

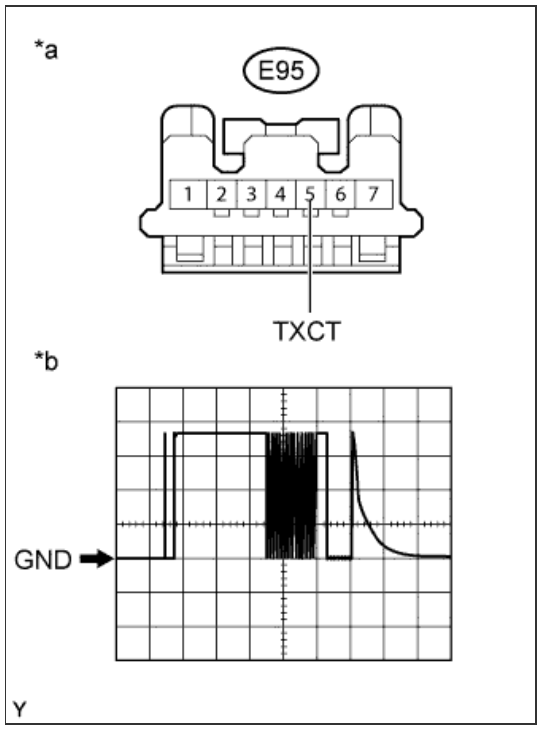
| Item | Content |
|---|---|
| Tester Connection | E95-5 (TXCT) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

**OK:**

**Waveform is output normally (refer to illustration).**

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Transponder Key Amplifier) |
| *b | Waveform |




NG → Go to step 11

OK →

REPLACE TRANSPONDER KEY ECU ASSEMBLY

11.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY AMPLIFIER - TRANSPONDER KEY ECU ASSEMBLY)

a. Disconnect the E95 transponder key amplifier connector.

b. Disconnect the E96 transponder key ECU assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E95-5 (TXCT) - E96-4 (TXCT) | Always | Below 1 Ω |
| E95-5 (TXCT) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

12.CHECK TRANSPONDER KEY AMPLIFIER (CODE SIGNAL)

a. Disconnect the E95 transponder key amplifier connector.

b. Using an oscilloscope, check the waveform.

i. Waveform (Reference)

**Measurement Condition**

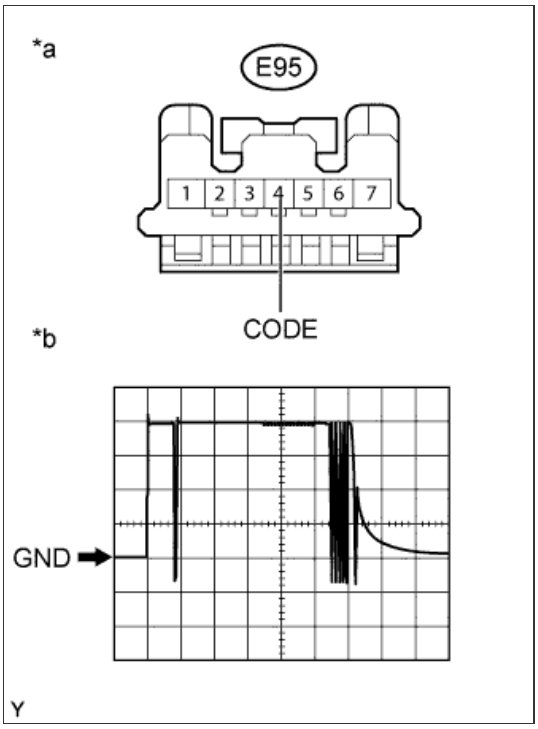
| Item | Content |
|---|---|
| Tester Connection | E95-4 (CODE) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

**OK:**

**Waveform is output normally (refer to illustration).**

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Transponder Key Amplifier) |
| *b | Waveform |




NG → Go to step 13

OK

**REPLACE TRANSPONDER KEY ECU ASSEMBLY**

**13.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY AMPLIFIER - TRANSPONDER KEY ECU ASSEMBLY)**

a. Disconnect the E95 transponder key amplifier connector.

b. Disconnect the E96 transponder key ECU assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E95-4 (CODE) - E96-15 (CODE) | Always | Below 1 Ω |
| E95-4 (CODE) - Body ground | Always | 10 kΩ or higher |

d. Reconnect the transponder key ECU assembly connector.

e. Reconnect the transponder key amplifier connector.

f. Using an oscilloscope, check the waveform.

i. Waveform (Reference)

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | E95-4 (CODE) - Body ground |
| Tool Setting | 1 V/DIV., 20 ms./DIV. |
| Condition | Key inserted in ignition key cylinder |

**OK:**

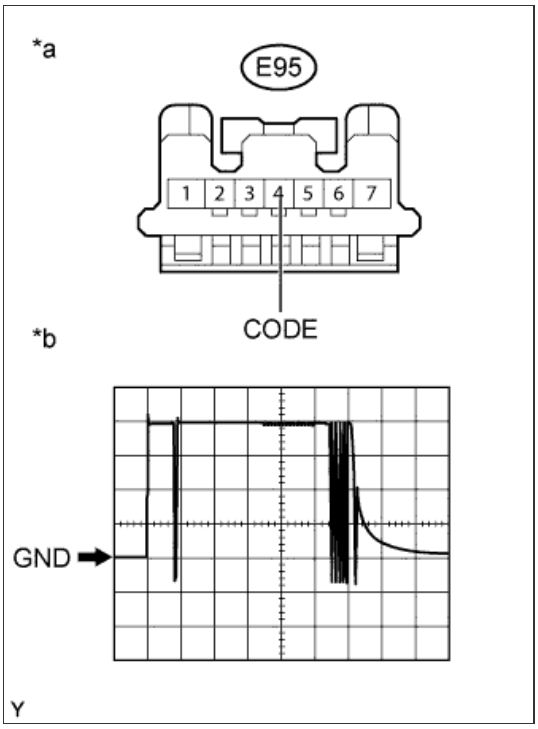
**Waveform is output normally (refer to illustration).**

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Transponder Key Amplifier) |
| *b | Waveform |

**Result**

| Result | Proceed to |
|---|---|
| Terminal CODE stuck high (5 V) | A |
| Terminal CODE stuck low (1 V or less) | B |
| Problem in wire harness or connector | C |




B → Go to step 16

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

**14.REPLACE TRANSPONDER KEY AMPLIFIER**

a. Replace the transponder key amplifier (Click here).

NEXT

**15.CHECK WHETHER ENGINE STARTS**

a. Check that the engine starts with an already registered vehicle key.

**OK:**
**Engine starts normally.**

NG → Go to step 16

OK

**END (TRANSPONDER KEY AMPLIFIER WAS DEFECTIVE)**

**16.REPLACE TRANSPONDER KEY ECU ASSEMBLY**

a. Replace the transponder key ECU assembly.

NEXT

**17.REGISTER KEY**

a. Reregister the key (refer to the Service Bulletin).

NEXT

### 18.REGISTER ECU COMMUNICATION ID

a. Register the ECU communication ID (refer to the Service Bulletin).

NEXT

### 19.CHECK WHETHER ENGINE STARTS

a. Check that the engine starts with an already registered vehicle key.

**OK:**
**Engine starts normally.**

NG → Go to step 20

OK

END (TRANSPONDER KEY ECU ASSEMBLY WAS DEFECTIVE)

### 20.REPLACE KEY

a. Replace the transponder key master transmitter with a new one (refer to the Service Bulletin).

NEXT

### 21.REREGISTER KEY

a. Reregister the key (refer to the Service Bulletin).

NEXT

### 22.CHECK WHETHER ENGINE STARTS

a. Check that the engine starts with an already registered vehicle key.

**OK:**
**Engine starts normally.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1VD-FTV) | C |

B → GO TO SFI SYSTEM (Click here)

C → GO TO ECD SYSTEM (Click here)

A

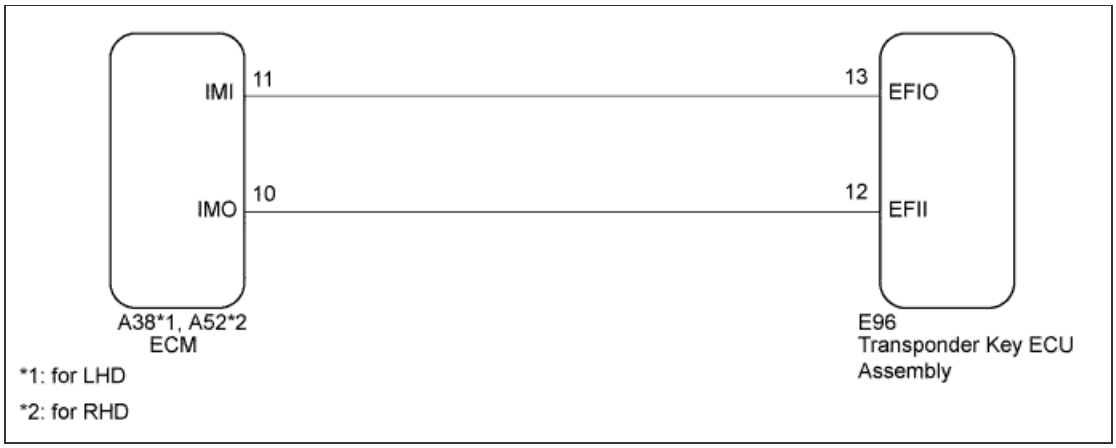
END (KEY (TRANSPONDER KEY MASTER TRANSMITTER) WAS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

The key ID code of the transponder chip inside the IG key is compared against the key ID code registered in the transponder key ECU assembly. While checking the code, the transponder key ECU assembly supplies electrical power to the transponder chip in the key by means of the transponder key amplifier. If the codes match, the immobiliser is then UNSET (released), and after the engine start permission signal is sent to the ECM, if communication is functioning properly, engine start can be performed.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

When replacing the key and transponder key ECU assembly, refer to the Service Bulletin.

### 1.CHECK FOR DTC

a. Check for DTCs (Click here).

**HINT:**

Before checking for DTCs, perform the "DTC Output Confirmation Operation" procedure.

**Result**

| Result | Proceed to |
|---|---|
| No DTC output | A |
| DTC output | B |

B → GO TO DIAGNOSTIC TROUBLE CODE CHART (Click here)

A

### 2.CONFIRM ENGINE MODEL

a. Check the vehicle specifications.

**Result**

| Result | Proceed to |
|---|---|
| 1GR-FE | A |
| 1VD-FTV | B |

B → Go to step 4

A

### 3.READ VALUE USING INTELLIGENT TESTER

a. Turn the ignition switch off.

b. Connect the intelligent tester to the DLC3.

c. Turn the ignition switch to ON.

d. Turn the intelligent tester on.

e. Enter the following menus: Powertrain / Engine and ECT / Data List.

**Engine and ECT**

| Tester Display | Measurement Item/Range | Normal Condition | Stored as Freeze Frame Data |
|---|---|---|---|
| Immobiliser Fuel Cut | Status of immobiliser fuel cut/ ON or OFF | - | Yes |

**OK:**
**The item in the Data List indicates "OFF".**

**NG** → Go to step 4

**OK**

GO TO SFI SYSTEM (Click here)

### 4.CHECK WHETHER ENGINE STARTS

a. Turn the ignition switch to ON, wait for 5 seconds, and then attempt to start the engine.

**Result**

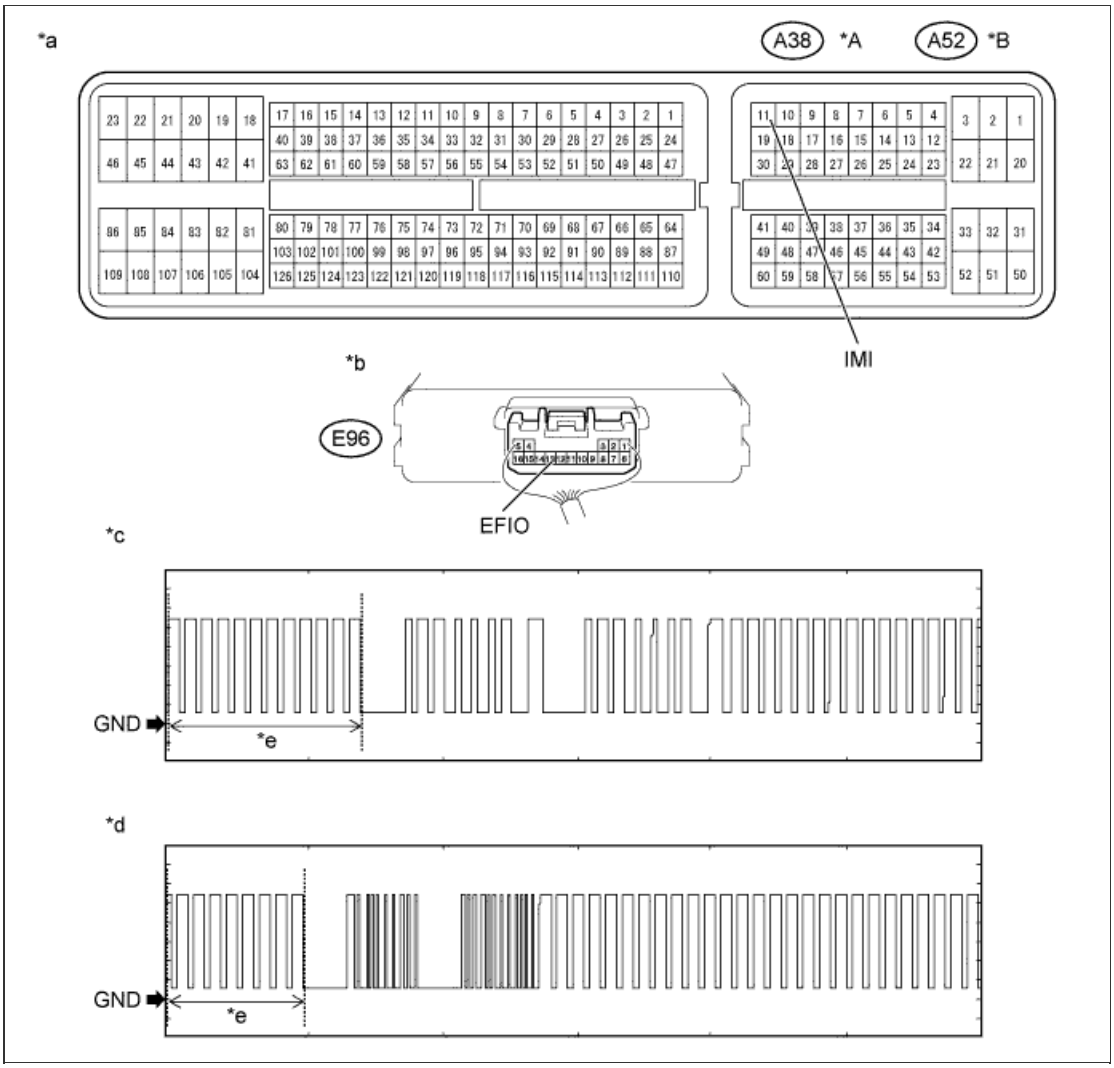
| Result | Proceed to |
|---|---|
| Engine cannot be started | A |
| Engine can be started | B |

**B** → USE SIMULATION METHOD TO CHECK (Click here)

**A**

### 5.CHECK ECM (TERMINAL IMI)

a. Using an oscilloscope, check the waveform.




### Text in Illustration

| | | | |
|---|---|---|---|
| *A | for LHD | *B | for RHD |
| *a | Component with harness connected (ECM) | *b | Component with harness connected (Transponder Key ECU Assembly) |
| *c | Waveform 1 | *d | Waveform 2 |
| *e | Waveform A | - | - |

### Measurement Condition

| Item | Content |
|---|---|
| Tester Connection | A38-11 (IMI) - E96-13 (EFIO)*1<br>A52-11 (IMI) - E96-13 (EFIO)*2 |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

**HINT:**

The waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.

**OK:**

**Waveform is output normally (refer to illustration).**

### Result

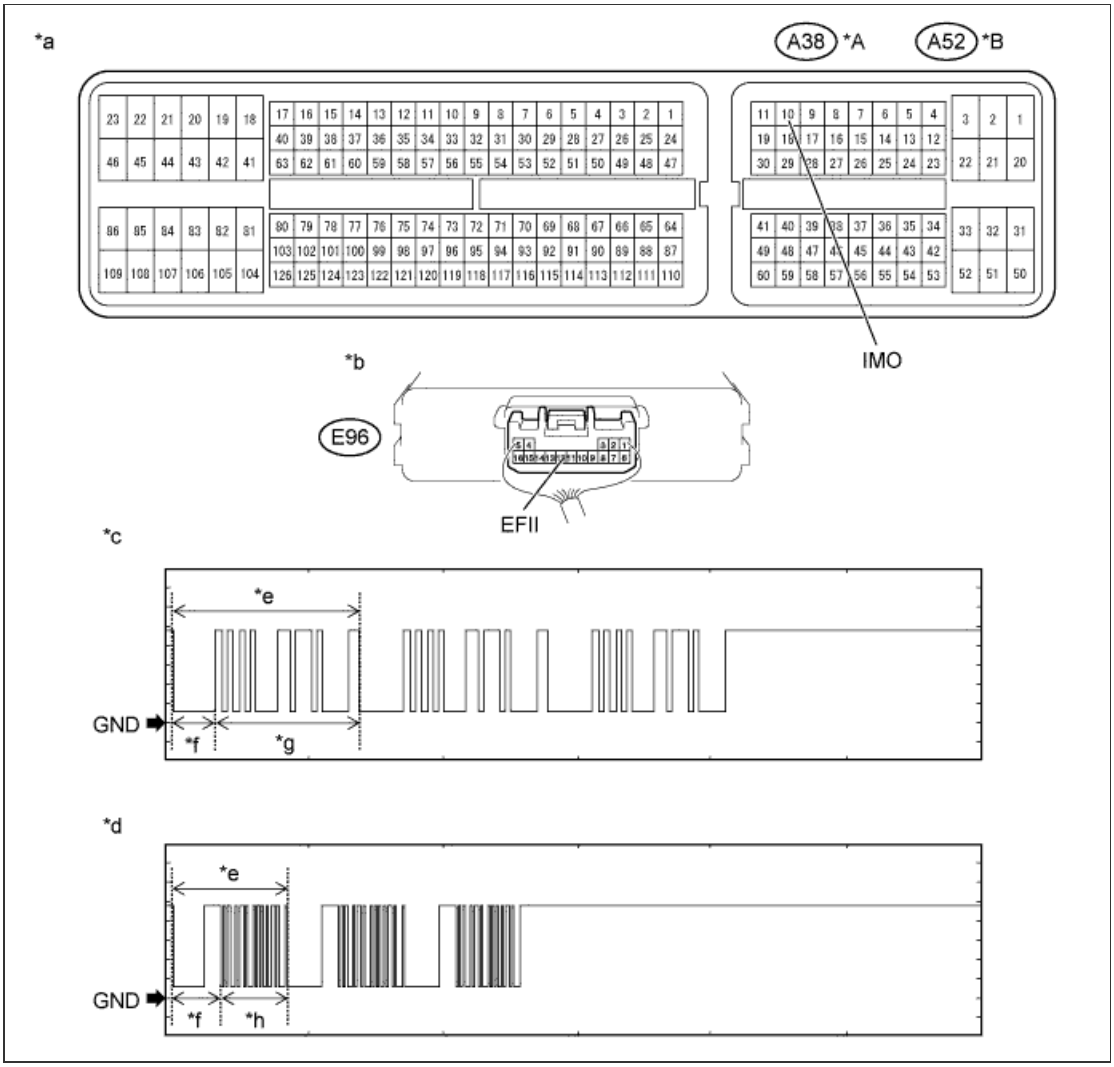
| Result | Proceed to |
|---|---|
| Normal waveform | A |
| Waveform 1 or 2 (Waveform A) not output, or has abnormal wavelength or shape | B |

| | |
|---|---|
| B | Go to step 10 |

A

## 6.CHECK ECM (TERMINAL IMO)

a. Using an oscilloscope, check the waveform.




### Text in Illustration

| | | | |
|---|---|---|---|
| *A | for LHD | *B | for RHD |
| *a | Component with harness connected (ECM) | *b | Component with harness connected (Transponder Key ECU Assembly) |
| *c | Waveform 1 | *d | Waveform 2 |
| *e | Waveform B | *f | 160 ms |
| *g | 510 ms | *h | 270 ms |

### Measurement Condition

| Item | Content |
|---|---|
| Tester Connection | A38-10 (IMO) - E96-12 (EFII)*1<br>A52-10 (IMO) - E96-12 (EFII)*2 |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

**HINT:**

The waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.

**OK:**

**Waveform is output normally (refer to illustration).**

**Result**

| Result | Proceed to |
|---|---|
| Normal waveform | A |
| Waveform 1 or 2 (Waveform B) not output, or has abnormal wavelength or shape (for 1GR-FE) | B |
| Waveform 1 or 2 (Waveform B) not output, or has abnormal wavelength or shape (for 1VD-FTV) | C |

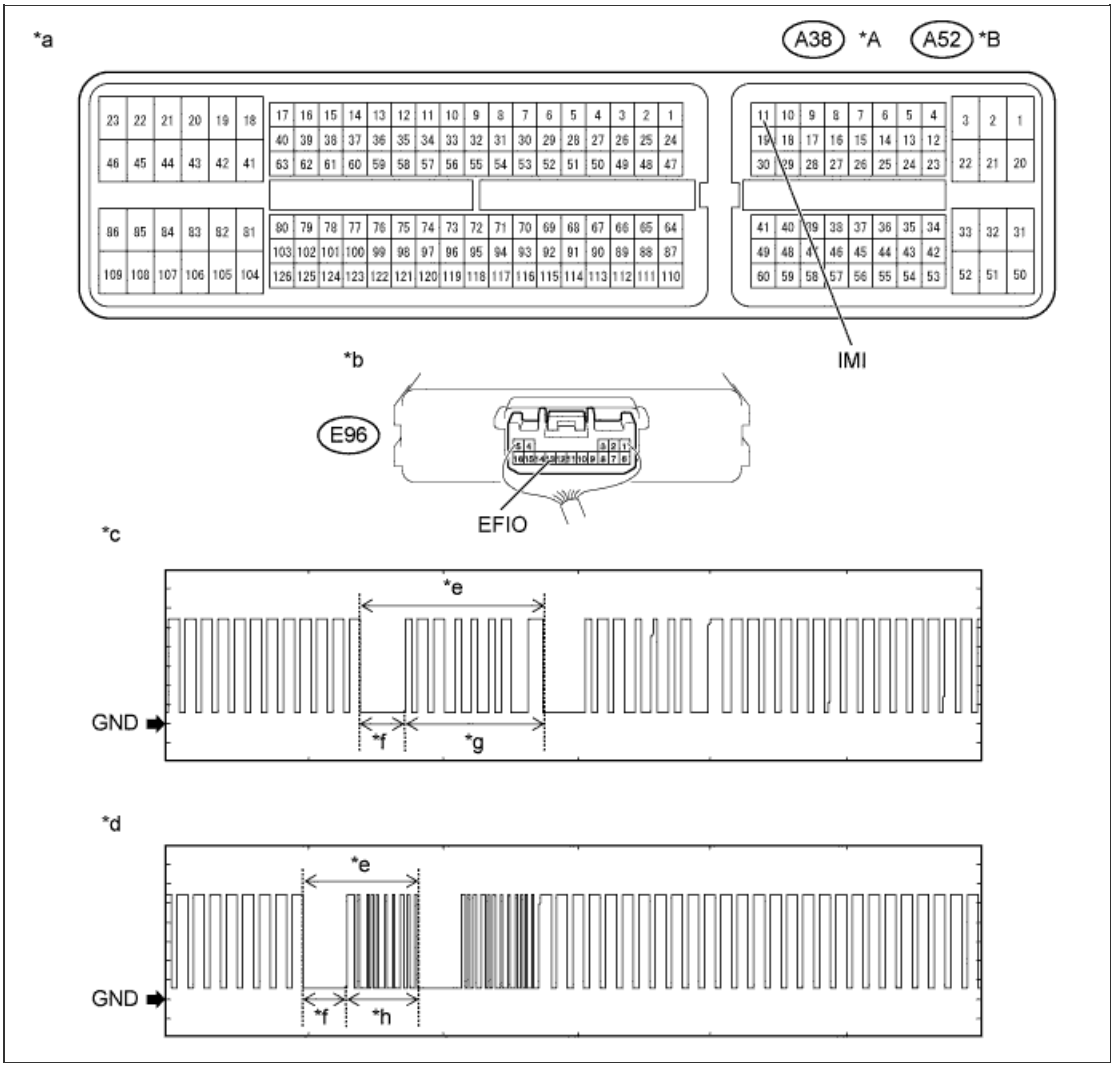
B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

A

**7.CHECK ECM (TERMINAL IMI)**

a. Using an oscilloscope, check the waveform.



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for LHD | *B | for RHD |
| *a | Component with harness connected (ECM) | *b | Component with harness connected (Transponder Key ECU Assembly) |
| *c | Waveform 1 | *d | Waveform 2 |
| *e | Waveform C | *f | 160 ms |
| *g | 510 ms | *h | 270 ms |

**Measurement Condition**

| Item | Content |
|---|---|
| Tester Connection | A38-11 (IMI) - E96-13 (EFIO)*1<br>A52-11 (IMI) - E96-13 (EFIO)*2 |
| Tool Setting | 2 V/DIV., 500 ms./DIV. |
| Condition | Within 3 seconds after starter operates and initial combustion occurs, or within 3 seconds after ignition switch first turned to ON after battery disconnected and reconnected |

*1: for LHD
*2: for RHD

**HINT:**

The waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.

**OK:**
**Waveform is output normally (refer to illustration).**

**Result**

| Result | Proceed to |
|---|---|
| Normal waveform | A |
| Waveform 1 or 2 (Waveform C) not output, or has abnormal wavelength or shape | B |

B → Go to step 11

A

## 8.REGISTER ECU COMMUNICATION ID

a. Register the ECU communication ID (refer to the Service Bulletin).

NEXT

## 9.CHECK WHETHER ENGINE STARTS

a. Check that the engine starts with the key.

**OK:**
**Engine starts normally.**

NG → Go to step 11

OK

END

## 10.CHECK HARNESS AND CONNECTOR (ECM - TRANSPONDER KEY ECU ASSEMBLY)

a. for LHD:

i. Disconnect the A38 ECM connector.

ii. Disconnect the E96 transponder key ECU assembly connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A38-11 (IMI) - E96-13 (EFIO) | Always | Below 1 Ω |
| E96-13 (EFIO) - Body ground | Always | 10 kΩ or higher |

b. for RHD:

i. Disconnect the A52 ECM connector.

ii. Disconnect the E96 transponder key ECU assembly connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A52-11 (IMI) - E96-13 (EFIO) | Always | Below 1 Ω |
| E96-13 (EFIO) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**11.REPLACE TRANSPONDER KEY ECU ASSEMBLY**

a. Replace the transponder key ECU assembly.

b. Check that the engine starts with the key.

**OK:**
**Engine starts normally.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1VD-FTV) | C |

B → GO TO SFI SYSTEM (Click here)

C → GO TO ECD SYSTEM (Click here)

A

END

**for Preparation** Click here

## DESCRIPTION

A maximum of 5 master key codes and 3 sub key codes can be registered.

## WIRING DIAGRAM

Refer to "System Diagram" ( Click here).

## INSPECTION PROCEDURE

**NOTICE:**

When replacing the key and transponder key ECU assembly, refer to the Service Bulletin.

### 1.CHECK REGISTRATION MODE

a. Check that the system enters registration mode.

**OK:**

**System enters registration mode**

NG → Go to step 5

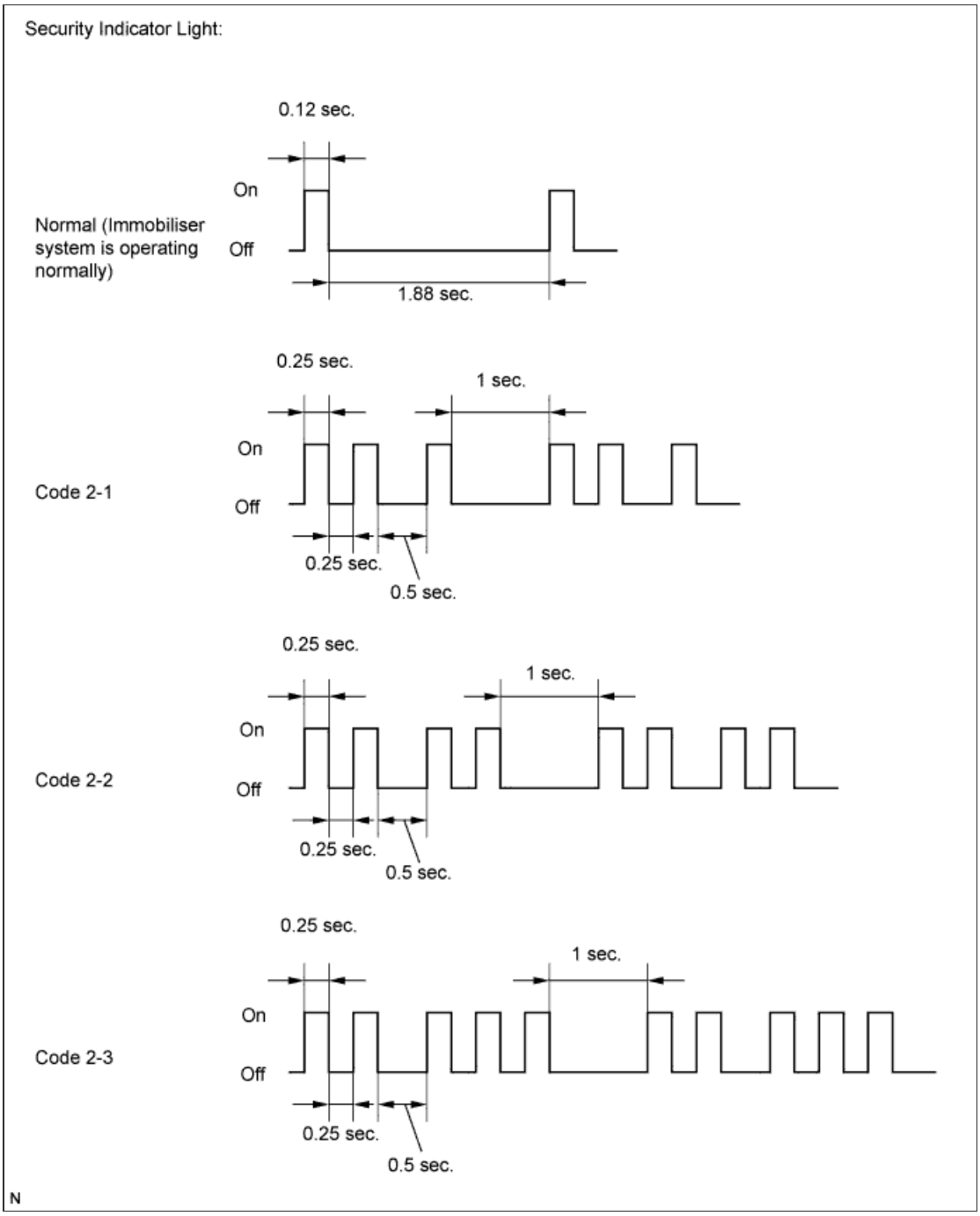
OK

### 2.CHECK SECURITY INDICATOR LIGHT OPERATION

a. In registration mode, when the key is inserted in the ignition key cylinder, check that the security indicator light blinks in the normal pattern shown below.

**HINT:**

If the new key code registration fails, code 2-1 will be output through the security indicator light. Trying to reregister an already registered key will cause code 2-2 to be output when the key is inserted. If the number of registered key codes exceeds the maximum limit, code 2-3 will be output through the security indicator light. The output details are shown below.




**Result**

| Result | Proceed to |
|---|---|
| Code 2-1 or Code 2-3 | A |
| Code 2-2 | B |

B → REGISTRATION AS ANOTHER KEY

A

## 3.READ VALUE USING INTELLIGENT TESTER

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Immobiliser / Data List.

e. According to the display on the intelligent tester, read the Data List.

**Immobiliser**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Transponder S-code | Number of registered sub-keys / min.: 0, max.: 3 | Number of registered sub-keys | - |
| Transponder M-code | Number of registered master keys / min.: 0, max.: 5 | Number of registered master keys | - |

**Result**

| Result | Proceed to |
|---|---|
| None of the following | A |
| Registered master keys: 5, registered sub-keys: 0 | B |
| Registered master keys: 0, registered sub-keys: 3 | C |
| Registered master keys: 5, registered sub-keys: 3 | D |

B → KEY REGISTRATION (SUB-KEY)

C → KEY REGISTRATION (MASTER KEY)

D → NOT KEY REGISTRATION

A

## 4.KEY REGISTRATION

a. Refer to the table below to determine if additional keys can be registered.

| Number of Keys Registered (Master and Sub) | Proceed to |
|---|---|
| 0 | New key ID registration (refer to the Service Bulletin) |
| 1 to 7 | Additional key ID registration (refer to the Service Bulletin) |

b. Check whether key registration.

NG → REPLACE TRANSPONDER KEY ECU ASSEMBLY

OK

END (KEY IS MALFUNCTIONING)

## 5.INSPECT UNLOCK WARNING SWITCH ASSEMBLY

a. Inspect the unlock warning switch assembly (Click here).

NG → REPLACE UNLOCK WARNING SWITCH ASSEMBLY (Click here)

OK

## 6.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY ECU ASSEMBLY - UNLOCK WARNING SWITCH)

a. Disconnect the E94 unlock warning switch assembly connector.

b. Disconnect the E96 transponder key ECU assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E94-1 (UN+) - E96-3 (KSW) | Always | Below 1 Ω |
| E94-2 (UN-) - Body ground | Always | Below 1 Ω |
| E94-1 (UN+) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**7.INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY**

a. Inspect the front door courtesy light switch assembly ( Click here).

NG → REPLACE FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (**Click here**)

OK

**8.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY ECU ASSEMBLY - FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY)**

a. for LHD:

i. Disconnect the K2 front door courtesy light switch assembly connector.

ii. Disconnect the E96 transponder key ECU assembly connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K2-1 - E96-7 (CTY) | Always | Below 1 Ω |
| K2-1 - Body ground | Always | 10 kΩ or higher |

b. for RHD:

i. Disconnect the L1 front door courtesy light switch assembly connector.

ii. Disconnect the E96 transponder key ECU assembly connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L1-1 - E96-7 (CTY) | Always | Below 1 Ω |
| L1-1 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

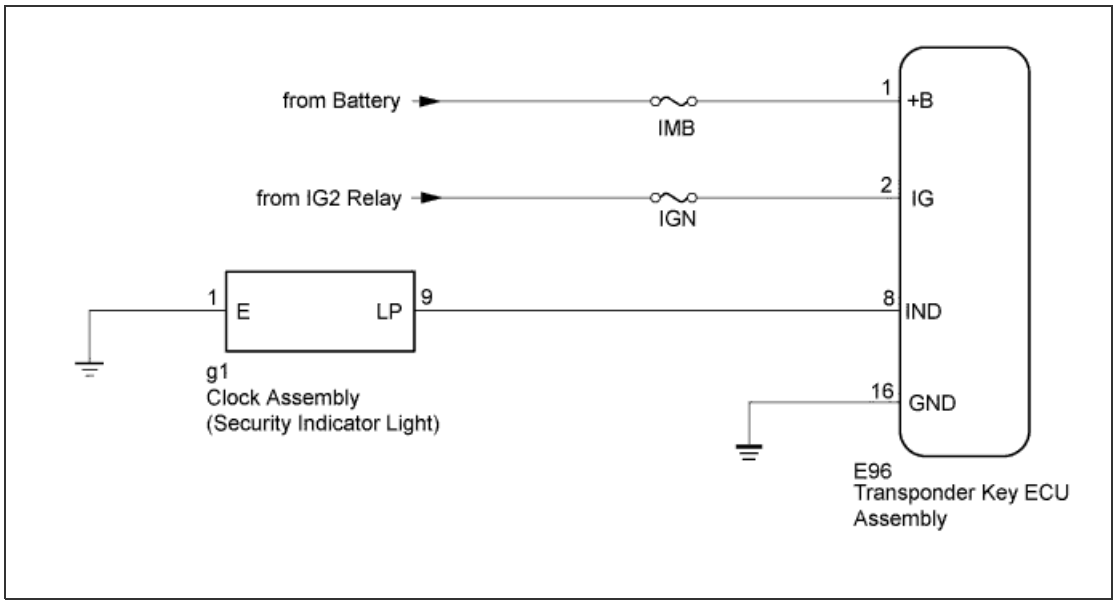
REPLACE TRANSPONDER KEY ECU ASSEMBLY

**for Preparation** Click here

## DESCRIPTION

When the engine immobiliser system is set, the security indicator light blinks continuously, but does not illuminate if the engine immobiliser system is not set.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**
- **When replacing the transponder key ECU assembly, refer to Registration.**

### 1.CHECK FOR DTC

a. Check for DTCs (Click here).

**OK:**
**DTC is not output.**

**NG** → GO TO DIAGNOSTIC TROUBLE CODE CHART ( **Click here**)

**OK**

### 2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SECURITY INDICATOR)

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Immobiliser / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Immobiliser**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Indicator | Security indicator light | ON/OFF | - |

**OK:**

**Security indicator light can be turned on and off using the intelligent tester.**

NG → Go to step 4

OK ↓

### 3.READ VALUE USING INTELLIGENT TESTER (ENGINE IMMOBILISER SYSTEM STATUS)

a. Turn the ignition switch off.

**HINT:**

When using the intelligent tester with the ignition switch off to troubleshoot: Connect the intelligent tester to the DLC3 and turn a courtesy light switch on and off at intervals of 1.5 seconds until communication between the intelligent tester and vehicle begins.

b. Using the intelligent tester, read the Data List (Click here).

**Immobiliser**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Immobiliser | Engine immobiliser system status determined by transponder key ECU assembly / Set or Unset | Set: Engine immobiliser set (engine start prohibited [no key in ignition key cylinder]) Unset: Engine immobiliser unset (engine start permitted [key inserted in ignition key cylinder]) | When the engine immobiliser system does not change to the unset state, this item can be used to determine if the cause is the transponder key ECU assembly. |

NG → Go to step 6

OK ↓

### REPLACE TRANSPONDER KEY ECU ASSEMBLY

### 4.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY ECU - SECURITY INDICATOR LIGHT)

a. Disconnect the E96 transponder key ECU assembly connector.

b. Disconnect the g1 clock assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E96-8 (IND) - g1-9 (LP) | Always | Below 1 Ω |
| g1-1 (E) - Body ground | Always | Below 1 Ω |
| g1-9 (LP) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

### 5.REPLACE CLOCK ASSEMBLY (SECURITY INDICATOR LIGHT)

a. Temporarily replace the clock assembly (security indicator light) with a new or normally functioning one ( Click here).

b. When the immobiliser is set or the theft deterrent system is in the arming preparation state, check that the security indicator light blinks.

**OK:**

**Security indicator light blinks.**

NG → REPLACE TRANSPONDER KEY ECU ASSEMBLY

OK

END (CLOCK ASSEMBLY WAS DEFECTIVE)

6.CHECK HARNESS AND CONNECTOR (TRANSPONDER KEY ECU - BATTERY AND BODY GROUND)

a. Disconnect the E96 transponder key ECU assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E96-16 (GND) - Body ground | Always | Below 1 Ω |

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E96-1 (+B) - Body ground | Always | 11 to 14 V |
| E96-2 (IG) - Body ground | Ignition switch off | Below 1 V |
| | Ignition switch ON | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE TRANSPONDER KEY ECU ASSEMBLY

**for Preparation** Click here

## 1.NOTICE FOR ARMED STATE

If the vehicle is left in the armed state for an extended period of time or in another condition that causes the battery to be fully depleted, the alarm may sound simultaneously with the recharging of the battery or the replacement of the battery with a new one.* If this occurs, immediately unlock the vehicle's doors through a wireless unlock operation or entry unlock operation to stop the alarm.

**HINT:**

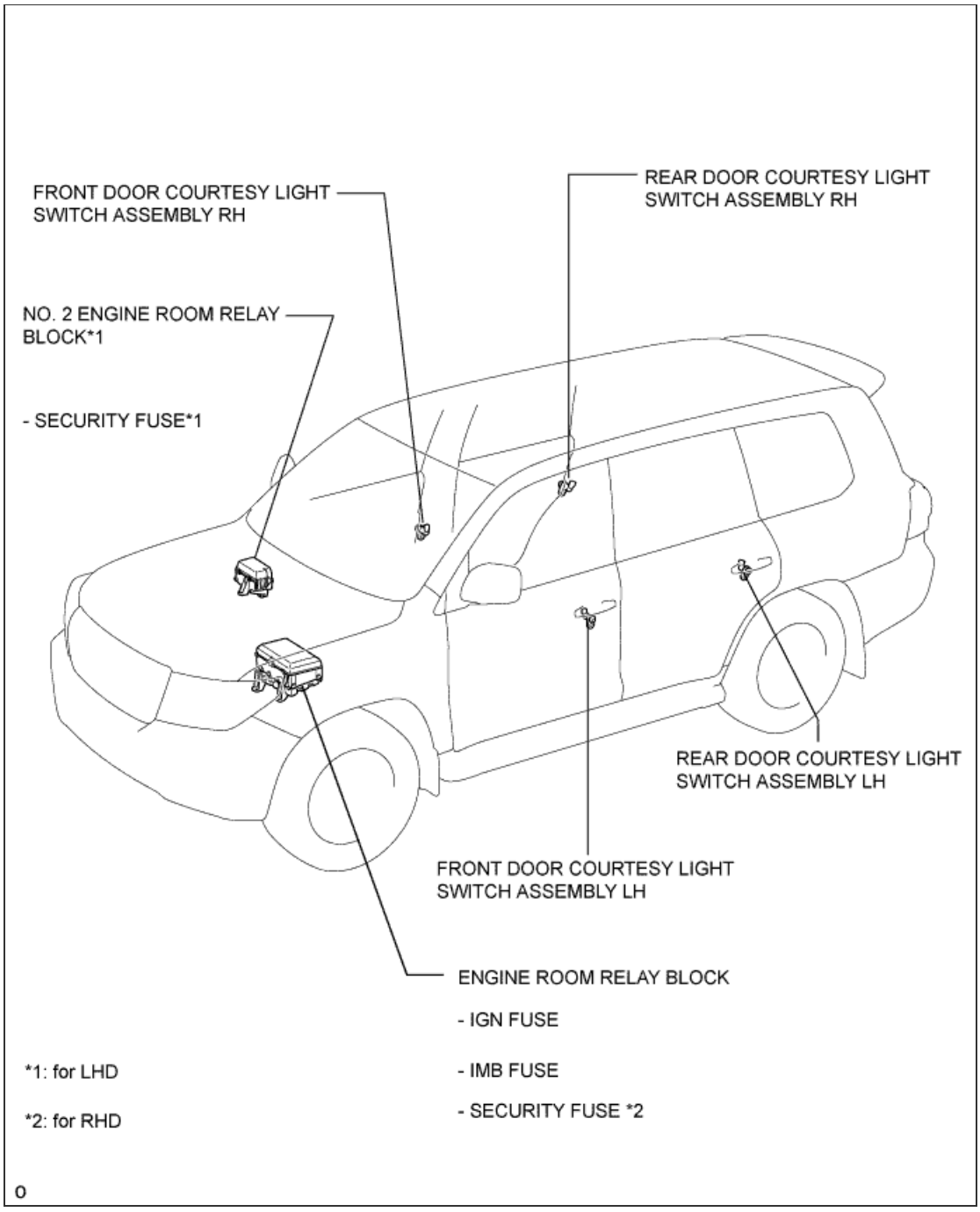
*: This may occur in the following situation: during active arming mode while in the armed state, the cable of the negative (-) battery terminal is disconnected and reconnected (Click here).

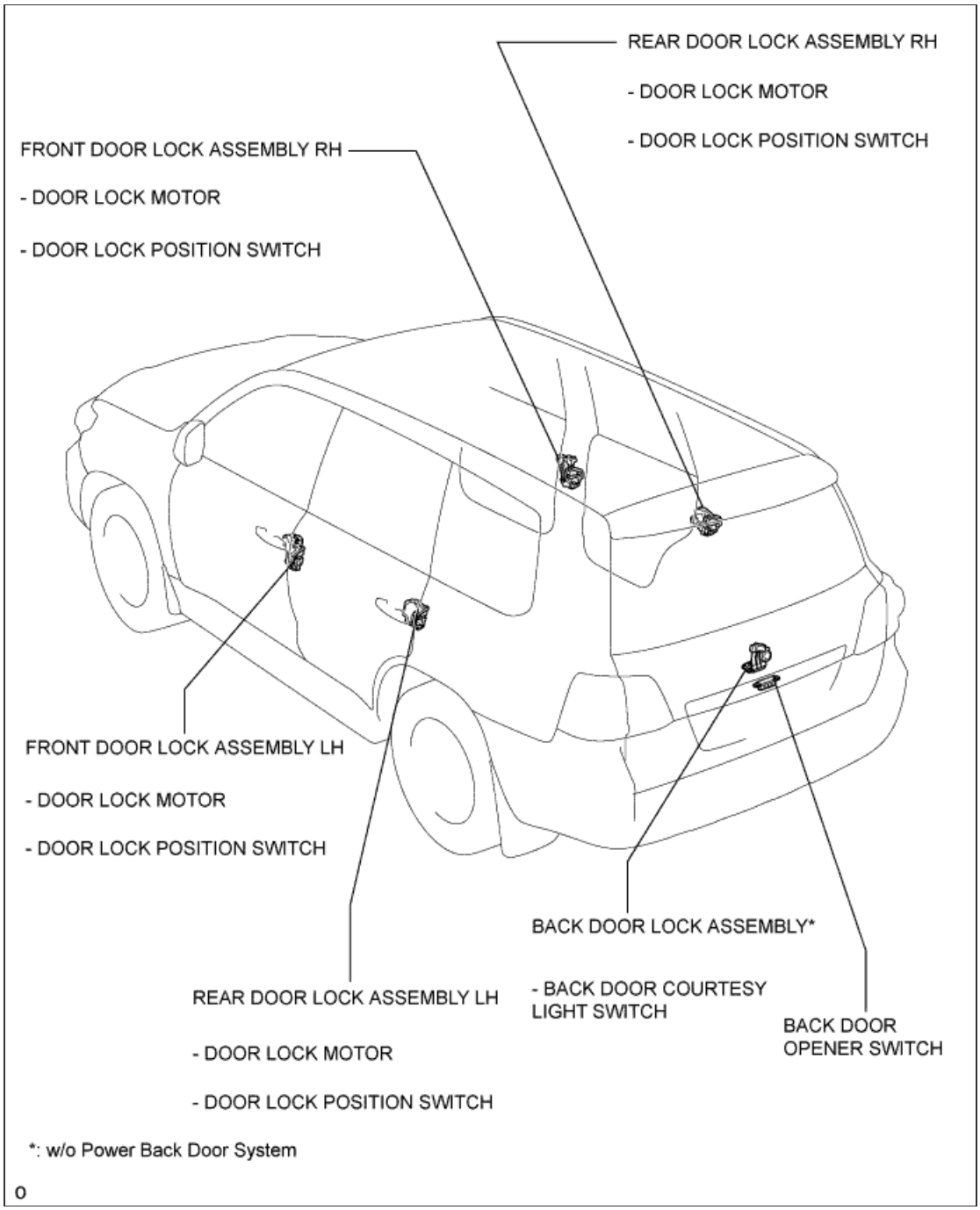
## 2.PRECAUTION FOR INTRUSION SENSOR

The theft deterrent system uses ultrasonic waves in order to detect intrusion into the vehicle. The ultrasonic waves do not penetrate iron or glass, but if a window or the sliding roof* is open, ultrasonic waves may leak out of the vehicle. As a result, when a window or the sliding roof* is open, people passing near the vehicle, bugs or leaves that enter the vehicle, strong winds, or outside sources of ultrasonic waves may be detected by the intrusion sensor. When inspecting the intrusion sensor, be sure to fully close all windows and the sliding roof. When leaving a window or the sliding roof open for ventilation purposes while the car is parked, be sure to disable the intrusion sensor with the intrusion sensor OFF switch.

*: w/ Sliding Roof System

**for Preparation** Click here

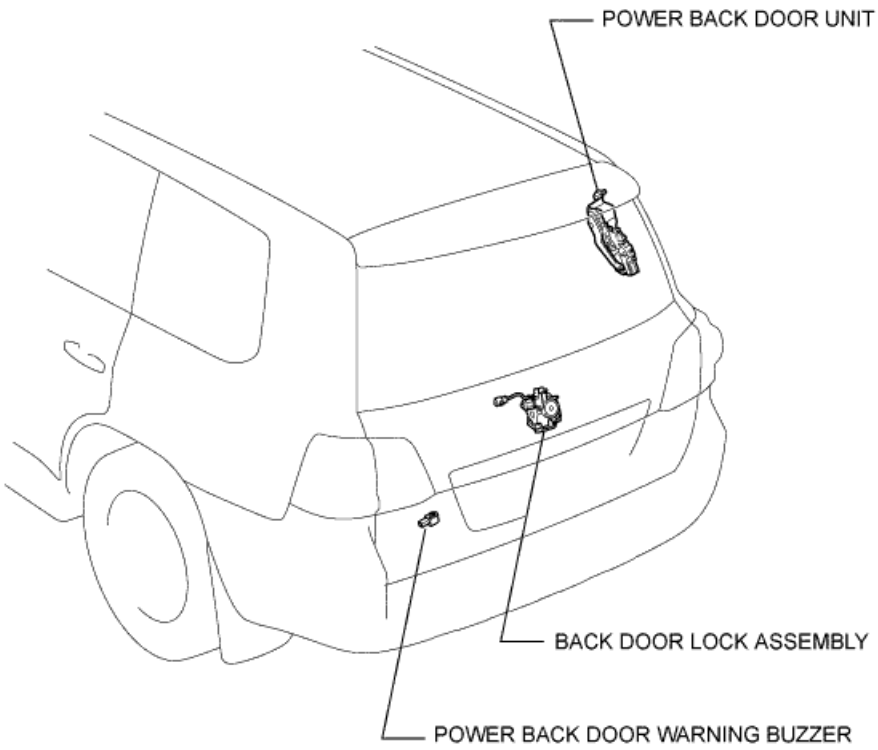




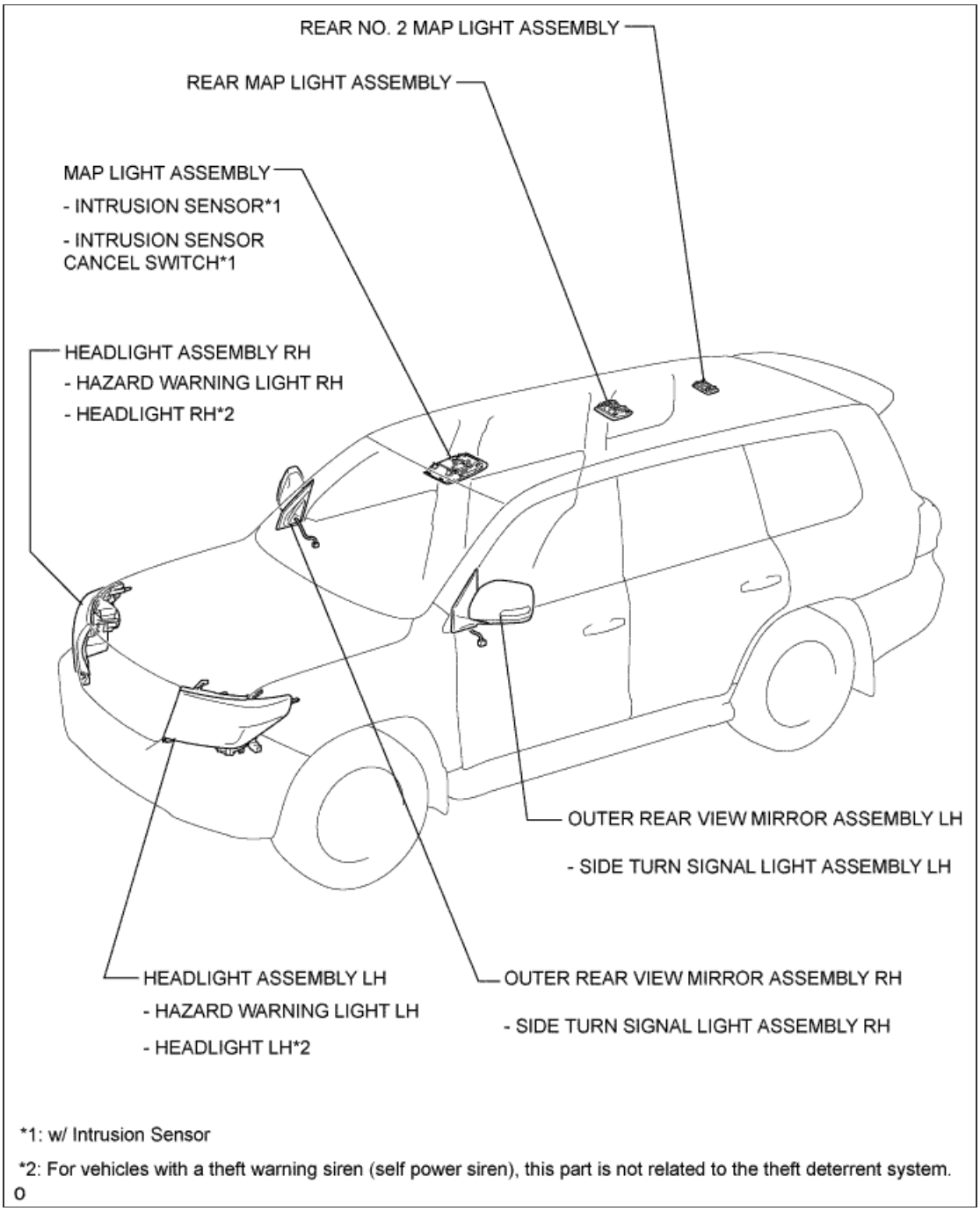

*: w/o Power Back Door System

o

w/ Power Back Door System:



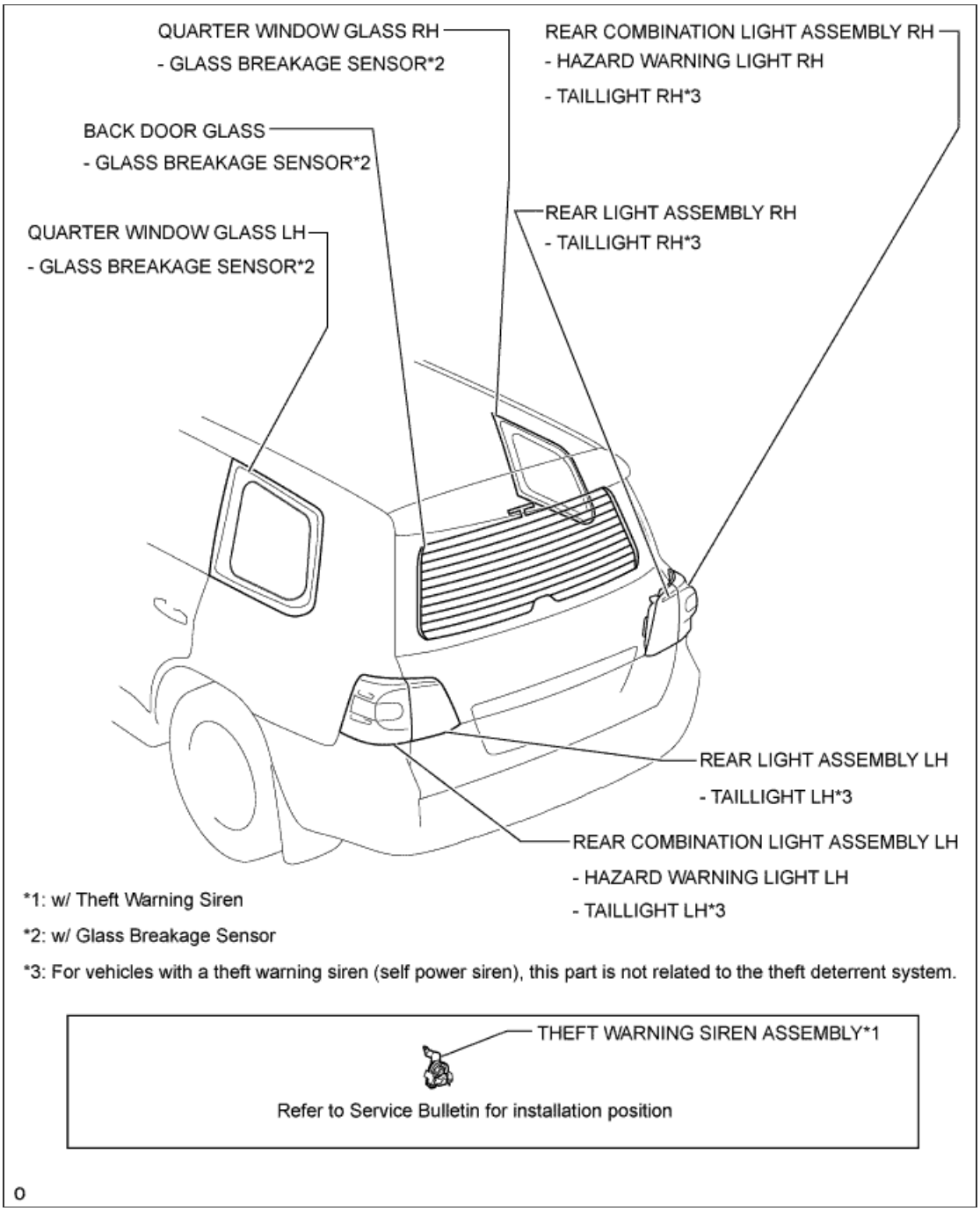

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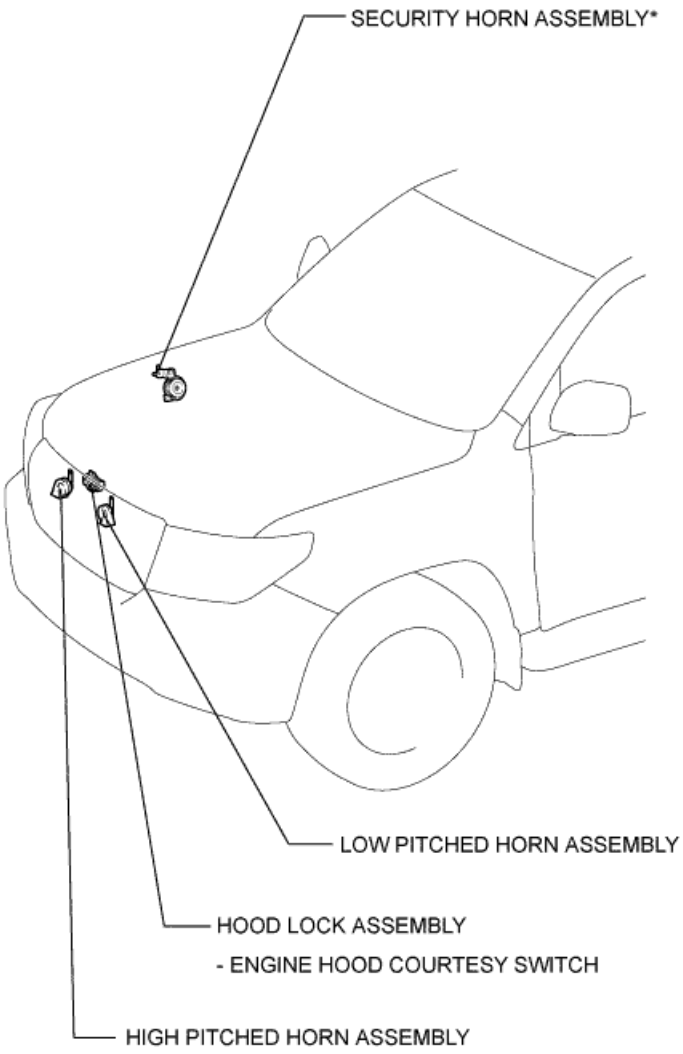



*1: w/ Intrusion Sensor

*2: For vehicles with a theft warning siren (self power siren), this part is not related to the theft deterrent system.

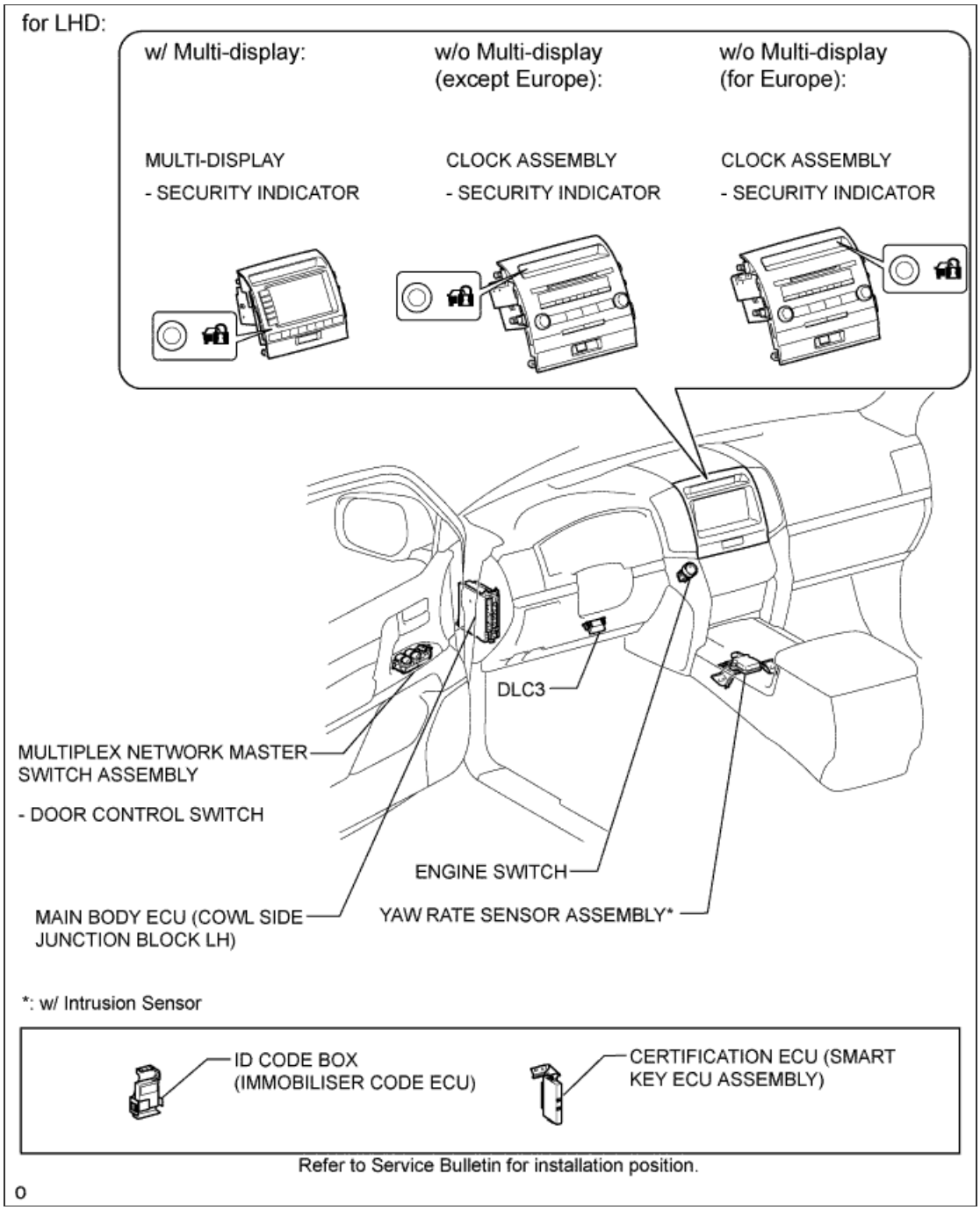
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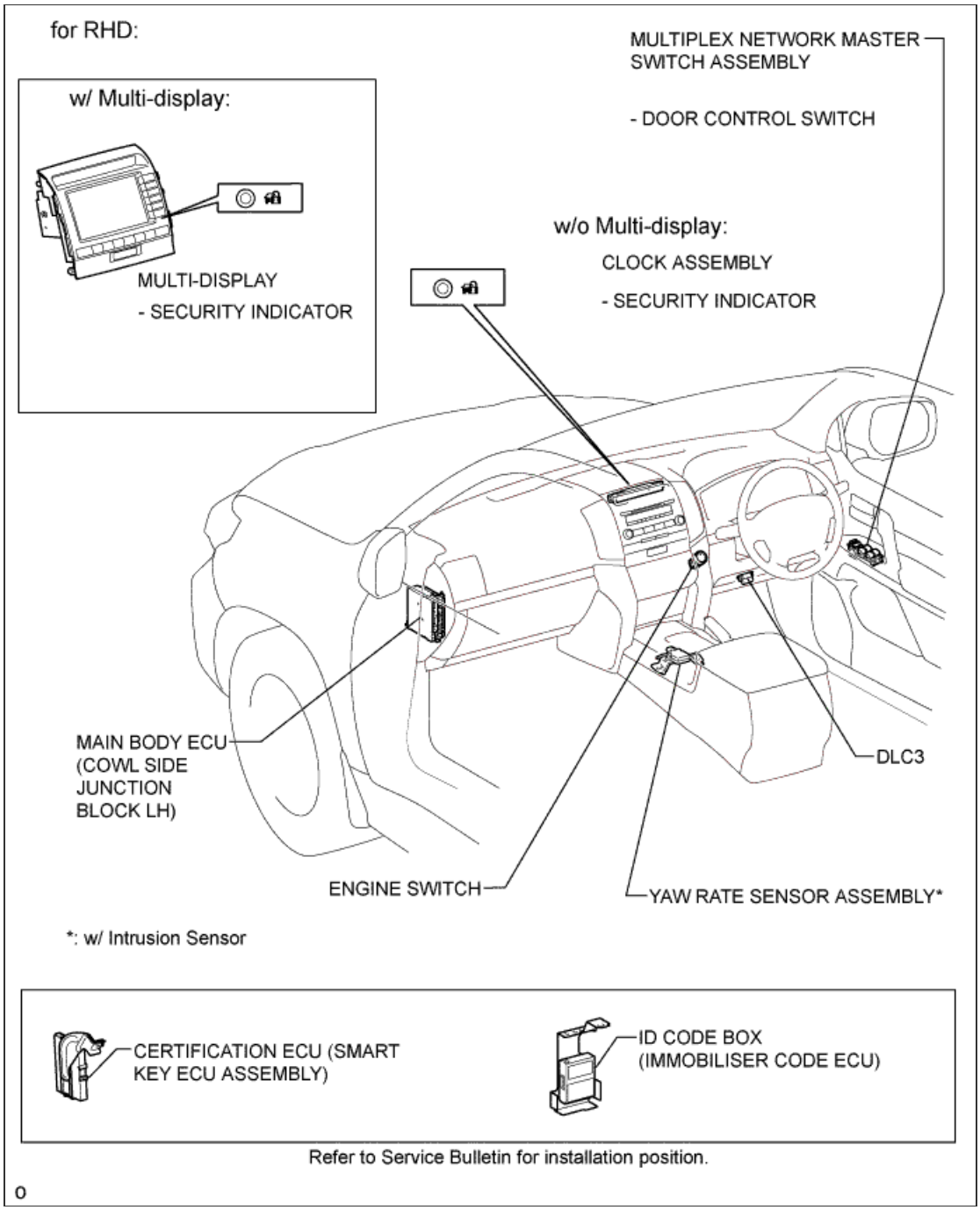

QUARTER WINDOW GLASS RH
- GLASS BREAKAGE SENSOR*2
REAR COMBINATION LIGHT ASSEMBLY RH
- HAZARD WARNING LIGHT RH
- TAILLIGHT RH*3
BACK DOOR GLASS
- GLASS BREAKAGE SENSOR*2
REAR LIGHT ASSEMBLY RH
- TAILLIGHT RH*3
QUARTER WINDOW GLASS LH
- GLASS BREAKAGE SENSOR*2
REAR LIGHT ASSEMBLY LH
- TAILLIGHT LH*3
REAR COMBINATION LIGHT ASSEMBLY LH
- HAZARD WARNING LIGHT LH
- TAILLIGHT LH*3
*1: w/ Theft Warning Siren
*2: w/ Glass Breakage Sensor
*3: For vehicles with a theft warning siren (self power siren), this part is not related to the theft deterrent system.
THEFT WARNING SIREN ASSEMBLY*1
Refer to Service Bulletin for installation position
o



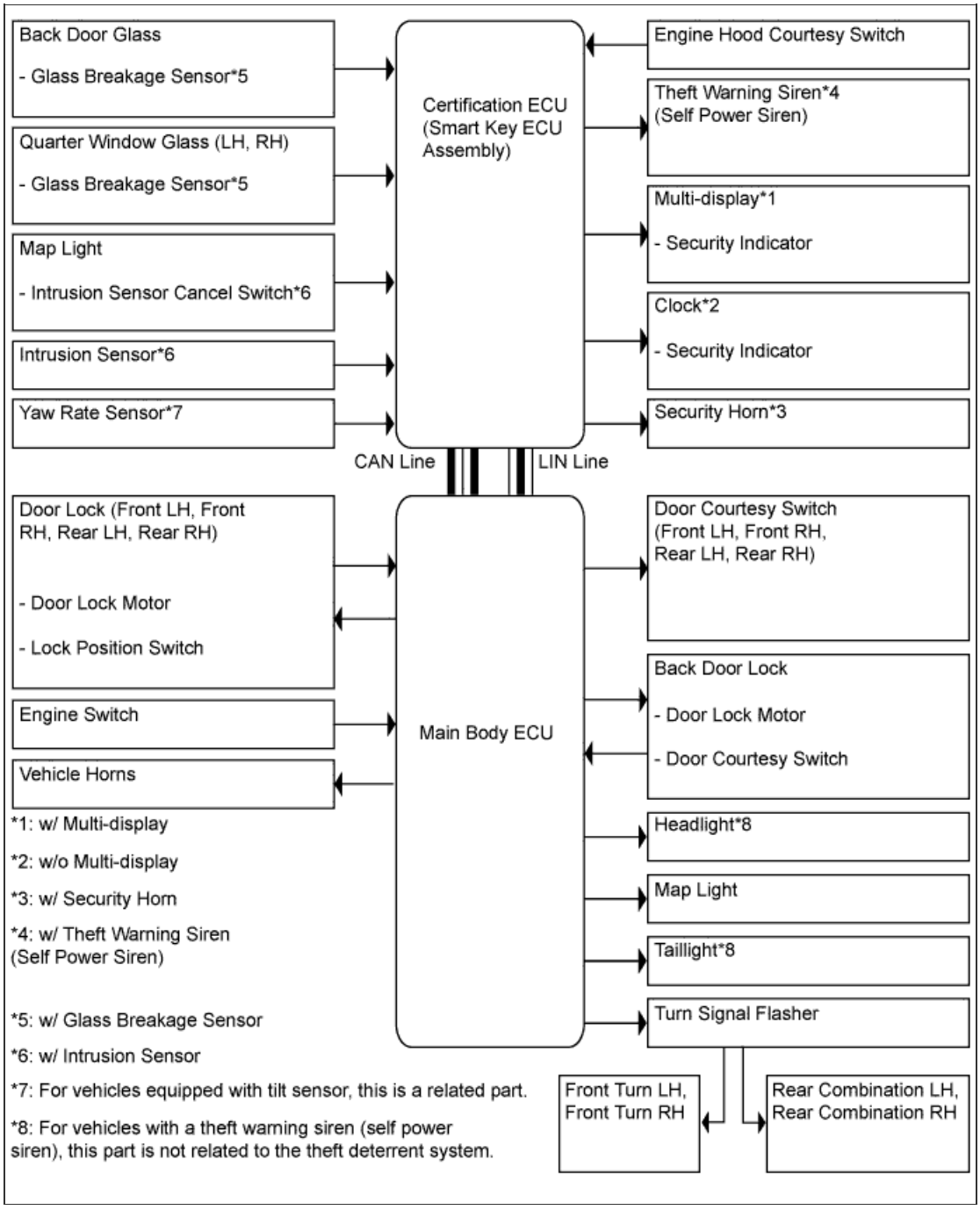

*: w/ Security Horn

o


for LHD:
w/ Multi-display:
w/o Multi-display (except Europe):
w/o Multi-display (for Europe):
MULTI-DISPLAY
- SECURITY INDICATOR
CLOCK ASSEMBLY
- SECURITY INDICATOR
CLOCK ASSEMBLY
- SECURITY INDICATOR
DLC3
MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY
- DOOR CONTROL SWITCH
ENGINE SWITCH
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
YAW RATE SENSOR ASSEMBLY*
*: w/ Intrusion Sensor
ID CODE BOX (IMMOBILISER CODE ECU)
CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)
Refer to Service Bulletin for installation position.


for RHD:
MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY
- DOOR CONTROL SWITCH
w/ Multi-display:
MULTI-DISPLAY
- SECURITY INDICATOR
w/o Multi-display:
CLOCK ASSEMBLY
- SECURITY INDICATOR
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
DLC3
ENGINE SWITCH
YAW RATE SENSOR ASSEMBLY*
*: w/ Intrusion Sensor
CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)
ID CODE BOX (IMMOBILISER CODE ECU)
Refer to Service Bulletin for installation position.

**for Preparation** Click here




### Communication Table

| Sender | Receiver | Signal | Line |
|---|---|---|---|
| Main Body ECU | Certification ECU (Smart Key ECU Assembly) | • Door courtesy light switch signal<br>• Engine switch status signal<br>• Driver door lock position signal<br>• Driver door manual lock switch signal<br>• Front passenger door lock position signal<br>• Front passenger door manual lock switch signal<br>• Rear door lock LH position signal<br>• Rear door lock RH position signal<br>• Back door courtesy switch signal<br>• Back door open signal | CAN |
| | | • Driver door lock control signal<br>• Front passenger door lock control signal | |

| | | | |
|---|---|---|---|
| Certification ECU (Smart Key ECU Assembly) | Main Body ECU | • Rear door lock LH control signal<br>• Rear door lock RH control signal<br>• Back door lock control signal<br>• Horn signal<br>• Hazard warning light flash signal<br>• Taillight flash signal*<br>• Horn signal<br>• Headlight flash signal* | CAN |
| Certification ECU (Smart Key ECU Assembly) | Main Body ECU | Map light and interior light illumination signal | CAN/LIN |

**HINT:**

*: For vehicles with a theft warning siren (self power siren), this part is not related to the theft deterrent system.

**for Preparation** Click here

## THEFT DETERRENT SYSTEM DESCRIPTION

The theft deterrent system is designed to deter vehicle break-ins and theft. If an attempted break-in or theft is detected, the vehicle horns and security horn*1 or theft warning siren*2 will sound, the room light will illuminate, and the headlights*3, taillights*3 and hazard warning lights will flash. The system detects an attempted break-in or theft when any of the following occurs: 1) the vehicle is forcibly entered; 2) the engine hood is forcibly opened; 3) the doors are unlocked without the use of a key; or 4) the cable from the negative (-) battery terminal is disconnected and reconnected.
If the system enters the alarm sounding state, any unlocked doors will automatically lock.
The system has 4 states: disarmed state, arming preparation state, armed and alarm sounding state.

**HINT:**

- ***1: w/ Security Horn**
- ***2: w/ Theft Warning Siren**
- ***3: For vehicles with a theft warning siren, this part is not related to the theft deterrent system.**

## FUNCTION OF MAIN COMPONENT

| Function | Outline |
|---|---|
| Security indicator | Informs driver of the theft deterrent system status. |
| Security horn*1 | Sounds when an attempted break-in or theft is detected.<br>Located in the engine compartment. |
| Theft warning siren*2 | Sounds when an attempted break-in or theft is detected.<br>Located on the quarter inner LH. |
| Taillight*3 | Flashes when an attempted break-in or theft is detected. |
| Map light and rear map light | Illuminates when an attempted break-in or theft is detected.<br>The map light has intrusion sensor cancel switch.<br>For vehicles equipped with a tilt sensor, the intrusion sensor cancel switch also functions as tilt sensor OFF switch. |
| Headlight*3 | Begins flashing when an attempted break-in or theft is detected. |
| Hazard warning light | Begins flashing when an attempted break-in or theft is detected. |
| Vehicle horns | Sounds when an attempted break-in or theft is detected. |
| Door courtesy light switch | Detects the door open status (open or closed). |
| Door lock position switch | Detects the door lock status (locked or unlocked). |
| Engine hood courtesy switch | Detects the engine hood open status (open or closed). |
| Back door courtesy switch | Detects the back door open status (open or closed). |
| Main body ECU | Detects the engine switch condition (off, on (ACC), or on (IG)). |
| Intrusion sensor*4 | If an intrusion is detected, the alarm is activated. |
| Yaw rate sensor*4 | After the theft deterrent system is set, detects vehicle tilt. If vehicle tilt changes, the certification ECU (smart key ECU assembly) determines there was theft. |
| Glass breakage sensor*5 | Sounds alarm when the left or right quarter window glass or back door glass is broken, or when there is short in the wire harness. |

**HINT:**

*1: w/ Security Horn

*2: w/ Theft Warning Siren

*3: For vehicles with a theft warning siren, this part is not related to the theft deterrent system.

*4: w/ Intrusion Sensor

*5: w/ Glass Breakage Sensor

## SYSTEM FUNCTION

a. Disarmed state:

- The alarm function is not operating.
- The theft deterrent system is not operating.

b. Arming preparation state:

The theft deterrent system is not operating.

c. Armed state:

The theft deterrent system is operating.

d. Alarm sounding state:

The alarm function is operating (30 +/-5 seconds).

## OPERATION OF INTRUSION SENSOR

**NOTICE:**

Ultrasonic waves are used to detect intrusion. Ultrasonic waves do not penetrate steel or glass. When any of the door glasses or sliding roof is left open, ultrasonic waves may escape. This may result in the detection of people in the surroundings, leaves or insects entering the vehicle, strong wind or other ultrasonic wave sources in the environment when the vehicle is parked with the door glasses or sliding roof open. When parking the vehicle with the door glasses or the sliding roof open for ventilation, turn off the intrusion sensor using the intrusion sensor cancel switch.

a. An intrusion sensor is provided in the map light assembly located in the front of the vehicle interior.

b. The certification ECU (smart key ECU assembly) activates the intrusion sensor when the system changes from the disarmed state to the armed preparation state. If an intrusion detection signal is input from the intrusion sensor during the armed state, the certification ECU (smart key ECU assembly) changes to the alarm state in order to output an alarm.

c. When the system is in the disarmed state, the function of the intrusion sensor can be disabled by pressing the intrusion sensor cancel switch.

d. The intrusion sensor may erroneously detect intrusion in the following states:

i. Persons or pets are in the vehicle.

ii. The vehicle is parked in a place where extreme vibrations or noises occur, such as in a parking garage.

iii. Ice or snow is removed from the vehicle, causing the vehicle to receive repeated impacts or vibrations.

iv. The wind or something similar causes an externally mounted reflectively coated windshield cover to move.

v. The intrusion sensor may react to a hanger or other objects hanging in the cabin when they drop or swing.

vi. The system changes to the armed state even when any of the windows or sunroof is open. The intrusion sensor may react to objects moving outside the vehicle when any of the windows or sunroof is open.

vii. The vehicle is inside an automatic or high-pressure car wash.

viii. The vehicle experiences impacts, such as hail, lightning strikes and other kinds of repeated impacts or vibrations.

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the theft deterrent system.**
- ***: Use the intelligent tester.**
- **Troubleshooting of the theft deterrent system is based on the premise that the door lock control system, the wireless door lock control system, the lighting system, the horn system, the engine immobiliser system and the entry and start system are operating normally. Check these systems first before troubleshooting the theft deterrent system.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.INSPECT COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B. → Go to CAN COMMUNICATION SYSTEM (Click here)

C. → Go to CAN COMMUNICATION SYSTEM (Click here)

A

## 4.CHECK LIN COMMUNICATION SYSTEM*

a. The theft deterrent system uses the LIN communication system to communicate. Check that the LIN communication system is functioning normally.

**Result**

| Result | Proceed to |
|---|---|
| LIN communication system is normal | A |
| LIN communication system is malfunctioning | B |

B. → Go to LIN COMMUNICATION SYSTEM (Click here)

A

## 5.CHECK FOR DTC*

a. Check for DTCs (Click here) and note any codes that are output.

b. Clear the DTC (Click here).

c. Based on the DTCs output above, try to force output of the same DTC by simulating the symptoms indicated by the DTC. Then recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC output does not reoccur | A |
| DTC output reoccurs | B |

B. → Go to step 7

A

## 6.PROBLEM SYMPTOMS TABLE

a. Refer to Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. → Go to step 8

A

## 7.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Data List / Active Test (Click here)

b. Terminals of ECU (Click here)

c. Operation Check (Click here)

d. Inspection

NEXT

## 8.REPAIR OR REPLACE

NEXT

## 9.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

**HINT:**

- **Before checking the theft deterrent system function, cancel the entry and start system.**
- **If the battery is reconnected during the armed state, the system may enter the alarm sounding state and the alarm may sound. If so, perform a wireless unlock operation to stop the alarm.**
- **For vehicles with a theft warning siren (self power siren), if the battery is disconnected during the armed state, the system may enter the alarm sounding state and the alarm may sound. If so, perform a wireless unlock operation to stop the alarm.**

## OUTLINE OF THEFT DETERRENT SYSTEM

a. When the theft deterrent system detects that the vehicle is being tampered with, the horns sound and lights flash continuously. For vehicles with a siren, the theft warning siren (self power siren) sounds simultaneously.

b. The system has active arming mode (refer to "Active Arming Mode").

c. Active arming mode has 4 states: disarmed state, arming preparation state, armed state and alarm sounding state.

i. Disarmed state:

- The alarm function is not operating.
- The theft deterrent system is not operating.

ii. Arming preparation state:

- The theft deterrent system is not operating.

iii. Armed state:

- The theft deterrent system is operating.

iv. Alarm sounding state:

- The alarm function is operating (30 +/-5 seconds).

**Alarm Method and Time**

| | | |
|---|---|---|
| Alarm Method | Hazard Warning Light | Blinking (cycle of flasher relay) |
| | Vehicle Horn | Sounding (cycle of 0.4 seconds) |
| | Security Horn*1 | Sounding (cycle of 0.4 seconds) |
| | Headlight*1 | Flashing |
| | Taillight*1 | Flashing |
| | Room Light | Illuminating |
| | Theft Warning Siren (Self Power Siren)*2 | Sounding (cycle of 0.4 seconds) |
| | Security Indicator | Illuminating |
| Alarm Time | 30 +/-5 seconds | |

**HINT:**

- **If during the alarm sounding state, one of the doors is unlocked without using a proper key, a forced door lock signal will be output (refer to "Forced Door Lock Control").**
- ***1: w/ Security Horn**
- ***2: w/ Theft Warning Siren (Self Power Siren)**

## ACTIVE ARMING MODE

**HINT:**

- **Active arming mode starts the alarm control immediately after the doors are locked.**
- **Before checking the theft deterrent system, cancel the entry and start system.**

| System State | State Switching Condition | Transfer to |
|---|---|---|
| | Perform one of following, and system will go on to "Arming preparation state": | |

| | | |
|---|---|---|
| 1. Disarmed state | 1. With all doors and engine hood closed, lock all doors by wireless operation.<br>2. With all doors and engine hood closed, lock all doors using mechanical key.*1<br>3. With any door or engine hood open, lock all doors and close all doors and engine hood.*1 | 2. Arming preparation state |
| 2. Arming preparation state | Perform one of following, and system will go on to "Disarmed state":<br>1. Unlock all doors by wireless operation.<br>2. Unlock all doors using mechanical key.*1<br>3. Unlock door.<br>4. Open engine hood.<br>5. With brake pedal depressed, put and hold key 10 mm (0.393 in.) from engine switch with key ornament facing engine switch for 5 seconds, and turn engine switch on (ACC) or on (IG).<br>6. Reconnect battery. | 1. Disarmed state |
| | Perform one of following, and system will go on to "Armed state":<br>1. Allow 30 (+/-1.5) seconds to elapse. | 3. Armed state |
| 3. Armed State | Perform one of following, and system will go on to "Disarmed state":<br>1. Unlock all doors by wireless operation.<br>2. Unlock all doors using mechanical key.*1<br>3. With brake pedal depressed, put and hold key 10 mm (0.393 in.) from engine switch with key ornament facing engine switch for 5 seconds, and turn engine switch on (IG). | 1. Disarmed state |
| | Perform one of following, and system will go on to "Alarm sounding state":<br>1. Open engine hood.<br>2. Open door.<br>3. Unlock door without using wireless operation.*2<br>4. Unlock door without using mechanical key.*1<br>5. Disconnect and reconnect battery negative (-) cable.*3<br>6. Force engine ignition system to turn on without proper engine start method.<br>7. Intrusion sensor detects movement within vehicle.*4 | 4. Alarm sounding state |
| 4. Alarm sounding state | Perform one of following, and system will go on to "Disarmed state":<br>1. Unlock all doors using wireless operation.*2<br>2. Unlock all doors using mechanical key.*1<br>3. With brake pedal depressed, put and hold key 10 mm (0.393 in.) from engine switch with key ornament facing engine switch for 5 seconds, and turn engine switch ON (IG). | 1. Disarmed state |
| | Perform one of following, and system will go on to "Armed state": | |

| | | |
|---|---|---|
| | 1. Allow 30 (+/-5) seconds to elapse. | 3. Armed state (alarm stops sounding) |

**HINT:**

*1: w/ Security Horn

*2: w/ Theft Warning Siren (Self Power Siren)

*3: For vehicles with a theft warning siren (self power siren), the siren begins to sound as soon as the battery cable is disconnected.

*4: w/ Intrusion sensor

## FORCED DOOR LOCK CONTROL

a. The forced door lock control also helps to prevent the vehicle from being tampered with. When a door is unlocked and the alarm starts, the door is forced to lock by a forced door lock signal.

i. Conditions that force the doors to lock:

- 0.4 seconds have elapsed after the previous output of a forced door lock signal.
- The theft deterrent system is in the alarm sounding state of active arming mode.
- A door is unlocked.

## PANIC ALARM CONTROL (w/ Panic Switch)

a. The panic alarm control activates the panic alarm when the wireless transmitter panic switch is pressed. The panic alarm control operates independently from the change of the theft deterrent system alarm control from the armed state to the alarm sounding state.

i. Conditions that cause the panic alarm control to set off the panic alarm:
The panic alarm is activated when the panic switch on the wireless transmitter is pressed and held for 1.0 seconds or more under the following conditions.

- The engine switch is off.
- The theft deterrent system is not in the alarm sounding state.
- The panic alarm control is not operating (the alarm is not set off).

ii. Conditions that cause the panic alarm control to shut off the alarm:
The panic alarm is deactivated when any of the following conditions is fulfilled during panic alarm operation.

- The engine switch is turned on (IG).
- The wireless transmitter lock/unlock switch is pressed.
- 60 +/-5 seconds have passed and the panic alarm has ended.
- The theft deterrent system changes to the alarm sounding state. However, the alarm still sounds, because the theft deterrent system has changed to the alarm sounding state.
  Conditions for canceling the panic alarm are the same as for the alarm control.

**HINT:**

For more information about active mode, refer to "Active Arming Mode".

## SECURITY INDICATOR OUTPUT

a. The security indicator turns on and off based on output signals from the certification ECU (smart key ECU assembly). However, in some cases, the actual status of the security indicator is different from the output signals of the certification ECU (smart key ECU assembly).

**Output**

| State of Theft Deterrent System | Security Indicator | |
|---|---|---|
| | Output Signals from ECU | Actual Lighting Condition |
| Disarmed state | Off | Off (Immobiliser system not set)<br>Blinking (Immobiliser system set) |
| Arming preparation state | On | On |
| Armed state | Off | Blinking |
| Alarm sounding state | On | On |

**Blinking Cycle**

| Time | Security Indicator |
|---|---|
| 0.125 seconds | On |
| 1.875 seconds | Off |

**HINT:**

When the immobiliser system is set, the security indicator blinks during the disarmed state and the armed state due to the output signals from the immobiliser system.

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE)

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Utility / Customize.

e. Select the setting by referring to the table below.

**Security:**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Warning by Horn*1 | ON | Function that allows vehicle horns and security horn to be used as warning device. | ON/OFF |
| Warning by Glass Broken Sensor*2 | ON | Function that turns the glass breakage sensor on/off. | ON/OFF |

**HINT:**

- ***1: w/ Security Horn**
- ***2: w/ Glass Breakage Sensor**

**for Preparation** Click here

**HINT:**

- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Troubleshooting of the theft deterrent system is based on the premise that the door lock control system, the wireless door lock control system, the lighting system, the horn system, the engine immobiliser system and the entry and start system are operating normally. Check these systems first before troubleshooting the theft deterrent system.**

**Theft Deterrent System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Theft deterrent system cannot be set | Engine hood courtesy switch circuit | Click here |
| | Door courtesy switch circuit | Click here |
| | Certification ECU power source circuit | Click here |
| Security indicator is not blinking when theft deterrent system is set | Security indicator light circuit | Click here |
| Alarm sounding state cannot be canceled when engine switch is turned on (IG) | IG power source circuit | Click here |
| Theft deterrent system can be set even when any door is open | Engine hood courtesy switch circuit | Click here |
| | Door courtesy switch circuit | Click here |
| Horns (low pitched, high pitched) do not sound while theft deterrent system is in alarm sounding state | Horn system | Click here |
| Hazard warning lights do not flash while theft deterrent system is in warning operation | Hazard warning switch circuit | Click here |
| Security horn does not sound while theft deterrent system is set*1 | Security horn circuit | Click here |
| Headlights do not flash while theft deterrent system is in alarm sounding state*1 | Headlight signal circuit | Click here |
| Taillights do not flash while theft deterrent system is in alarm sounding state*1 | Taillight circuit | Click here |
| Map light does not illuminate while theft deterrent system is in alarm sounding state | Illumination circuit | Click here |
| Theft warning siren does not sound when theft deterrent system is in alarm sounding state*2 | Theft warning siren circuit | Click here |
| Intrusion sensor cancel switch does not operate*3 | Intrusion sensor cancel switch circuit | Click here |
| Glass breakage sensor does not operate*4 | Glass breakage sensor circuit | Click here |

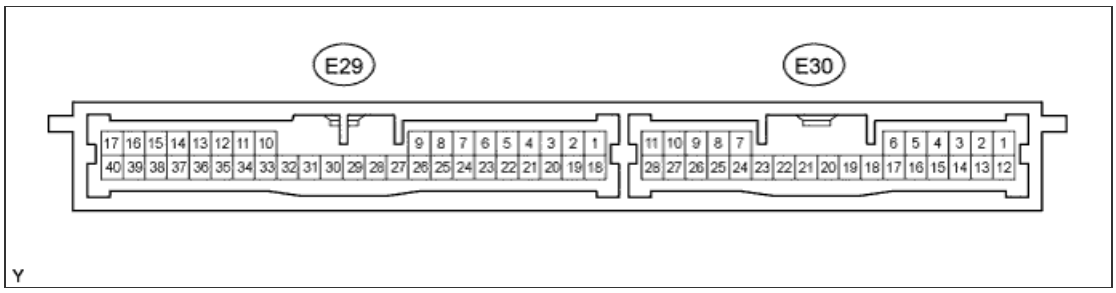
**HINT:**

- ***1: w/ Security Horn**
- ***2: w/ Theft Warning Siren**
- ***3: w/ Intrusion Sensor**
- ***4: w/ Glass Breakage Sensor**

If the suspected areas operate normally, replace the certification ECU (smart key ECU assembly).

**for Preparation** Click here

## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)




a. Disconnect the E29 and E30 ECU connectors.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29-1 (+B) - Body ground | B - Body ground | +B power supply | Always | 11 to 14 V |
| E29-18 (IG) - Body ground | B - Body ground | IG power supply | Engine switch on (IG) | 11 to 14 V |
| | | | Engine switch off | Below 1 Ω |
| E29-17 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E29 and E30 ECU connectors.

d. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E29-2 (IND) - Body ground | V - Body ground | Security indicator signal | Security indicator illuminates (illuminates only for 60 sec. in alarm sounding state (blinking when system in armed state)) | 6 to 11 V |
| E30-20 (SH-) - Body ground*1 | LG - Body ground | Security horn signal | Security horn not sounding (theft deterrent system in alarm sounding state) | 11 to 14 V |
| | | | Security horn sounding (theft deterrent system in alarm sounding state) | 0.5 to 4 V |
| E30-24 (HSW) - Body ground | W - Body ground | Engine hood courtesy switch signal | Engine hood closed | 10 kΩ or higher |
| | | | Engine hood open | Below 1 Ω |
| E30-7 (SSCL) - Body ground*2 | L - Body ground | Theft warning siren signal | Theft warning siren sounding (theft warning system in alarm sounding state) | Below 2 V |
| | | | Theft warning siren not sounding (theft warning system in alarm sounding state) | 4.5 to 14 V |
| E30-4 (IOUT) - Body ground*3 | P - Body ground | Intrusion sensor signal input | No moving object detected | 9 to 14 V |
| | | | Moving object detected during arming preparation state or armed state | Pulse generation |
| E30-5 (SSW1) - Body | | Intrusion sensor cancel | Intrusion sensor cancel switch on | Below 1.5 V |

| | | | | |
|---|---|---|---|---|
| ground*3 | Y - Body ground | switch signal | Intrusion sensor cancel switch off | 4.5 to 14 V |
| E30-21 (CSIF) - Body ground*3 | W - Body ground | Tilt sensor signal input | Vehicle tilt not detected | 9 to 14 V |
| | | | Vehicle tilt detected during arming preparation state or armed state | Pulse generation |
| E30-23 (GBS) - Body ground*4 | V - Body ground | Glass breakage sensor signal | Glass breakage sensor normal | Below 2 V |
| | | | Glass breakage sensor malfunctioning | 4.5 to 14 V |

**HINT:**

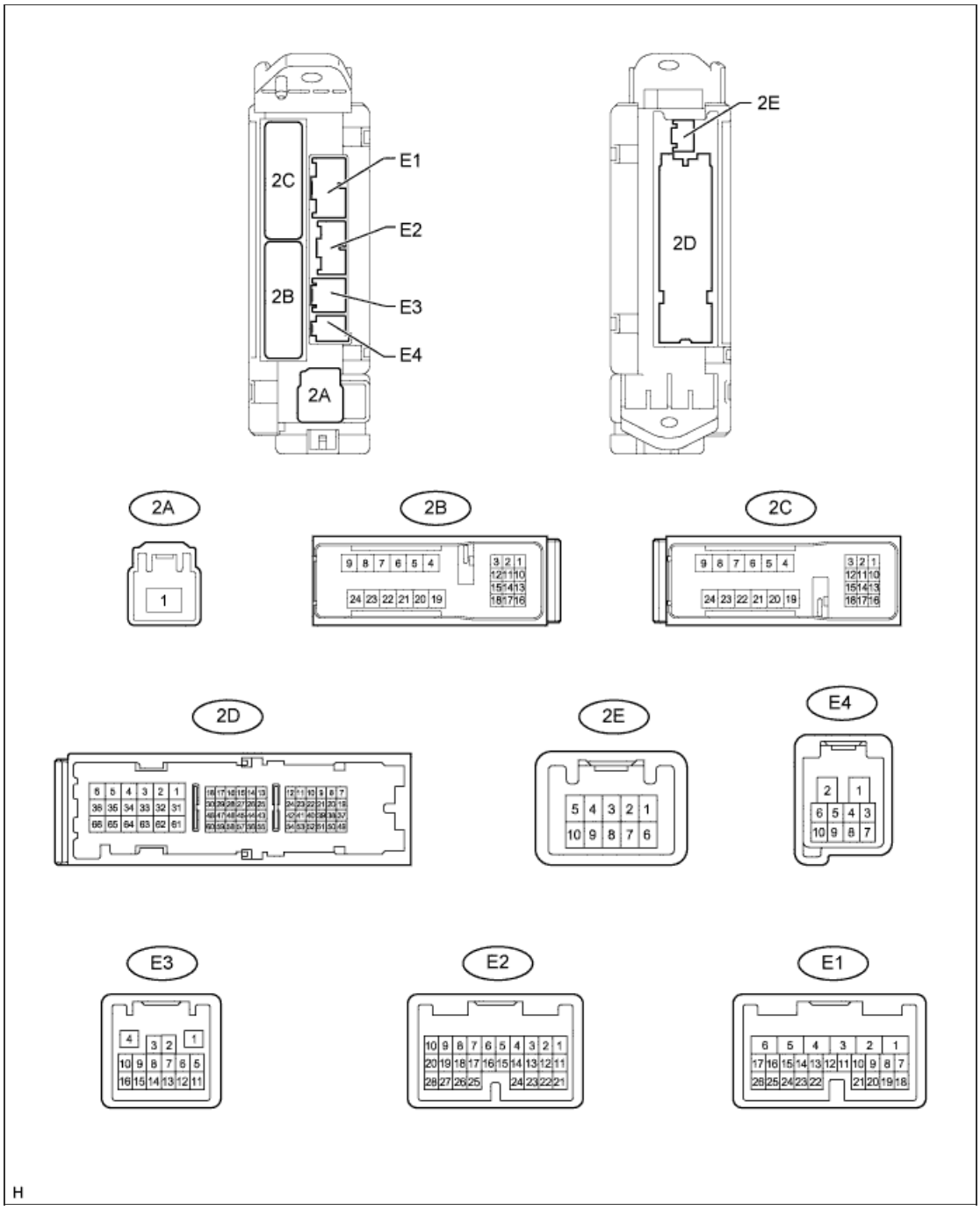
*1: w/ Security Horn

*2: w/ Theft Warning Siren

*3: w/ Intrusion Sensor

*4: w/ Glass Breakage Sensor

**CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)**




a. Disconnect the 2A, 2B, 2D and E3 ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2A-1 (ALTB) - Body ground | B - Body ground | Battery power supply | Always | 11 to 14 V |
| 2B-20 (BATB) - Body ground | L - Body ground | Battery power supply | Always | 11 to 14 V |
| 2D-1 (IG) - Body ground | G - Body ground | IG power supply | Engine switch on (IG) | 11 to 14 V |
| | | | Engine switch off | Below 1 V |
| 2D-8 (ACC) - Body ground | GR - Body ground | ACC power supply | Engine switch on (ACC) | 11 to 14 V |
| | | | Engine switch off | Below 1 V |
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction in the wire harness.

c. Reconnect the 2A, 2B, 2D and E3 ECU connectors.

d. Measure the voltage of the connectors.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-24 (DCTY) - Body ground | L - Body ground*1<br>P - Body ground*2 | Driver side door courtesy switch input | Driver side door open | Below 1 V |
| | | | Engine switch off, and driver side door courtesy switch off | Pulse generation (see waveform 1 or 2) |
| E2-21 (PCTY) - Body ground | P - Body ground*1, *3<br>Y - Body ground*1, *4<br>L - Body ground*2 | Front passenger side door courtesy switch input | Front passenger side door open | Below 1 V |
| | | | Engine switch off, and passenger side door courtesy switch off | Pulse generation (see waveform 3 or 4) |
| 2C-2 (LCTY) - Body ground | W - Body ground | Rear door LH courtesy light switch input | Rear door LH open | Below 1 V |
| | | | Engine switch off, and rear LH side door courtesy switch off | Pulse generation (see waveform 5 or 6) |
| E2-7 (RCTY) - Body ground | G - Body ground | Rear door RH courtesy light switch input | Rear door RH open | Below 1 V |
| | | | Engine switch off, and rear RH side door courtesy switch off | Pulse generation (see waveform 7 or 8) |
| E2-25 (BCTY) - Body ground | W - Body ground | Back door courtesy light switch input | Back door open | Below 1 V |
| | | | Engine switch off, and back door closed | Pulse generation (see waveform 9 or 10) |
| 2D-3 (ACT+) - Body ground | L - Body ground | Driver side door lock motor lock drive output | Master switch (door control switch) or driver side door key cylinder off | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder lock | 11 to 14 V |
| E1-5 (ACTD) - Body ground | B - Body ground | Driver side door lock motor unlock drive output | Master switch (door control switch) or driver side door key cylinder off | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder unlock | 11 to 14 V |
| 2D-3 (ACT+) - Body ground | L - Body ground | Front passenger side door lock motor lock drive output | Master switch (door control switch) or driver side door key cylinder off | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder lock | 11 to 14 V |
| 2D-2 (ACT-) - Body ground | B - Body ground | Front passenger side door lock motor unlock drive output | Master switch (door control switch) or driver side door key cylinder off | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder unlock | 11 to 14 V |
| 2D-3 (ACT+) - Body ground | L - Body ground | Rear door LH lock motor lock drive output | Master switch (door control switch) or driver side door key cylinder off | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder lock | 11 to 14 V |
| 2D-2 (ACT-) - Body ground | B - Body ground | Rear door LH lock motor unlock drive output | Master switch (door control switch) or driver side door key cylinder off | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder unlock | 11 to 14 V |
| 2D-3 (ACT+) - Body ground | L - Body ground | Rear door RH lock motor lock drive output | Master switch (door control switch) or driver side door key cylinder off | Below 1 V |
| | | | Master switch (door control switch) or driver | 11 to 14 V |

| | | | | |
|---|---|---|---|---|
| | | | side door key cylinder lock | |
| 2D-2 (ACT-) - Body ground | B - Body ground | Rear door RH lock motor unlock drive output | Master switch (door control switch) or driver side door key cylinder off | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder unlock | 11 to 14 V |
| E1-10 (UL3) - Body ground | Y - Body ground*1<br>L - Body ground*2 | Driver side door lock key switch input | Driver side door key cylinder unlock | Below 1 V |
| | | | Engine switch off, all doors closed and driver side door key cylinder neutral position | Pulse generation (see waveform 11 or 12) |
| 2D-53 (L2) - Body ground | LG - Body ground | Driver side door lock key switch input | Driver side door key cylinder lock | Below 1 V |
| | | | Engine switch off, all doors closed and driver side door key cylinder neutral position | Pulse generation (see waveform 13 or 14) |
| E1-9 (LSWD) - Body ground | BE - Body ground*3<br>BR - Body ground*4 | Driver side door lock position switch input | Driver side door unlock | Below 1 V |
| | | | Engine switch off, all doors closed and driver side door lock | Pulse generation (see waveform 15 or 16) |
| E2-27 (LSWP) - Body ground | Y - Body ground*1<br>BE - Body ground*2 | Passenger side door lock position switch input | Passenger side door unlock | Below 1 V |
| | | | Engine switch off, all doors closed and passenger side door lock | Pulse generation (see waveform 17 or 18) |
| 2C-1 (LSWL) - Body ground | BE - Body ground*3<br>BR - Body ground*4 | Rear door LH lock position switch input | Rear door LH unlock | Below 1 V |
| | | | Engine switch off, all doors closed and rear door LH lock | Pulse generation (see waveform 19 or 20) |
| E2-5 (LSWR) - Body ground | BE - Body ground*3<br>BR - Body ground*4 | Rear door RH lock position switch input | Rear door RH unlock | Below 1 V |
| | | | Engine switch off, all doors closed and rear door RH lock | Pulse generation (see waveform 21 or 22) |
| E1-26 (BDSU) - Body ground | L - Body ground | Back door opener switch input | Back door lock opener switch off | Below 1 V |
| | | | Back door lock opener switch on | Pulse generation (see waveform 23 or 24) |

**HINT:**

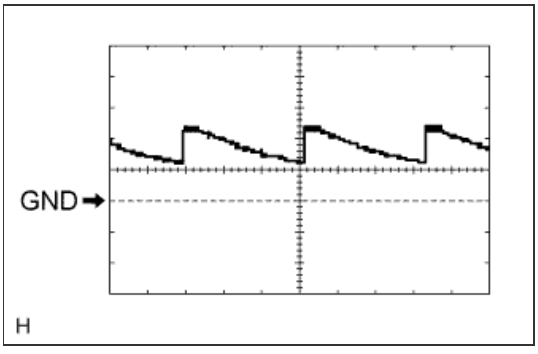
- ***1: for LHD**
- ***2: for RHD**
- ***3: Model code except: GRJ200L-GNANKC, URJ202L-GNTEKC**
- ***4: Model code: GRJ200L-GNANKC, URJ202L-GNTEKC**

If the result is not as specified, the ECU may have a malfunction.

e. Using an oscilloscope, check waveform 1.

**Waveform 1 (Reference)**

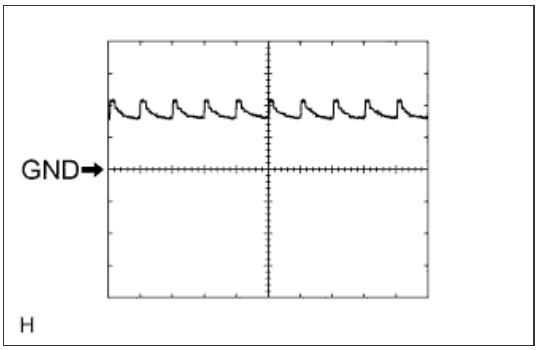
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-24 (DCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and driver side door courtesy switch off |




f. Using an oscilloscope, check waveform 2.

**Waveform 2 (Reference)**

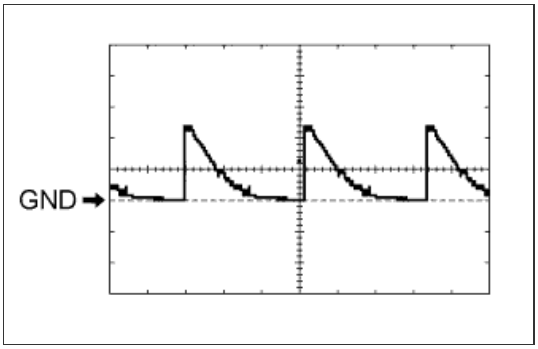
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-24 (DCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and driver side door courtesy switch off |




g. Using an oscilloscope, check waveform 3.

**Waveform 3 (Reference)**

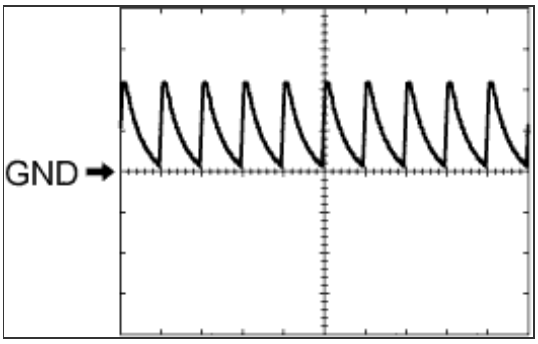
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-21 (PCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and passenger side door courtesy switch off |




h. Using an oscilloscope, check waveform 4.

**Waveform 4 (Reference)**

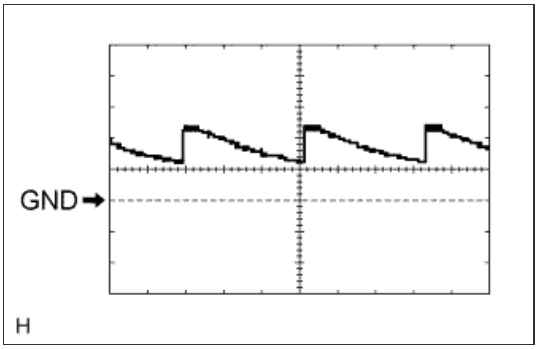
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-21 (PCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and passenger side door courtesy switch off |




i. Using an oscilloscope, check waveform 5.

**Waveform 5 (Reference)**

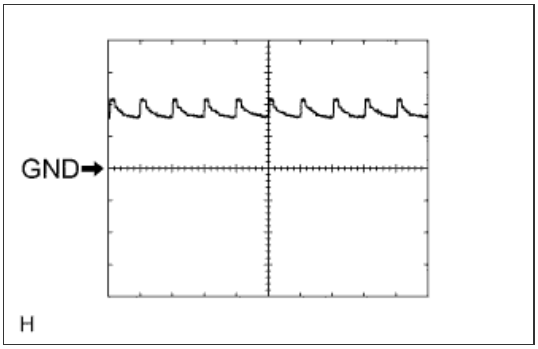
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2C-2 (LCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear LH side door courtesy switch off |




j. Using an oscilloscope, check waveform 6.

**Waveform 6 (Reference)**

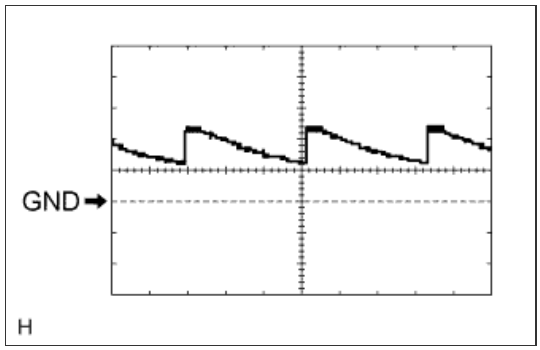
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2C-2 (LCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear LH side door courtesy switch off |




k. Using an oscilloscope, check waveform 7.

**Waveform 7 (Reference)**

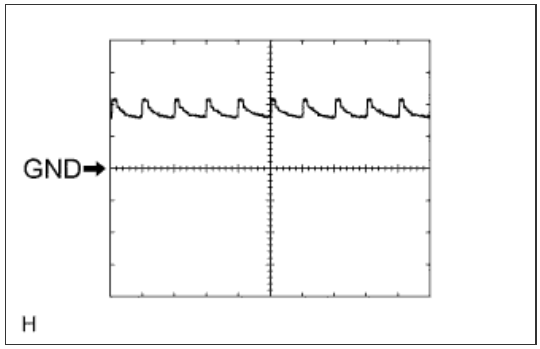
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-7 (RCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear RH side door courtesy switch off |




l. Using an oscilloscope, check waveform 8.

**Waveform 8 (Reference)**

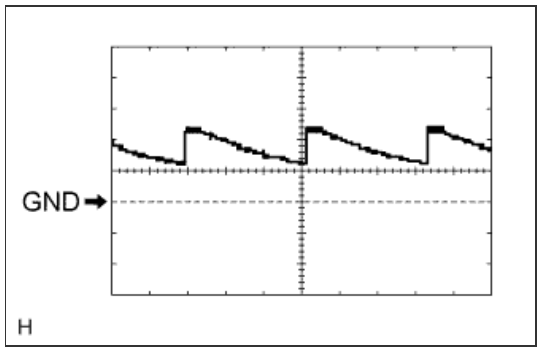
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-7 (RCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and rear RH side door courtesy switch off |




m. Using an oscilloscope, check waveform 9.

**Waveform 9 (Reference)**

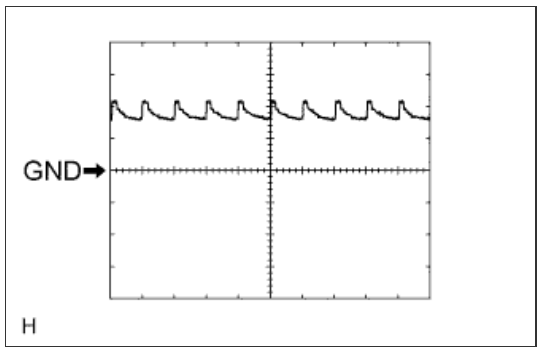
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-25 (BCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and back door closed |




n. Using an oscilloscope, check waveform 10.

**Waveform 10 (Reference)**

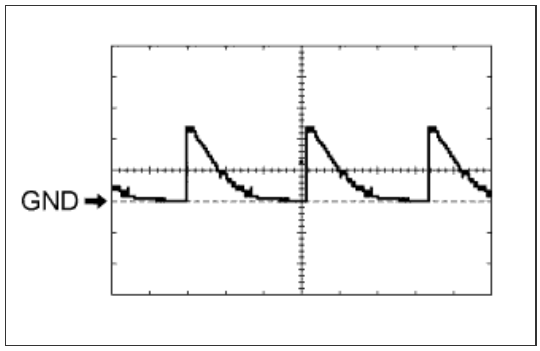
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-25 (BCTY) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, and back door closed |




o. Using an oscilloscope, check waveform 11.

**Waveform 11 (Reference)**

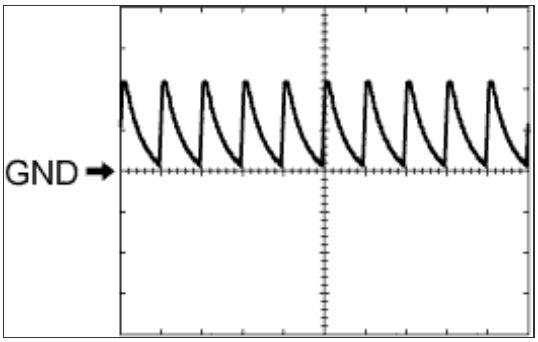
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-10 (UL3) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and driver side door key cylinder neutral position |




p. Using an oscilloscope, check waveform 12.

**Waveform 12 (Reference)**

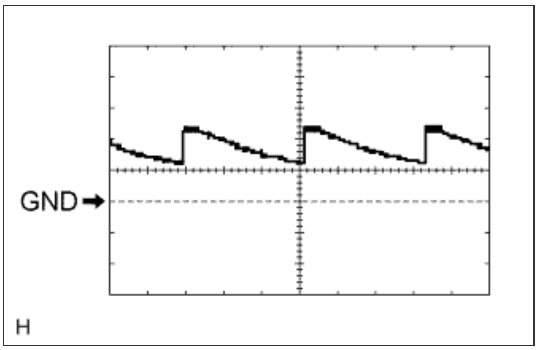
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-10 (UL3) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and driver side door key cylinder neutral position |




q. Using an oscilloscope, check waveform 13.

**Waveform 13 (Reference)**

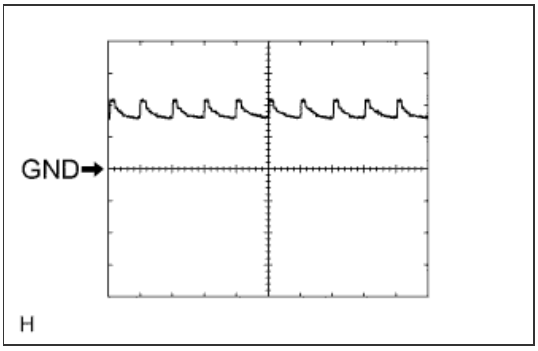
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2D-53 (L2) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and driver side door key cylinder neutral position |




r. Using an oscilloscope, check waveform 14.

**Waveform 14 (Reference)**

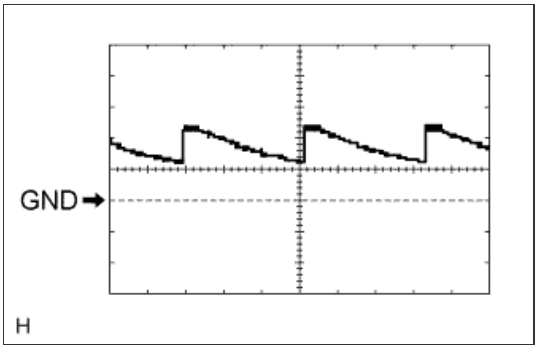
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2D-53 (L2) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and driver side door key cylinder neutral position |




s. Using an oscilloscope, check waveform 15.

**Waveform 15 (Reference)**

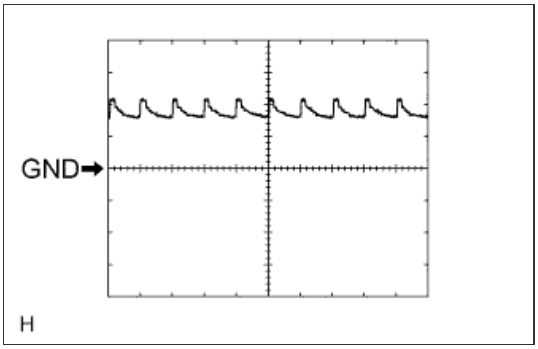
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-9 (LSWD) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and driver side door lock |




t. Using an oscilloscope, check waveform 16.

**Waveform 16 (Reference)**

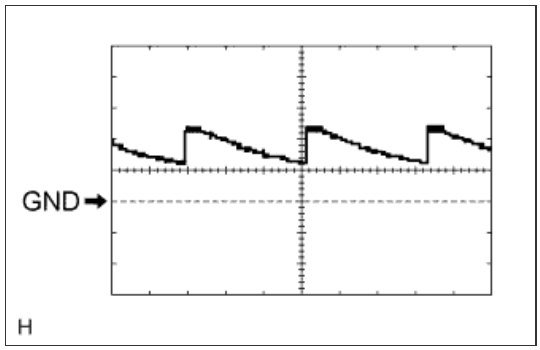
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-9 (LSWD) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and driver side door lock |




u. Using an oscilloscope, check waveform 17.

**Waveform 17 (Reference)**

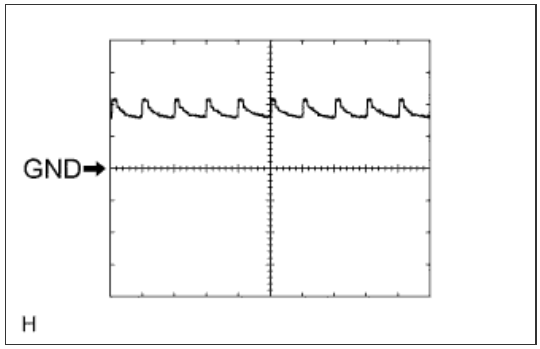
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-27 (LSWP) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and passenger side door lock |




v. Using an oscilloscope, check waveform 18.

**Waveform 18 (Reference)**

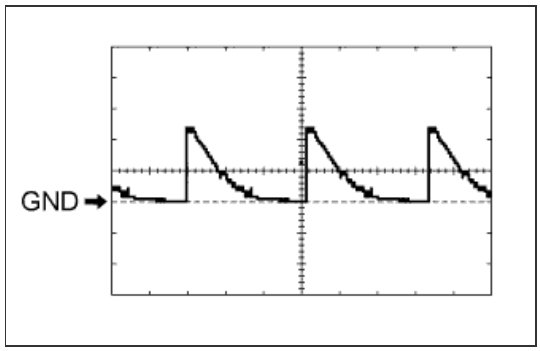
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-27 (LSWP) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and passenger side door lock |




w. Using an oscilloscope, check waveform 19.

**Waveform 19 (Reference)**

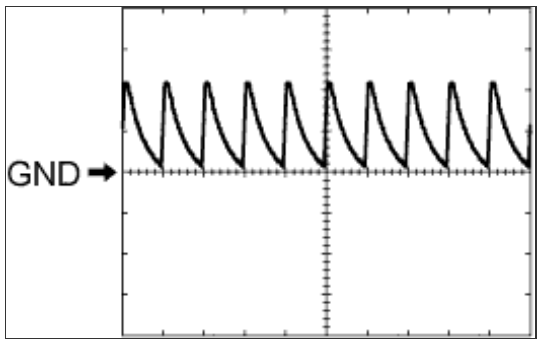
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2C-1 (LSWL) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and rear door LH lock |




x. Using an oscilloscope, check waveform 20.

**Waveform 20 (Reference)**

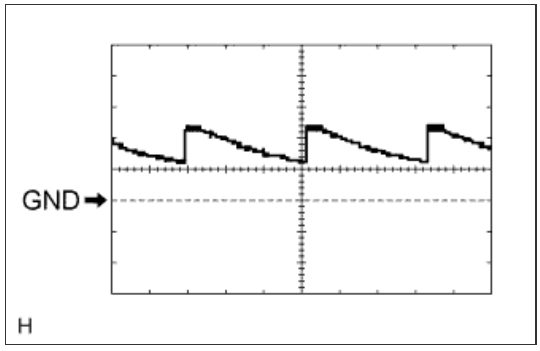
| Item | Content |
|---|---|
| Terminal No. (Symbol) | 2C-1 (LSWL) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and rear door LH lock |




y. Using an oscilloscope, check waveform 21.

**Waveform 21 (Reference)**

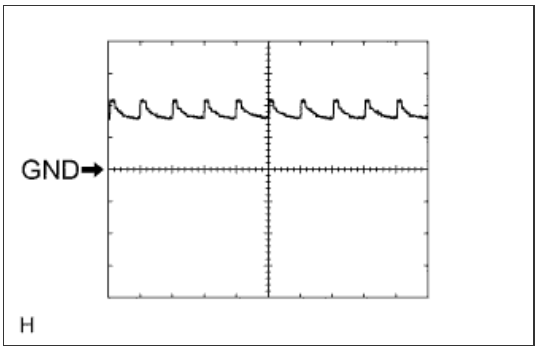
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-5 (LSWR) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and rear door RH lock |




z. Using an oscilloscope, check waveform 22.

**Waveform 22 (Reference)**

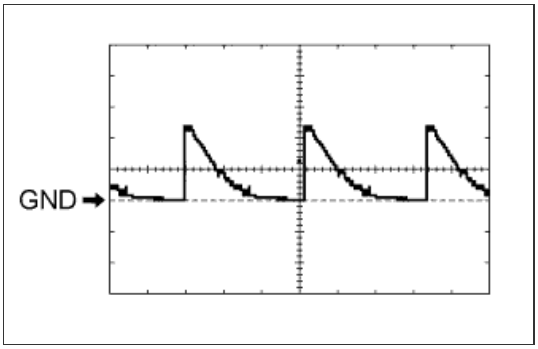
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E2-5 (LSWR) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and rear door RH lock |




aa. Using an oscilloscope, check waveform 23.

**Waveform 23 (Reference)**

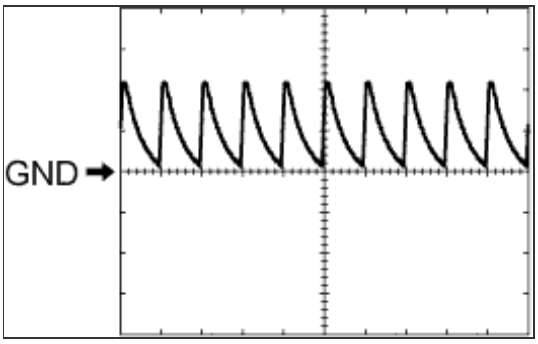
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-26 (BDSU) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and back door opener switch on |




ab. Using an oscilloscope, check waveform 24.

**Waveform 24 (Reference)**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E1-26 (BDSU) - Body ground |
| Tool Setting | 5 V/DIV., 20 ms/DIV. |
| Condition | Engine switch off, all doors closed and back door opener switch on |



**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / DTC.

e. Read the DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / DTC.

e. Clear the DTCs.

**for Preparation** Click here

## DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Data List.

e. According to the display on intelligent tester, read the "Data List".

### Entry&Start

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Intrusion sensor OFF | Intrusion sensor cancel switch / ON or OFF | ON: Intrusion sensor active (switch off)<br>OFF: Intrusion sensor not active (switch on) | - |
| Intrusion sensor detection | Intrusion sensor setting / ON or OFF | ON: Moving object detected by sensor during arming preparation state to armed state<br>OFF: No moving object detected by sensor | - |
| Tilt sensor detection | Tilt sensor setting / ON or OFF | ON: Tilt sensor set<br>OFF: Tilt sensor not set | - |
| Hood Courtesy Switch | Engine hood courtesy switch / ON or OFF | ON: Engine hood open<br>OFF: Engine hood closed | - |
| Warn By Horn | Security horn / ON or OFF | ON: Security horn sounding<br>OFF: Security horn not sounding | - |
| Glass break sensor detection | Glass breakage sensor detection / ON or OFF | ON: Glass breakage sensor operates<br>OFF: Glass breakage sensor does not operate | - |
| Pattern Glass Connection | Pattern Glass Connection / OK or NG | OK: Pattern glass connection<br>NG: No pattern glass connection | - |
| Intrusion sensor 1 communication | Intrusion sensor setting / OK or STOP | OK: Intrusion sensor set<br>STOP: Intrusion sensor not set | - |
| Tilt sensor communication | Tilt sensor setting / OK or STOP | OK: Tilt sensor set<br>STOP: Tilt sensor not set | - |
| Tilt sensor OFF Switch | Tilt sensor OFF switch / ON or OFF | ON: Tilt sensor active (switch off)<br>OFF: Tilt sensor not active (switch on) | - |
| # Codes | Number of diagnostic trouble codes | - | - |

### Main Body

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Door Courtesy SW | Driver side door courtesy light switch signal / ON or OFF | ON: Driver side door opened<br>OFF: Driver side door closed | - |
| D Door Lock Pos SW | Driver side door lock position switch signal / ON or OFF | ON: Driver side door unlocked<br>OFF: Driver side door locked | - |
| Door Key SW-Lock | Door key linked lock switch signal / ON or OFF | ON: Driver side door key cylinder turned to lock position<br>OFF: Driver side door key cylinder not turned | - |

| | | | |
|---|---|---|---|
| D-Door Key SW-UL | Door key linked unlock switch signal / ON or OFF | ON: Driver side door key cylinder turned to unlock position<br>OFF: Driver side door key cylinder not turned | - |
| P-Door Courtesy SW | Front passenger side door courtesy light switch signal / ON or OFF | ON: Front passenger side door opened<br>OFF: Front passenger side door closed | - |
| P-Door Lock Pos SW | Front passenger side door lock position switch signal / ON or OFF | ON: Front passenger side door unlocked<br>OFF: Front passenger side door locked | - |
| Door Lock SW-Lock | Door manual lock switch signal / ON or OFF | ON: Front passenger side door control switch on (LOCK)<br>OFF: Front passenger side door control switch off | - |
| Door Unlock SW-Unlock | Door manual unlock switch signal / ON or OFF | ON: Front passenger side door control switch on (UNLOCK)<br>OFF: Front passenger side door control switch off | - |
| RL Door Courtesy SW | Rear LH side door courtesy light switch signal / ON or OFF | ON: Rear LH side door opened<br>OFF: Rear LH side door closed | - |
| RL-Door Lock Pos SW | Rear LH side door lock position switch signal / ON or OFF | ON: Rear LH side door unlocked<br>OFF: Rear LH side door locked | - |
| RR Door Courtesy SW | Rear RH side door courtesy light switch signal / ON or OFF | ON: Rear RH side door opened<br>OFF: Rear RH side door closed | - |
| RR-Door Lock Pos SW | Rear RH side door lock position switch signal / ON or OFF | ON: Rear RH side door unlocked<br>OFF: Rear RH side door locked | - |
| Back Door Courtesy SW | Back door courtesy light switch signal / ON or OFF | ON: Back door open<br>OFF: Back door closed | - |
| Back Door Open SW | ON / OFF | ON: Back door opener switch on<br>OFF: Back door opener switch off | - |
| Back Door Open | Permit / Prohibit | PERMIT: Back door open available<br>PROHIBIT: Back door open unavailable | - |
| IG SW | ON / OFF | ON: Engine switch is on (IG)<br>OFF: Engine switch is off | - |
| ACC SW | ON / OFF | ON: Engine switch on (ACC)<br>OFF: Engine switch off | - |

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform the Active Test allows relays, VSVs and actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Entry&Start / Active Test.

e. According to the display on intelligent tester, perform the "Active Test".

**Entry&Start**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Indicator | Security indicator | ON / OFF | - |
| Security Horn*1 | Security horn | ON / OFF | - |
| Security Horn2*2 | Theft warning siren (self power siren) | ON / OFF | - |
| Power For Tilt Sensor*3 | Tilt sensor power supply | ON / OFF | - |
| Power For Intrusion Sensor*3 | Intrusion sensor power supply | ON / OFF | - |

**HINT:**

*1: w/ Security Horn

*2: w/ Theft Warning Siren (Self Power Siren)

*3: w/ Intrusion Sensor

**for Preparation** Click here

**HINT:**

If a trouble code is output during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.

**CERTIFICATION ECU [Entry&Start]**

| DTC Code | Detection Item | See page |
|---|---|---|
| B2761 | Intrusion Sensor Internal Circuit Malfunction | Click here |
| B2762 | Intrusion Sensor Signal Circuit Malfunction | Click here |
| B2764 | Short to GND in Intrusion Sensor Signal Circuit | Click here |
| B2768 | Tilt Sensor Internal Circuit Malfunction | Click here |
| B2769 | Tilt Sensor Signal Circuit Malfunction | Click here |
| B276A | Short to GND in Tilt Sensor Signal Circuit | Click here |

# DTC B2761 Intrusion Sensor Internal Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The intrusion sensor (theft warning ultrasonic sensor) conducts self-diagnosis immediately after power is supplied to the sensor (when the theft deterrent system is set).
If a problem is detected in the signals transmitted and received by the intrusion sensor (theft warning ultrasonic sensor), or if the transmission or reception circuits malfunction, the intrusion sensor (theft warning ultrasonic sensor) transmits a signal to the certification ECU (smart key ECU assembly). The certification ECU (smart key ECU assembly) then stores this DTC.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2761 | Intrusion sensor outputs signal for sensor malfunction | • Map light assembly<br>• Certification ECU (smart key ECU assembly) |

## INSPECTION PROCEDURE

**1.CHECK FOR DTC**

a. Set the theft deterrent system and check if the same DTC is not output.

**OK:**
**DTC B2761 is not output.**

NG → Go to step 2

OK

**USE SIMULATION METHOD TO CHECK (Click here)**

**2.CHECK MAP LIGHT ASSEMBLY (OPERATION)**

a. Temporarily replace the map light with a new or normally functioning one ( Click here).

b. Check if DTC B2761 is not output.

**OK:**
**DTC B2761 is not output.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

**END (MAP LIGHT ASSEMBLY IS FAULTY)**

## DTC B2768 Tilt Sensor Internal Circuit Malfunction

**for Preparation** Click here

### DESCRIPTION

This DTC is stored when one of the following occurs: 1) yaw rate sensor power supply malfunction; 2) yaw rate sensor open malfunction; or 3) EEPROM malfunction.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2768 | If one of the following is detected:<br>• A yaw rate sensor power supply malfunction.<br>• A yaw rate sensor open malfunction.<br>• An EEPROM malfunction. | • Yaw rate sensor<br>• Certification ECU (Smart key ECU assembly) |

### INSPECTION PROCEDURE

**1.CHECK FOR DTC (OPERATION)**

a. Clear DTCs (Click here).

b. Turn the engine switch on (IG), then off.

c. Set the theft deterrent system to the armed state.

d. Check that the security indicator changes from illuminated to flashing.

e. Set the theft deterrent system to the disarmed state.

f. Check for DTCs (Click here).

**OK:**
**DTC B2768 is not output.**

NG → **Go to step 2**

OK ↓

**USE SIMULATION METHOD TO CHECK (Click here)**

**2.CHECK YAW RATE SENSOR (OPERATION)**

a. Temporarily replace the yaw rate sensor that has a tilt determining function with a new or normally functioning one ( Click here).

b. Check that the system operates normally.

**OK:**
**DTC B2768 is not output.**

NG → **REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

OK ↓

**END (YAW RATE SENSOR IS FAULTY)**

## DTC B2762 Intrusion Sensor Signal Circuit Malfunction

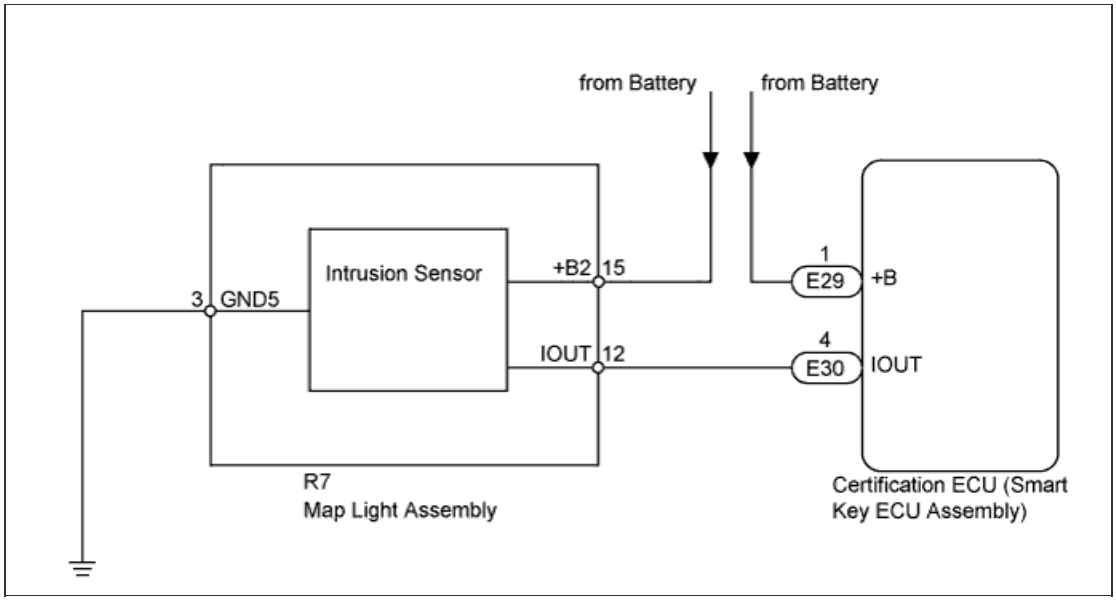
**for Preparation** Click here

### DESCRIPTION

The intrusion sensor (theft warning ultrasonic sensor) conducts self-diagnosis immediately after power is supplied to the sensor (when the theft deterrent system is set).
If a malfunction is detected in the IOUT line, the certification ECU (smart key ECU assembly) stores this DTC.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2762 | After normal/trouble signal is output from intrusion sensor as result of self-diagnosis, following malfunctions are detected:<br>1. IOUT line circuit is open<br>2. Reception of signals other than normal/ trouble signal | • Map light assembly<br>• Certification ECU (smart key ECU assembly)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

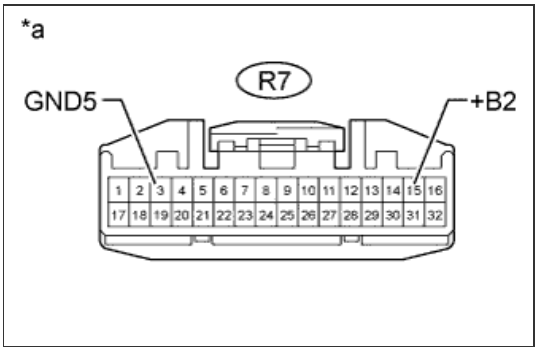
**1.CHECK HARNESS AND CONNECTOR (MAP LIGHT - BATTERY AND BODY GROUND)**

a. Disconnect the map light assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R7-15 (+B2) - Body ground | Always | 11 to 14 V |




c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R7-3 (GND5) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

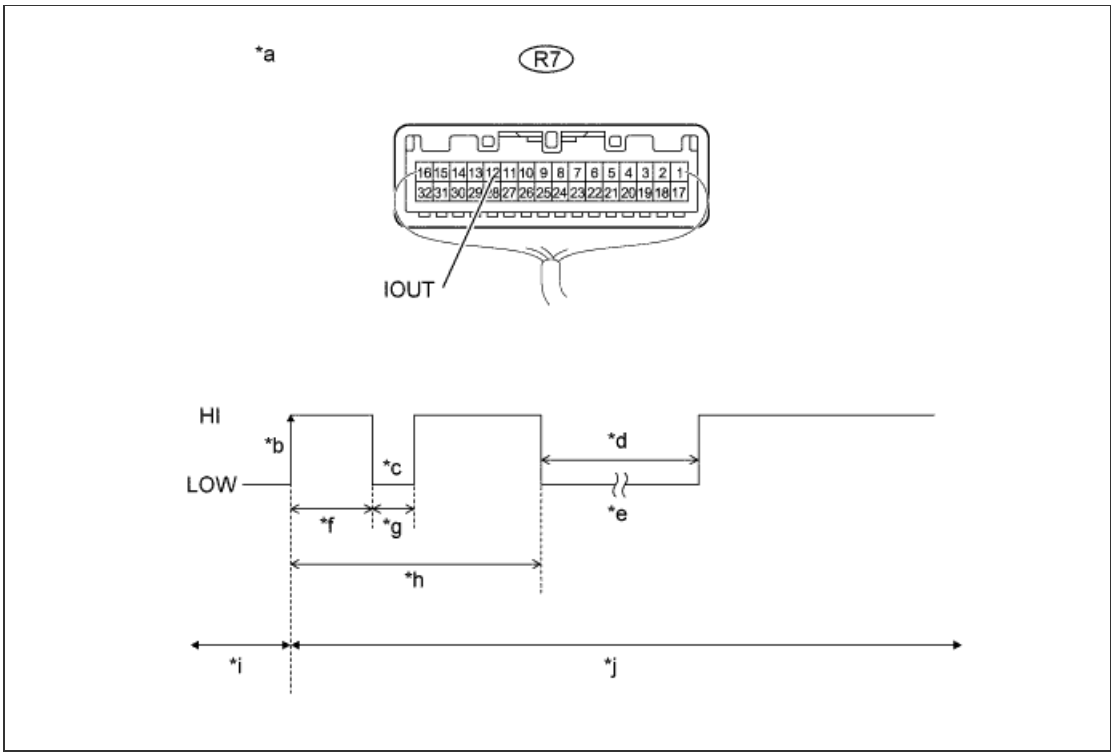
| | |
|---|---|
| *a | Front view of wire harness connector<br>(to Map Light Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 2.CHECK INTRUSION SENSOR (IOUT)

a. Using an oscilloscope, check the waveform.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Component with harness connected<br>(Map Light Assembly) | *b | IOUT Initial Signal |
| *c | IOUT Initial Response | *d | Approximately 1.0 seconds |
| *e | Initial Diagnosis | *f | Approximately 1.0 to 1.6 seconds |
| *g | Approximately 0.05 seconds | *h | Approximately 5.5 seconds |
| *i | Disarmed State | *j | Arming Preparation State |

**Measurement Condition**

| Tester Connection | Content |
|---|---|
| Tester Connection | R7-12 (IOUT) - Body ground |
| Tool Setting | 2 V/DIV., 100 ms./DIV. |
| Condition | Theft deterrent system is set (system changes from disarmed state to arming preparation state) |

**HINT:**

- **If the intrusion sensor is normal, an initial response is output in response to the HI input from the certification ECU (smart key ECU assembly).**
- **If the waveform output remains LO, there may be a problem with the certification ECU (smart key ECU assembly), as there is no input from the certification ECU (smart key ECU assembly).**

**OK:**

**The waveform displays properly (HI is 6.5 V or higher and LO is below 1 V).**

**Result**

| Result | Proceed to |
|---|---|
| NG (Waveform output remains LO) | A |
| NG (There is no initial response and the waveform output remains HI) | B |
| OK (There is an initial response) | C |

B → REPLACE MAP LIGHT ASSEMBLY (Click here)

C → USE SIMULATION METHOD TO CHECK (Click here)

A

**3.CHECK HARNESS AND CONNECTOR (MAP LIGHT - CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] AND BODY GROUND)**

a. Disconnect the R7 map light assembly connector.

b. Disconnect the E30 certification ECU (smart key ECU assembly) connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R7-12 (IOUT) - E30-4 (IOUT) | Always | Below 1 Ω |
| R7-12 (IOUT) or E30-4 (IOUT) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

## DTC B2769 Tilt Sensor Signal Circuit Malfunction

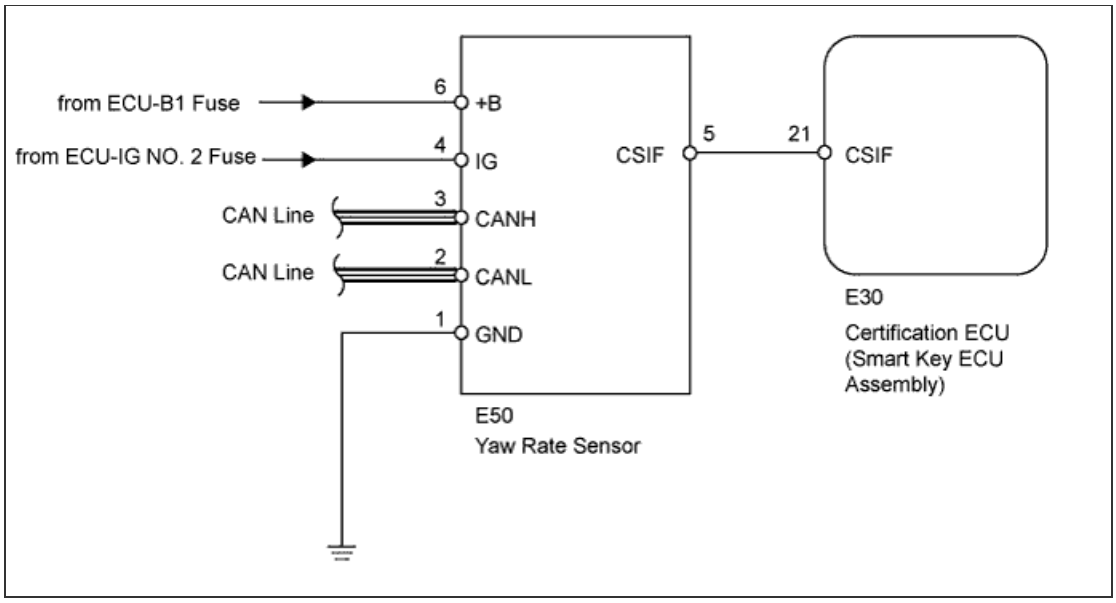
**for Preparation** Click here

### DESCRIPTION

The yaw rate sensor conducts a self-diagnosis immediately after power is supplied to the sensor (when the theft deterrent system is set).
If a malfunction is detected in the CSIF-CSIF line, the certification ECU (smart key ECU assembly) stores this DTC.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2769 | After a normal/trouble signal is output from the yaw rate sensor as the result of self-diagnosis, either of the following malfunctions is detected:<br>• The CSIF-CSIF line circuit is open.<br>• Reception of signals other than a normal/trouble signal. | • Yaw rate sensor<br>• Certification ECU (Smart key ECU assembly)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - YAW RATE SENSOR)**

a. Disconnect the E30 ECU connector.

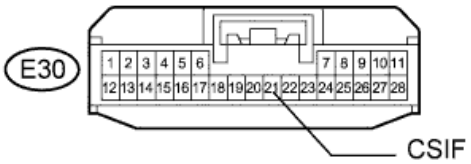
b. Disconnect the E50 sensor connector.

c. Measure the resistance according to the value(s) in the table below.

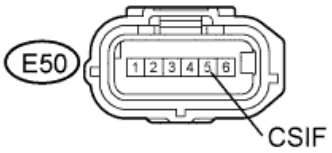
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-21 (CSIF) - E50-5 (CSIF) | Always | Below 1 Ω |
| E30-21 (CSIF) or E50-5 (CSIF) - Body ground | Always | 10 kΩ or higher |

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Yaw Rate Sensor)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**2.CHECK YAW RATE SENSOR (OPERATION)**

a. Temporarily replace the yaw rate sensor that has a tilt determining function with a new or normally functioning one ( Click here).

b. Check that the system operates normally.

**OK:**
**DTC B2769 is not output.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

**END (YAW RATE SENSOR IS FAULTY)**

## DTC B2764 Short to GND in Intrusion Sensor Signal Circuit

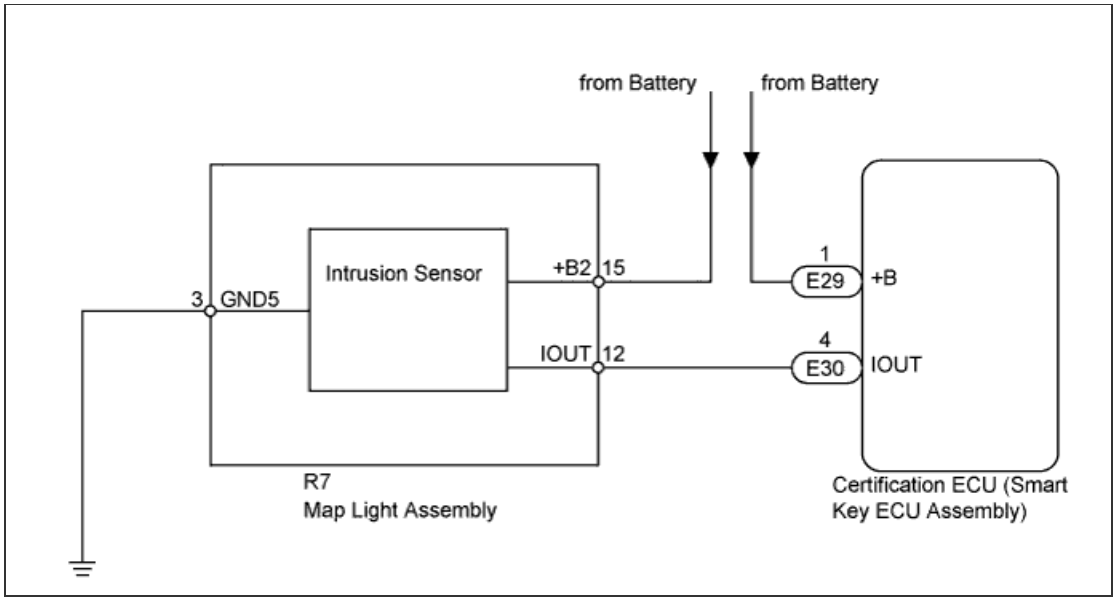
**for Preparation** Click here

### DESCRIPTION

The intrusion sensor (theft warning ultrasonic sensor) conducts self-diagnosis immediately after power is supplied to the sensor (when the theft deterrent system is set).
If a malfunction is detected in the ISIF line, the certification ECU (smart key ECU assembly) stores this DTC.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2764 | After normal/trouble signal is output from intrusion sensor as result of self-diagnosis, following malfunctions are detected:<br>1. IOUT line circuit is shorted to ground<br>2. Reception of signals other than normal/ trouble signal | • Map light assembly<br>• Certification ECU (smart key ECU assembly)<br>• Harness or connector |

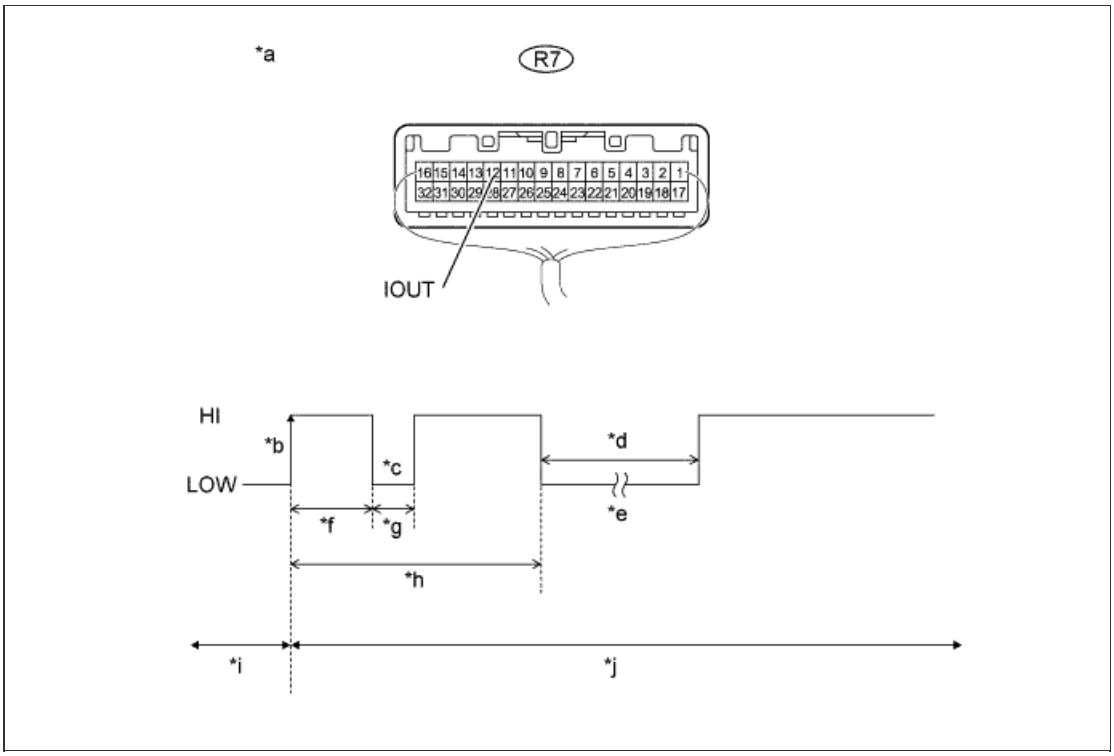
### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK INTRUSION SENSOR (IOUT)**

a. Using an oscilloscope, check the waveform.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Component with harness connected (Map Light Assembly) | *b | IOUT Initial Signal |
| *c | IOUT Initial Response | *d | Approximately 1.0 seconds |
| *e | Initial Diagnosis | *f | Approximately 1.0 to 1.6 seconds |
| *g | Approximately 0.05 seconds | *h | Approximately 5.5 seconds |
| *i | Disarmed State | *j | Arming Preparation State |

**Measurement Condition**

| Tester Connection | Content |
|---|---|
| Tester Connection | R7-12 (IOUT) - Body ground |
| Tool Setting | 2 V/DIV., 100 ms./DIV. |
| Condition | Theft deterrent system is set (system changes from disarmed state to arming preparation state) |

**HINT:**

- **If the intrusion sensor is normal, an initial response is output in response to the HI input from the certification ECU (smart key ECU assembly).**
- **If the waveform output remains LO, there may be a problem with the certification ECU (smart key ECU assembly), as there is no input from the certification ECU (smart key ECU assembly).**

**OK:**

**The waveform displays properly (HI is 6.5 V or higher and LO is below 1 V).**

**NG** → **Go to step 2**

**OK**

**USE SIMULATION METHOD TO CHECK (Click here)**

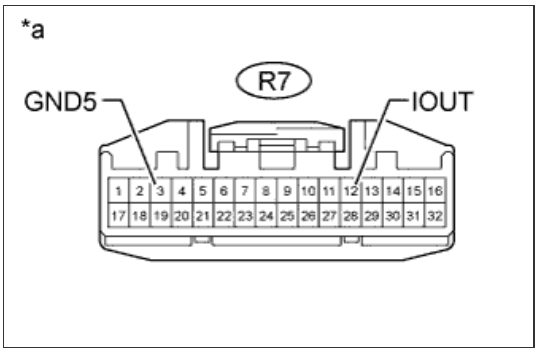
**2.CHECK INTRUSION SENSOR (IOUT)**

a. Disconnect the map light assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition |
|---|---|
| R7-12 (IOUT) - R7-3 (GND5) | Immediately after theft deterrent system set |




**Result**

| Result | Proceed to |
|---|---|
| IOUT voltage is below 1 V when theft deterrent system is set | A |
| IOUT voltage is 6.5 V or higher when theft deterrent system is set | B |

**HINT:**

With connector R7 of the map light assembly disconnected, measure the voltage at IOUT when the theft deterrent system is set.

**B** → REPLACE MAP LIGHT ASSEMBLY (Click here)

**A**

**3.CHECK HARNESS AND CONNECTOR (MAP LIGHT - CERTIFICATION ECU [SMART KEY ECU ASSEMBLY])**

a. Disconnect the R7 map light assembly connector.

b. Disconnect the E30 certification ECU (smart key ECU assembly) connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R7-12 (IOUT) - E30-4 (IOUT) | Always | Below 1 Ω |
| R7-12 (IOUT) or E30-4 (IOUT) - Body ground | Always | 10 kΩ or higher |

**NG** → REPAIR OR REPLACE HARNESS OR CONNECTOR

**OK**

REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

# DTC B276A Short to GND in Tilt Sensor Signal Circuit

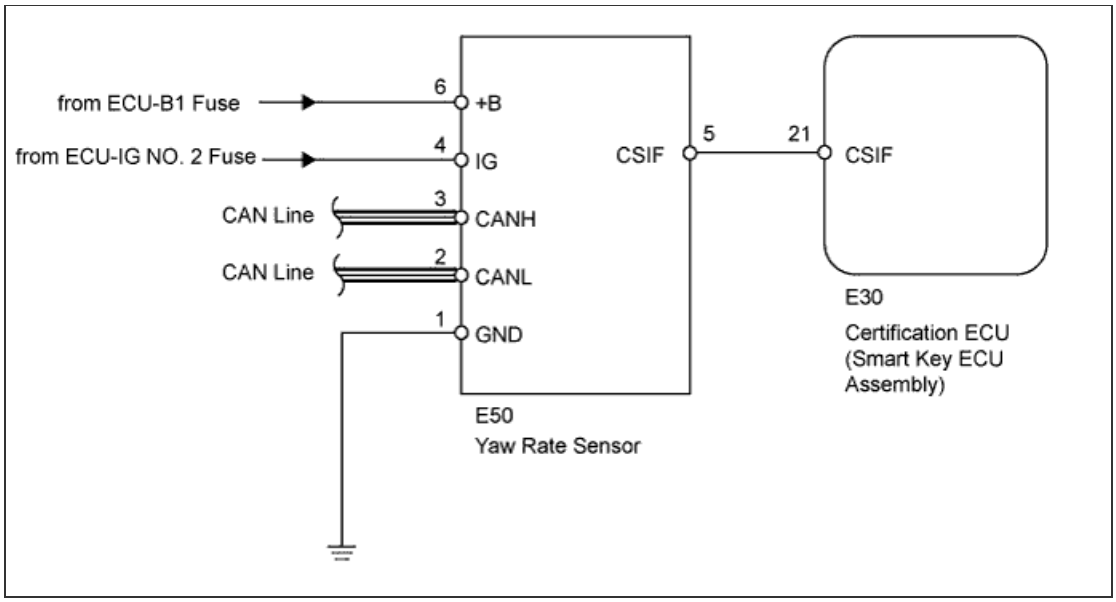
**for Preparation** Click here

## DESCRIPTION

The yaw rate sensor conducts a self-diagnosis immediately after power is supplied to the sensor (when the theft deterrent system is set).
This DTC is stored when terminal CSIF of the yaw rate sensor has not received a signal for 5 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B276A | After normal/trouble signal is output from the yaw rate sensor as result of self-diagnosis, the following malfunction is detected:<br>Terminal CSIF of the yaw rate sensor has not received signal for 5 seconds or more | • Yaw rate sensor<br>• Certification ECU (Smart key ECU assembly)<br>• Harness or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK HARNESS OR CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - YAW RATE SENSOR)

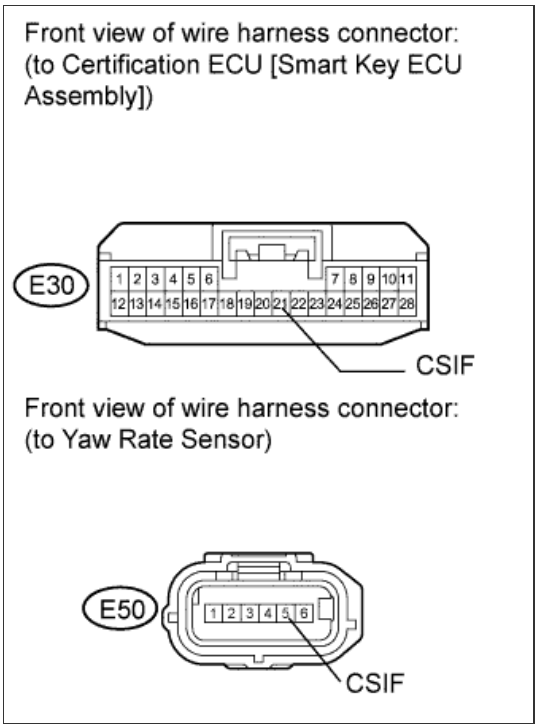
a. Disconnect the E30 ECU connector.

b. Disconnect the E50 sensor connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-21 (CSIF) - E50-5 (CSIF) | Always | Below 1 Ω |
| E30-21 (CSIF) or E50-5 (CSIF) - Body ground | Always | 10 kΩ or higher |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

2.CHECK YAW RATE SENSOR (OPERATION)

a. Temporarily replace the yaw rate sensor that has a tilt determining function with a new or normally functioning one ( Click here).

b. Check that the system operates normally.

**OK:**
**DTC B276A is not output.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

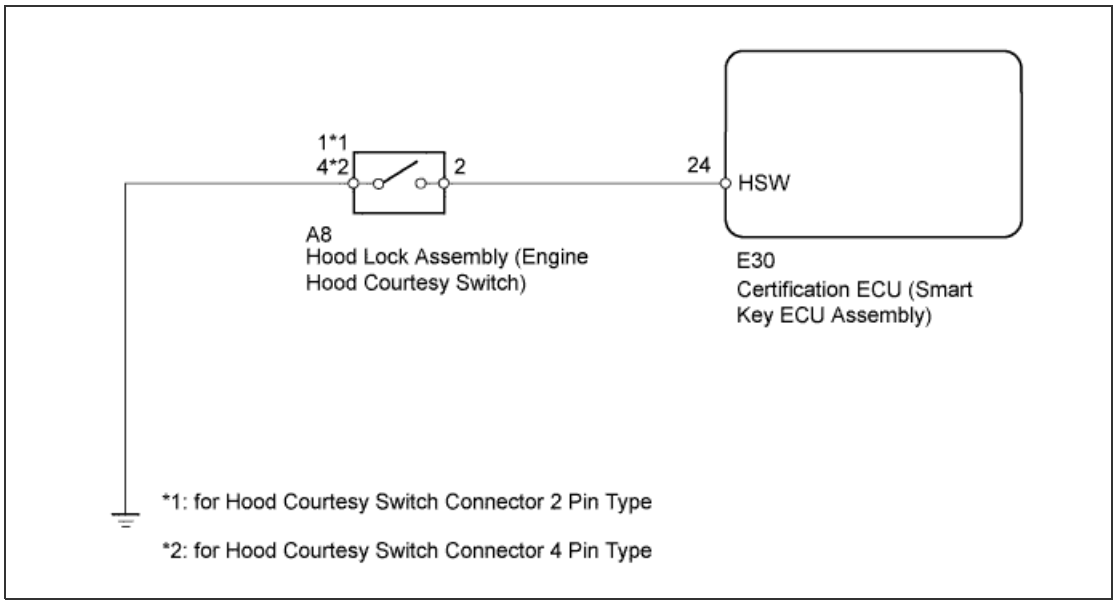
END (YAW RATE SENSOR IS FAULTY)

**for Preparation** Click here

## DESCRIPTION

The engine hood courtesy switch is built into the hood lock. This switch turns on when the engine hood is opened and turns off when the engine hood is closed.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (ENGINE HOOD COURTESY SWITCH)

a. Using the intelligent tester, read the Data List.

**Entry&Start**

| Tester Display | Measurement Item / Display (Range) | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Hood Courtesy Switch | Engine hood courtesy switch / ON or OFF | ON: Engine hood is open<br>OFF: Engine hood is closed | - |

**OK:**

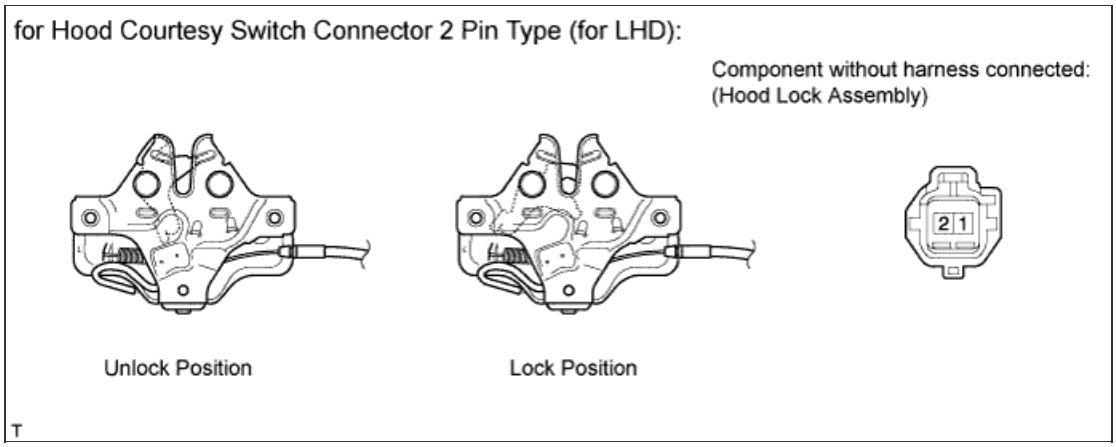
**ON (engine hood is open) appears on screen.**

NG → Go to step 2

OK →

### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

### 2.INSPECT HOOD LOCK ASSEMBLY (ENGINE HOOD COURTESY SWITCH)



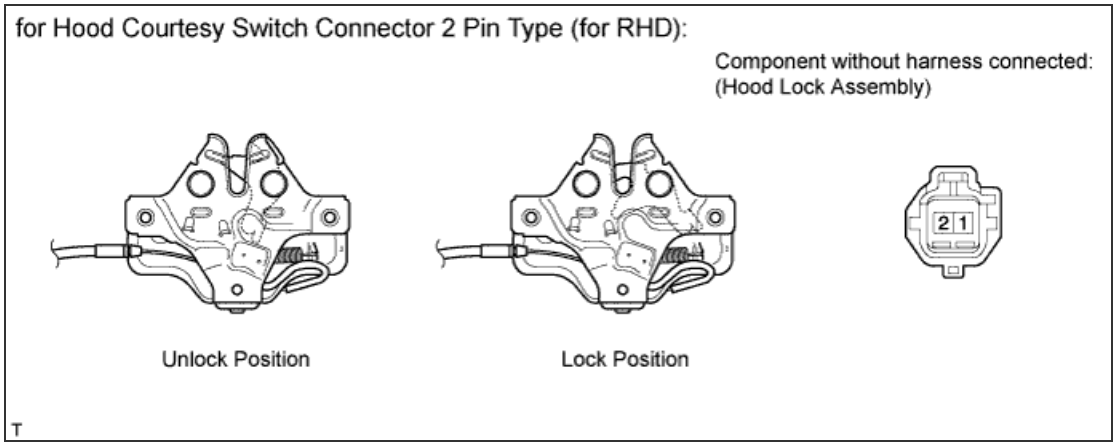

a. for Hood Courtesy Switch Connector 2 Pin Type (for LHD):

i. Remove the hood lock (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Unlock position | 10 kΩ or higher |
| 1 - 2 | Lock position | Below 1 Ω |



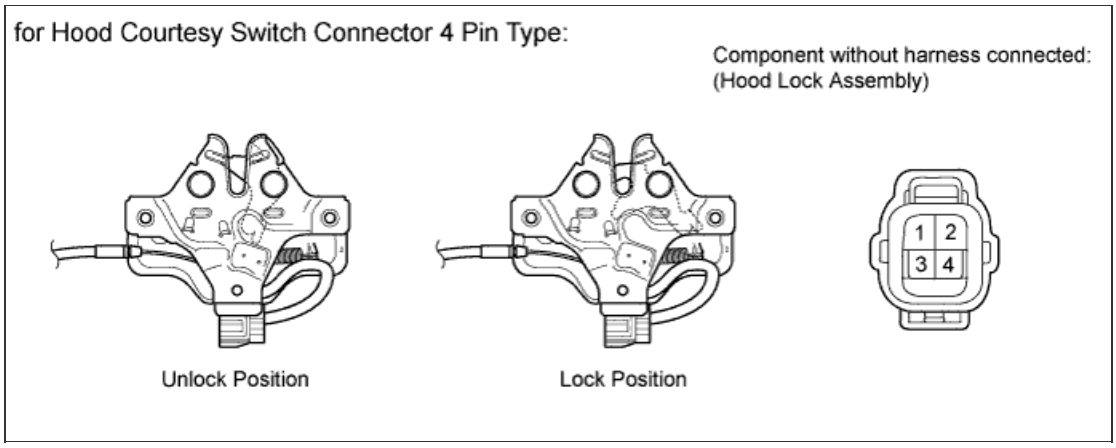

b. for Hood Courtesy Switch Connector 2 Pin Type (for RHD):

i. Remove the hood lock (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Unlock position | 10 kΩ or higher |
| 1 - 2 | Lock position | Below 1 Ω |




c. for Hood Courtesy Switch Connector 4 Pin Type:

i. Remove the hood lock (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2 - 4 | Unlock position | 10 kΩ or higher |
| 2 - 4 | Lock position | Below 1 Ω |

NG → REPLACE HOOD LOCK ASSEMBLY (ENGINE HOOD COURTESY SWITCH)

OK

**3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - HOOD LOCK AND BODY GROUND)**

a. for Hood Courtesy Switch Connector 2 Pin Type:

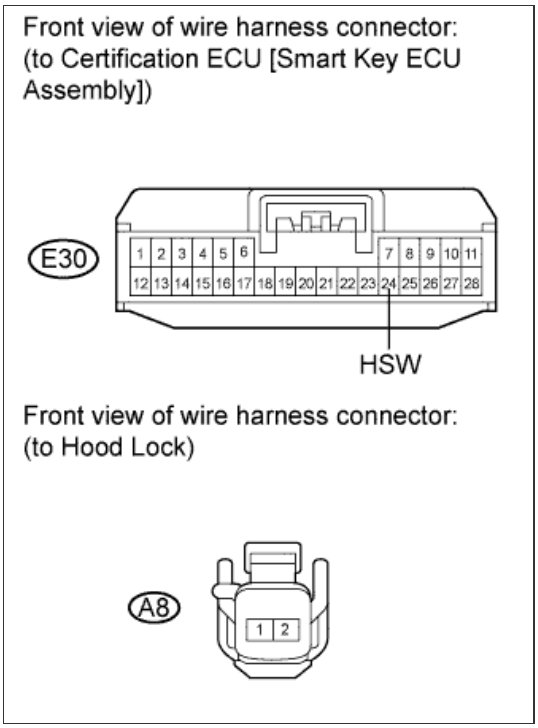
i. Disconnect the E30 ECU connector.

ii. Disconnect the A8 switch connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-24 (HSW) - A8-2 | Always | Below 1 Ω |
| A8-1 - Body ground | Always | Below 1 Ω |
| E30-24 (HSW) or A8-2 - Body ground | Always | 10 kΩ or higher |




b. for Hood Courtesy Switch Connector 4 Pin Type:

i. Disconnect the E30 ECU connector.

ii. Disconnect the A8 switch connector.

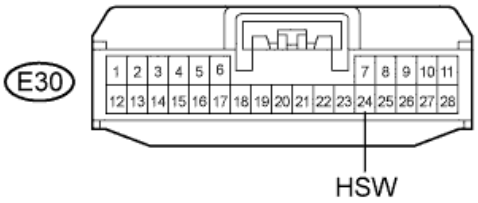
iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

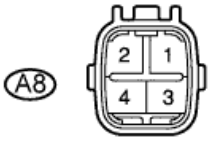
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-24 (HSW) - A8-2 | Always | Below 1 Ω |
| A8-4 - Body ground | Always | Below 1 Ω |
| E30-24 (HSW) or A8-2 - Body | Always | 10 kΩ or higher |

| | | |
|---|---|---|
| ground | | |

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Hood Lock)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

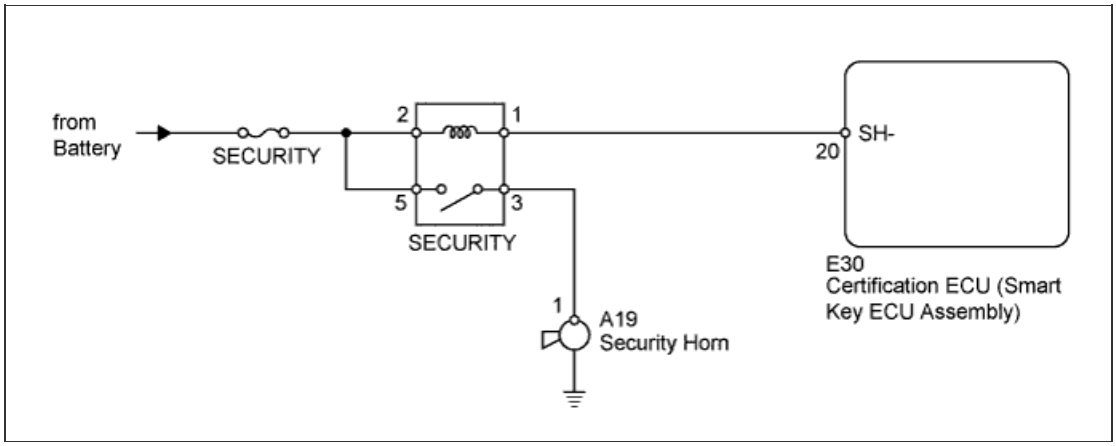
OK → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

**for Preparation** Click here

## DESCRIPTION

When the theft deterrent system is operating, the certification ECU (smart key ECU assembly) outputs a signal continuously at 0.4 second intervals, causing the security horn to sound.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SECURITY HORN)

a. Operate the intelligent tester according to the steps on the display and select "Active Test".

Entry&Start

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Horn | Security horn | ON/OFF | - |

**OK:**

**Security horn operates normally.**

NG → Go to step 2

OK →

### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

### 2.INSPECT FUSE (SECURITY)

a. Remove the SECURITY fuse from the No. 2 engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| SECURITY fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK →

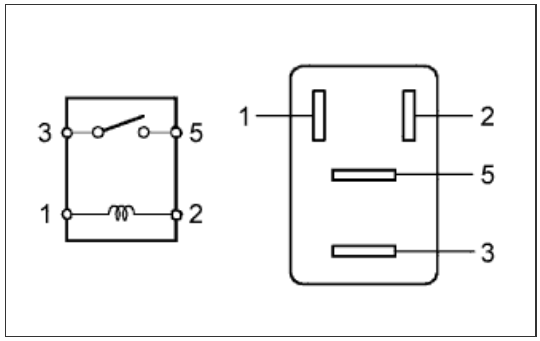
### 3.INSPECT SECURITY RELAY

a. Remove the security relay from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage is not applied to terminals 1 and 2 | 10 kΩ or higher |
| 3 - 5 | Battery voltage is applied to terminals 1 and 2 | Below 1 Ω |




NG → REPLACE SECURITY RELAY

OK

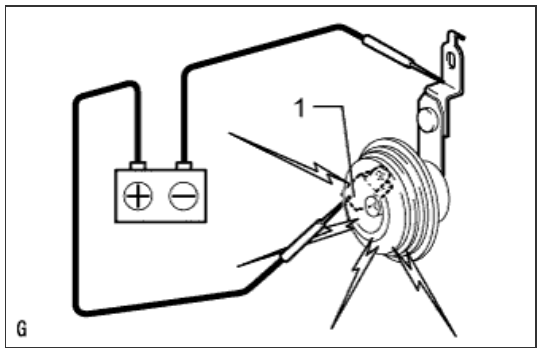
## 4.INSPECT SECURITY HORN ASSEMBLY

a. Remove the security horn (Click here).

b. Apply battery voltage to the horn connector and check the operation of the horn.

**OK:**

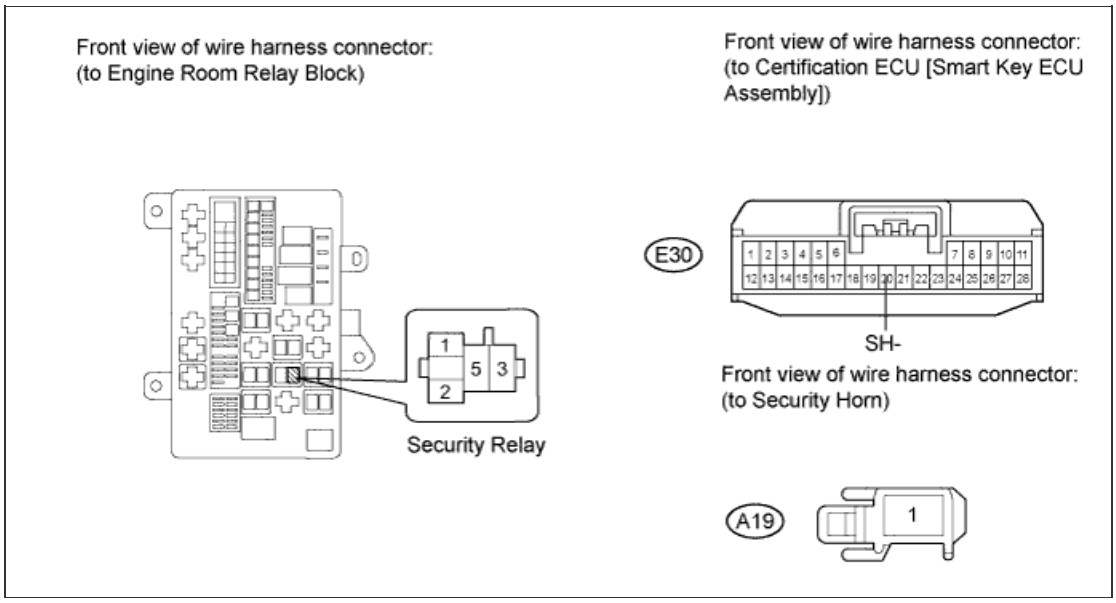
| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 1<br>Battery negative (-) → Horn bracket | Horn sounds |




NG → REPLACE SECURITY HORN ASSEMBLY (Click here)

OK

## 5.CHECK HARNESS AND CONNECTOR (ENGINE ROOM RELAY BLOCK - CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] AND SECURITY HORN)




a. Remove the SECURITY relay from the engine room relay block.

b. Disconnect the E30 ECU connector.

c. Disconnect the A19 horn connector.

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Relay block security relay terminal 1 - E30-20 (SH-) | Always | Below 1 Ω |
| Relay block security relay terminal 3 - A19-1 | Always | Below 1 Ω |
| E30-20 (SH-) Body ground | Always | 10 kΩ or higher |
| A19-1 - Body ground | Always | 10 kΩ or higher |

e. Measure the voltage according to value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Relay block security relay terminal 2 - Body ground | Always | 11 to 14 V |
| Relay block security relay terminal 5 - Body ground | Always | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

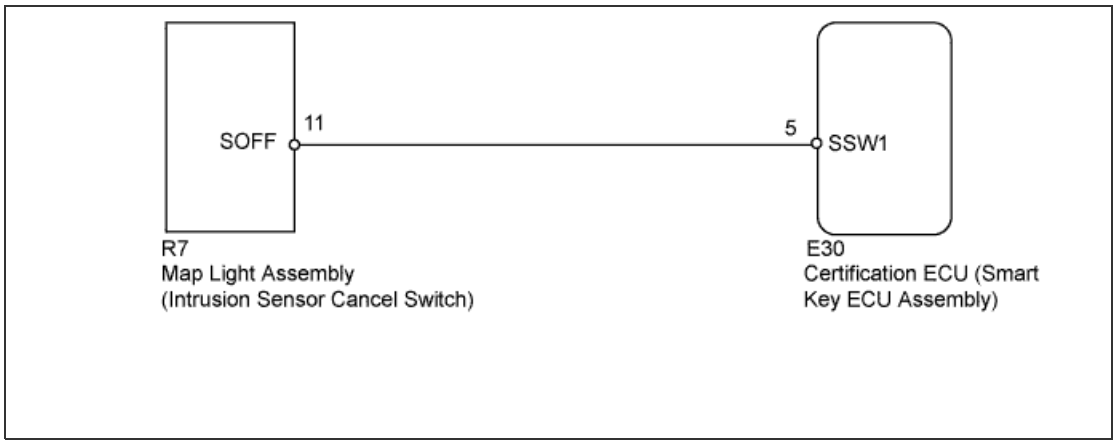
OK → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

**for Preparation** Click here

## DESCRIPTION

When the intrusion sensor cancel switch on the map light is pressed, the sensor off signal is sent to the certification ECU (smart key ECU assembly) which causes the intrusion sensor to stop operating.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (INTRUSION SENSOR CANCEL SWITCH)

a. Using the intelligent tester, read the Data List.

**Entry&Start**

| Tester Display | Measurement Item / Display (Range) | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Intrusion sensor OFF | Intrusion sensor cancel switch / ON or OFF | ON: Intrusion sensor active (switch off)<br>OFF: Intrusion sensor not active (switch on) | - |

**OK:**
**ON (intrusion sensor active [switch off]) appears on screen.**

NG → Go to step 2

OK

### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

### 2.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - MAP LIGHT ASSEMBLY)

a. Disconnect the E30 ECU connector.

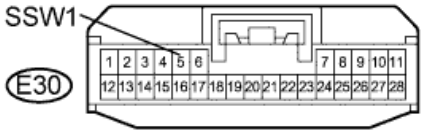
b. Disconnect the R7 light connector.

c. Measure the resistance according to the value(s) in the table below.

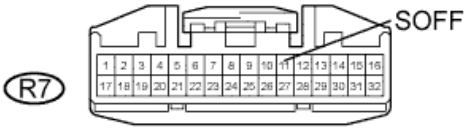
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-5 (SSW1) - R7-11 (SOFF) | Always | Below 1 Ω |
| E30-5 (SSW1) or R7-11 (SOFF) - Body ground | Always | 10 kΩ or higher |

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




Front view of wire harness connector:
(to Map Light)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**3.CHECK MAP LIGHT ASSEMBLY (INTRUSION SENSOR CANCEL SWITCH [OPERATION])**

a. Temporarily replace the map light assembly (intrusion sensor cancel switch) with a new or normally functioning one ( Click here).

b. Turn the intrusion sensor off by pressing the intrusion sensor cancel switch. Check if the switch operates normally by checking that the theft deterrent system does not operate when you move your hand in front of the sensor.

**OK:**
**Intrusion sensor cancel switch operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

END (MAP LIGHT [INTRUSION SENSOR CANCEL SWITCH] IS FAULTY)

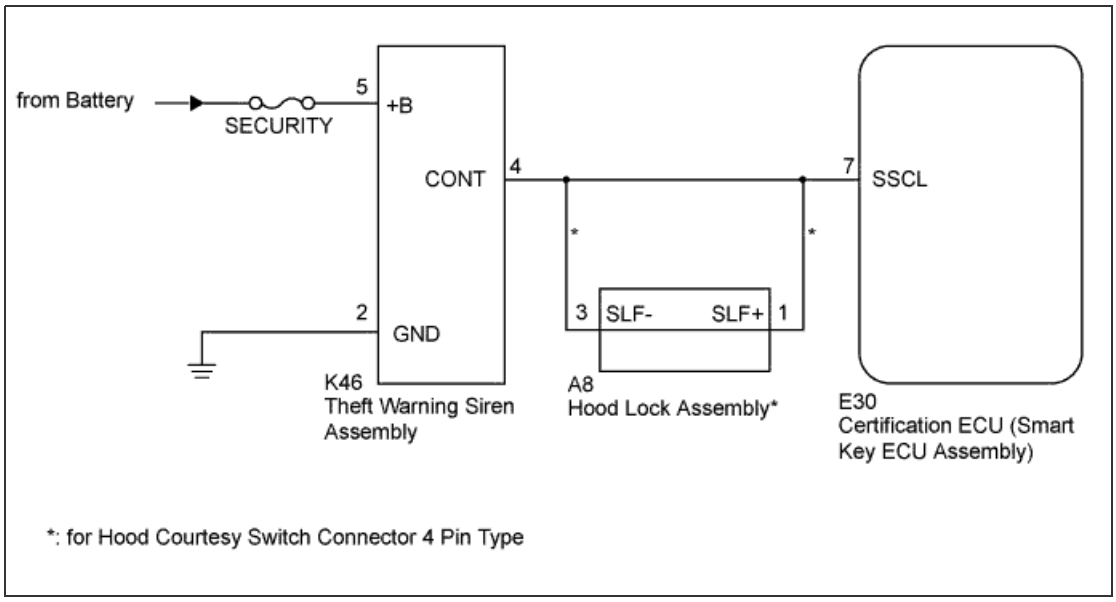
**for Preparation** Click here

## DESCRIPTION

The theft warning siren sounds if either of the following condition is met:

- The theft deterrent system is in the alarm sounding state.
- The theft warning siren is in the armed state when +B, GND or the communication line is open.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **When replacing the theft warning siren assembly, refer to the Service Bulletin.**
- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (THEFT WARNING SIREN)

a. Operate the intelligent tester according to the steps on the display and select "Active Test".

**Entry&Start**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Horn2 | Theft warning siren | ON / OFF | - |

**OK:**
**Siren operates normally.**

**NG** → Go to step 2

**OK**

### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

### 2.CHECK HARNESS AND CONNECTOR (THEFT WARNING SIREN - BATTERY AND BODY GROUND)

a. Disconnect the K46 theft warning siren assembly connector.

b. Measure the voltage according to the value(s) in the table below.

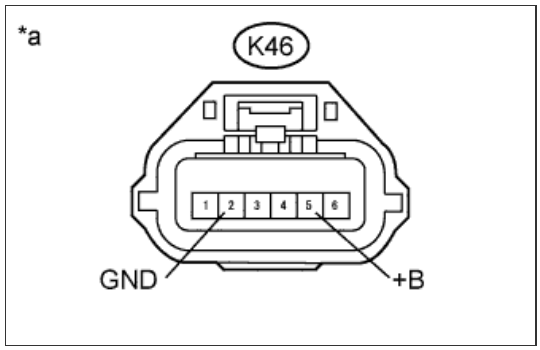
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K46-5 (+B) - Body ground | Always | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K46-2 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Theft Warning Siren Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - THEFT WARNING SIREN)

a. Disconnect the E30 certification ECU (smart key ECU assembly) connector.

b. Disconnect the K46 theft warning siren assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-7 (SSCL) - K46-4 (CONT) | Always | Below 1 Ω |
| E30-7 (SSCL) - Body ground | Always | 10 kΩ or higher |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (except Hood Courtesy Switch Connector 4 Pin Type) | B |
| NG (for Hood Courtesy Switch Connector 4 Pin Type) | C |

B → REPAIR OR REPLACE HARNESS OR CONNECTOR

C → Go to step 5

A

## 4.CHECK THEFT WARNING SIREN (OPERATION)

a. Temporarily replace the theft warning siren assembly with a new or known good one (refer to the Service Bulletin).

b. Check that the theft warning siren operates normally.

**OK:**
**Operates normally.**

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

END (THEFT WARNING SIREN ASSEMBLY IS DEFECTIVE)

5.CHECK HARNESS AND CONNECTOR (HOOD LOCK ASSEMBLY - CERTIFICATION ECU [SMART KEY ECU ASSEMBLY AND THEFT WARNING SIREN)

a. Disconnect the E30 certification ECU (smart key ECU assembly) connector.

b. Disconnect the A8 hood lock assembly connector.

c. Disconnect the K46 theft warning siren assembly connector.

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A8-1 (SLF+) - E30-7 (SSCL) | Always | Below 1 Ω |
| A8-3 (SLF-) - K46-4 (CONT) | Always | Below 1 Ω |
| A8-1 (SLF+) - Body ground | Always | 10 kΩ or higher |
| A8-3 (SLF-) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

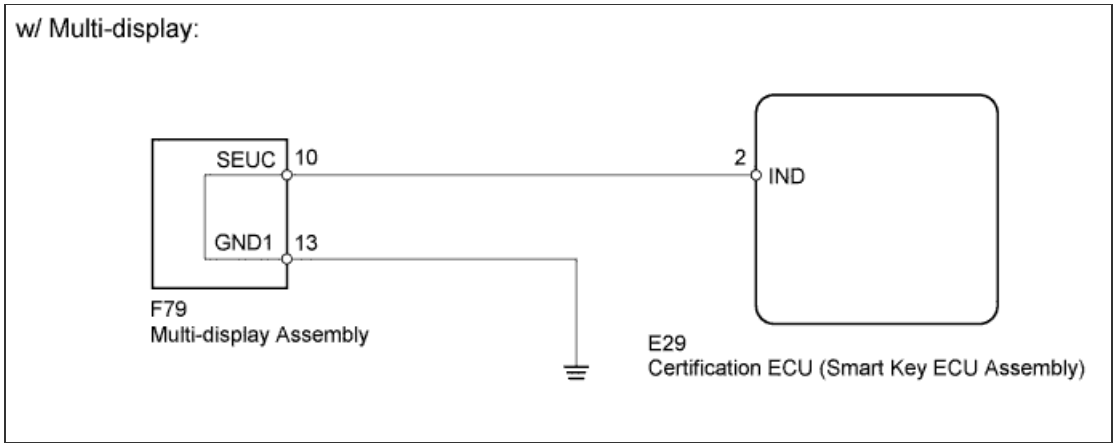
REPLACE HOOD LOCK ASSEMBLY (Click here)

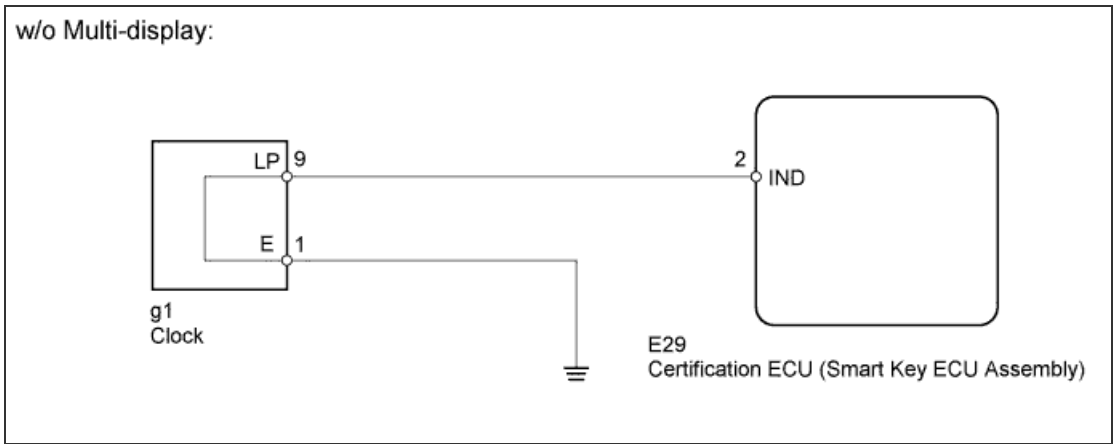
**for Preparation** Click here

## DESCRIPTION

When the theft deterrent system is in the disarmed state, the security indicator will flash continuously if the immobiliser system is set, or not illuminate if the immobiliser system is not set.
When the theft deterrent system is in the armed state, the immobiliser system is automatically set and the security indicator will flash continuously.
When the theft deterrent system is in the arming preparation state and alarm sounding state, the certification ECU (smart key ECU assembly) causes the security indicator to be illuminated.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SECURITY INDICATOR)

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Entry&Start / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Entry&Start**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Indicator | Security indicator | ON / OFF | - |

**OK:**
**Security indicator illuminates.**

NG → Go to step 2

OK

REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

2.CHECK VEHICLE EQUIPMENT

a. Check if the multi-display is equipped on the vehicle.

**Result**

| Result | Proceed to |
|---|---|
| w/ Multi-display | A |
| w/o Multi-display | B |

B → Go to step 5

A

3.CHECK HARNESS AND CONNECTOR (MULTI-DISPLAY - CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] AND BODY GROUND)

a. Disconnect the F79 multi-display assembly connector.

b. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F79-10 (SEUC) - E29-2 (IND) | Always | Below 1 Ω |
| F79-13 (GND1) - Body ground | Always | Below 1 Ω |
| F79-10 (SEUC) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SECURITY INDICATOR)

a. Disconnect the F79 multi-display assembly connector.

b. Connect the intelligent tester to the DLC3.

c. Turn the engine switch on (IG).

d. Turn the intelligent tester on.

e. Enter the following menus: Body / Entry & Start / Active Test.

f. Operate the certification ECU (smart key ECU assembly) using the active test function and measure the voltage according to the value(s) in the table below.

**Standard voltage:**

| Tester Connection | Tester Operation | Specified Condition |
|---|---|---|
| E29-2 (IND) - Body ground | Security Indicator ON | 11 to 14 V |
| E29-2 (IND) - Body ground | Security Indicator OFF | Below 1 V |

**HINT:**

Before performing this inspection, check that the battery voltage is between 11 and 14 V (not depleted).

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

REPLACE MULTI-DISPLAY (Click here)

5.CHECK HARNESS AND CONNECTOR (CLOCK - CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] AND BODY GROUND)

a. Disconnect the g1 clock connector.

b. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| g1-9 (LP) - E29-2 (IND) | Always | Below 1 Ω |
| g1-1 (E) - Body ground | Always | Below 1 Ω |
| g1-9 (LP) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SECURITY INDICATOR)

a. Disconnect the g1 clock connector.

b. Connect the intelligent tester to the DLC3.

c. Turn the engine switch on (IG).

d. Turn the intelligent tester on.

e. Enter the following menus: Body / Entry & Start / Active Test.

f. Operate the certification ECU (smart key ECU assembly) using the active test function and measure the voltage according to the value(s) in the table below.

**Standard voltage:**

| Tester Connection | Tester Operation | Specified Condition |
|---|---|---|
| g1-9 (LP) - Body ground | Security Indicator ON | 11 to 14 V |
| g1-9 (LP) - Body ground | Security Indicator OFF | Below 1 V |

**HINT:**

Before performing this inspection, check that the battery voltage is between 11 and 14 V (not depleted).

NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

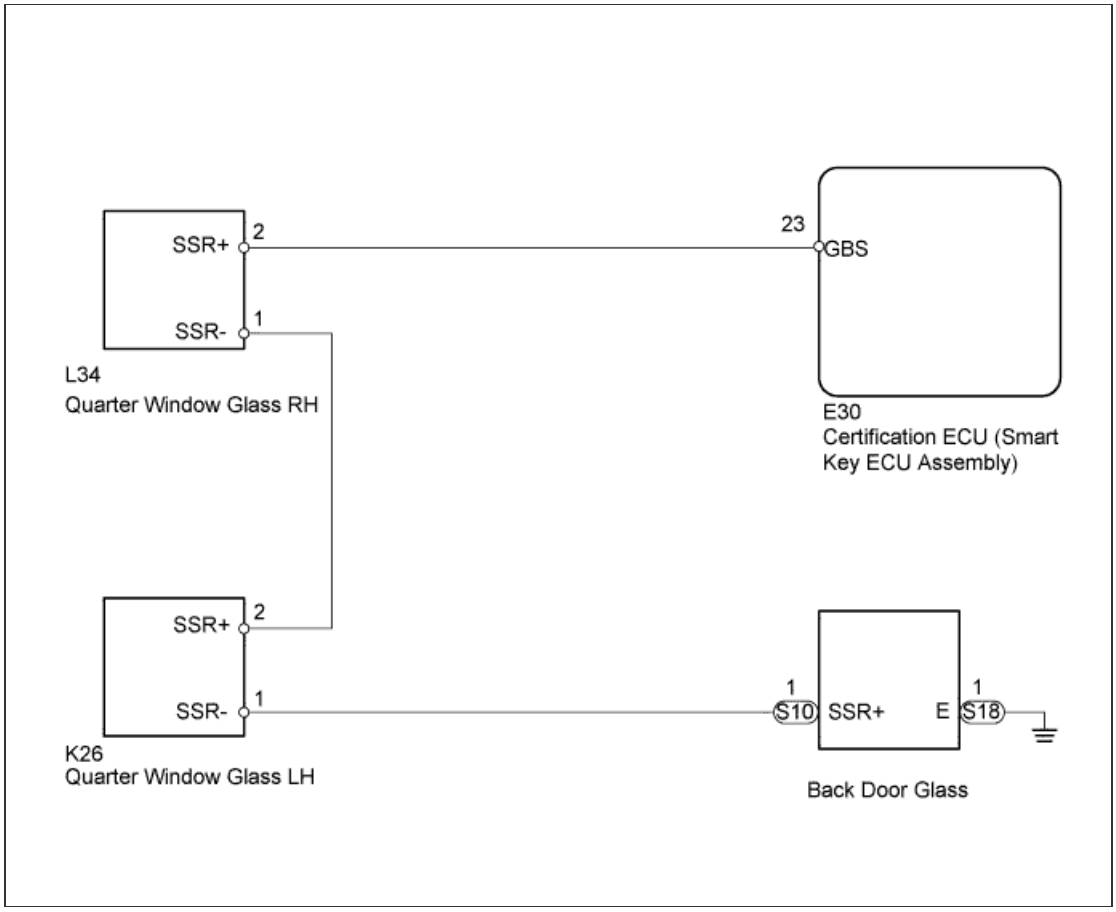
REPLACE CLOCK (Click here)

**for Preparation** Click here

## DESCRIPTION

When the glass breakage sensor detects that the back door glass, quarter window glass LH or quarter window glass RH is tapped or broken, the sensor will set off the alarm for 30 seconds.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (GLASS BREAK SENSOR)

a. Using the intelligent tester, read the Data List.

**Entry&Start**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Glass break sensor detection | Glass breakage sensor detection / ON or OFF | ON: Glass breakage sensor operates<br>OFF: Glass breakage sensor does not operate | - |

**OK:**

**ON (glass breakage sensor operates) appears on screen.**

NG → Go to step 2

OK

### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

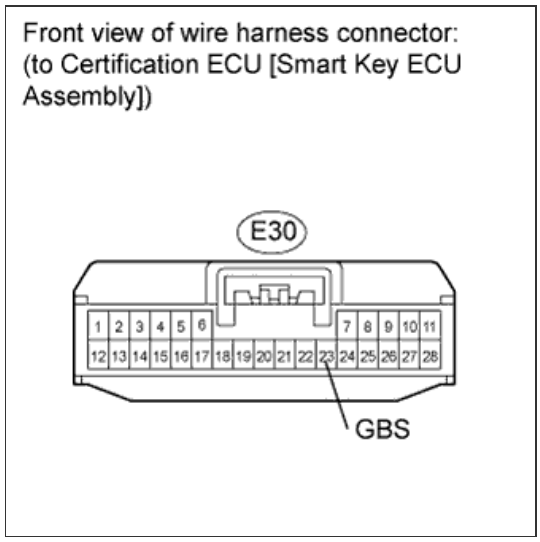
### 2.INSPECT CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

a. Disconnect the E30 ECU connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-23 (GBS) - Body ground | Always | Below 1.5 V |

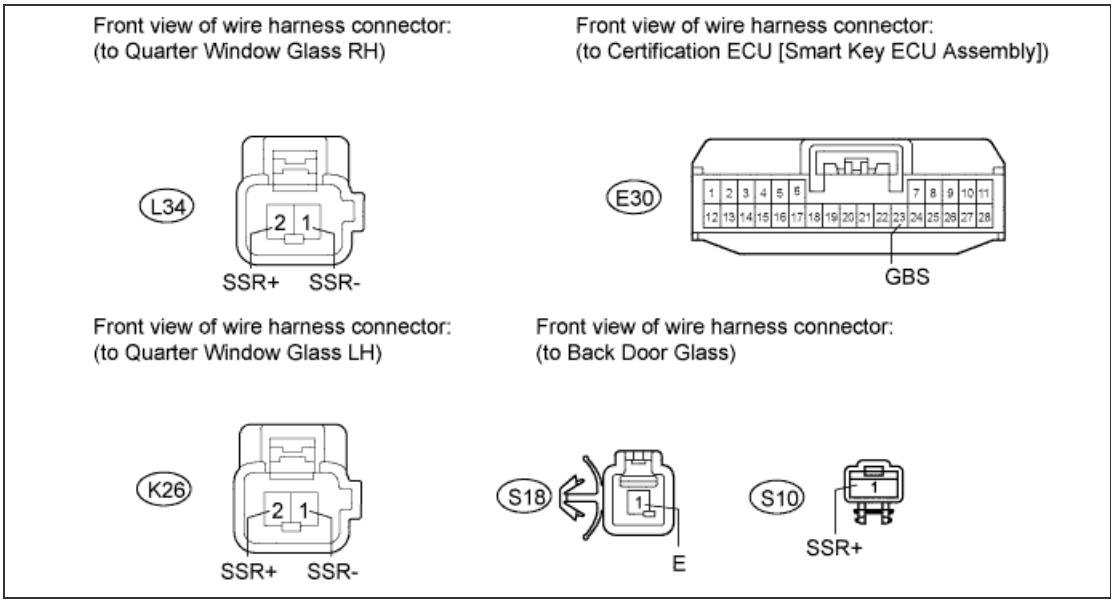



NG → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

OK

## 3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - GLASS BREAKAGE SENSOR)

a. Disconnect the E30 ECU connector.




b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E30-23 (GBS) - L34-2 (SSR+) | Always | Below 1 Ω |
| L34-1 (SSR-) - K26-2 (SSR+) | Always | Below 1 Ω |
| K26-1 (SSR-) - S10-1 (SSR+) | Always | Below 1 Ω |
| S18-1 (E) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

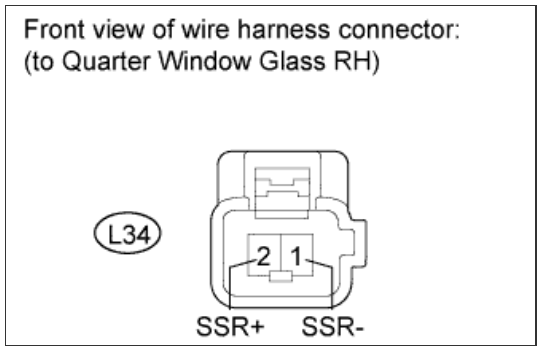
## 4.INSPECT QUARTER WINDOW GLASS RH

a. Disconnect the L34 sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (SSR-) - 2 (SSR+) | Always | Below 1 Ω |




NG → REPLACE REAR DOOR QUARTER WINDOW GLASS RH

OK

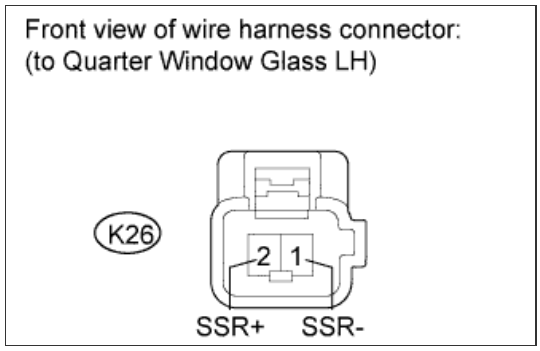
## 5.INSPECT QUARTER WINDOW GLASS LH

a. Disconnect the K26 sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (SSR-) - 2 (SSR+) | Always | Below 1 Ω |




NG → REPLACE REAR DOOR QUARTER WINDOW GLASS LH

OK

## 6.INSPECT BACK DOOR GLASS

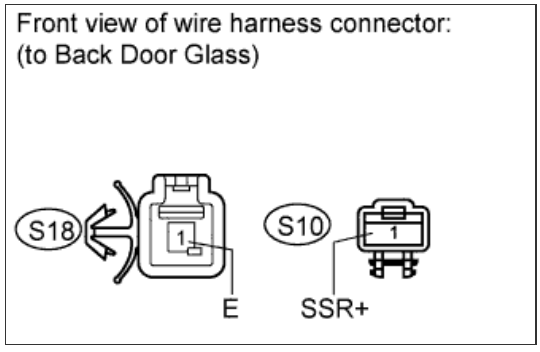
a. Disconnect the S10 sensor connector.

b. Disconnect the S18 defogger connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| S10-1 (SSR+) - S18-1 (E) | Always | Below 1 Ω |




NG → REPLACE BACK DOOR GLASS

OK

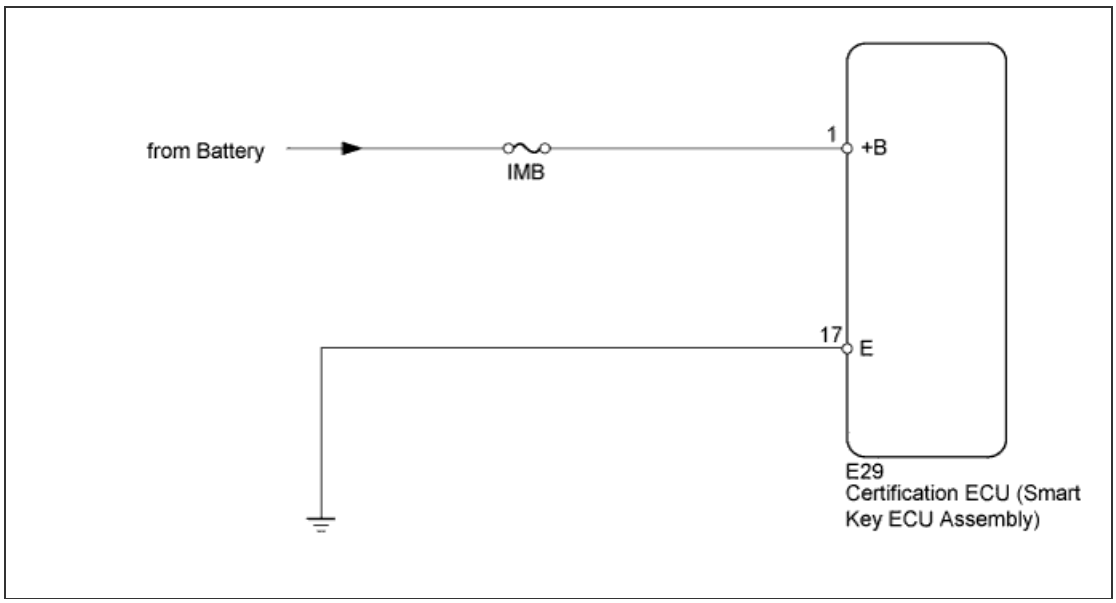
REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

**for Preparation** Click here

## DESCRIPTION

This circuit provides power to operate the certification ECU (smart key ECU assembly).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (IMB)

a. Remove the IMB fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IMB fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - BATTERY AND BODY GROUND)

a. Disconnect the E29 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

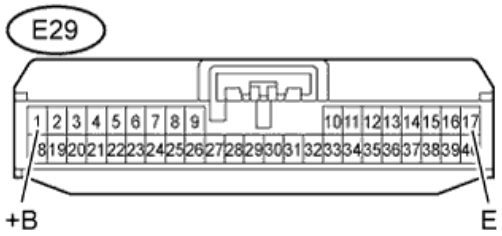
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-17 (E) - Body ground | Always | Below 1 Ω |

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-1 (+B) - Body ground | Always | 11 to 14 V |

Front view of wire harness connector:
(to Certification ECU [Smart Key ECU Assembly])




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

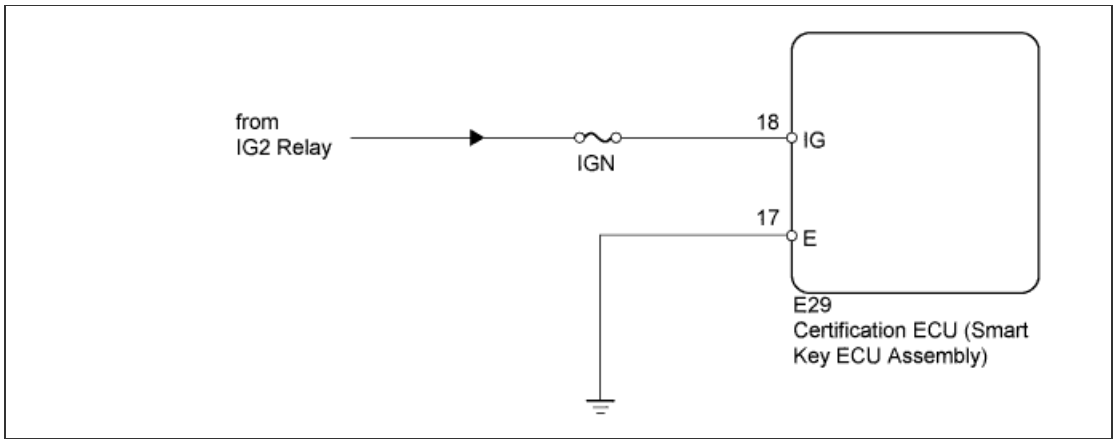
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**for Preparation** Click here

## DESCRIPTION

When the engine switch is turned on (IG), positive (+) battery voltage is applied to the certification ECU (smart key ECU assembly).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK BASIC FUNCTION (POWER SOURCE MODE FUNCTION)

a. Check the basic function of the power source mode function.

**OK:**
**Basic function operates normally.**

NG → GO TO ENTRY AND START SYSTEM (for Start Function) ( Click here)

OK

### 2.INSPECT FUSE (IGN)

a. Remove the IGN fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IGN fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU [SMART KEY ECU ASSEMBLY] - BATTERY AND BODY GROUND)

a. Disconnect the E29 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

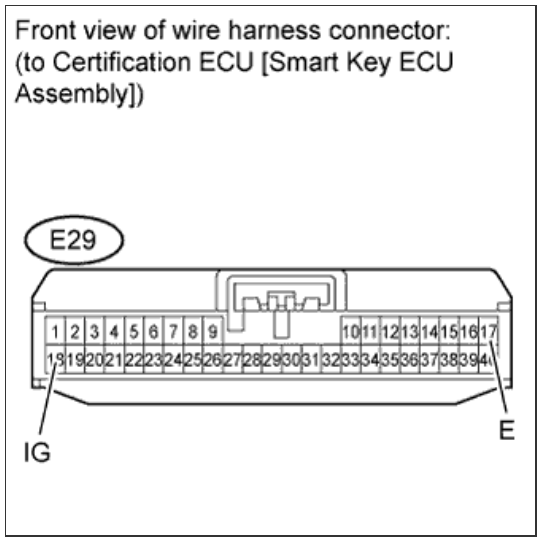
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| | | |

| | | |
|---|---|---|
| E29-17 (E) - Body ground | Always | Below 1 Ω |

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-18 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**for Preparation** Click here

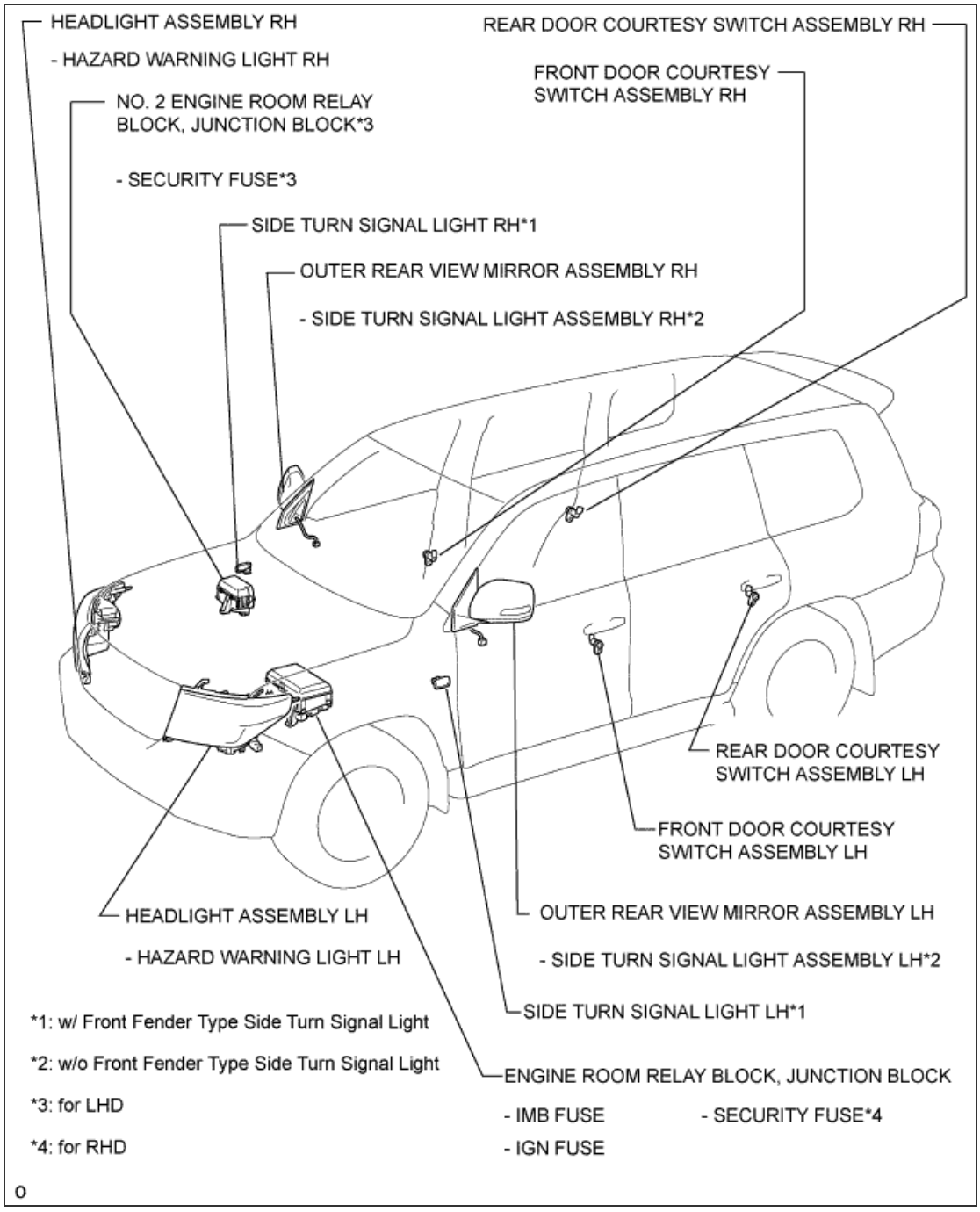
## 1.NOTICE FOR ARMED STATE

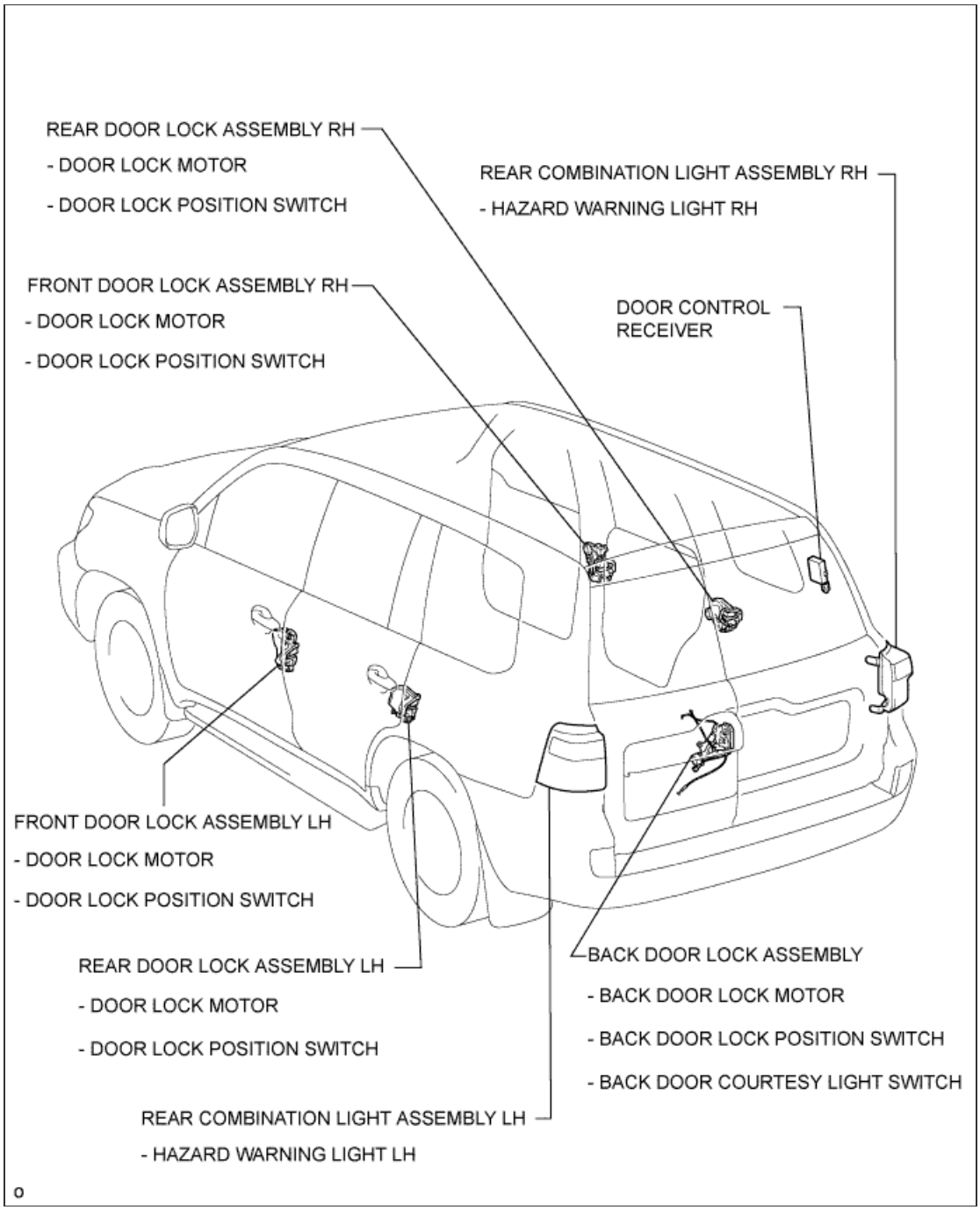
If the vehicle is left in the armed state for an extended period of time or in another condition that causes the battery to be fully depleted, the alarm may sound simultaneously with the recharging of the battery or the replacement of the battery with a new one.* If this occurs, immediately unlock the vehicle's doors through a wireless unlock operation to stop the alarm.

**HINT:**

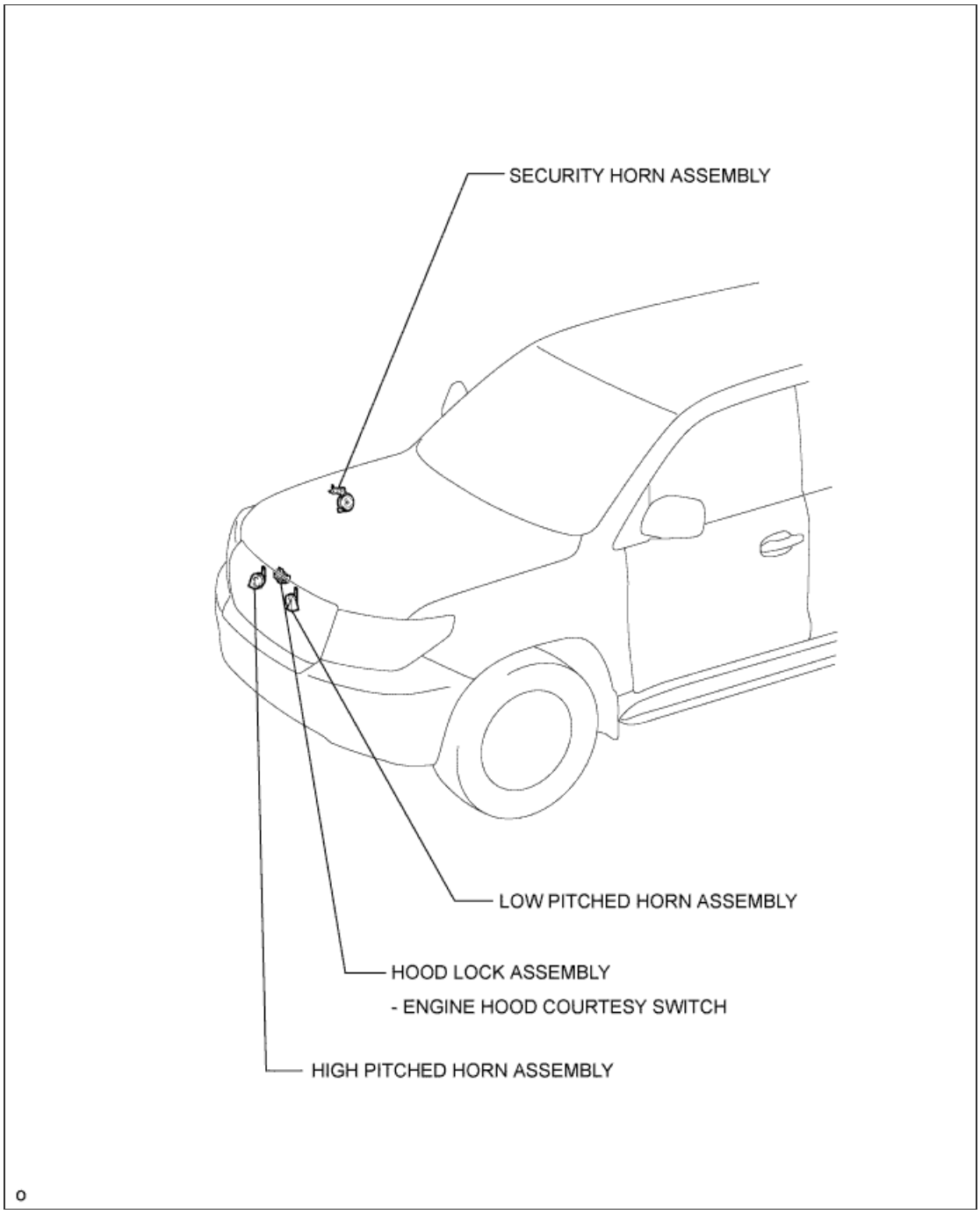
*: This may occur in the following situation: While in the armed state of active arming mode, the cable of the negative (-) battery terminal is disconnected and reconnected (Click here).

**for Preparation** Click here



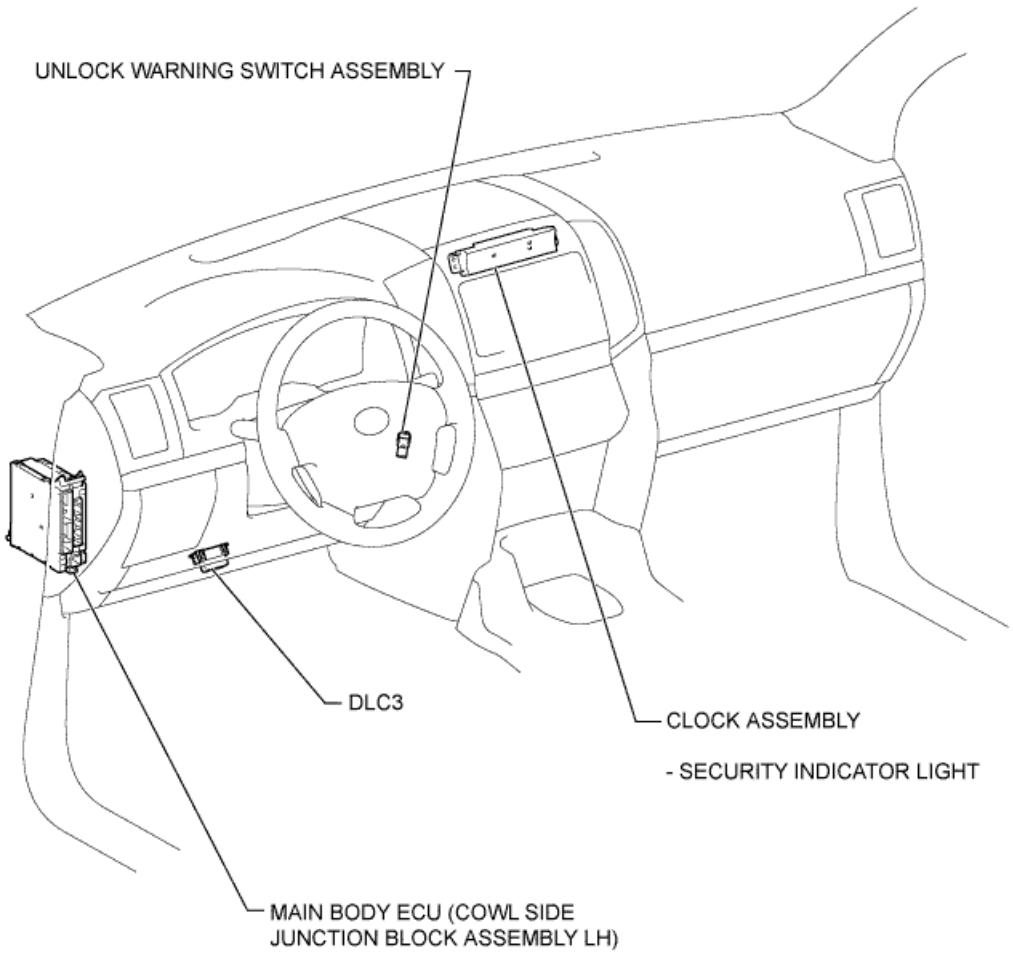

REAR DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
REAR COMBINATION LIGHT ASSEMBLY RH
- HAZARD WARNING LIGHT RH
FRONT DOOR LOCK ASSEMBLY RH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
DOOR CONTROL RECEIVER
FRONT DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
REAR DOOR LOCK ASSEMBLY LH
- DOOR LOCK MOTOR
- DOOR LOCK POSITION SWITCH
BACK DOOR LOCK ASSEMBLY
- BACK DOOR LOCK MOTOR
- BACK DOOR LOCK POSITION SWITCH
- BACK DOOR COURTESY LIGHT SWITCH
REAR COMBINATION LIGHT ASSEMBLY LH
- HAZARD WARNING LIGHT LH

o


SECURITY HORN ASSEMBLY
LOW PITCHED HORN ASSEMBLY
HOOD LOCK ASSEMBLY
- ENGINE HOOD COURTESY SWITCH
HIGH PITCHED HORN ASSEMBLY

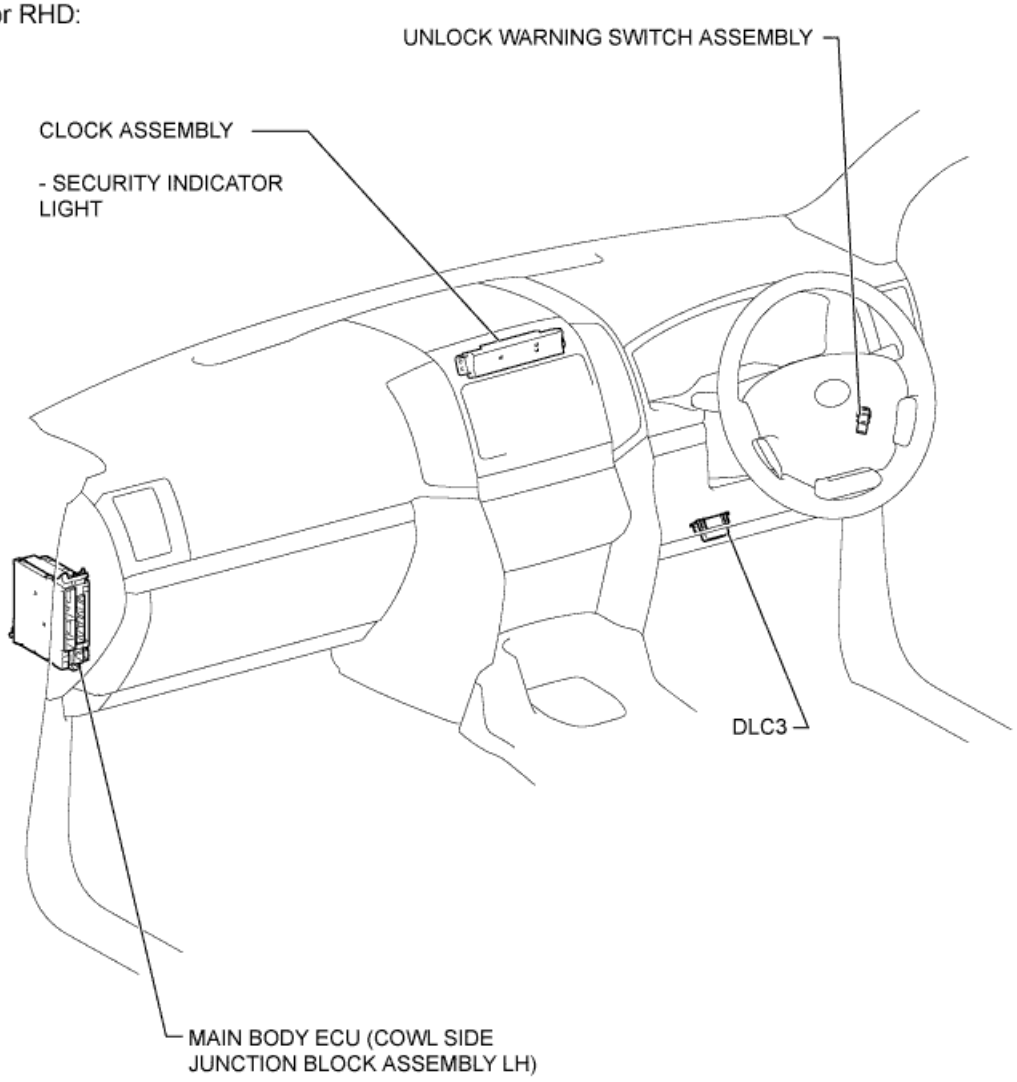
o

for LHD:


UNLOCK WARNING SWITCH ASSEMBLY
DLC3
CLOCK ASSEMBLY
- SECURITY INDICATOR LIGHT
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)

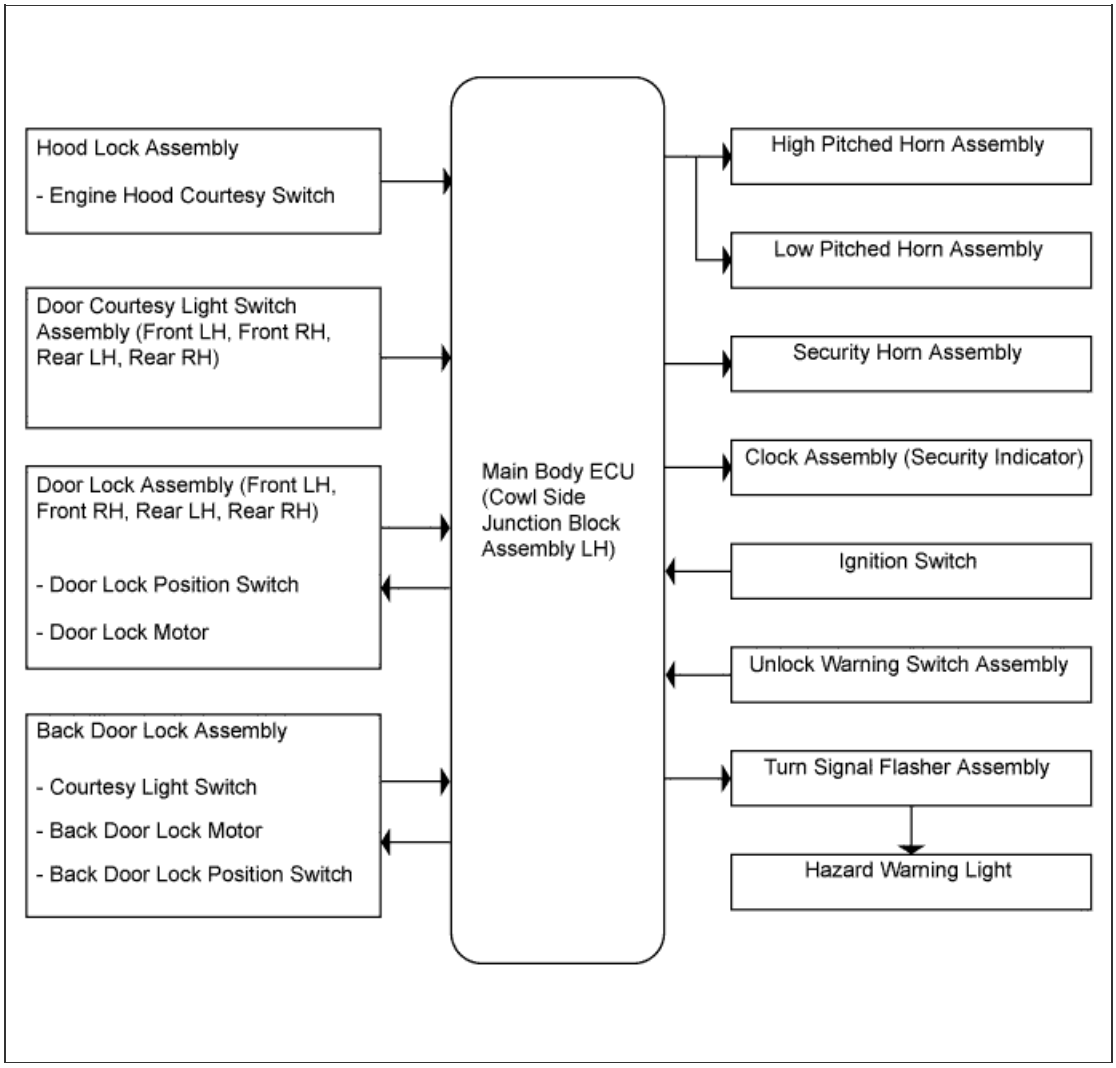
o

for RHD:


UNLOCK WARNING SWITCH ASSEMBLY
CLOCK ASSEMBLY
- SECURITY INDICATOR LIGHT
DLC3
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)

o

**for Preparation** Click here



**for Preparation** Click here

## THEFT DETERRENT SYSTEM DESCRIPTION

The theft deterrent system is designed to deter vehicle break-ins and theft. If an attempted break-in or theft is detected, the vehicle horns and security horn will sound, and the hazard warning lights will flash. The system detects an attempted break-in or theft when any of the following occurs: 1) the vehicle is forcibly entered; 2) the engine hood is forcibly opened; 3) the doors are unlocked without the use of a key; or 4) the cable from the negative (-) battery terminal is disconnected and reconnected.
If the system enters the alarm sounding state, any unlocked doors will automatically lock.
The system has 4 states: disarmed state, arming preparation state, armed and alarm sounding state.

## FUNCTION OF MAIN COMPONENT

| Function | Outline |
|---|---|
| Security indicator | Informs the driver of the theft deterrent system status. |
| Security horn | Sounds when an attempted break-in or theft is detected.<br>Located in the engine compartment. |
| Hazard warning light | Begins flashing when an attempted break-in or theft is detected. |
| Vehicle horns | Sounds when an attempted break-in or theft is detected. |
| Door courtesy light switch | Detects the door status (open or closed). |
| Door lock position switch | Detects the door lock status (locked or unlocked). |
| Engine hood courtesy switch | Detects the engine hood status (open or closed). |
| Back door lock position switch | Detects the back door lock status (locked or unlocked). |
| Back door courtesy switch | Detects the back door status (open or closed). |
| Main body ECU | Detects the ignition switch condition (off, ACC or ON). |

## SYSTEM FUNCTION

a. Disarmed state:

- The alarm function is not operating.
- The theft deterrent system is not operating.

b. Arming preparation state:

The theft deterrent system is not operating.

c. Armed state:

The theft deterrent system is operating.

d. Alarm sounding state:

The alarm function is operating (30 +/-2.5 seconds).

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the theft deterrent system.**
- ***: Use the intelligent tester.**
- **Troubleshooting of the theft deterrent system is based on the premise that the door lock control system, wireless door lock control system, lighting system, horn system and engine immobiliser system are operating normally. Check these systems first before troubleshooting the theft deterrent system.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.PROBLEM SYMPTOMS TABLE

a. Refer to Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. → Go to step 5

A

## 4.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Data List / Active Test (Click here).

b. Terminals of ECU (Click here).

c. Operation Check (Click here).

d. Inspection.

NEXT

## 5.REPAIR OR REPLACE

NEXT

## 6.CONFIRMATION TEST


NEXT
END

**for Preparation** Click here

**HINT:**

If the battery is reconnected during the armed state, the system may enter the alarm sounding state and the alarm may sound. If so, perform a wireless unlock operation to stop the alarm.

## OUTLINE OF THEFT DETERRENT SYSTEM

a. When the theft deterrent system detects that the vehicle is being tampered with, the horns sound and the hazard warning lights flash continuously.

b. The system has a mode called active arming mode (refer to "Active Arming Mode").

c. Active arming mode has 4 states: disarmed state, arming preparation state, armed state and alarm sounding state.

i. Disarmed state:

- The alarm function is not operating.
- The theft deterrent system is not operating.

ii. Arming preparation state:

- The theft deterrent system is not operating.

iii. Armed state:

- The theft deterrent system is operating.

iv. Alarm sounding state:

- The alarm function is operating (30 +/-2.5 seconds).

**Alarm Method and Time**

| | | |
|---|---|---|
| Alarm Method | Hazard Warning Light | Blinking (cycle of flasher relay) |
| | Vehicle Horn | Sounding (cycle of 0.4 seconds) |
| | Security Horn | Sounding (cycle of 0.4 seconds) |
| | Security Indicator | Illuminated |
| Alarm Time | 30 +/-2.5 seconds | |

**HINT:**

If, during the alarm sounding state, one of the doors is unlocked without using a proper key, a forced door lock signal will be output (refer to "Forced Door Lock Control").

## ACTIVE ARMING MODE

**HINT:**

Active arming mode starts alarm control immediately after the doors are locked.

| System State | State Switching Condition | Transfer to |
|---|---|---|
| 1. Disarmed state | Perform one of following, and system will go on to "Arming preparation state":<br>1. With all doors and engine hood closed, lock all doors by wireless operation.<br>2. With all doors and engine hood closed, lock all doors using mechanical key.<br>3. With all doors locked and the engine hood closed, any door or the engine hood is opened and then closed. | 2. Arming preparation state |
| | Perform one of following, and system will go on | |

| | | |
|---|---|---|
| 2. Arming preparation state | to "Disarmed state":<br>1. Unlock all doors by wireless operation.<br>2. Unlock all doors using mechanical key.<br>3. Unlock door.<br>4. Open the engine hood or any doors.<br>5. Insert the key* into the ignition key cylinder, and then turn the ignition switch to ACC or ON.<br>6. Reconnect battery. | 1. Disarmed state |
| | Perform one of following, and system will go on to "Armed state":<br>1. Allow 30 (+/-1.5) seconds to elapse. | 3. Armed state |
| 3. Armed State | Perform one of following, and system will go on to "Disarmed state":<br>1. Unlock all doors by wireless operation.<br>2. Unlock all doors using mechanical key.<br>3. With the ignition switch turned to ON and the engine having been turned on for 2 seconds, or more.<br>4. Insert the key* into the ignition key cylinder, and then turn the ignition switch to ACC or ON. | 1. Disarmed state |
| | Perform one of following, and system will go on to "Alarm sounding state":<br>1. Open engine hood.<br>2. Open door.<br>3. Unlock door without using wireless operation.<br>4. Unlock door without using mechanical key.<br>5. Disconnect and reconnect battery negative (-) cable.<br>6. Force engine ignition system to turn on without proper engine start method. | 4. Alarm sounding state |
| 4. Alarm sounding state | Perform one of following, and system will go on to "Disarmed state":<br>1. Unlock all doors using wireless operation.<br>2. Unlock all doors using mechanical key.<br>3. With the ignition switch turned to ON and the engine having been turned on for 2 seconds, or more.<br>4. Insert the key* into the ignition key cylinder, and then turn the ignition switch to ACC or ON. | 1. Disarmed state |
| | Perform one of following, and system will go on to "Armed state":<br>1. Allow 30 (+/-2.5) seconds to elapse. | 3. Armed state (alarm stops sounding) |

**HINT:**

*: Unlock warning switch signal is on.

## FORCED DOOR LOCK CONTROL

a. Forced door lock control also helps to prevent the vehicle from being tampered with. When a door is unlocked and the alarm starts, the door is forced to lock by a forced door lock signal.

i. Conditions that force the doors to lock:

- 0.4 seconds have elapsed after the previous output of a forced door lock signal.
- The theft deterrent system is in the alarm sounding state of active arming mode.
- A door is unlocked.

## SECURITY INDICATOR OUTPUT

a. The security indicator turns on and off based on output signals from the main body ECU. However, in some cases, the actual status of the security indicator is different from the output signals of the transponder key ECU assembly.

**Output**

| State of Theft Deterrent System | Security Indicator | |
|---|---|---|
| | Output Signals from ECU | Actual Lighting Condition |
| Disarmed state | Off | Off (Immobiliser system not set)<br>Blinking (Immobiliser system set) |
| Arming preparation state | On | On |
| Armed state | Off | Blinking |
| Alarm sounding state | On | On |

**Blinking Cycle**

| Time | Security Indicator |
|---|---|
| 0.125 seconds | On |
| 1.875 seconds | Off |

**HINT:**

When the immobiliser system is set, the security indicator blinks during the disarmed state and the armed state due to the output signals from the immobiliser system.

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE)

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Utility / Customize.

e. Select the setting by referring to the table below.

**Security**

| Display | Default | Contents | Setting |
|---|---|---|---|
| Warning by Horn | ON | Function that allows the vehicle horns and security horn to be used as warning devices. | ON/OFF |

**for Preparation** Click here

**HINT:**

- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**
- **Troubleshooting of the theft deterrent system is based on the premise that the door lock control system, wireless door lock control system, lighting system, horn system and engine immobiliser system are operating normally. Check these systems first before troubleshooting the theft deterrent system.**

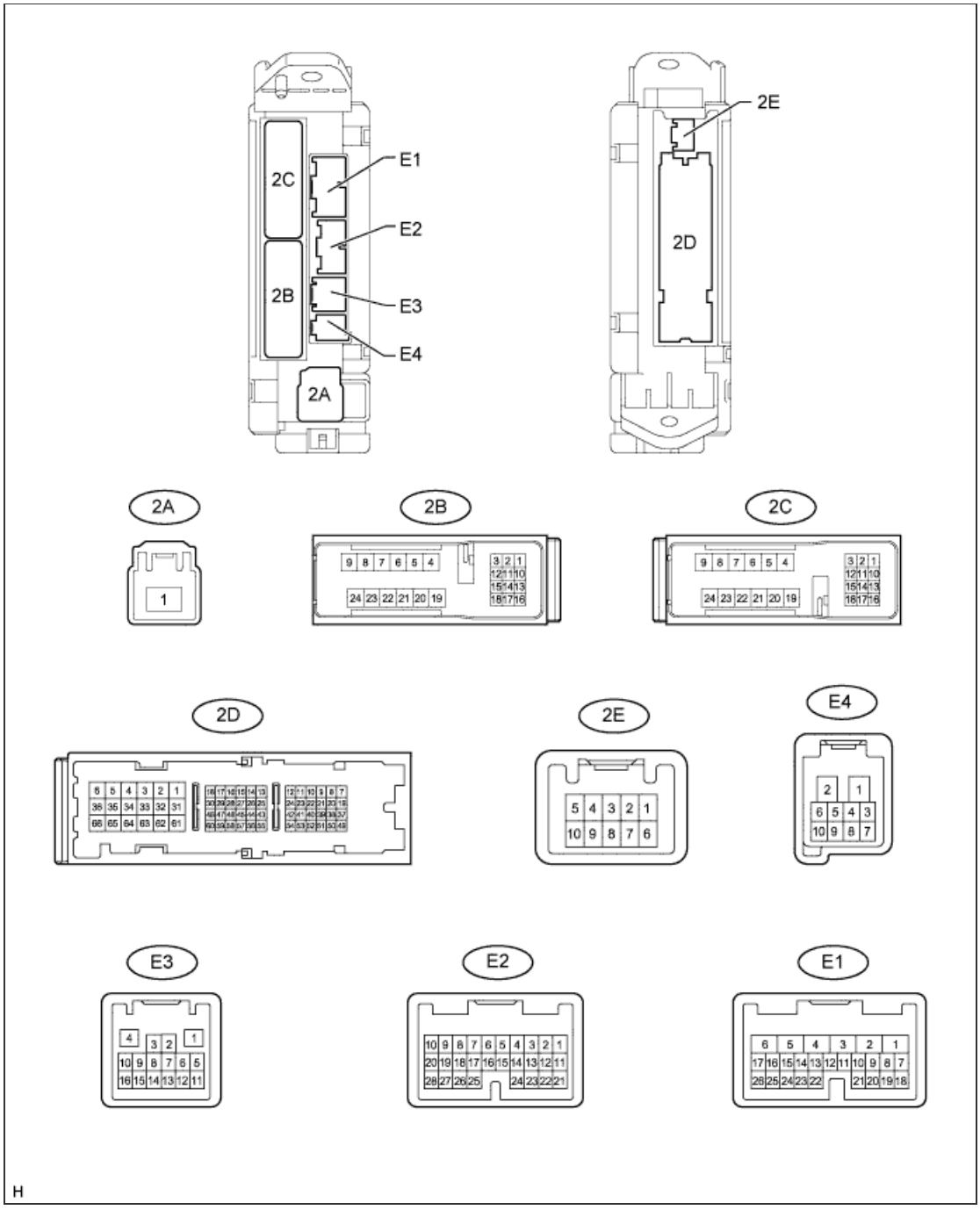
**Theft Deterrent System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Theft deterrent system cannot be set | IMB fuse | - |
| | ECU power source | Click here |
| | Key reminder warning system | Click here |
| | Engine hood courtesy switch circuit | Click here |
| | Security indicator light circuit | Click here |
| | Door courtesy switch circuit | Click here |
| | Harness or connector | - |
| | Main body ECU (cowl side junction block assembly LH) | - |
| Security indicator is not blinking when theft deterrent system is set | Security indicator light circuit | Click here |
| Alarm sounding state cannot be canceled when ignition switch is turned to ON | IGN fuse | - |
| | IG power source | Click here |
| | Harness or connector | - |
| | Main body ECU (cowl side junction block assembly LH) | - |
| Theft deterrent system can be set even when any door is open | Engine hood courtesy switch circuit | Click here |
| | Door courtesy switch circuit | Click here |
| Horns (low pitched, high pitched) do not sound while theft deterrent system is in alarm sounding state | Horn system | Click here |
| Hazard warning lights do not flash while theft deterrent system is in alarm sounding state | Hazard warning switch circuit | Click here |
| Security horn does not sound while theft deterrent system is in alarm sounding state | Security horn circuit | Click here |

If no problems are found in the suspected areas, replace the main body ECU.

**for Preparation** Click here

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)




a. Disconnect the 2A, 2B, 2D and E4 main body ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2A-1 (ALTB) - Body ground | B - Body ground | Battery power supply | Always | 11 to 14 V |
| 2B-20 (BATB) - Body ground | L - Body ground | Battery power supply | Always | 11 to 14 V |
| 2D-47 (IG) - Body ground | R - Body ground | IG power supply | Ignition switch ON | 11 to 14 V |
| | | | Ignition switch off | Below 1 V |
| 2D-47 (ACC) - Body ground | R - Body ground | ACC power supply | Ignition switch ACC | 11 to 14 V |

| | | | | |
|---|---|---|---|---|
| | | | Ignition switch off | Below 1 V |
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E4-5 (KSW) - Body ground | BR - Body ground | Unlock warning switch input | No key in ignition key cylinder | 10 kΩ or higher |
| | | | Key inserted in ignition key cylinder | Below 1 Ω |

If the result is not as specified, there may be a malfunction in the wire harness.

c. Reconnect the 2A, 2B, 2D and E4 main body ECU connectors.

d. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E1-24 (DCTY) - Body ground | L - Body ground*1<br>P - Body ground*2 | Driver side door courtesy switch input | Driver side door open | Below 1 V |
| | | | Ignition switch off, and driver side door courtesy switch off | Pulse generation |
| E2-21 (PCTY) - Body ground | P - Body ground*1<br>L - Body ground*2 | Front passenger side door courtesy switch input | Front passenger side door open | Below 1 V |
| | | | Ignition switch off, and passenger side door courtesy switch off | Pulse generation |
| 2C-2 (LCTY) - Body ground | W - Body ground | Rear door LH courtesy light switch input | Rear door LH open | Below 1 V |
| | | | Ignition switch off, and rear LH side door courtesy switch off | Pulse generation |
| E1-17 (RCTY) - Body ground | G - Body ground | Rear door RH courtesy light switch input | Rear door RH open | Below 1 V |
| | | | Ignition switch off, and rear RH side door courtesy switch off | Pulse generation |
| E2-25 (BCTY) - Body ground | W - Body ground | Back door courtesy light switch input | Back door open | Below 1 V |
| | | | Ignition switch off, and back door closed | Pulse generation |
| 2D-3 (ACT+) - Body ground | L - Body ground | Driver side door lock motor lock drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder in lock position | 11 to 14 V |
| E1-5 (ACTD) - Body ground | B - Body ground | Driver side door lock motor unlock drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder in unlock position | 11 to 14 V |
| 2D-3 (ACT+) - Body ground | L - Body ground | Front passenger side door lock motor lock drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder in lock position | 11 to 14 V |
| 2D-2 (ACT-) - Body ground | B - Body ground | Front passenger side door lock motor unlock drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder in unlock position | 11 to 14 V |
| | | | Master switch (door control switch) or driver side door key cylinder in | Below 1 V |

| | | | | |
|---|---|---|---|---|
| 2D-3 (ACT+) - Body ground | L - Body ground | Rear door LH lock motor lock drive output | neutral position | |
| | | | Master switch (door control switch) or driver side door key cylinder in lock position | 11 to 14 V |
| 2C-23 (ACT-) - Body ground | B - Body ground | Rear door LH lock motor unlock drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder in unlock position | 11 to 14 V |
| 2D-3 (ACT+) - Body ground | L - Body ground | Rear door RH lock motor lock drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder in lock position | 11 to 14 V |
| 2D-2 (ACT-) - Body ground | B - Body ground | Rear door RH lock motor unlock drive output | Master switch (door control switch) or driver side door key cylinder in neutral position | Below 1 V |
| | | | Master switch (door control switch) or driver side door key cylinder in unlock position | 11 to 14 V |
| E1-10 (UL3) - Body ground | Y - Body ground*1<br>L - Body ground*2 | Driver side door lock key switch input | Driver side door key cylinder in unlock position | Below 1 V |
| | | | Ignition switch off, all doors closed and driver side door key cylinder in neutral position | Pulse generation |
| 2D-53 (L2) - Body ground | LG - Body ground | Driver side door lock key switch input | Driver side door key cylinder in lock position | Below 1 V |
| | | | Ignition switch off, all doors closed and driver side door key cylinder in neutral position | Pulse generation |
| E1-9 (LSWD) - Body ground | BE - Body ground | Driver side door lock position switch input | Driver side door unlocked | Below 1 V |
| | | | Ignition switch off, all doors closed and driver side door locked | Pulse generation |
| E2-27 (LSWP) - Body ground | Y - Body ground*1<br>BE - Body ground*2 | Passenger side door lock position switch input | Passenger side door unlocked | Below 1 V |
| | | | Ignition switch off, all doors closed and passenger side door locked | Pulse generation |
| 2C-1 (LSWL) - Body ground | BE - Body ground | Rear door LH lock position switch input | Rear door LH unlocked | Below 1 V |
| | | | Ignition switch off, all doors closed and rear door LH locked | Pulse generation |
| E2-5 (LSWR) - Body ground | BE - Body ground | Rear door RH lock position switch input | Rear door RH unlocked | Below 1 V |
| | | | Ignition switch off, all doors closed and rear door RH locked | Pulse generation |
| E4-4 (IND) - Body ground | V - Body ground | Security indicator signal | Security indicator illuminated (illuminates only for 60 sec. in alarm sounding state (blinking when system in armed state)) | 6 to 11 V |
| | | | Security horn not sounding (theft deterrent | |

| | | | | |
|---|---|---|---|---|
| E4-6 (SH) - Body ground | LG - Body ground | Security horn signal | system in alarm sounding state) | 11 to 14 V |
| | | | Security horn sounding (theft deterrent system in alarm sounding state) | 0.5 to 4 V |
| E1-16 (HCTY) - Body ground | W - Body ground | Engine hood courtesy switch signal | Engine hood closed | 10 kΩ or higher |
| | | | Engine hood open | Below 1 Ω |

*1: for LHD
*2: for RHD

If the result is not as specified, the main body ECU may have a malfunction.

**for Preparation** Click here

## DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. According to the display on the intelligent tester, read the "Data List".

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Key Unlock Warning SW | Unlock warning switch / ON or OFF | ON: Key inserted into ignition key cylinder<br>OFF: Key not inserted into ignition key cylinder | - |
| D Door Courtesy SW | Driver side door courtesy light switch signal / ON or OFF | ON: Driver side door opened<br>OFF: Driver side door closed | - |
| D Door Lock Pos SW | Driver side door lock position switch signal / ON or OFF | ON: Driver side door unlocked<br>OFF: Driver side door locked | - |
| Door Key SW-Lock | Door key linked lock switch signal / ON or OFF | ON: Driver side door key cylinder turned to lock position<br>OFF: Driver side door key cylinder not turned | - |
| D-Door Key SW-UL | Door key linked unlock switch signal / ON or OFF | ON: Driver side door key cylinder turned to unlock position<br>OFF: Driver side door key cylinder not turned | - |
| P-Door Courtesy SW | Front passenger side door courtesy light switch signal / ON or OFF | ON: Front passenger side door opened<br>OFF: Front passenger side door closed | - |
| P-Door Lock Pos SW | Front passenger side door lock position switch signal / ON or OFF | ON: Front passenger side door unlocked<br>OFF: Front passenger side door locked | - |
| Door Lock SW-Lock | Door manual lock switch signal / ON or OFF | ON: Front passenger side door control switch on (in lock position)<br>OFF: Front passenger side door control switch off | - |
| Door Unlock SW-Unlock | Door manual unlock switch signal / ON or OFF | ON: Front passenger side door control switch on (in unlock position)<br>OFF: Front passenger side door control switch off | - |
| RL Door Courtesy SW | Rear LH side door courtesy light switch signal / ON or OFF | ON: Rear LH side door opened<br>OFF: Rear LH side door closed | - |
| RL-Door Lock Pos SW | Rear LH side door lock position switch signal / ON or OFF | ON: Rear LH side door unlocked<br>OFF: Rear LH side door locked | - |
| RR Door Courtesy SW | Rear RH side door courtesy light switch signal / ON or OFF | ON: Rear RH side door opened<br>OFF: Rear RH side door closed | - |
| RR-Door Lock Pos SW | Rear RH side door lock position switch signal / ON or OFF | ON: Rear RH side door unlocked<br>OFF: Rear RH side door locked | - |
| Back Door Courtesy SW | Back door courtesy light switch signal / ON or OFF | ON: Back door open<br>OFF: Back door closed | - |
| Back Door Lock Pos SW | Back door lock position switch signal / ON or OFF | ON: Back door unlocked<br>OFF: Back door locked | - |
| Hood Courtesy Switch | Engine hood courtesy switch / ON or OFF | ON: Engine hood open<br>OFF: Engine hood closed | - |

| | | | |
|---|---|---|---|
| IG SW | Ignition switch ON /<br>ON / OFF | ON: Ignition switch ON<br>OFF: Ignition switch off | - |
| ACC SW | Ignition switch ACC /<br>ON / OFF | ON: Ignition switch ACC<br>OFF: Ignition switch off | - |

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Active Test.

e. According to the display on the intelligent tester, perform the "Active Test".

### Main Body

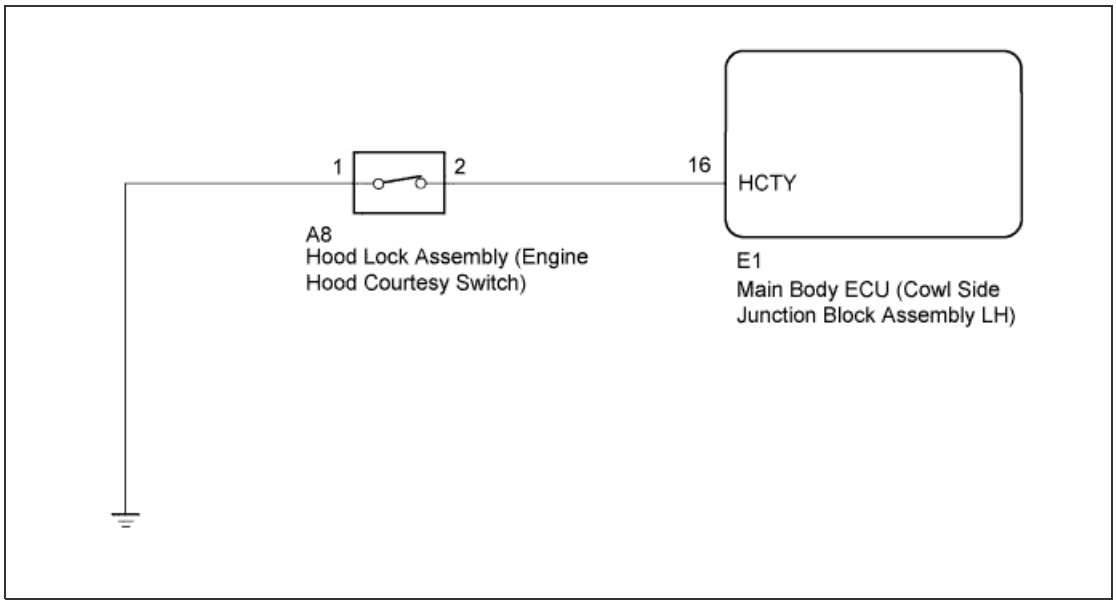
| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Indicator | Security indicator | ON / OFF | - |
| Security Horn | Security horn | ON / OFF | - |
| Vehicle Horn | Vehicle horn | ON / OFF | - |

**for Preparation** Click here

## DESCRIPTION

The engine hood courtesy switch is built into the hood lock. This switch turns on when the engine hood is opened and turns off when the engine hood is closed.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (ENGINE HOOD COURTESY SWITCH)

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Data List.

e. Read the Data List according to the display on the intelligent tester.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Hood Courtesy Switch | Engine hood courtesy switch / ON or OFF | ON: Engine hood open<br>OFF: Engine hood closed | - |

**OK:**

**ON (engine hood is open) appears on screen.**

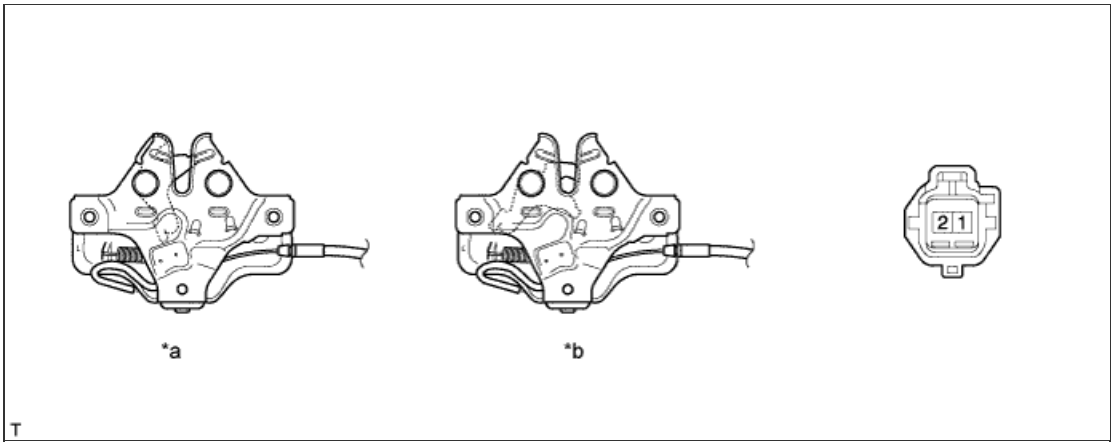
NG → Go to step 2

OK

### REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)

### 2.INSPECT HOOD LOCK ASSEMBLY (ENGINE HOOD COURTESY SWITCH)

a. for LHD:




**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Unlock Position | *b | Lock Position |

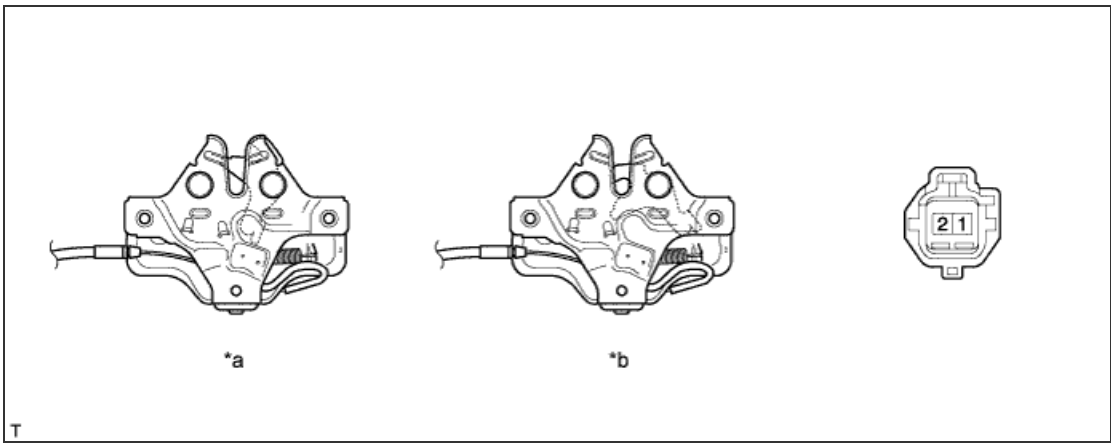
i. Remove the hood lock (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Unlock position | 10 kΩ or higher |
| 1 - 2 | Lock position | Below 1 Ω |

b. for RHD:




**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Unlock Position | *b | Lock Position |

i. Remove the hood lock (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Unlock position | 10 kΩ or higher |
| 1 - 2 | Lock position | Below 1 Ω |

NG → REPLACE HOOD LOCK ASSEMBLY (ENGINE HOOD COURTESY SWITCH)

OK

3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - HOOD LOCK AND BODY GROUND)

a. Disconnect the E30 main body ECU connector.

b. Disconnect the E1 hood courtesy switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E1-16 (HCTY) - A8-2 | Always | Below 1 Ω |
| A8-1 - Body ground | Always | Below 1 Ω |
| E1-16 (HCTY) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

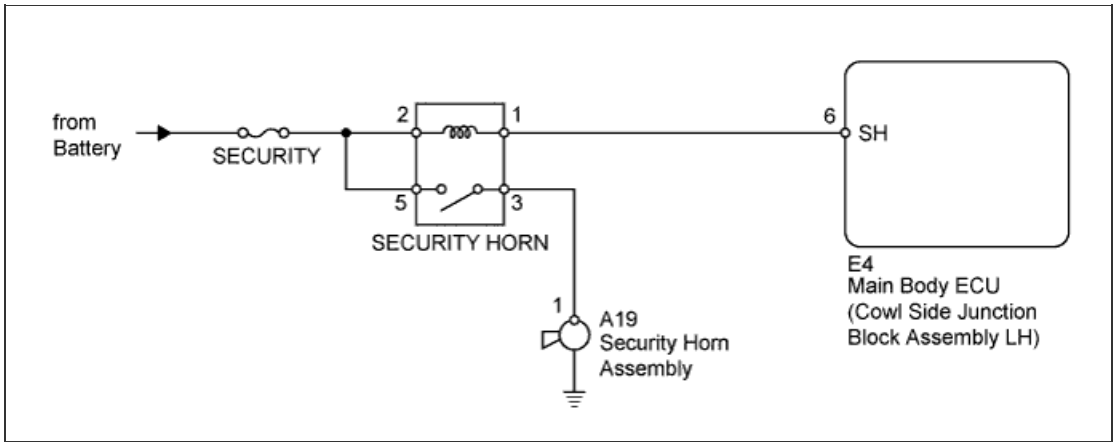
REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)

**for Preparation** Click here

## DESCRIPTION

When the theft deterrent system is switched from the armed state to the alarm sounding state, the main body ECU (cowl side junction block assembly LH) transmits a signal to cause the security horn to sound at intervals of 0.4 seconds.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Main Body**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Horn | Security horn | ON / OFF | - |

**OK:**

**The security horn assembly sounds and stops correctly when operated through the intelligent tester.**

**NG** → Go to step 2

**OK**

### REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)

### 2.INSPECT SECURITY HORN ASSEMBLY

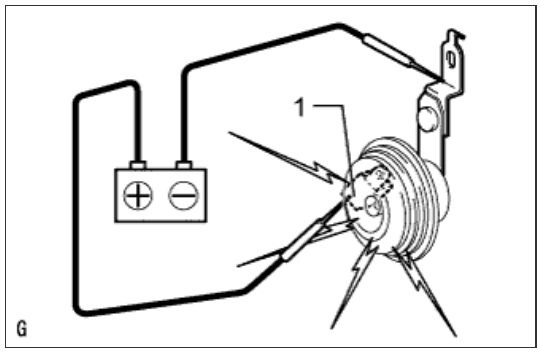
a. Remove the security horn assembly (Click here).

b. Check the operation of the security horn assembly.

**Standard:**

| Measurement Condition | Specified Condition |
|---|---|

| | |
|---|---|
| Battery positive (+) → Terminal 1 | Horn sounds |
| Battery negative (-) → Horn body | |




NG → REPLACE SECURITY HORN ASSEMBLY (Click here)

OK

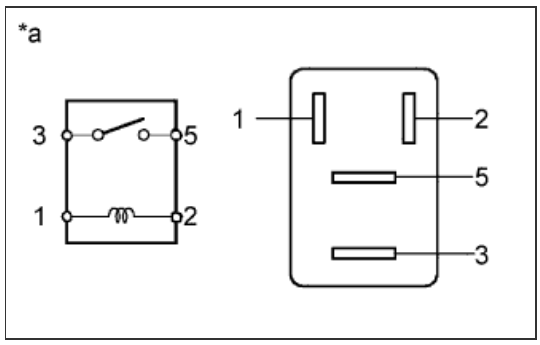
## 3.INSPECT SECURITY HORN RELAY

a. Remove the SECURITY HORN relay from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Specified Condition |
|---|---|
| 3 - 5 | 10 kΩ or higher (when battery voltage is not applied between terminals 1 and 2) |
| 3 - 5 | Below 1 Ω (when battery voltage is applied between terminals 1 and 2) |




**Text in Illustration**

| | |
|---|---|
| *a | SECURITY HORN Relay |

NG → REPLACE SECURITY HORN RELAY

OK

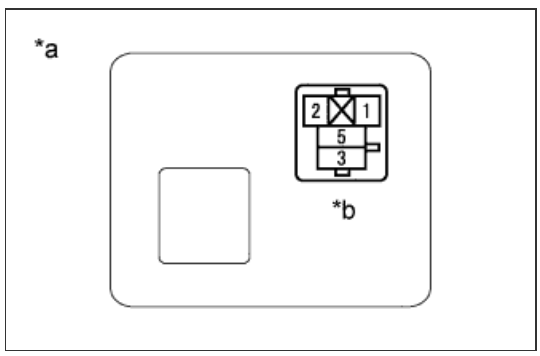
## 4.CHECK HARNESS AND CONNECTOR (BATTERY - SECURITY HORN RELAY)

a. Remove the SECURITY HORN relay from the engine room relay block.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Engine room relay block and junction block assembly SECURITY HORN relay terminal 2 - Body ground | Always | 11 to 14 V |
| Engine room relay block and junction block assembly SECURITY HORN relay terminal 5 - Body ground | Always | 11 to 14 V |



**Text in Illustration**

| | |
|---|---|
| *a | Engine Room Relay Block |
| *b | SECURITY HORN Relay |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**5.CHECK HARNESS AND CONNECTOR (SECURITY HORN RELAY - SECURITY HORN ASSEMBLY)**

a. Remove the SECURITY HORN relay from the engine room relay block.

b. Disconnect the A19 security horn assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Engine room relay block and junction block assembly SECURITY HORN relay terminal 3 - A19-1 | Always | Below 1 Ω |
| Engine room relay block and junction block assembly SECURITY HORN relay terminal 3 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**6.CHECK HARNESS AND CONNECTOR (SECURITY HORN RELAY - MAIN BODY ECU)**

a. Remove the SECURITY HORN relay from the engine room relay block.

b. Disconnect the E4 main body ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Engine room relay block and junction block assembly SECURITY HORN relay terminal 2 - E4-6 (SH) | Always | Below 1 Ω |
| Engine room relay block and junction block assembly SECURITY HORN relay terminal 2 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

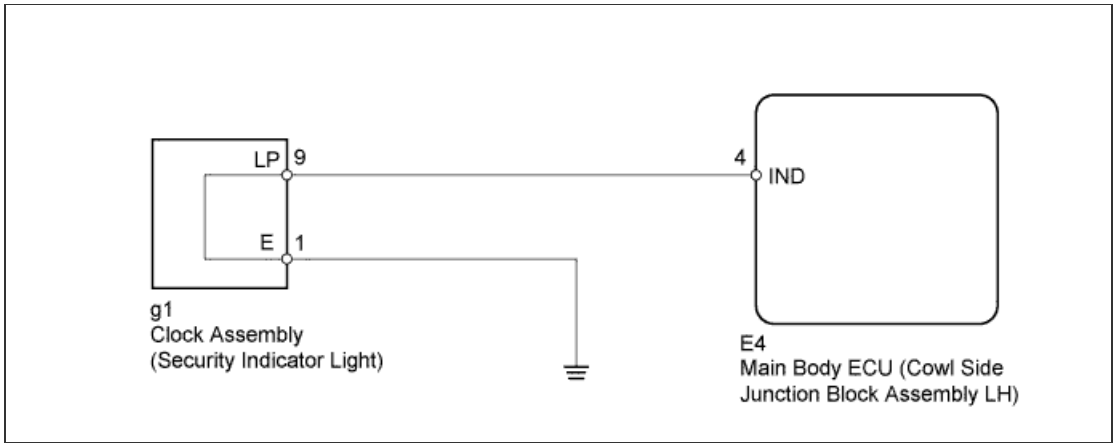
REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)

**for Preparation** Click here

## DESCRIPTION

When the theft deterrent system is in the disarmed state, the security indicator will flash continuously if the immobiliser system is set, or not illuminate if the immobiliser system is not set.
When the theft deterrent system is in the armed state, the immobiliser system is automatically set and the security indicator will flash continuously.
When the theft deterrent system is in the arming preparation state or alarm sounding state, the main body ECU (cowl side junction block assembly LH) causes the security indicator to be illuminated.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SECURITY INDICATOR)

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Main Body / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Main Body**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Security Indicator | Security indicator | ON / OFF | - |

**OK:**
**Security indicator illuminates.**

NG → Go to step 2

OK

### REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)

### 2.CHECK HARNESS AND CONNECTOR (CLOCK - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the g1 clock assembly connector.

b. Disconnect the E4 main body ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| | | Specified |
|---|---|---|

| Tester Connection | Condition | Condition |
|---|---|---|
| g1-9 (LP) - E4-4 (IND) | Always | Below 1 Ω |
| g1-1 (E) - Body ground | Always | Below 1 Ω |
| g1-9 (LP) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**3.REPLACE CLOCK ASSEMBLY (SECURITY INDICATOR LIGHT)**

a. Temporarily replace the clock assembly (security indicator light) with a new or normally functioning one ( Click here).

b. When the theft deterrent system is in the arming preparation state, check that the security indicator light is illuminated.

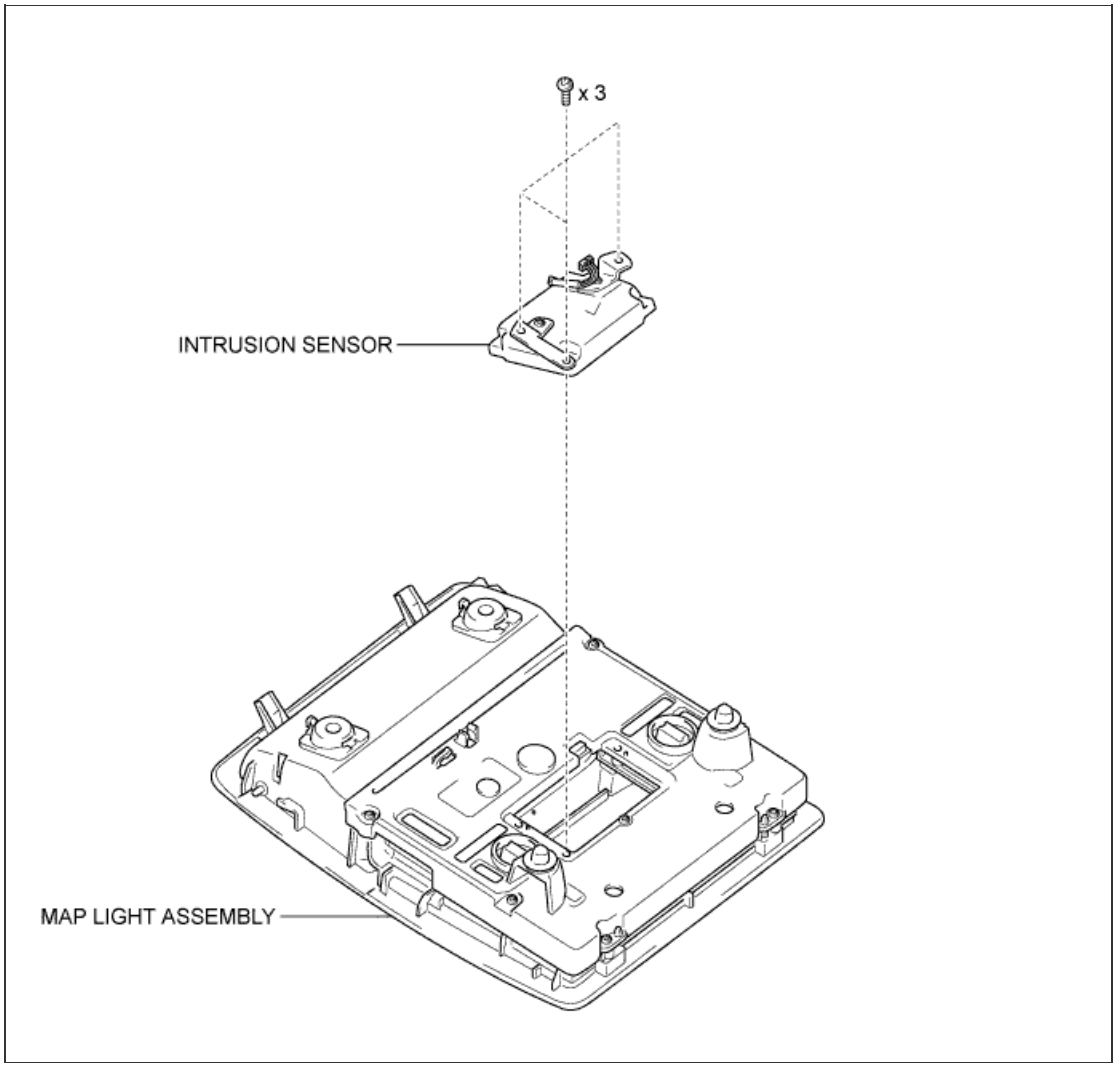
**OK:**
**Security indicator light is illuminated.**

NG → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK ASSEMBLY LH)

OK

**END (CLOCK ASSEMBLY WAS DEFECTIVE)**

**for Preparation** Click here



**for Preparation** Click here

## 1. REMOVE MAP LIGHT ASSEMBLY

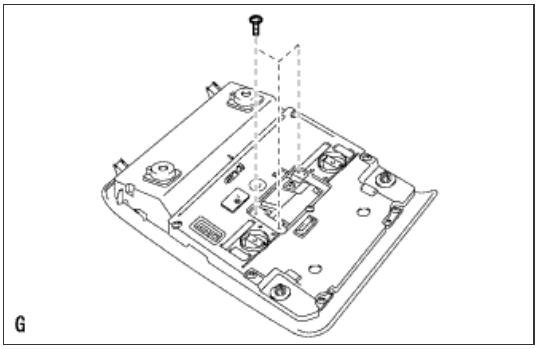
a. w/ Sliding Roof:
Remove the map light (Click here).

b. w/o Sliding Roof:
Remove the map light (Click here).

## 2. REMOVE INTRUSION SENSOR

a. Disconnect the connectors.

b. Remove the 3 screws and sensor.

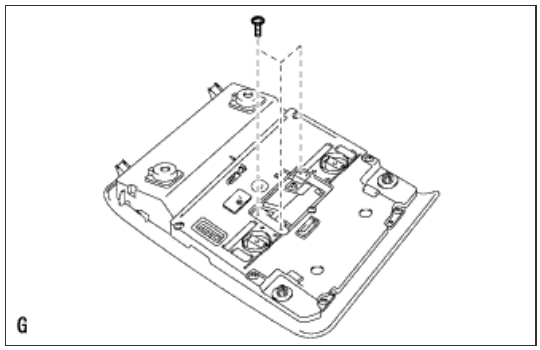


**for Preparation** Click here

## 1. INSTALL INTRUSION SENSOR

a. Install the sensor with the 3 screws.

b. Connect the connectors.

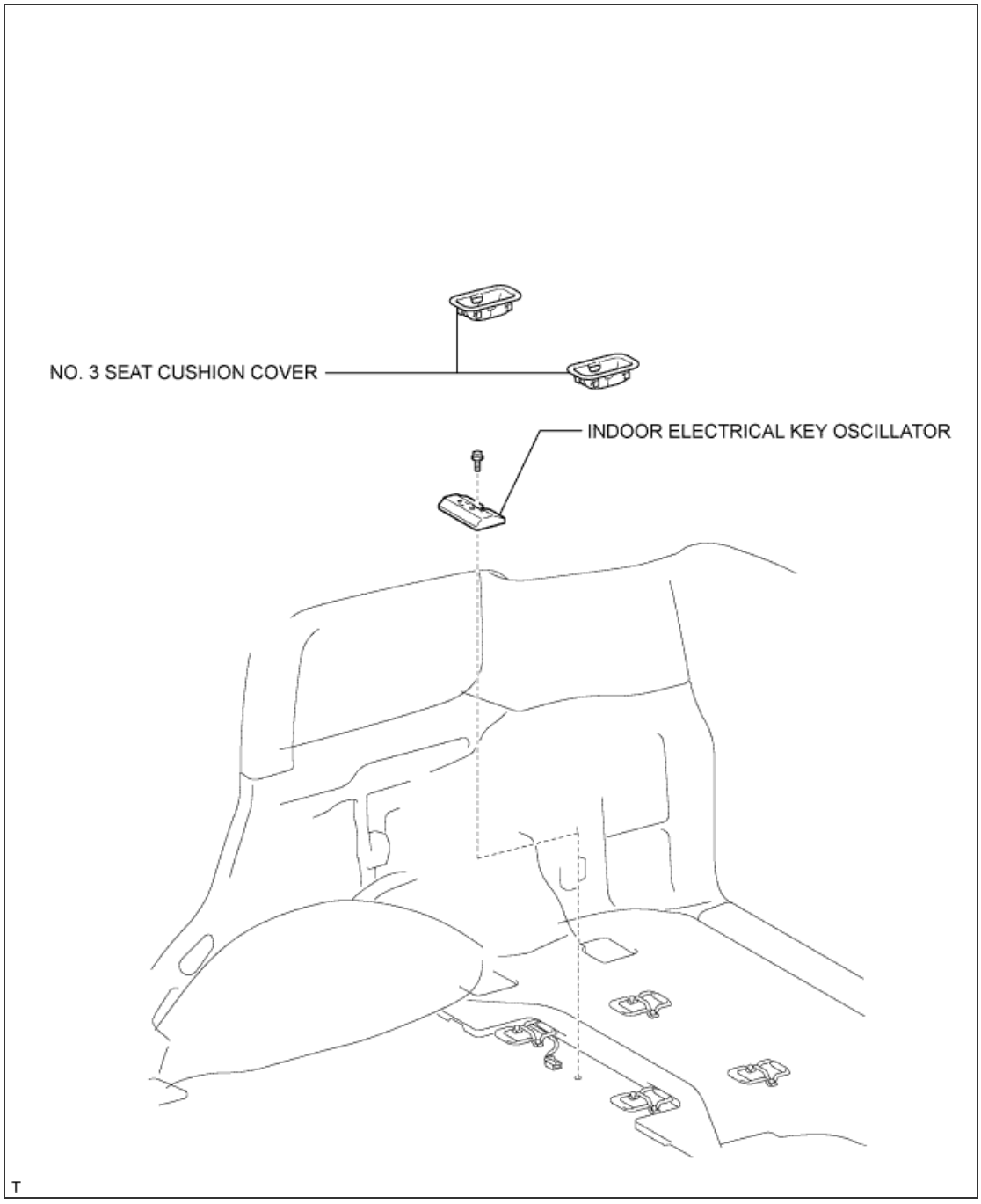



## 2. INSTALL MAP LIGHT ASSEMBLY

a. w/ Sliding Roof:
Install the map light (Click here).

b. w/o Sliding Roof:
Install the map light (Click here).

**for Preparation** Click here



**for Preparation** Click here

### 1. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (except Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

### 2. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly RH ( Click here).

### 3. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (for Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

### 4. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly RH ( Click here).

### 5. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

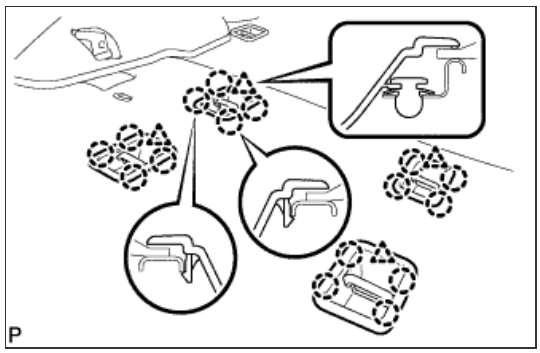
a. Remove the front quarter trim panel assembly LH ( Click here).

### 6. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. Remove the front quarter trim panel assembly RH ( Click here).

### 7. REMOVE NO. 3 SEAT CUSHION COVER

a. Detach the 4 clips and 16 claws, and then remove the 4 seat cushion covers.

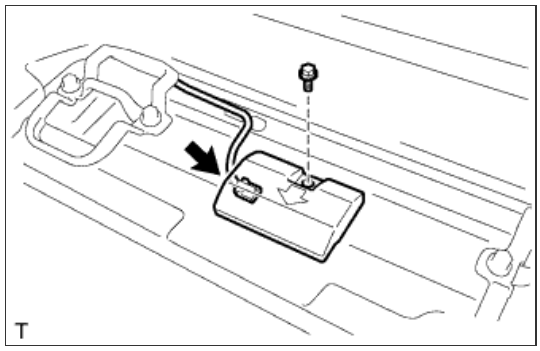



### 8. REMOVE INDOOR ELECTRICAL KEY OSCILLATOR

a. Fold back the rear floor carpet assembly.

b. Disconnect the connector.

c. Remove the bolt and electrical key oscillator.

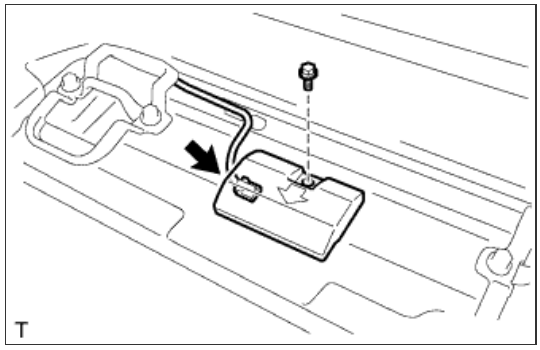

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**for Preparation** Click here

### 1. INSTALL INDOOR ELECTRICAL KEY OSCILLATOR

a. Install the electrical key oscillator with the bolt.

b. Connect the connector.




### 2. INSTALL NO. 3 SEAT CUSHION COVER

a. Attach the 16 claws and 4 clips to install the 4 seat cushion covers.

### 3. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. Install the front quarter trim panel assembly LH ( Click here).

### 4. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. Install the front quarter trim panel assembly RH ( Click here).

### 5. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (for Face to Face Seat Type)

a. Install the rear No. 2 seat assembly LH ( Click here).

### 6. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

a. Install the rear No. 2 seat assembly RH ( Click here).

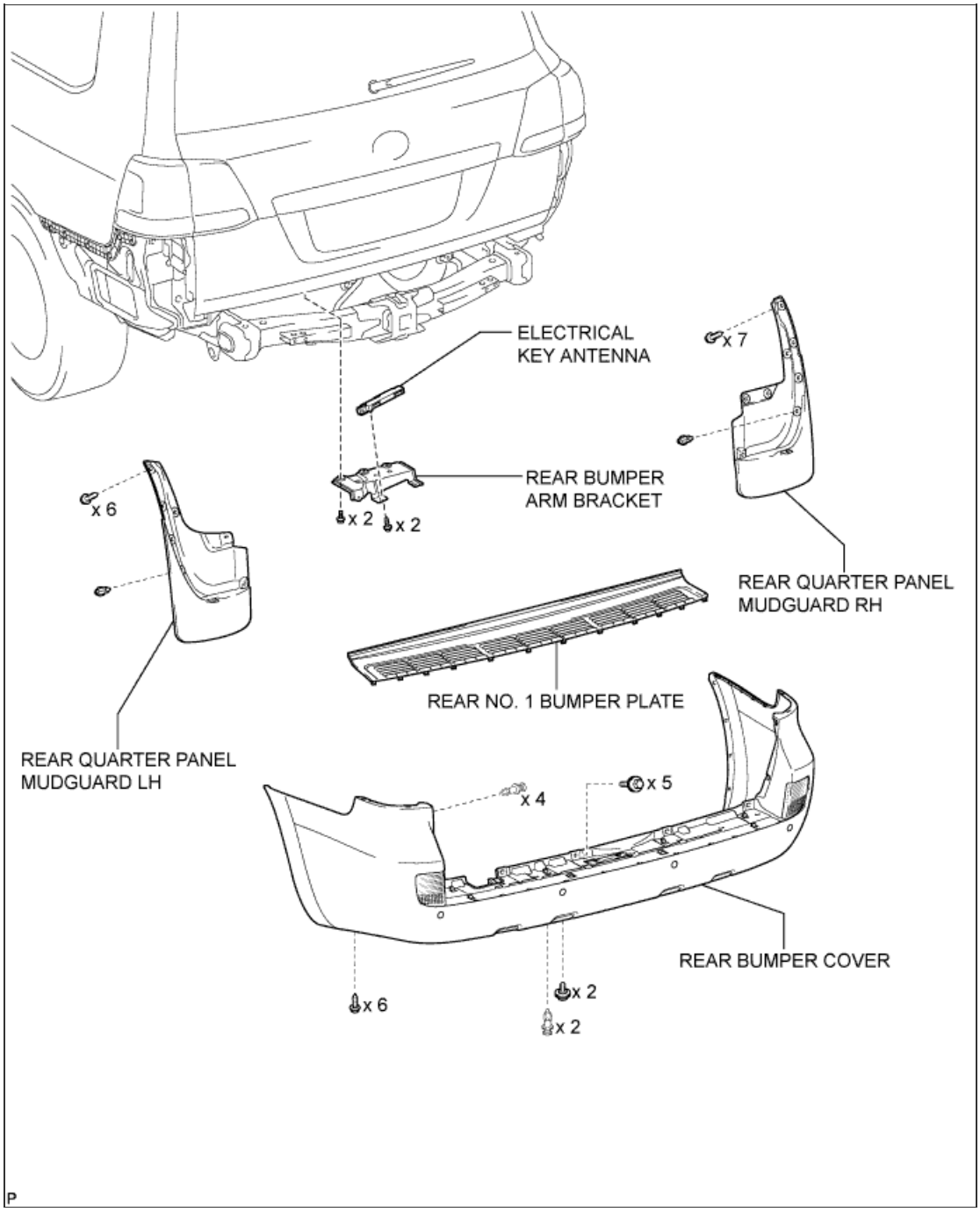
### 7. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (except Face to Face Seat Type)

a. Install the rear No. 2 seat assembly LH ( Click here).

### 8. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

a. Install the rear No. 2 seat assembly RH ( Click here).

**for Preparation** Click here



**for Preparation** Click here

### 1. REMOVE PINTLE HOOK ASSEMBLY (w/ Pintle Hook)

a. Remove the pintle hook assembly (Click here).

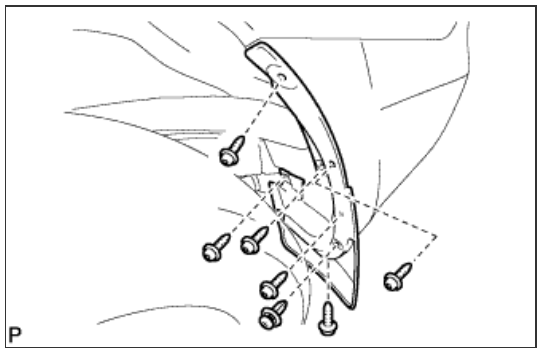
### 2. REMOVE SPARE WHEEL CARRIER SUB-ASSEMBLY (w/ Tire Carrier)

a. Remove the spare wheel carrier sub-assembly (Click here).

### 3. REMOVE REAR QUARTER PANEL MUDGUARD LH

a. Remove the clip.

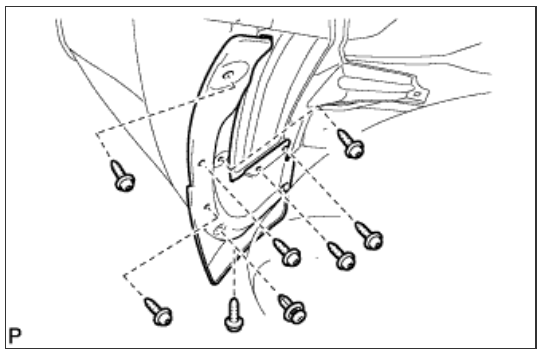
b. Using a T30 "TORX" socket, remove the 6 screws and mudguard.




### 4. REMOVE REAR QUARTER PANEL MUDGUARD RH

a. Remove the clip.

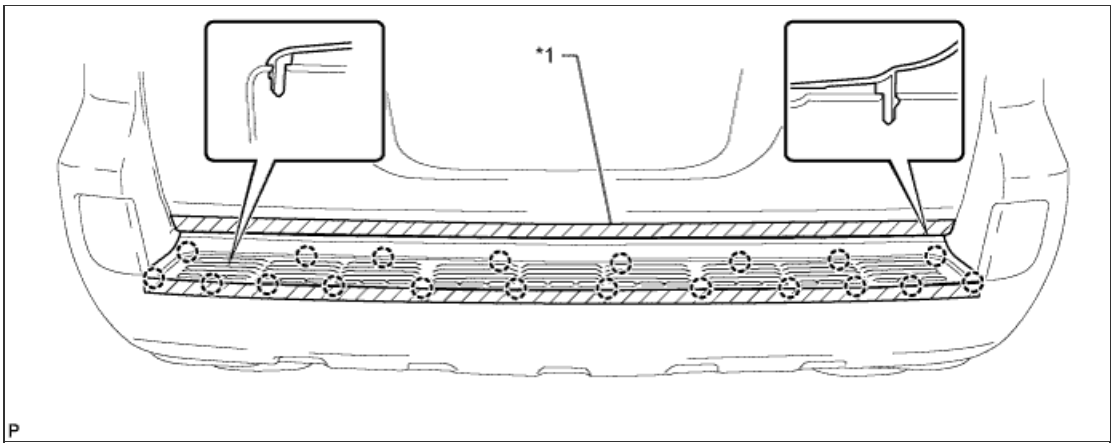
b. Using a T30 "TORX" socket, remove the 7 screws and mudguard.




### 5. REMOVE REAR NO. 1 BUMPER PLATE

a. Put protective tape around the rear No. 1 bumper plate.

b. Detach the 20 claws and remove the rear No. 1 bumper plate.




**Text in Illustration**

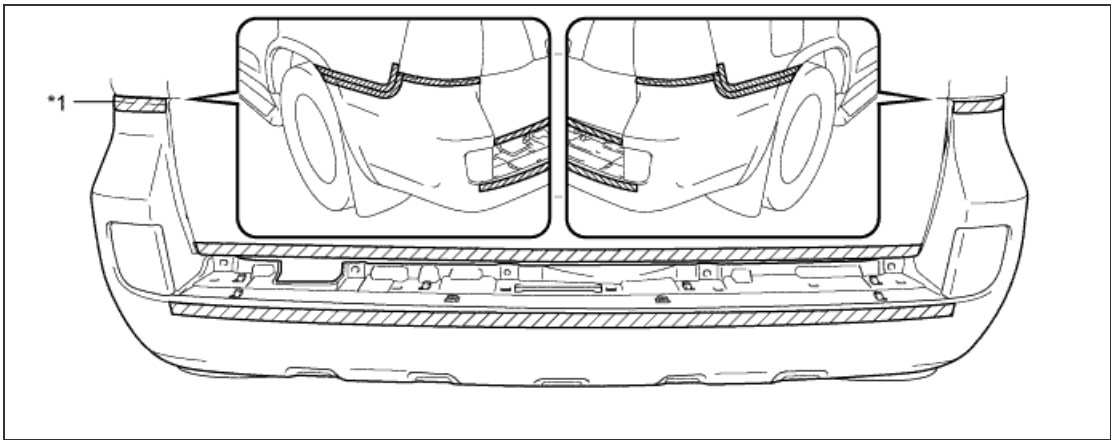
| | | | |
|---|---|---|---|
| *1 | Protective Tape | - | - |

## 6. REMOVE REAR BUMPER COVER

**HINT:**

For the rear bumper cover with tire carrier, use the procedures described below.

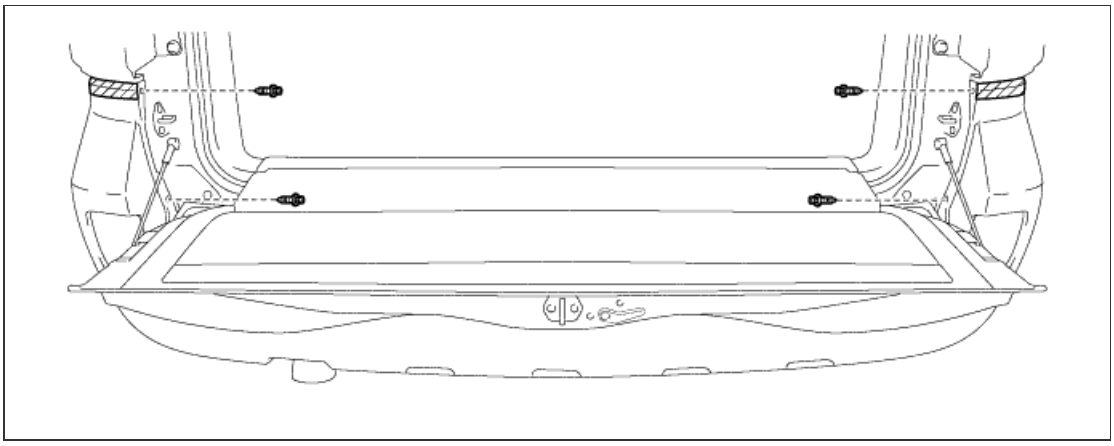
a. Put protective tape around the rear bumper cover.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Protective Tape | - | - |

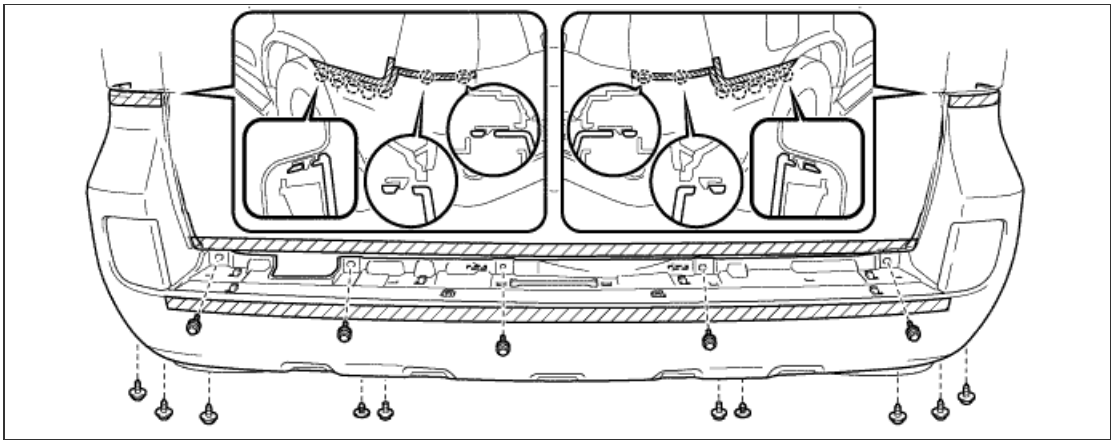
b. Open the tail gate and remove the 4 clips.



c. Close the tail gate.

d. Remove the 7 bolts, 6 screws and 2 clips.

e. Detach the 14 claws and remove the rear bumper cover.

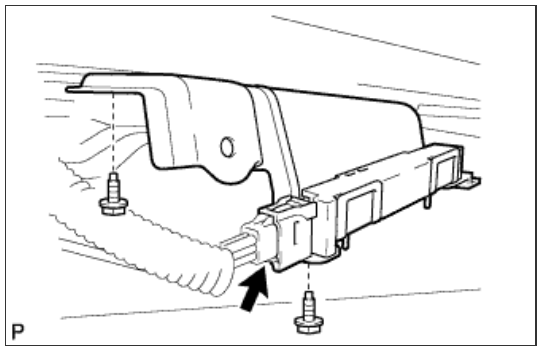


f. w/ TOYOTA Parking Assist-sensor System or w/ Rear Fog Light:
Disconnect the No. 2 frame wire connector.

## 7. REMOVE REAR BUMPER ARM BRACKET LH

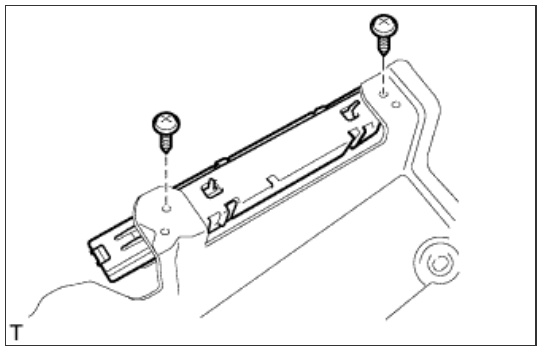
a. Disconnect the connector.

b. Remove the 2 bolts and rear bumper arm bracket LH.




## 8. REMOVE ELECTRICAL KEY ANTENNA

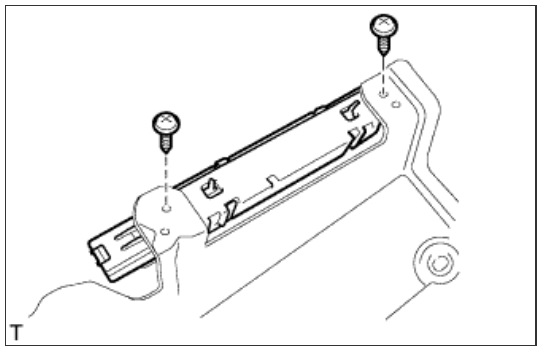
a. Remove the 2 screws and antenna.


T

**for Preparation** Click here

## 1. INSTALL ELECTRICAL KEY ANTENNA

a. Install the antenna with the 2 screws.




## 2. INSTALL REAR BUMPER ARM BRACKET LH

a. Install the rear bumper arm bracket LH with the 2 bolts.

b. Connect the connector.

## 3. INSTALL REAR BUMPER COVER

**HINT:**

For the rear bumper cover with tire carrier, use the procedures described below.

a. w/ TOYOTA Parking Assist-sensor System or w/ Rear Fog Light:
Connect the No. 2 frame wire connector.

b. Attach the 14 claws to install the rear bumper cover.

c. Install the 7 bolts, 6 screws and 2 clips.

d. Open the tail gate and install the 4 clips.

e. Close the tail gate.

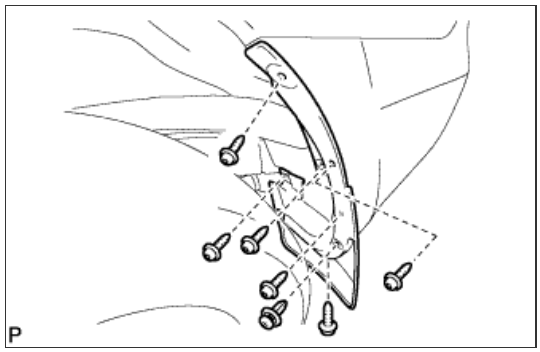
## 4. INSTALL REAR NO. 1 BUMPER PLATE

a. Attach the 20 claws to install the rear No. 1 bumper plate.

## 5. INSTALL REAR QUARTER PANEL MUDGUARD LH

a. Install the mudguard with the clip.

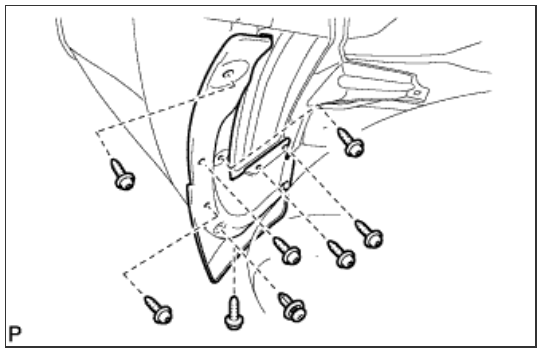
b. Using a T30 "TORX" socket, install the 6 screws.




## 6. INSTALL REAR QUARTER PANEL MUDGUARD RH

a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 7 screws.



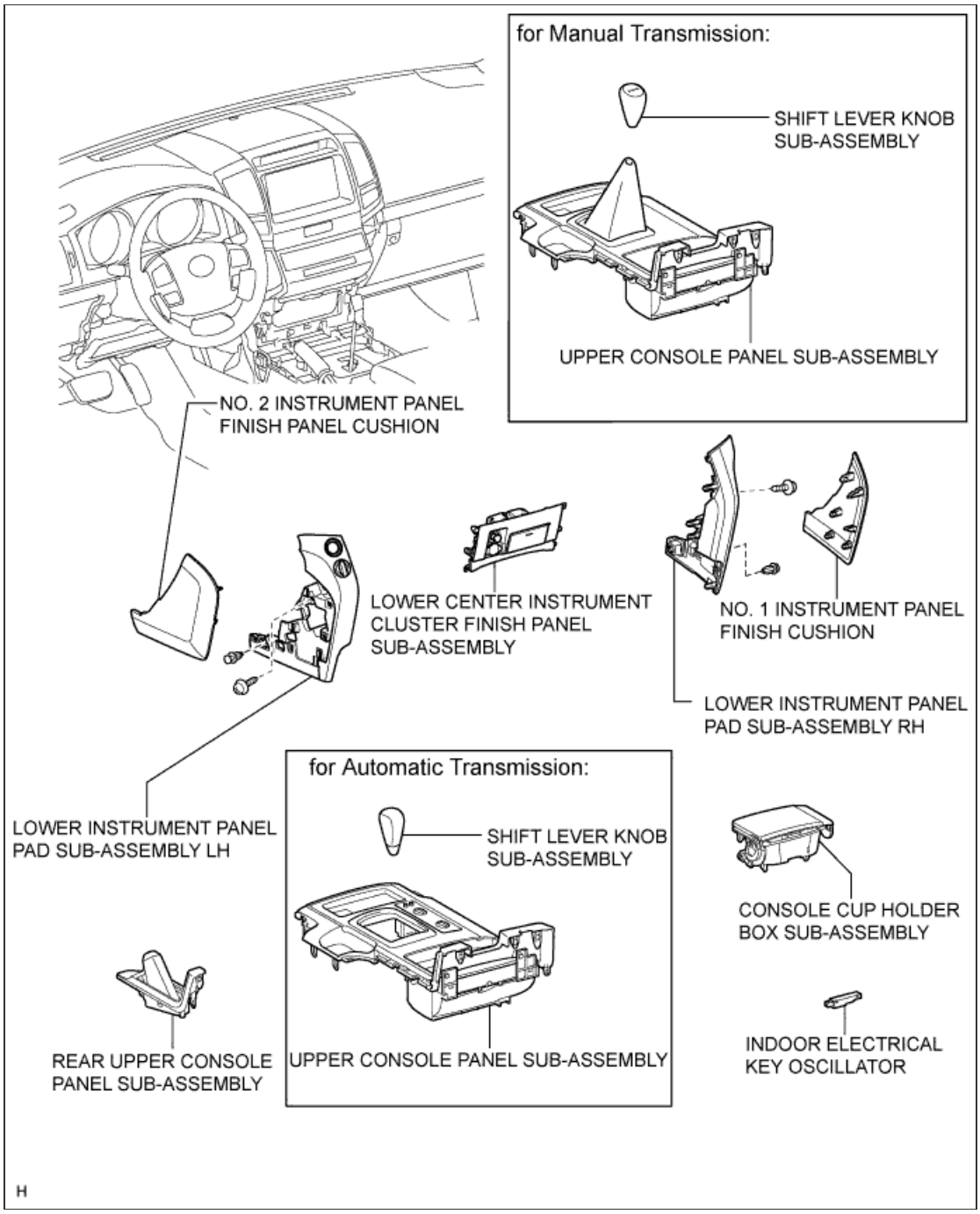

## 7. INSTALL SPARE WHEEL CARRIER SUB-ASSEMBLY (w/ Tire Carrier)

a. Install the spare wheel carrier sub-assembly (Click here).

## 8. INSTALL PINTLE HOOK ASSEMBLY (w/ Pintle Hook)

a. Install the pintle hook assembly (Click here).

**for Preparation** Click here



**for Preparation** Click here

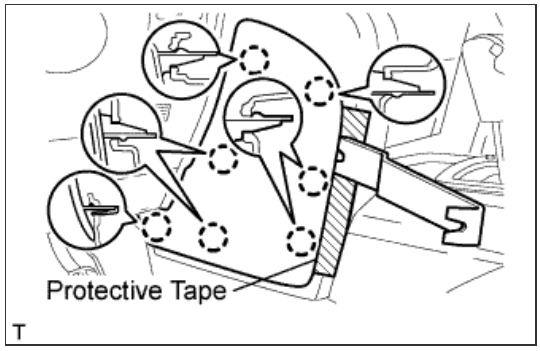
**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.



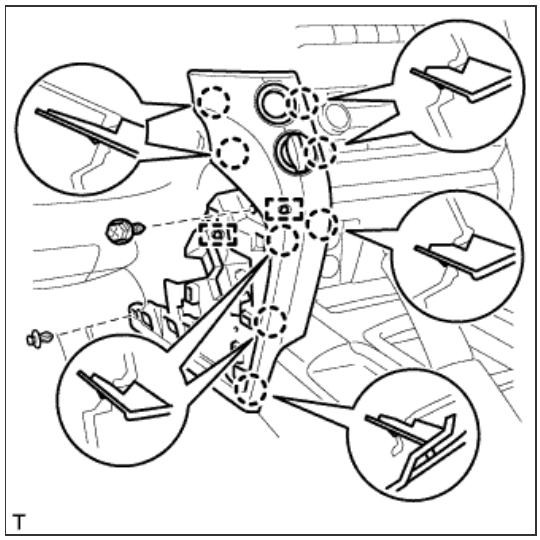

## 2. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip.

b. Remove the screw.

c. Detach the 8 claws.

d. Remove the panel pad and disconnect the connectors and 2 clamps.




## 3. REMOVE NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.

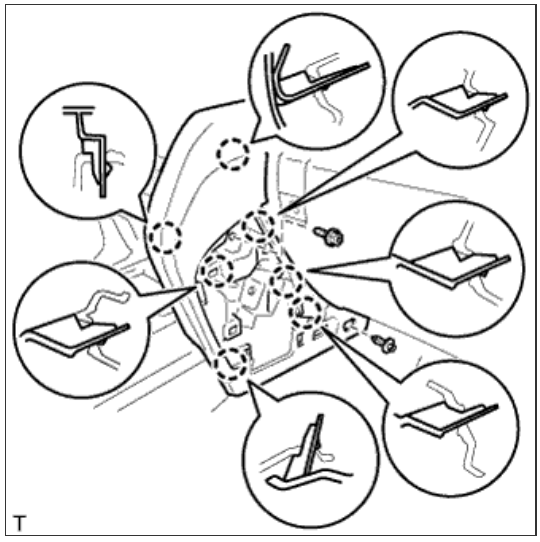



## 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip.

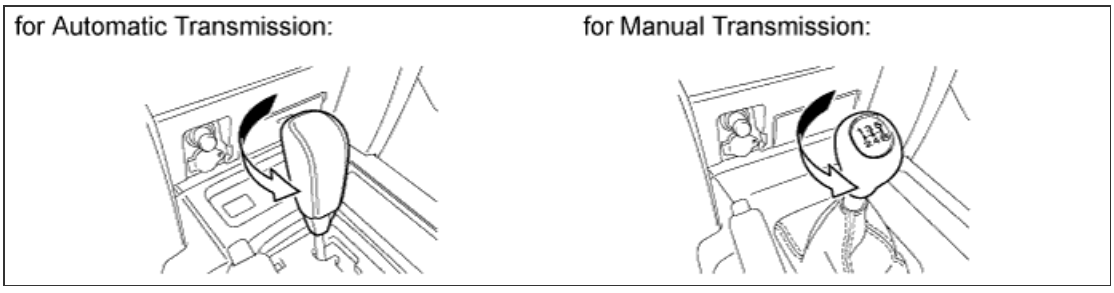
b. Remove the screw.

c. Detach the 7 claws and remove the panel.




## 5. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY

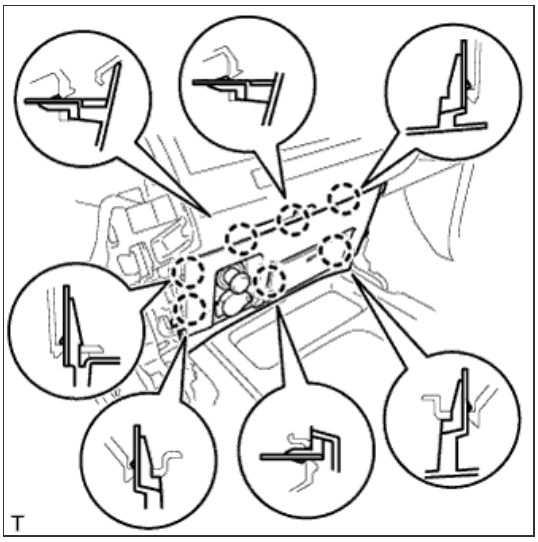
a. Twist the shift lever knob in the direction indicated by the arrow and remove it.




## 6. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

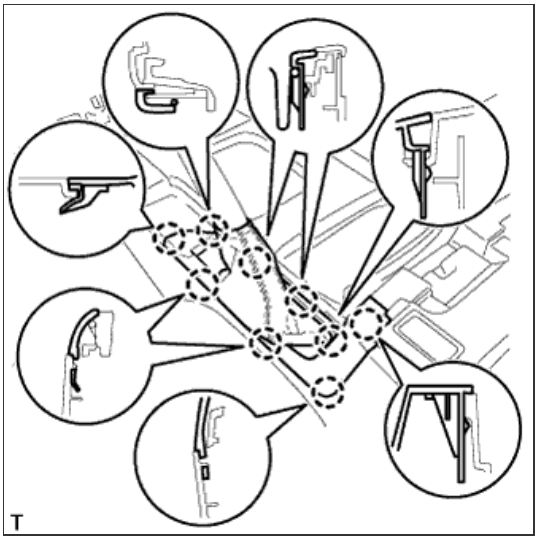
a. Detach the 7 claws.

b. Disconnect the connectors and remove the panel.



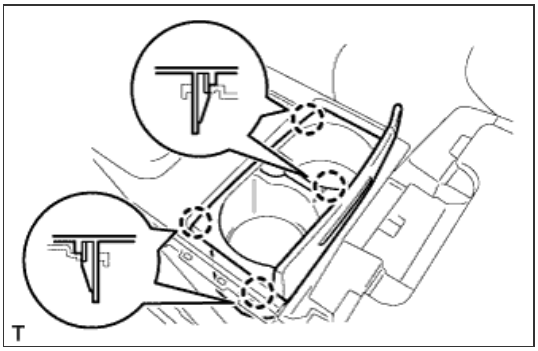

## 7. REMOVE REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 9 claws and remove the panel.




## 8. REMOVE CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

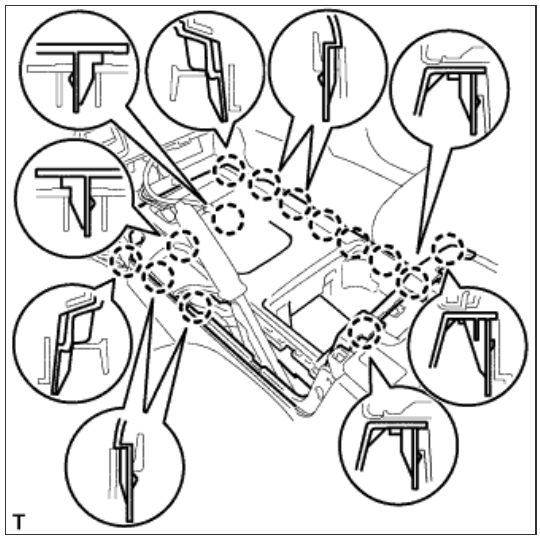
a. Detach the 4 claws and remove the box.




## 9. REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 14 claws.

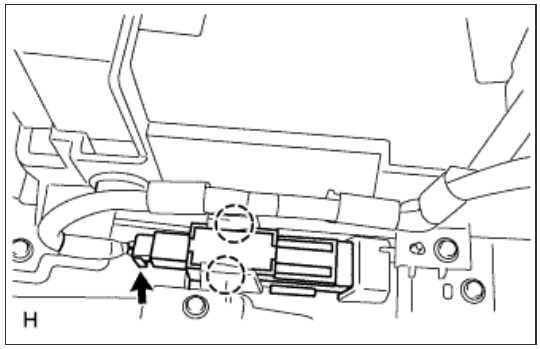
b. Disconnect the connectors and remove the console panel.




## 10. REMOVE INDOOR ELECTRICAL KEY OSCILLATOR

a. Disconnect the connector.

b. Detach the 2 claws and remove the electrical key oscillator.



**for Preparation** Click here

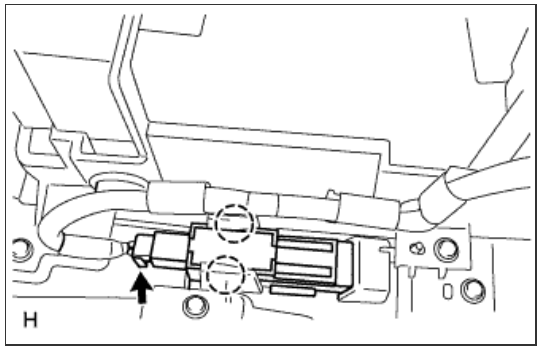
**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. INSTALL INDOOR ELECTRICAL KEY OSCILLATOR

a. Connect the connector.

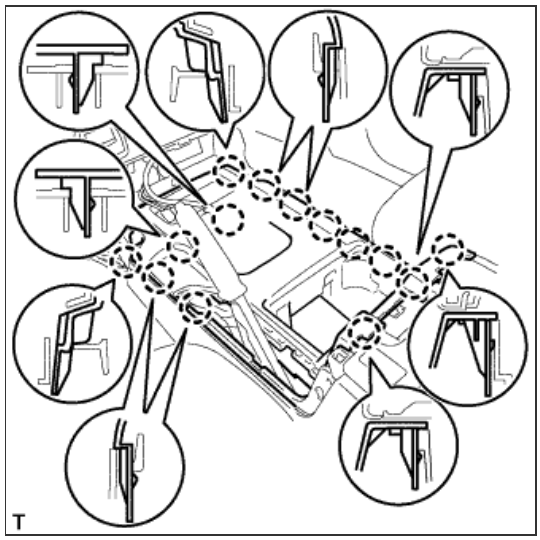
b. Attach the 2 claws to install the electrical key oscillator.




## 2. INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY

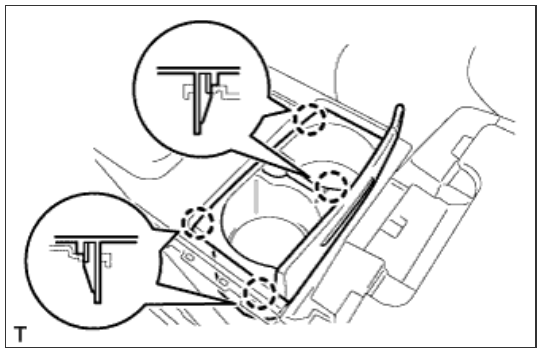
a. Connect the connectors.

b. Attach the 14 claws to install the console panel.



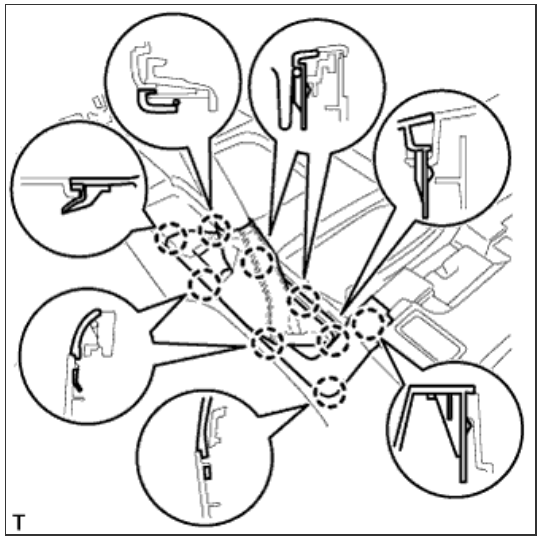

## 3. INSTALL CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

a. Attach the 4 claws to install the box.




## 4. INSTALL REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

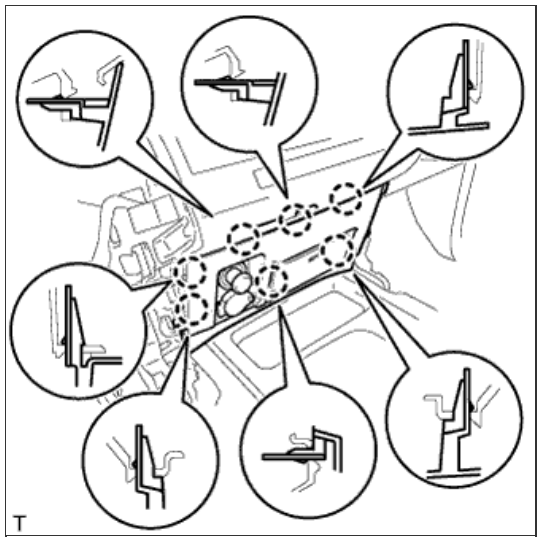
a. Attach the 9 claws to install the panel.




## 5. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

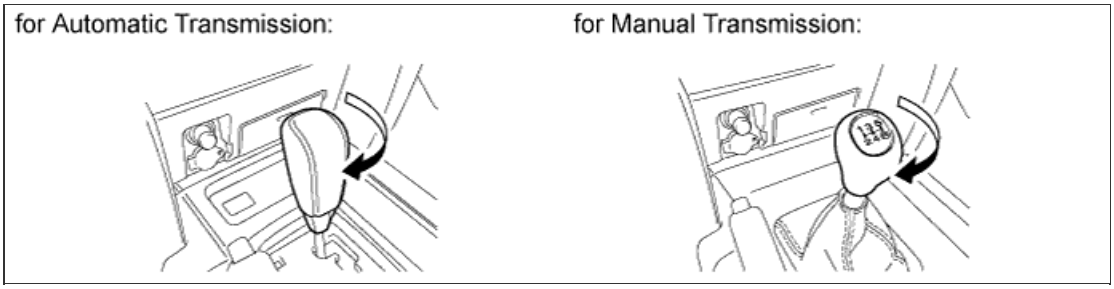
a. Connect the connectors.

b. Attach the 7 claws to install the panel.




## 6. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY

a. Install the shift lever knob and twist it in the direction indicated by the arrow.

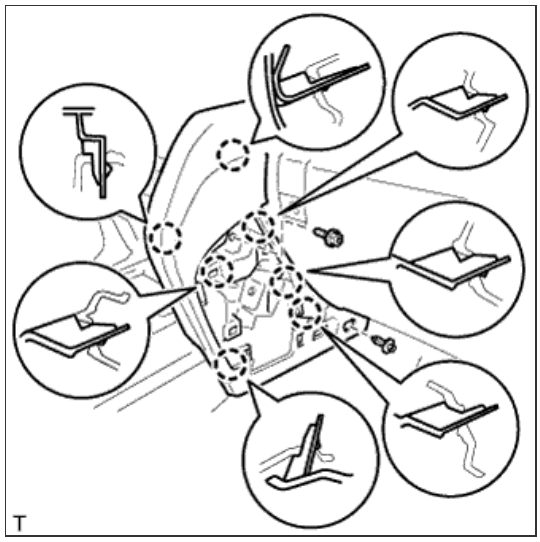



## 7. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 7 claws to install the panel pad.

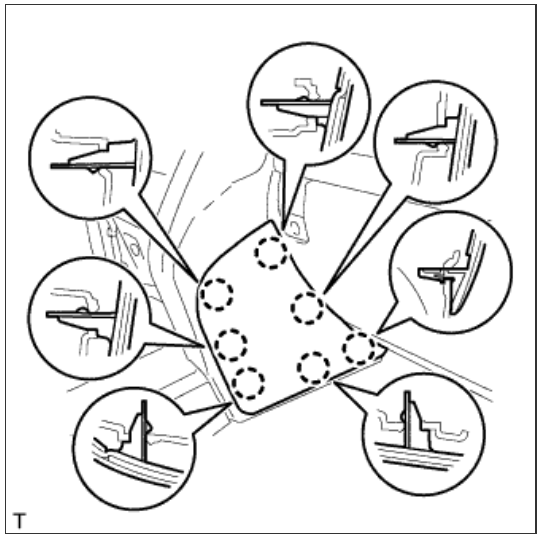
b. Install the screw.

c. Install the clip.




## 8. INSTALL NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Attach the 7 claws to install the panel cushion.



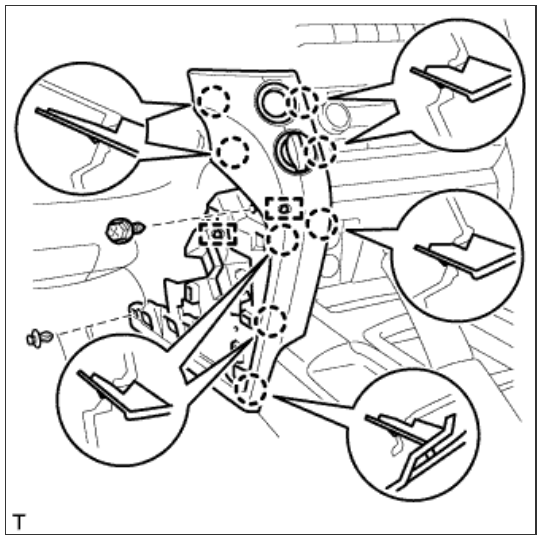

## 9. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the panel pad.

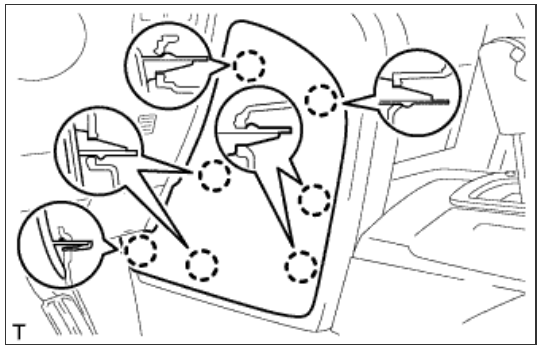
c. Install the screw.

d. Install the clip.

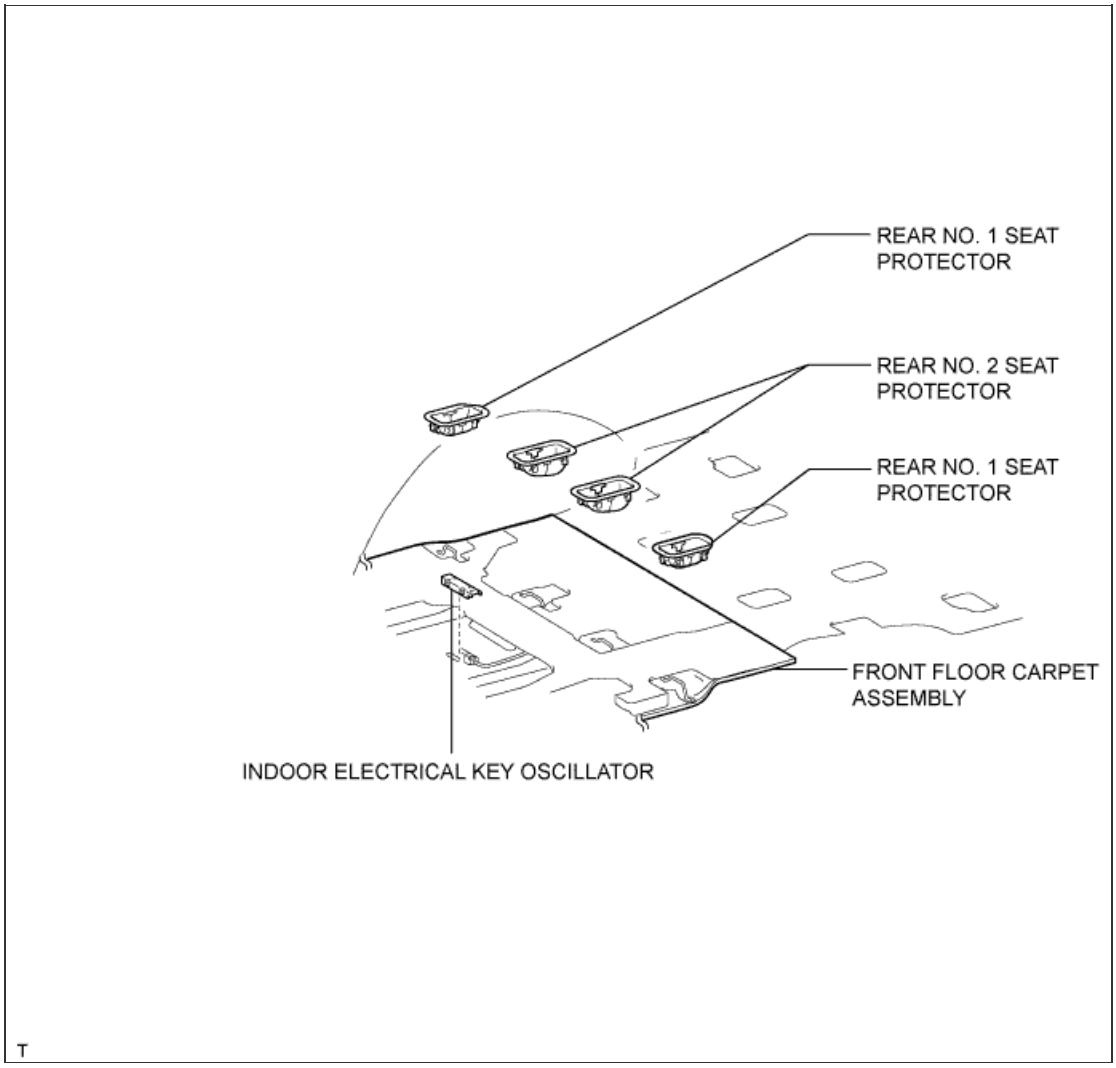



## 10. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the panel cushion.



**for Preparation** Click here



# ELECTRICAL KEY OSCILLATOR (for Rear Floor) > REMOVAL

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (except Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

## 4. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly RH ( Click here).

## 5. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (for Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

## 6. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly RH ( Click here).

## 7. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

a. Remove the rear No. 1 seat assembly LH ( Click here).

## 8. REMOVE REAR NO. 1 SEAT ASSEMBLY RH

a. Remove the rear No. 1 seat assembly RH ( Click here).

## 9. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

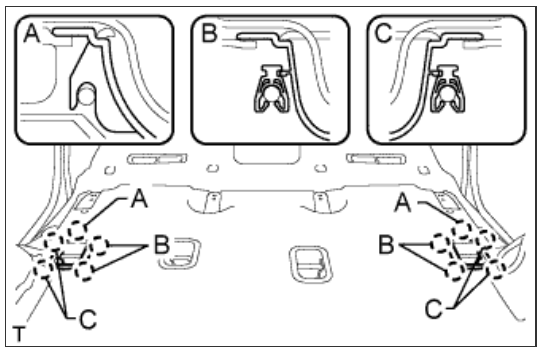
a. Remove the front quarter trim panel assembly LH ( Click here).

## 10. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. Remove the front quarter trim panel assembly LH ( Click here).

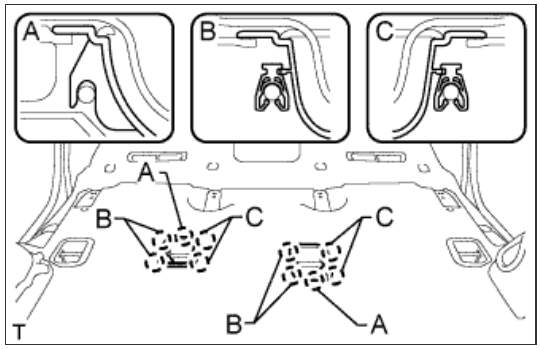
## 11. REMOVE REAR NO. 1 SEAT PROTECTOR

a. Detach the 10 claws and remove the 2 seat protectors.




## 12. REMOVE REAR NO. 2 SEAT PROTECTOR

a. Detach the 10 claws and remove the 2 seat protectors.

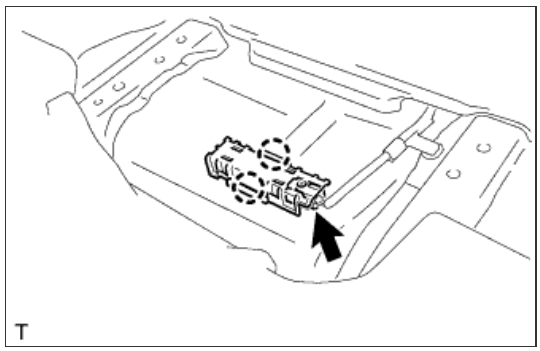



## 13. REMOVE INDOOR ELECTRICAL KEY OSCILLATOR

a. Fold back the front floor carpet assembly.

b. Disconnect the connector.

c. Detach the 2 claws and remove the electrical key oscillator.



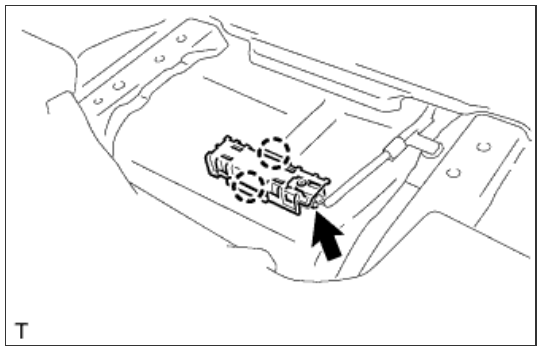
**for Preparation** Click here

## 1. INSTALL INDOOR ELECTRICAL KEY OSCILLATOR

a. Attach the 2 claws to install the electrical key oscillator.

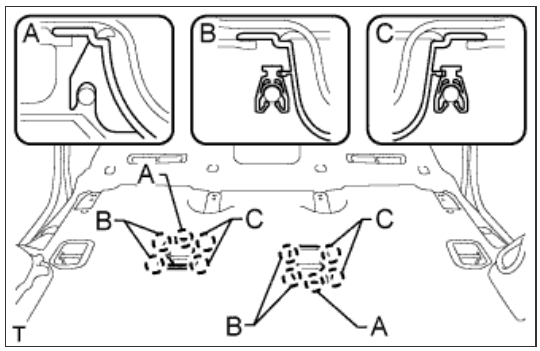
b. Connect the connector.

c. Install the front floor carpet assembly.



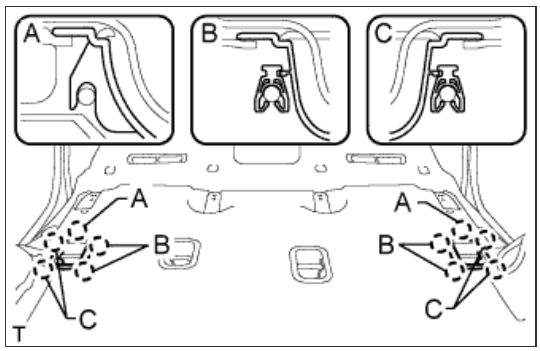

## 2. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Attach the 10 claws to install the 2 seat protectors.




## 3. INSTALL REAR NO. 1 SEAT PROTECTOR

a. Attach the 10 claws to install the 2 seat protectors.




## 4. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. Install the front quarter trim panel assembly LH ( Click here).

## 5. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. Install the front quarter trim panel assembly RH ( Click here).

### 6. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

a. Install the rear No. 1 seat assembly LH ( Click here).

### 7. INSTALL REAR NO. 1 SEAT ASSEMBLY RH

a. Install the rear No. 1 seat assembly RH ( Click here).

### 8. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (for Face to Face Seat Type)

a. Install the rear No. 2seat assembly LH ( Click here).

### 9. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

a. Install the rear No. 2seat assembly RH ( Click here).

### 10. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (except Face to Face Seat Type)

a. Install the rear No. 2 seat assembly LH ( Click here).

### 11. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

a. Install the rear No. 2 seat assembly RH ( Click here).

### 12. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

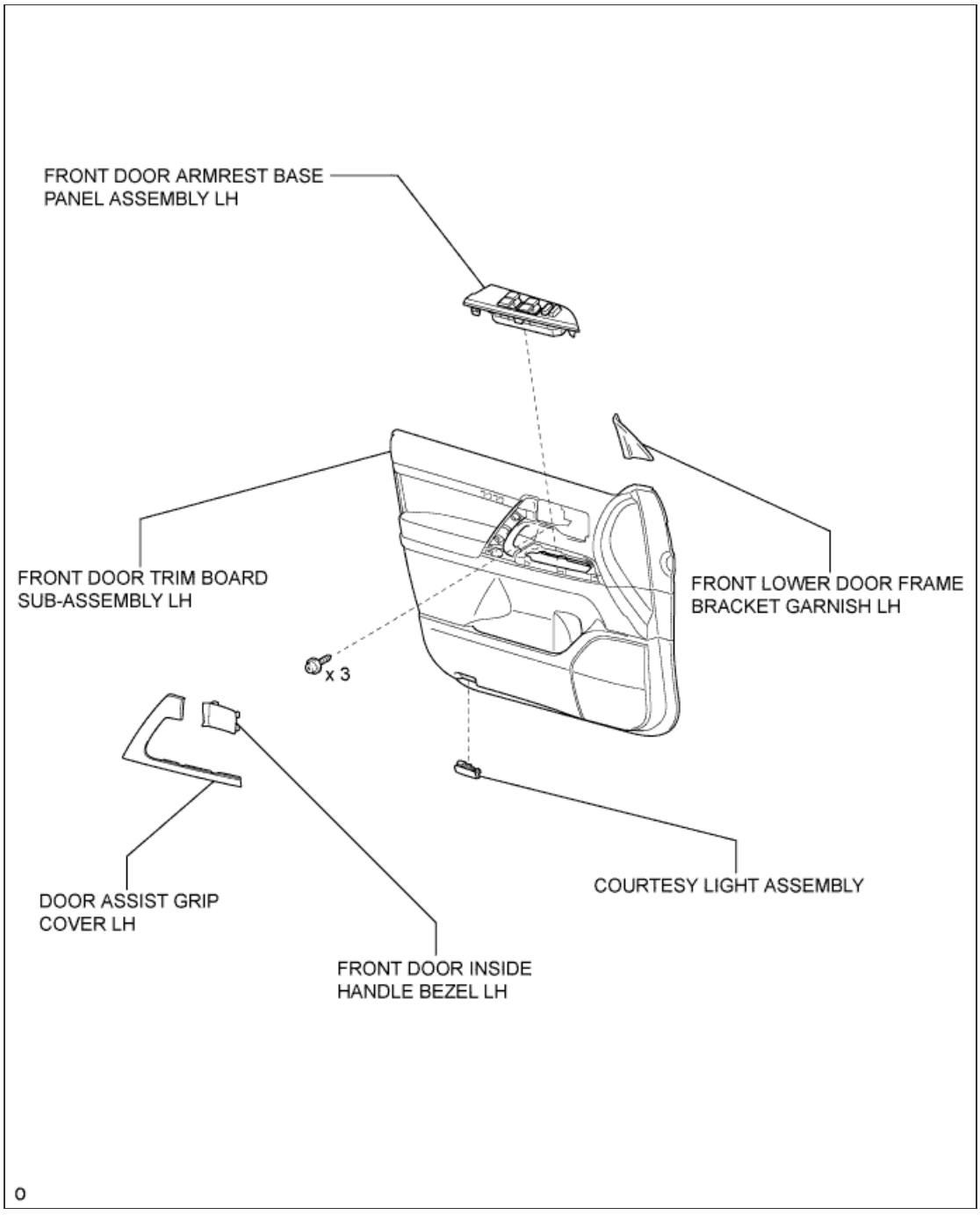
**NOTICE:**

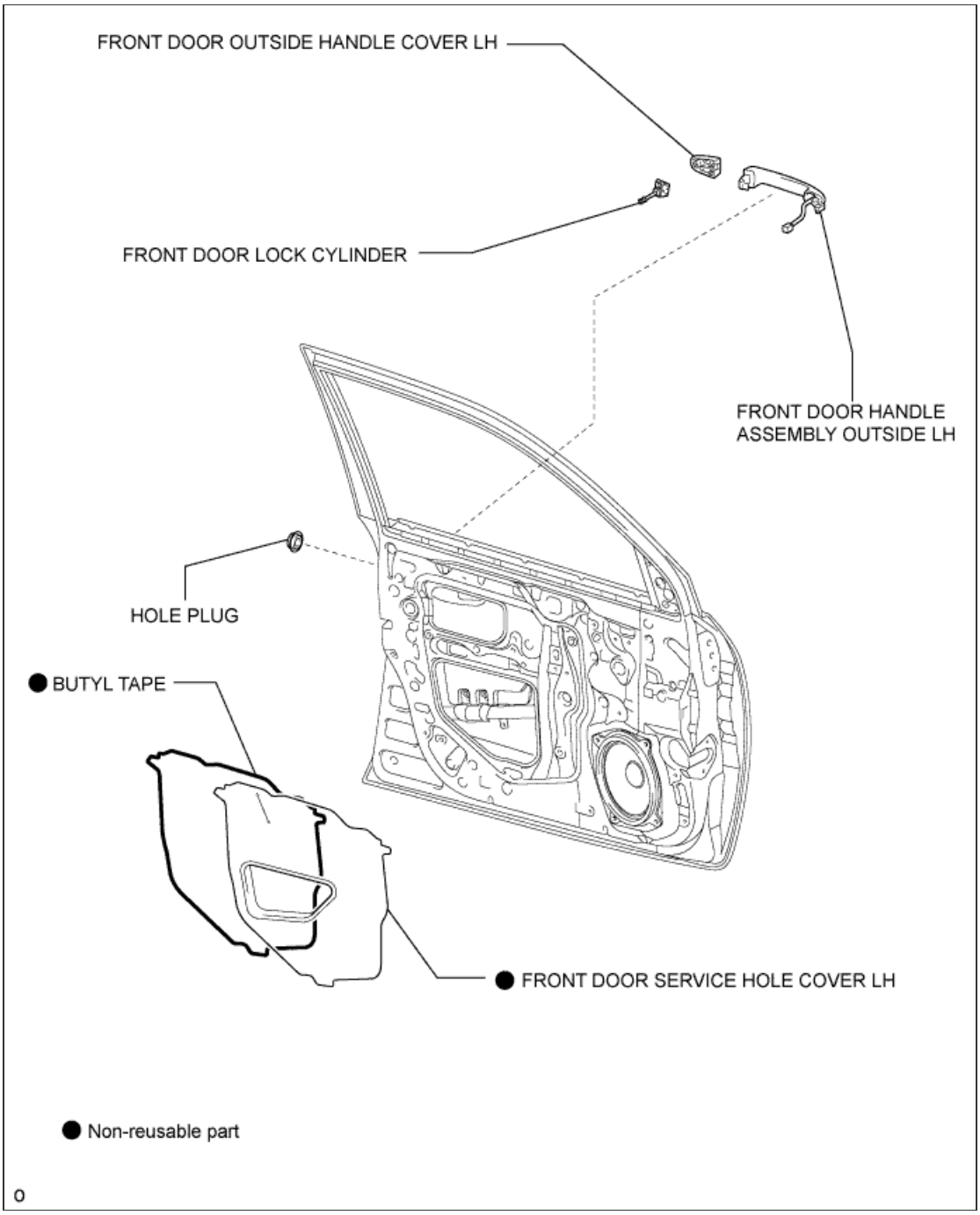
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 13. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here




FRONT DOOR OUTSIDE HANDLE COVER LH
FRONT DOOR LOCK CYLINDER
FRONT DOOR HANDLE ASSEMBLY OUTSIDE LH
HOLE PLUG
● BUTYL TAPE
● FRONT DOOR SERVICE HOLE COVER LH
● Non-reusable part

o

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

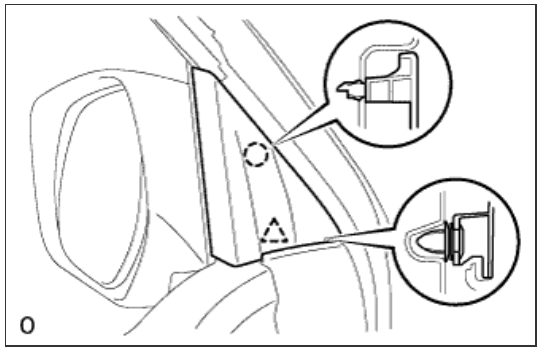
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 2. REMOVE FRONT LOWER DOOR FRAME BRACKET GARNISH LH

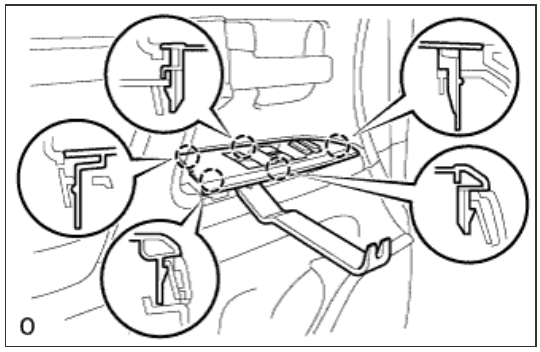
a. Detach the clip and claw, and remove the front door lower frame bracket garnish LH.



## 3. REMOVE FRONT DOOR ARMREST BASE PANEL ASSEMBLY LH

a. Using a moulding remover, detach the 5 claws.

b. Disconnect the connector and remove the armrest base panel.



## 4. REMOVE FRONT DOOR INSIDE HANDLE BEZEL LH

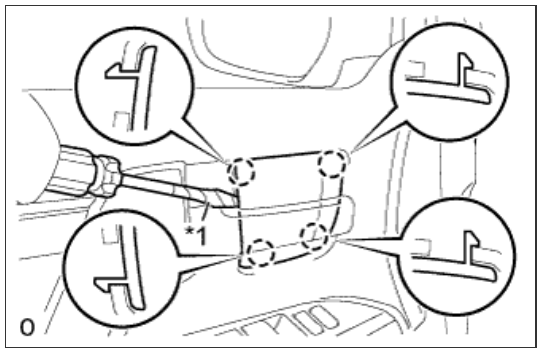
a. Using a screwdriver, detach the 4 claws and remove the front door inside handle bezel LH.

**HINT:**

Tape the screwdriver tip before use.

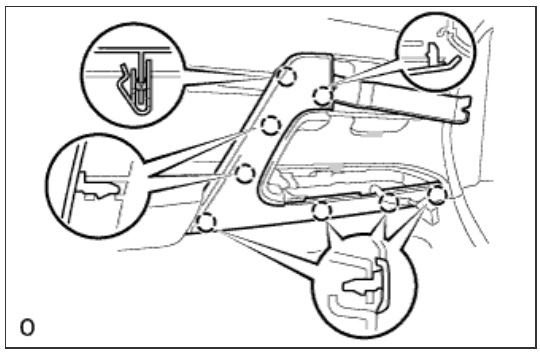
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 5. REMOVE DOOR ASSIST GRIP COVER LH

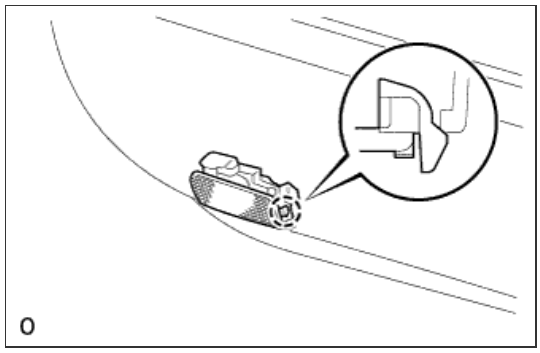
a. Using a moulding remover, detach the 8 claws and remove the door assist grip cover LH.



## 6. REMOVE COURTESY LIGHT ASSEMBLY (w/ Courtesy Light)

a. Detach the claw.

b. Remove the courtesy light and then disconnect the connector.



## 7. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

a. Remove the 3 screws.

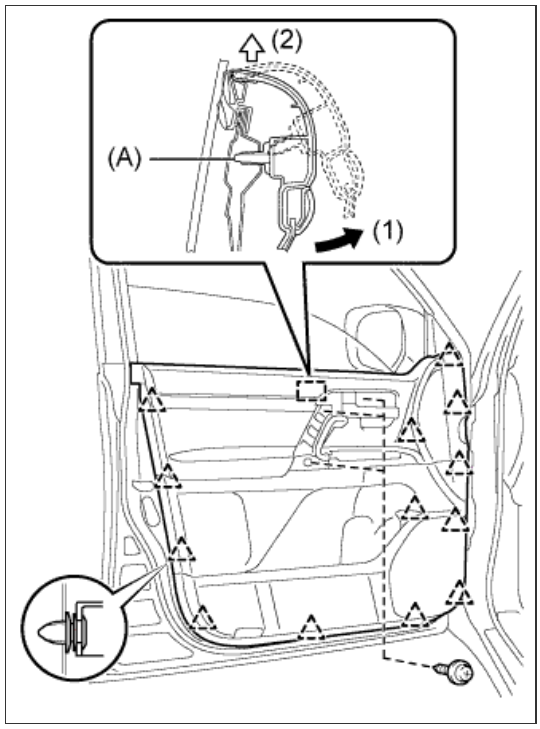
b. Remove the 13 clips.

c. Remove the front inner door glass weatherstrip LH together with the front door trim board sub-assembly LH by pulling them upward in the order shown in the illustration.

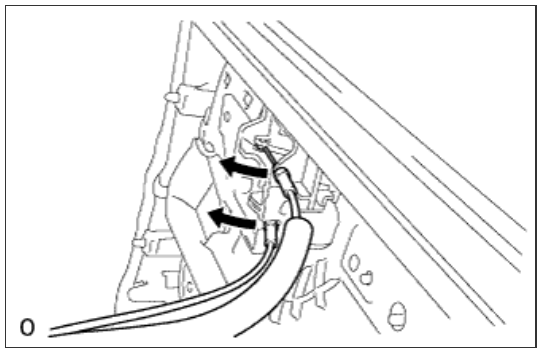
**HINT:**

Make sure that the pin labeled A in the illustration is detached from the door panel.

d. Disconnect the connector.




e. Disconnect the 2 cables from the front door inside handle sub-assembly LH.



## 8. REMOVE FRONT DOOR SERVICE HOLE COVER LH

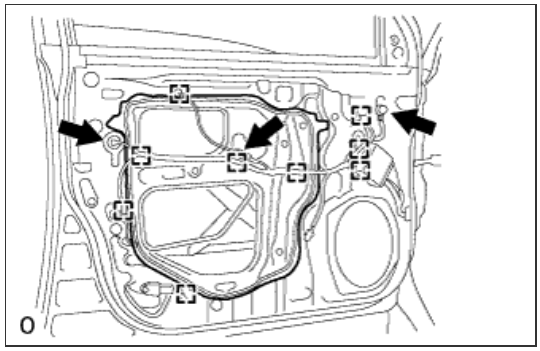
a. Using a clip remover, detach the 9 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the front door service hole cover LH.

**HINT:**

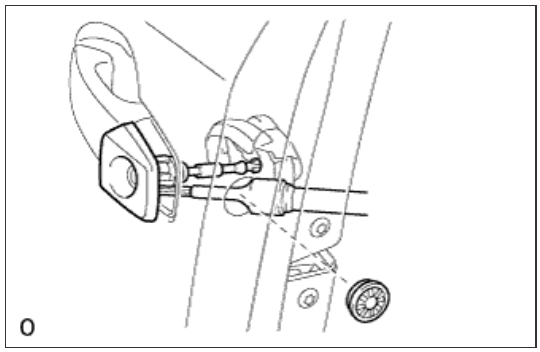
Remove the remaining tape on the door.



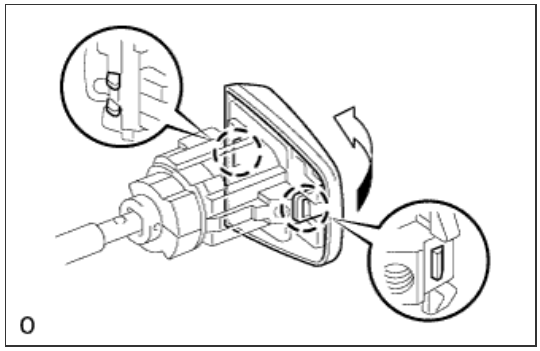
## 9. REMOVE FRONT DOOR OUTSIDE HANDLE COVER LH

a. Remove the hole plug.

b. Using a T30 "TORX" wrench, loosen the screw and remove the front door outside handle cover LH with the door lock cylinder installed.



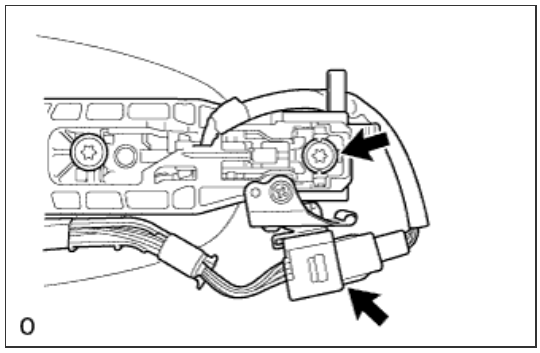
c. Detach the 2 claws and remove the front door outside handle cover LH.



## 10. REMOVE FRONT DOOR HANDLE ASSEMBLY OUTSIDE LH

a. Disconnect the connector.

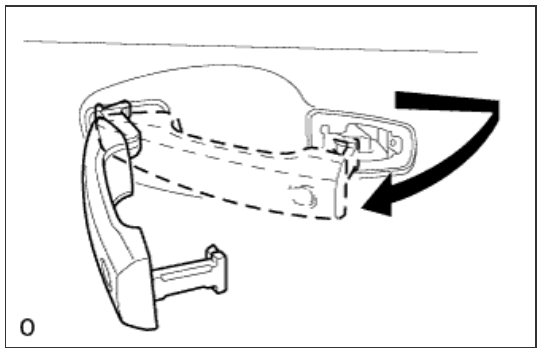
b. Using a T30 "TORX" wrench, loosen the screw.



c. Remove the handle by sliding and pulling it in the direction indicated by the arrow in the illustration.

**NOTICE:**

If the release plate is not pulled and held when removing the handle, the release plate will interfere with the handle and become damaged.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. INSPECT ENTRY LOCK AND UNLOCK SWITCH

a. Disconnect the connector.

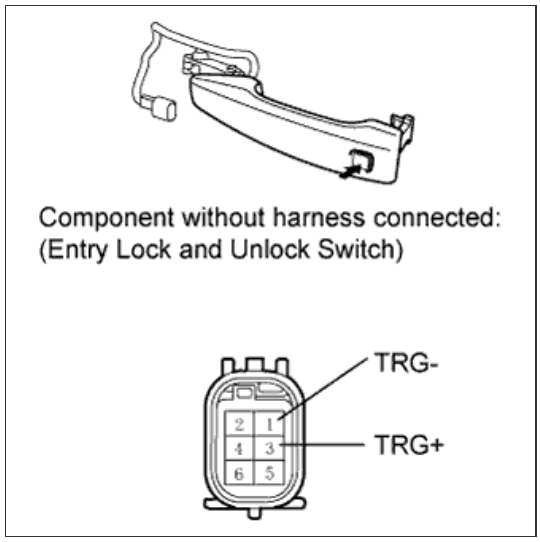
b. Remove the outside handle.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (TRG-) - 3 (TRG+) | Lock switch not pushed (OFF) | 10 kΩ or higher |
| 1 (TRG-) - 3 (TRG+) | Lock switch pushed (ON) | Below 1 Ω |

If the result is not as specified, replace the entry lock and unlock switch.



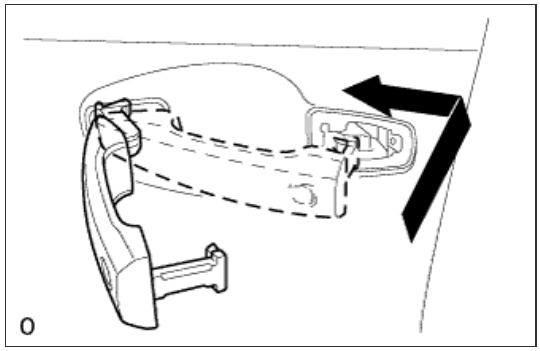
**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

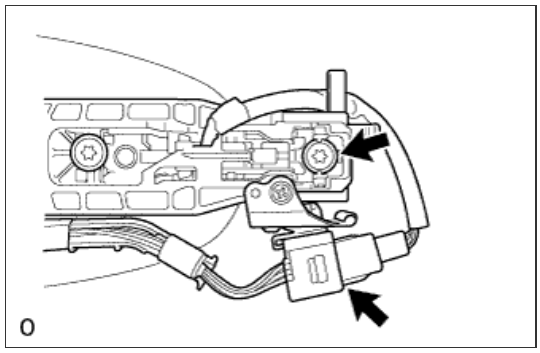
## 1. INSTALL FRONT DOOR HANDLE ASSEMBLY OUTSIDE LH

a. Install the handle by pushing it in the direction of the arrow in the illustration.



b. Using a T30 "TORX" socket, install the screw.

c. Connect the connector.



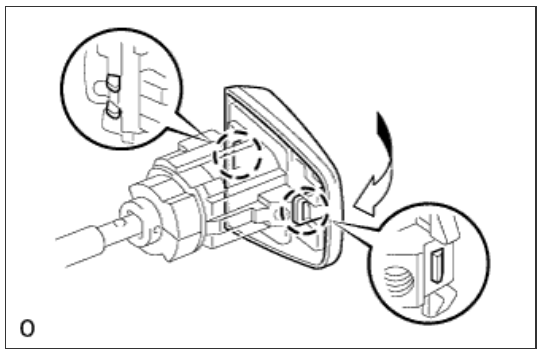
## 2. INSTALL FRONT DOOR OUTSIDE HANDLE COVER LH

a. Attach the 2 claws to install the front door outside handle cover LH to the front door lock cylinder.

b. Using a T30 "TORX" socket, install the front door outside cover LH (with the door lock cylinder) with the screw.

**Torque:**
**4.0 N*m{ 41 kgf*cm , 35 in.*lbf }**

c. Install the hole plug.



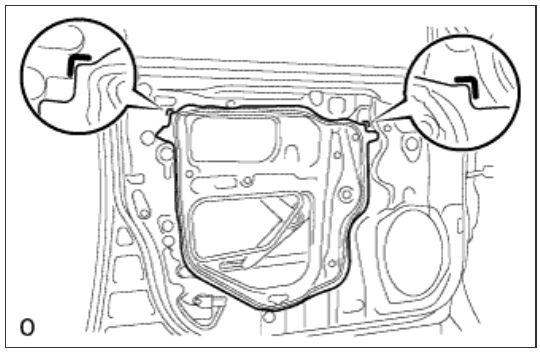
## 3. INSTALL FRONT DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the front door lock remote control cable assembly LH and front door inside locking cable assembly LH through a new front door service hole cover LH.

**NOTICE:**

- **When installing the front door service hole cover LH, pull the links and connectors through the front door service hole cover LH.**
- **There should be no wrinkles or folds after attaching the front door service hole cover LH.**
- **After attaching the front door service hole cover LH, check the sealing quality.**

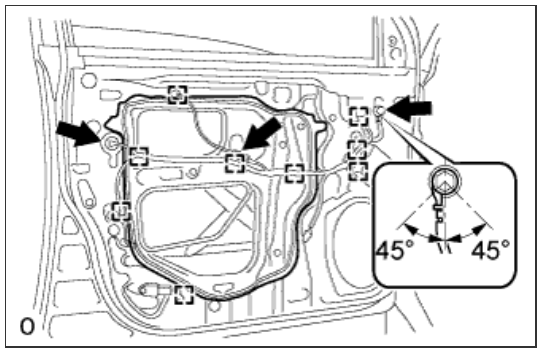


c. Connect the 2 connectors.

d. Attach the 9 clamps.

e. Install the bolt as shown in the illustration.

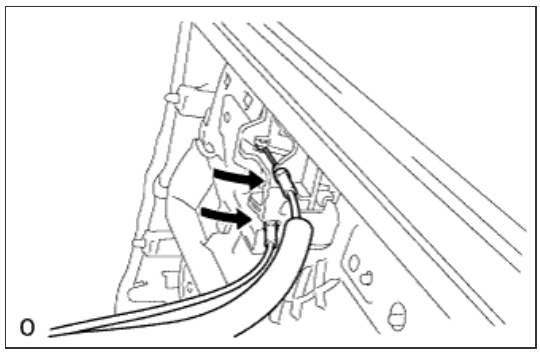
**Torque:**
**8.4 N*m{ 86 kgf*cm , 74 in.*lbf }**




## 4. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

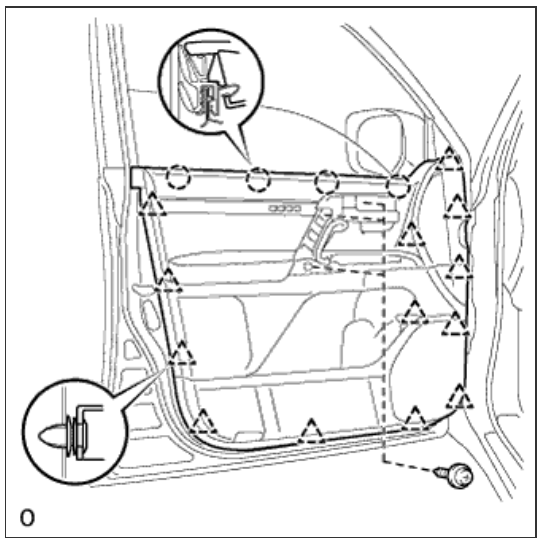
a. Connect the connector.

b. Connect the front door lock remote control cable assembly LH and front door inside locking cable assembly LH to the front door inside handle sub-assembly LH.



c. Attach the 4 claws and 13 clips to install the front door trim board sub-assembly LH.

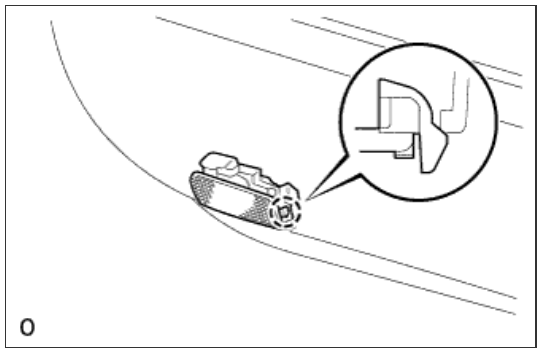
d. Install the 3 screws.



## 5. INSTALL COURTESY LIGHT ASSEMBLY (w/ Courtesy Light)

a. Connect the connector.

b. Attach the claw of the courtesy light to the front door trim.

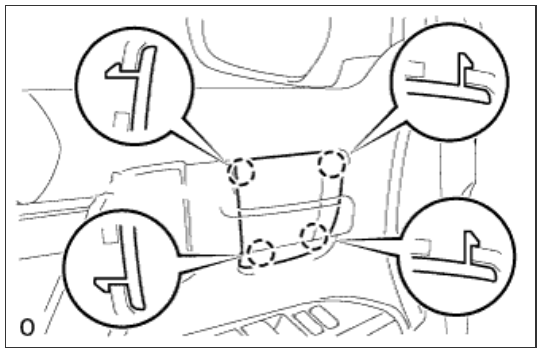


## 6. INSTALL DOOR ASSIST GRIP COVER LH

a. Attach the 8 claws to install the door assist grip cover LH to the front door trim board sub-assembly LH.

## 7. INSTALL FRONT DOOR INSIDE HANDLE BEZEL LH

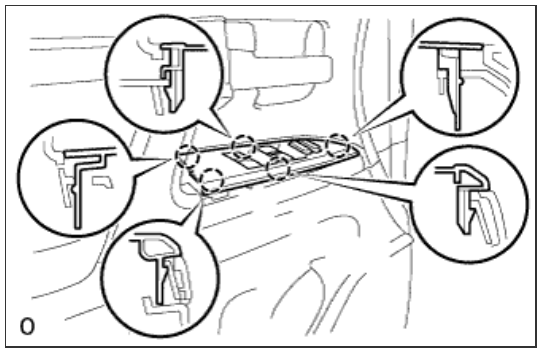
a. Attach the 4 claws to install the front door inside handle bezel LH.



## 8. INSTALL FRONT DOOR ARMREST BASE PANEL ASSEMBLY LH

a. Connect the connector.

b. Attach the 5 claws to install the armrest base panel.



## 9. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH LH

a. Attach the clip and claw, and install the front door lower frame bracket garnish LH.

## 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

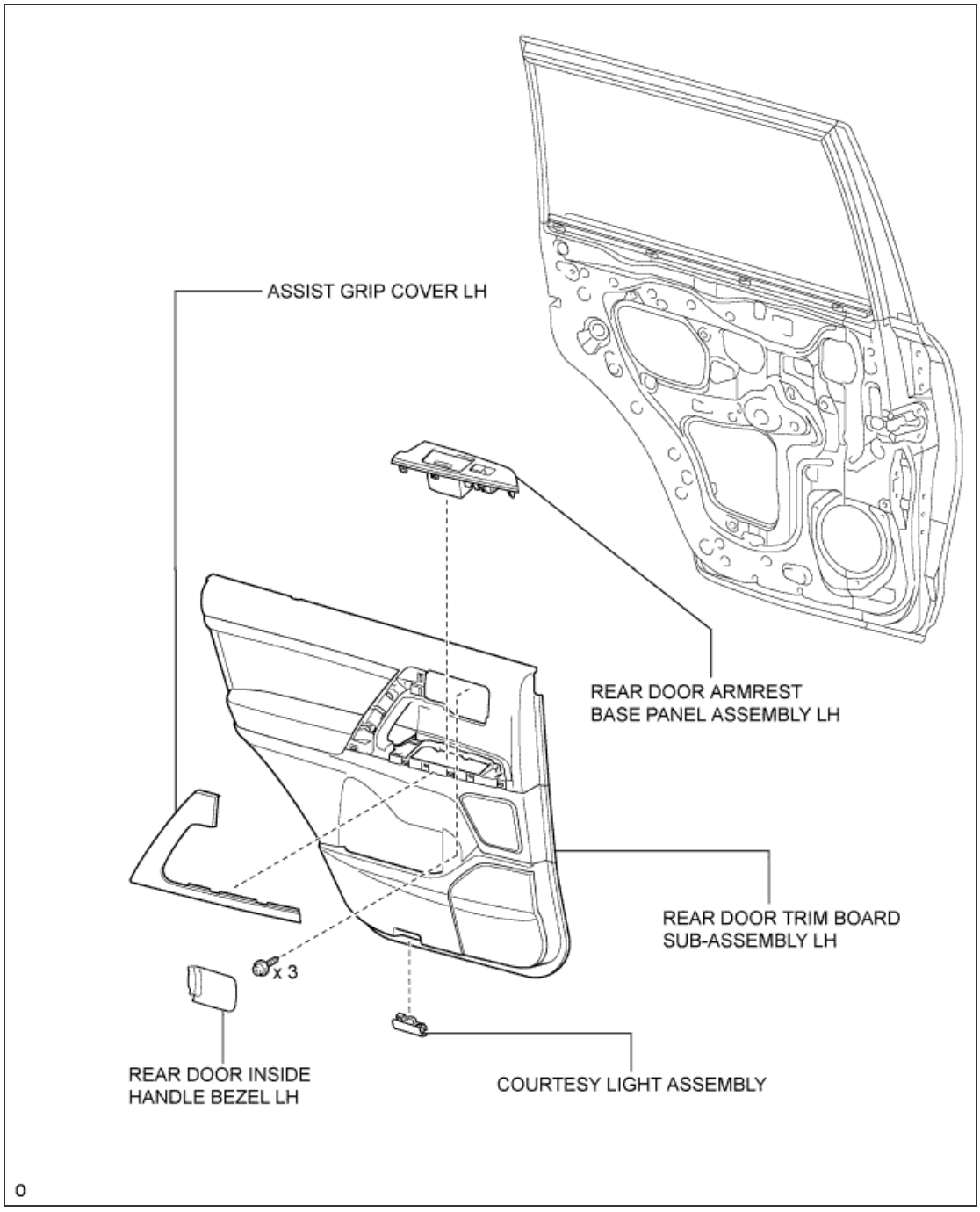
**NOTICE:**

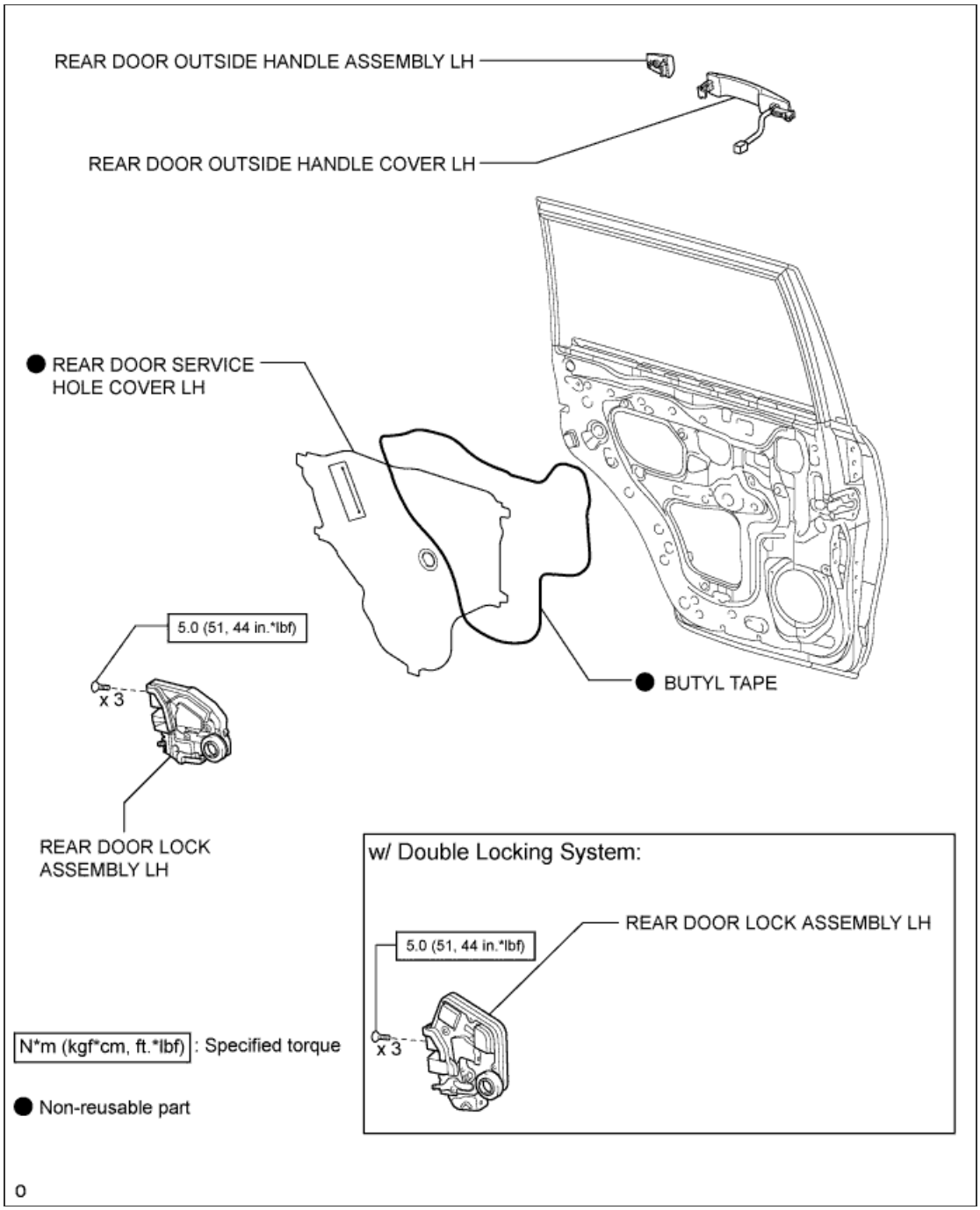
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 11. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here




REAR DOOR OUTSIDE HANDLE ASSEMBLY LH
REAR DOOR OUTSIDE HANDLE COVER LH
● REAR DOOR SERVICE HOLE COVER LH
5.0 (51, 44 in.*lbf)
x 3
● BUTYL TAPE
REAR DOOR LOCK ASSEMBLY LH
w/ Double Locking System:
REAR DOOR LOCK ASSEMBLY LH
5.0 (51, 44 in.*lbf)
x 3
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
o

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

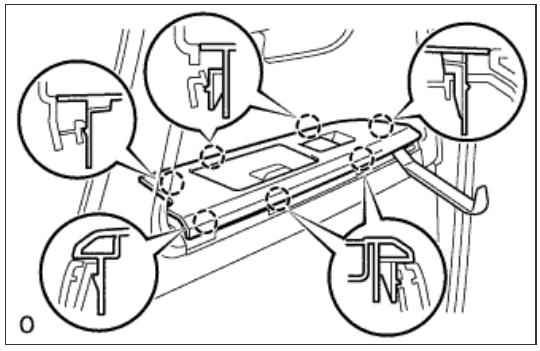
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 2. REMOVE REAR DOOR ARMREST BASE PANEL ASSEMBLY LH

a. Using a moulding remover, detach the 7 claws.

b. Disconnect the connector and remove the armrest base panel.



## 3. REMOVE REAR DOOR INSIDE HANDLE BEZEL LH

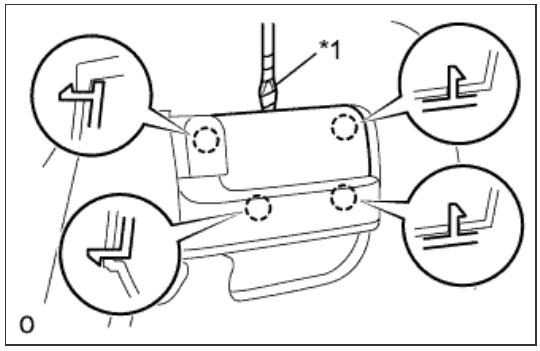
a. Using a screwdriver, detach the 4 claws and remove the rear door inside handle bezel LH.

**HINT:**

Tape the screwdriver tip before use.

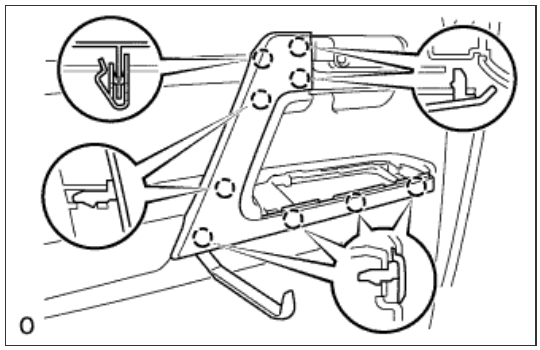
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 4. REMOVE ASSIST GRIP COVER LH

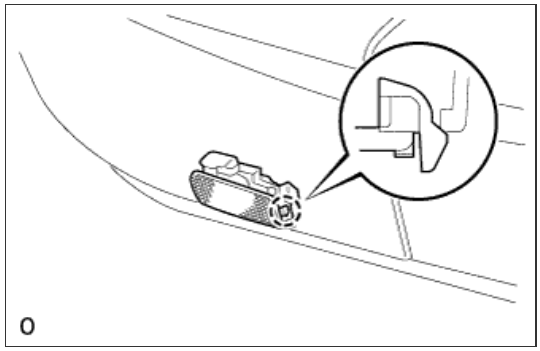
a. Using a moulding remover, detach the 9 claws and remove the assist grip cover LH.



## 5. REMOVE COURTESY LIGHT ASSEMBLY (w/ Courtesy Light)

a. Detach the claw.

b. Remove the courtesy light and then disconnect the connector.



## 6. REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

a. Remove the 3 screws.

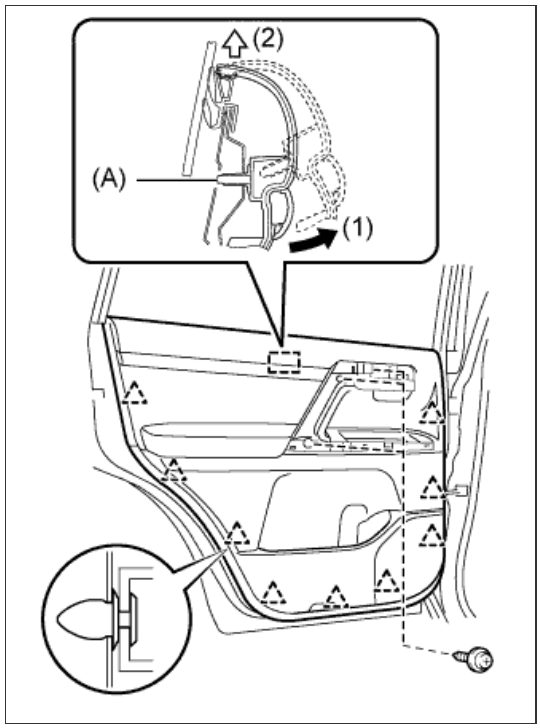
b. Remove the 9 clips.

c. Remove the rear inner door glass weatherstrip LH together with the rear door trim board sub-assembly LH by pulling them upward in the order shown in the illustration.

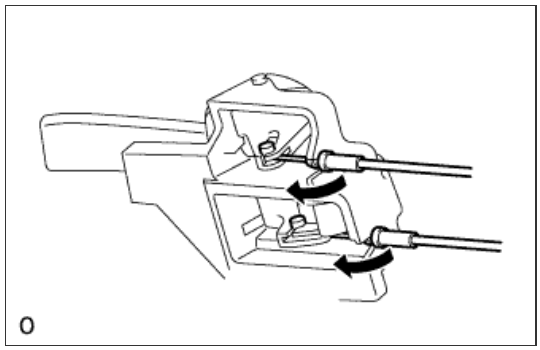
**HINT:**

Make sure that the pin labeled A in the illustration is detached from the door panel.

d. Disconnect the connector and remove the rear door trim board sub-assembly LH.




e. Disconnect the 2 cables from the rear door inside handle sub-assembly LH.



## 7. REMOVE REAR DOOR SERVICE HOLE COVER LH

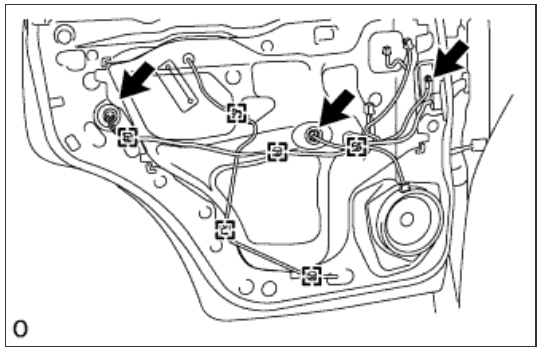
a. Using a clip remover, detach the 6 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the rear door service hole cover LH.

**HINT:**

Remove the remaining tape on the door.

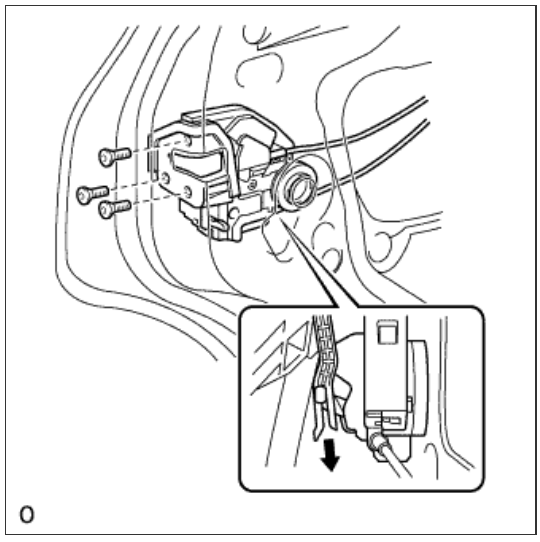


## 8. REMOVE REAR DOOR LOCK ASSEMBLY LH

a. Using a T30 "TORX" socket, remove the 3 screws and door lock.

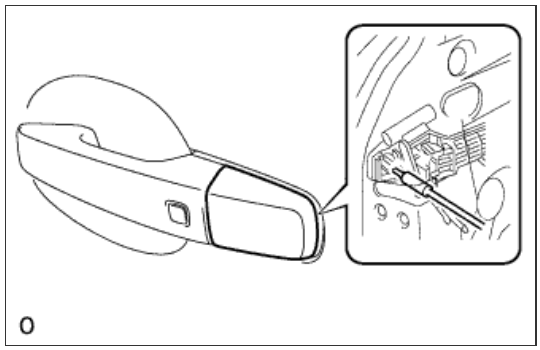
**NOTICE:**

Be careful when removing the screws as the door lock may fall and become damaged.

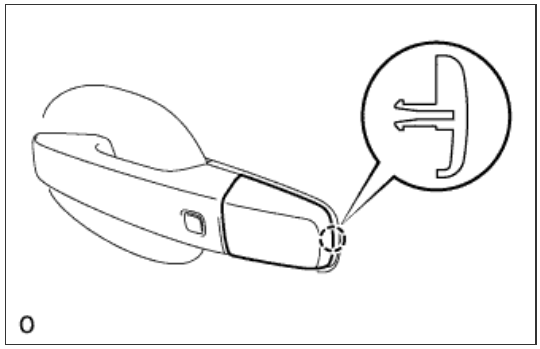


## 9. REMOVE REAR DOOR OUTSIDE HANDLE COVER LH

a. Using a T30 "TORX" socket, loosen the screw.



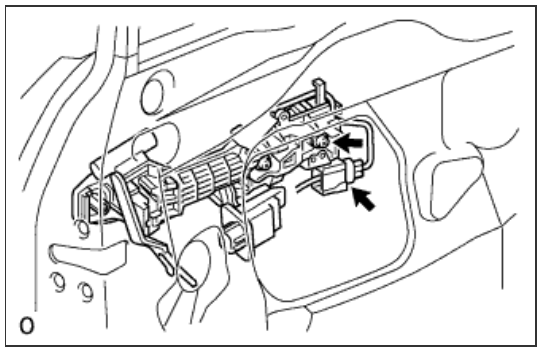
b. Detach the claw and remove the rear door outside handle cover LH.



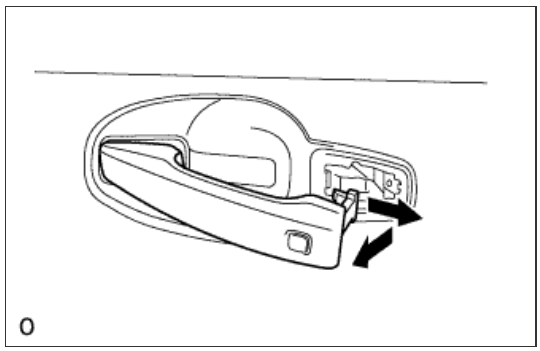
## 10. REMOVE REAR DOOR OUTSIDE HANDLE ASSEMBLY LH

a. Using a T30 "TORX" wrench, loosen the screw.

b. Disconnect the connector.



c. Remove the handle by sliding and pulling it in the direction indicated by the arrow in the illustration.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. INSPECT ENTRY LOCK AND UNLOCK SWITCH

a. Disconnect the connector.

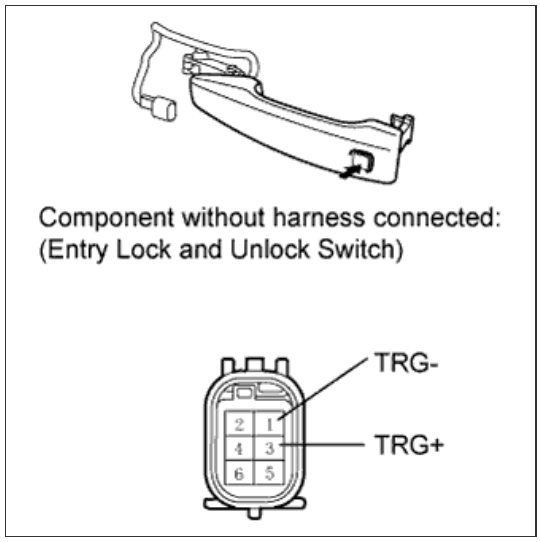
b. Remove the outside handle.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (TRG-) - 3 (TRG+) | Lock switch not pushed (OFF) | 10 kΩ or higher |
| 1 (TRG-) - 3 (TRG+) | Lock switch pushed (ON) | Below 1 Ω |

If the result is not as specified, replace the entry lock and unlock switch.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

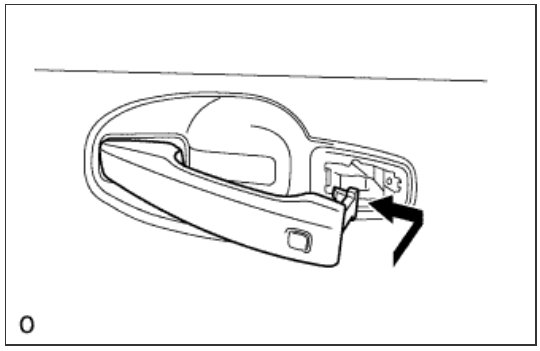
## 1. INSTALL REAR DOOR OUTSIDE HANDLE ASSEMBLY LH

a. Insert the front end of the rear door outside handle assembly into the rear door outside handle frame.

**NOTICE:**

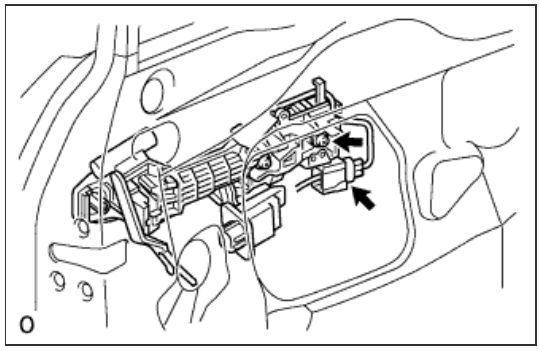
If the bellcrank lever is not pulled and held when installing the outside handle, the bellcrank lever will interfere with the outside handle and the release plate may be damaged.

b. Insert the rear end of the rear door outside handle assembly into the rear door outside handle frame. Next, slide the rear door outside handle assembly toward the front of the vehicle to install it.



c. Using a T30 "TORX" socket, tighten the screw.

d. Connect the connector.



## 2. INSTALL REAR DOOR OUTSIDE HANDLE COVER LH

a. Attach the claw to install the rear door outside handle cover LH.

b. Using a T30 "TORX" socket, install the rear door outside handle cover LH with the screw.

## 3. INSTALL REAR DOOR LOCK ASSEMBLY LH

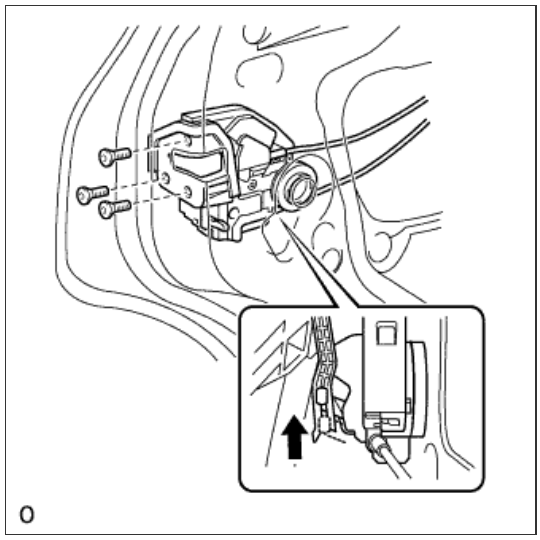
a. Apply MP grease to the sliding parts of the rear door lock assembly.

b. Insert the rear door lock assembly to the rear door outside handle release plate, and set it to the rear door panel.

c. Make sure that the rear door outside handle frame release plate is securely connected to the rear door lock assembly.

d. Using a T30 "TORX" wrench, the 3 screws.

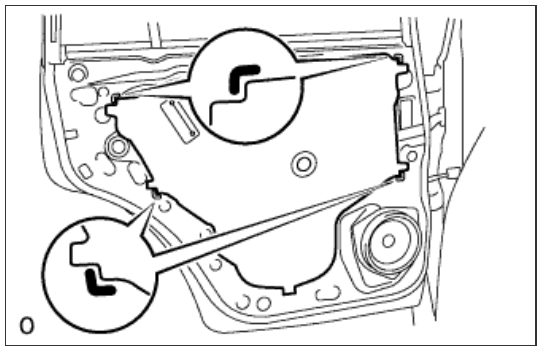
**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**



## 4. INSTALL REAR DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the rear door lock remote control cable assembly LH and rear door inside locking cable assembly LH through a new rear door service hole cover LH.



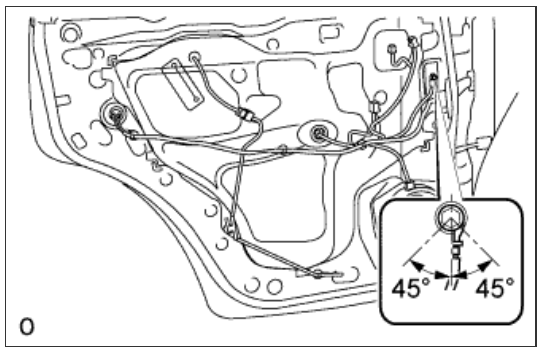
**NOTICE:**

- **When installing the rear door service hole cover LH, pull the links and connectors through the rear door service hole cover LH.**
- **There should be no wrinkles or folds after attaching the rear door service hole cover LH.**
- **After attaching the rear door service hole cover LH, check the sealing quality.**

c. Connect the 2 connectors.

d. Attach the 6 clamps.

e. Install the bolt as shown in the illustration.

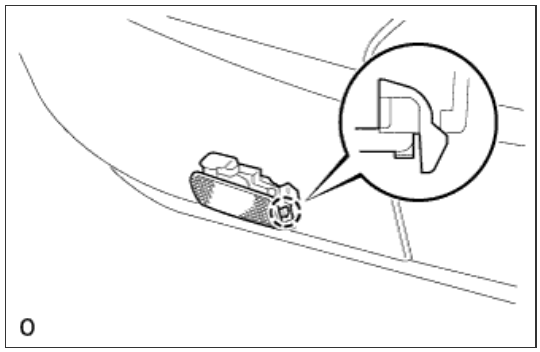



**Torque:**
**8.4 N*m{ 86 kgf*cm , 74 in.*lbf }**

## 5. INSTALL COURTESY LIGHT ASSEMBLY (w/ Courtesy Light)

a. Connect the connector.

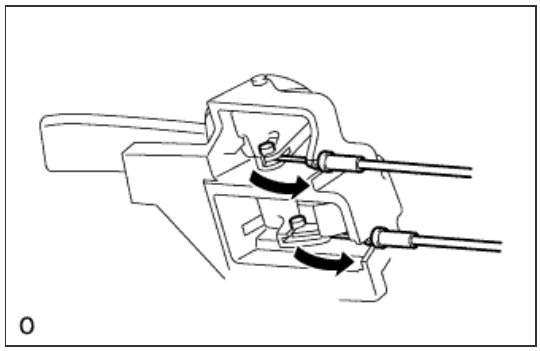
b. Attach the claw of the courtesy light to the rear door trim.



## 6. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

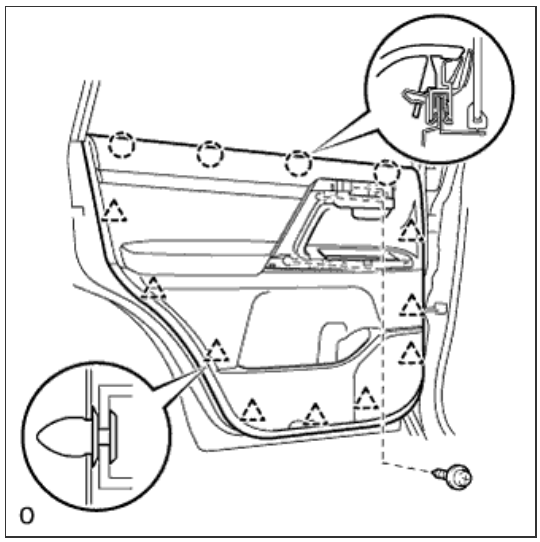
a. Connect the connector.

b. Connect the rear door lock remote control cable assembly LH and rear door inside locking cable assembly LH to the rear door inside handle sub-assembly LH.



c. Attach the 4 claws and 9 clips to install the rear door trim board sub-assembly LH.

d. Install the 3 screws.



## 7. INSTALL ASSIST GRIP COVER LH

a. Attach the 9 claws to install the assist grip cover LH to the rear door trim board sub-assembly LH.

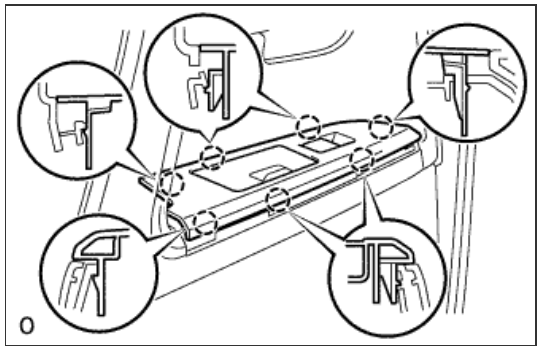
## 8. INSTALL REAR DOOR INSIDE HANDLE BEZEL LH

a. Attach the 4 claws to install the rear door inside handle bezel LH.

## 9. INSTALL REAR DOOR ARMREST BASE PANEL ASSEMBLY LH

a. Connect the connector.

b. Attach the 7 claws to install the armrest base panel.

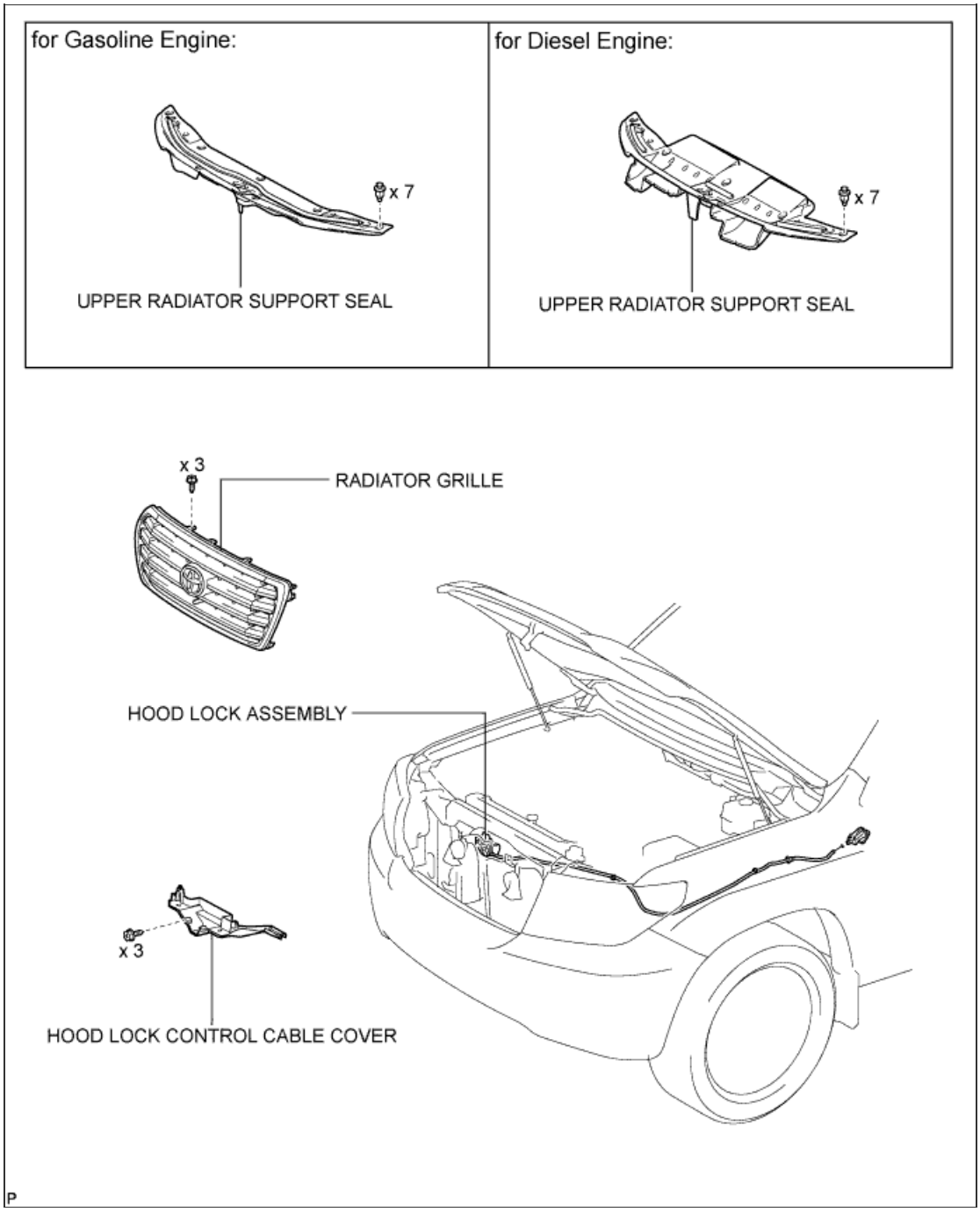


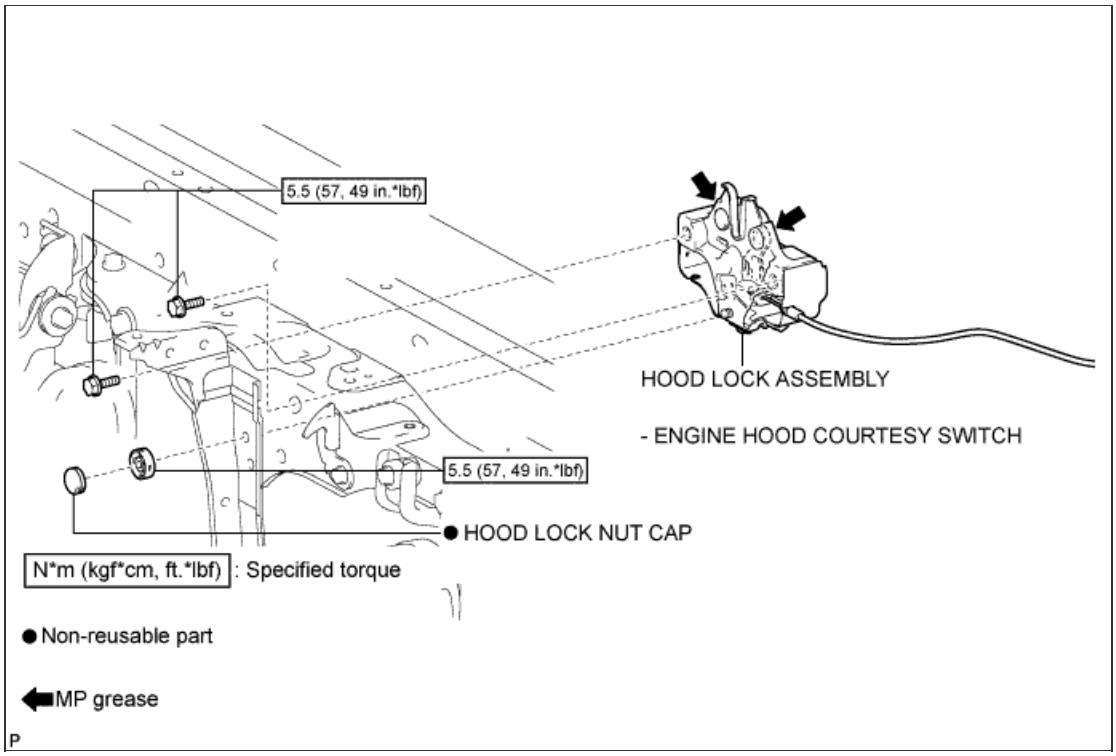
## 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**for Preparation** Click here




5.5 (57, 49 in.*lbf)
HOOD LOCK ASSEMBLY
- ENGINE HOOD COURTESY SWITCH
5.5 (57, 49 in.*lbf)
● HOOD LOCK NUT CAP
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
MP grease
P

**for Preparation** Click here

**HINT:**

- **Use the same procedure for LHD and RHD vehicles.**
- **The procedures listed below its for LHD vehicles.**

## 1. REMOVE UPPER RADIATOR SUPPORT SEAL

(Click here)

## 2. REMOVE RADIATOR GRILLE ASSEMBLY

a. Put protective tape around the radiator grille assembly.

**Text in Illustration**

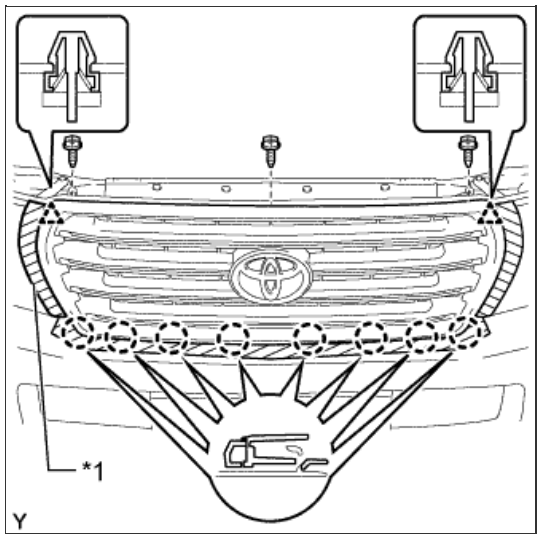
| | |
|---|---|
| *1 | Protective Tape |

b. Remove the 3 screws.

c. Detach the 2 clips and 8 claws, and remove the radiator grille assembly.

d. w/ Wide View Front Monitor System:

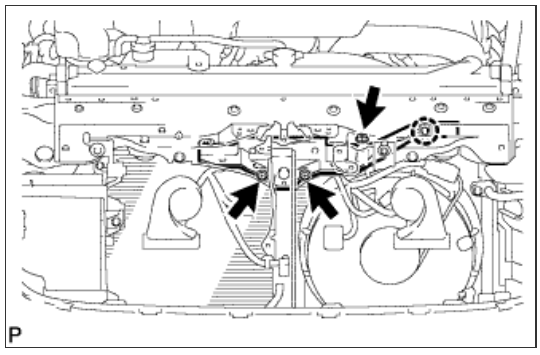
i. Disconnect the connector.




## 3. REMOVE HOOD LOCK CONTROL CABLE COVER

a. Remove the 3 screws.

b. Detach the claw and remove the cover.

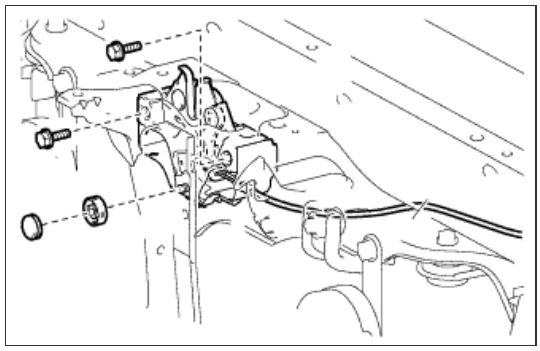



## 4. REMOVE HOOD LOCK ASSEMBLY

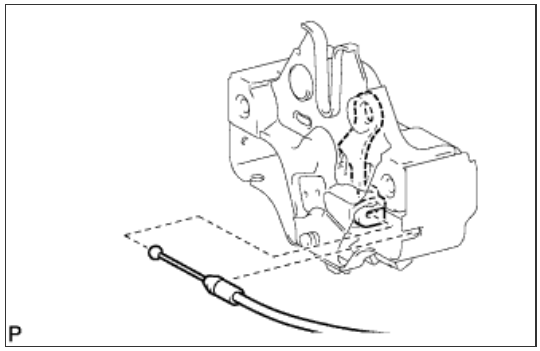
a. Remove the hood lock nut cap.

b. Remove the 2 bolts and nut.

c. Disconnect the connector.



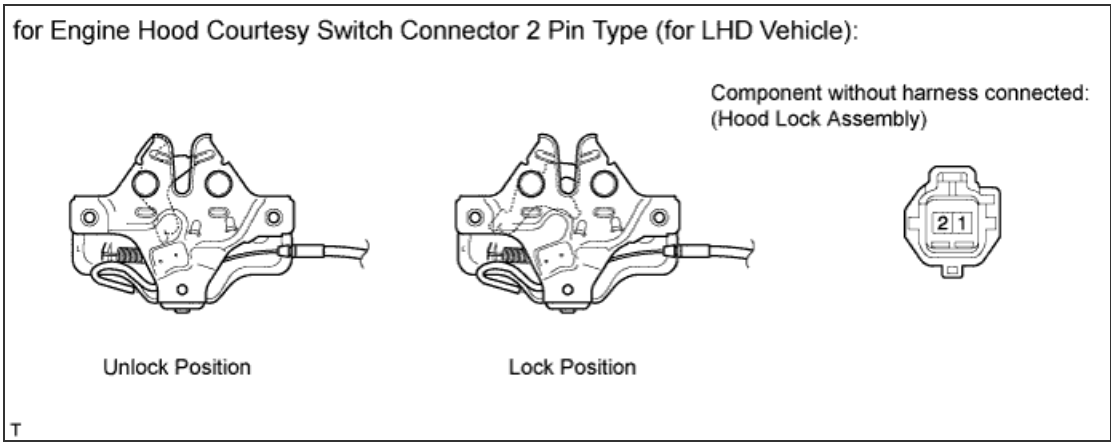
d. Disconnect the hood lock control cable and remove the hood lock.



**for Preparation** Click here

## 1. INSPECT HOOD LOCK ASSEMBLY (ENGINE HOOD COURTESY SWITCH)

a. for Engine Hood Courtesy Switch Connector 2 Pin Type (for LHD Vehicle):



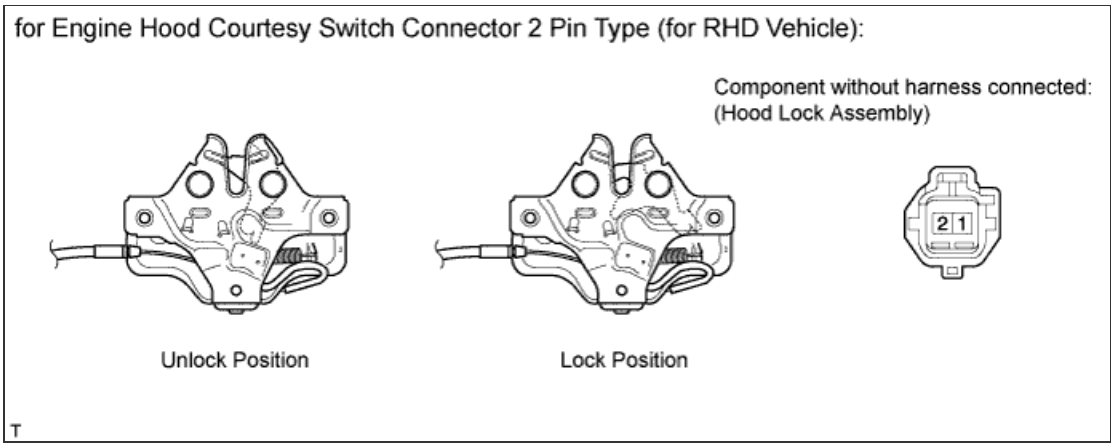

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Unlock | 10 kΩ or higher |
| 1 - 2 | Lock | Below 1 Ω |

If the result is not as specified, replace the hood lock assembly.

b. for Engine Hood Courtesy Switch Connector 2 Pin Type (for RHD Vehicle):




i. Measure the resistance according to the value(s) in the table below.

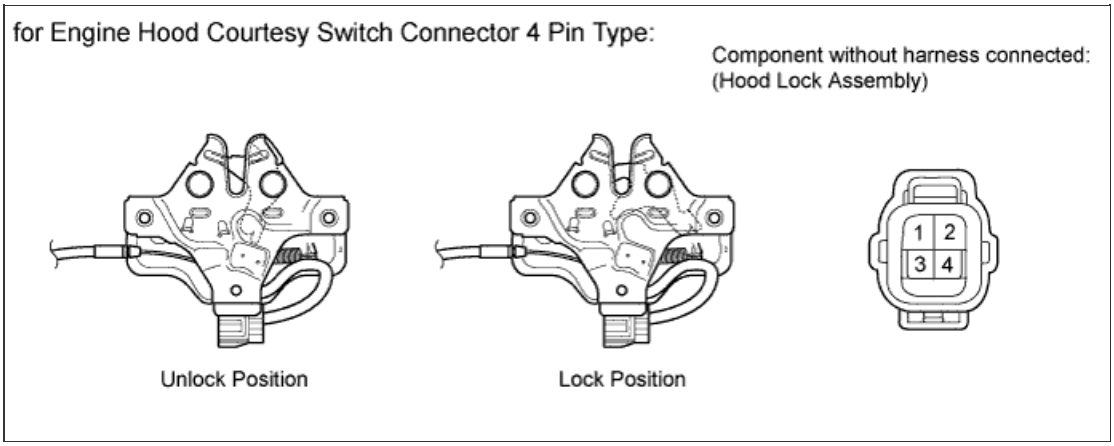
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| 1 - 2 | Unlock | 10 kΩ or higher |
| 1 - 2 | Lock | Below 1 Ω |

If the result is not as specified, replace the hood lock assembly.

c. for Engine Hood Courtesy Switch Connector 4 Pin Type:




i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 3 | Always | Below 1 Ω |
| 2 - 4 | Unlock | 10 kΩ or higher |
| 2 - 4 | Lock | Below 1 Ω |

If the result is not as specified, replace the hood lock assembly.

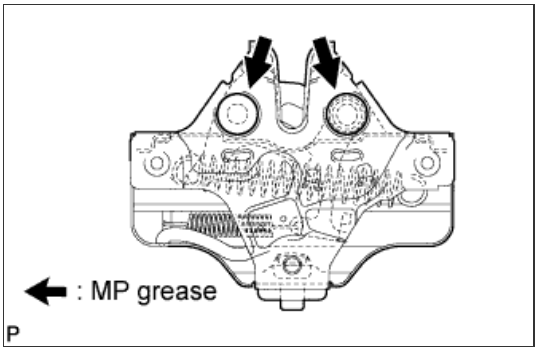
**for Preparation** Click here

**HINT:**

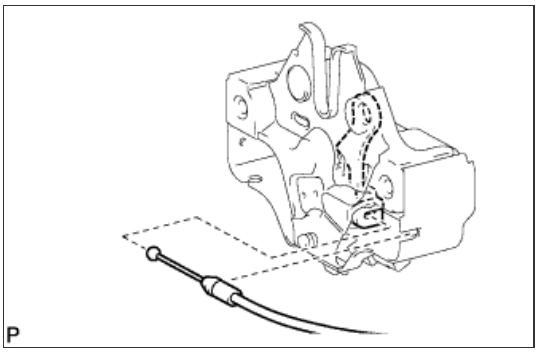
- **Use the same procedure for LHD and RHD vehicles.**
- **The procedures listed below is for LHD vehicles.**

## 1. INSTALL HOOD LOCK ASSEMBLY

a. Apply MP grease to the sliding areas of the lock.




b. Connect the hood lock control cable.

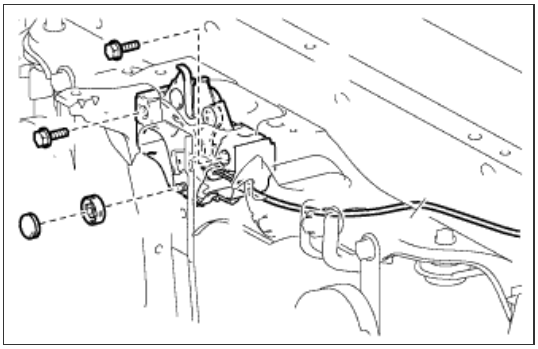



c. Connect the connector.

d. Install the hood lock with the 2 bolts and nut.

**Torque:**
**5.5 N*m{ 57 kgf*cm , 49 in.*lbf }**

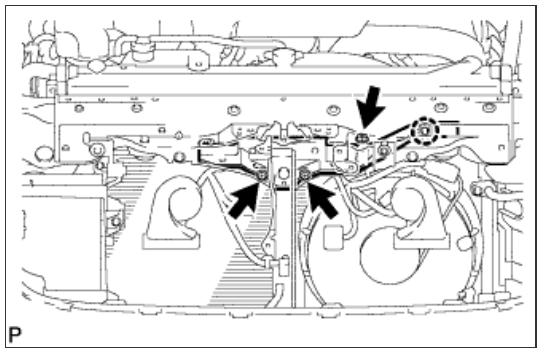
e. Install a new hood lock nut cap.



## 2. INSTALL HOOD LOCK CONTROL CABLE COVER

a. Attach the claw to install the cover.

b. Install the 3 screws.




### 3. INSTALL RADIATOR GRILLE

a. w/ Wide View Front Monitor System:

i. Connect the connector.

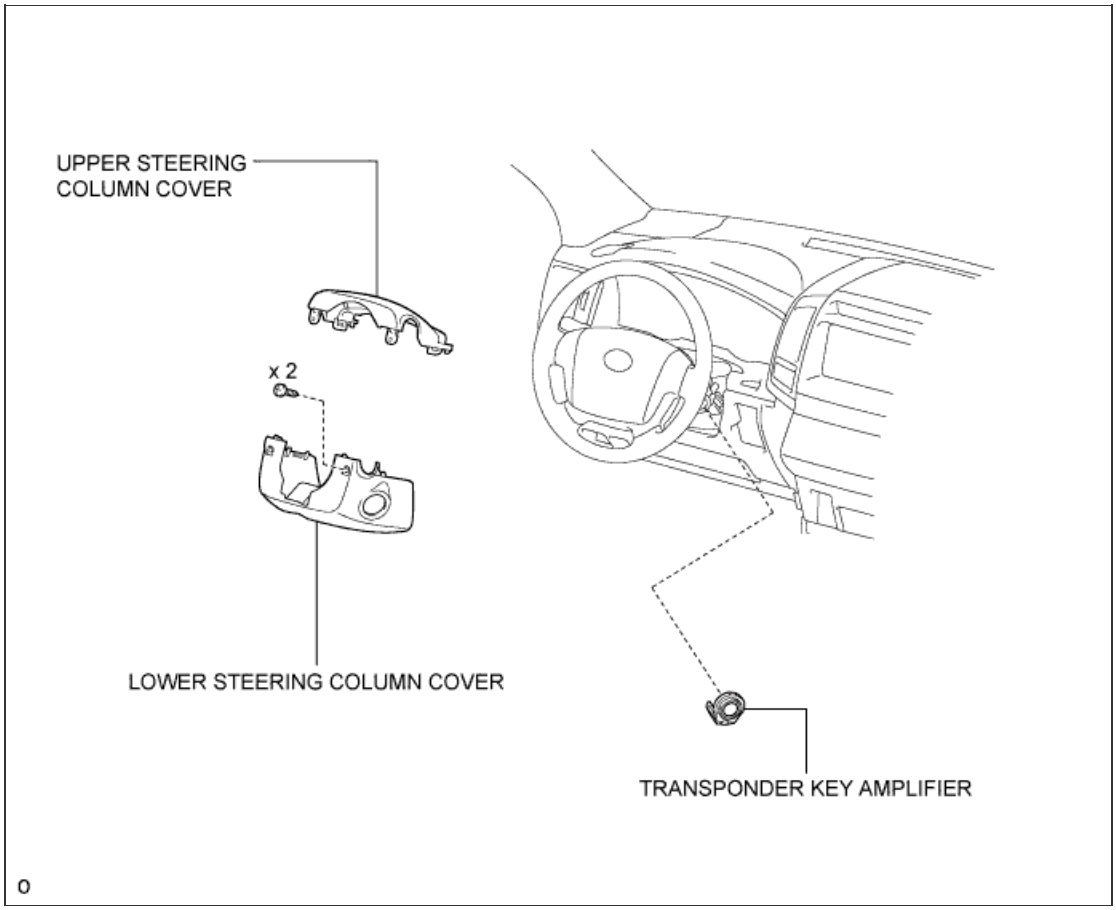
b. Attach the 2 clips and 8 claws to install the radiator grille assembly.

c. Install the 3 screws.

### 4. INSTALL UPPER RADIATOR SUPPORT SEAL

(Click here)

**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE LOWER STEERING COLUMN COVER

a. for Manual Tilt and Manual Telescopic Steering Column:

i. Remove the lower steering column cover (Click here).

b. for Power Tilt and Power Telescopic Steering Column:

i. Remove the lower steering column cover (Click here).

## 2. REMOVE UPPER STEERING COLUMN COVER

a. for Manual Tilt and Manual Telescopic Steering Column:

i. Remove the upper steering column cover (Click here).

b. for Power Tilt and Power Telescopic Steering Column:

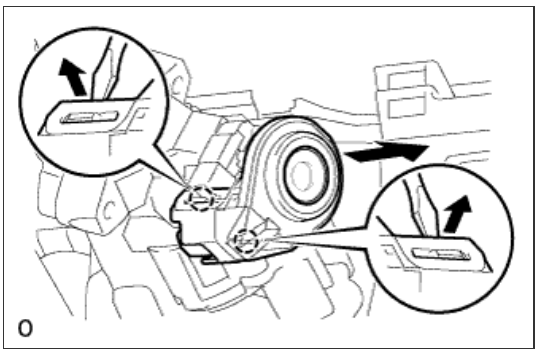
i. Remove the upper steering column cover (Click here).

## 3. REMOVE TRANSPONDER KEY AMPLIFIER

a. Using a screwdriver, widen the claw attached to the upper bracket by approximately 1.0 mm (0.039 in.).

b. Pull out the transponder key amplifier with the claw open.

c. Disconnect the connector and remove the transponder key amplifier.



**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL TRANSPONDER KEY AMPLIFIER

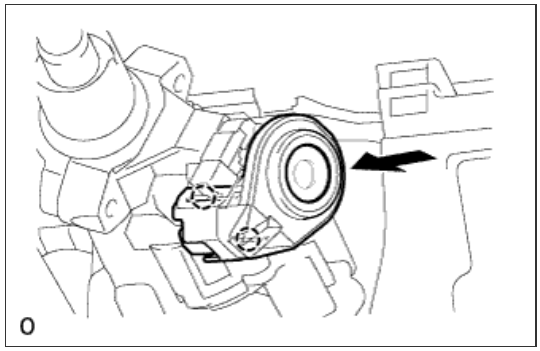
a. Connect the transponder key amplifier connector.

b. Align the claw of the transponder key amplifier with the upper bracket.

c. Push in the transponder key amplifier and install it to the upper bracket.

**NOTICE:**

Do not push in the transponder key amplifier with excessive force as it may be damaged.



## 2. INSTALL UPPER STEERING COLUMN COVER

a. for Manual Tilt and Manual Telescopic Steering Column:

i. Install the upper steering column cover ( Click here).

b. for Power Tilt and Power Telescopic Steering Column:

i. Install the upper steering column cover ( Click here).

## 3. INSTALL LOWER STEERING COLUMN COVER

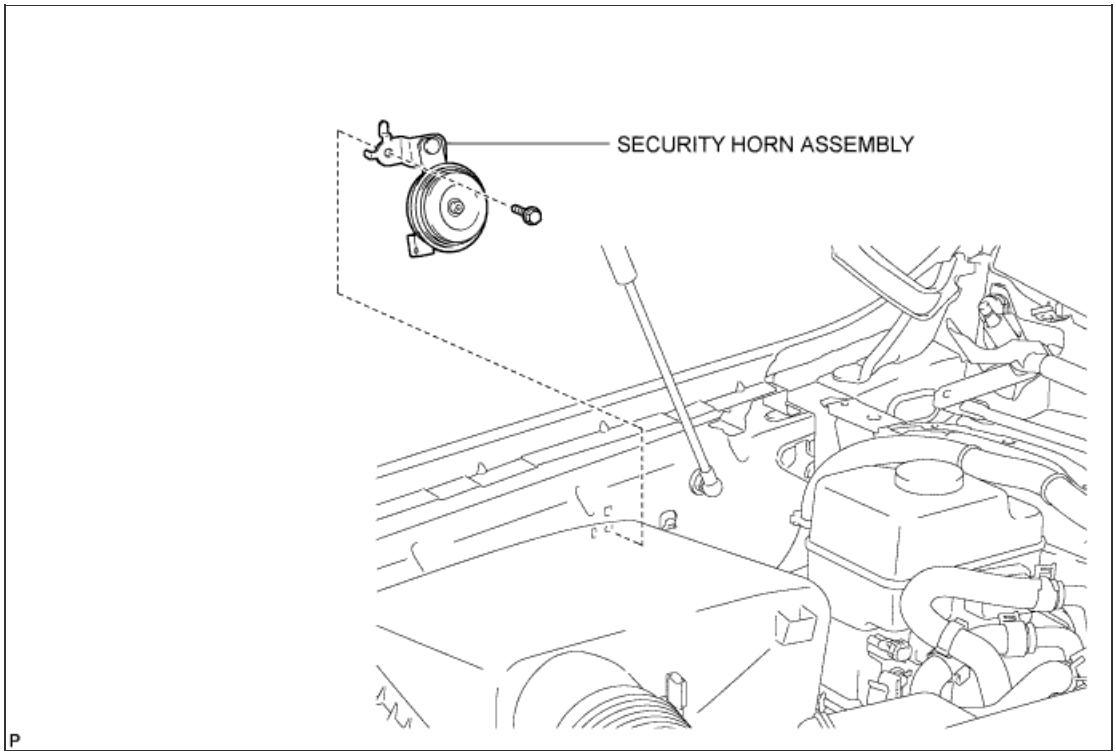
a. for Manual Tilt and Manual Telescopic Steering Column:

i. Install the lower steering column cover ( Click here).

b. for Power Tilt and Power Telescopic Steering Column:

i. Install the lower steering column cover ( Click here).

**for Preparation** Click here

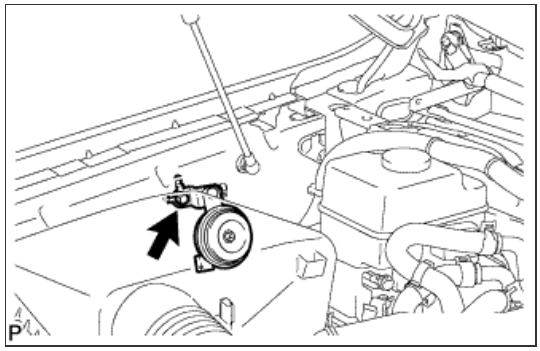


**for Preparation** Click here

## 1. REMOVE SECURITY HORN ASSEMBLY

a. Disconnect the connector.

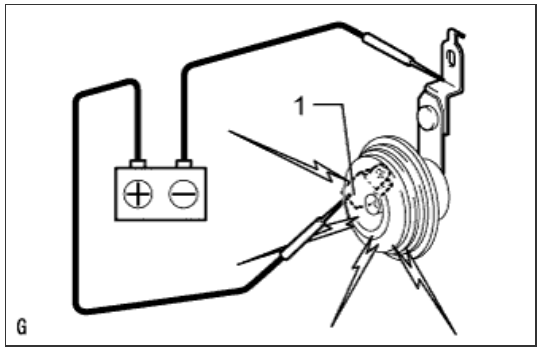
b. Remove the bolt and horn.



**for Preparation** Click here

## 1. INSPECT SECURITY HORN ASSEMBLY

a. Apply battery voltage to the horn connector and check the operation of the horn.




**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 1<br>Battery negative (-) → Horn bracket | Horn sounds |

If the result is not as specified, replace the security horn assembly.

**for Preparation** Click here

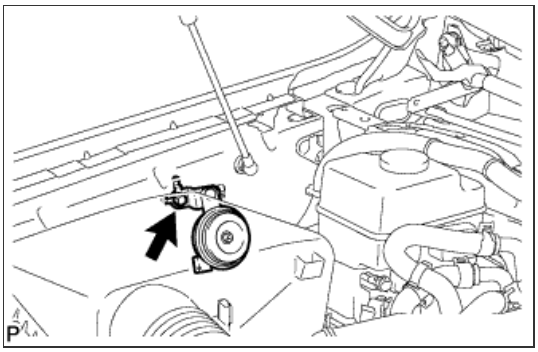
**HINT:**

A bolt without a torque specification is shown in the standard bolt chart ( Click here).

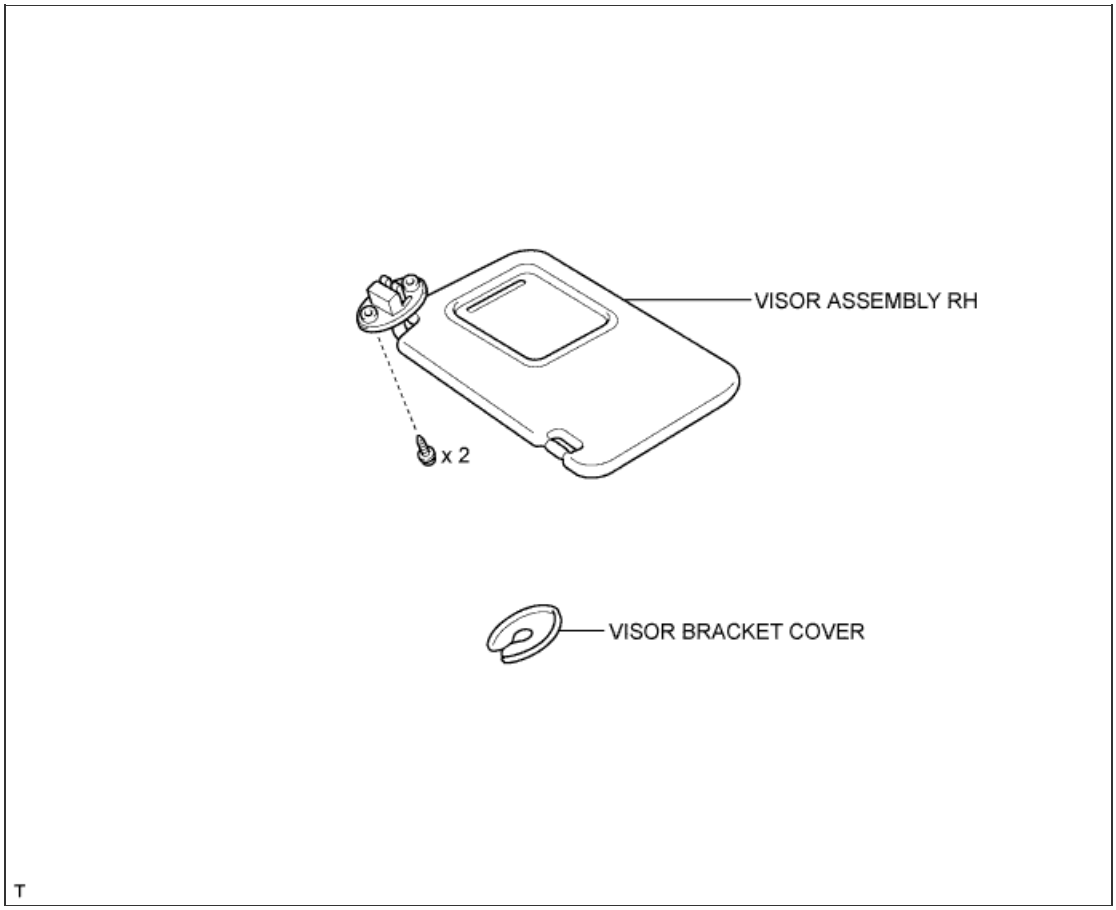
## 1. INSTALL SECURITY HORN ASSEMBLY

a. Install the horn with the bolt.

b. Connect the connector.



**for Preparation** Click here



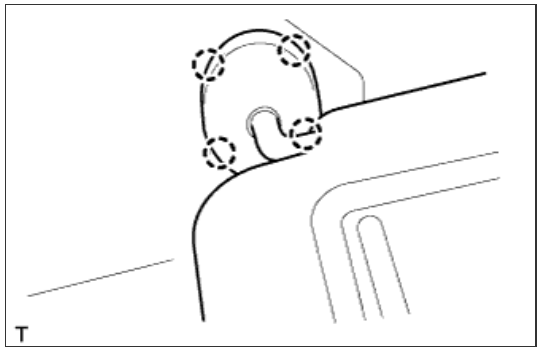
**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH and LH side.**
- **The procedures listed below are for the RH side.**

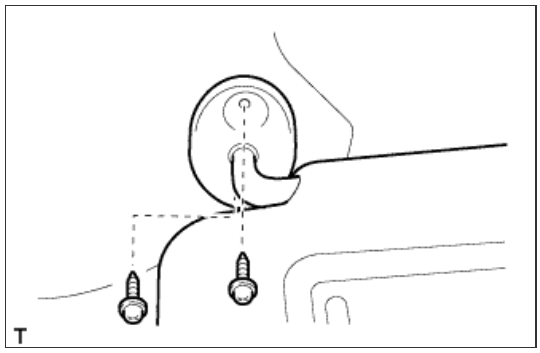
## 1. REMOVE VISOR BRACKET COVER

a. Detach the 4 claws and remove the visor bracket cover.




## 2. REMOVE VISOR ASSEMBLY RH

a. Remove the 2 screws and visor.



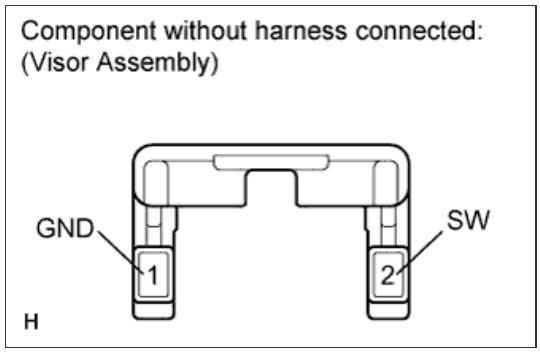
**for Preparation** [Click here]

## 1. INSPECT VISOR ASSEMBLY RH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2 (SW) - 1 (GND) | Visor raised | 10 kΩ or higher |
| 2 (SW) - 1 (GND) | Visor lowered and mirror cover closed | 10 kΩ or higher |
| 2 (SW) - 1 (GND) | Visor lowered and mirror cover open | Below 1 Ω |



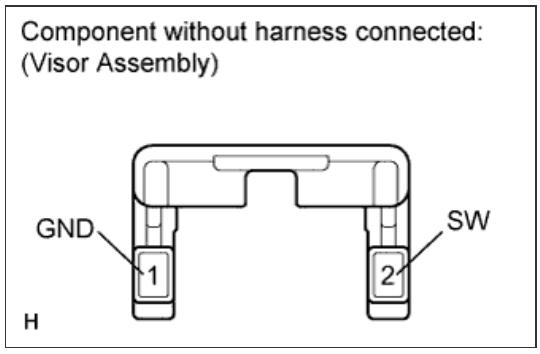

If the result is not as specified, there may be a malfunction in the visor assembly.

## 2. INSPECT VISOR ASSEMBLY LH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2 (SW) - 1 (GND) | Visor raised | 10 kΩ or higher |
| 2 (SW) - 1 (GND) | Visor lowered and mirror cover closed | 10 kΩ or higher |
| 2 (SW) - 1 (GND) | Visor lowered and mirror cover open | Below 1 Ω |




If the result is not as specified, there may be a malfunction in the visor assembly.

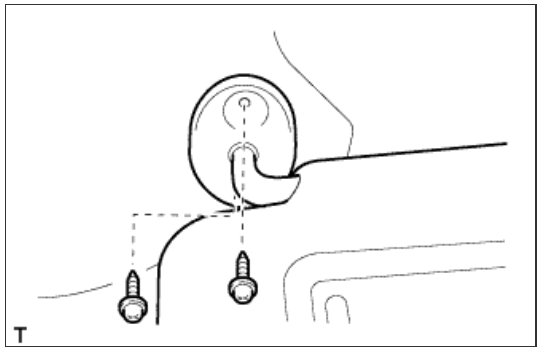
**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH and LH side.**
- **The procedures listed below are for the RH side.**

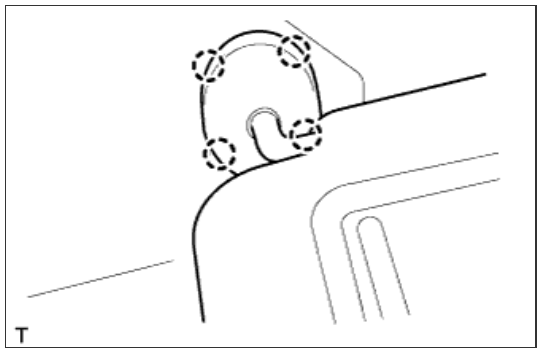
## 1. INSTALL VISOR ASSEMBLY RH

a. Install the visor with the 2 screws.

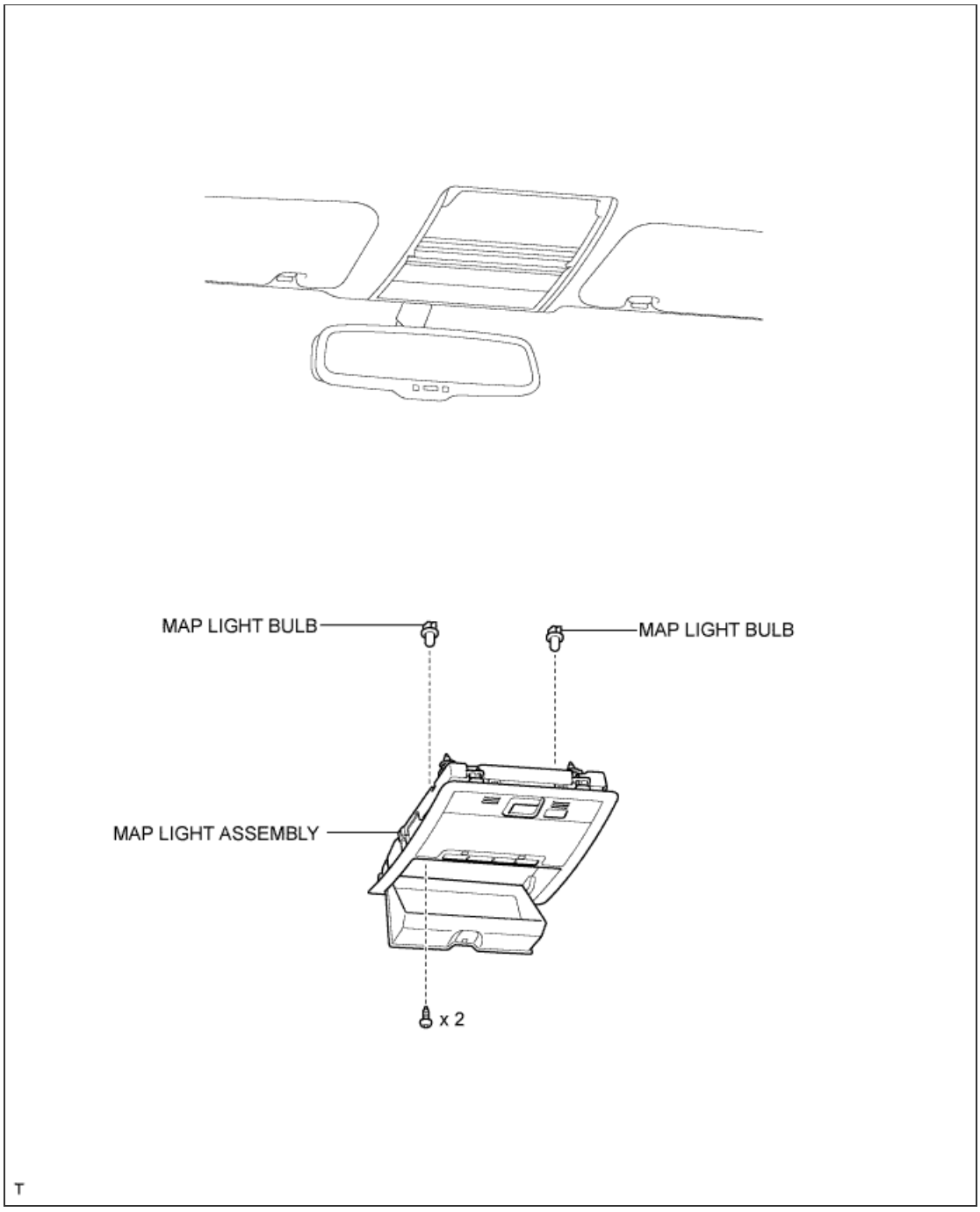



## 2. INSTALL VISOR BRACKET COVER

a. Attach the 4 claws to install the visor bracket cover.



**for Preparation** Click here



**for Preparation** Click here

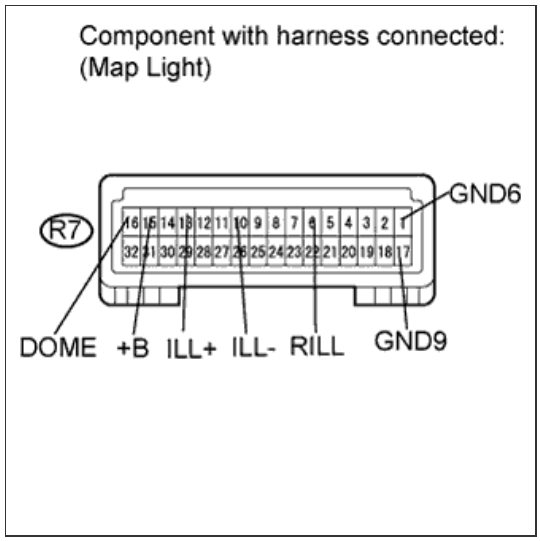
## 1. CHECK MAP LIGHT ASSEMBLY

a. Remove the map light with the connector connected.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| R7-6 (RILL) - R7-17 (GND9) | Rear dome light off | 11 to 14 V |
| | Rear dome light on | Below 1 V |
| R7-10 (ILL-) - R7-17 (GND9) | Headlight dimmer switch off | 11 to 14 V |
| | Headlight dimmer switch on | Below 1 V |
| R7-13 (ILL+) - R7-17 (GND9) | Engine switch on (ACC) | 11 to 14 V |
| R7-15 (+B) - R7-17 (GND9) | Always | 11 to 14 V |
| R7-16 (DOME) - R7-17 (GND9) | Always | 11 to 14 V |




c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R7-1 (GND6) - Body ground | Always | Below 1 Ω |
| R7-17 (GND9) - Body ground | Always | Below 1 Ω |

If the result is not as specified, replace the map light assembly.

**for Preparation** Click here

**HINT:**

When only replacing the room light bulbs, use the following procedures.

## 1. REMOVE MAP LIGHT ASSEMBLY (w/ Sliding Roof)

a. Using a screwdriver, detach the 2 claws and open the 2 covers.

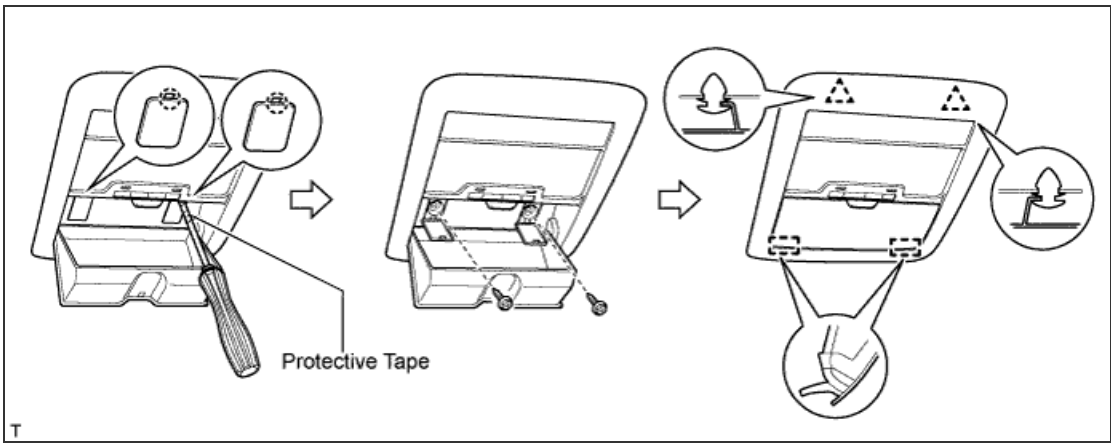
**HINT:**

Tape the screwdriver tip before use.

b. Remove the 2 screws.

c. Detach the 2 clips and 2 guides.

d. Disconnect the connector and then remove the map light.




## 2. REMOVE MAP LIGHT ASSEMBLY (w/o Sliding Roof)

a. Using a screwdriver, detach the 2 claws and open the 2 covers.

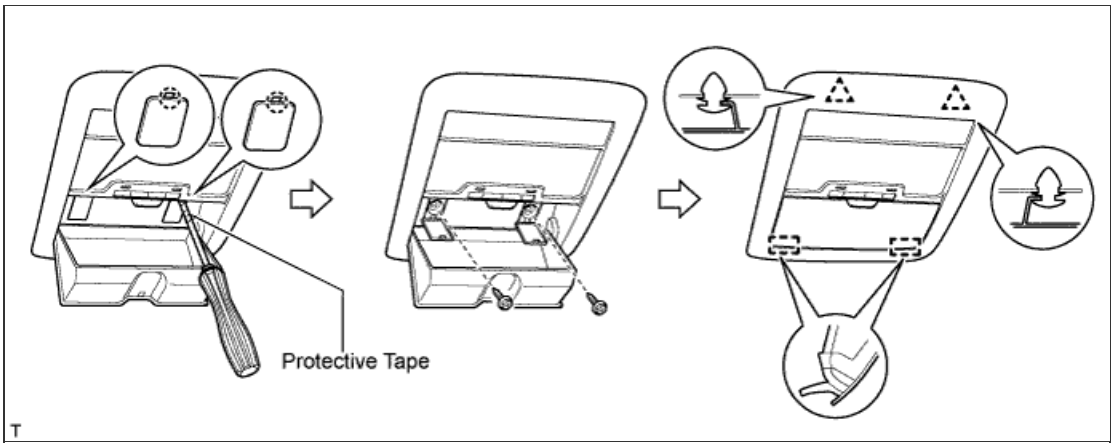
**HINT:**

Tape the screwdriver tip before use.

b. Remove the 2 screws.

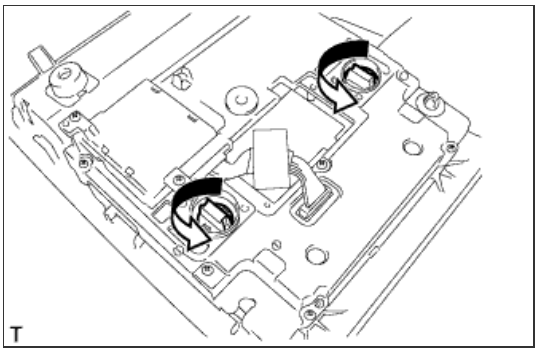
c. Detach the 2 clips and 2 guides.

d. Disconnect the connector and then remove the map light.




### 3. REMOVE MAP LIGHT BULB

a. Turn the 2 map light bulbs in the direction indicated by the arrows and remove them.



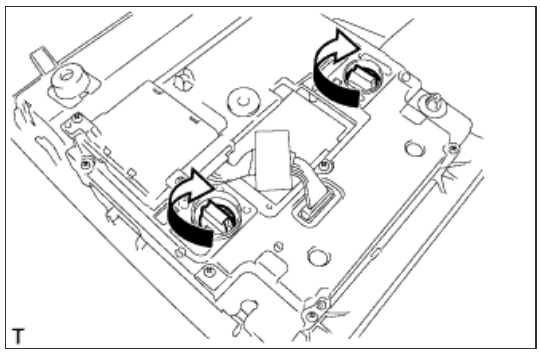
**for Preparation** Click here

**HINT:**

When only replacing the room light bulbs, use the following procedures.

## 1. INSTALL MAP LIGHT BULB

a. Turn the 2 map light bulbs in the direction indicated by the arrow to install them.



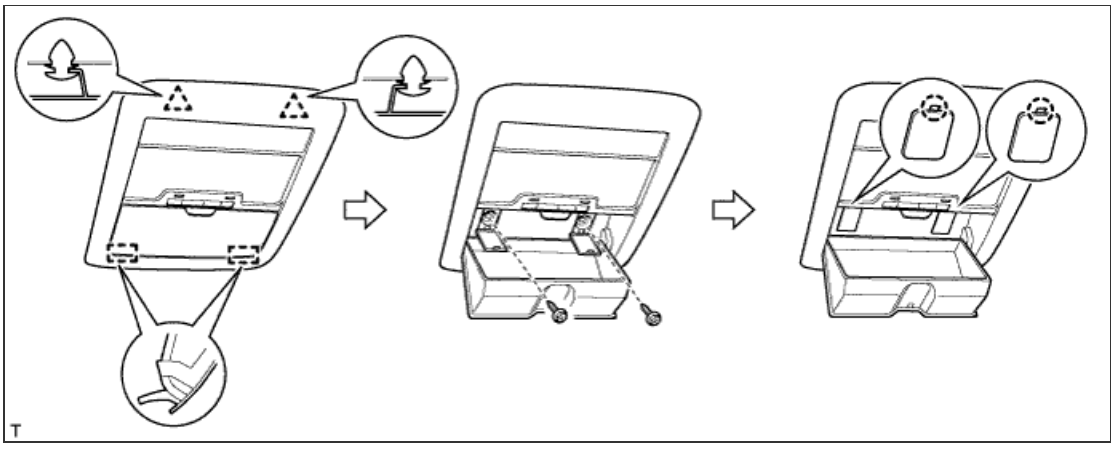

## 2. INSTALL MAP LIGHT ASSEMBLY (w/ Sliding Roof)

a. Connect the connector.

b. Attach the 2 clips and 2 guides to install the map light.

c. Install the 2 screws.

d. Attach the 2 claws to close the 2 covers.



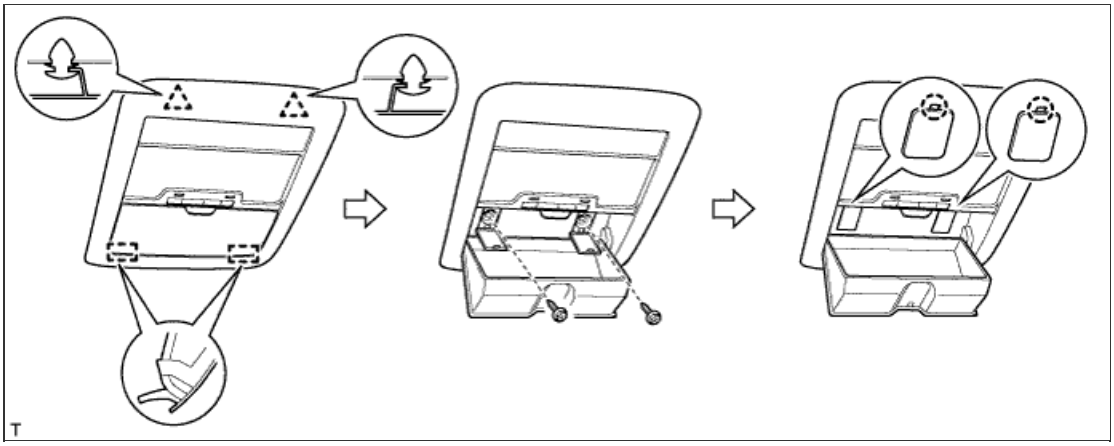

## 3. INSTALL MAP LIGHT ASSEMBLY (w/o Sliding Roof)

a. Connect the connector.

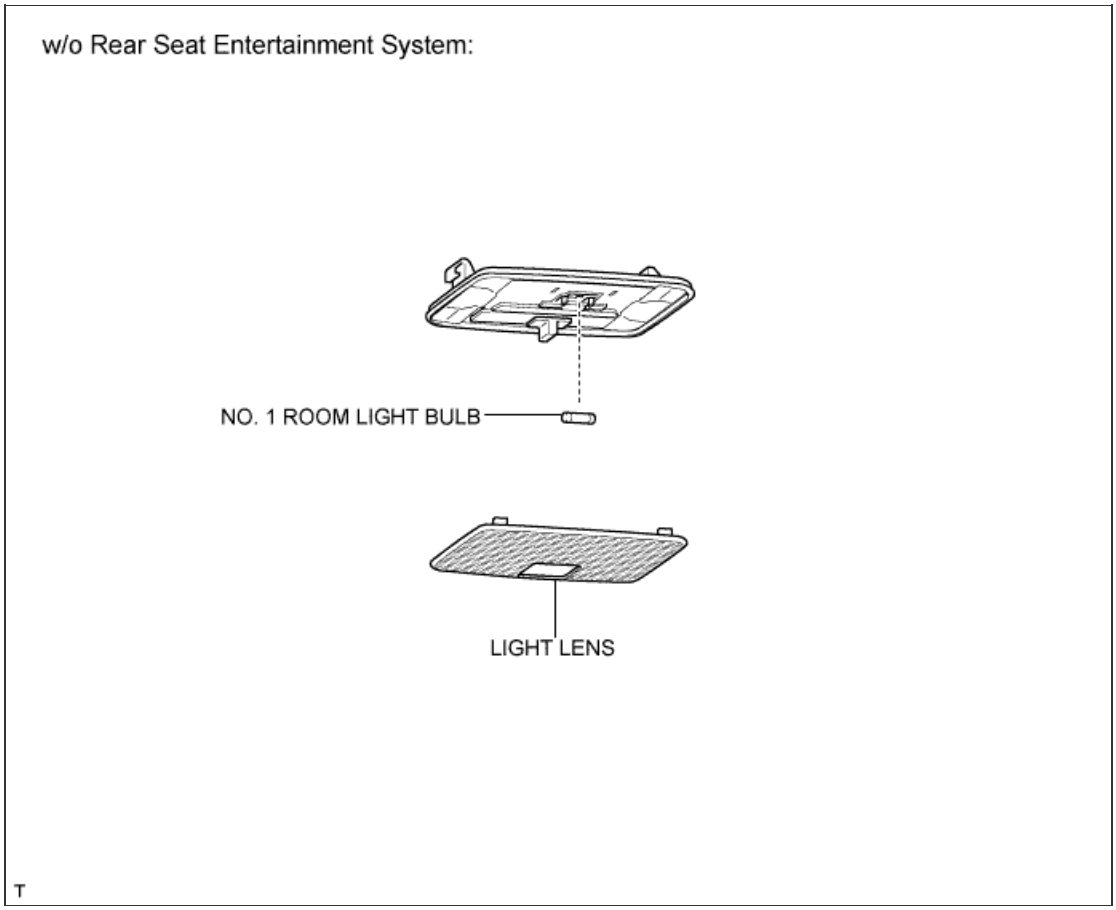
b. Attach the 2 clips and 2 guides to install the map light.

c. Install the 2 screws.

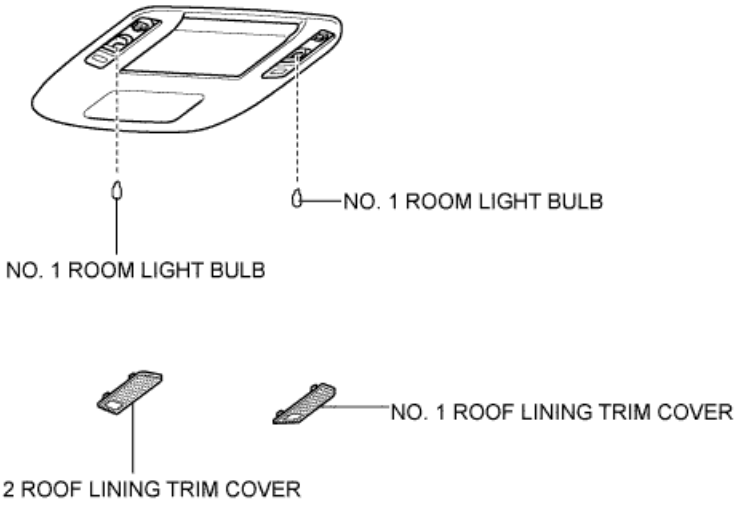
d. Attach the 2 claws to close the 2 covers.



**for Preparation** Click here



w/ Rear Seat Entertainment System:




T

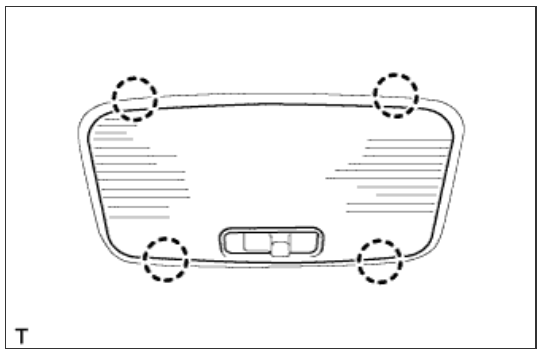
**for Preparation** Click here

**HINT:**

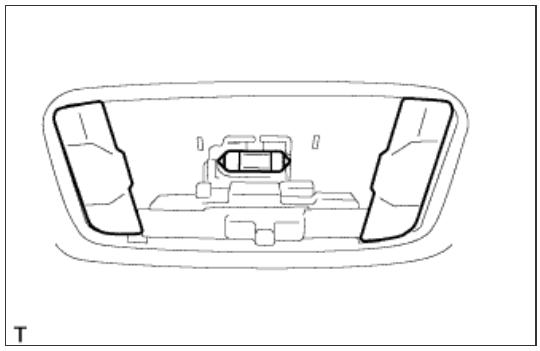
When only replacing the room light bulb, use the following procedures.

### 1. REMOVE NO. 1 ROOM LIGHT BULB (w/o Rear Seat Entertainment System)

a. Detach the 4 claws and remove the light lens.

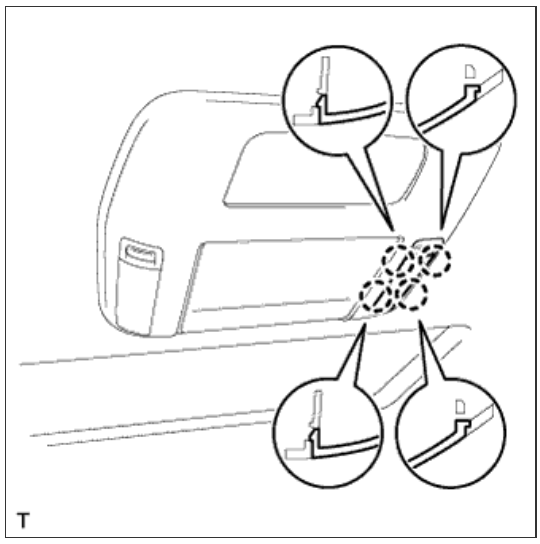



b. Remove the bulb.



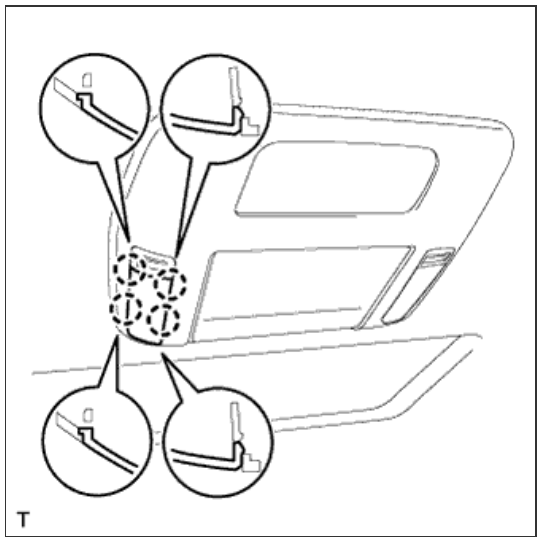

### 2. REMOVE NO. 1 ROOF LINING TRIM COVER (w/ Rear Seat Entertainment System)

a. Detach the 4 claws and remove the room light trim cover.



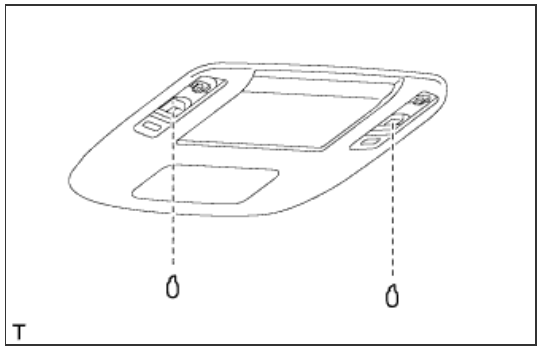

### 3. REMOVE NO. 2 ROOF LINING TRIM COVER (w/ Rear Seat Entertainment System)

a. Detach the 4 claws and remove the room light trim cover.




**4. REMOVE NO. 1 ROOM LIGHT ASSEMBLY (w/ Rear Seat Entertainment System)**

a. Remove the 2 bulbs.



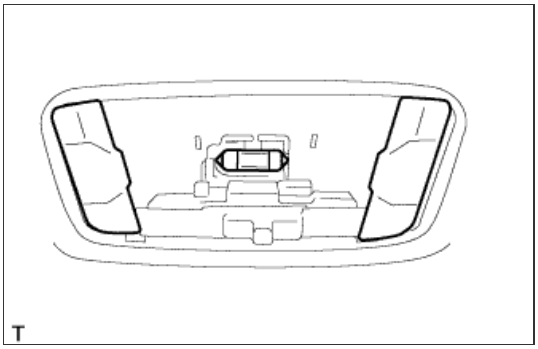
**for Preparation** Click here

**HINT:**

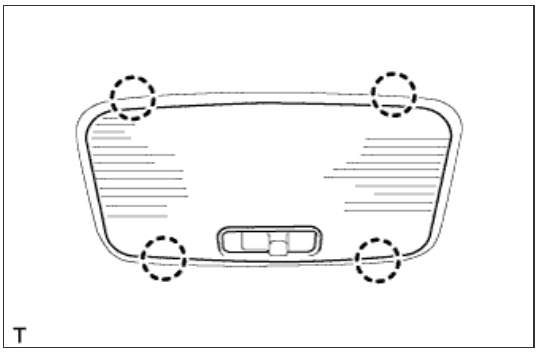
When only replacing the room light bulb, use the following procedures.

## 1. INSTALL NO. 1 ROOM LIGHT BULB (w/o Rear Seat Entertainment System)

a. Install the bulb.

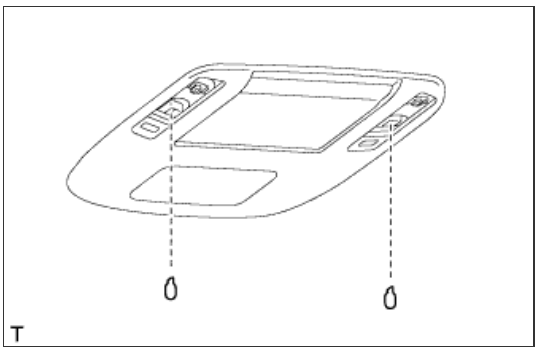



b. Attach the 4 claws to install the light lens.



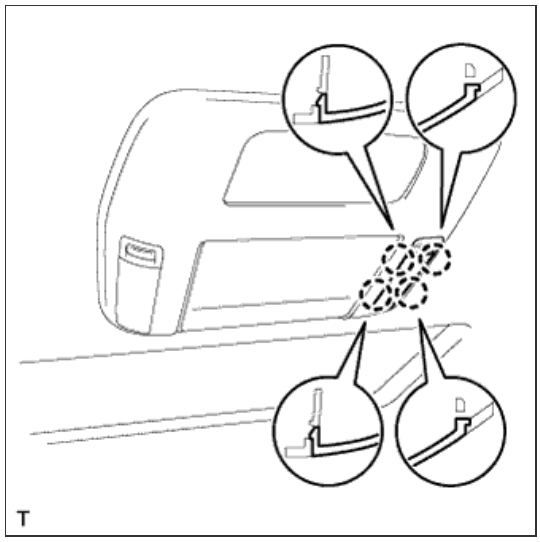

## 2. INSTALL NO. 1 ROOM LIGHT ASSEMBLY (w/ Rear Seat Entertainment System)

a. Install the 2 bulbs.



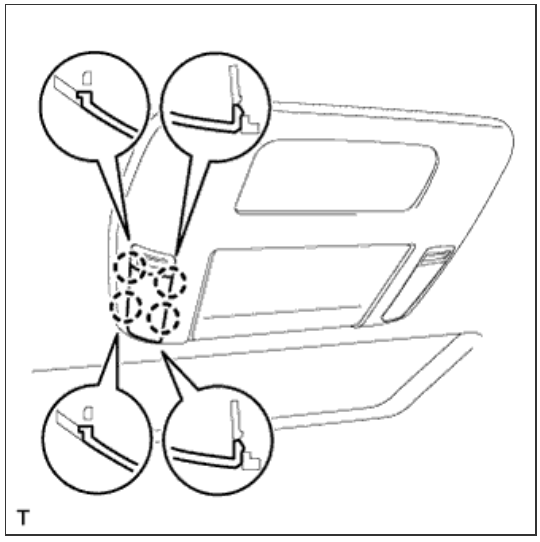

## 3. INSTALL NO. 1 ROOF LINING TRIM COVER (w/ Rear Seat Entertainment System)

a. Attach the 4 claws to install the room light trim cover.

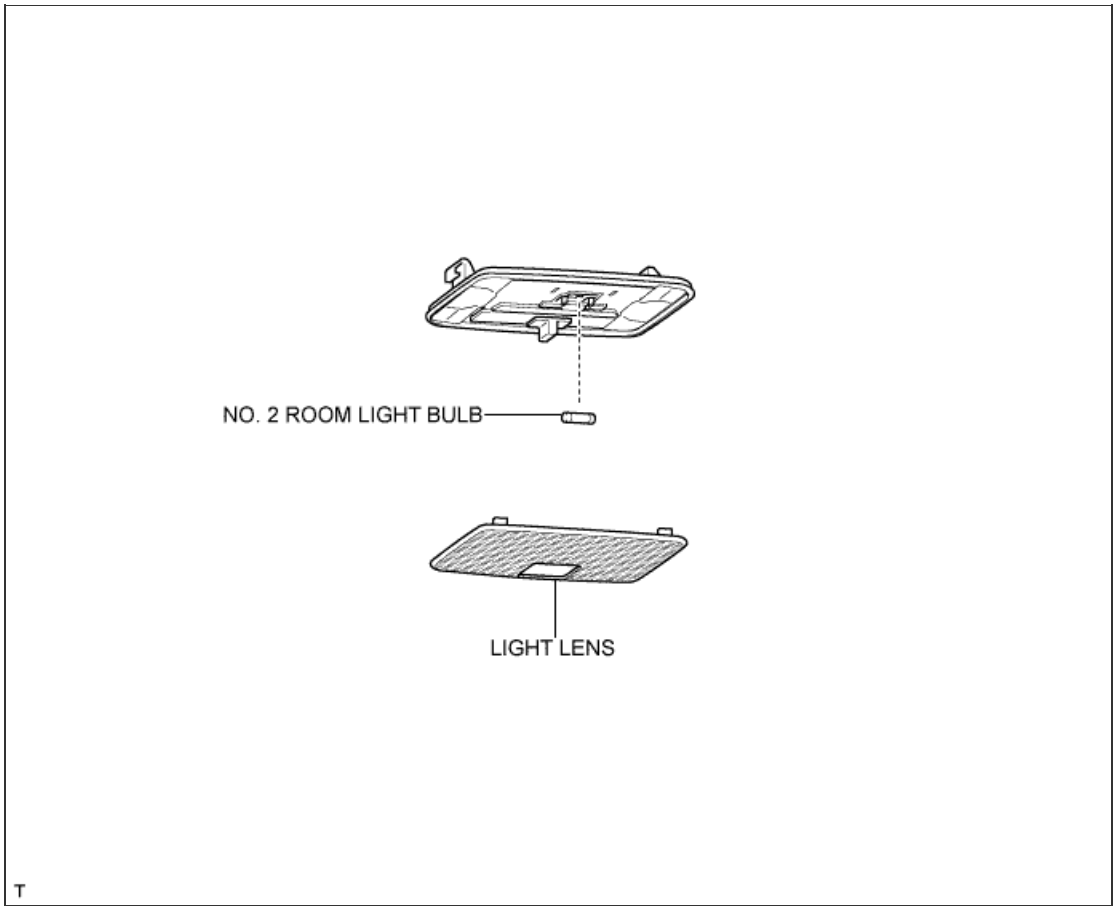



**4. INSTALL NO. 2 ROOF LINING TRIM COVER (w/ Rear Seat Entertainment System)**

a. Attach the 4 claws to install the room light trim cover.



**for Preparation** Click here



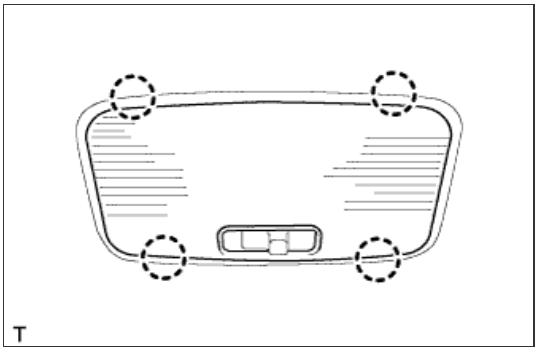
**for Preparation** Click here

**HINT:**

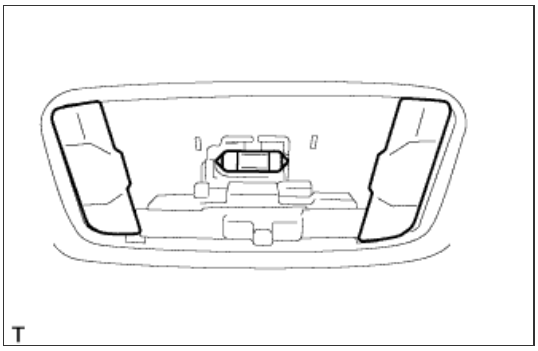
When only replacing the room light bulb, use the following procedures.

## 1. REMOVE NO. 2 ROOM LIGHT BULB

a. Detach the 4 claws and remove the light lens.




b. Remove the bulb.



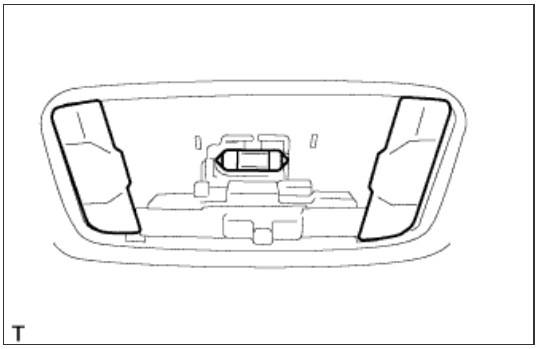
**for Preparation** Click here

**HINT:**

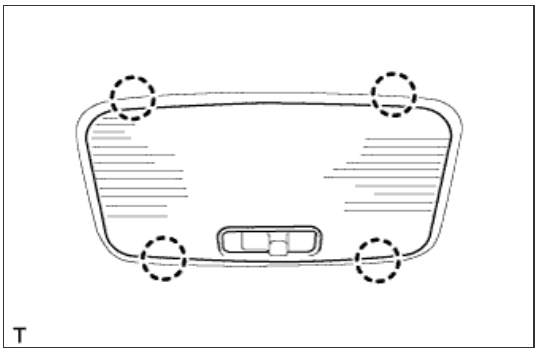
When only replacing the room light bulb, use the following procedures.

## 1. INSTALL NO. 2 ROOM LIGHT BULB

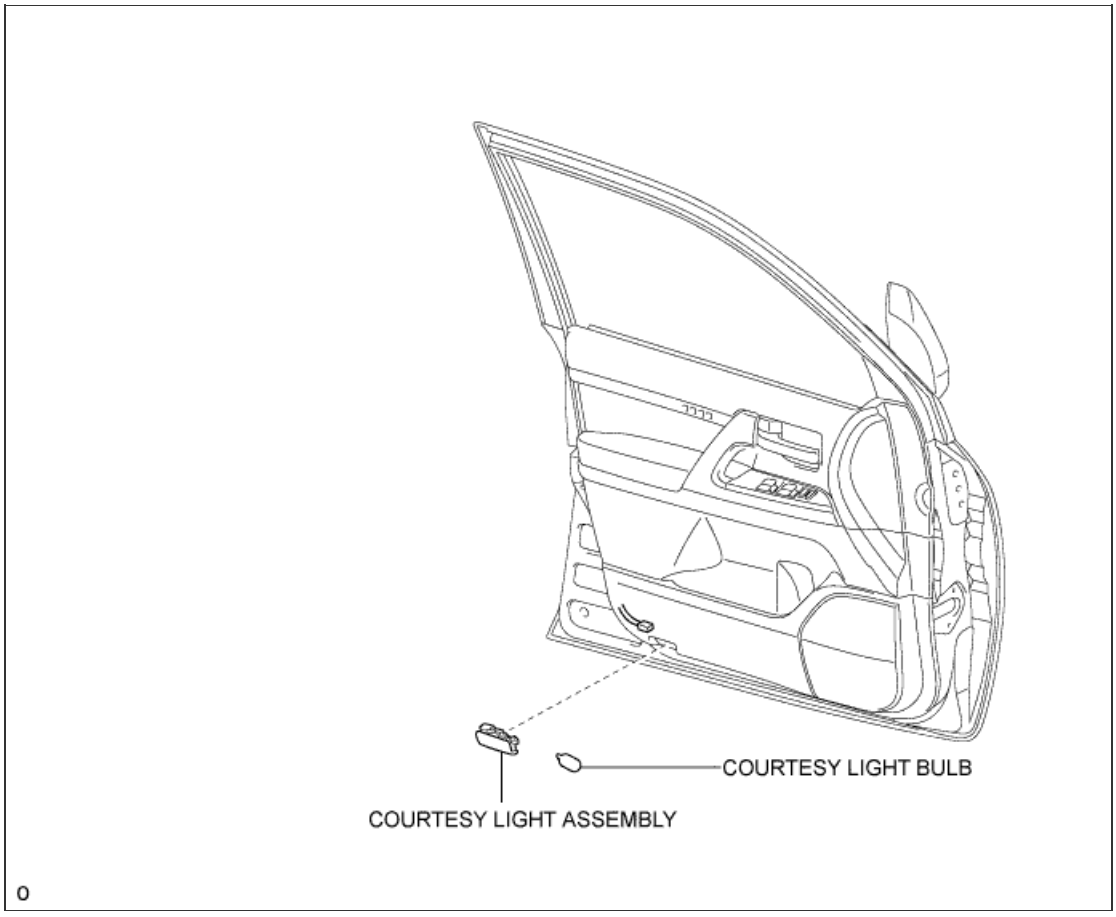
a. Install the bulb.




b. Attach the 4 claws to install the light lens.



**for Preparation** Click here



**for Preparation** Click here

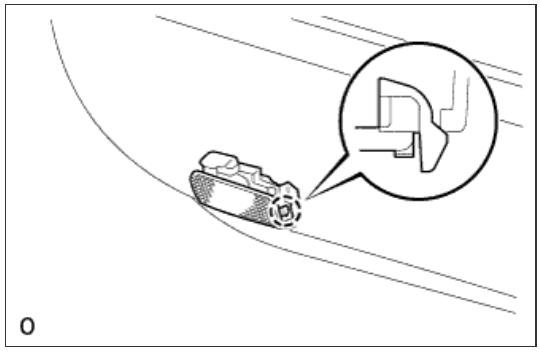
**HINT:**

- **Use the same procedures for the RH and LH side.**
- **The procedures listed below are for the LH side.**

## 1. REMOVE COURTESY LIGHT ASSEMBLY

a. Detach the claw.

b. Remove the courtesy light and then disconnect the connector.



## 2. REMOVE COURTESY LIGHT BULB

a. Remove the bulb.

**for Preparation** Click here

## 1. INSPECT COURTESY LIGHT ASSEMBLY

a. Measure the resistance according to the value(s) in the table below.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 2<br>Battery negative (-) → Terminal 1 | Light illuminates |

If the result is not as specified, replace the courtesy light assembly.

Component without harness connected:
(Door Courtesy Light)



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH and LH side.**
- **The procedures listed below are for the LH side.**

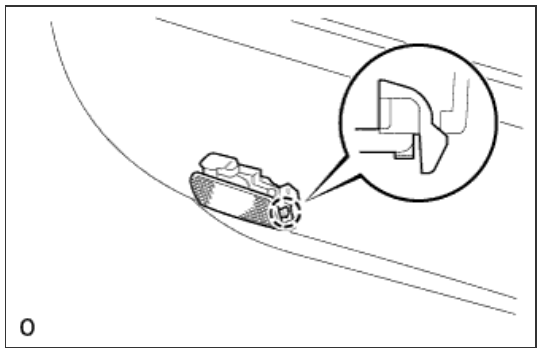
## 1. INSTALL COURTESY LIGHT BULB

a. Install the bulb.

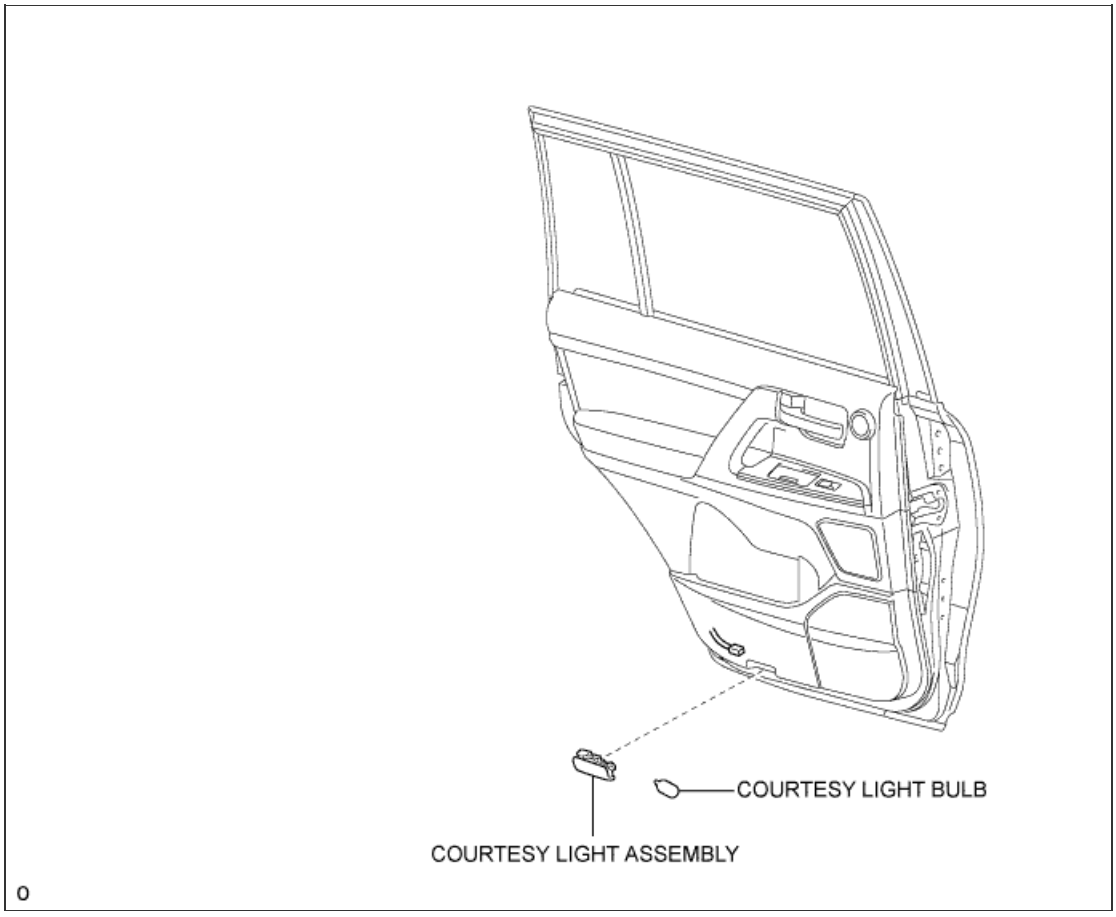
## 2. INSTALL COURTESY LIGHT ASSEMBLY

a. Connect the connector.

b. Attach the claw of the courtesy light to the front door trim.



**for Preparation** Click here



**for Preparation** Click here

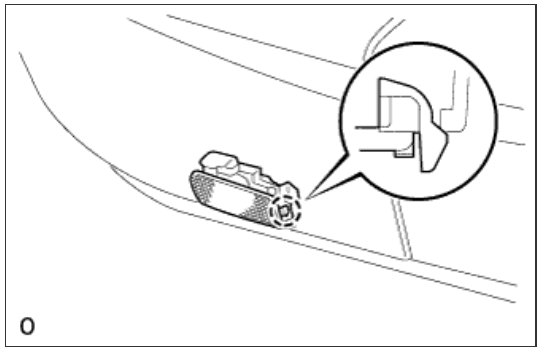
**HINT:**

- **Use the same procedures for the RH and LH side.**
- **The procedures listed below are for the LH side.**

## 1. REMOVE COURTESY LIGHT ASSEMBLY

a. Detach the claw.

b. Remove the courtesy light and then disconnect the connector.




## 2. REMOVE COURTESY LIGHT BULB

a. Remove the bulb

**for Preparation** Click here

## 1. INSPECT COURTESY LIGHT ASSEMBLY

a. Measure the resistance according to the value(s) in the table below.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 2<br>Battery negative (-) → Terminal 1 | Light illuminates |

If the result is not as specified, replace the courtesy light assembly.

Component without harness connected:
(Door Courtesy Light)



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH and LH side.**
- **The procedures listed below are for the LH side.**

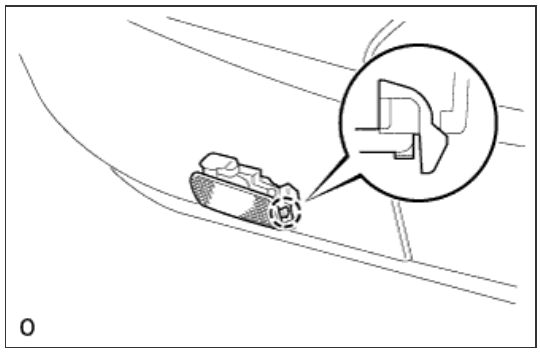
## 1. INSTALL COURTESY LIGHT BULB

a. Install the bulb.

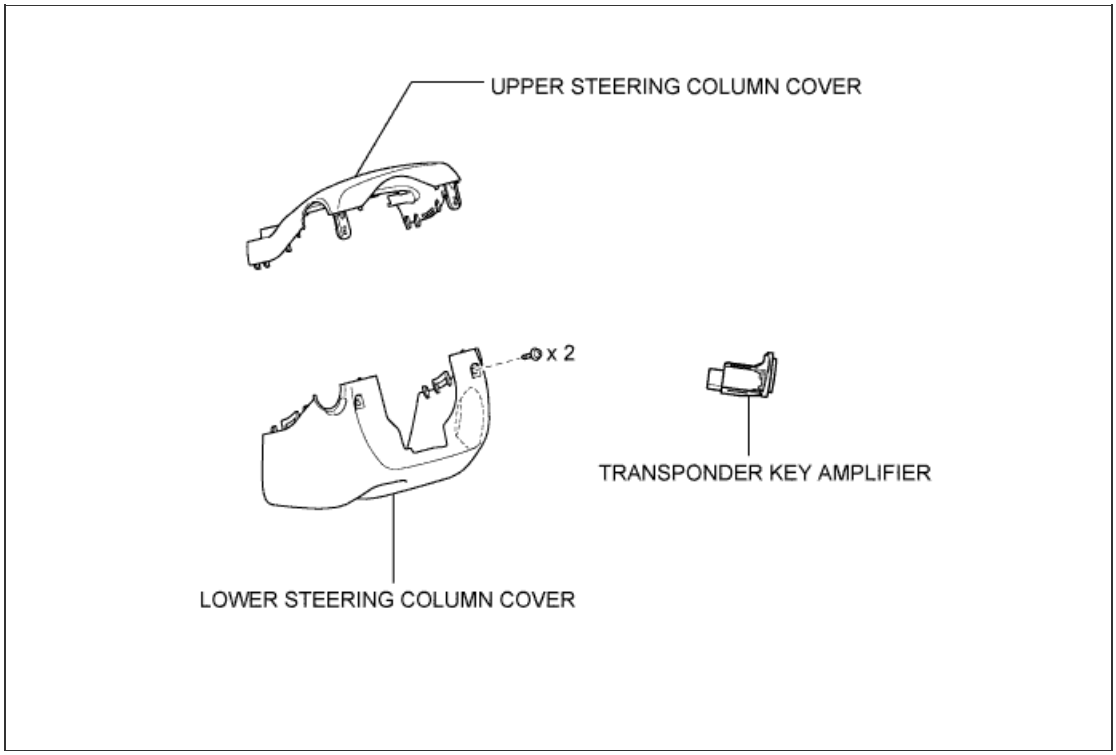
## 2. INSTALL COURTESY LIGHT ASSEMBLY

a. Connect the connector.

b. Attach the claw of the courtesy light to the rear door trim.



**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

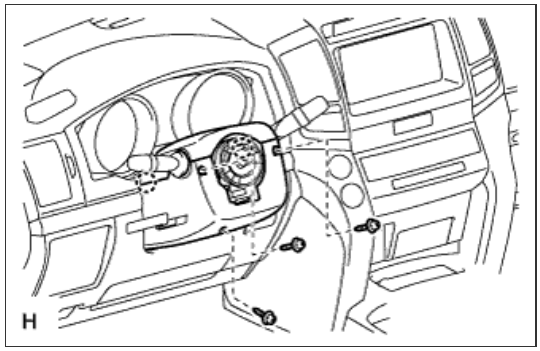
## 1. REMOVE LOWER STEERING COLUMN COVER

a. Remove the 3 screws.

b. Detach the 2 claws to remove the lower steering column cover.

**NOTICE:**

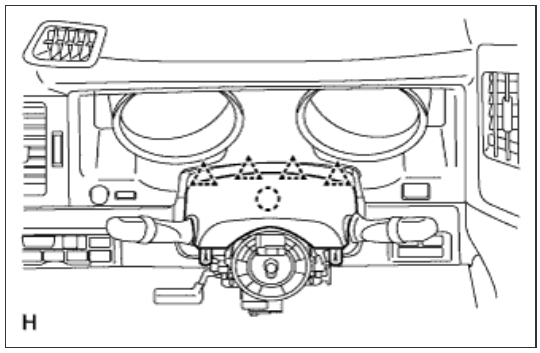
Do not damage the tilt and telescopic switch.




## 2. REMOVE UPPER STEERING COLUMN COVER

a. Detach the 4 clips.

b. Detach the claw to remove the upper steering column cover.

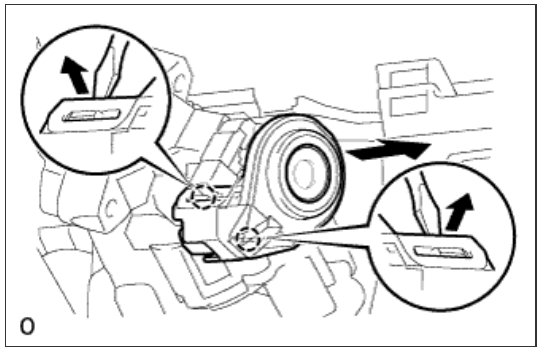



## 3. REMOVE TRANSPONDER KEY AMPLIFIER

a. Turn the key amplifier as shown in the illustration to detach the 2 claws and remove the key amplifier. Using a screwdriver, widen the claw attached to the upper bracket by approximately 1.0 mm (0.039 in.).

b. Pull out the transponder key amplifier with the claw open.

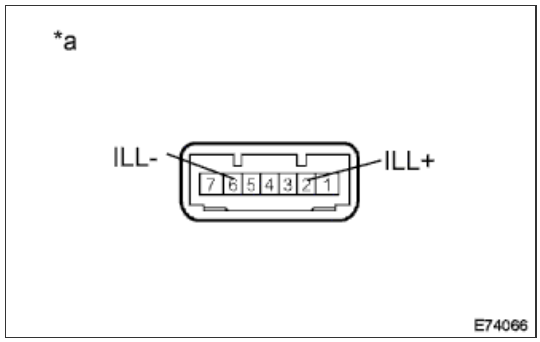
c. Disconnect the connector and remove the transponder key amplifier.



**for Preparation** Click here

## 1. INSPECT TRANSPONDER KEY AMPLIFIER

a. Apply battery voltage to the connector and check the LED illumination.




**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 2 (ILL+)<br>Battery negative (-) → Terminal 6 (ILL-) | LED illuminates |

If the result is not as specified, replace the transponder key amplifier.

**Text in Illustration**

| | |
|---|---|
| *a | Component without harness connected (Transponder Key Amplifier) |

**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL TRANSPONDER KEY AMPLIFIER

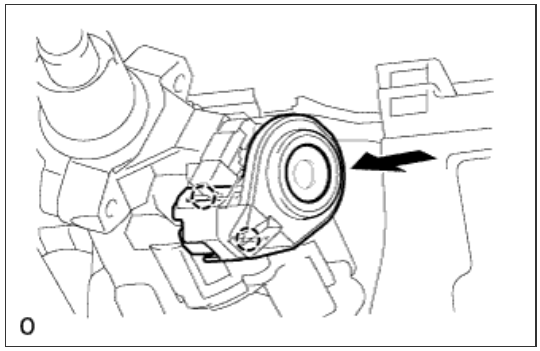
a. Connect the connector.

b. Align the claw of the transponder key amplifier with the upper bracket.

c. Push in the transponder key amplifier and install it to the upper bracket.

**NOTICE:**

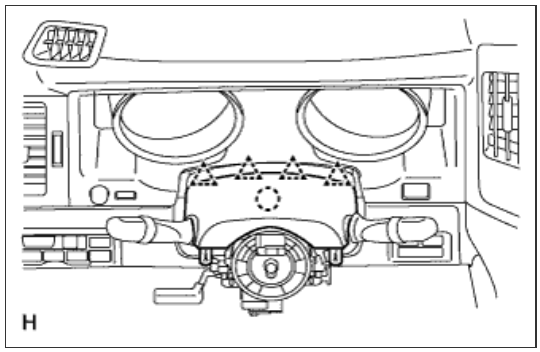
Do not push in the transponder key amplifier with excessive force as it may be damaged.




## 2. INSTALL UPPER STEERING COLUMN COVER

a. Attach the claw to install the upper steering column cover.

b. Attach the 4 clips to install the upper steering column cover onto the instrument cluster finish panel.




## 3. INSTALL LOWER STEERING COLUMN COVER

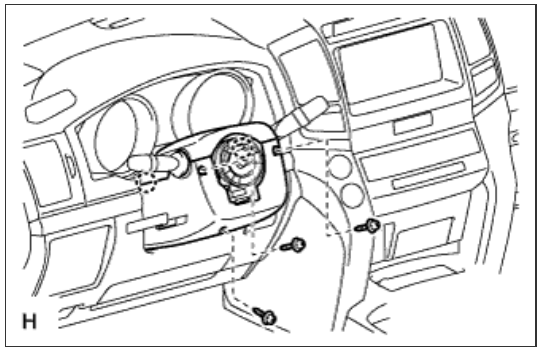
a. Attach the 2 claws to install the lower steering column cover.

**NOTICE:**

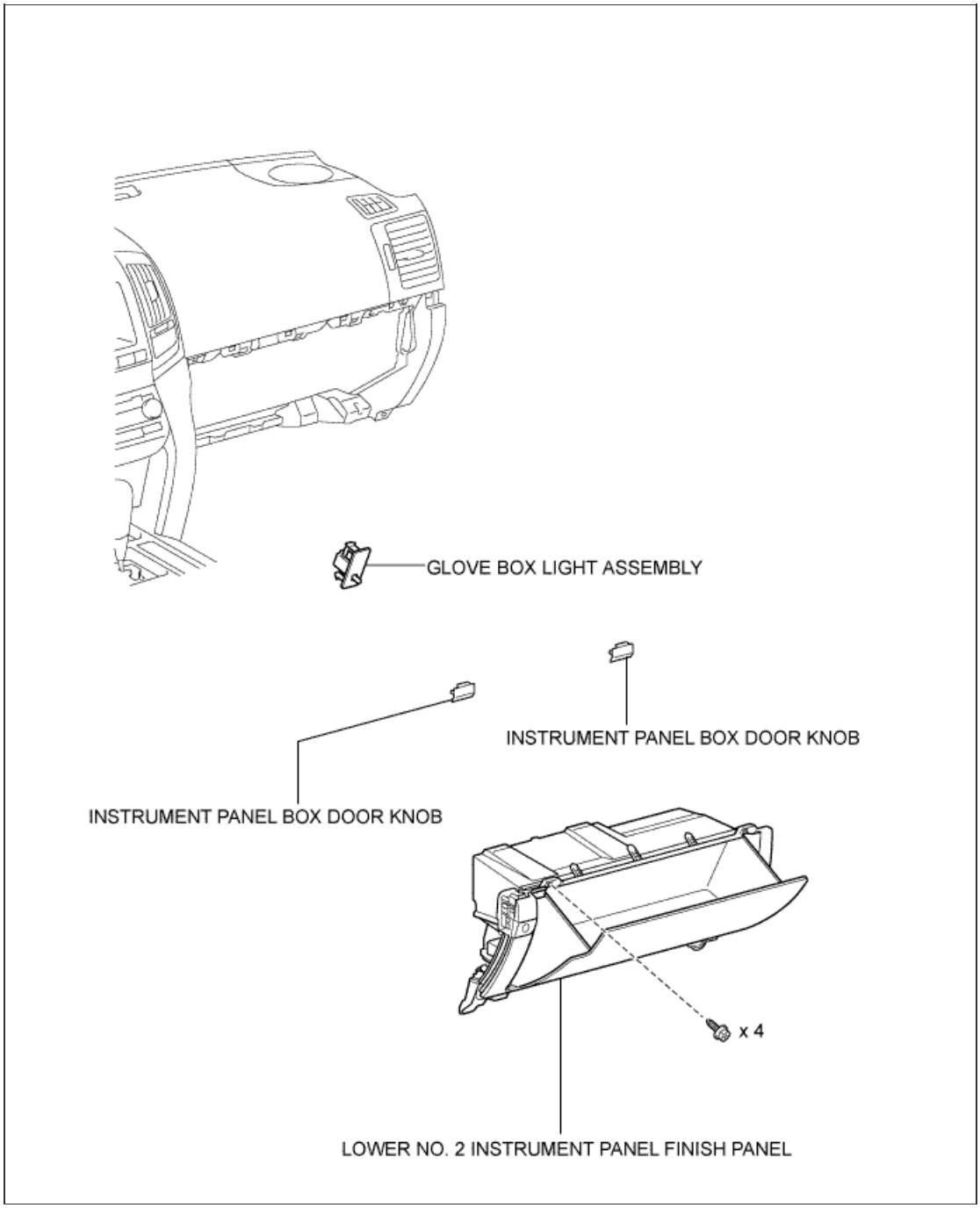
Do not damage the tilt and telescopic switch.

b. Install the 3 screws.

**Torque:**
**2.0 N*m{ 20 kgf*cm , 18 in.*lbf }**



**for Preparation** Click here



**for Preparation** Click here

**HINT:**

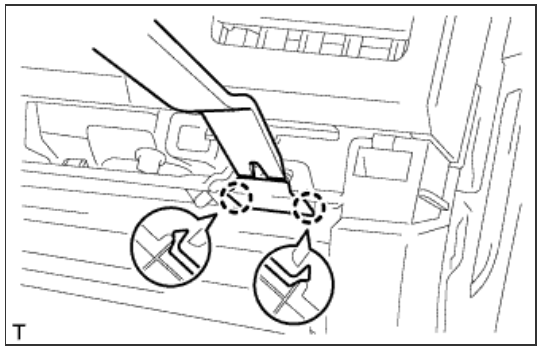
- **Use the same procedures for the RHD and LHD.**
- **The procedures listed below are the LHD side.**

## 1. REMOVE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the front passenger side knee airbag assembly ( Click here).

## 2. REMOVE INSTRUMENT PANEL BOX DOOR KNOB

a. Using a moulding remover, detach the 2 claws and remove the instrument panel box door knob.

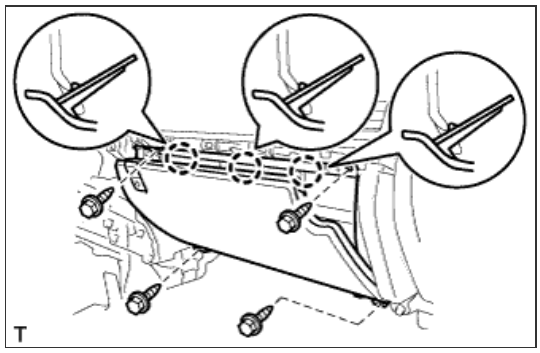



## 3. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

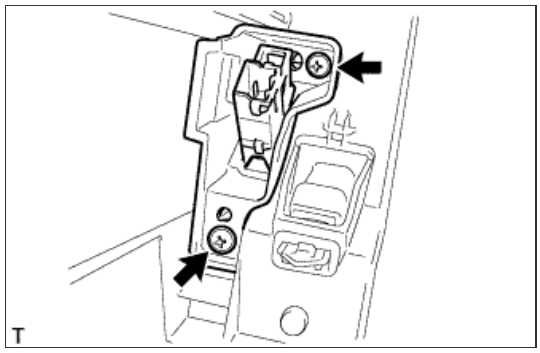
b. Detach the 3 claws.

c. Disconnect the connector and remove the lower No. 2 instrument panel finish panel.




## 4. REMOVE GLOVE BOX LIGHT ASSEMBLY

a. Remove the 2 screws and glove box light.


T

**for Preparation** Click here

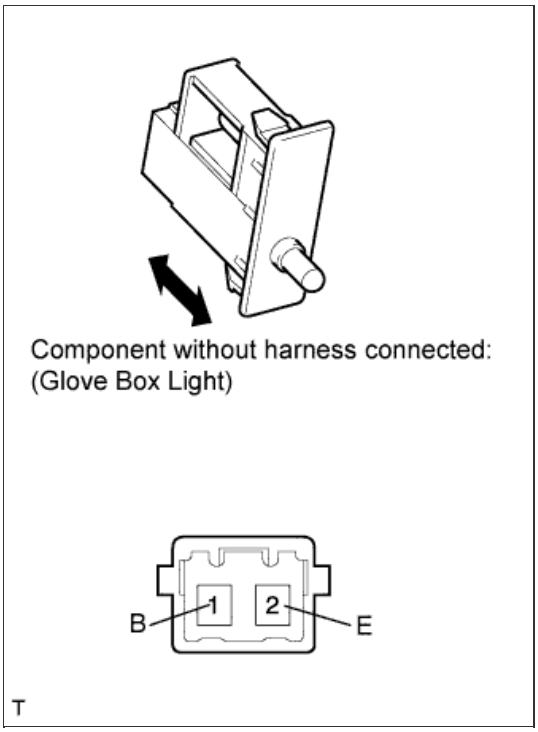
## 1. INSPECT GLOVE BOX LIGHT ASSEMBLY

a. Apply battery voltage to the connector, and check the LED illumination condition.

**OK:**

| Measurement Condition | Switch Condition | Specified Condition |
|---|---|---|
| Battery positive (+) → Terminal 1 (B)<br>Battery positive (-) → Terminal 2 (E) | Not pushed | Light illuminates |

If the result is not as specified, there may be a malfunction in the glove box light assembly.



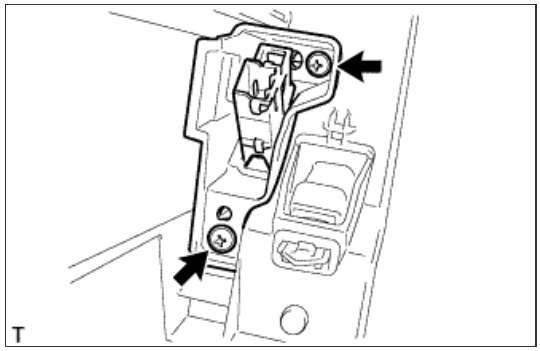
**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RHD and LHD.**
- **The procedures listed below are the LHD side.**

## 1. INSTALL GLOVE BOX LIGHT ASSEMBLY

a. Install the glove box light with the 2 screws.

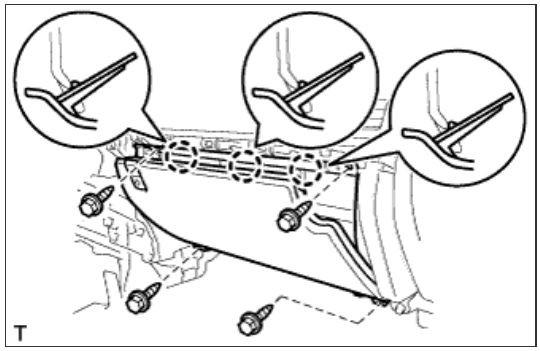



## 2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

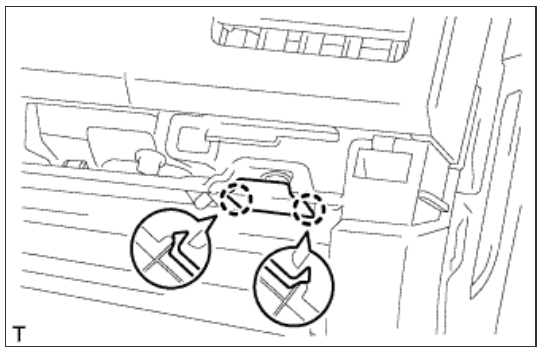
b. Attach the 3 claws to install the lower No. 2 instrument panel finish panel.

c. Install the 4 bolts.




## 3. INSTALL INSTRUMENT PANEL BOX DOOR KNOB

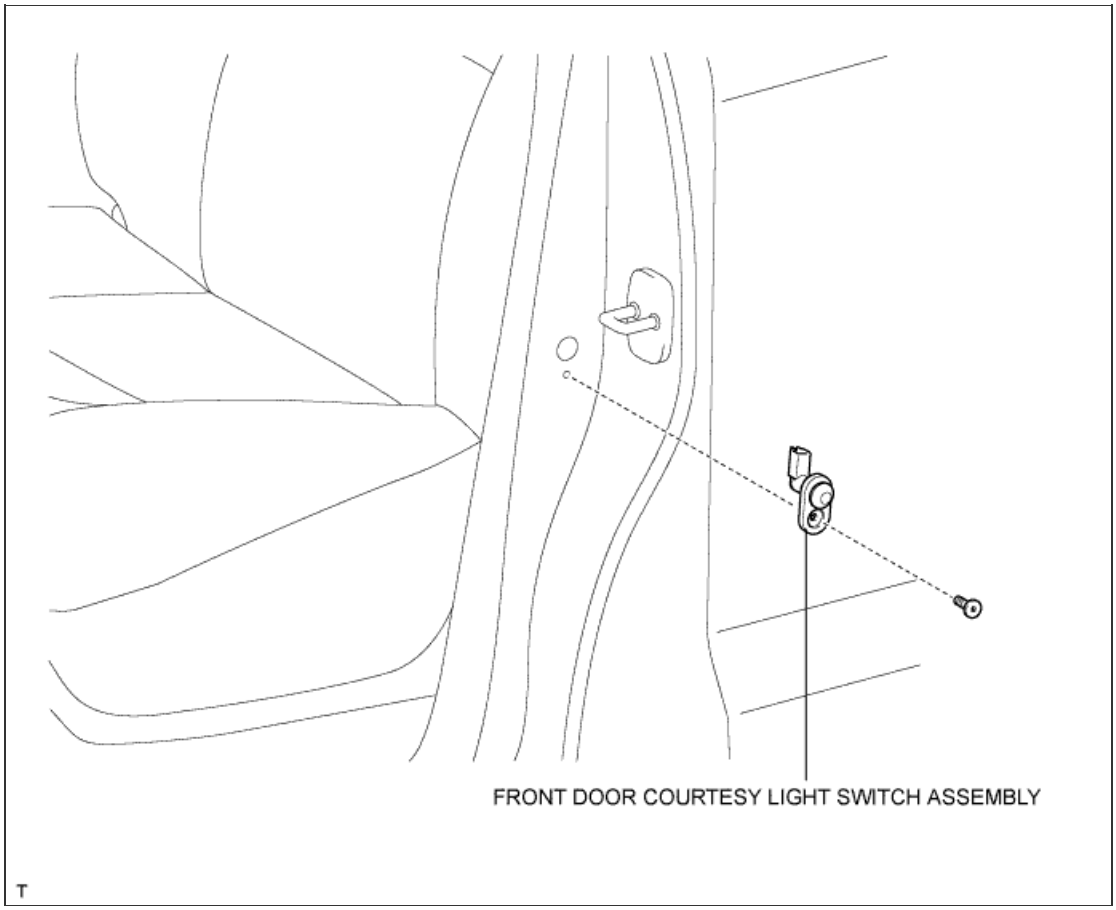
a. Attach the 2 claws to install the instrument panel box door knob.




## 4. INSTALL FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY

a. Install the front passenger side knee airbag assembly ( Click here).

**for Preparation** Click here

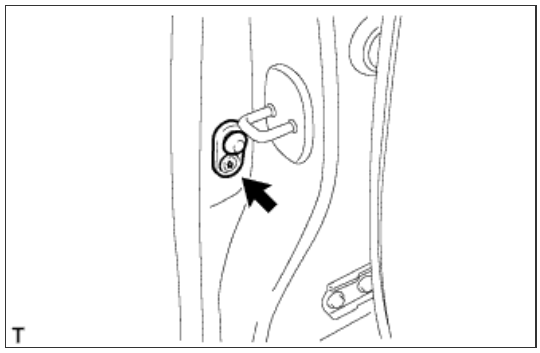


**for Preparation** Click here

## 1. REMOVE FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY

a. Using a T30 "TORX" socket wrench, remove the screw and switch.

b. Disconnect the connector.



**for Preparation** Click here

## 1. INSPECT FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY

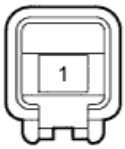
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 - Body ground | Pin not pushed | Below 1 Ω |
| 1 - Body ground | Pin pushed | 10 kΩ or higher |

If the result is not as specified, there may be a malfunction in the front door courtesy switch assembly.

Component without harness connected:
(Front Door Courtesy Switch)

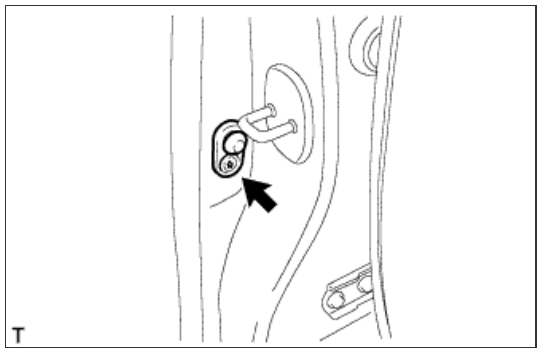


**for Preparation** Click here

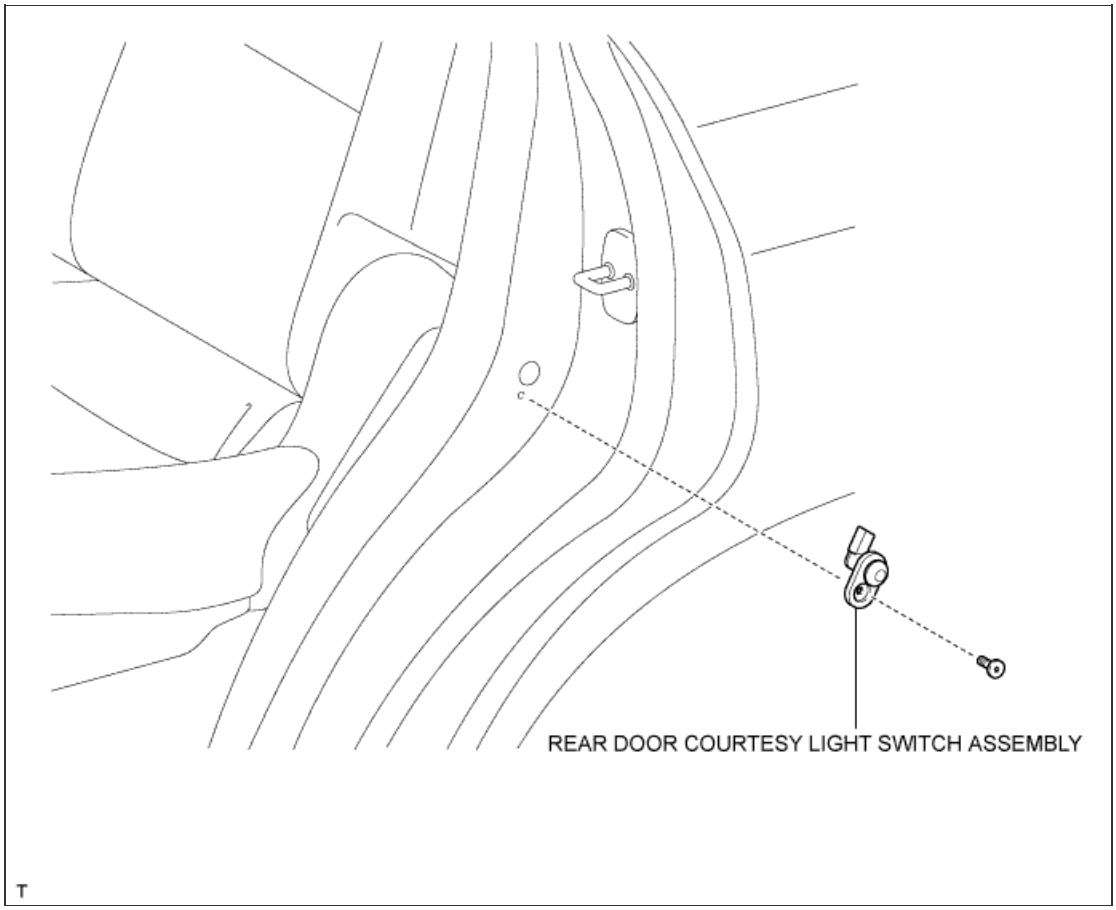
## 1. INSTALL FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY

a. Connect the connector.

b. Using a T30 "TORX" socket wrench, install the switch with the screw.



**for Preparation** Click here

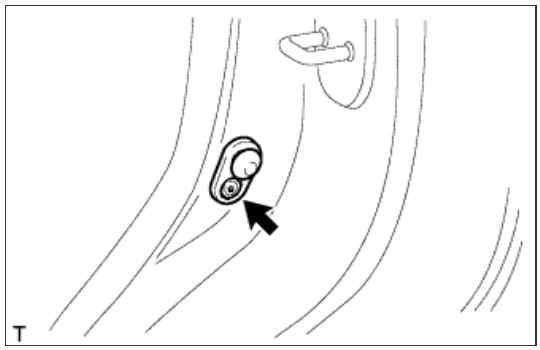


**for Preparation** Click here

## 1. REMOVE REAR DOOR COURTESY LIGHT SWITCH ASSEMBLY

a. Using a T30 "TORX" socket wrench, remove the screw and switch.

b. Disconnect the connector.



**for Preparation** Click here

## 1. INSPECT REAR DOOR COURTESY LIGHT SWITCH ASSEMBLY

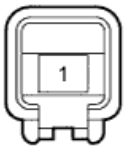
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 - Body ground | Pin not pushed | Below 1 Ω |
| 1 - Body ground | Pin pushed | 10 kΩ or higher |

If the result is not as specified, there may be a malfunction in the rear door courtesy switch assembly.

Component without harness connected:
(Rear Door Courtesy Switch)

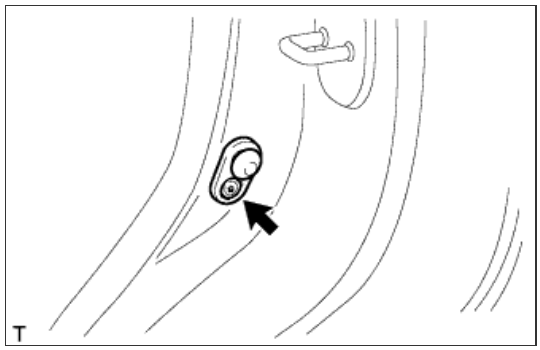


**for Preparation** Click here

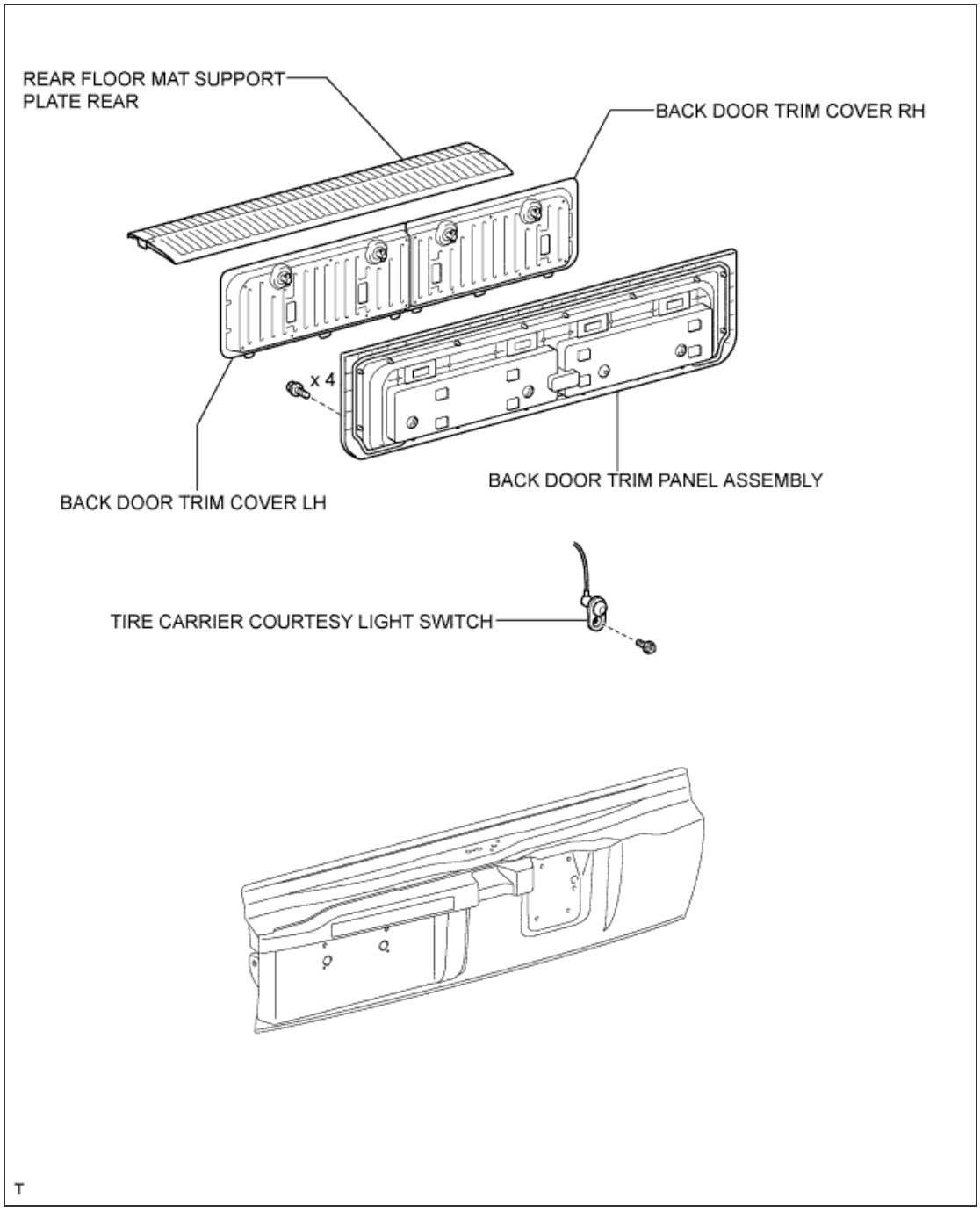
## 1. INSTALL REAR DOOR COURTESY LIGHT SWITCH ASSEMBLY

a. Connect the connector.

b. Using a T30 "TORX" socket wrench, install the switch with the screw.



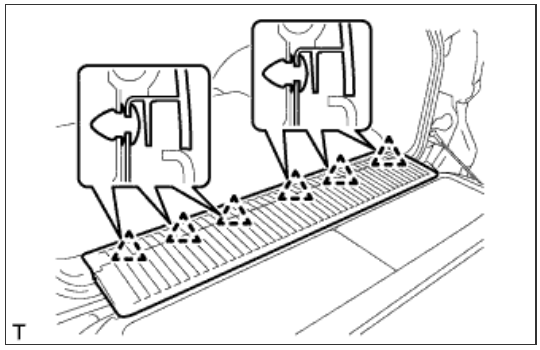
**for Preparation** Click here



**for Preparation** Click here

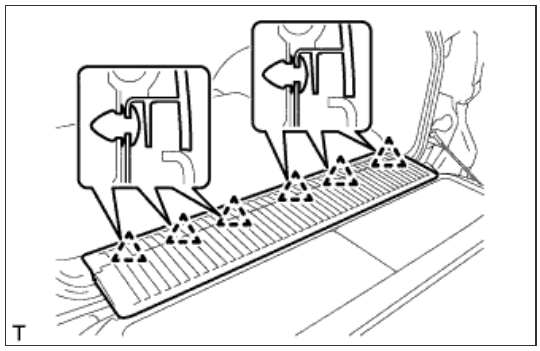
### 1. REMOVE REAR FLOOR MAT SUPPORT PLATE REAR (w/ Sliding Roof)

a. Detach the 6 clips and remove the support plate.



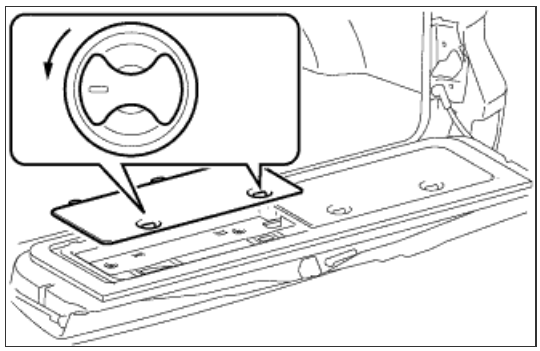

### 2. REMOVE REAR FLOOR MAT SUPPORT PLATE REAR (w/o Sliding Roof)

a. Detach the 6 clips and remove the support plate.



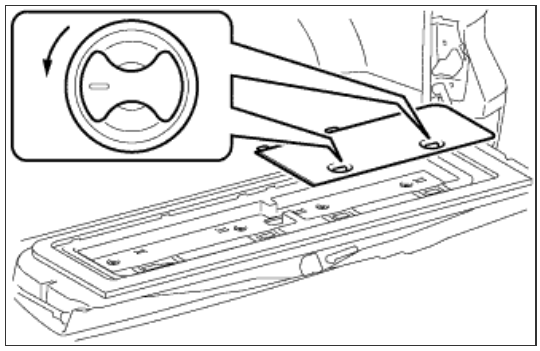

### 3. REMOVE BACK DOOR TRIM COVER LH

a. Remove the back door trim cover LH as shown in the illustration.



### 4. REMOVE BACK DOOR TRIM COVER RH

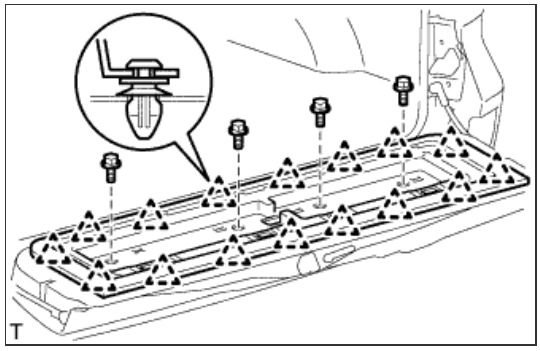
a. Remove the back door trim cover RH as shown in the illustration.



## 5. REMOVE BACK DOOR TRIM PANEL ASSEMBLY

a. Remove the 4 bolts.

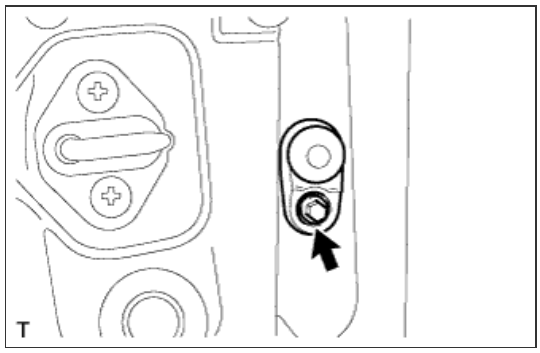
b. Detach the 16 clips and remove the back door trim panel assembly.




## 6. REMOVE TIRE CARRIER COURTESY LIGHT SWITCH

a. Disconnect the connector

b. Remove the bolt and switch.



**for Preparation** Click here

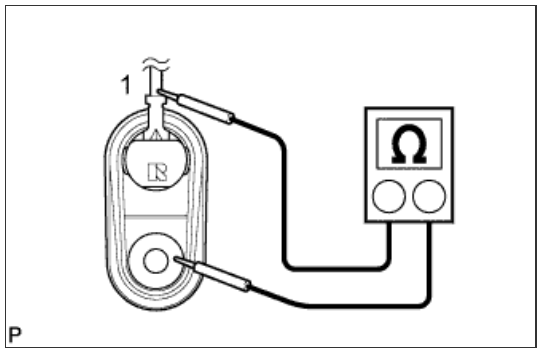
## 1. INSPECT TIRE CARRIER COURTESY LIGHT SWITCH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 - Body ground | Pin not pushed | Below 1 Ω |
| 1 - Body ground | Pin pushed | 10 kΩ or higher |

If the result is not as specified, there may be a malfunction on the tire carrier courtesy switch.

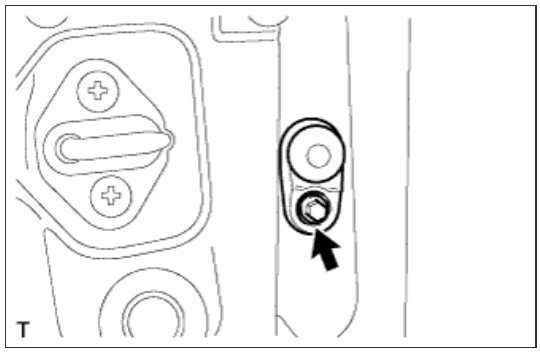


**for Preparation** Click here

## 1. INSTALL TIRE CARRIER COURTESY LIGHT SWITCH

a. Connect the connector.

b. Install the switch with the bolt.



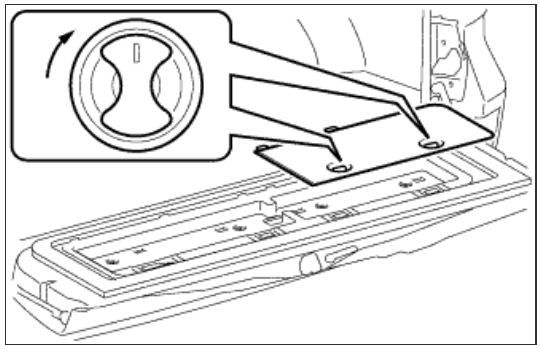

## 2. INSTALL BACK DOOR TRIM PANEL ASSEMBLY

a. Attach the 16 clips to install the back door trim panel assembly.

b. Install the 4 bolts.

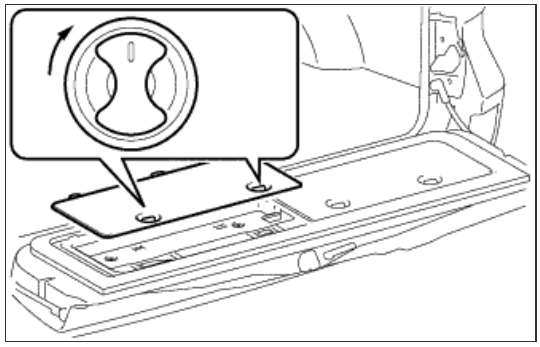
## 3. INSTALL BACK DOOR TRIM COVER RH

a. Install the back door trim cover RH as shown in the illustration.



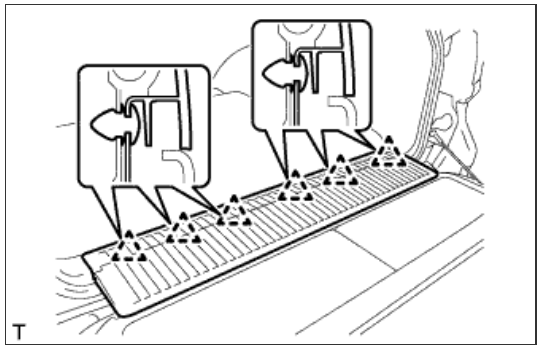
## 4. INSTALL BACK DOOR TRIM COVER LH

a. Install the back door trim cover LH as shown in the illustration.



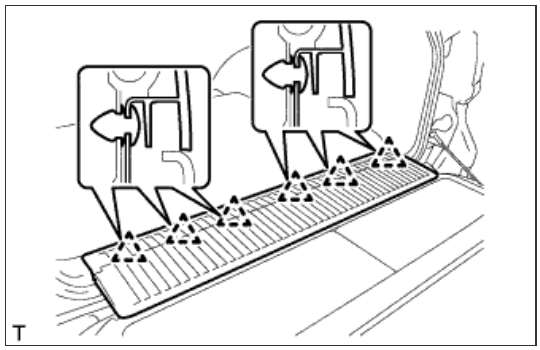
## 5. INSTALL REAR FLOOR MAT SUPPORT PLATE REAR (w/ Sliding Roof)

a. Attach the 6 clips to install the support plate.




## 6. INSTALL REAR FLOOR MAT SUPPORT PLATE REAR (w/o Sliding Roof)

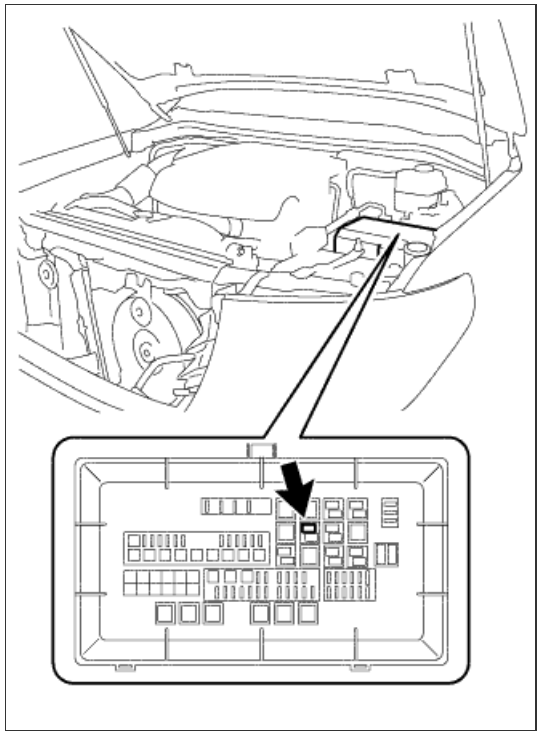
a. Attach the 6 clips to install the support plate.



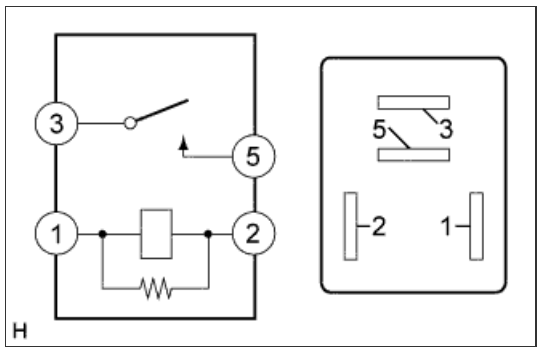
**for Preparation** Click here

## 1. INSPECT LIGHT CUT RELAY

a. Remove the light cut relay from the engine room relay box.



b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage not applied to terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage applied to terminals 1 and 2 | Below 1 Ω |

If the result is not as specified, replace the light cut relay.

c. Install the light cut relay to the engine room relay box.

**for Preparation** Click here

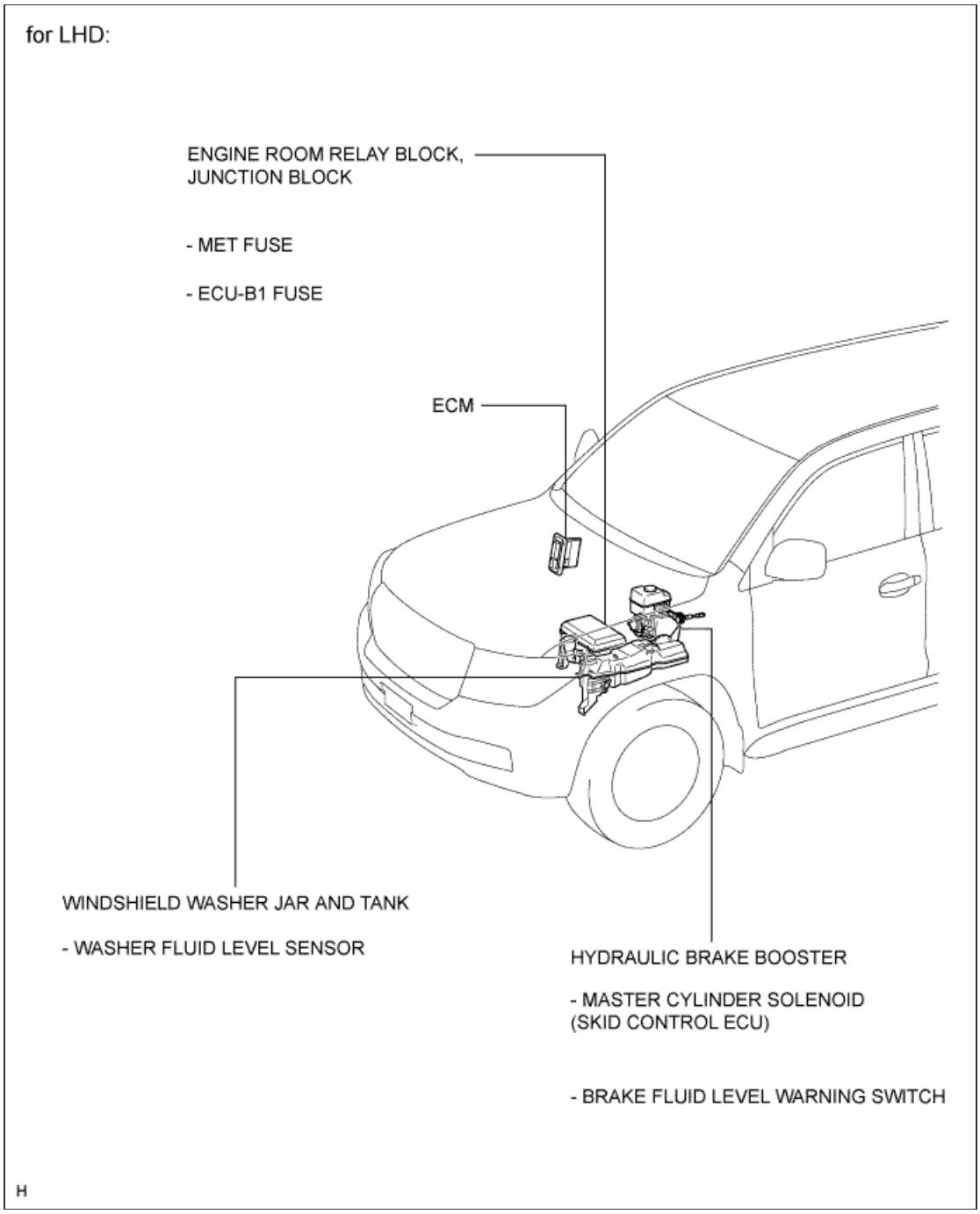
## 1.IGNITION SWITCH EXPRESSIONS

**HINT:**

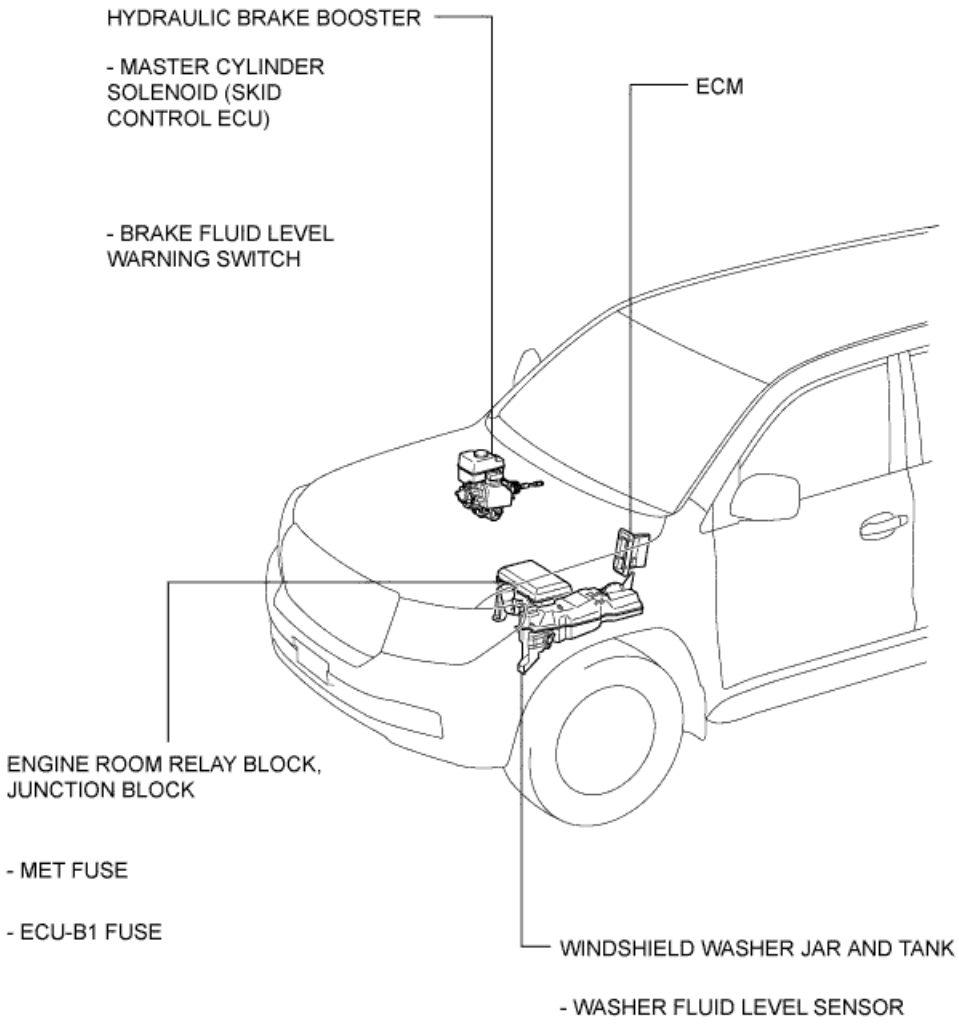
The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

| Expression | Ignition Switch (Position) | Engine Switch (Condition) |
|---|---|---|
| Ignition Switch off | LOCK | Off |
| Ignition Switch ON | ON | On (IG) |
| Ignition Switch ACC | ACC | On (ACC) |
| Engine Start | START | Start |

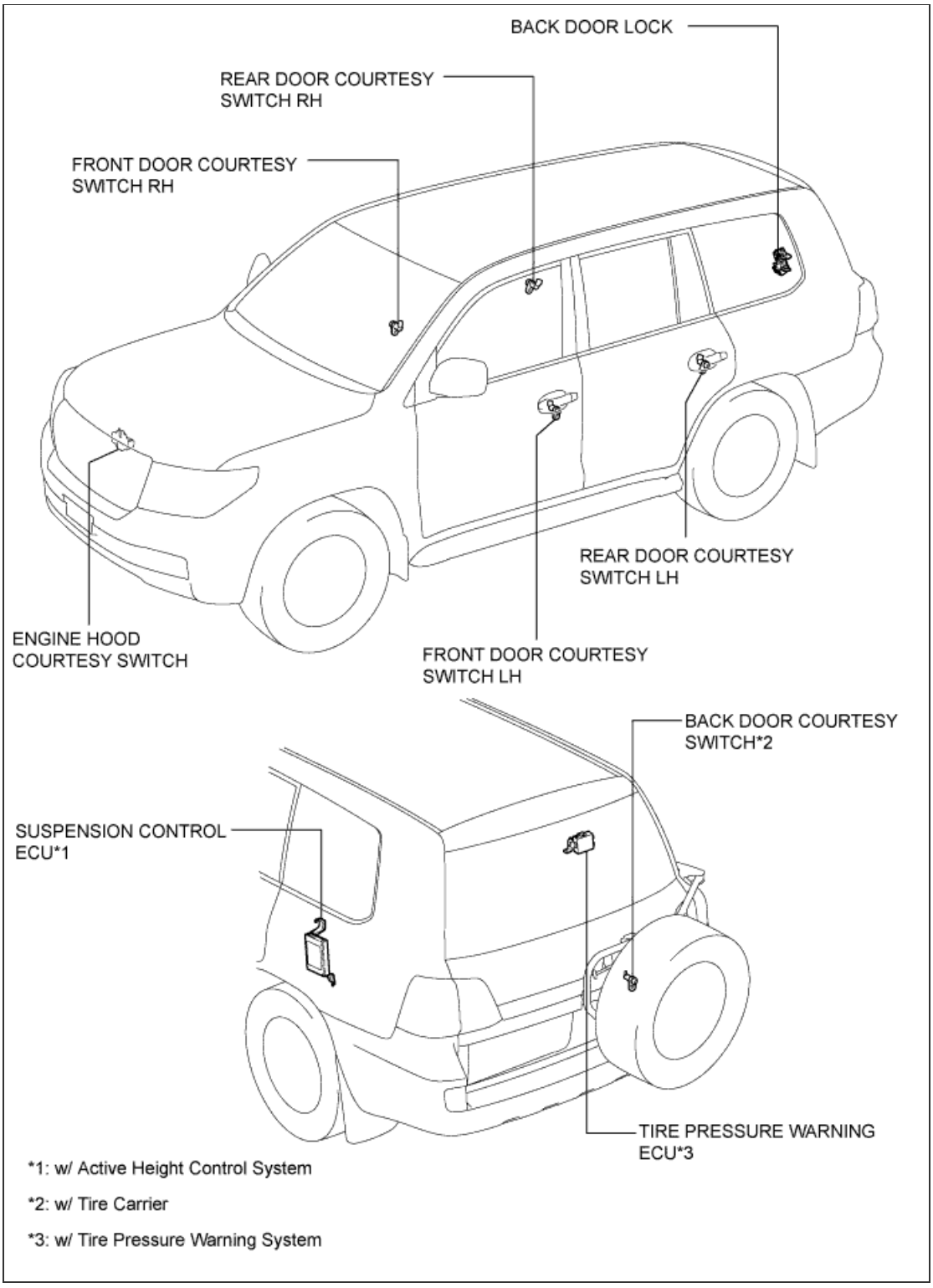
**for Preparation** Click here

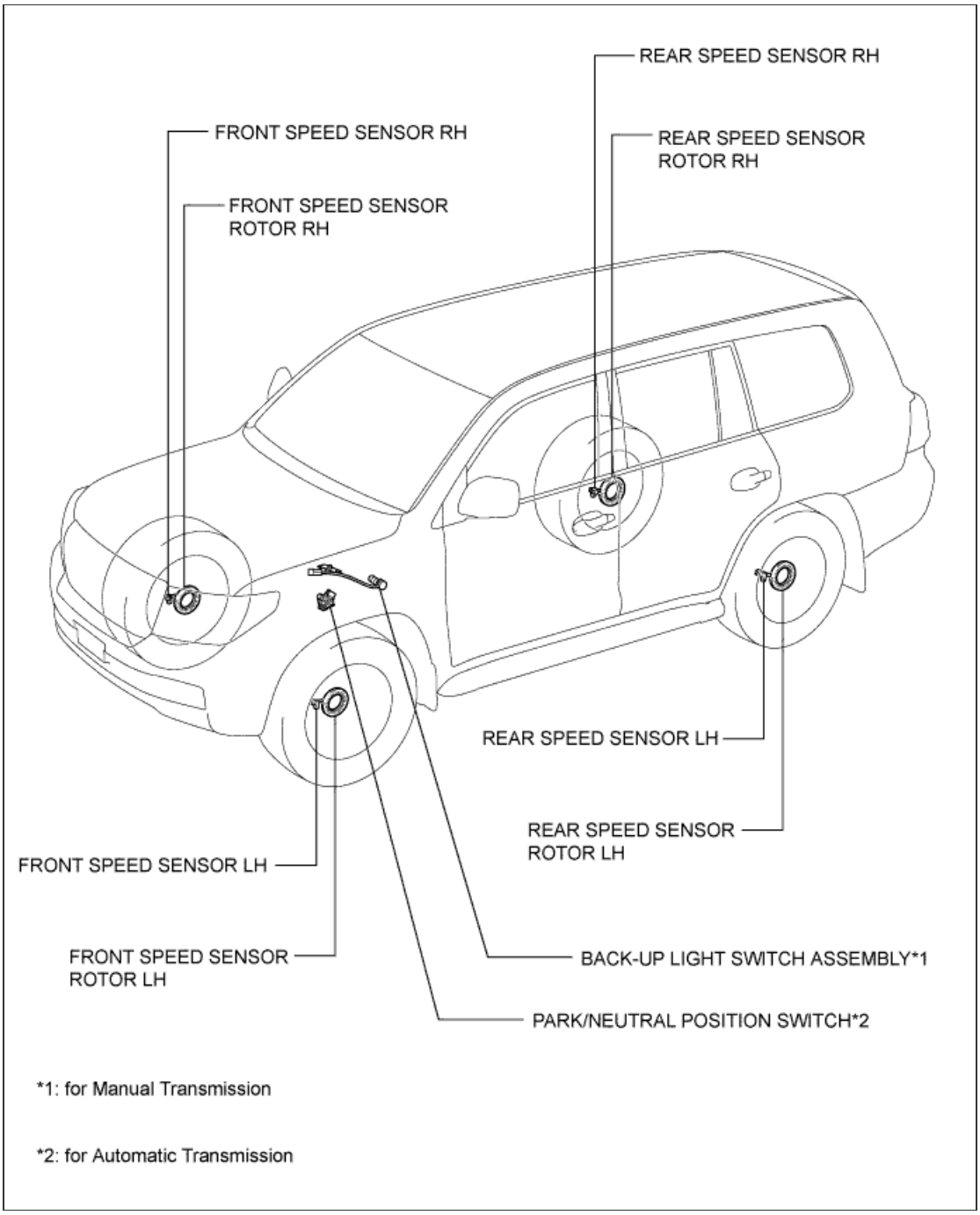


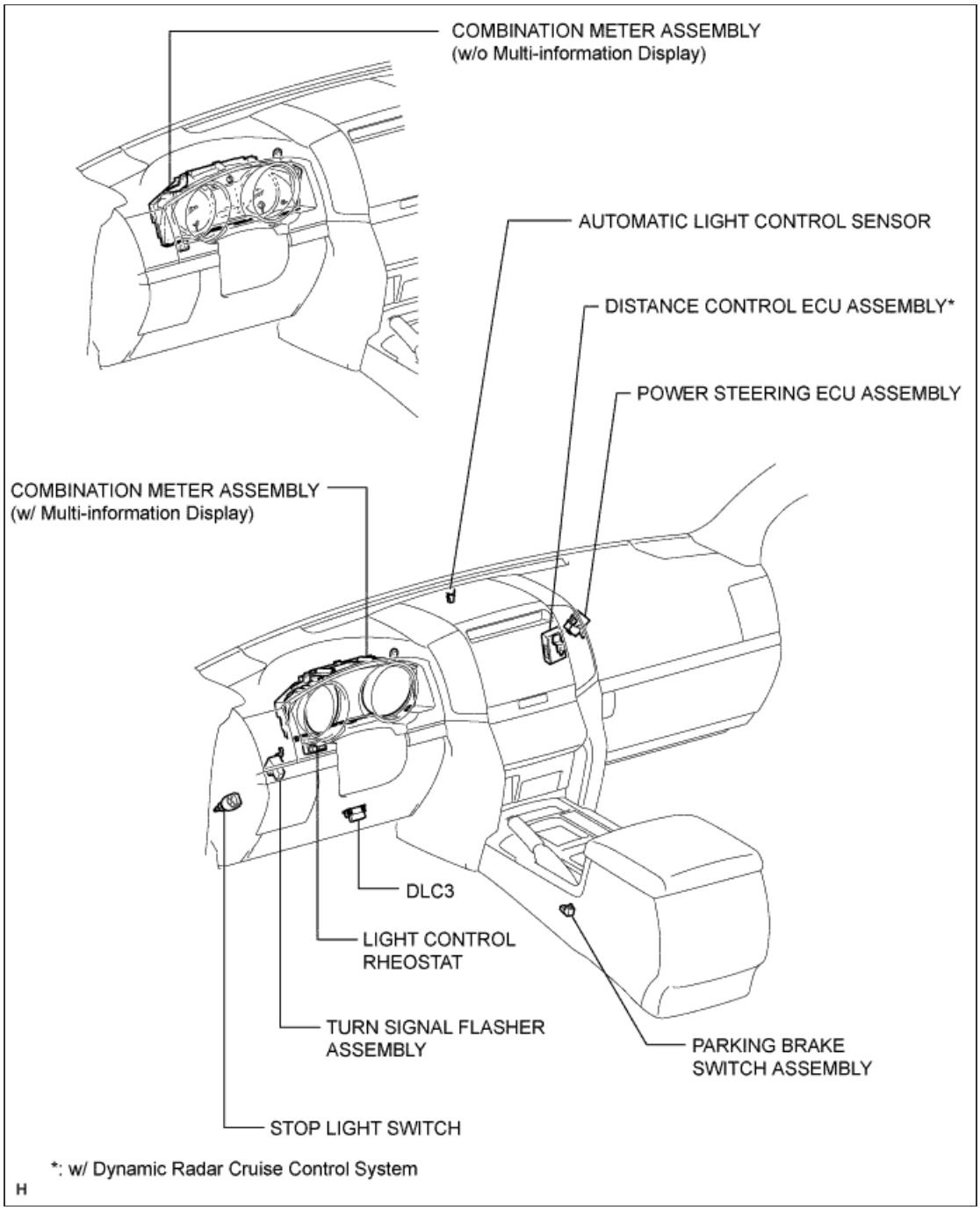
for RHD:


HYDRAULIC BRAKE BOOSTER
- MASTER CYLINDER SOLENOID (SKID CONTROL ECU)
- BRAKE FLUID LEVEL WARNING SWITCH
ECM
ENGINE ROOM RELAY BLOCK, JUNCTION BLOCK
- MET FUSE
- ECU-B1 FUSE
WINDSHIELD WASHER JAR AND TANK
- WASHER FLUID LEVEL SENSOR

H

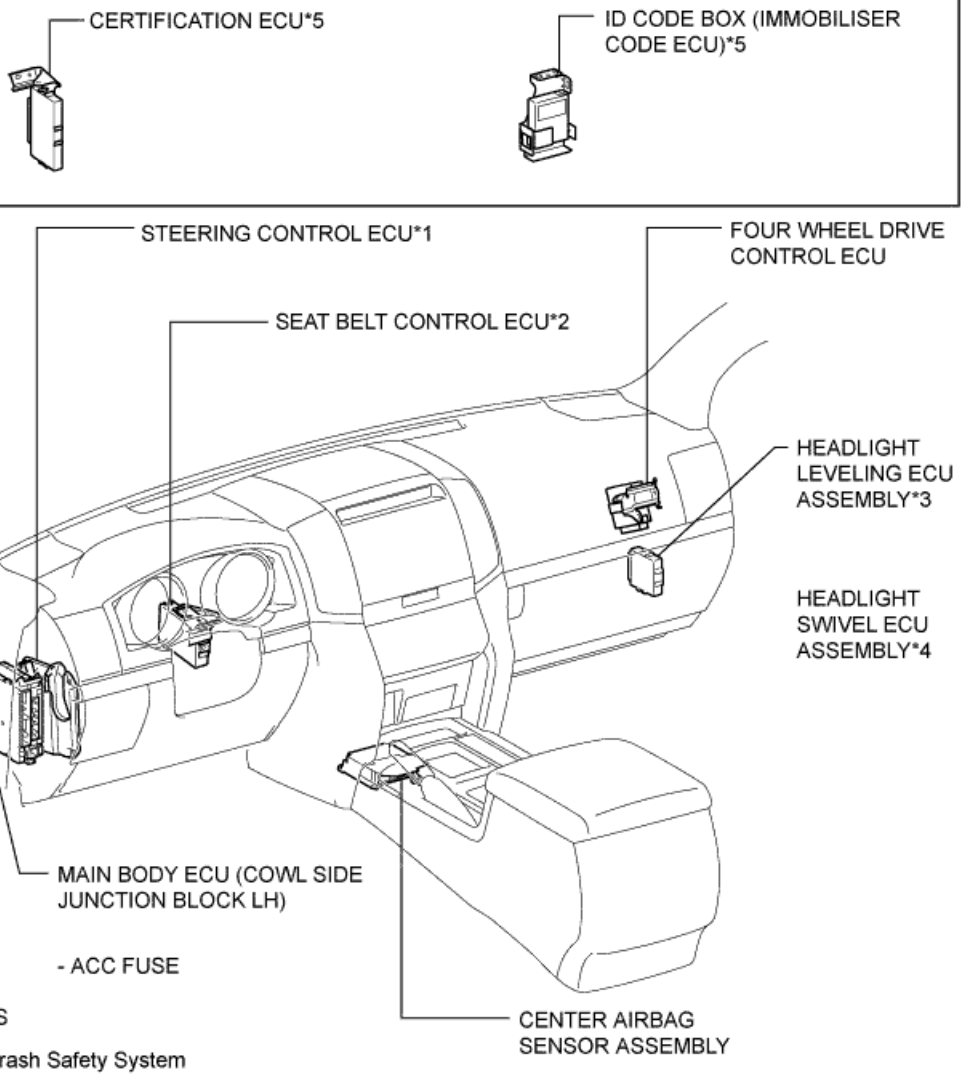

BACK DOOR LOCK
REAR DOOR COURTESY SWITCH RH
FRONT DOOR COURTESY SWITCH RH
REAR DOOR COURTESY SWITCH LH
ENGINE HOOD COURTESY SWITCH
FRONT DOOR COURTESY SWITCH LH
BACK DOOR COURTESY SWITCH*2
SUSPENSION CONTROL ECU*1
TIRE PRESSURE WARNING ECU*3
*1: w/ Active Height Control System
*2: w/ Tire Carrier
*3: w/ Tire Pressure Warning System


REAR SPEED SENSOR RH
FRONT SPEED SENSOR RH
REAR SPEED SENSOR ROTOR RH
FRONT SPEED SENSOR ROTOR RH
REAR SPEED SENSOR LH
REAR SPEED SENSOR ROTOR LH
FRONT SPEED SENSOR LH
FRONT SPEED SENSOR ROTOR LH
BACK-UP LIGHT SWITCH ASSEMBLY*1
PARK/NEUTRAL POSITION SWITCH*2
*1: for Manual Transmission
*2: for Automatic Transmission


COMBINATION METER ASSEMBLY
(w/o Multi-information Display)
AUTOMATIC LIGHT CONTROL SENSOR
DISTANCE CONTROL ECU ASSEMBLY*
POWER STEERING ECU ASSEMBLY
COMBINATION METER ASSEMBLY
(w/ Multi-information Display)
DLC3
LIGHT CONTROL
RHEOSTAT
TURN SIGNAL FLASHER
ASSEMBLY
PARKING BRAKE
SWITCH ASSEMBLY
STOP LIGHT SWITCH
*: w/ Dynamic Radar Cruise Control System
H

for LHD:

Refer to Service Bulletin for installation position.




*1: w/ VGRS

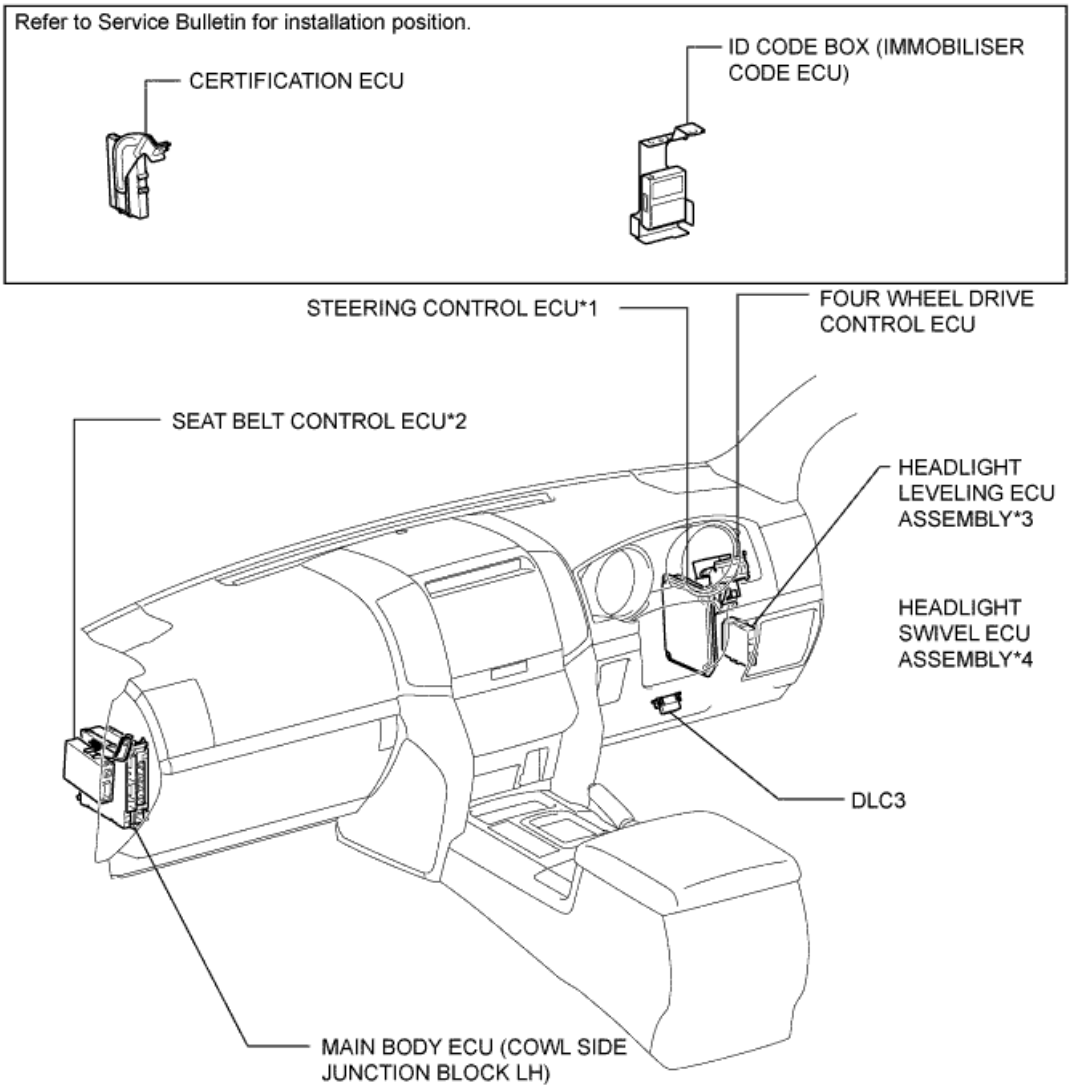
*2: w/ Pre-crash Safety System

*3: w/ Static Headlight Auto Leveling

*4: w/ Dynamic Headlight Auto Leveling

*5: w/ Entry and Start System

for RHD:



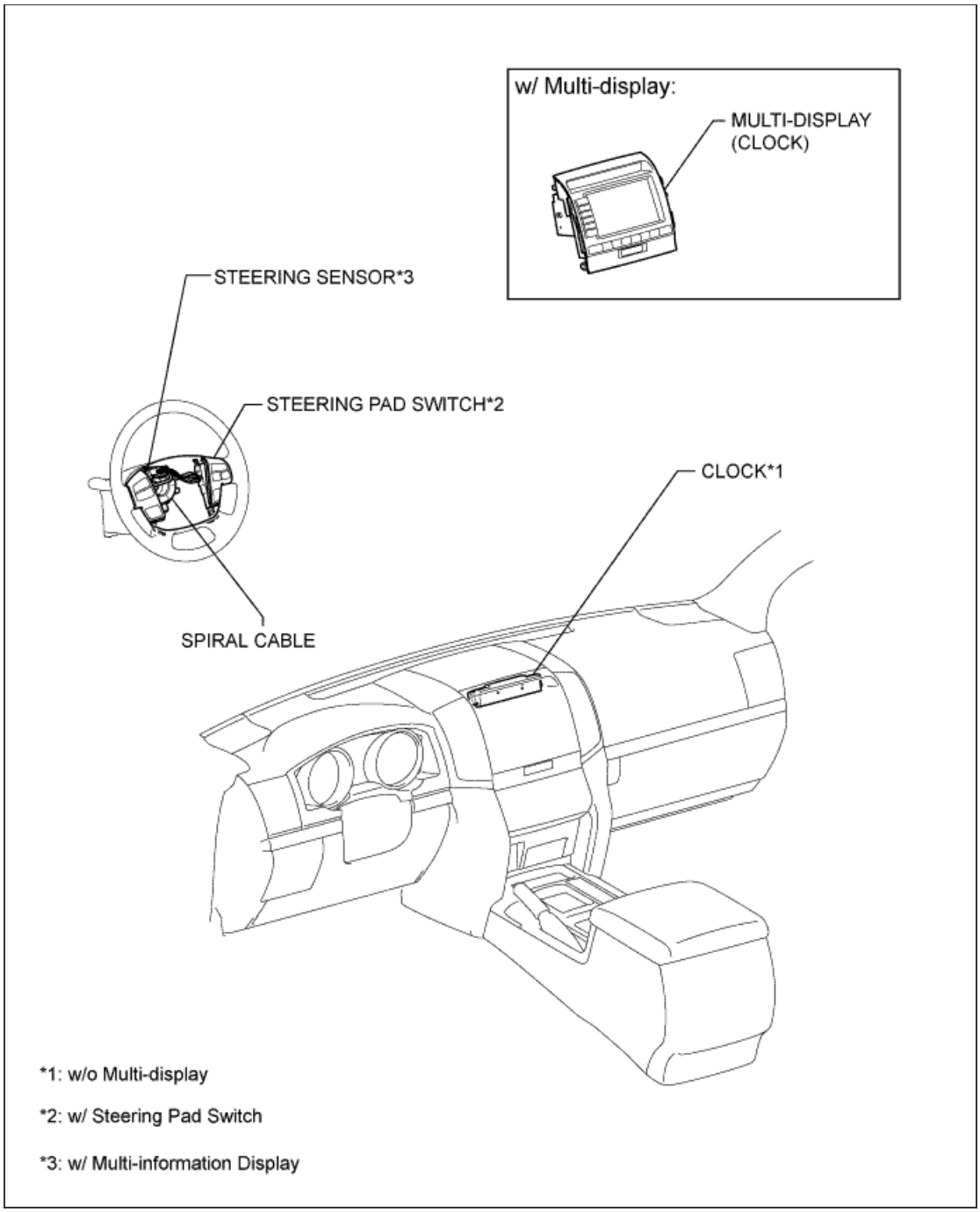

*1: w/ VGRS

- ACC FUSE

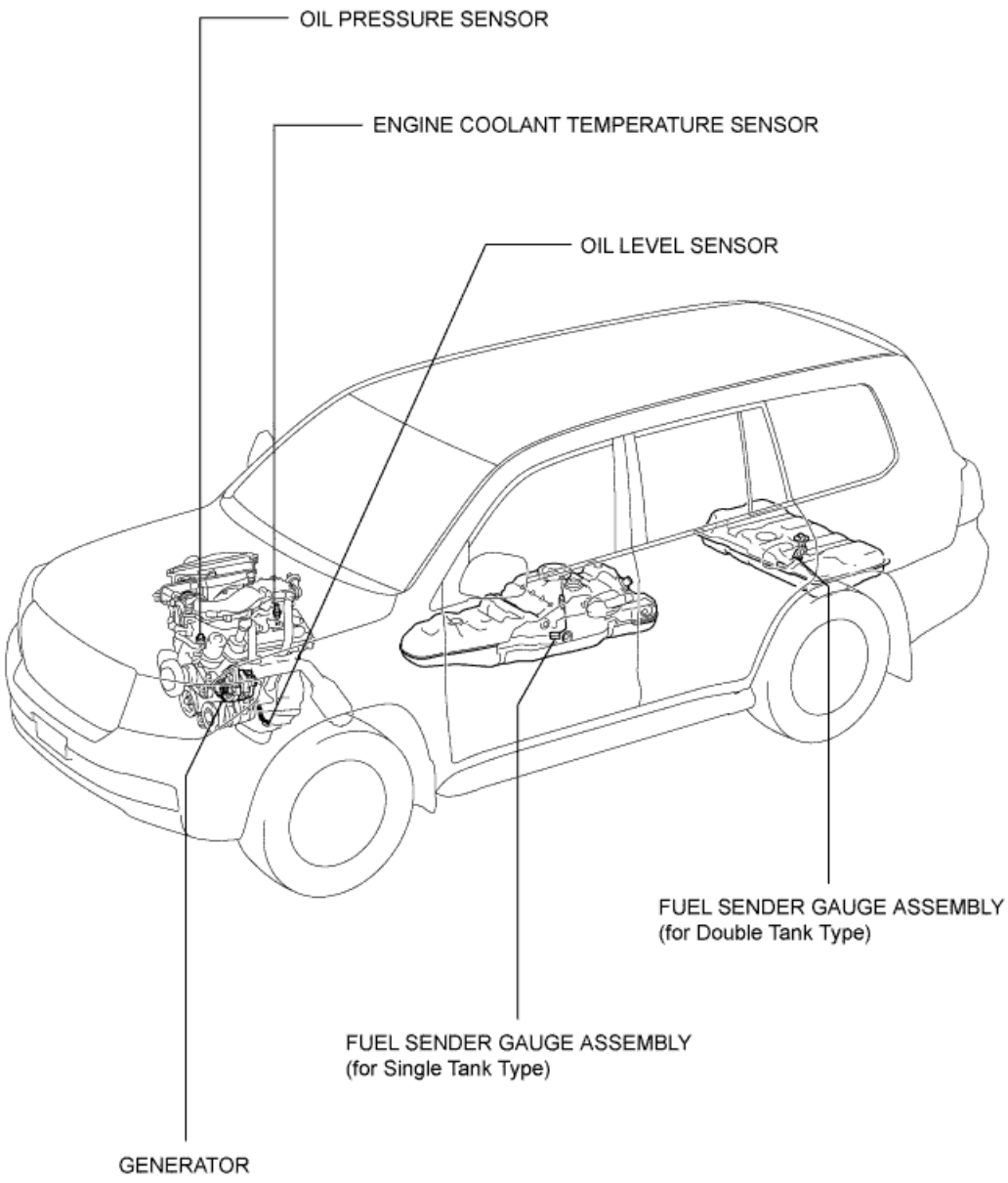
*2: w/ Pre-crash Safety System

*3: w/ Static Headlight Auto Leveling

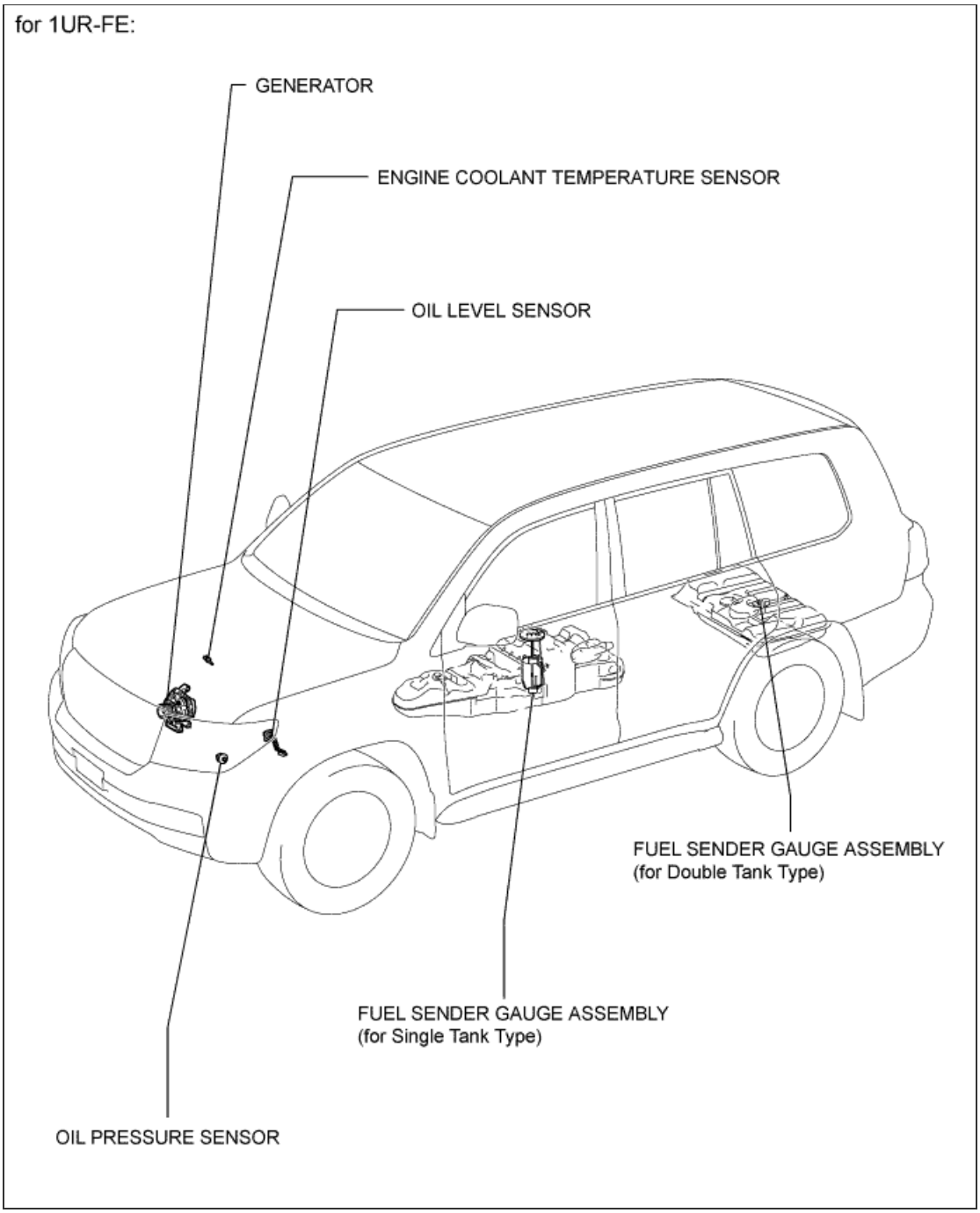
*4: w/ Dynamic Headlight Auto Leveling

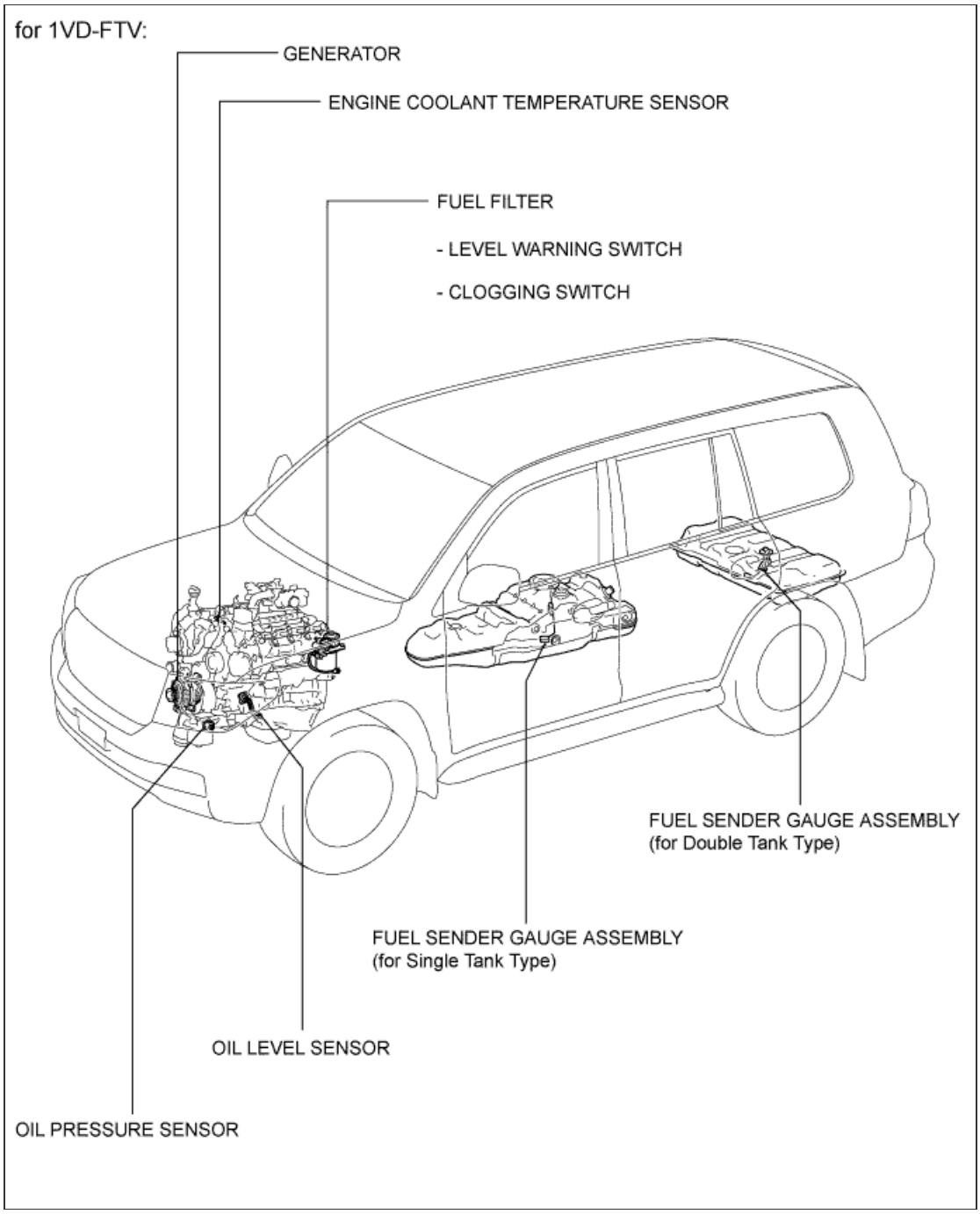

w/ Multi-display:
MULTI-DISPLAY
(CLOCK)
STEERING SENSOR*3
STEERING PAD SWITCH*2
CLOCK*1
SPIRAL CABLE
*1: w/o Multi-display
*2: w/ Steering Pad Switch
*3: w/ Multi-information Display

for 1GR-FE:

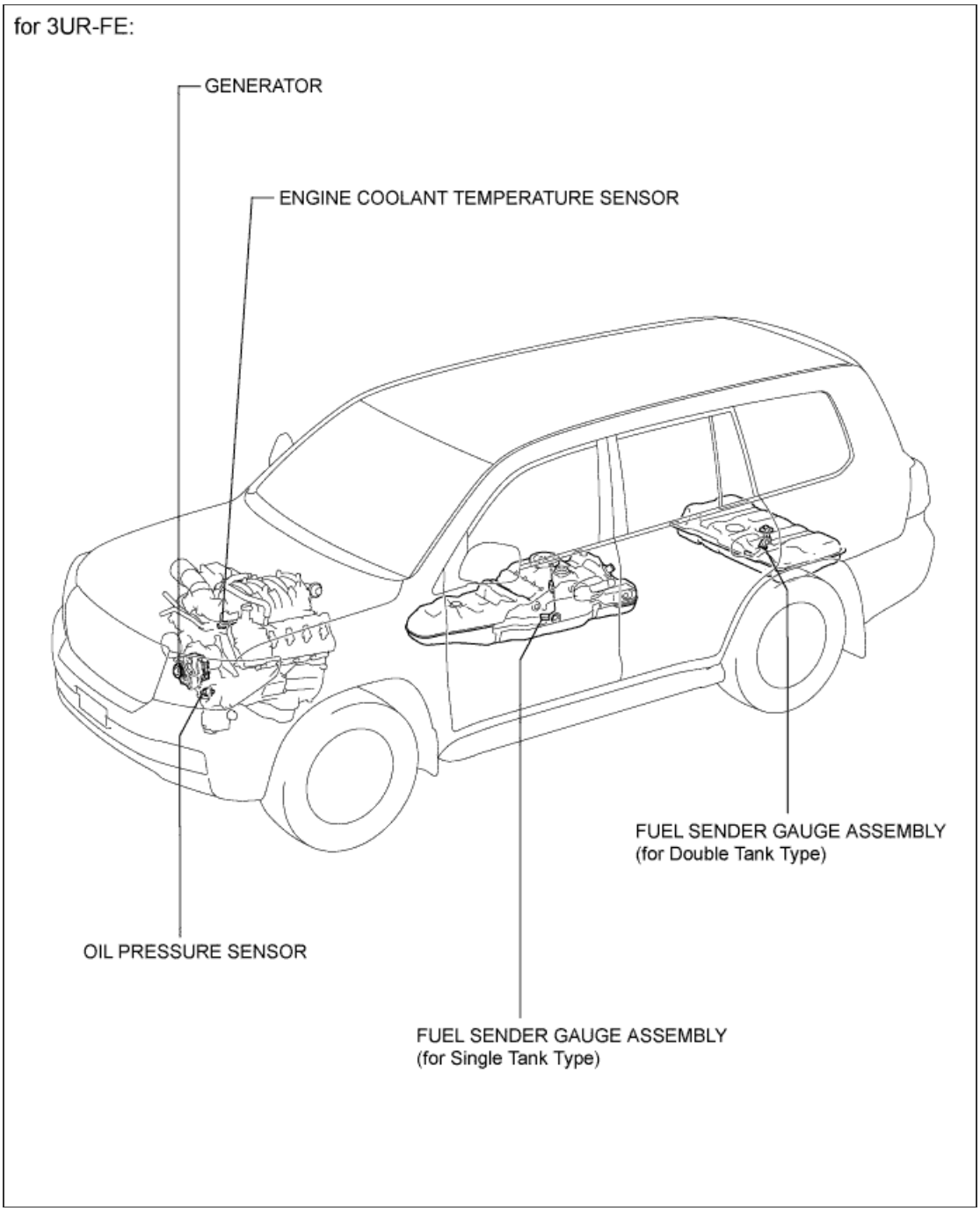

OIL PRESSURE SENSOR
ENGINE COOLANT TEMPERATURE SENSOR
OIL LEVEL SENSOR
FUEL SENDER GAUGE ASSEMBLY
(for Double Tank Type)
FUEL SENDER GAUGE ASSEMBLY
(for Single Tank Type)
GENERATOR

for 1UR-FE:

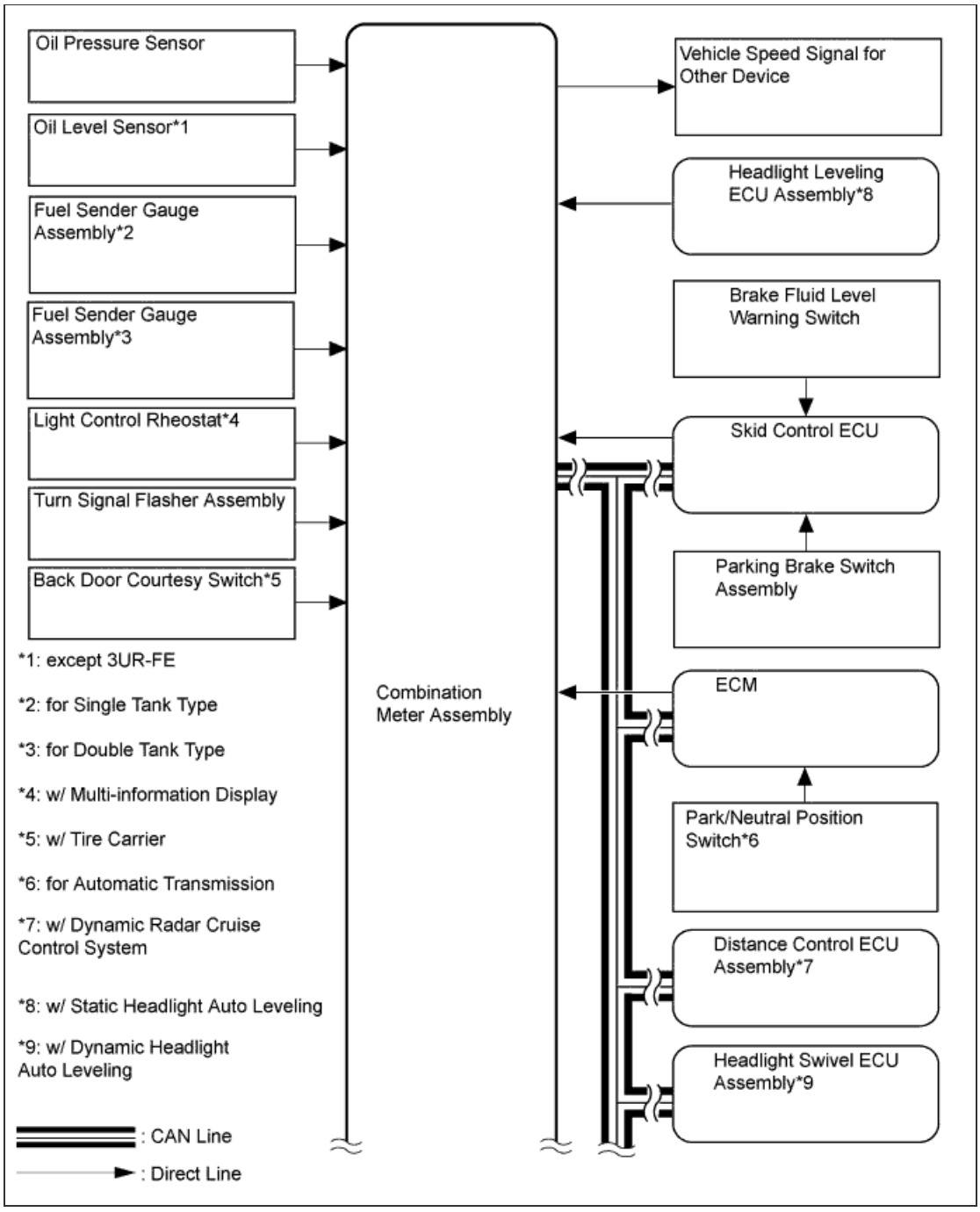

GENERATOR
ENGINE COOLANT TEMPERATURE SENSOR
OIL LEVEL SENSOR
FUEL SENDER GAUGE ASSEMBLY
(for Double Tank Type)
FUEL SENDER GAUGE ASSEMBLY
(for Single Tank Type)
OIL PRESSURE SENSOR

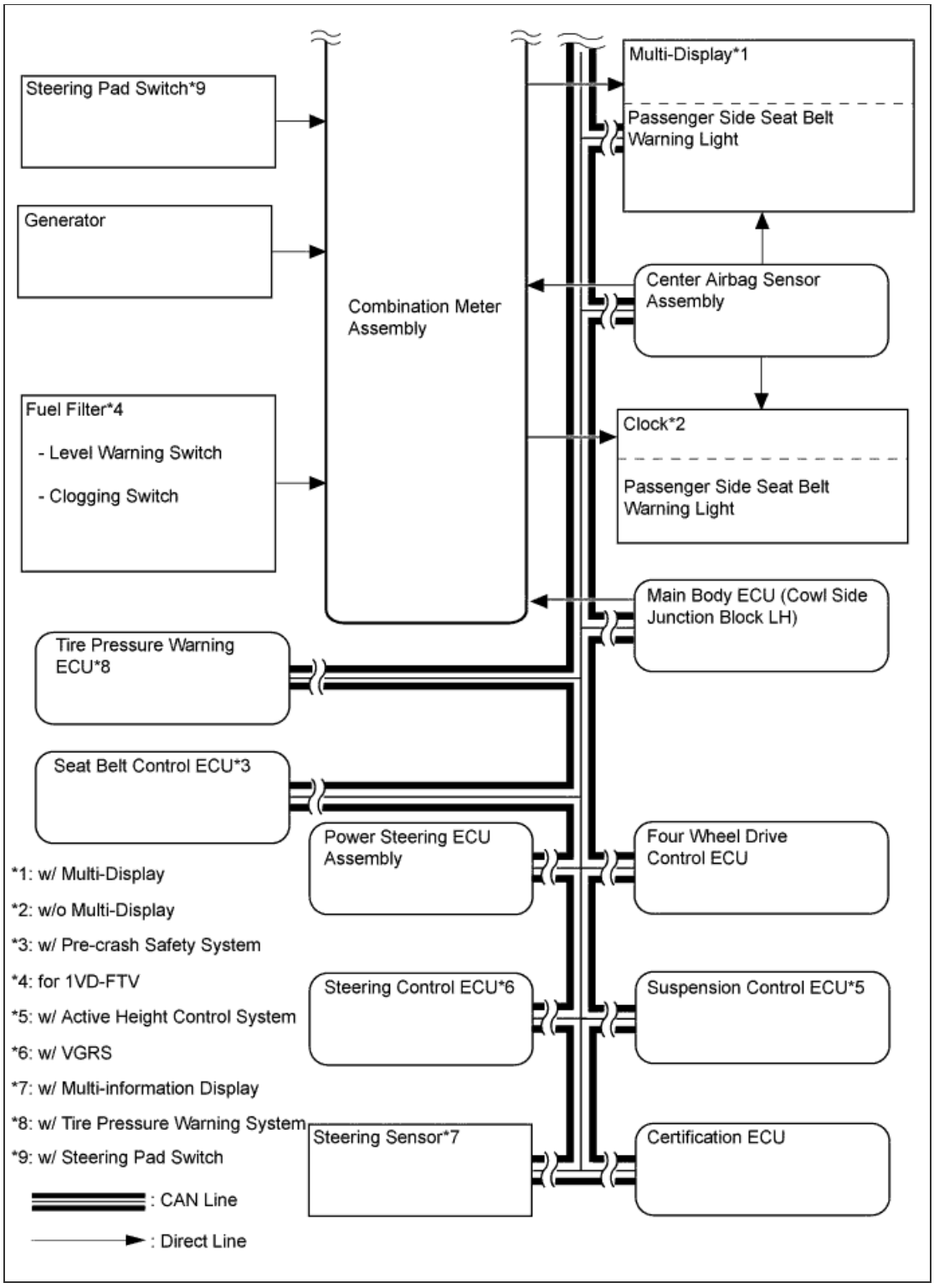

for 1VD-FTV:
GENERATOR
ENGINE COOLANT TEMPERATURE SENSOR
FUEL FILTER
- LEVEL WARNING SWITCH
- CLOGGING SWITCH
FUEL SENDER GAUGE ASSEMBLY
(for Double Tank Type)
FUEL SENDER GAUGE ASSEMBLY
(for Single Tank Type)
OIL LEVEL SENSOR
OIL PRESSURE SENSOR

for 3UR-FE:


GENERATOR
ENGINE COOLANT TEMPERATURE SENSOR
FUEL SENDER GAUGE ASSEMBLY
(for Double Tank Type)
OIL PRESSURE SENSOR
FUEL SENDER GAUGE ASSEMBLY
(for Single Tank Type)

**for Preparation** Click here






### Communication Table (w/o Multi-information Display)

| Sender | Receiver | Communication Signal | Communication Line |
|---|---|---|---|
| Combination meter assembly | • ECM<br>• Main body ECU | Vehicle speed signal | Direct Line |
| | Main body ECU | Rheostat duty signal | CAN |
| | ECM | Vehicle specification signal (Destination/Handle code) | |
| | Multi-display*1 | Front passenger side seat belt warning light signal | CAN |
| | Clock*2 | | Direct Line |
| | Combination meter | • Cruise control indicator signal*10<br>• Engine coolant temperature signal<br>• Fuel injection information signal*3<br>• Engine speed data*3 | CAN |

| | | | |
|---|---|---|---|
| ECM | assembly | • CHARGE indicator light signal<br>• SET indicator light signal*10 | |
| | | MIL signal | Direct Line |
| Center airbag sensor | Combination meter assembly | • Front passenger side seat belt buckle switch signal<br>• SRS warning light signal<br>• Diagnosis signal | CAN |
| | | RSCA OFF indicator light signal*4 | Direct Line |
| Four wheel drive control ECU | Combination meter assembly | • A/T P warning light signal*5<br>• 4LO indicator light signal<br>• Center differential lock indicator light signal<br>• Rear differential lock warning light signal | CAN |
| Skid control ECU | Combination meter assembly | • ABS warning light signal<br>• VSC OFF indicator light signal*6<br>• Slip indicator light signal*6<br>• Vehicle speed signal<br>• Brake warning light signal<br>• CRAWL indicator signal*6<br>• SPEED LIMIT indicator light signal<br>• TRC OFF indicator light signal*6<br>• Turn assist indicator light signal*6<br>• Multi-terrain select indicator light signal*9 | CAN |
| Main body ECU (Cowl side junction block LH) | Combination meter assembly | • Driver side seat belt buckle switch signal<br>• Courtesy light switch signal<br>• BEAM indicator light signal<br>• FRONT FOG indicator light signal<br>• REAR FOG indicator light signal*7<br>• DOOR warning signal | CAN |
| ECM*5 | Combination meter assembly | • ECT PWR indicator light signal<br>• Accelerator opening signal<br>• ATF temperature signal<br>• Current gear position signal<br>• Shift position P signal<br>• Shift position R signal<br>• Shift position N signal<br>• Shift position D signal<br>• Shift position 6 signal*8<br>• Shift position 5 signal<br>• Shift position 4 signal<br>• Shift position 3 signal<br>• Shift position 2 signal<br>• Shift position 1 signal<br>• Sports mode enable signal<br>• Shift position signal<br>• Sports shift reject buzzer signal<br>• ECT SNOW indicator signal | CAN |
| Certification ECU*11 | Combination meter assembly | Key indicator light signal | CAN |
| Steering pad switch | Combination meter assembly | Steering pad switch operation signal | Direct Line |
| Fuel sender gauge | Combination meter assembly | Fuel level signal | Direct Line |
| Turn signal flasher assembly | Combination meter assembly | Turn signal indicator light (LH/RH) signal | Direct Line |
| Washer fluid level sensor | Combination meter assembly | Washer signal | Direct Line |
| Brake fluid level warning switch | Combination meter assembly | Brake fluid level warning light signal | CAN |
| Oil level sensor | Combination meter assembly | Engine oil level signal | Direct Line |
| Light control rheostat | Combination meter assembly | Illumination signal | Direct Line |
| Generator | Combination meter assembly | CHARGE warning light signal | Direct Line |
| Oil pressure sensor | Combination meter assembly | Oil pressure signal | Direct Line |

*1: w/ Multi-display
*2: w/o Multi-display
*3: for 1GR-FE
*4: w/ Curtain Shield Airbag
*5: for Automatic Transmission
*6: w/ VSC
*7: w/ Rear Fog Light
*8: for AB60F Automatic Transmission
*9: w/ Multi-terrain Select
*10: w/ Cruise Control System
*11: w/ Entry and Start System

**Communication Table (w/ Multi-information Display)**

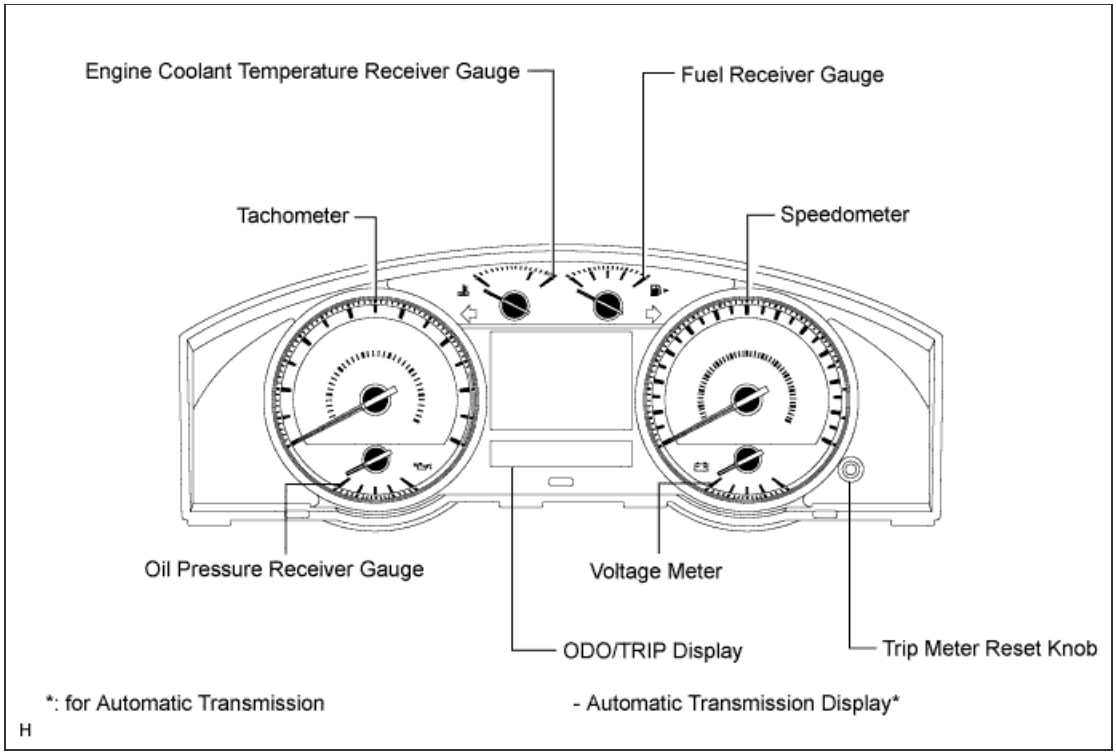
| Sender | Receiver | Communication Signal | Communication Line |
|---|---|---|---|
| Combination meter assembly | • ECM<br>• Main body ECU | Vehicle speed signal | Direct Line |
| | Main body ECU | Rheostat duty signal | CAN |
| | ECM | Vehicle specification signal (Destination/Handle code) | |
| | Multi-display*1 | Front passenger side seat belt warning light signal | CAN |
| | Clock*2 | | Direct Line |
| ECM | Combination meter assembly | • Cruise control indicator signal*17<br>• Engine coolant temperature signal<br>• Fuel injection information signal*9<br>• Engine speed data*9<br>• CHARGE indicator light signal<br>• Radar cruise control indicator signal*3<br>• SET indicator light signal*17<br>• Accelerator opening signal | CAN |
| | | MIL signal | Direct Line |
| Center airbag sensor | Combination meter assembly | • Passenger side seat belt buckle switch signal<br>• SRS warning light signal<br>• Diagnosis signal | CAN |
| | | RSCA OFF indicator light signal*4 | Direct Line |
| Four wheel drive control ECU | Combination meter assembly | • A/T P warning light signal<br>• 4LO indicator light signal<br>• Center differential lock indicator light signal<br>• Rear differential lock warning light signal*5 | CAN |
| Skid control ECU | Combination meter assembly | • ABS warning light signal<br>• Slip indicator light signal<br>• Vehicle speed signal<br>• Brake warning light signal<br>• CRAWL indicator signal<br>• SPEED LIMIT indicator light signal<br>• VSC OFF indicator light signal<br>• Turn assist indicator light signal<br>• Multi-terrain select indicator signal*16 | CAN |
| Main body ECU (Cowl side junction block LH) | Combination meter assembly | • Driver side seat belt buckle switch signal<br>• Courtesy light switch signal<br>• BEAM indicator light signal<br>• FRONT FOG indicator light signal<br>• REAR FOG indicator light signal*6<br>• TAIL indicator light signal<br>• DOOR warning signal<br>• Automatic high beam indicator light signal*18 | CAN |
| Seat belt control ECU | Combination meter assembly | PCS indicator signal*7 | CAN |
| | | • ECT PWR indicator light signal<br>• ATF temperature signal<br>• Current gear position signal | |

| | | | |
|---|---|---|---|
| ECM | Combination meter assembly | • Shift position P signal<br>• Shift position R signal<br>• Shift position N signal<br>• Shift position D signal<br>• Shift position 6 signal*8<br>• Shift position 5 signal<br>• Shift position 4 signal<br>• Shift position 3 signal<br>• Shift position 2 signal<br>• Shift position 1 signal<br>• Sports mode enable signal<br>• Shift position signal<br>• Sports shift reject buzzer signal<br>• ECT SNOW indicator signal | CAN |
| Power steering ECU assembly | Combination meter assembly | Power steering warning light signal | CAN |
| Distance control ECU assembly*3 | Combination meter assembly | Radar cruise control indicator signal | CAN |
| Headlight leveling ECU assembly*11 | Combination meter assembly | Headlight beam level control system warning light signal | Direct Line |
| Headlight swivel ECU assembly*12 | Combination meter assembly | Headlight beam level control system warning light signal | CAN |
| Steering pad switch | Combination meter assembly | Steering pad switch operation signal | Direct Line |
| Fuel sender gauge | Combination meter assembly | Fuel level signal | Direct Line |
| Turn signal flasher assembly | Combination meter assembly | Turn signal indicator light (LH/RH) signal | Direct Line |
| Washer fluid level sensor | Combination meter assembly | Washer signal | Direct Line |
| Brake fluid level warning switch | Combination meter assembly | Brake fluid level warning light signal | CAN |
| Oil level sensor*10 | Combination meter assembly | Engine oil level signal | Direct Line |
| Light control rheostat | Combination meter assembly | Illumination signal | Direct Line |
| Generator | Combination meter assembly | CHARGE warning light signal | Direct Line |
| Oil pressure sensor | Combination meter assembly | Oil pressure signal | Direct Line |
| Steering sensor*13 | Combination meter assembly | Steering angle signal | CAN |
| Steering control ECU*14 | Combination meter assembly | Steering angle signal | CAN |
| Multi-display*15 | Combination meter assembly | Navigation signal | CAN |
| Tire pressure warning ECU*19 | Combination meter assembly | Tire pressure warning light signal | CAN |

*1: w/ Multi-display
*2: w/o Multi-display
*3: w/ Dynamic Radar Cruise Control System
*4: w/ Curtain Shield Airbag
*5: w/ Rear Differential Lock
*6: w/ Rear Fog Light
*7: w/ Pre-crash Safety System
*8: for AB60F Automatic Transmission
*9: for 3UR-FE
*10: except 3UR-FE
*11: w/ Static Headlight Auto Leveling
*12: w/ Dynamic Headlight Auto Leveling
*13: w/o VGRS
*14: w/ VGRS
*15: w/ Navigation System
*16: w/ Multi-terrain Select
*17: w/ Cruise Control System
*18: w/ Automatic High Beam System
*19: w/ Tire Pressure Warning System

**for Preparation** Click here

## METER GAUGE AND WARNING/INDICATOR (w/o Multi-information Display)




### Meter/Gauge

| Item | Details |
|---|---|
| Speedometer | Based on a signal received from the wheel speed sensor, the skid control ECU calculates the vehicle speed and transmits data to the combination meter (CAN). |
| Tachometer | The combination meter receives a speed signal from the ECM, and the gauge needle operates (CAN). |
| ODO/TRIP meter | • The combination meter receives a vehicle speed pulse integration signal from the skid control ECU, and the ODO/TRIP meter display operates. (CAN)<br>• Using the trip meter reset knob, the ODO/TRIP meter display changes. |
| Fuel receiver gauge | The combination meter receives fuel amount information measured by the fuel sender gauge, and the gauge needle operates (Direct line). |
| Engine coolant temperature gauge | The combination meter receives an engine coolant temperature signal from the ECM, and the gauge needle operates (CAN). |
| Oil pressure receiver gauge | The combination meter receives an engine speed signal from the ECM (CAN), and receives an oil pressure sender signal from the oil pressure sender (Direct line). Then the meter measures signals and the gauge needle operates. |
| Voltage meter | Monitors IG voltage and the gauge needle operates (Direct line). |

### Warning/Indicator

| Item | Details |
|---|---|
| BEAM indicator light  | Receives signals from the main body ECU (CAN). |
| FRONT FOG indicator light  | The indicator turns on when a FRONT FOG illumination command signal is received (CAN). |
| REAR FOG indicator light*1 | |

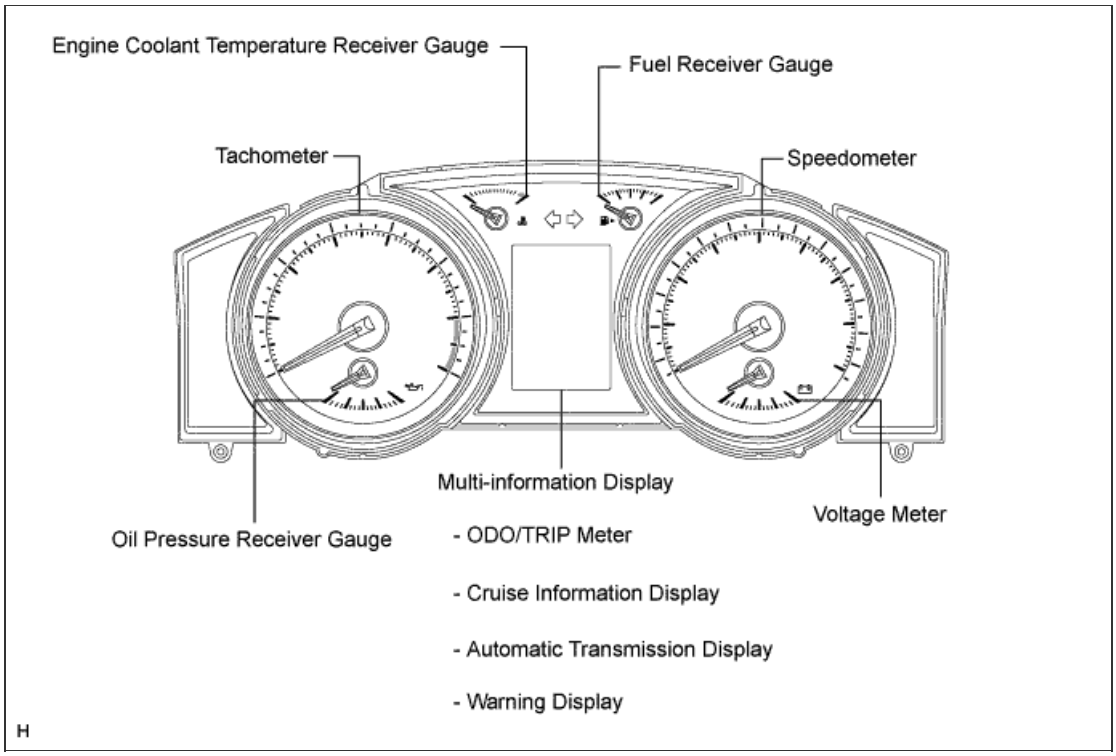
| | |
|---|---|
|  | The indicator turns on when a REAR FOG illumination command signal is received (CAN). |
| A/T OIL TEMP warning light*2<br> | Warning is displayed when the oil temperature is high (CAN). |
| A/T P warning light*2<br> | The indicator turns on when a shift position P signal or transfer neutral switch signal are received (CAN). |
| SRS warning light<br> | Receives malfunction signals from the center airbag sensor (CAN). |
| KEY indicator light*4<br> | The indicator turns on when a key not in cabin warning signal is received (CAN). |
| DOOR warning light<br> | The open door indicator comes on when a signal is received from the main body ECU (CAN). |
| TIRE CARRIER warning light*3<br> | The indicator turns on based on the TIRE CARRIER illumination command signal (Direct line). |
| Driver side seat belt warning light<br> | Receives driver seat belt signals (Unfastened) from the main body ECU (CAN). |
| Brake warning light<br> | • Comes on when the parking brake switch is on (CAN).<br>• Brake fluid level warning switch is on (Direct line).<br>• Vehicle stability control system is malfunctioning. |
| CHARGE warning light<br> | Receives malfunction signals from the generator (Direct line). |
| 4LO indicator light<br> | Receives 4LO indicator signals from the four wheel drive control ECU (CAN). |
| ABS warning light<br> | Receives malfunction signals from the skid control ECU (CAN). |
| MIL<br> | Receives malfunction signals from the ECM (Direct line). |
| GLOW indicator light*5 | |

| | |
|---|---|
|  | The indicator turns on when a GLOW indicator signal is received (CAN). |
| OIL LEVEL indicator light<br> | The indicator turns on when an oil level signal is received (Direct line). |
| FUEL warning light<br> | Receives fuel empty signals from the fuel sender gauge (Direct line). |
| FUEL FILTER & SEDIMENTER indicator light*5<br> | The indicator turns on when a fuel filter clogged malfunction signal is received, or blinks when a fuel sedimenter malfunction signal is received (Direct line). |
| SLIP indicator light*6<br> | Receives malfunction signals from the skid control ECU (CAN). |
| VSC OFF indicator light*6<br> | The VSC OFF indicator turns on when a VSC warning signal is received (CAN). |
| Cruise control indicator light*11<br> | Receives a cruise control on signal or malfunction signal from the ECM (CAN). |
| Turn signal indicator light (LH/RH)<br> | Receives a turn signal from the FLASHER relay (Direct line). |
| WASHER indicator light<br> | The indicator turns on when a washer fluid level signal is received (Direct line). |
| RSCA OFF indicator light*7<br> | Receives an RSCA OFF signal from the center airbag sensor (Direct line). |
| CRAWL indicator light*6<br> | Receives a CRAWL switch on signal from the skid control ECU (CAN). |
| ECT PWR indicator light*2<br> | Receives an ECT PWR switch on signal from the ECM (CAN). |
| 2nd START indicator light*2<br> | Receives a 2nd START switch on signal from the ECM (CAN). |
| CENTER differential lock indicator light | |

| | |
|---|---|
|  | Receives a center differential lock switch on signal from the four wheel drive control ECU (CAN). |
| REAR differential lock warning light  | The indicator turns on when a REAR differential lock indicator signal is received (CAN). |
| SPEED LIMIT indicator light  | The indicator turns on when a vehicle speed signal is received (CAN). |
| Eco driving indicator light  | Receives the signals necessary for operation from the ECM and the skid control ECU (CAN). |
| SET indicator light*11  | The indicator turns on when a SET indicator signal is received (CAN). |
| TRC OFF indicator light*6  | Receives a TRC OFF indicator light signal from the skid control ECU (CAN). |
| Turn assist indicator light*6  | Receives a turn assist indicator light signal from the skid control ECU (CAN). |
| Multi-terrain select indicator light*10  | Receives a multi-terrain select indicator light signal from the skid control ECU (CAN). |
| A/T P shift position indicator*2 | Receives a P signal from the ECM (CAN). |
| A/T R shift position indicator*2 | Receives an R signal from the ECM (CAN). |
| A/T N shift position indicator*2 | Receives an N signal from the ECM (CAN). |
| A/T D shift position indicator*2 | Receives a D signal from the ECM (CAN). |
| A/T S (1 to 5) shift position indicator*8 | Receives a (1 to 5) signal from the ECM (CAN). |
| A/T S (1 to 6) shift position indicator*9 | Receives a (1 to 6) signal from the ECM (CAN). |

*1: w/ Rear Fog Light
*2: for Automatic Transmission
*3: w/ Tire Carrier
*4: w/ Entry and Start System
*5: for 1VD-FTV
*6: w/ VSC
*7: w/ Curtain Shield Airbag
*8: for A750F Automatic Transmission
*9: for AB60F Automatic Transmission
*10: w/ Multi-terrain Select
*11: w/ Cruise Control System

**METER GAUGE AND WARNING/INDICATOR (w/ Multi-information Display)**




### Meter/Gauge

| Item | Details |
|---|---|
| Speedometer | Based on a signal received from the wheel speed sensor, the skid control ECU calculates the vehicle speed and transmits data to the combination meter (CAN). |
| Tachometer | The combination meter receives a speed signal from the ECM, and the gauge needle operates (CAN). |
| ODO/TRIP meter | • The combination meter receives a vehicle speed pulse integration signal from the skid control ECU, and the ODO/TRIP meter display operates (CAN).<br>• Using the trip meter reset knob, the ODO/TRIP meter display changes. |
| Fuel receiver gauge | The combination meter receives fuel amount information measured by the fuel sender gauge, and the gauge needle operates (Direct line). |
| Engine coolant temperature gauge | The combination meter receives an engine coolant temperature signal from the ECM, and the gauge needle operates (CAN). |
| Oil pressure receiver gauge | The combination meter receives an engine speed signal from the ECM (CAN), and receives an oil pressure sender signal from the oil pressure sender (Direct line). Then the meter measures signals and the gauge needle operates. |
| Voltage meter | Monitors IG voltage and the gauge needle operates (Direct line). |

### Warning/Indicator

| Item | Details |
|---|---|
| BEAM indicator light  | Receives signals from the main body ECU (CAN). |
| FRONT FOG indicator light  | The indicator turns on when a FRONT FOG light illumination signal is received (CAN). |
| TAIL LIGHT indicator light  | The indicator turns on when a taillight illumination signal is received (CAN). |
| REAR FOG indicator light*1  | The indicator turns on when a REAR FOG light illumination signal is received (CAN). |

| | |
|---|---|
| A/T P warning light<br>A/T P | The indicator turns on when a shift position P signal or transfer neutral switch signal are received (CAN). |
| SRS warning light<br> | Receives malfunction signals from the center airbag sensor (CAN). |
| DOOR warning light<br> | The open door indicator comes on when a signal is received from the main body ECU (CAN). |
| TIRE CARRIER warning light*2<br> | The indicator turns on based on the TIRE CARRIER illumination command signal (Direct line). |
| Driver side seat belt warning light<br> | Receives driver seat belt signals (Unfastened) from the main body ECU (CAN). |
| Brake warning light<br> | • Comes on when the parking brake switch is on (CAN).<br>• Brake fluid level warning switch is on (Direct line).<br>• Vehicle stability control system is malfunctioning. |
| CHARGE warning light<br> | Receives malfunction signals from the generator (Direct line). |
| 4LO indicator light<br>4LO | Receives 4LO indicator light signal from the four wheel drive control ECU (CAN). |
| ABS warning light<br> | Receives malfunction signals from the skid control ECU (CAN). |
| MIL<br> | Receives malfunction signals from the ECM (Direct line). |
| GLOW indicator light*3<br> | The indicator turns on when a GLOW indicator signal is received (CAN). |
| FUEL warning light<br> | Receives fuel empty signals from the fuel sender gauge (Direct line). |
| SLIP indicator light<br> | Receives malfunction signals from the skid control ECU (CAN). |
| | |

| | |
|---|---|
| Cruise control indicator light*12  | Receives a cruise control on signal or malfunction signal from the ECM (CAN). |
| Turn signal indicator light (LH/RH)  | Receives a turn signal from the FLASHER relay (Direct line). |
| RSCA OFF indicator light*4   | Receives an RSCA OFF signal from the center airbag sensor (Direct line). |
| Master warning light  | Receives a warning signal from each sensor and ECU (Direct line and CAN). |
| CRAWL indicator light  | Receives a CRAWL switch on signal from the skid control ECU (CAN). |
| ECT PWR indicator light   | Receives an ECT PWR switch on signal from the ECM (CAN). |
| 2nd START indicator light   | Receives a 2nd START switch on signal from the ECM (CAN). |
| Center Differential Lock indicator light  | Receives a center differential lock switch on signal from the four wheel drive control ECU (CAN). |
| Rear Differential Lock warning light*5  | The indicator turns on when a REAR differential lock indicator signal is received (CAN). |
| SPEED LIMIT indicator light   | The indicator turns on when a vehicle speed signal is received (CAN). |
| PCS indicator light*6   | Receives a PCS indicator light signal from the seat belt control ECU (CAN). |
| Power steering warning light  | Receives a power steering warning light signal from the power steering ECU (CAN). |
| VSC OFF indicator light   | Receives a VSC OFF indicator light signal from the skid control ECU (CAN). |
| | |

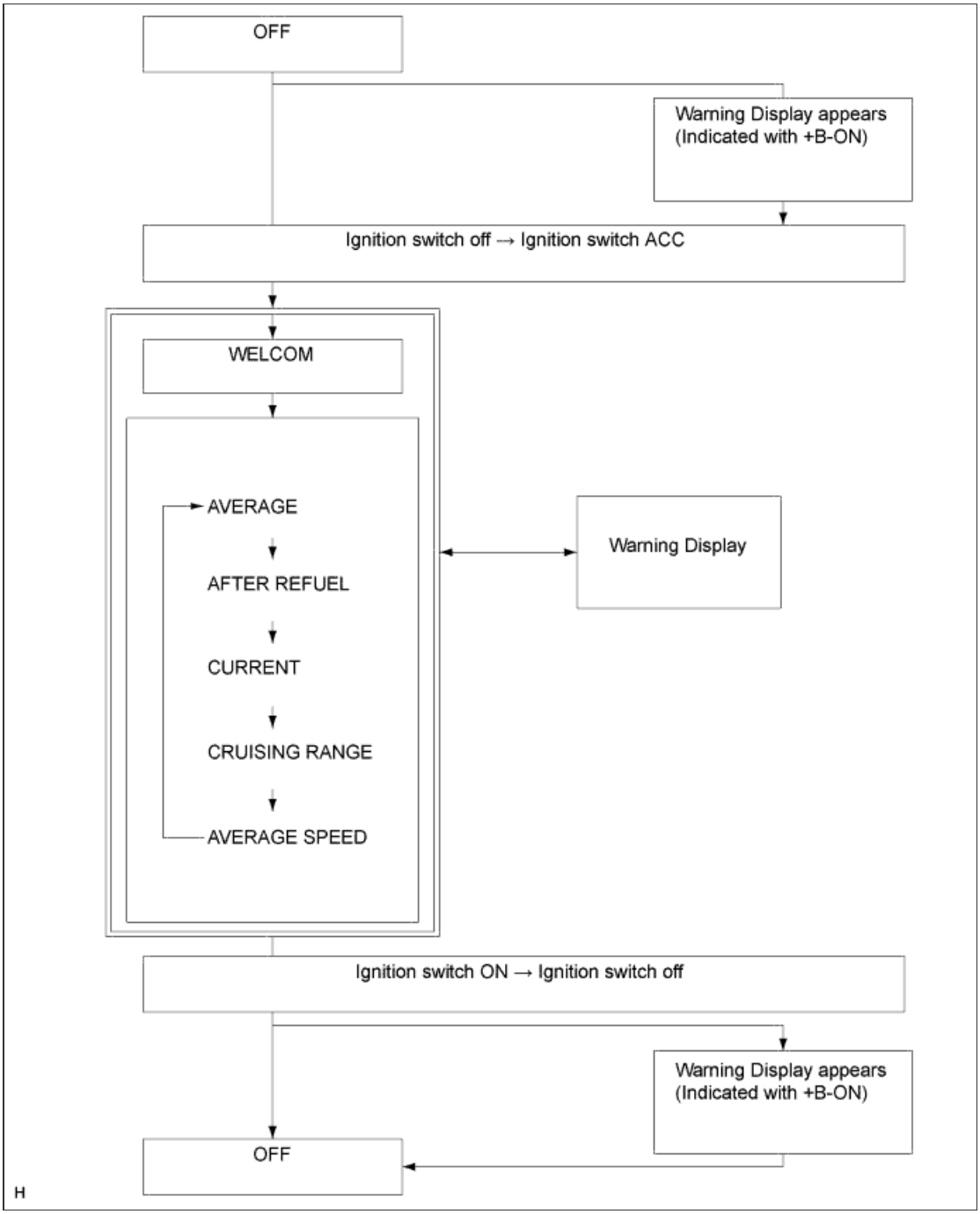
| | |
|---|---|
| Eco driving indicator light  | Receives the signals necessary for operation from the ECM and the skid control ECU (CAN). |
| SET indicator light*12  | The indicator turns on when a SET indicator signal is received (CAN). |
| Radar cruise control indicator light*9  | The indicator turns on when a radar cruise control indicator signal is received (CAN). |
| Turn assist indicator light  | Receives a turn assist indicator light signal from the skid control ECU (CAN). |
| Multi-terrain select indicator light*13  | Receives a multi-terrain select indicator light signal from the skid control ECU (CAN). |
| Headlight beam level control system warning light  | • Receives a headlight beam level control system warning light signal from the headlight leveling ECU (Direct line).*10<br>• Receives a headlight beam level control system warning light signal from the headlight swivel ECU (CAN).*11 |
| Automatic high beam indicator light*14  | Receives automatic high beam indicator signals from the main body ECU (CAN). |
| Tire pressure warning light*15  | Receives a low tire pressure signal from the tire pressure warning ECU (CAN). |
| A/T P shift position indicator | Receives a P signal from the ECM (CAN). |
| A/T R shift position indicator | Receives an R signal from the ECM (CAN). |
| A/T N shift position indicator | Receives an N signal from the ECM (CAN). |
| A/T D shift position indicator | Receives a D signal from the ECM (CAN). |
| A/T S (1 to 5) shift position indicator*7 | Receives a (1 to 5) signal from the ECM (CAN). |
| A/T S (1 to 6) shift position indicator*8 | Receives a (1 to 6) signal from the ECM (CAN). |

*1: w/ Rear Fog Light
*2: w/ Tire Carrier
*3: for 1VD-FTV
*4: w/ Curtain Shield Airbag
*5: w/ Rear Differential Lock
*6: w/ Pre-crash Safety System
*7: for A750F Automatic Transmission
*8: for AB60F Automatic Transmission
*9: w/ Dynamic Radar Cruise Control System
*10: w/ Static Headlight Auto Leveling
*11: w/ Dynamic Headlight Auto Leveling
*12: w/ Cruise Control System
*13: w/ Multi-terrain Select
*14: w/ Automatic High Beam System
*15: w/ Tire Pressure Warning System

## MULTI-INFORMATION DISPLAY (w/ Multi-information Display)

When the DISP switch is pressed, the multi-information display is changed between the following: cruise information display and warning display.

a. Basic Flowchart.




## ECO DRIVING INDICATOR LIGHT SETTING

**HINT:**

- **The eco driving indicator light can be deactivated by changing the setting.**
- **When the eco driving indicator light is deactivated, the indicator and warning light check is not performed.**

a. Setting eco driving indicator light.

i. Display the odometer screen.

ii. Press and hold the ODO/TRIP switch for five seconds or more to display the settings screen.

iii. w/o Multi-information Display:
After selecting "Eco On" or "EcoOFF", press and hold the ODO/TRIP switch for 2 seconds or more to exit the settings screen.

iv. w/ Multi-information Display:
After selecting "ON" or "OFF", press and hold the ODO/TRIP switch for 2 seconds or more to exit the settings screen.

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the meter/gauge system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.CHECK FOR DTC*

a. Check for DTCs and note any codes that are output ( Click here).

b. Clear the DTCs (Click here).

c. Recheck for DTCs. Based on the DTCs output above, try to force output of the same CAN communication system DTC or meter/gauge system DTC by simulating the symptoms indicated by the DTC.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |
| Meter/gauge system DTC is output | D |

B. → Go to CAN COMMUNICATION SYSTEM (Click here)

C. → Go to CAN COMMUNICATION SYSTEM (Click here)

D. → Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

A

## 4.PROBLEM SYMPTOMS TABLE

a. Refer to the Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. Go to step 6

A

## 5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here)

b. Data List / Active Test (Click here)

c. Operation Check (Click here)

NEXT

## 6.REPAIR OR REPLACE

NEXT

## 7.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

## INSPECT INDICATOR/WARNING LIGHT

a. Check the following indicators and warning lights.

**w/o Multi-information Display**

| Indicator/Warning Light | Switch Condition | Specified Condition |
|---|---|---|
| A/T OIL TEMP warning light*1 | Ignition switch off → ON | Comes on for 3 seconds |
| BRAKE warning light | | |
| ABS warning light | | |
| OIL LEVEL indicator light | | |
| FUEL FILTER & SEDIMENTER indicator light*2 | | |
| SLIP indicator light*3 | | |
| VSC OFF indicator light*3 | | |
| WASHER indicator light | | |
| RSCA OFF indicator light*4 | | |
| CRAWL indicator light*3 | | |
| SPEED LIMIT indicator light | | |
| Eco driving indicator light | | |
| TRC OFF indicator light*3 | | |
| Turn assist indicator light*3 | | |
| Multi-terrain select indicator light*5 | | |
| SRS warning light | Ignition switch off → ON | Comes on for 6 seconds |
| CHARGE warning light | Ignition switch off → ON | Illuminates when ignition switch is turned to ON. Turns off when engine is started. |
| MIL | | |

*1: for Automatic Transmission
*2: for 1VD-FTV
*3: w/ VSC
*4: w/ Curtain Shield Airbag
*5: w/ Multi-terrain Select

**w/ Multi-information Display**

| Indicator/Warning Light | Switch Condition | Specified Condition |
|---|---|---|
| BRAKE warning light | Ignition switch off → ON | Comes on for 3 seconds |
| ABS warning light | | |
| SLIP indicator light | | |
| RSCA OFF indicator light*1 | | |
| CRAWL indicator light | | |
| SPEED LIMIT indicator light | | |
| PCS indicator light*2 | | |
| Eco driving indicator light | | |
| VSC OFF indicator light | | |
| Turn assist indicator light | | |
| Multi-terrain select indicator light*4 | | |
| Headlight beam level control system warning light*3 | | |
| Tire pressure warning light*5 | | |
| SRS warning light | Ignition switch off → ON | Comes on for 6 seconds |
| CHARGE warning light | Ignition switch off → ON | Illuminates when ignition switch is turned to ON. Turns off when engine is started. |
| MIL | | |

*1: w/ Curtain Shield Airbag
*2: w/ Pre-crash Safety System
*3: w/ Headlight Leveling
*4: w/ Multi-terrain Select
*5: w/ Tire Pressure Warning System

## INSPECT SPEEDOMETER

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Powertrain / Engine and ECT / Data List.

**Reference:**

**mph:**

| Standard Indication | Acceptable Range |
|---|---|
| 20 mph | 18.5 to 22 mph |
| 40 mph | 39.5 to 42.5 mph |
| 60 mph | 59.5 to 63 mph |
| 80 mph | 80.5 to 84.5 mph |
| 100 mph | 100.5 to 105.5 mph |
| 120 mph | 119.5 to 126 mph |
| 140 mph | 141 to 147 mph |

**km/h (except Australia):**

| Standard Indication | Acceptable Range |
|---|---|
| 20 km/h | 21 to 25 km/h |
| 40 km/h | 41.7 to 46.2 km/h |
| 60 km/h | 62.7 to 67.2 km/h |
| 80 km/h | 83.4 to 88.4 km/h |
| 100 km/h | 104.3 to 109.3 km/h |
| 120 km/h | 125.1 to 130.6 km/h |
| 140 km/h | 145.8 to 151.8 km/h |
| 160 km/h | 166.2 to 173.2 km/h |
| 180 km/h | 186.9 to 194.5 km/h |
| 200 km/h | 207.7 to 215.7 km/h |
| 220 km/h | 228.4 to 236.8 km/h |
| 240 km/h | 249.2 to 258 km/h |

**km/h (for Australia):**

| Standard Indication | Acceptable Range |
|---|---|
| 20 km/h | 17.5 to 21.5 km/h |
| 40 km/h | 38 to 42 km/h |
| 60 km/h | 58 to 63 km/h |
| 80 km/h | 78 to 84 km/h |
| 100 km/h | 98.5 to 104.5 km/h |
| 120 km/h | 119 to 125 km/h |
| 140 km/h | 139 to 146 km/h |
| 160 km/h | 159 to 167 km/h |
| 180 km/h | 186.9 to 194.5 km/h |
| 200 km/h | 199 to 209 km/h |
| 220 km/h | 219 to 230 km/h |
| 240 km/h | 239 to 251 km/h |

If the result is not as specified, the speedometer may have a malfunction.

**NOTICE:**

Do not use worn, underinflated or overinflated tires, as the speedometer reading will be inaccurate.

e. Check the deflection width of the speedometer indicator.

**Reference:**
**Within 0.3°**

## INSPECT TACHOMETER

a. Connect a tune-up tachometer, and start the engine.

b. Compare the test results with the tachometer indicator.

**DC 13.5 V, at 25°C (77°F):**

| Standard indication (rpm) | Acceptable range<br>Data in ( ) is for reference |
|---|---|
| 700 | 630 to 770 |
| 1000 | (900 to 1100) |
| 2000 | (1850 to 2150) |
| 3000 | 2800 to 3200 |
| 4000 | (3800 to 4200) |
| 5000 | 4800 to 5200 |
| 6000 | (5750 to 6250) |

If the result is not as specified, the tachometer may have a malfunction.

## INSPECT METER/GAUGE

a. Connect the intelligent tester to the DLC3.

b. Perform Active Test (Click here).

**OK:**
**Each meter/gauge needle indication is normal.**

## INSPECT WARNING/INDICATOR LIGHT

a. Connect the intelligent tester to the DLC3.

b. Perform Active Test (Click here).

**OK:**
**Each warning/indicator light turns on and off using the intelligent tester.**

## INSPECT ENGINE OIL LEVEL WARNING (except 3UR-FE)

a. Turn the ignition switch to ON and warm up the engine at an engine speed of 2000 rpm or less until the coolant temperature reaches approximately 80°C (176°F) or more.

b. Disconnect the engine oil level sensor connector for 40 seconds or more.

c. Turn the ignition switch to ON and check the multi-information display.

**OK:**
**Low engine oil level message is displayed.**

## INSPECT MULTI-INFORMATION DISPLAY (w/ Multi-information Display)

a. Connect the intelligent tester to the DLC3.

b. Perform Active Test (Click here).

**HINT:**

If this Active Test is being performed and the ignition switch is turned off and then ON, the A/T and ODO/TRIP display background may turn white. If this occurs, end Active Test and turn the ignition switch off.

**OK:**
**All dots in the multi-information display turn on and off using the intelligent tester.**

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Connect the Intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Customize Setting.

e. Select the setting by referring to the table below.

### Warning

| Display (Item) | Default | Contents | Setting |
|---|---|---|---|
| Driver Side Seatbelt Warning Buzzer | ON | To change the seat-belt warning buzzer. | ON / OFF |
| Front Passenger Side Seatbelt Warning Buzzer | ON | To change the seat-belt warning buzzer. | ON / OFF |

### Unit Conversion

| Display (Item) | Default | Contents | Setting |
|---|---|---|---|
| Units By Region | Different for each vehicle | To change the units of the display. | Km/l JP / Km/l / Ml/g US / Ml/g UK |

### Display

| Display (Item) | Default | Contents | Setting |
|---|---|---|---|
| Eco Drive Indicator Zone | ON | To change the eco driving indicator zone display. | ON / OFF |
| Language | None | To change the language of the display. | Eng US / Eng UK / French / German / Spanish / Italian / Japanes / CHN Sim / CHN Trd |

**for Preparation** Click here

## OIL MAINTENANCE INFORMATION MODE RESET OPERATION (for 1VD-FTV, w/ Multi-information Display)

**NOTICE:**

- **When "Oil Maintenance Reqd" or "Oil Maintenance Reqd Soon" is displayed, change the engine oil and perform this procedure.**
- **After the engine oil is changed, perform this procedure so that "Oil Maintenance Reqd" or "Oil Maintenance Reqd Soon" does not display.**

**HINT:**

- **The oil change maintenance system displays "Oil Maintenance Reqd" or "Oil Maintenance Reqd Soon" in the multi-information display to inform the driver that it is time to change the oil based on the distance driven**
- **The ODO/TRIP switch is in the light control rheostat.**

a. Turn the ignition switch to ON, and use the ODO/TRIP switch to change the screen display to TRIP A.

b. Turn the ignition switch off.

c. While holding in the ODO/TRIP switch, turn the ignition switch to ON.

d. After a 5 second count, reset will end

**NOTICE:**

- **If the ignition switch is turned off during the reset operation, reset mode will be canceled.**
- **If the ODO/TRIP switch is turned off during the reset operation, reset mode will be canceled.**

**for Preparation** Click here

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

### Malfunction System

| Symptom | Suspected Area | See page |
|---|---|---|
| Entire Combination Meter does not Operate | Refer to "Entire Combination Meter does not Operate" | Click here |
| Odo/Trip Switch Malfunction | Refer to "Odo/Trip Switch Malfunction" | Click here |
| Operating Light Control Rheostat does not Change Light Brightness | Refer to "Operating Light Control Rheostat does not Change Light Brightness" | Click here |
| Meter Illumination is Always Dark | Refer to "Meter Illumination is Always Dark" | Click here |
| Meter Illumination does not Dim at Night | Refer to "Meter Illumination does not Dim at Night" | Click here |
| Multi-information display does not change using DISP switch | Inspect steering pad switch | Click here |
| | Inspect spiral cable | Click here |
| | Perform Active Test (Meter display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Multi-information display is missing dots | Perform Active Test (Meter display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |

### Meter Gauges

| Symptom | Suspected Area | See page |
|---|---|---|
| Speedometer Malfunction | Refer to "Speedometer Malfunction" | Click here |
| Tachometer Malfunction | Refer to "Tachometer Malfunction" | Click here |
| Fuel Receiver Gauge Malfunction | Refer to "Fuel Receiver Gauge Malfunction" | Click here |
| Engine Coolant Gauge Malfunction | Refer to "Fuel Receiver Gauge Malfunction" | Click here |
| Oil Pressure Receiver Gauge Malfunction | Refer to "Oil Pressure Gauge Malfunction" | Click here |
| Voltage Meter Malfunction | Refer to "Voltage Meter Malfunction" | Click here |

### Warning/Indicator Lights

| Symptom | Suspected Area | See page |
|---|---|---|
| BEAM indicator light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Lighting system | Click here |
| | Perform Active Test (Indicat. Lamp Beam) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| FRONT FOG indicator light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Lighting system | Click here |
| | Perform Active Test (Indicat. Lamp Fr FOG) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| TAIL indicator light does not come on*1 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Lighting system | Click here |
| | Perform Active Test (Indicat. Lamp Tail) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | CAN communication system (for LHD) | Click here |

| | | |
|---|---|---|
| REAR FOG indicator light does not come on*2 | CAN communication system (for RHD) | Click here |
| | Lighting system | Click here |
| | Perform Active Test (Indicat. Lamp Rr Fog) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| A/T OIL TEMP warning light does not come on*3, *4 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | SFI system (for 1GR-FE) | Click here |
| | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (A/T Oil Temperature Operation) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| A/T P warning light does not come on*4 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Transfer system | Click here |
| | Perform Active Test (Indicat. A/T P) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| KEY indicator light does not come on*3, *6 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Entry and start system (for Entry function) | Click here |
| | Perform Active Test (Indicat. KEY) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| SRS warning light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Airbag system | Click here |
| | Perform Active Test (Indicat. Lamp Airbag) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| DOOR warning light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Lighting system | Click here |
| | Perform Active Test (Indicat. Lamp Doors All Open) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| TIRE CARRIER warning light does not come on*5 | Back door courtesy switch | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Driver side seat belt warning light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Seat belt warning system | Click here |
| | Perform Active Test (Driver Side Seat Belt) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Brake warning light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (Indicat. Lamp Brake) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| CHARGE warning light does not come on | Perform Active Test (Indicat. Lamp Charge) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Transfer system | Click here |

| | | |
|---|---|---|
| 4LO indicator light does not come on | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| ABS warning light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (Indicat. Lamp ABS) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| MIL does not come on | ECM (for 1GR-FE) | Click here |
| | ECM (for 1UR-FE) | Click here |
| | ECM (for 3UR-FE) | Click here |
| | ECM (for 1VD-FTV) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| | Harness or connector | - |
| GLOW indicator light does not come on*7 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Indicat. GLOW) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| OIL LEVEL indicator light does not come on*3 | Oil Level Sensor (for 1GR-FE) | Click here |
| | Oil Level Sensor (for 1UR-FE) | Click here |
| | Oil Level Sensor (for 1VD-FTV) | Click here |
| | Perform Active Test (Indicat. Lamp Oil Level) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| FUEL warning light does not come on | Perform Active Test (Indicat. Lamp fuel) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| | Harness or connector | - |
| FUEL FILTER & SEDIMENTER indicator light does not come on*3, *7 | Fuel filter | Click here |
| | Perform Active Test (Indicat. Lamp Water Level) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| SLIP indicator light does not come on*8 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (Indicat. Lamp Slip) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Cruise control indicator light does not come on*15 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Cruise control system | Click here |
| | Perform Active Test (Indicat. Lamp Cruise) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| VSC OFF indicator light does not come on*8 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (Indicat. VSC OFF) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Turn signal indicator light does not come on | Lighting system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| | Perform Active Test (Indicat. Lamp Washer) | Click here |
| | Wiper and washer system (w/ Rain sensor) | Click here |

| | | |
|---|---|---|
| WASHER indicator light does not come on*3 | Wiper and washer system (w/o Rain sensor) | Click here |
| | Wind washer jar and tank | - |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| RSCA OFF indicator light does not come on*9 | Airbag system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Master warning light does not come on*1 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Perform Active Test (Master Warning) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| CRAWL indicator light does not come on*8 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (Indicat. CRAWL) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| ECT PWR indicator light does not come on*4 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Automatic transmission system (for A750F, 1GR-FE) | Click here |
| | Automatic transmission system (for AB60F, 1UR-FE) | Click here |
| | Automatic transmission system (for AB60F, 3UR-FE) | Click here |
| | Automatic transmission system (for AB60F, 1VD-FTV) | Click here |
| | Perform Active Test (Indicat. Lamp ECT PWR) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| 2nd START indicator light does not come on*4 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | SFI system (for 1GR-FE) | Click here |
| | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Indicat. 2nd START) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Center differential lock indicator light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Transfer system | Click here |
| | Perform Active Test (Indicat. Ctr DIFF LOCK) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| REAR DIFFERENTIAL LOCK warning light does not come on*10 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Transfer system | Click here |
| | Perform Active Test (Indicat. Rr DIFF LOCK) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| PCS indicator light does not come on*1, *11 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Pre-Crash Safety system | Click here |
| | Perform Active Test (Indicat. Precrash) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| SPEED LIMIT indicator light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Perform Active Test (Indicat. Over Speed) | Click here |
| | Vehicle stability control system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |

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|---|---|---|
| Power steering warning light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Perform Active Test (PPS Indicator) | Click here |
| | Power steering system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| TRC OFF indicator light does not come on*8 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (VSC TRC Indicator) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Eco driving indicator light does not come on | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | SFI system (for 1GR-FE) | Click here |
| | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (Indicat. ECONO) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| SET indicator light does not come on*14, *15 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Cruise control system*15 | Click here |
| | Dynamic radar cruise control system*14 | Click here |
| | Perform Active Test (Indicat. SET) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Radar cruise control indicator light does not come on*14 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Dynamic radar cruise control system | Click here |
| | Perform Active Test (Indicat. Radar Cruise) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| Turn assist indicator light does not come on*8 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (Rr Inner Wheel Control Indicator) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Multi-terrain select indicator light does not come on*16 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (OFF Road Guidance Indicator) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Headlight beam level control system warning light does not come on*12 | Perform Active Test (Indicat. Headlamp Auto Leveling) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Headlight leveling ECU assembly (for LHD) | Click here |
| | Headlight leveling ECU assembly (for RHD) | Click here |
| | Harness or connector | - |
| Headlight beam level control system warning light does not come on*13 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Lighting system | Click here |
| | Perform Active Test (Indicat. Headlamp Auto Leveling) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| Automatic high beam indicator light does not come on*17 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Lighting system | Click here |

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|---|---|---|
| | Perform Active Test (Automatic High Beam Indicator) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| Tire pressure warning light does not come on*18 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Tire pressure warning system | Click here |
| | Perform Active Test (Indicat. Tire Pressure Warning System) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |

*1: w/ Multi-information Display
*2: w/ Rear Fog Light
*3: w/o Multi-information Display
*4: for Automatic Transmission
*5: w/ Tire Carrier
*6: w/ Entry and Start System
*7: for 1VD-FTV
*8: w/ VSC
*9: w/ Curtain Shield Airbag
*10: w/ Rear Differential Lock
*11: w/ Pre-crash Safety System
*12: w/ Static Headlight Auto Leveling
*13: w/ Dynamic Headlight Auto Leveling
*14: w/ Dynamic Radar Cruise Control System
*15: w/ Cruise Control System
*16: w/ Multi-terrain Select
*17: w/ Automatic High Beam System
*18: w/ Tire Pressure Warning System

**Multi-information Display (w/ Multi-information Display)**

| Symptom | Suspected Area | See page |
|---|---|---|
| "LAND CRUISER" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CURRENT" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "AFTER REFUELING" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CRUISING RANGE" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "AFTER START" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "NORMAL" multi-information display malfunction*4 | Cruise control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CRAWL has been deactivated" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CRAWL is activated" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |

| | | |
|---|---|---|
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CRAWL not available" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "BRAKE!" multi-information display malfunction | Pre-crash safety system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Check PCS System" multi-information display malfunction | Pre-crash safety system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "PCS Not available now" multi-information display malfunction | Pre-crash safety system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Key is not detected" multi-information display malfunction | Entry and start system (for Entry function) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Low Key Battery" multi-information display malfunction | Entry and start system (for Entry function) | Click here |
| | Transmitter battery | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Shift to P position" multi-information display malfunction | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Entry and start system (for Start function) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "P" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | SFI system (for 1UR-FE) | Click here |
| | | Click |

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|---|---|---|
| "R" does not display on multi-information display | SFI system (for 3UR-FE) | here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "N" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "D" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "S" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "S1" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "S2" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "S3" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |

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|---|---|---|
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "S4" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "S5" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "S6" does not display on multi-information display | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Check Steering Lock System" multi-information display malfunction | Steering lock system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Steering Lock is still active" multi-information display malfunction | Steering lock system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Depress the brake pedal, and touch the engine switch with the key" multi-information display malfunction | Entry and start system (for Start function) | Click here |
| | Engine Immobiliser system | Click here |
| | Steering lock system | Click here |
| | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Entry and start system (for Start function) | Click here |
| | Engine Immobiliser system | Click here |
| | | Click |

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|---|---|---|
| "To start, depress the brake pedal, and push the engine switch" multi-information display malfunction | Steering lock system | here |
| | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Moon Roof Opened" multi-information display malfunction | Sliding roof system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Driver's door Open" multi-information display malfunction | Lighting system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Front Passenger's Door Open" multi-information display malfunction | Lighting system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Right Rear Door Open" multi-information display malfunction | Lighting system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Left Rear Door Open" multi-information display malfunction | Lighting system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Back Door Open" multi-information display malfunction | Lighting system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Check Sonar" multi-information display malfunction | Toyota parking assist-sensor system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Clean Sonar" multi-information display malfunction | Toyota parking assist-sensor system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Release the Parking Brake" multi-information display malfunction | Parking brake system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |

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| "Check VSC System" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "VSC Test Mode" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "VSC OFF" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "High Transmission Fluid Temperature" multi-information display malfunction (for 1UR-FE) | Automatic transmission system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "High Transmission Fluid Temperature" multi-information display malfunction (for 3UR-FE) | Automatic transmission system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "High Transmission Fluid Temperature" multi-information display malfunction (for 1VD-FTV) | Automatic transmission system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Low Engine Oil Level" multi-information display malfunction | Oil level sensor (for 1UR-FE) | Click here |
| | Oil level sensor (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Low Washer Fluid" multi-information display malfunction | Wiper and washer system (w/ Rain sensor) | Click here |
| | Wiper and washer system (w/o Rain sensor) | Click here |
| | Wind washer jar and tank | - |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "High Water Level" multi-information display malfunction (for 1VD-FTV) | Fuel filter | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Low Fuel" multi-information display malfunction (for 1UR-FE) | Fuel system | Click here |
| | Fuel sender gauge assembly | Click here |
| | Fuel sender gauge assembly | Click here |

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| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Low Fuel" multi-information display malfunction (for 3UR-FE) | Fuel system | Click here |
| | Fuel sender gauge assembly | Click here |
| | Fuel sender gauge assembly (for Fuel Sub Tank) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Low Fuel" multi-information display malfunction (for 1VD-FTV) | Fuel system | Click here |
| | Fuel sender gauge assembly | Click here |
| | Fuel sender gauge assembly (for Fuel Sub Tank) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Check Fuel System" multi-information display malfunction | Fuel system (for 1UR-FE) | Click here |
| | Fuel system (for 3UR-FE) | Click here |
| | Fuel system (for 1VD-FTV) | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Oil Maintenance Reqd Soon" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Oil Maintenance Reqd" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Oil Maintenance Reqd Reset" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Oil Maintenance Reqd Reset UNFINISHED" multi-information display malfunction | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "DIAG VSC" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CLEAN RADAR SENSOR" multi-information display malfunction*1 | Dynamic radar cruise control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CRUISE CONTROL NOT AVAILABLE" multi-information display malfunction*1 | Dynamic radar cruise control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |

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|---|---|---|
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CHECK CRUISE CONTROL SYSTEM" multi-information display malfunction*1 | Dynamic radar cruise control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "RADAR READY" multi-information display malfunction*1 | Dynamic radar cruise control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "CRUISE OFF" multi-information display malfunction*1 | Dynamic radar cruise control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "NORMAL" multi-information display malfunction*1 | Dynamic radar cruise control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "RADAR CRUISE BEAM AXIS ADJUSTMENT" multi-information display malfunction*1 | Dynamic radar cruise control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| Eco driving indicator zone display malfunction | SFI system (for 1GR-FE) | Click here |
| | SFI system (for 1UR-FE) | Click here |
| | SFI system (for 3UR-FE) | Click here |
| | ECD system (for 1VD-FTV) | Click here |
| | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "TURN ASSIST FUNCTION HAS BEEN DEACTIVATED" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "TURN ASSIST FUNCTION NOT AVAILABLE CHECK SYSTEM OPERATION CONDITIONS" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "TURN ASSIST FUNCTION NOT AVAILABLE ACTIVATE CRAWL CONTROL" multi-information display malfunction | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |

| | | |
|---|---|---|
| "SOON" multi-information display malfunction*2 | Navigation system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "TURN-BY-TURN NAVIGATION" multi-information display malfunction*2 | Navigation system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "HOLD DISP SWITCH TO SELECT" multi-information display malfunction*2 | Navigation system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| Digital speedometer display malfunction (Speedometer operates normally) | Combination meter assembly (w/ Multi-information Display) | Click here |
| Multi-terrain select display malfunction*5 | Vehicle stability control system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| Steering angle display malfunction | Variable gear ratio steering system*3 | Click here |
| | Steering sensor | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Check AHB System" multi-information display malfunction*6 | Lighting system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Turn on the high beam to activate AHB System" multi-information display malfunction*6 | Lighting system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "TIRE PRESSURE" multi-information display malfunction*7 | Tire pressure warning system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Tire Pressure Test Mode" multi-information display malfunction*7 | Tire pressure warning system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| "Check Tire Pressure System" multi-information display malfunction*7 | Tire pressure warning system | Click here |
| | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Tire pressure warning system | Click here |

| | | |
|---|---|---|
| "Tire Pressure Reset Proceeding" multi-information display malfunction*7 | Perform Active Test (Meter Display 1) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |

*1: w/ Dynamic Radar Cruise Control System
*2: w/ Navigation System
*3: w/ Variable Gear Ratio Steering System
*4: w/ Cruise Control System
*5: w/ Multi-terrain Select
*6: w/ Automatic High Beam System
*7: w/ Tire Pressure Warning System

**Buzzer**

| Symptom | Suspected Area | See page |
|---|---|---|
| Driver seat belt warning buzzer (buzzer that sounds intermittently, and then sounds 5 times) does not sound | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Seat belt warning system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Entry and start system buzzer (buzzer that sounds intermittently) does not sound | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Entry and start system (for Entry function) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Immobiliser confirmed buzzer (buzzer that sounds once) does not sound | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Engine immobiliser system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Multi display warning buzzer (buzzer that sounds once) does not sound*1 | Combination meter assembly (w/ Multi-information Display) | Click here |
| Entry and start system (buzzer that sounds once) buzzer does not sound | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Entry and start system (for Entry function) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Seat belt warning LEVEL 1 buzzer (buzzer that sounds continuously) does not sound*2 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Seat belt warning system | Click here |
| | Combination meter assembly (w/ Multi- | Click |

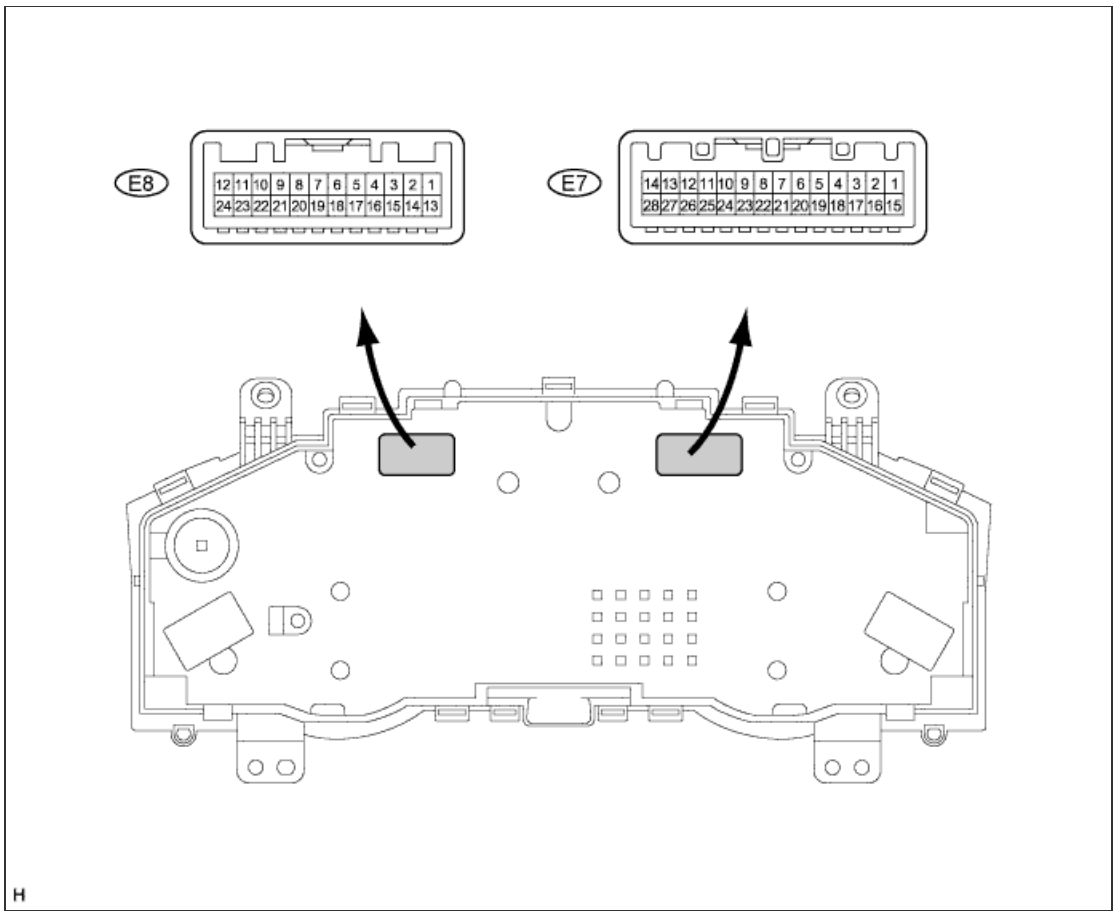
| | | |
|---|---|---|
| | information Display) | here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Seat belt warning LEVEL 2 buzzer (buzzer that sounds continuously) does not sound*2 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Seat belt warning system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Entry and start system buzzer (buzzer that sounds continuous) does not sound | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Entry and start system (for Entry function) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| PKB-ON running buzzer (buzzer that sounds intermittently) does not sound | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Door ajar running warning buzzer (buzzer that sounds once) does not sound | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Sports shift reject buzzer (buzzer that sounds twice) does not sound (for 1GR-FE) | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Automatic transmission system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Sports shift reject buzzer (buzzer that sounds twice) does not sound (for 1UR-FE) | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Automatic transmission system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Sports shift reject buzzer (buzzer that sounds twice) does not sound (for 3UR-FE) | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Automatic transmission system | Click here |

| | | |
|---|---|---|
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Sports shift reject buzzer (buzzer that sounds twice) does not sound (for 1VD-FTV) | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Automatic transmission system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Light reminder buzzer (buzzer that sounds continuously) does not sound*1 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Lighting system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Sliding roof buzzer (buzzer that sounds once) does not sound | Sliding roof system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |
| Four wheel drive buzzer (buzzer that does not sound, sounds intermittently. and then sounds 3 times) does not sound | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Transfer system | Click here |
| | Combination meter assembly (w/ Multi-information Display) | Click here |
| | Combination meter assembly (w/o Multi-information Display) | Click here |

*1: w/ Multi-information Display
*2: except Europe

**for Preparation** Click here

## CHECK COMBINATION METER




a. Measure the resistance and voltage according to the value(s) in the table below.

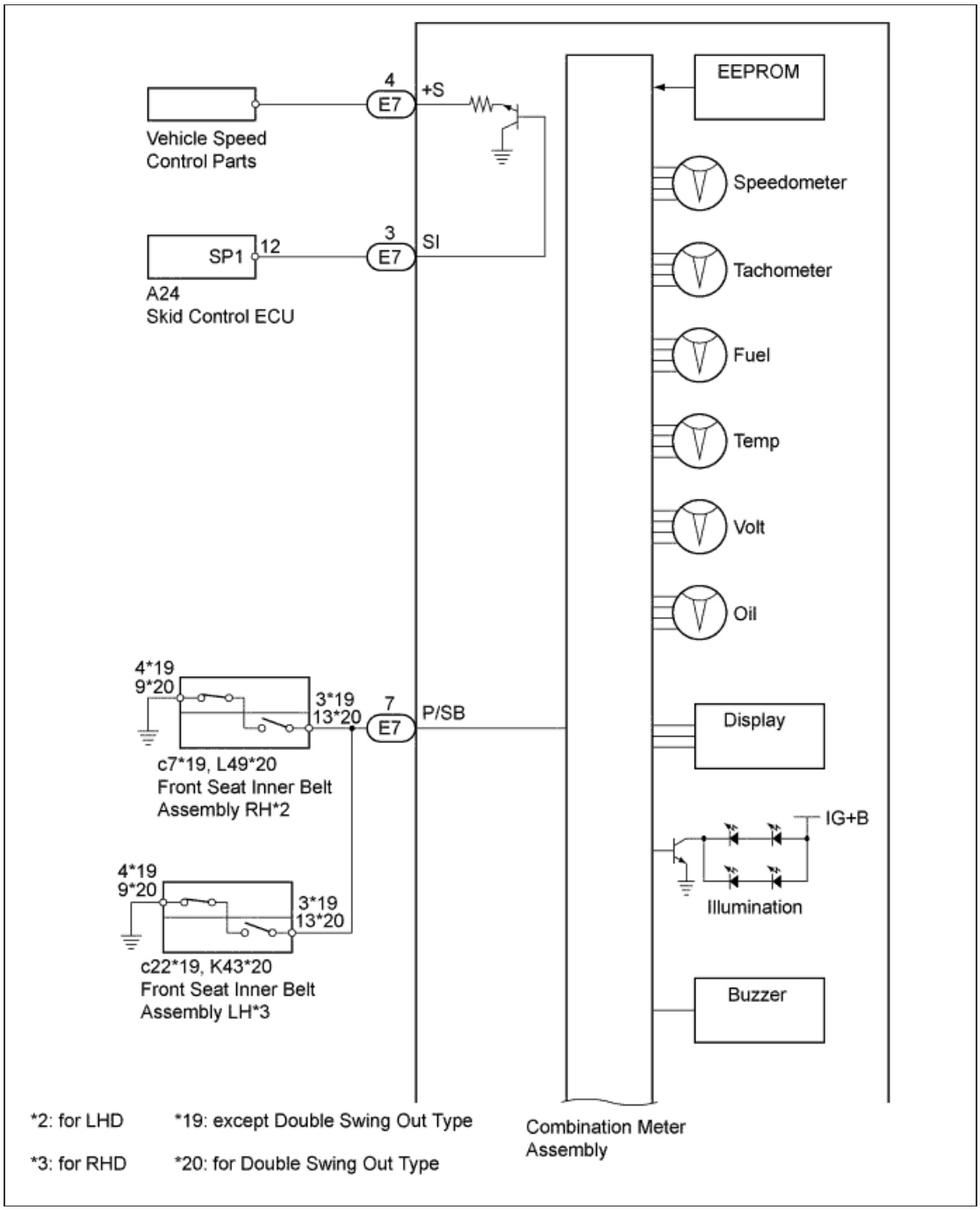
| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E7-3 (SI) - Body ground | V - Body ground | Speed signal (input) | Ignition switch ON, wheel turned slowly | Pulse generation |
| E7-4 (+S) - Body ground | V - Body ground | Speed signal (output) | Ignition switch ON, wheel turned slowly | Pulse generation |
| E7-5 (WLVL) - Body ground | V - Body ground | Washer level warning signal | Washer fluid level sensor on | Below 1 V |
| | | | Washer fluid level sensor off | 11 to 14 V |
| E7-6 (OIL) - Body ground | L - Body ground | Oil level signal | Oil level sensor on | Below 1 V |
| | | | Oil level sensor off | 11 to 14 V |
| E7-7 (P/SB) - Body ground | B - Body ground*1<br>G - Body ground*2 | Seat belt warning signal | Ignition switch ON, seat occupied, seat belt unfastened → fastened | Alternating between below 1 V and 11 to 14 V |
| E7-8 (R) - Body ground | L - Body ground | Park/neutral signal*3 | Park/neutral switch on | 11 to 14 V |
| | | Reverse signal*4 | Back-up light switch on | |
| E7-9 (SIS) - Body ground | GR - Body ground | Ground | Always | Below 1 Ω |
| E7-10 (LVWG) - Body ground*9 | L - Body ground | Headlight beam level control system warning light | Ignition switch ON, headlight beam level control system warning light on | Below 1 V |
| | | | Ignition switch ON, headlight beam level control system warning light off | 11 to 14 V |

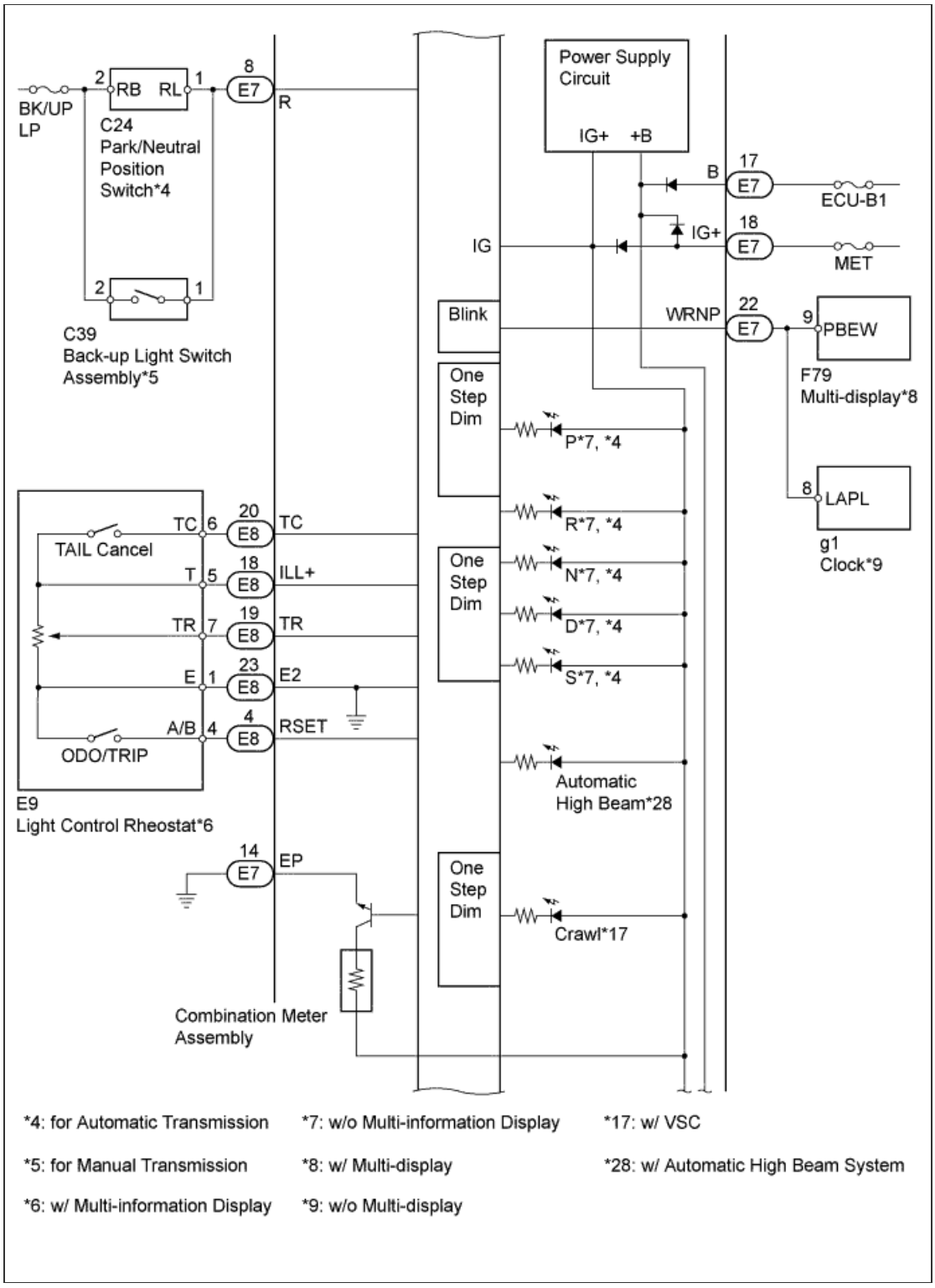
| | | | | |
|---|---|---|---|---|
| E7-11 (R/O) - Body ground*5 | P - Body ground | RSCA OFF indicator light input signal | Ignition switch ON, RSCA OFF indicator light on | Below 1 V |
| | | | Ignition switch ON, RSCA OFF indicator light off | 8 to 14 V |
| E7-12 (CHG-) - Body ground | B - Body ground | CHARGE warning light | Ignition switch ON, CHARGE warning light on | Below 1 V |
| | | | Ignition switch ON, CHARGE warning light off | 11 to 14 V |
| E7-13 (IND) - Body ground*6 | R - Body ground | TIRE CARRIER warning light | Back door open | Below 1 V |
| | | | Back door closed | 11 to 14 V |
| E7-14 (EP) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E7-15 (ET) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| E7-17 (B) - Body ground | R - Body ground | Power source | Always | 11 to 14 V |
| E7-18 (IG+) - Body ground | B - Body ground | Ignition switch signal | Ignition switch off | Below 1 V |
| | | | Ignition switch ON | 11 to 14 V |
| E7-22 (WRNP) - Body ground | Y - Body ground*12<br>LG - Body ground*13 | Passenger seat belt warning light signal | Ignition switch ON, passenger seat occupied, seat belt unfastened → fastened | Alternating between below 1 V and 11 to 14 V |
| E7-23 (ABOF) - Body ground*10 | BR - Body ground | Ground | Always | Below 1 Ω |
| E7-23 (ABOF) - Body ground*11 | - | - | Always | 4.6 to 5.4 V |
| E7-27 (B) - Body ground | R - Body ground | Turn signal R | Ignition switch ON, turn signal switch neutral position | Below 1 V |
| | | | Ignition switch ON, turn signal switch turned to left | Alternating between below 1 V and 11 to 14 V |
| E7-28 (B) - Body ground | L - Body ground | Turn signal L | Ignition switch ON, turn signal switch neutral position | Below 1 V |
| | | | Ignition switch ON, turn signal switch turned to right | Alternating between below 1 V and 11 to 14 V |
| E8-3 (MSSL) - Body ground | L - Body ground | Spiral cable signal | Ignition switch ON, steering pad switch signal DISP off | Below 1 V |
| | | | Ignition switch ON, steering pad switch signal DISP on | 11 to 14 V |
| E8-4 (RSET) - Body ground*7 | B - Body ground | Light control rheostat signal | Ignition switch ON, light control rheostat trip switch off | Below 1 V |
| | | | Ignition switch ON, light control rheostat trip switch on | 11 to 14 V |
| E8-9 (L) - Body ground | G - Body ground | Fuel sender gauge signal | Fuel F (full tank) → E (empty) | 4.5 to 9 V |
| E8-10 (L) - Body ground*8 | P - Body ground | Fuel sender gauge signal | Fuel F (full tank) → E (empty) | 4.5 to 9 V |
| E8-11 (S) - Body ground | L - Body ground | Engine oil pressure warning signal | Engine oil pressure warning light illuminated → not illuminated | Alternating between below 1 V and 11 to 14 V |
| E8-12 (CHK) - Body ground | R - Body ground | MIL input signal | Ignition switch ON, MIL on | Below 3 V |
| | | | Ignition switch ON, MIL off | 11 to 14 V |
| E8-14 (S) - Body ground | G - Body ground | Fuel filter warning signal | Ignition switch ON, clogging switch on | Alternating between below 1 V and 11 to 14 V |
| E8-15 (FFTR) - Body | | | Ignition switch ON, level | Alternating between |

| | | | | |
|---|---|---|---|---|
| ground | V - Body ground | Fuel filter warning signal | warning switch on | below 1 V and 11 to 14 V |
| E8-18 (ILL+) - Body ground*7 | G - Body ground | Light control rheostat signal | Ignition switch ON | 4.6 to 5.4 V |
| E8-19 (TR) - Body ground*7 | W - Body ground | Light control rheostat knob input | Light control rheostat knob fully turned left | Below 1 V |
| | | | Light control rheostat knob fully turned right | 10 kΩ or higher |
| E8-20 (TC) - Body ground*7 | B - Body ground | Light control rheostat signal | Ignition switch ON, light control rheostat TAIL, cancel switch off | Below 1 V |
| | | | Ignition switch ON, light control rheostat TAIL, cancel switch on | 10 kΩ or higher |
| E8-21 (E) - Body ground | B - Body ground | Fuel sender gauge ground | Always | Below 1 Ω |
| E8-22 (FE) - Body ground*8 | SB - Body ground | Fuel sender gauge ground | Always | Below 1 Ω |
| E8-23 (E2) - Body ground*7 | L - Body ground | Light control rheostat ground | Always | Below 1 Ω |

*1: for LHD
*2: for RHD
*3: for Automatic Transmission
*4: for Manual Transmission
*5: w/ Curtain Shield Airbag
*6: w/ Tire Carrier
*7: w/ Multi-information Display
*8: for Double Tank Type
*9: w/ Static Headlight Auto Leveling
*10: w/o Airbag System
*11: w/ Airbag System
*12: for GRJ200L-GNANKC, URJ202L-GNTEKC
*13: except GRJ200L-GNANKC, URJ202L-GNTEKC

## CHECK COMBINATION METER INNER CIRCUIT


Vehicle Speed
Control Parts
4
E7
+S
SP1
12
3
E7
SI
A24
Skid Control ECU
EEPROM
Speedometer
Tachometer
Fuel
Temp
Volt
Oil
4*19
9*20
3*19
13*20
7
E7
P/SB
c7*19, L49*20
Front Seat Inner Belt
Assembly RH*2
Display
IG+B
Illumination
4*19
9*20
3*19
13*20
c22*19, K43*20
Front Seat Inner Belt
Assembly LH*3
Buzzer
*2: for LHD
*3: for RHD
*19: except Double Swing Out Type
*20: for Double Swing Out Type
Combination Meter
Assembly




*4: for Automatic Transmission

*5: for Manual Transmission

*6: w/ Multi-information Display

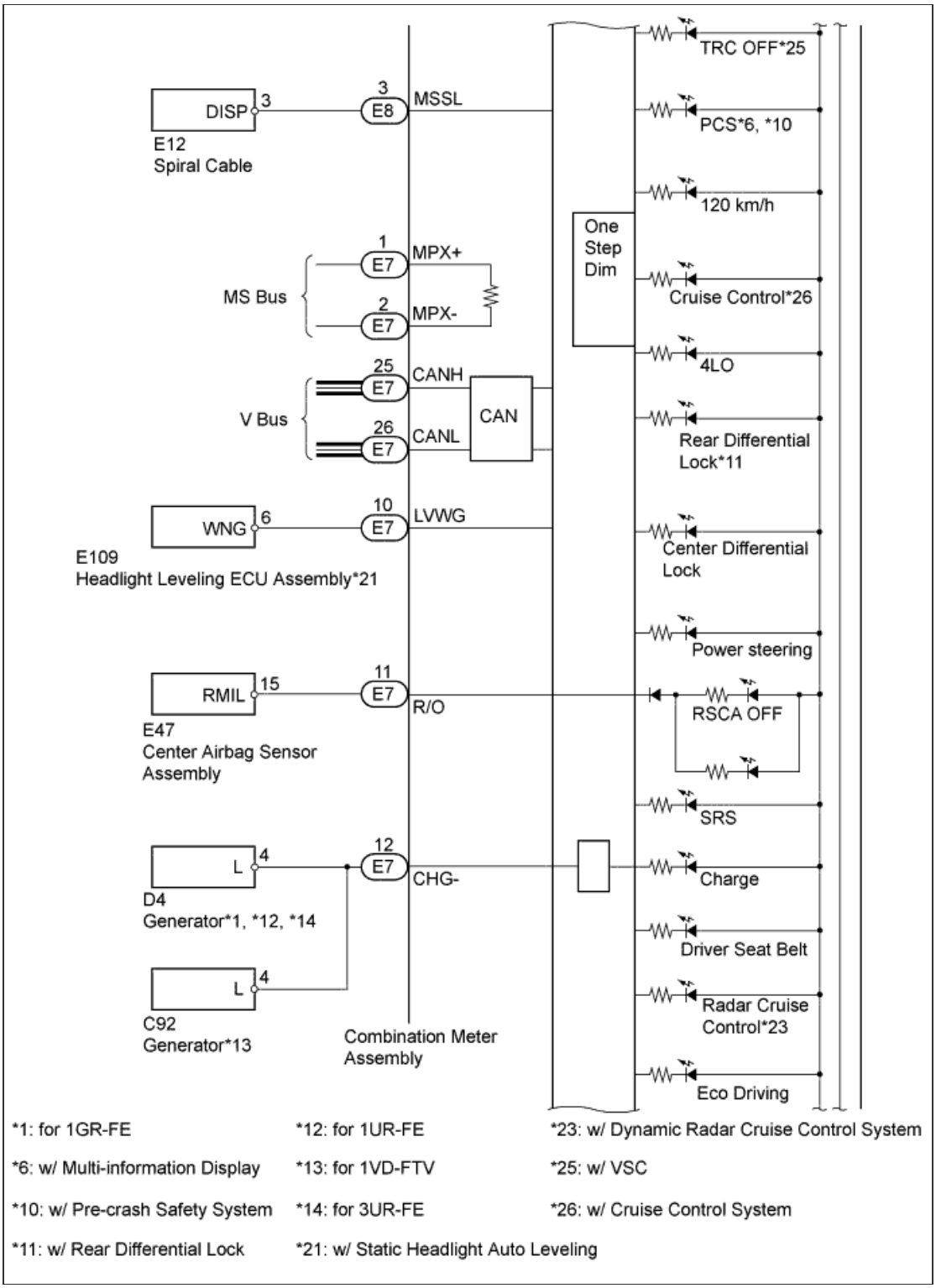
*7: w/o Multi-information Display

*8: w/ Multi-display

*9: w/o Multi-display

*17: w/ VSC

*28: w/ Automatic High Beam System




*1: for 1GR-FE

*6: w/ Multi-information Display

*10: w/ Pre-crash Safety System

*11: w/ Rear Differential Lock

*12: for 1UR-FE

*13: for 1VD-FTV

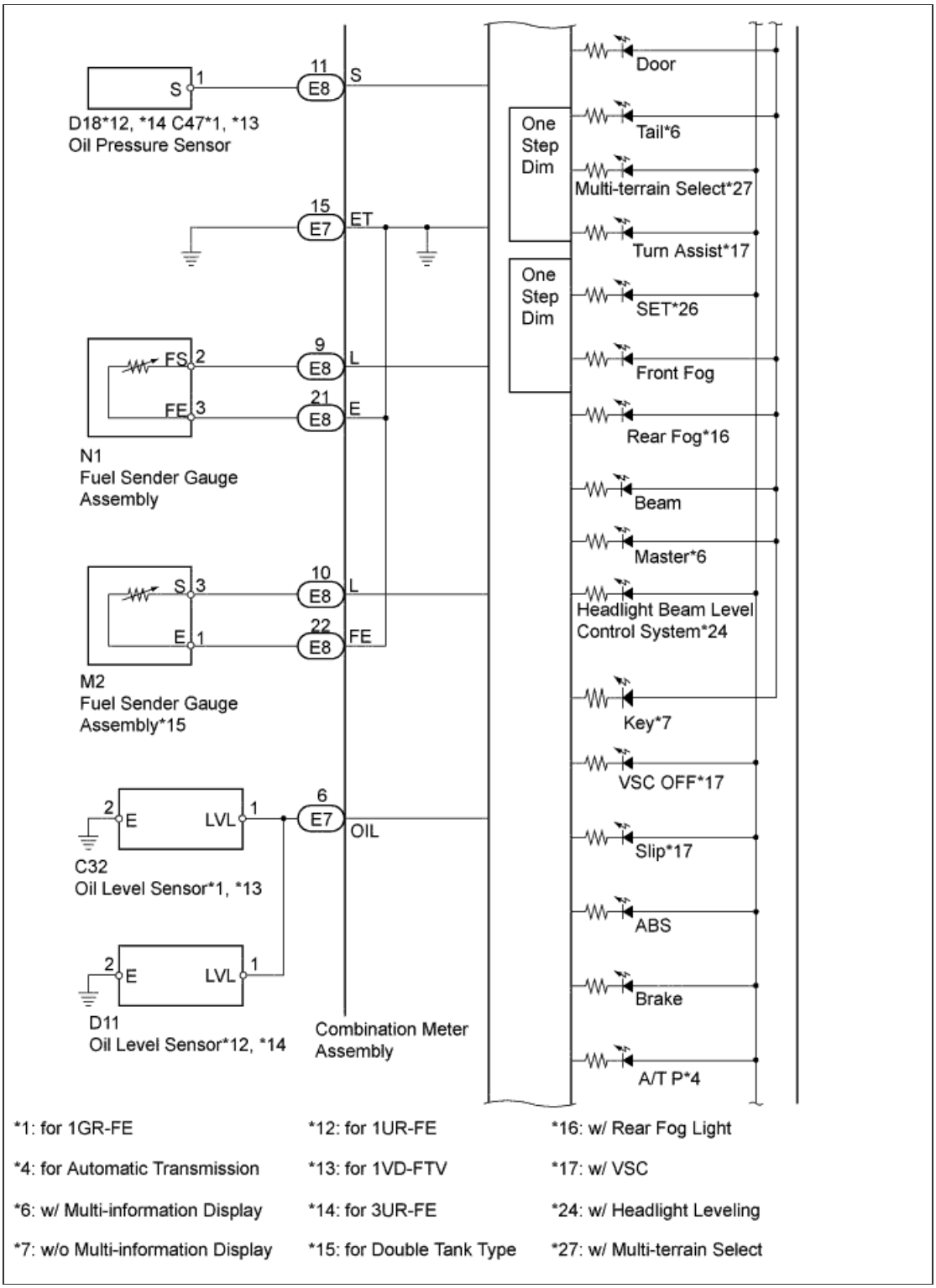
*14: for 3UR-FE

*21: w/ Static Headlight Auto Leveling

*23: w/ Dynamic Radar Cruise Control System

*25: w/ VSC

*26: w/ Cruise Control System




*1: for 1GR-FE

*4: for Automatic Transmission

*6: w/ Multi-information Display

*7: w/o Multi-information Display

*12: for 1UR-FE

*13: for 1VD-FTV

*14: for 3UR-FE

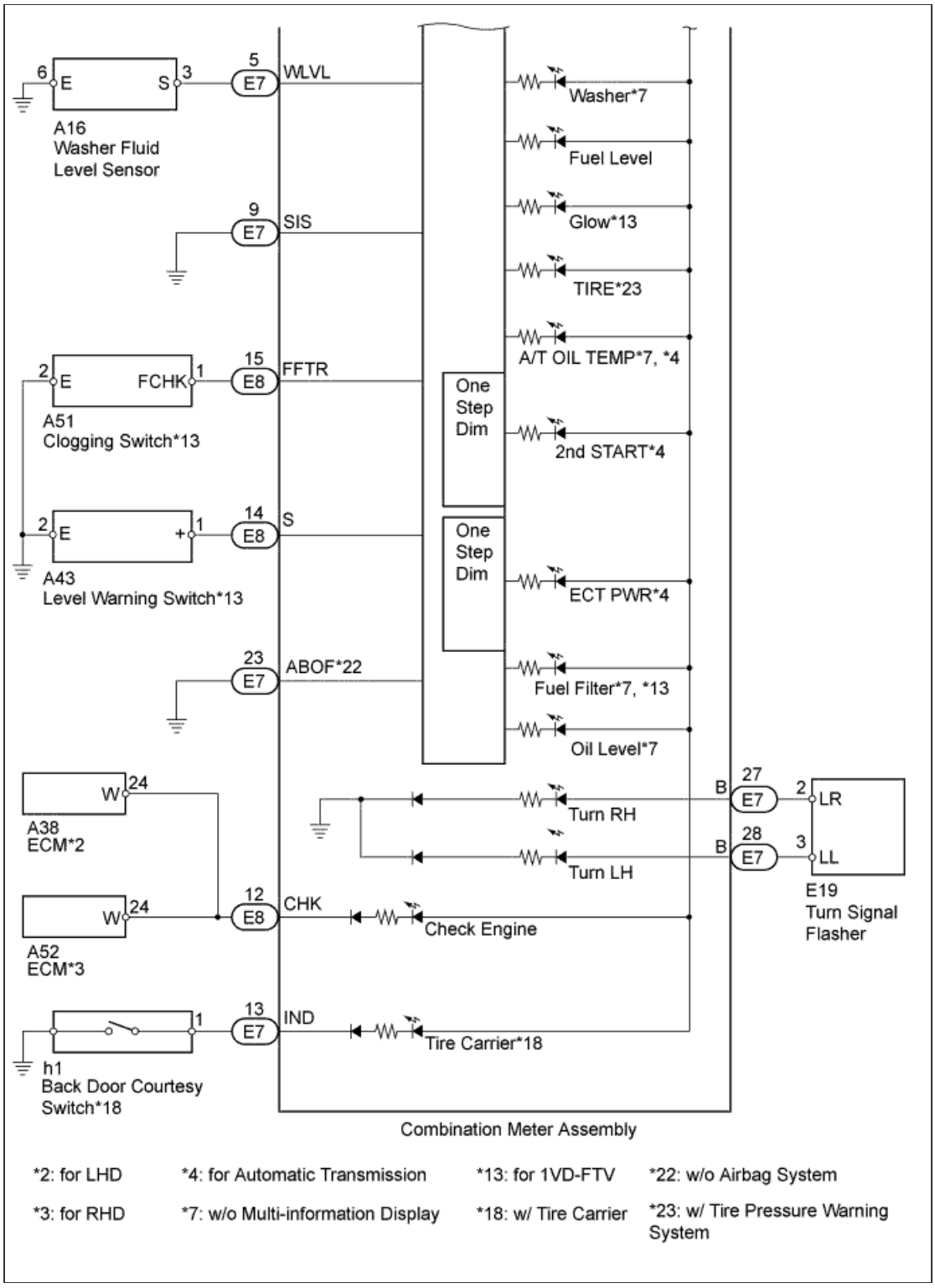
*15: for Double Tank Type

*16: w/ Rear Fog Light

*17: w/ VSC

*24: w/ Headlight Leveling

*27: w/ Multi-terrain Select




*2: for LHD

*3: for RHD

*4: for Automatic Transmission

*7: w/o Multi-information Display

*13: for 1VD-FTV

*18: w/ Tire Carrier

*22: w/o Airbag System

*23: w/ Tire Pressure Warning System

**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body Electrical / (desired system) / Trouble Codes.

e. Read the DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body Electrical / (desired system) / Trouble Codes.

e. Clear the DTCs.

**for Preparation** Click here

## DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body Electrical, Powertrain or Chassis / (desired system) / Data List.

e. According to the display on the intelligent tester, read the Data List.

### Combination Meter

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| ODO/TRIP Change SW | Trip switch (ODO/TRIP switch) condition / ON or OFF | ON: Trip switch (ODO/TRIP switch) pushed<br>OFF: Trip switch (ODO/TRIP switch) not pushed | - |
| Tail Cancel SW | TAIL cancel switch condition / ON or OFF | ON: TAIL cancel switch on<br>OFF: TAIL cancel switch off | - |
| Washer Switch | Washer switch / ON or OFF | ON: Washer switch on<br>OFF: Washer switch off | - |
| P-Seatbelt Buckle SW | Front passenger side seat belt warning light request signal / ON or OFF | ON: Tongue plate (for front passenger side) inserted<br>OFF: Tongue plate (for front passenger side) not inserted | - |
| Oil Level SW | Oil level switch / ON or OFF | ON: Oil level switch on<br>OFF: Oil level switch off | - |
| Water Level SW | Water level switch / ON or OFF | ON: Water level switch on<br>OFF: Water level switch off | - |
| Multi Display Select Switch | Steering multi-display select switch / ON or OFF | ON: Steering multi-display select switch on<br>OFF: Steering multi-display select switch off | - |
| Vehicle Speed Meter | Vehicle speed / Min.: 0 (0), Max.: 255 (158) | Almost same as actual vehicle speed (when driving) | Unit: km/h (mph) |
| Engine Rpm | Engine speed / Min.: 0, Max.: 12750 | Idling: 700 to 800 | Unit: rpm |
| Coolant Temperature | Engine coolant temperature / Min.: -40 (-40), Max.: 140 (284) | After warming up: 80 to 105 (176 to 221) | • Unit: °C (°F).<br>• If the value is -40 (-40): The sensor circuit is open.<br>• If the value is 140 (284): The sensor circuit is shorted. |
| Fuel Input | Fuel sender gauge input / Min.: 0, Max.: 127.5 | Fuel sender input value | Unit: L |
| Rheostat value | Light control rheostat switch input / Min.: 0, Max.: 100 | Light control rheostat switch is fully turned right (0) → fully turned left (100) | Unit: % |
| Communication ECM/Meter DTC 3 | ECM communication stop history / Rec or Unrec | Rec: DTC is stored<br>Unrec: DTC is not stored | - |
| ECM ODO (History 3) | ECM odometer history / Min.: 0, Max.: 999999 | With history: 0 to 999999<br>Without history: ffffffh | - |

| | | | |
|---|---|---|---|
| Communication ECM/Meter DTC 2 | ECM communication stop history / Rec or Unrec | Rec: DTC is stored<br>Unrec: DTC is not stored | - |
| ECM ODO (History 2) | ECM odometer history / Min.: 0, Max.: 999999 | With history: 0 to 999999<br>Without history: ffffffh | - |
| Communication ECM/Meter DTC 1 | ECM communication stop history / Rec or Unrec | Rec: DTC is stored<br>Unrec: DTC is not stored | - |
| ECM ODO (History 1) | ECM odometer history / Min.: 0, Max.: 999999 | With history: 0 to 999999<br>Without history: ffffffh | - |
| Communication ABS/Meter DTC 3 | Skid control ECU communication stop history / Rec or Unrec | Rec: DTC is stored<br>Unrec: DTC is not stored | - |
| ABS/VSC ODO (History 3) | Skid control ECU odometer history / Min.: 0, Max.: 999999 | With history: 0 to 999999<br>Without history: ffffffh | - |
| Communication ABS/Meter DTC 2 | Skid control ECU communication stop history / Rec or Unrec | Rec: DTC is stored<br>Unrec: DTC is not stored | - |
| ABS/VSC ODO (History 2) | Skid control ECU odometer history / Min.: 0, Max.: 999999 | With history: 0 to 999999<br>Without history: ffffffh | - |
| Communication ABS/Meter DTC 1 | Skid control ECU communication stop history / Rec or Unrec | Rec: DTC is stored<br>Unrec: DTC is not stored | - |
| ABS/VSC ODO (History 1) | Skid control ECU odometer history / Min.: 0, Max.: 999999 | With history: 0 to 999999<br>Without history: ffffffh | - |
| Units By Region | Unit of display setting / Km/l JP, Km/l, Mi/g US or Mi/g UK | Displays unit setting | - |
| Language | Language of display setting / English, Spanish, French*, German* or Italian* | Displays language setting | - |
| Driver Side Seatbelt Warning Buzzer | Driver side seat belt warning buzzer setting / ON or OFF | ON: Driver side seat belt warning buzzer on setting<br>OFF: Driver side seat belt warning buzzer off setting | - |
| P-Seatbelt Warning Buzzer | Front passenger side seat belt warning buzzer setting / ON or OFF | ON: Front passenger side seat belt warning buzzer on setting<br>OFF: Front passenger side seat belt warning buzzer off setting | - |
| Sub Fuel Input | Fuel sender gauge input / Min.: 0, Max.: 127.5 | Fuel sender input value | Unit: L |
| Integrated value for Oil Maintenance | Oil maintenance warning integrated value / Min.: 0 (0), Max.: 25500 (41037) | 0 (0) to 25500 (41037) | Unit: mile |
| Integrated value for Timing belt | T-belt indicator integrated value / Min.: 0, Max.: 6553500 | 0 to 6553500 | Unit: km/h |
| +B Voltage Value | +B voltage / Min.: 0, Max.: 25.5 | 11 to 14 | Unit: V |
| Coolant Temperature | Engine coolant temperature / Min.: -40 (-40), Max.: 140 (284) | After warming up: 80 to 105 (176 to 221) | • Unit: °C (°F)<br>• If the value is -40 (-40): The sensor circuit is open.<br>• If the value is 140 (284): The sensor circuit is shorted. |

**Engine**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Engine Rpm | Engine speed / Min.: 0, Max.: 16383.75 | Idling: 700 to 800 | Unit: rpm |
| Vehicle Speed Meter | Vehicle speed / Min.: 0 (0), Max.: 255 (158) | Actual vehicle speed | • Unit: km/h (mph)<br>• The speed is indicated on the speedometer. |
| Coolant Temperature*1 | Engine coolant temperature: Min.: -40°C, Max.: 140°C | 80 to 100°C (176 to 212):<br>After warming up | • If the value is -40°C (-40°F), The sensor circuit is open.<br>• If the value is 140°C (284°F) or higher, The sensor circuit is shorted. |
| Coolant Temperature*2 | Engine coolant temperature / Min.: -40°C, Max.: 140°C | After warming up engine: 75 to 90°C (167 to 194°F) | • If the value is -40°C (-40°F) or 140°C (284°F), the sensor circuit is open or shorted.<br>• After a long soak, the coolant temperature, intake air temperature, and ambient air temperature are approximately equal. |

**HINT:**

*1: except 1VD-FTV

*2: for 1VD-FTV

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body Electrical / (Combination Meter) / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Combination Meter**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Speed Meter Operation*1 | Speedometer | 0, 40, 80, 120, 160, 200, 240 or 280 | Perform the test with the vehicle stopped and engine idling. |
| Tachometer operation | Tachometer | 0, 1000, 2000, 3000, 4000, 5000, 6000 or 7000 | Perform the test with the vehicle stopped and engine idling. |
| Fuel Meter Operation | Fuel receiver gauge | EMPTY, 1/4, FULL | Perform the test with the vehicle stopped and engine idling. |
| Volt Meter Operation | Voltmeter | 0, 3, 6, 9, 12, 15 or 18 | Perform the test with the vehicle stopped and engine idling. |
| Oil Pressure Meter Operation | Oil pressure receiver gauge | LOW, 1/4, 1/2, 3/4 or HIGH | Perform the test with the vehicle stopped and engine idling. |
| A/T Indicator operation (1)*10 | A/T indicator (normal mode) | P, R, N, D, 4, 3, 2, L | Perform the test with the vehicle stopped and engine idling. |
| A/T Indicator operation (2)*10 | A/T indicator (sequential mode) | Es, 5 or 6 | Perform the test with the vehicle stopped and engine idling. |
| Meter Display 1*2 | All dots in the multi-information display | ALL, 0, 1, 2, 3, 4, 5 or 6 | Perform the test with the vehicle stopped and engine idling. |
| Meter Display 2*2 | All dots in the multi-information display | 7, 8 or 9 | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Beam | BEAM indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Head | HEAD indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Tail | TAIL indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Fr FOG | FRONT FOG indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Airbag | SRS warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Precrash | PCS indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Driver Side Seat Belt | Driver side seat belt warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Front Passenger Side Seat Belt | Passenger side seat belt warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Doors All Open | All doors open light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Washer | Multi-information display | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Fuel | Low fuel warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Charge | CHARGE warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |

| | | | |
|---|---|---|---|
| Indicat. Lamp ABS | ABS warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Slip*6 | SLIP indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Tire Pressure Warning System*11 | Tire pressure warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Brake | Brake warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp oil Level | Multi-information display | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp ECT PWR | ECT PWR indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| A/T Oil Temperature Operation*10 | Multi-information display | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Cruise*7 | Cruise control indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. KEY | Multi-information display | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Master Warning | Master warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Clearance Sonar LCD | Multi-information display | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. INTUITIVE P/A LCD | Multi-information display | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp VSC OFF*6 | Multi-information display | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. 2nd START | 2nd START indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Ctr DIFF LOCK | Center differential lock indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. 4LO | 4LO indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. CRAWL*6 | CRAWL indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. A/T P*10 | A/T P indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Water Temperature Meter Operation | Engine coolant temperature receiver gauge | LOW, NORMAL or HIGH | Perform the test with the vehicle stopped and engine idling. |
| Indicat. GLOW*5 | Glow indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Lamp Water Level | Fuel filter and sedimenter indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Over Speed | Speed limit indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| VSC TRC Indicator*6 | TRC OFF indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| PPS Indicator | Power steering warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. ECONO | Eco driving indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. SET*7 | SET indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Radar Cruise Indicator*3 | Radar cruise control indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Rr Inner Wheel Control Indicator*6 | Turn assist indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| OFF Road Guidance Indicator*8 | Multi-terrain select indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Indicat. Headlamp Auto Leveling*4 | Headlight beam level control system warning light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |
| Automatic High Beam Indicator*9 | Automatic High Beam Indicator light | ON or OFF | Perform the test with the vehicle stopped and engine idling. |

**HINT:**

*1:

- **The doors will be locked automatically when performing the speedometer Active Test. This is a normal function.**
- **The displayed value has the same units (km/h, mph) as the main scale of the vehicle speedometer.**
- **The needle position should be within the acceptable range.**

*2: If this Active Test is being performed and the ignition switch is turned off and then ON, the A/T and ODO/TRIP display background may turn white. If this occurs, end this Active Test and turn the ignition switch off.

*3: w/ Dynamic Radar Cruise Control System

*4: w/ Headlight Leveling

*5: for 1VD-FTV

*6: w/ VSC

*7: w/ Cruise Control System

*8: w/ Multi-terrain Select

*9: w/ Automatic High Beam System

*10: for Automatic Transmission

*11: w/ Tire Pressure Warning System

### Main Body

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Dimmer Signal | Illumination dimming operation | ON or OFF | - |

**for Preparation** Click here

### Meter/gauge System

| DTC Code | Detection Item | See page |
|---|---|---|
| B1500 | Fuel Sender Open Detected | Click here |
| B1501 | Sub Fuel Sender Open Detected | Click here |
| U0100 | Lost Communication with ECM / PCM "A" | Click here |
| U0129 | Lost Communication with Brake System Control Module | Click here |

## DTC B1500 Fuel Sender Open Detected

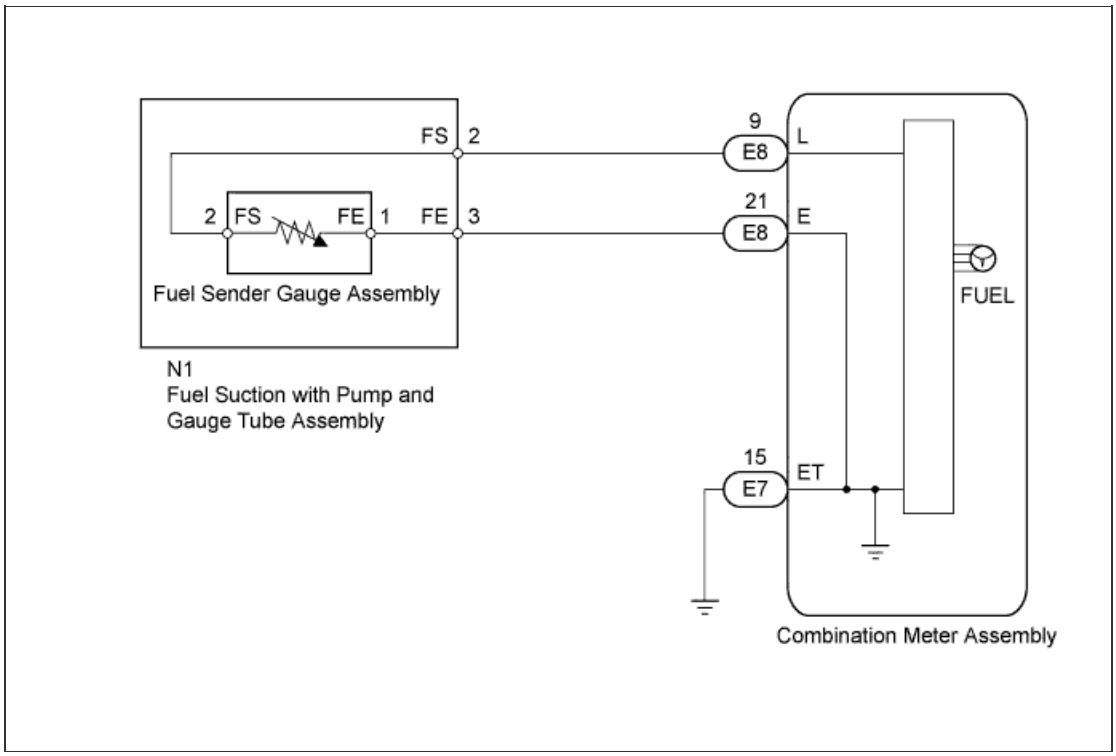
**for Preparation** Click here

### DESCRIPTION

This DTC is output when the combination meter detects a fuel sender gauge malfunction via the CAN.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1500 | When the combination meter detects a fuel sender gauge malfunction. | • Harness or connector<br>• Combination meter assembly<br>• Fuel suction with pump and gauge tube assembly<br>• Fuel sender gauge assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.READ VALUE USING INTELLIGENT TESTER (FUEL SENDER GAUGE)**

a. Operate the intelligent tester according to the display and select the Data List ( Click here).

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Fuel Input | Fuel sender gauge (main) input signal/Min.: 0, Max.: 127.5 | Fuel sender input value | Unit: L |

**OK:**

**Fuel value displayed on the intelligent tester is almost the same as needle indication.**

**Result**

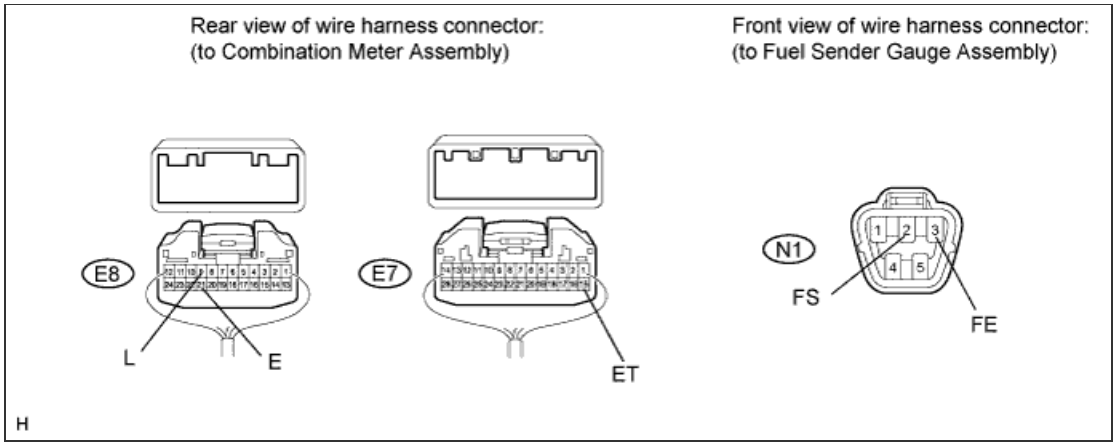
| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |

| | |
|---|---|
| B | REPLACE COMBINATION METER ASSEMBLY (Click here) |

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

## 2.CHECK HARNESS AND CONNECTOR (COMBINATION METER - PUMP AND GAUGE AND BODY GROUND)




a. Disconnect the E7 and E8 combination meter assembly connectors.

b. Disconnect the N1 fuel suction with pump and gauge tube assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E8-9 (L) - N1-2 (FS) | Always | Below 1 Ω |
| E8-21 (E) - N1-3 (FE) | Always | Below 1 Ω |
| E7-15 (ET) - Body ground | Always | Below 1 Ω |
| E8-9 (L) or N1-2 (FS) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.INSPECT FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY

a. Remove the fuel sender gauge assembly.

**HINT:**

- **for 1GR-FE (Click here)**
- **for 1UR-FE (Click here)**
- **for 3UR-FE (Click here)**
- **for 1VD-FTV (Click here)**

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A-2 (FS) - B-2 (FS) | Always | Below 1 Ω |
| A-3 (FE) - B-1 (FE) | Always | Below 1 Ω |

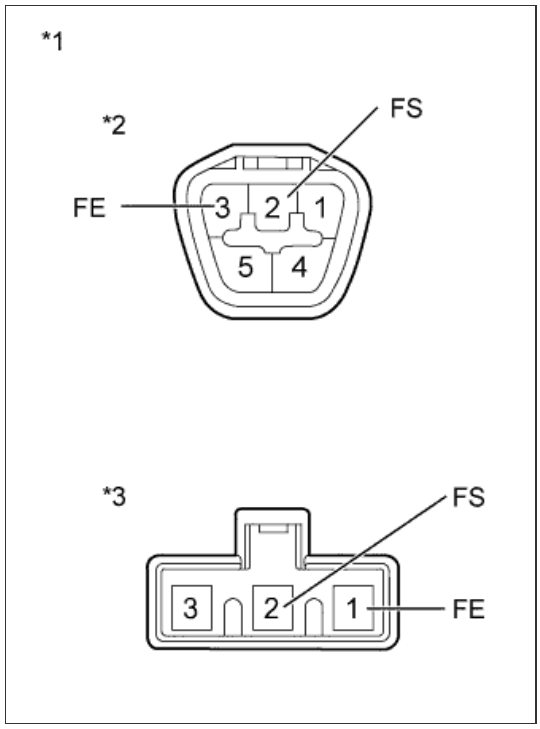
**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Fuel Suction with Pump and Gauge Tube Assembly) |
| *2 | Connector A |

| | |
|---|---|
| *3 | Connector B |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1UR-FE) | C |
| NG (for 3UR-FE) | D |
| NG (for 1VD-FTV) | E |




B → REPLACE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (Click here)

C → REPLACE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (Click here)

D → REPLACE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (Click here)

E → REPLACE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (Click here)

A

## 4.INSPECT FUEL SENDER GAUGE ASSEMBLY

a. Remove the fuel sender gauge assembly.

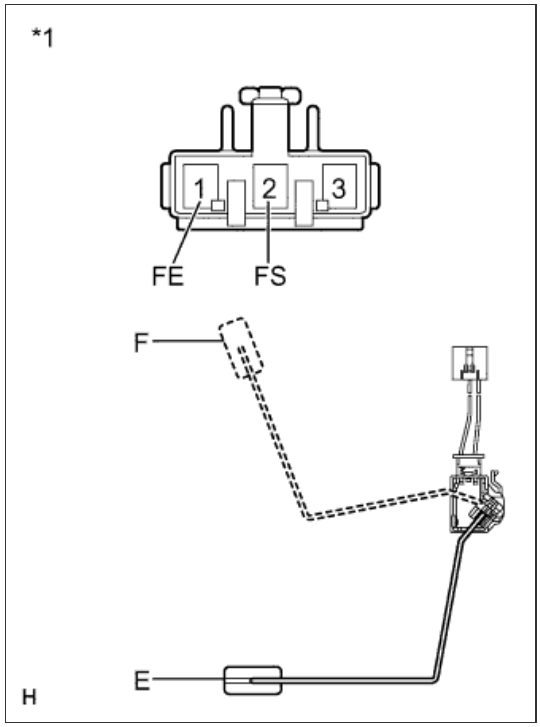
**HINT:**

- for 1GR-FE (Click here)
- for 1UR-FE (Click here)
- for 3UR-FE (Click here)
- for 1VD-FTV (Click here)

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2 (FS) - 1 (FE) | Float level is F (upper) | 13.5 to 16.5 Ω |
| | Float level is E (lower) | 405.5 to 414.5 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Fuel Sender Gauge Assembly) |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1UR-FE) | C |
| | |

| | |
|---|---|
| NG (for 3UR-FE) | D |
| NG (for 1VD-FTV) | E |

B → REPLACE FUEL SENDER GAUGE ASSEMBLY (Click here)

C → REPLACE FUEL SENDER GAUGE ASSEMBLY (Click here)

D → REPLACE FUEL SENDER GAUGE ASSEMBLY (Click here)

E → REPLACE FUEL SENDER GAUGE ASSEMBLY (Click here)

A

## 5.CHECK COMBINATION METER TYPE

a. Check the combination meter type

**Result**

| Result | Proceed to |
|---|---|
| w/ Multi-information Display | A |
| w/o Multi-information Display | B |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

REPLACE COMBINATION METER ASSEMBLY (Click here)

## DTC U0100 Lost Communication with ECM / PCM "A"

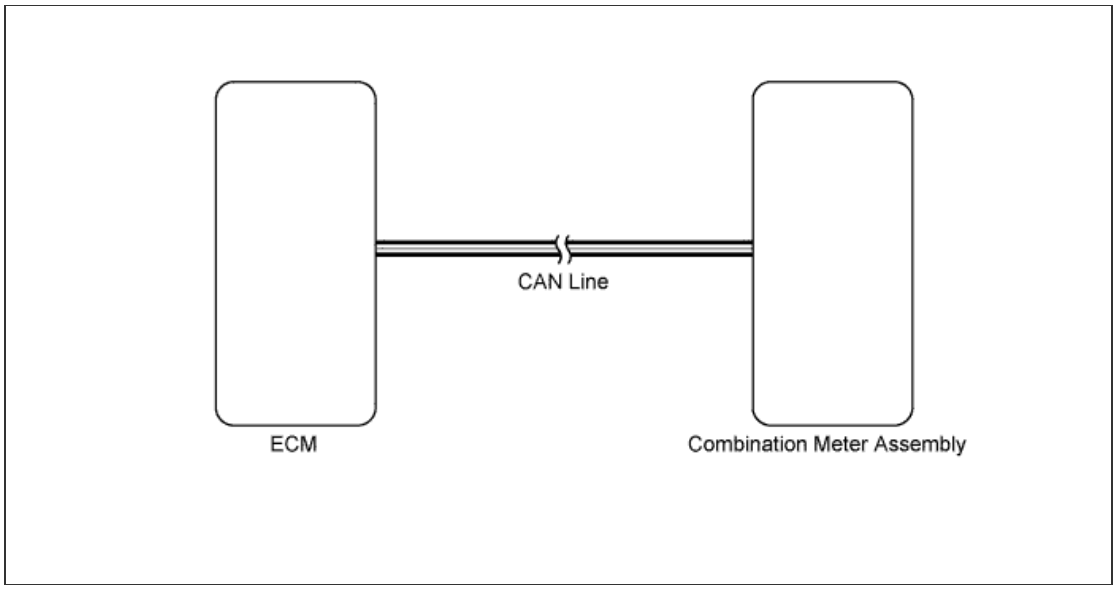
**for Preparation** Click here

### DESCRIPTION

The combination meter communicates with the ECM via the CAN line.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0100 | When the vehicle speed is 5 km/h (3 mph) or more and IG voltage is 10.5 V or more while no communication with the ECM continues for 3 seconds or more (no communication with the ECM or skid control ECU continues for 60 seconds or more). | CAN communication system |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK FOR DTC**

a. Check for DTCs and note any codes that are output ( Click here).

b. Clear the DTCs (Click here).

c. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN communication system DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |

**HINT:**

If CAN communication system DTC U0100 and another DTC are output at the same time, perform troubleshooting for CAN communication system DTC U0100 first.

**B** → Go to CAN COMMUNICATION SYSTEM (Click here)

**C** → Go to CAN COMMUNICATION SYSTEM (Click here)

**A**

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1501 Sub Fuel Sender Open Detected

**for Preparation** Click here

### DESCRIPTION

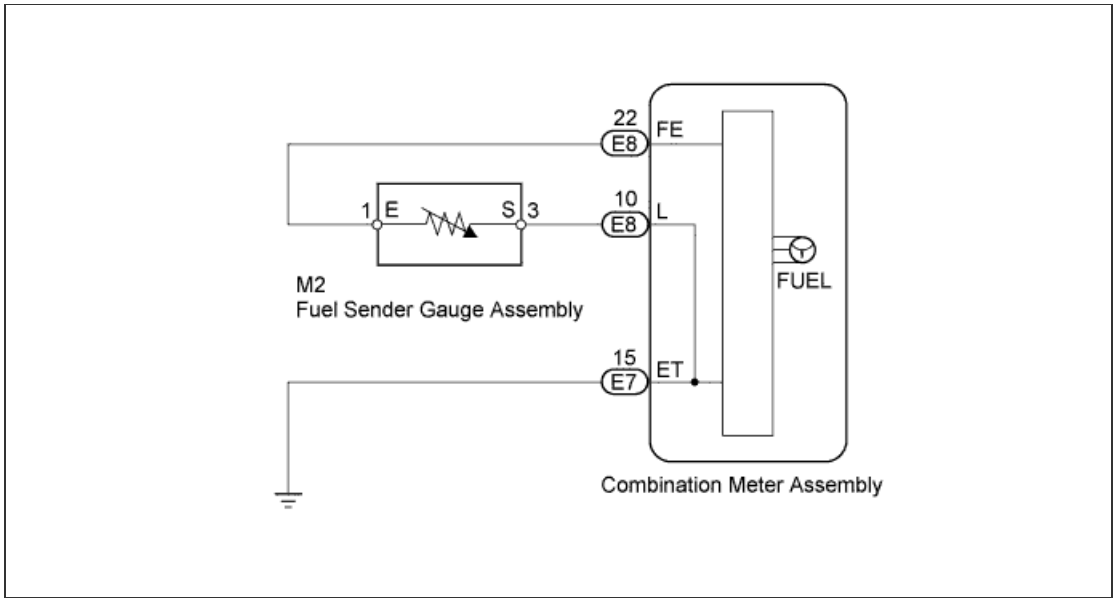
**HINT:**

Trouble code B1501 is only output for double tank equipped vehicles

This DTC is stored when the combination meter detects a fuel sender gauge malfunction via the CAN.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1501 | When the combination meter detects a fuel sender gauge malfunction. | • Harness or connector<br>• Combination meter assembly<br>• Fuel sender gauge assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (FUEL SENDER GAUGE)

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Fuel Input | Fuel sender gauge (main) input signal/Min.: 0, Max.: 127.5 | Fuel sender input value | Unit: L |

a. Operate the intelligent tester according to the display and select the Data List ( Click here).

**OK:**

**Fuel value displayed on the intelligent tester is almost same as needle indication.**

**Result**

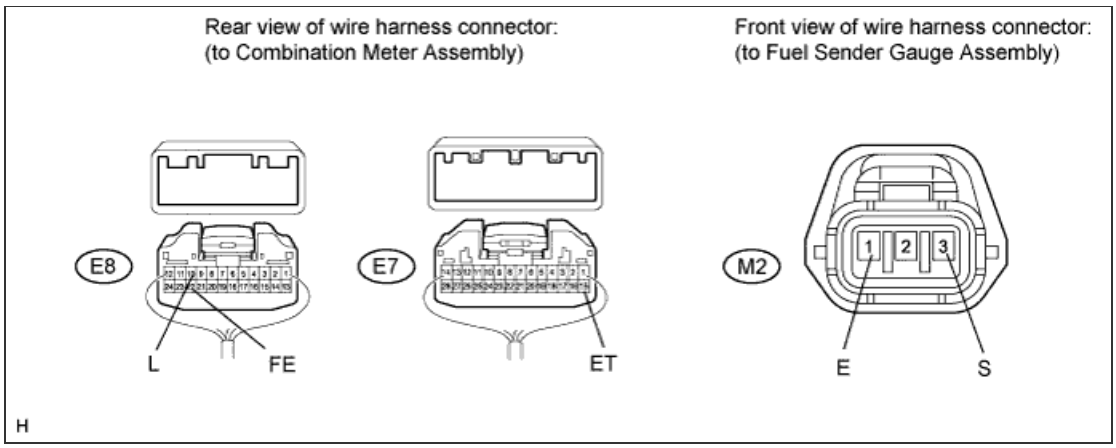
| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |

**B** → REPLACE COMBINATION METER ASSEMBLY (Click here)

**C** → REPLACE COMBINATION METER ASSEMBLY (Click here)

**A**

## 2.CHECK HARNESS AND CONNECTOR (COMBINATION METER - FUEL SENDER GAUGE AND BODY GROUND)




a. Disconnect the E7 and E8 meter connectors.

b. Disconnect the M2 gauge connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E8-10 (L) - M2-3 (S) | Always | Below 1 Ω |
| E8-22 (FE) - M2-1 (E) | | |
| E7-15 (ET) - Body ground | | |
| E8-10 (L) or M2-3 (S) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.INSPECT FUEL SENDER GAUGE ASSEMBLY

a. for 1GR-FE:
Remove the fuel sender gauge (Click here).

b. for 1UR-FE:
Remove the fuel sender gauge (Click here).

c. for 3UR-FE:
Remove the fuel sender gauge (Click here).

d. for 1VD-FTV:
Remove the fuel sender gauge (Click here).

e. Measure the resistance according to the value(s) in the table below.

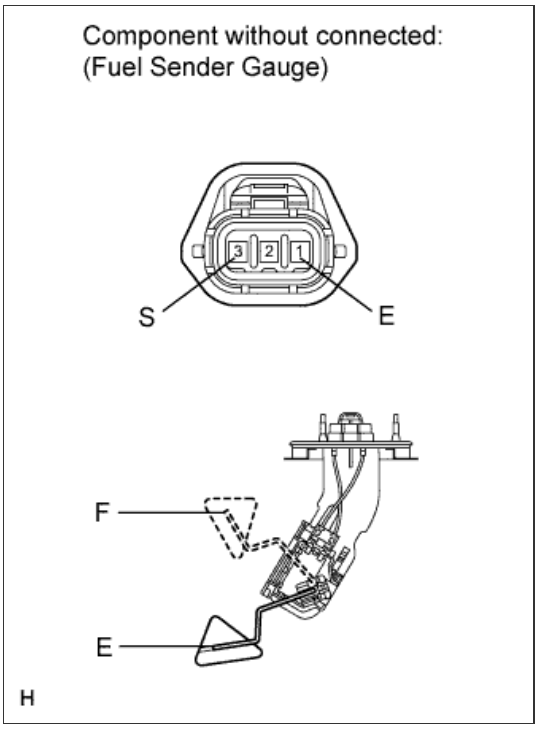
**Standard resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 (S) - 1 (E) | Float level is F (upper) | 12 to 18 Ω |
| | Float level is E (lower) | 405 to 415 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |

| | |
|---|---|
| NG (for 1GR-FE) | B |
| NG (for 1UR-FE) | C |
| NG (for 3UR-FE) | D |
| NG (for 1VD-FTV) | E |




| | |
|---|---|
| B | REPLACE FUEL SENDER GAUGE ASSEMBLY (Click here) |
| C | REPLACE FUEL SENDER GAUGE ASSEMBLY (Click here) |
| D | REPLACE FUEL SENDER GAUGE ASSEMBLY (Click here) |
| E | REPLACE FUEL SENDER GAUGE ASSEMBLY (Click here) |

A

**4.CHECK COMBINATION METER ASSEMBLY**

a. Check the combination meter type.

**Result**

| Result | Proceed to |
|---|---|
| w/ Multi-information Display | A |
| w/o Multi-information Display | B |

| | |
|---|---|
| B | REPLACE COMBINATION METER ASSEMBLY (Click here) |

A

**REPLACE COMBINATION METER ASSEMBLY (Click here)**

## DTC U0129 Lost Communication with Brake System Control Module

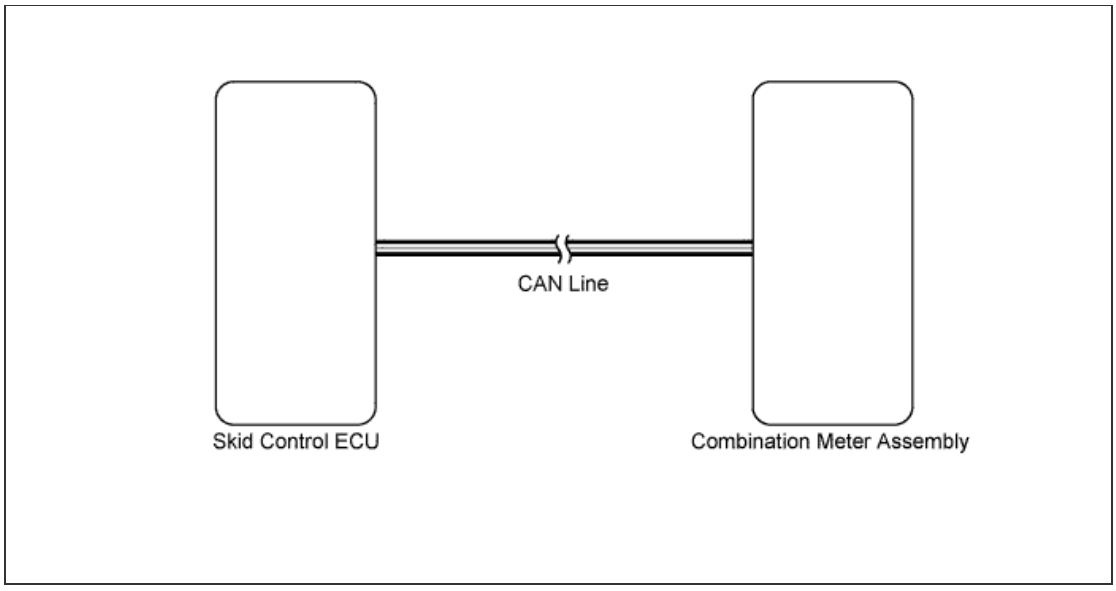
**for Preparation** Click here

### DESCRIPTION

The combination meter communicates with the skid control ECU via the CAN line.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0129 | When 15 seconds have elapsed after the engine is started and IG voltage is 10.5 V or more while no communication with the skid control ECU continues for 3 seconds or more (no communication with the ECM or skid control ECU continues for 60 seconds or more). | CAN communication system |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK FOR DTC**

a. Check for DTCs and note any codes that are output ( Click here).

b. Clear the DTCs (Click here).

c. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN communication system DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |

**HINT:**

If CAN communication system DTC U0129 and another DTC are output at the same time, perform troubleshooting for CAN communication system DTC U0129 first.

**B** → Go to CAN COMMUNICATION SYSTEM (**Click here**)

**C** → Go to CAN COMMUNICATION SYSTEM (**Click here**)

**A**

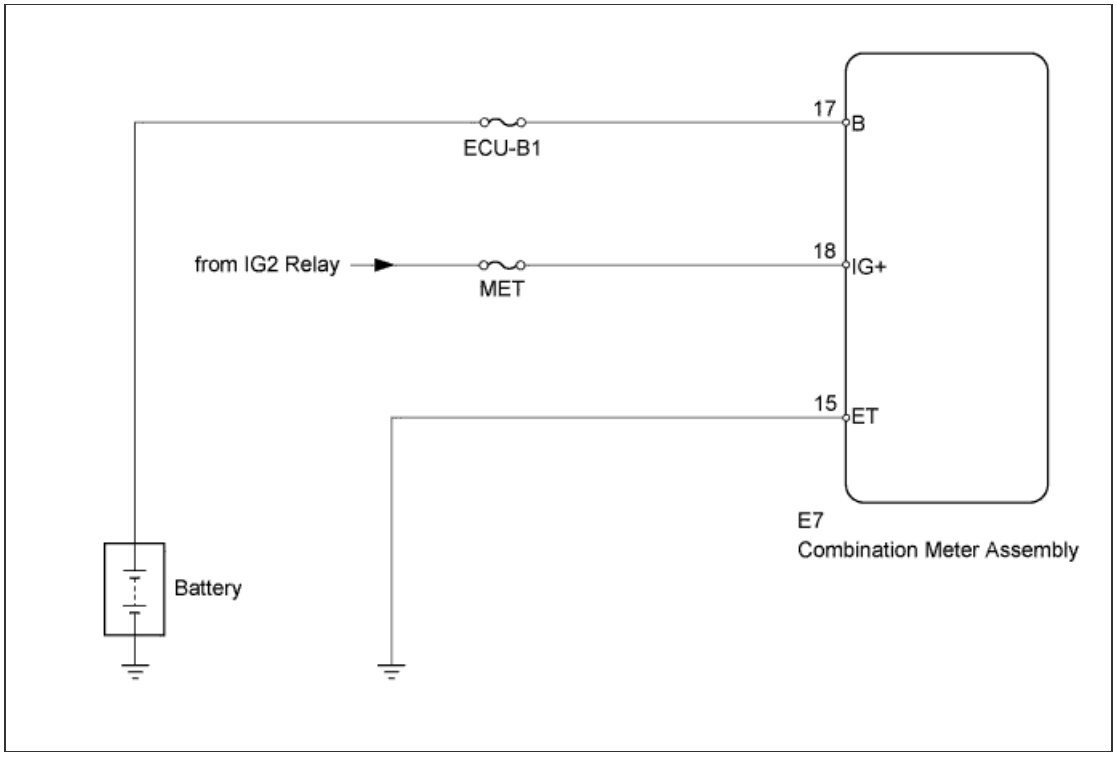
**USE SIMULATION METHOD TO CHECK (Click here)**

**for Preparation** Click here

## DESCRIPTION

This circuit is the power source circuit for the combination meter. This circuit provides 2 power source types: one is a constant power source mainly used as a backup power source, and the other is a power source mainly used for signal transmission. The constant power source is mainly used as a backup power source for the meter CPU. However, it is also used for communication. If a voltage of 12 V is not applied to terminal IG+ when the ignition switch isON, indicators will not operate.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (MET, ECU-B1)

a. Remove the MET and ECU-B1 fuses from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| MET fuse | Always | Below 1 Ω |
| ECU-B1 fuse | | |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - BATTERY AND BODY GROUND)

a. Disconnect the E7 meter connector.

b. Measure the resistance and voltage according to the value(s) in the tables below.

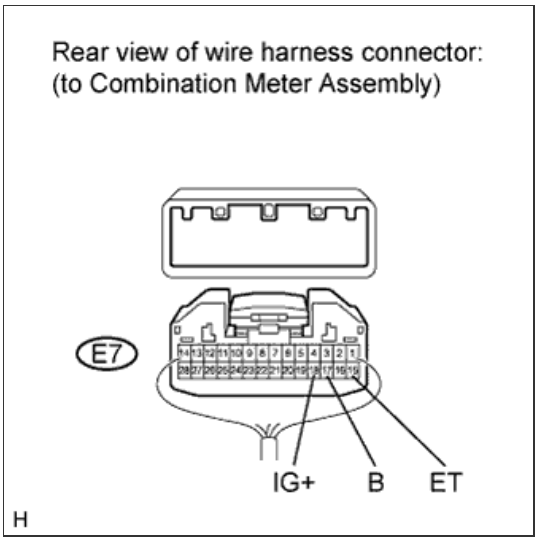
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| E7-15 (ET) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E7-17 (B) - Body ground | Always | 11 to 14 V |
| E7-18 (IG+) - Body ground | Ignition switch ON | |




**Result**

| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

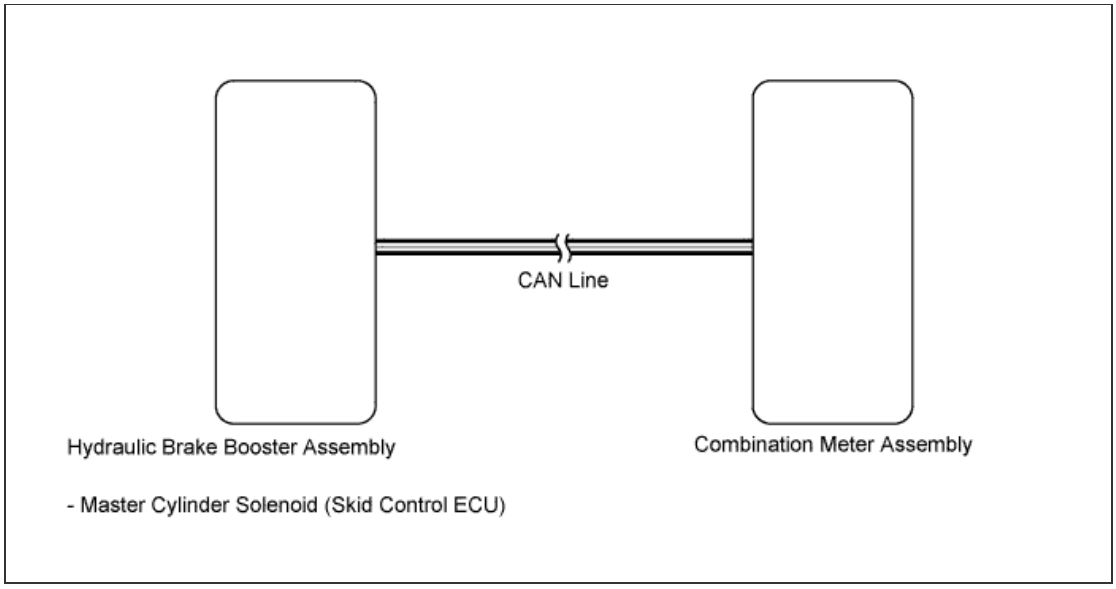
A → REPAIR OR REPLACE HARNESS OR CONNECTOR

**for Preparation** Click here

## DESCRIPTION

The combination meter receives vehicle speed signals from the skid control ECU via the CAN line. The vehicle speed sensor detects the voltage that varies according to the vehicle speed. The skid control ECU supplies power to the vehicle speed sensor. The skid control ECU detects vehicle speed signals based on the pulses of the voltage.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN communication DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |

B → Go to CAN COMMUNICATION SYSTEM (Click here)

C → Go to CAN COMMUNICATION SYSTEM (Click here)

A

### 2.CHECK ANTI-LOCK BRAKE SYSTEM (VEHICLE SPEED)

a. Check for DTCs (Click here).

NG → Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

OK

### 3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SPEEDOMETER)

a. Operate the intelligent tester according to the display and select Active Test ( Click here).

**Combination Meter**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Speed Meter Operation | Speedometer | 0, 40, 80, 120, 160, 200, 240 or 280 | Perform the test with the vehicle stopped and engine idling. |

**HINT:**

- **Make sure that the vehicle is stopped and the engine is idling. The doors will be locked automatically when performing the speedometer Active Test. This is a normal function.**
- **The displayed value has the same units (km/h, mph) as the main scale of the vehicle speedometer.**
- **The needle position should be within the acceptable tolerance.**

**OK:**
**Needle indication is normal.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

**4.READ VALUE USING INTELLIGENT TESTER (VEHICLE SPEED)**

a. Operate the intelligent tester according to the display and select Data List ( Click here).

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Vehicle Speed meter | Vehicle speed/Min.: 0 (0), Max.: 255 (158) | Almost same as actual speed (when driving) | Unit: km/h (mph) |

**OK:**
**Vehicle speed displayed on the intelligent tester is almost the same as actual vehicle speed measured using speedometer tester (calibrated chassis dynamometer).**

**Result**

| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

**5.READ VALUE USING INTELLIGENT TESTER (WHEEL SPEED SENSOR)**

a. Operate the intelligent tester according to the display and select Data List ( Click here).

**ABS/VSC/TRAC**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| FR Wheel Speed | Wheel speed sensor FR reading/Min.: 0 (0), Max.: 326 (202) | Actual wheel speed | A similar speed is indicated on the speedometer. |
| FL Wheel Speed | Wheel speed sensor FL reading/Min.: 0 (0), Max.: 326 (202) | Actual wheel speed | A similar speed is indicated on the speedometer. |
| RR Wheel | Wheel speed sensor RR reading/Min.: 0 (0), Max.: | Actual wheel | A similar speed is indicated on the |

| | | | |
|---|---|---|---|
| Speed | 326 (202) | speed | speedometer. |
| RL Wheel Speed | Wheel speed sensor RL reading/Min.: 0 (0), Max.: 326 (202) | Actual wheel speed | A similar speed is indicated on the speedometer. |

**OK:**

**Vehicle speed displayed on the intelligent tester is almost the same as actual vehicle speed measured using speedometer tester (calibrated chassis dynamometer).**

**Result**

| Result | Proceed to |
|---|---|
| NG (for LHD) | A |
| NG (for RHD) | B |
| OK (w/ Multi-information Display) | C |
| OK (w/o Multi-information Display) | D |

B → REPLACE HYDRAULIC BRAKE BOOSTER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

D → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

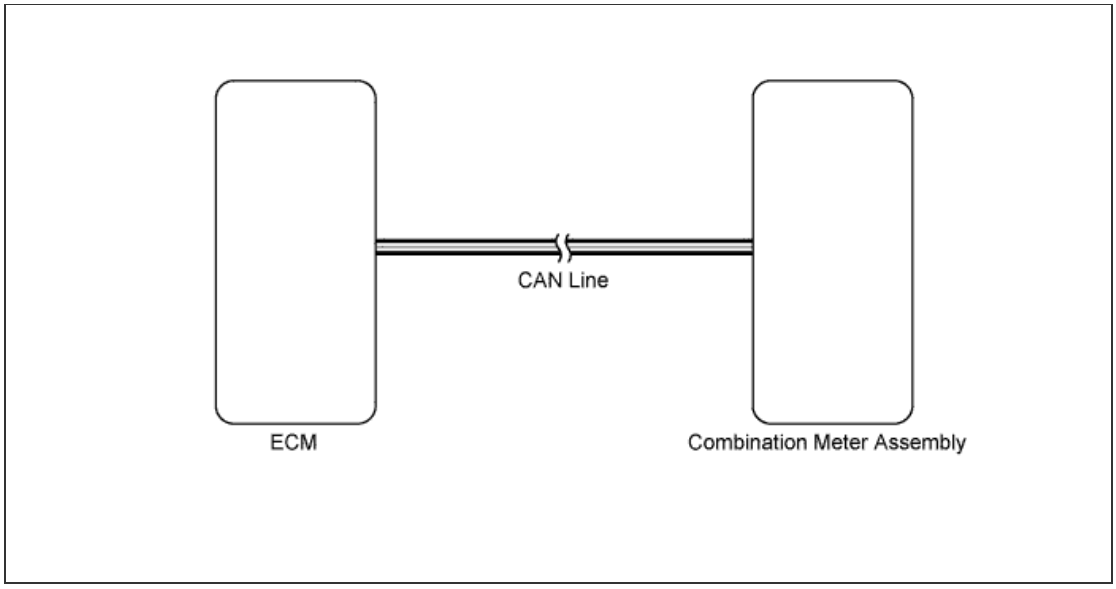
REPLACE HYDRAULIC BRAKE BOOSTER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

The combination meter receives engine speed signals from the ECM via the CAN line. The combination meter displays engine speed data that is calculated based on the data received from the ECM.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN communication system DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |

B → Go to CAN COMMUNICATION SYSTEM (Click here)

C → Go to CAN COMMUNICATION SYSTEM (Click here)

A

### 2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (TACHOMETER)

a. Operate the intelligent tester according to the display and select Active Test ( Click here).

**Combination Meter**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| TachoMeter Operation | Tachometer | 0, 1000, 2000, 3000, 4000, 5000, 6000, 7000 | Perform the test with the vehicle stopped and engine idling. |

**HINT:**

Make sure that the vehicle is stopped and the engine is idling.

**OK:**

**Needle indication is normal.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

## 3.READ VALUE USING INTELLIGENT TESTER (TACHOMETER)

a. Operate the intelligent tester according to the display and select Data List ( Click here).

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Engine Rpm | Engine speed/Min.: 0, Max.: 12750 | Idling: 700 to 800 | Unit: rpm |

**OK:**

**Engine speed displayed on the intelligent tester is almost the same as actual engine speed.**

**Result**

| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

## 4.READ VALUE USING INTELLIGENT TESTER (ENGINE SPEED)

a. Operate the intelligent tester according to the display and select Data List ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| Engine speed displayed on the intelligent tester is almost same as actual engine speed | A |
| Engine speed displayed on the intelligent tester is not same as actual engine speed (for 1GR-FE) | B |
| Engine speed displayed on the intelligent tester is not same as actual engine speed (for 1UR-FE) | C |
| Engine speed displayed on the intelligent tester is not same as actual engine speed (for 3UR-FE) | D |
| Engine speed displayed on the intelligent tester is not same as actual engine speed (for 1VD-FTV) | E |

**OK:**

**Engine speed displayed on the intelligent tester is almost the same as actual engine speed.**

B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

D → REPLACE ECM (Click here)

E → REPLACE ECM (Click here)

A

## 5.CHECK COMBINATION METER ASSEMBLY

a. Check the combination meter type.

**Result**

| Result | Proceed to |
|---|---|
| w/ Multi-information Display | A |
| w/o Multi-information Display | B |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

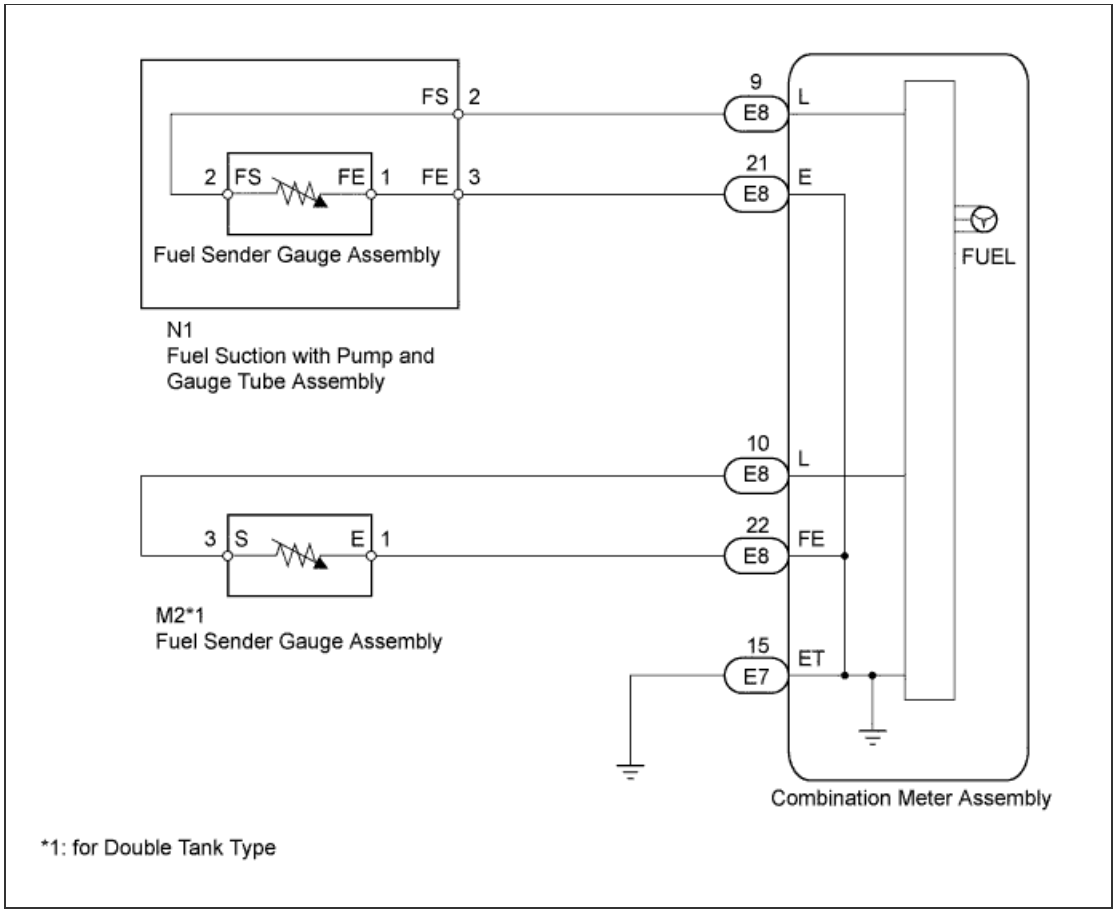
REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

The fuel sender gauge has a variable resistance mechanism. The resistance decreases when the fuel amount increases, and the resistance increases when the fuel amount decreases. The fuel receiver gauge changes based on the resistance of the fuel sender gauge.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK FOR DTC

a. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1500 or B1501 is not output | A |
| DTC B1500 is output | B |
| DTC B1501 is output | C |

B → GO TO DTC B1500 (Click here)

C → GO TO DTC B1501 (Click here)

A

### 2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (FUEL RECEIVER GAUGE ASSEMBLY)

a. Operate the intelligent tester according to the steps on the display and select Active Test ( Click here).

**Combination Meter**

| | | | |
|---|---|---|---|

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Fuel Meter Operation | Fuel receiver gauge | EMPTY, 1/2 or FULL | Perform the test with the vehicle stopped and engine idling. |

**OK:**

**Needle indication is normal.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

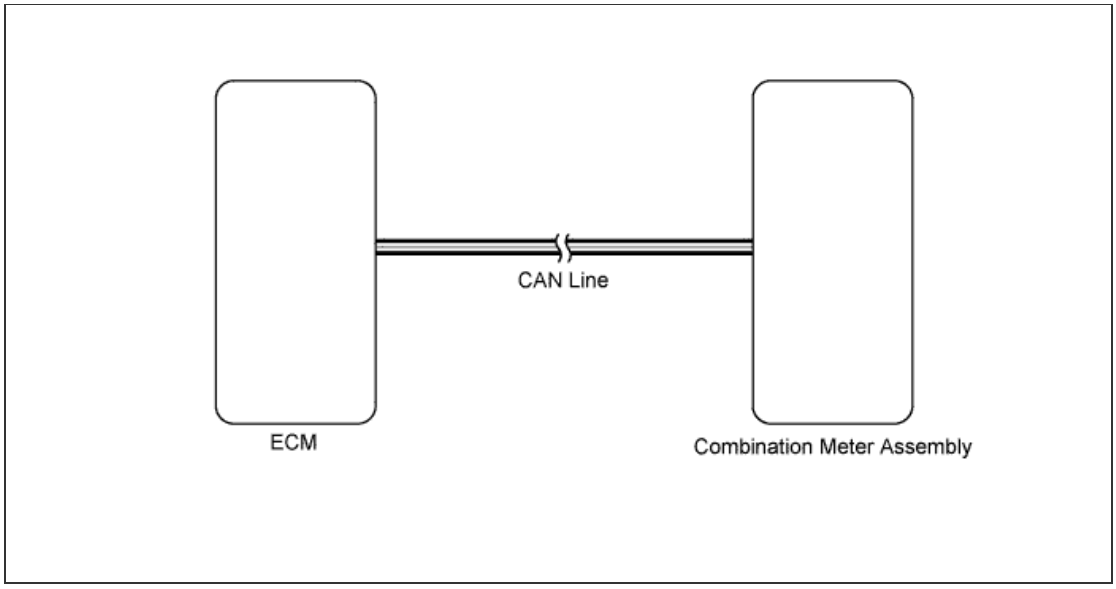
A → PROCEED TO NEXT INSPECTION PROCEDURE SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**for Preparation** Click here

## DESCRIPTION

In this circuit, the combination meter assembly receives engine coolant temperature signals from the ECM using CAN communication lines. The combination meter assembly displays an engine coolant temperature that is calculated based on the data received from the ECM.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

If there is an open or short in the engine coolant temperature sensor circuit, an SFI system DTC is output. If output, perform troubleshooting on the SFI system first.

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN communication system DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |

B → Go to CAN COMMUNICATION SYSTEM (Click here)

C → Go to CAN COMMUNICATION SYSTEM (Click here)

A

### 2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (COOLANT TEMP)

a. Operate the intelligent tester according to the display and select Active Test.

**Combination Meter**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Water Temperature Meter Operation | Engine coolant temperature receiver gauge | LOW, NORMAL or HIGH | Perform the test with the vehicle stopped and engine idling. |

**HINT:**

Confirm that the vehicle is stopped and the engine is idling.

**OK:**

**Needle indication is normal.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

### 3.READ VALUE USING INTELLIGENT TESTER (COOLANT TEMPERATURE)

a. Operate the intelligent tester according to the display and select Data List.

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Coolant Temperature | Engine coolant temperature/Min.: -40 (-40), Max.: 140 (284) | After warming up: 80 to 105 (176 to 221) | • Unit: °C (°F)<br>• If the value is -40 (-40): The sensor circuit is open<br>• If the value is 140 (284): The sensor circuit is shorted. |

**OK:**

**Coolant temperature displayed on the intelligent tester is between 80°C (176°F) and 95°C (203°F) after warming up.**

**Result**

| Result<br>Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

### 4.READ VALUE USING INTELLIGENT TESTER (ENGINE COOLANT)

a. Operate the intelligent tester according to the display and select Data List.

**Engine*1, *2, *3**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Coolant Temp | Engine coolant temperature:<br>Min.: -40°C, Max.:140°C | 80 to 100°C (176 to 212°F):<br>After warming up | • If the value is -40°C (-40°F), the sensor circuit is open.<br>• If the value is 140°C (284°F), the sensor circuit is shorted. |

**Engine*4**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | | • If the value is -40°C (-40°F) or 140°C (284°F), the sensor |

| | | | |
|---|---|---|---|
| Coolant Temp | Engine coolant temperature/ Min.: -40°C, Max.:140°C | After warming up engine: 75 to 90°C (167 to 194°F) | circuit is open or shorted.<br>• After a long soak, the coolant temperature, intake air temperature, and ambient air temperature are approximately equal. |

*1: for 1GR-FE
*2: for 1UR-FE
*3: for 3UR-FE
*4: for 1VD-FTV

**OK:**
**Engine coolant temperature value displayed on the intelligent tester is almost the same as actual engine coolant temperature.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1UR-FE) | C |
| NG (for 3UR-FE) | D |
| NG (for 1VD-FTV) | E |

| | |
|---|---|
| B | Go to SFI SYSTEM (Click here) |
| C | Go to SFI SYSTEM (Click here) |
| D | Go to SFI SYSTEM (Click here) |
| E | Go to ECD SYSTEM (Click here) |

A

## 5.REPLACE COMBINATION METER ASSEMBLY

a. w/ Multi-information Display:

i. Temporarily replace the combination meter with a new one ( Click here).

b. w/o Multi-information Display:

i. Temporarily replace the combination meter with a new one ( Click here).

NEXT

## 6.CHECK COMBINATION METER ASSEMBLY

a. w/ Multi-information Display:

i. Check that the operation of the combination meter returns to normal ( Click here).

b. w/o Multi-information Display:

i. Check that the operation of the combination meter returns to normal ( Click here).

**OK:**
**Operation of combination meter returns to normal.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1UR-FE) | C |
| NG (for 3UR-FE) | D |
| NG (for 1VD-FTV) | E |

| | |
|---|---|
| B | REPLACE ECM (Click here) |

C → REPLACE ECM (Click here)

D → REPLACE ECM (Click here)

E → REPLACE ECM (Click here)

A

END (COMBINATION METER IS DEFECTIVE)

**for Preparation** Click here

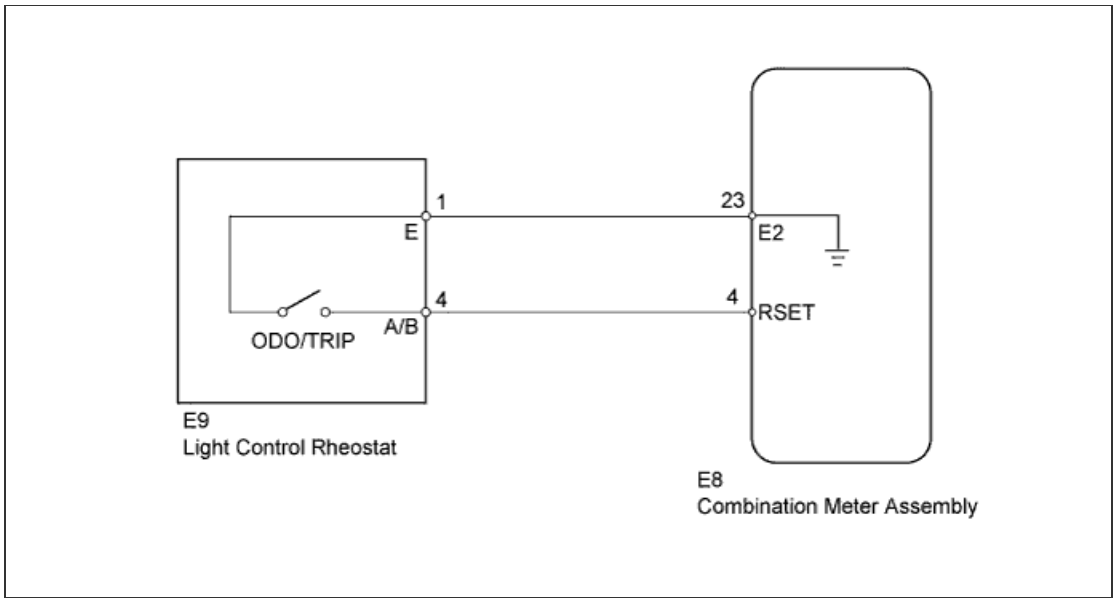
## DESCRIPTION

w/ Multi-information Display:
The ODO/TRIP display of the meter changes each time the ODO/TRIP switch on the light control rheostat is pressed.

**HINT:**

For more information about changing between displays, refer to the owner's manual.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (LIGHT CONTROL RHEOSTAT)

a. Operate the intelligent tester according to the display and select Data List.

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| ODO/TRIP Change SW | Trip switch (ODO/TRIP switch) condition/ON or OFF | ON: Trip switch pushed<br>OFF: Trip switch not pushed | - |

**OK:**
**Switch condition (ON/OFF) can be switched by actual operation.**

NG → Go to step 2

OK →

### REPLACE COMBINATION METER ASSEMBLY (Click here)

### 2.INSPECT LIGHT CONTROL RHEOSTAT (TRIP SWITCH)

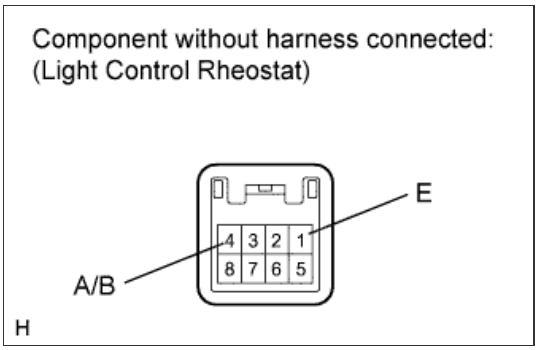
a. Remove the light control rheostat (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| | | Specified |
|---|---|---|

| Tester Connection | Switch Condition | Condition |
|---|---|---|
| 4 (A/B) - 1 (E) | TRIP switch ON (Pushed) | Below 200 Ω |
| | TRIP switch OFF (Not pushed) | 1 MΩ or higher |




NG → REPLACE LIGHT CONTROL RHEOSTAT (Click here)

OK

3.CHECK HARNESS AND CONNECTOR (COMBINATION METER - LIGHT CONTROL RHEOSTAT AND BODY GROUND)

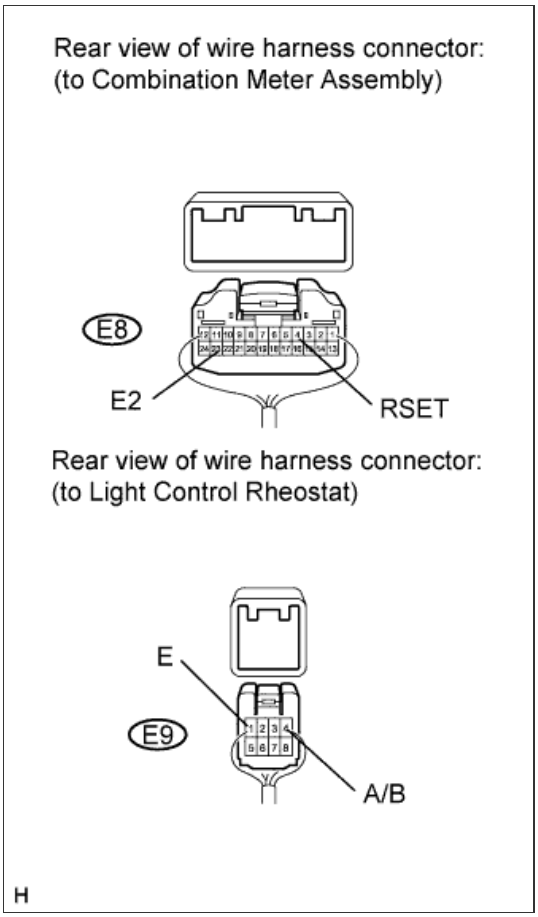
a. Disconnect the E8 ECU connector.

b. Disconnect the E9 switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E8-4 (RSET) - E9-4 (A/B) | Always | Below 1 Ω |
| E8-23 (E2) - E9-1 (E) | | |
| E8-23 (E2) - Body ground | | |
| E8-4 (RSET) or E9-4 (A/B) - Body ground | | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

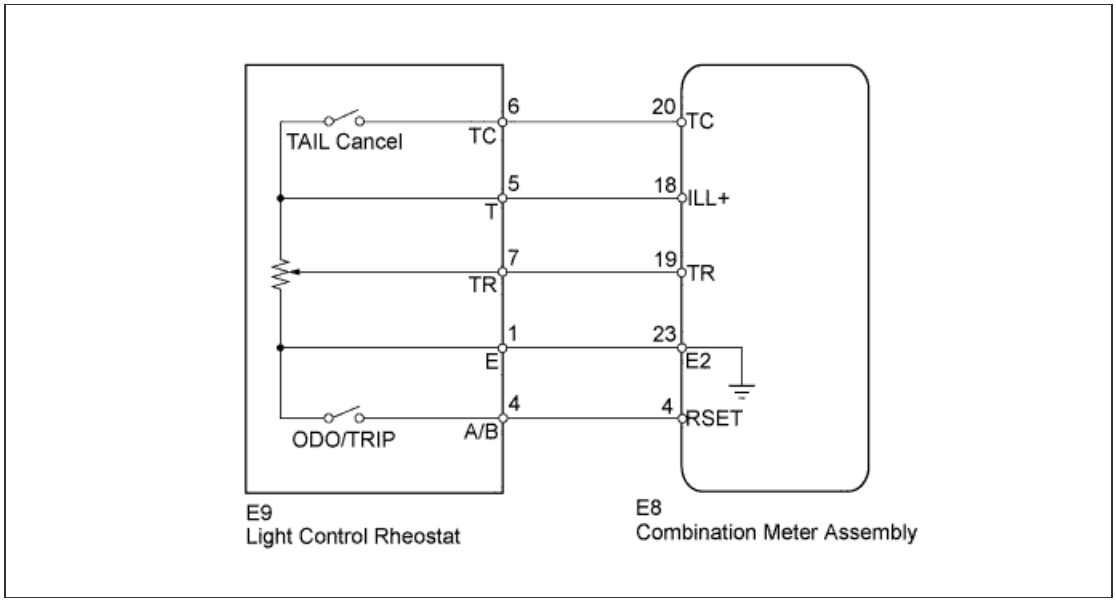
REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

w/ Multi-information Display:
When the light control rheostat knob is turned to the left, the combination meter and vehicle interior illumination will become brighter. When the light control rheostat knob is turned to the right, the combination meter and vehicle illumination will dim.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (LIGHT CONTROL RHEOSTAT)

a. Operate the intelligent tester according to the display and select Data List ( Click here).

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Tail Cancel SW* | TAIL cancel switch condition/ON or OFF | ON: TAIL cancel switch ON<br>OFF: TAIL cancel switch OFF | - |
| Rheostat value | Light control rheostat switch input/Min.: 0, Max.: 100 | Light control rheostat switch is fully turned right (0) → fully turned left (100) | Unit: % |

**HINT:**

*: w/ TAIL Cancel Switch

**OK:**
**Light brightness can be changed within specified range by manual operation.**

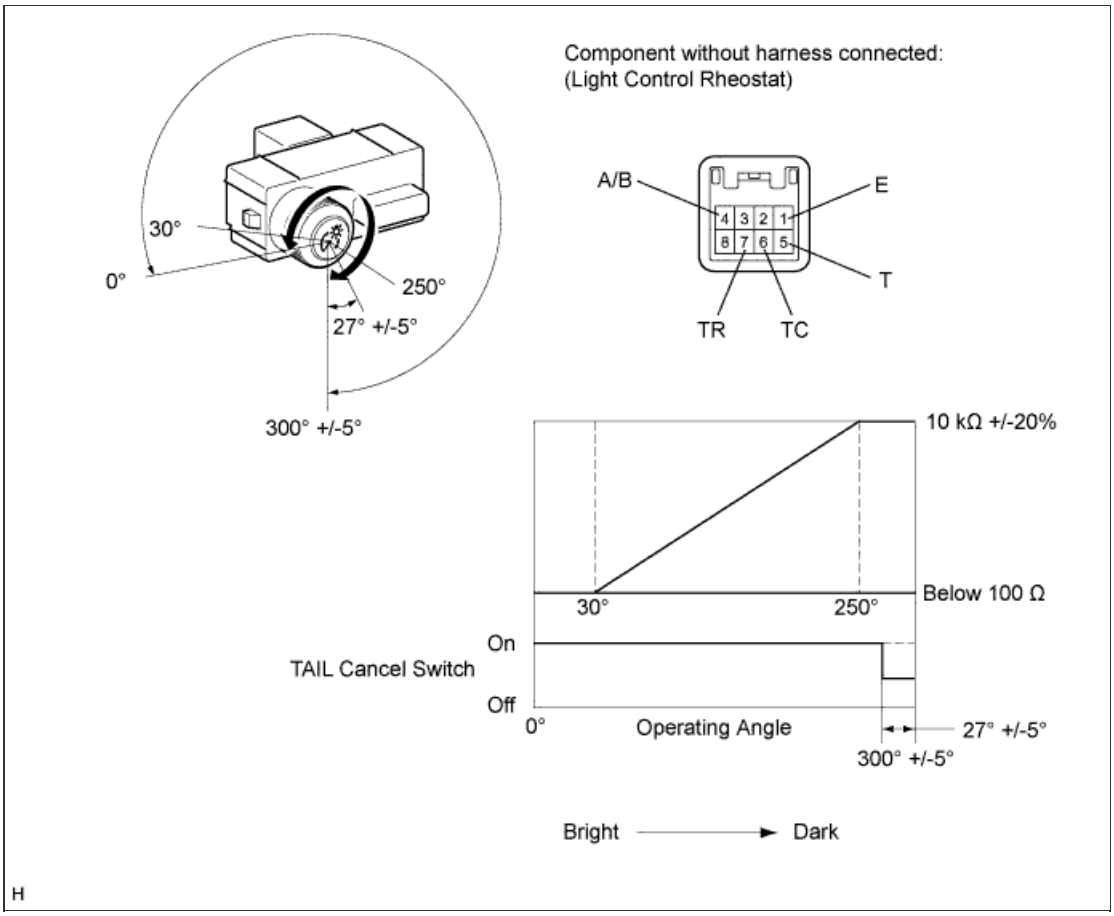
NG → Go to step 2

OK

### REPLACE COMBINATION METER ASSEMBLY (Click here)

### 2.INSPECT LIGHT CONTROL RHEOSTAT

a. Inspect the light control rheostat.




i. Remove the light control rheostat (Click here).

ii. Measure the resistance according to the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (TC) - 1 (E) | TAIL cancel switch off → on | 10 kΩ or higher → Below 1 Ω |
| 5 (T) - 1 (E) | Always | 10 kΩ or higher |
| 7 (TR) - 1 (E) | Light control rheostat fully turned right → fully turned left | 10 kΩ or higher → Below 100 Ω |

b. Inspect the trip switch.

i. Measure the resistance according to the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 4 (A/B) - 1 (E) | TRIP switch on (Pushed) | Below 200 Ω |
| | TRIP switch off (Not Pushed) | 1 MΩ or higher |

NG → REPLACE LIGHT CONTROL RHEOSTAT (Click here)

OK

**3.CHECK HARNESS AND CONNECTOR (COMBINATION METER - LIGHT CONTROL RHEOSTAT)**

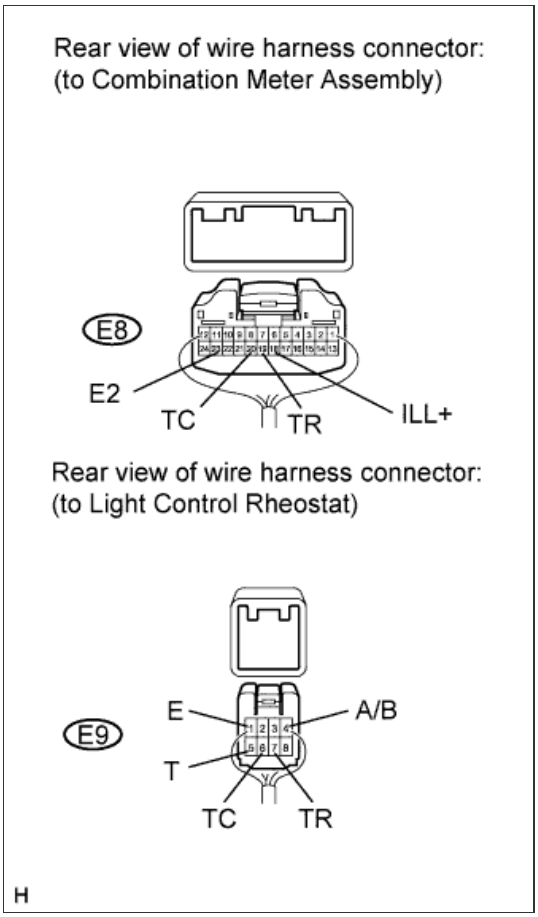
a. Disconnect the E8 meter connector.

b. Disconnect the E9 rheostat connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E8-18 (ILL+) - E9-5 (T) | Always | Below 1 Ω |
| E8-19 (TR) - E9-7 (TR) | | |
| E8-23 (E2) - E9-1 (E) | | |
| E8-20 (TC) - E9-6 (TC) | | |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

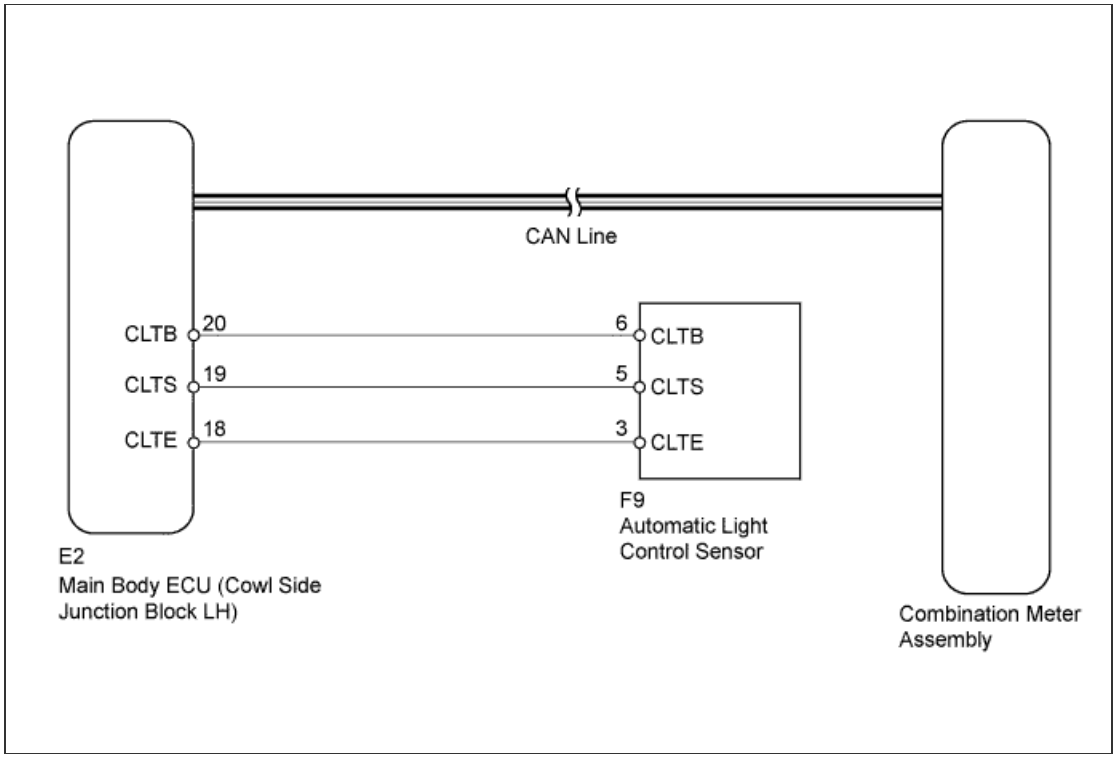
w/ Multi-information Display:

In this circuit, the combination meter assembly receives auto dimmer signals from the main body ECU using the CAN communication lines. When the combination meter assembly receives an auto dimmer signal, it dims the meter illumination. The main body ECU determines whether it is daytime, twilight or nighttime based on the waveform transmitted from the automatic light control sensor. If the main body ECU determines that it is daytime, the ECU does not send auto dimmer signals. Therefore, the meter illumination (warning and indicator lights) will not dim even if the driver accidentally turns the light control switch to the TAIL or HEAD position in the daytime.

**HINT:**

When the meter illumination does not dim at night, the light control rheostat position is in the TAIL cancel position, or there may be a malfunction in the automatic light control sensor, main body ECU, CAN communication system, wire harness or connector, or combination meter.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |
| Lighting system DTC (B1244) is output | D |

| | |
|---|---|
| B | Go to CAN COMMUNICATION SYSTEM (Click here) |
| C | Go to CAN COMMUNICATION SYSTEM (Click here) |
| | |

D → Go to LIGHTING SYSTEM (Click here)

A

## 2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (DIMMER SWITCH)

a. Operate the intelligent tester according to the display and select Active Test.

**Main Body**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Dimmer Signal | Illumination dimming operation | ON or OFF | - |

**OK:**
**Meter illumination is dimmed when the dimmer switch is ON.**

**HINT:**

Refer to the sensitivity setting in the customization table of the automatic light control system ( Click here).

NG → Go to step 3

OK

CHECK LIGHTING SETTING (Click here)

## 3.REPLACE COMBINATION METER ASSEMBLY

a. Temporarily replace the combination meter with a new one ( Click here).

NEXT

## 4.CHECK COMBINATION METER ASSEMBLY

a. Check that the operation of the combination meter returns to normal ( Click here).

**OK:**
**Operation of combination meter returns to normal.**

NG → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

OK

END (COMBINATION METER IS DEFECTIVE)

**for Preparation** Click here

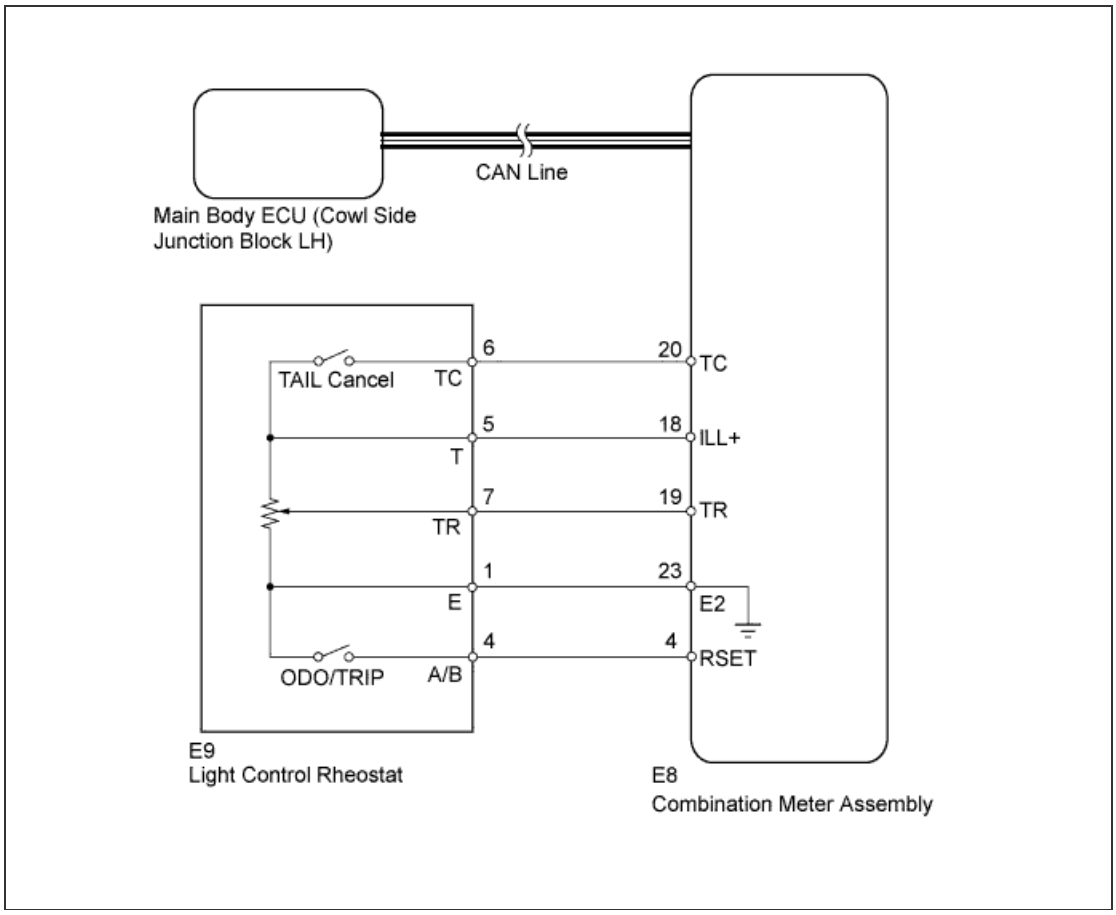
## DESCRIPTION

w/ Multi-information Display:
If the dimmer switch is turned to TAIL, HEAD or AUTO, the main body ECU sends a TAIL relay signal, panel light illumination signal, panel relay signal, and TAIL cancel switch off signal to the combination meter. Then the meter and accessory meter become dim.

**HINT:**

TAIL cancel switch: When the headlights are illuminated and the TAIL cancel switch is turned on, the meter does not dim.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN communication system DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |

| | |
|---|---|
| B | Go to CAN COMMUNICATION SYSTEM (Click here) |
| C | Go to CAN COMMUNICATION SYSTEM (Click here) |

A

## 2.READ VALUE USING INTELLIGENT TESTER (LIGHT CONTROL RHEOSTAT)

a. Operate the intelligent tester according to the display and select Data List ( Click here).

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Tail Cancel SW* | TAIL cancel switch condition/ON or OFF | ON: TAIL cancel switch ON<br>OFF: TAIL cancel switch OFF | - |
| Rheostat value | Light control rheostat switch input/Min.: 0, Max.: 100 | Light control rheostat switch is fully turned right (0) → fully turned left (100) | Unit: % |

**HINT:**

*: w/ TAIL Cancel Switch

**OK:**

**Light brightness can be changed within specified range by manual operation.**

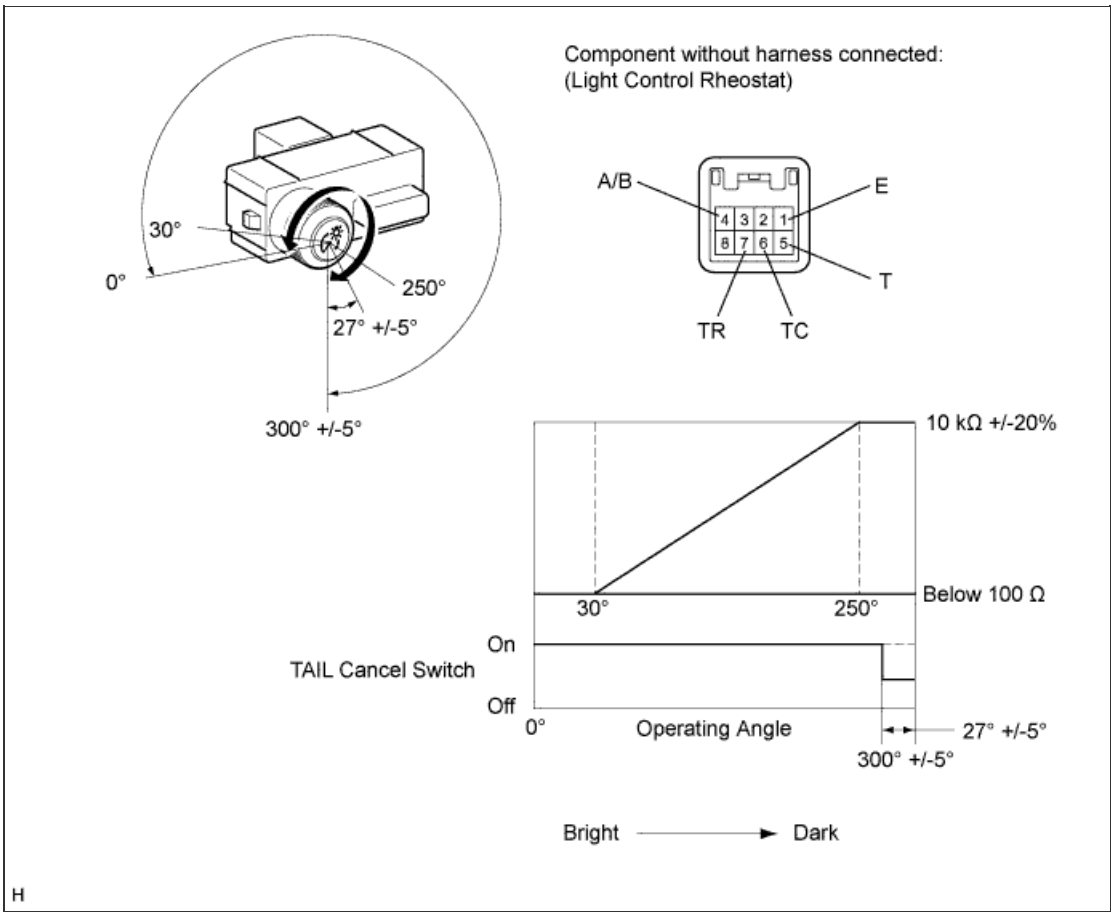
| | |
|---|---|
| NG | Go to step 3 |

OK

## REPLACE COMBINATION METER ASSEMBLY (Click here)

## 3.INSPECT LIGHT CONTROL RHEOSTAT

a. Inspect the light control rheostat.




i. Remove the light control rheostat (Click here).

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (TC) - 1 (E) | TAIL cancel switch off → on | 10 kΩ or higher → Below 1 Ω |
| 5 (T) - 1 (E) | Always | 10 kΩ or higher |
| 7 (TR) - 1 (E) | Light control rheostat fully turned right → fully turned left | 10 kΩ or higher → Below 100 Ω |

b. Inspect the trip switch.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 4 (A/B) - 1 (E) | TRIP switch on (Pushed) | Below 200 Ω |
| | TRIP switch off (Not Pushed) | 1 MΩ or higher |

NG → REPLACE LIGHT CONTROL RHEOSTAT (Click here)

OK

**4.CHECK HARNESS AND CONNECTOR (COMBINATION METER - LIGHT CONTROL RHEOSTAT)**

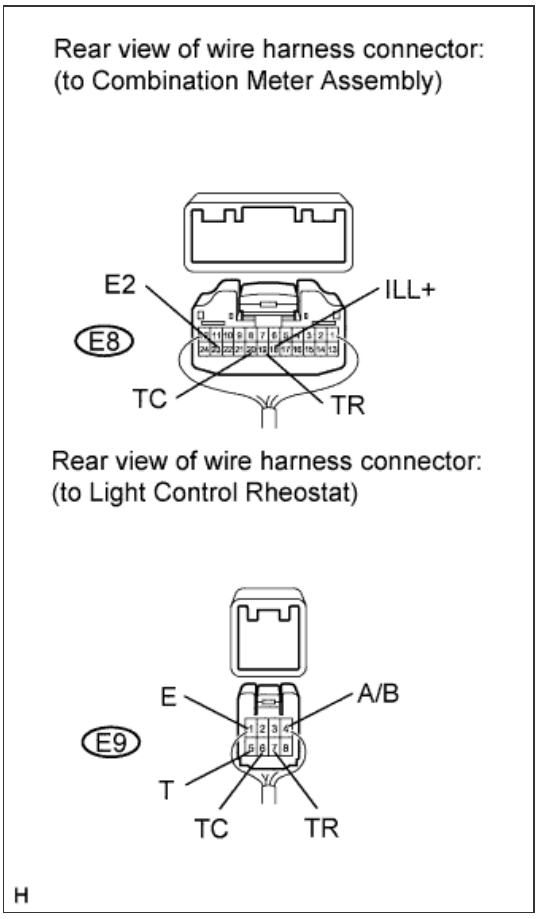
a. Disconnect the E8 meter connector.

b. Disconnect the E9 rheostat connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E8-18 (ILL+) - E9-5 (T) | Always | Below 1 Ω |
| E8-19 (TR) - E9-7 (TR) | | |
| E8-23 (E2) - E9-1 (E) | | |
| E8-20 (TC) - E9-6 (TC) | | |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

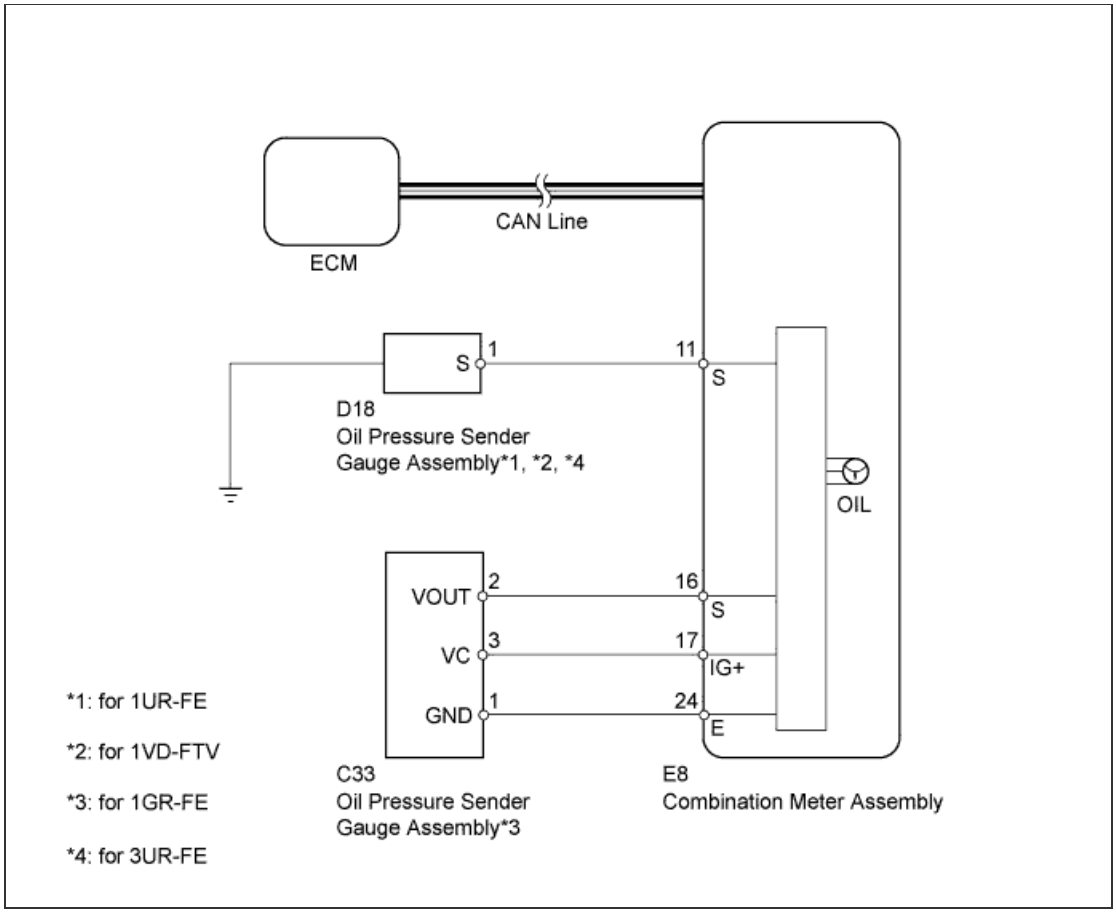
REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

The oil pressure sender detects the oil pressure generated when the engine is started. The combination meter determines that the engine is running when the engine speed is 400 rpm or more, and determines that the engine is cranking when the engine speed is 200 rpm or less. The oil pressure receiver gauge detects and indicates the oil pressure applied to the oil pressure sender.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN communication system DTC is not output | A |
| CAN communication system (for LHD) DTC is output | B |
| CAN communication system (for RHD) DTC is output | C |

B → Go to CAN COMMUNICATION SYSTEM (Click here)

C → Go to CAN COMMUNICATION SYSTEM (Click here)

A

### 2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (OIL PRESSURE SENSOR)

a. Operate the intelligent tester according to the display and select Active Test ( Click here).

**Combination Meter**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Oil Pressure Meter Operation | Oil pressure receiver gauge | LOW, 1/4, 1/2, 3/4 or HIGH | Perform the test with the vehicle stopped and engine idling. |

**OK:**
**Needle indication is normal.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

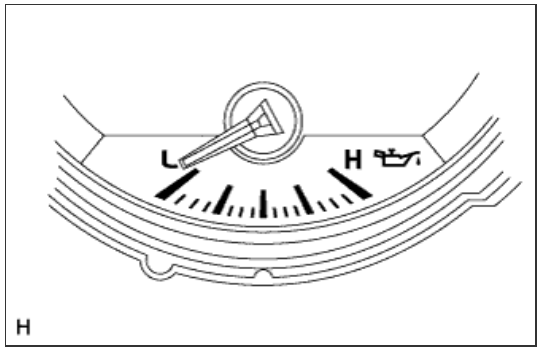
B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

## 3.INSPECT OIL PRESSURE GAUGE ASSEMBLY (OIL PRESSURE SENSOR)

a. Check that the needle moves in accordance with the engine speed.




**OK:**
**Needle is as shown in illustration when engine is stopped.**
**Needle moves when engine is running.**

**Result**

| Result | Proceed to |
|---|---|
| Oil pressure receiver gauge operates correctly according to engine condition | A |
| Oil pressure receiver gauge does not operate correctly according to engine condition (for 1GR-FE) | B |
| Oil pressure receiver gauge does not operate correctly according to engine condition (for 1UR-FE) | C |
| Oil pressure receiver gauge does not operate correctly according to engine condition (for 3UR-FE) | D |
| Oil pressure receiver gauge does not operate correctly according to engine condition (for 1VD-FTV) | E |

B → REPLACE OIL PRESSURE SENDER GAUGE ASSEMBLY ( Click here)

C → REPLACE OIL PRESSURE SENDER GAUGE ASSEMBLY ( Click here)

D → REPLACE OIL PRESSURE SENDER GAUGE ASSEMBLY ( Click here)

E → REPLACE OIL PRESSURE SENDER GAUGE ASSEMBLY ( Click here)

A

## 4.CHECK HARNESS AND CONNECTOR (COMBINATION METER - OIL PRESSURE SENSOR)

a. for 1UR-FE, 3UZ-FE, 1VD-FTV:

i. Disconnect the E8 meter connector.

ii. Disconnect the D18 gauge connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E8-11 (S) - D18-1 (S) | Always | Below 1 Ω |
| E8-11 (S) or D18-1 (S) - Body ground | Always | 10 kΩ or higher |

b. for 1GR-FE:

i. Disconnect the E8 meter connector.

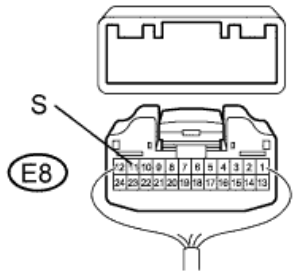
ii. Disconnect the C33 gauge connector.

iii. Measure the resistance according to the value(s) in the table below.

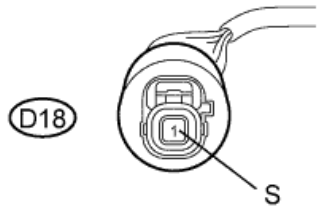
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E8-16 (S) - C33-2 (VOUT) | Always | Below 1 Ω |
| E8-17 (IG+) - C33-3 (VC) | | |
| E8-24 (E) - C33-1 (GND) | | |
| E8-16 (S) or C33-2 (VOUT) - Body ground | Always | 10 kΩ or higher |
| E8-17 (IG+) or C33-3 (VC) - Body ground | | |

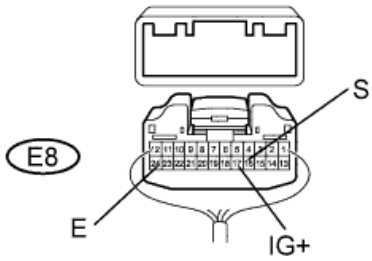
Rear view of harness connector:
(to Combination Meter Assembly)



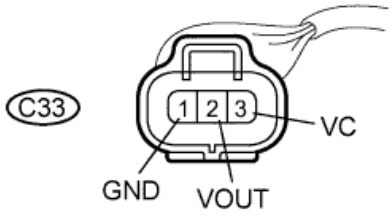

Front view of harness connector:
(to Oil Pressure Sensor)




Rear view of wire harness connector:
(to Combination Meter Assembly)




Front view of wire harness connector:
(to Oil Pressure Sender Gauge Assembly)




H

**Result**

| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

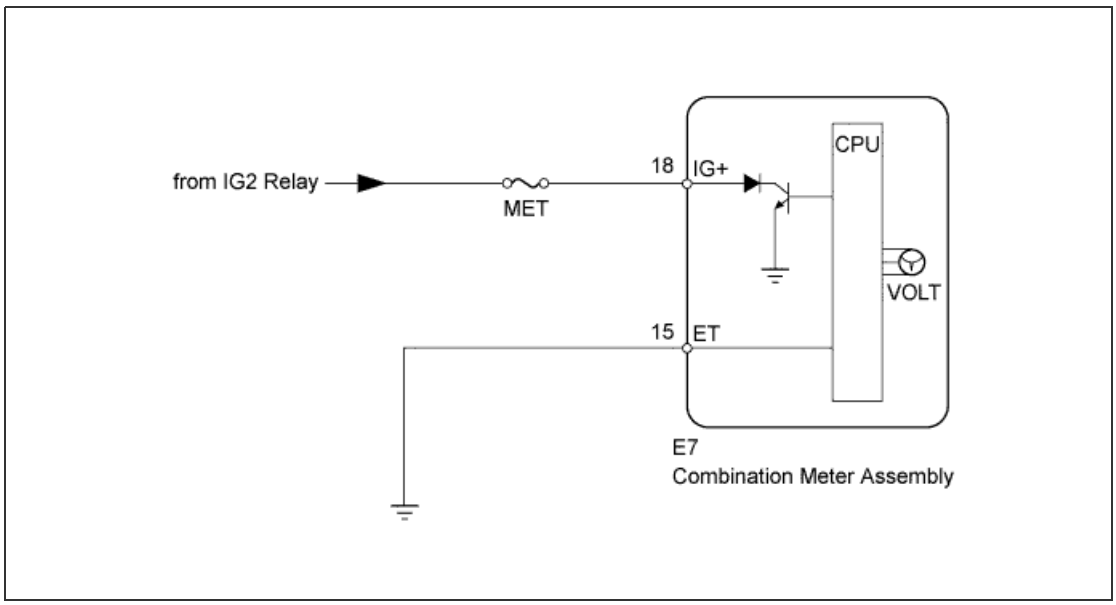
REPAIR OR REPLACE HARNESS OR CONNECTOR

**for Preparation** Click here

## DESCRIPTION

The voltmeter indicates the voltage applied to the IG+ terminal of the combination meter.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (MET)

a. Remove the MET fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| MET fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (VOLTMETER)

a. Operate the intelligent tester according to the display and select Active Test ( Click here).

**Combination Meter**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Volt meter Operation | Voltmeter | 0, 3, 6, 9, 12, 15, or 18 | Perform the test with the vehicle stopped and engine idling. |

**OK:**

**Needle indication is normal.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

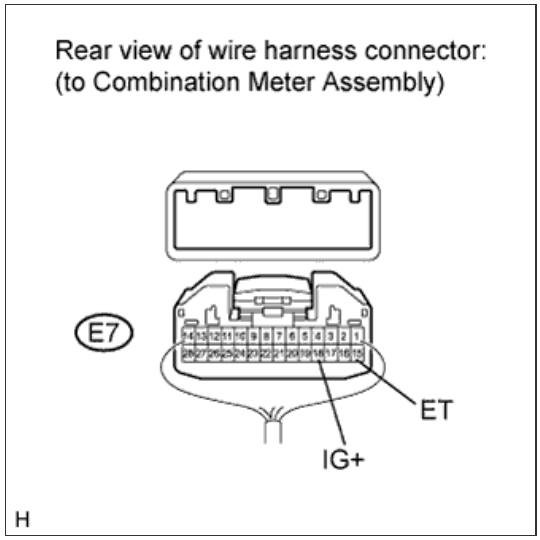
C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (COMBINATION METER - BATTERY AND BODY GROUND)

a. Disconnect the E7 meter connector.

b. Measure the resistance and voltage according to the value(s) in the tables below.




**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E7-15 (ET) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E7-18 (IG+) | Ignition switch ON | 11 to 14 V |
| | Ignition switch off | Below 1 V |

**Result**

| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |

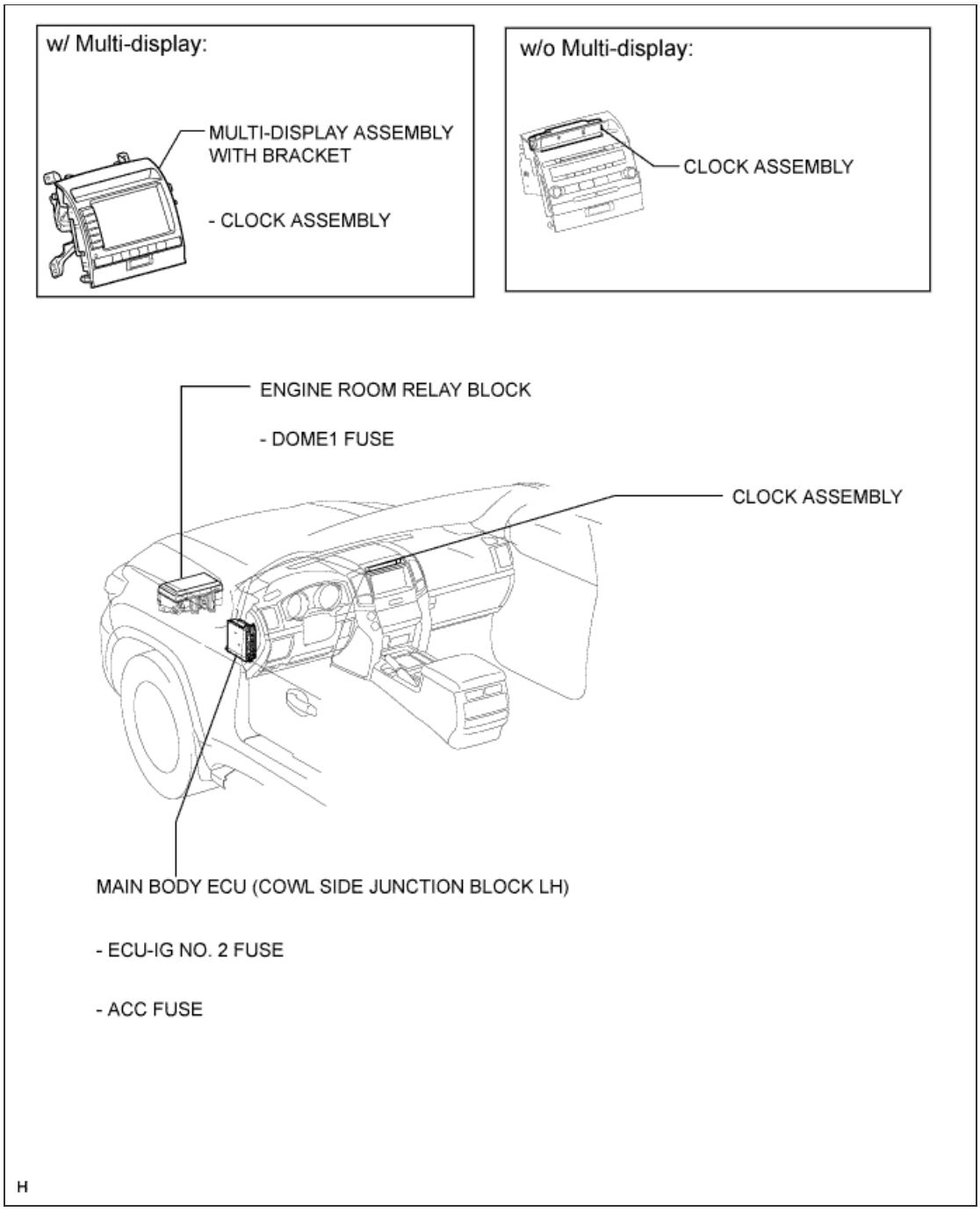
B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

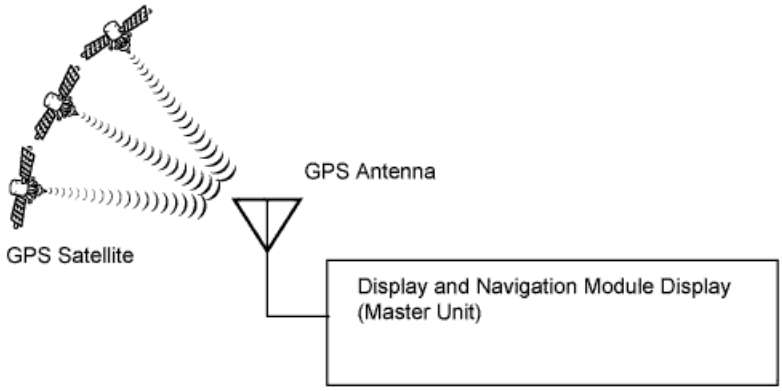
REPAIR OR REPLACE HARNESS OR CONNECTOR

**for Preparation** Click here

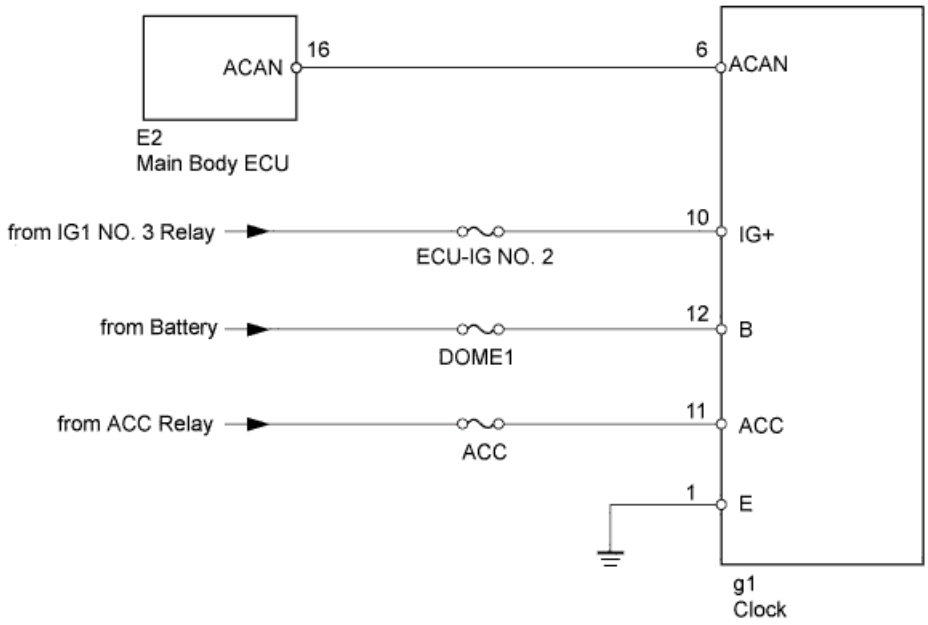


**for Preparation** Click here

w/ Navigation System:




w/o Navigation System:



**for Preparation** Click here

## CLOCK SYSTEM OUTLINE (w/ Navigation System)

a. The clock can be set through the multi-display screen.

b. The navigation system receives time data from Global Positioning System (GPS) satellites. The clock receives time data from the navigation system every minute, and corrects the time.

**for Preparation** Click here

**HINT:**

Use these procedures to troubleshoot the clock system.

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard Voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.PROBLEM SYMPTOMS TABLE

a. Refer to problem symptoms table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. → Go to step 5

A

## 4.OVERALL ANALYSIS AND TROUBLESHOOTING

a. Terminals of ECU (Click here)

NEXT

## 5.ADJUST, REPAIR OR REPLACE

NEXT

END

**for Preparation** Click here

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

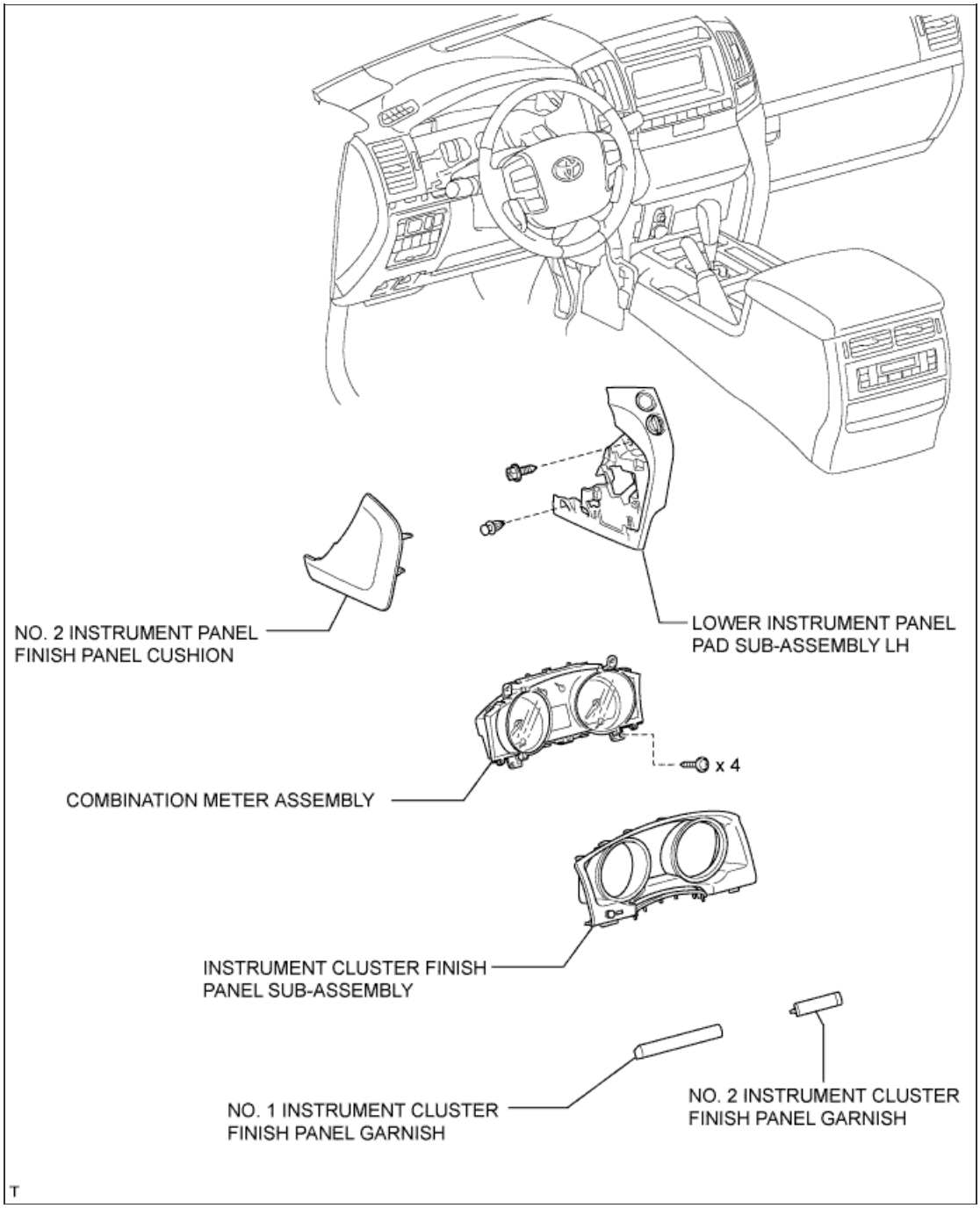
**Clock System (w/ Navigation System)**

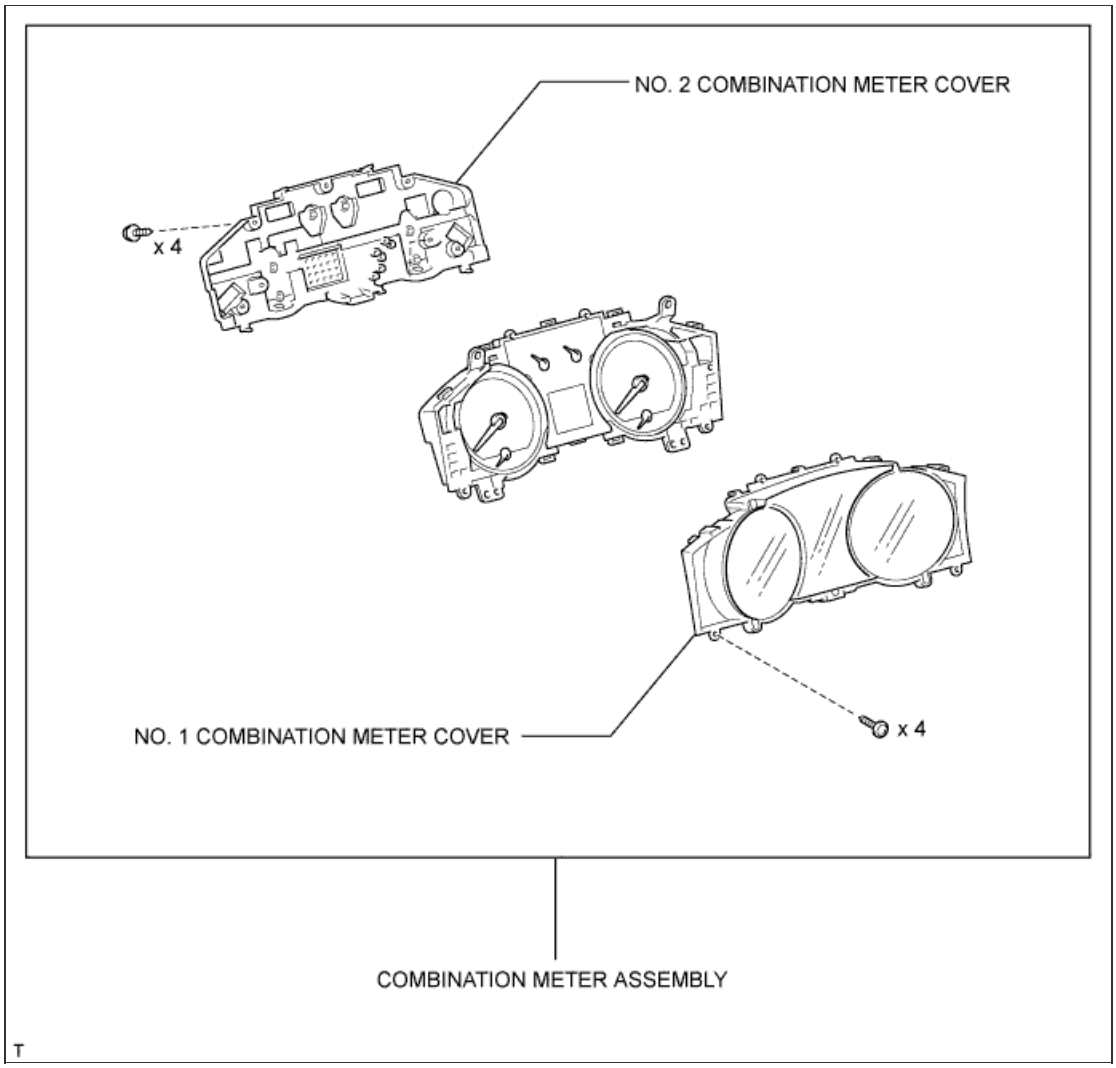
| Symptom | Suspected Area | See page |
|---|---|---|
| Clock is not displayed | Replace multi-display | Click here |
| Clocks time is very incorrect | Clock loses or gains time | - |
| | Replace multi-display | Click here |
| Clocks nighttime illumination does not operate | Navigation system | Click here |
| | Replace multi-display | Click here |

**Clock System (w/o Navigation System)**

| Symptom | Suspected Area | See page |
|---|---|---|
| Clock is not displayed | Clock power source circuit | Click here |
| Clocks time is very incorrect | Clock loses or gains time | - |
| | Replace clock | Click here |
| Clocks nighttime illumination does not operate | Illumination circuit | Click here |
| | Replace clock | Click here |

**for Preparation** Click here




NO. 2 COMBINATION METER COVER
x 4
NO. 1 COMBINATION METER COVER
x 4
COMBINATION METER ASSEMBLY
T

**for Preparation** Click here

## 1. DISABLE AUTO TILT AWAY FUNCTION

a. Disable the function by changing the customize parameter ( Click here).

**NOTICE:**

Record the current customize parameter setting (whether the Autoaway/Return function is enabled or disabled) in order to restore the current setting after finishing the operation.

**HINT:**

Performing the above operation causes the Autoaway/Return function to be disabled when the engine switch is turned off.

b. Turn the engine switch on (IG). Operate the tilt and telescopic switch to fully extend and lower the steering column assembly.

c. Turn the engine switch off.

## 2. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 3. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

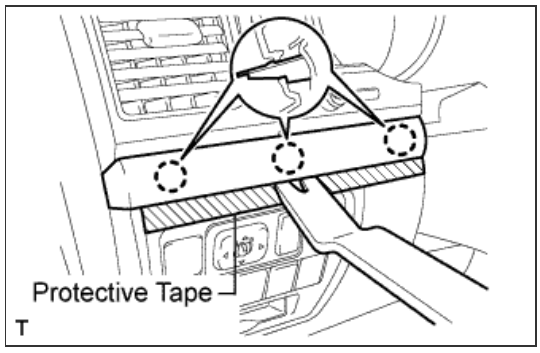
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 4. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

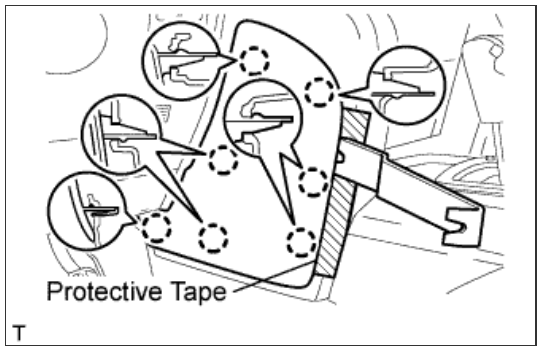
b. Using a moulding remover, detach the 3 claws and remove the panel garnish.




## 5. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.



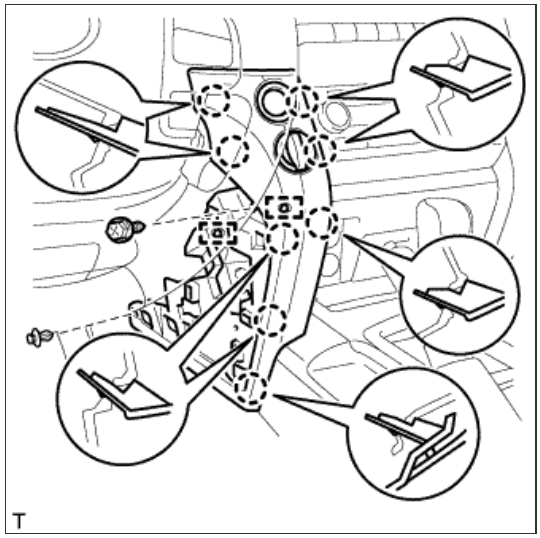

## 6. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip.

b. Remove the screw.

c. Detach the 8 claws.

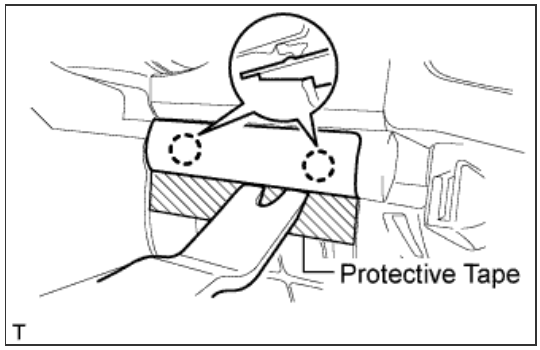
d. Remove the panel pad and disconnect the connectors and 2 clamps.




## 7. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

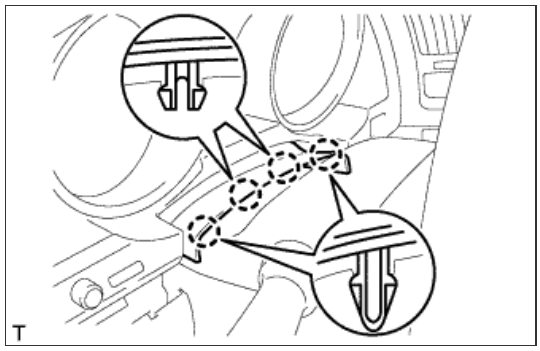
a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 2 claws and remove the panel garnish.

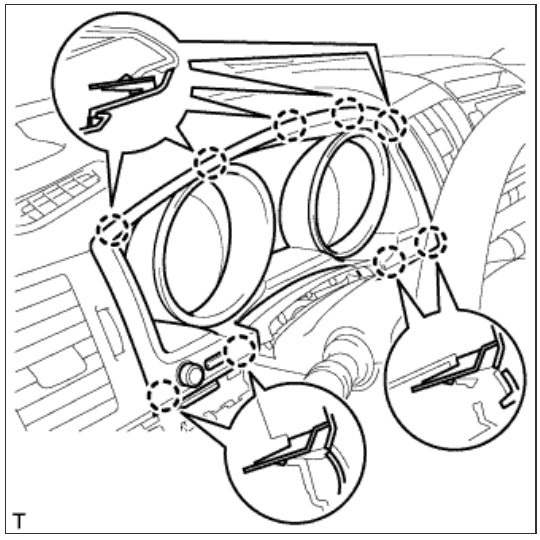



## 8. REMOVE INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

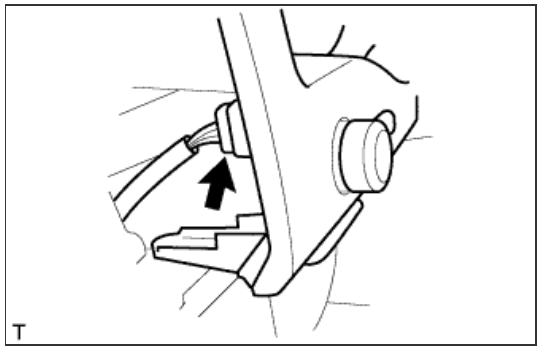
a. Detach the 4 claws.




b. Detach the 9 claws.

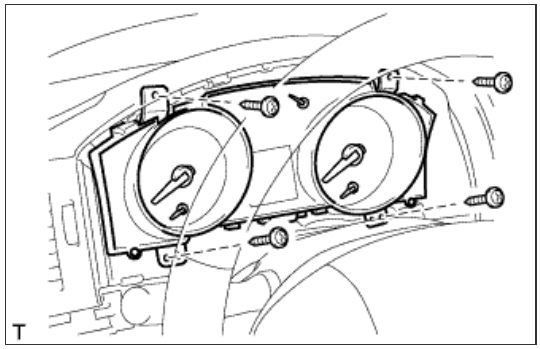



c. Remove the finish panel and disconnect the connector.

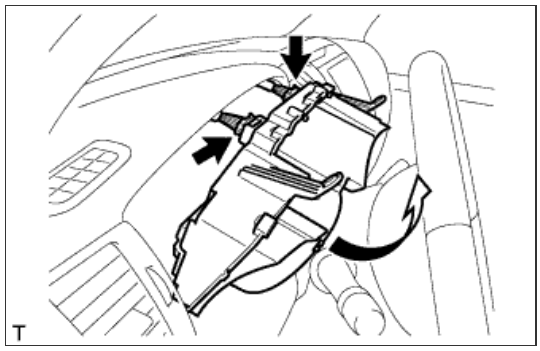



## 9. REMOVE COMBINATION METER ASSEMBLY

a. Remove the 4 screws.




b. Disconnect the connectors, and remove the combination meter by pulling it up in the direction of the arrow in the illustration.

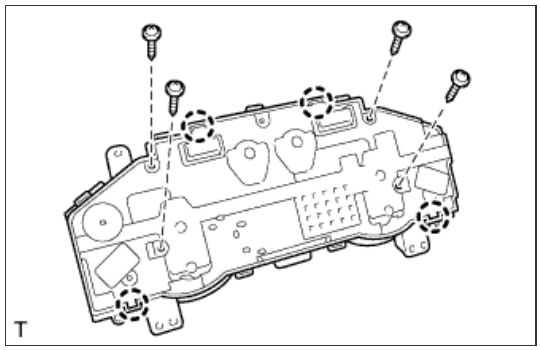

T

**for Preparation** Click here

## 1. REMOVE NO. 2 COMBINATION METER COVER

a. Remove the 4 screws.

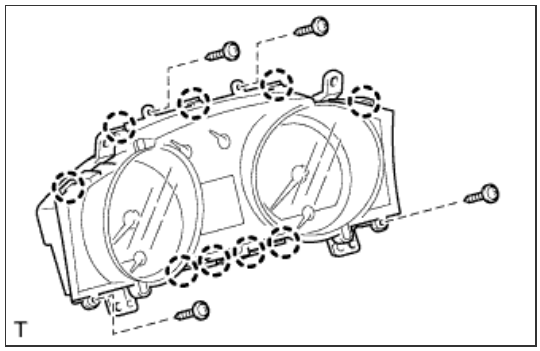
b. Detach the 4 claws and remove the cover.




## 2. REMOVE NO. 1 COMBINATION METER COVER

a. Remove the 4 screws.

b. Detach the 9 claws and remove the cover.

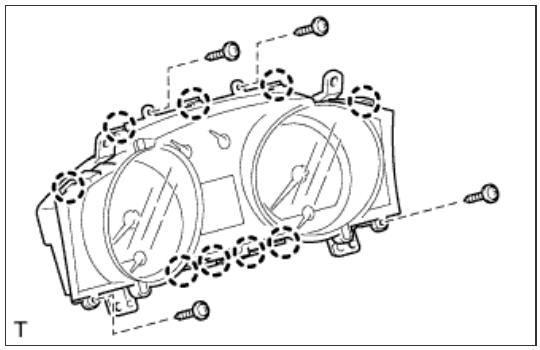


**for Preparation** Click here

## 1. INSTALL NO. 1 COMBINATION METER COVER

a. Attach the 9 claws to install the cover.

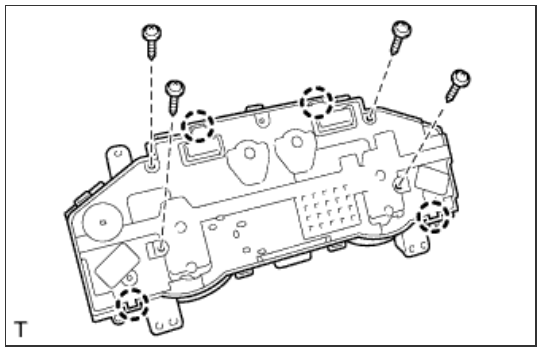
b. Install the 4 screws.




## 2. INSTALL NO. 2 COMBINATION METER COVER

a. Attach the 4 claws to install the cover.

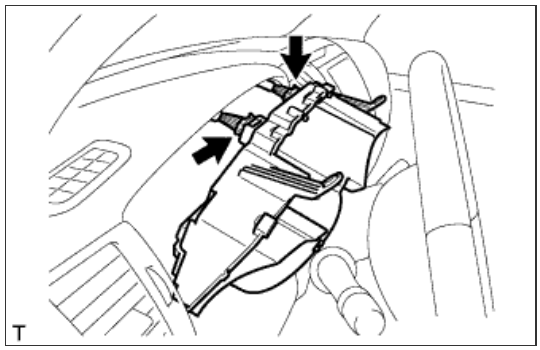
b. Install the 4 screws.



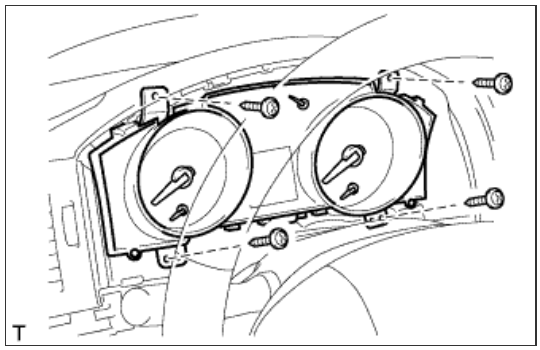
**for Preparation** Click here

## 1. INSTALL COMBINATION METER ASSEMBLY

a. Connect the connectors.

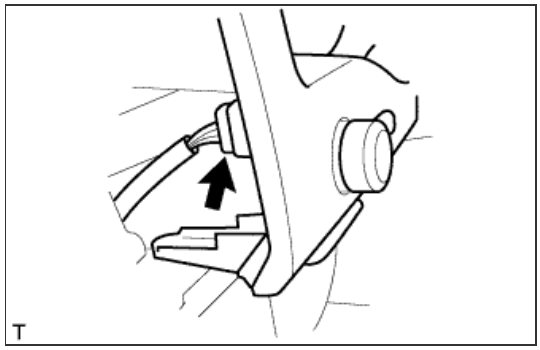



b. Install the combination meter with the 4 screws.

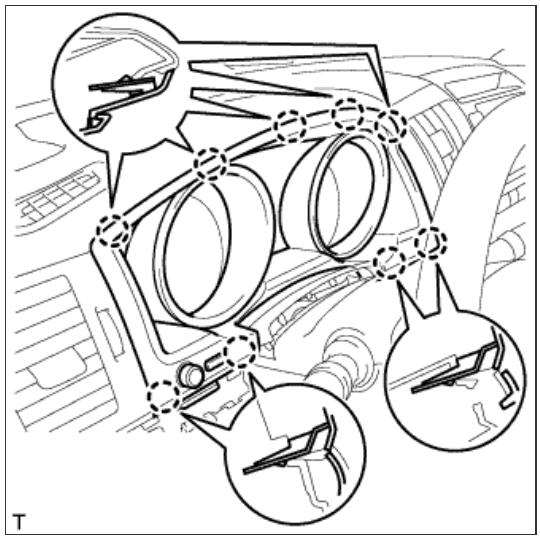



## 2. INSTALL INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

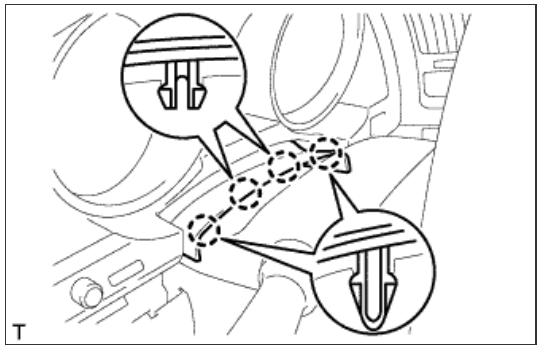
a. Connect the connector.




b. Attach the 9 claws to install the finish panel.

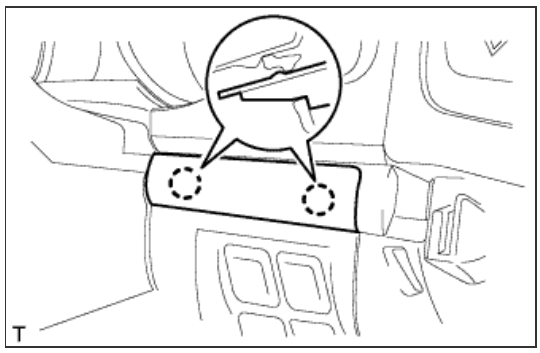



c. Attach the 4 claws.




### 3. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 2 claws to install the panel garnish.



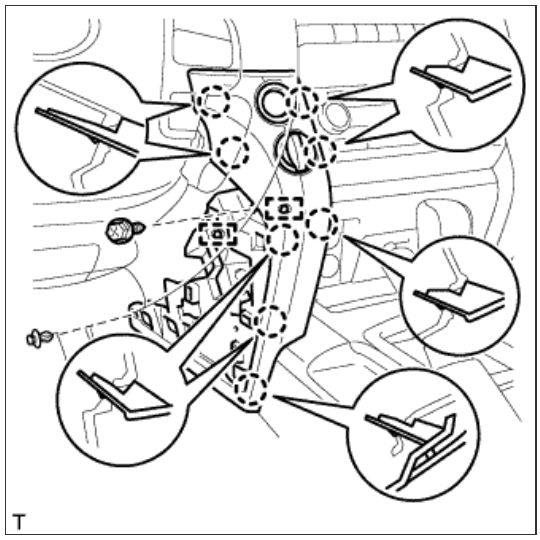

### 4. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the panel pad.

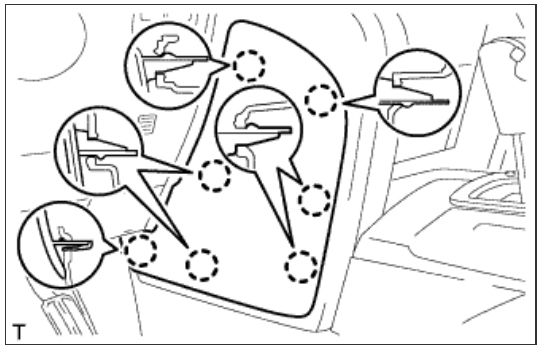
c. Install the screw.

d. Install the clip.



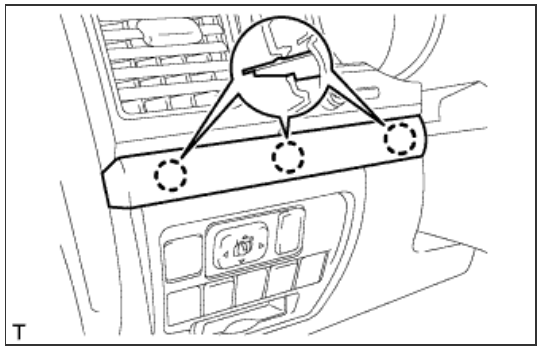

### 5. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the panel cushion.




### 6. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 3 claws to install the panel garnish.

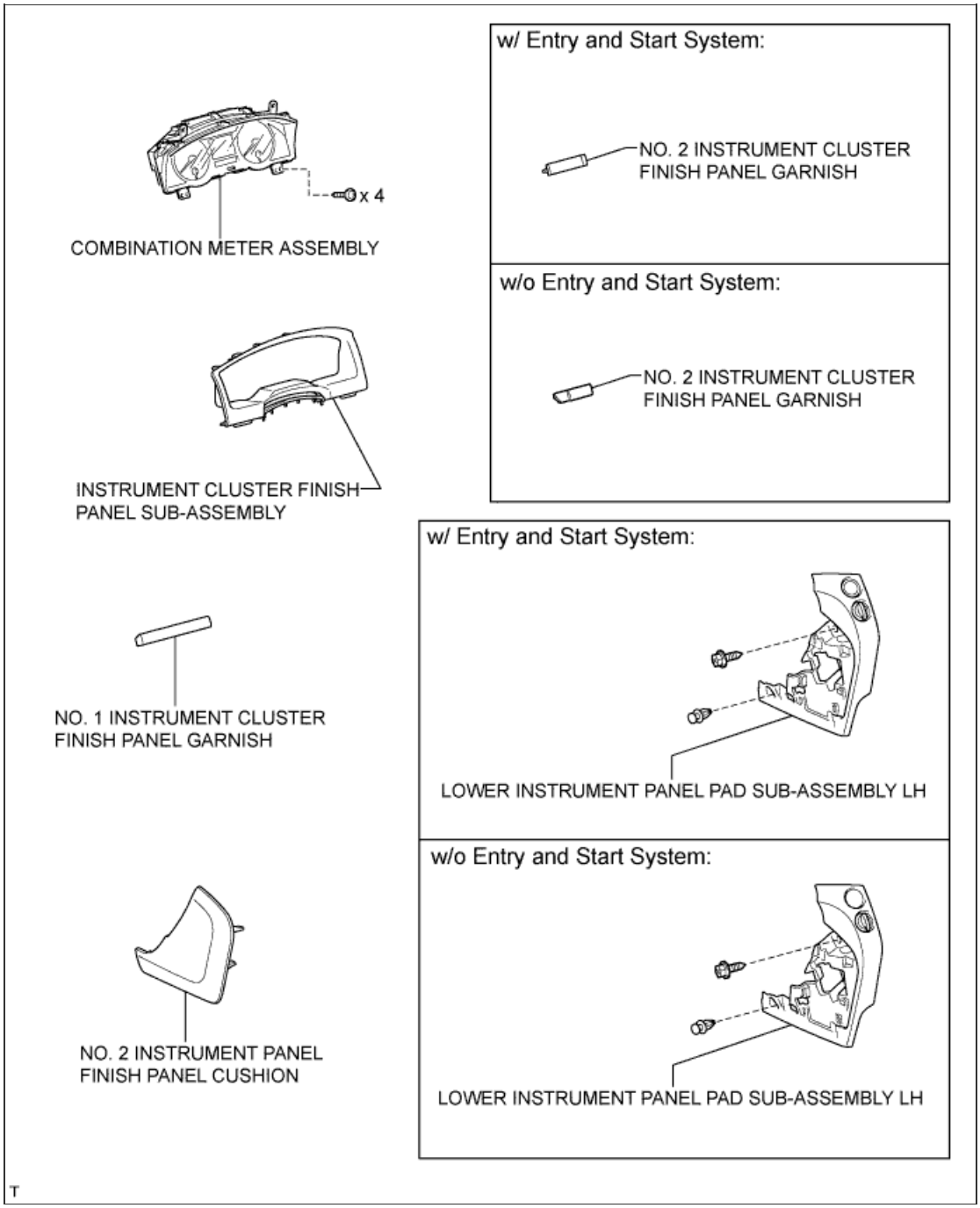


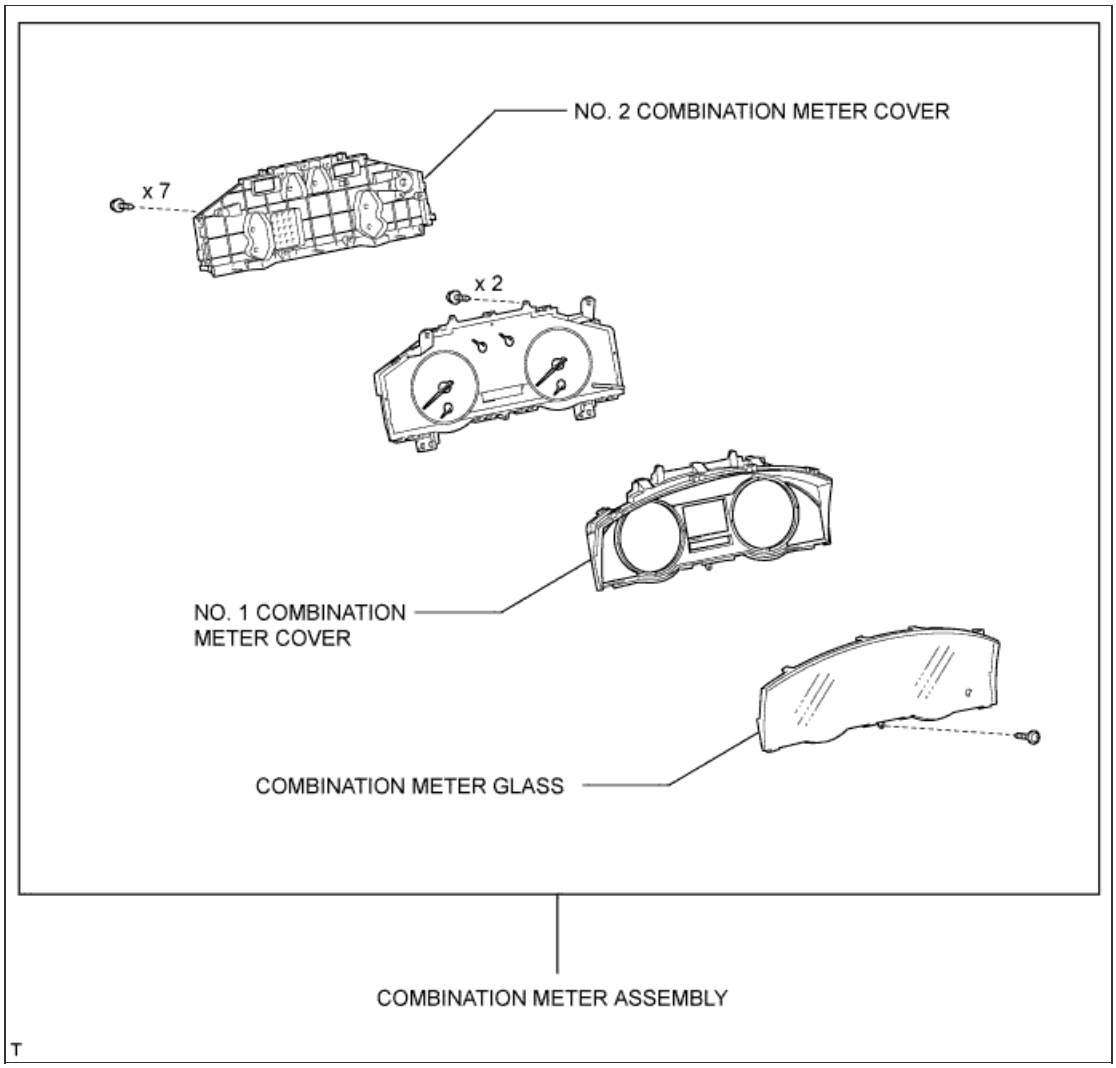

### 7. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

- **Reset the Autoaway/Return function setting to the previous condition by changing the customize parameter ( Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**for Preparation** Click here




NO. 2 COMBINATION METER COVER
x 7
x 2
NO. 1 COMBINATION METER COVER
COMBINATION METER GLASS
COMBINATION METER ASSEMBLY
T

**for Preparation** Click here

## 1. REMOVE DISABLE AUTO TILT AWAY FUNCTION

a. for Power Tilt and Power Telescopic Steering Column:

i. Disable the Autoaway/Return function by changing the customize parameter ( Click here).

**NOTICE:**

Record the current customize parameter setting (whether the Autoaway/Return function is enabled or disabled) in order to restore the current setting after finishing the operation.

**HINT:**

Performing the above operation causes the Autoaway/Return function to be disabled when the engine switch is turned off.

ii. Turn the engine switch on (IG). Operate the tilt and telescopic switch to fully extend and lower the steering column assembly.

iii. Turn the engine switch off .

## 2. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 3. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

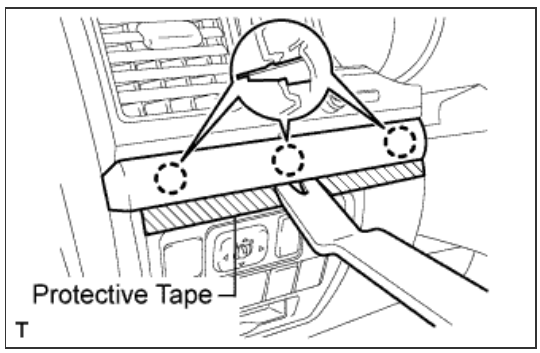
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 4. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

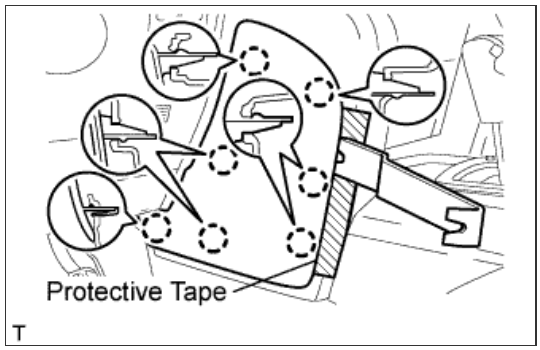
b. Using a moulding remover, detach the 3 claws and remove the panel garnish.




## 5. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.




## 6. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

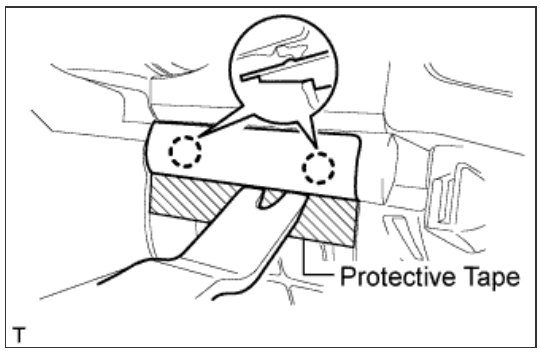
a. w/ Entry and Start System:
(Click here)

b. w/o Entry and Start System:
(Click here)

## 7. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 2 claws and remove the panel garnish.

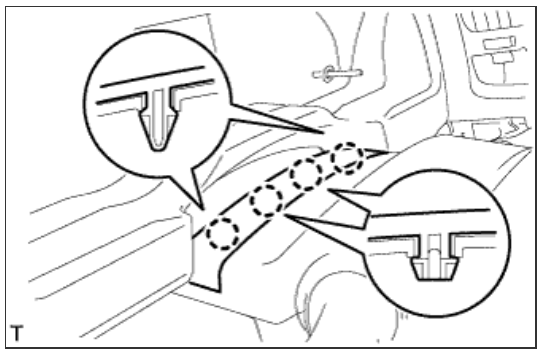



## 8. REMOVE INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

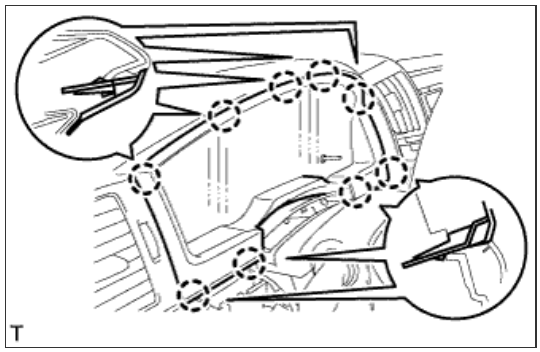
a. for Manual Tilt and Manual Telescopic Steering Column:

i. Operate the tilt and telescopic lever to fully extend and lower the steering column assembly.

b. Detach the 4 claws.

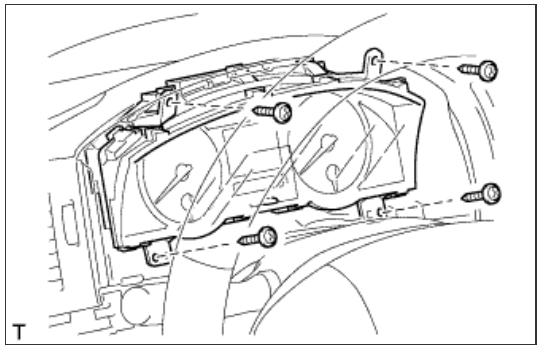



c. Detach the 9 claws and remove the finish panel.

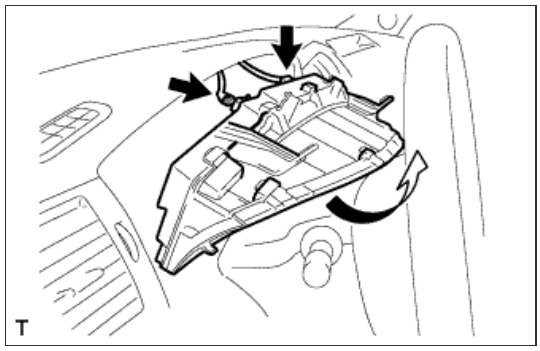



## 9. REMOVE COMBINATION METER ASSEMBLY

**a.** Remove the 4 screws.




**b.** Disconnect the connectors, and remove the combination meter by pulling it up in the direction of the arrow in the illustration.

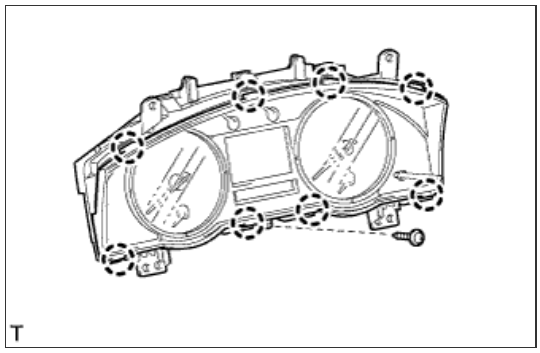


**for Preparation** Click here

## 1. REMOVE COMBINATION METER GLASS

a. Remove the screw.

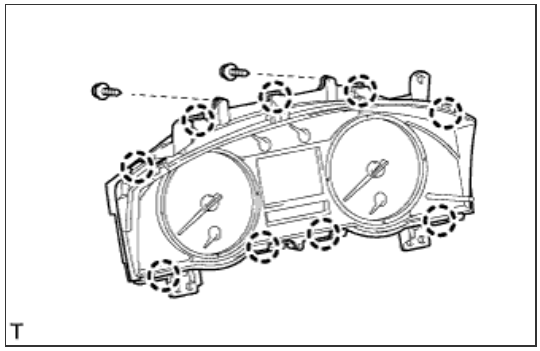
b. Detach the 8 claws and remove the meter glass.




## 2. REMOVE NO. 1 COMBINATION METER COVER

a. Remove the 2 screws.

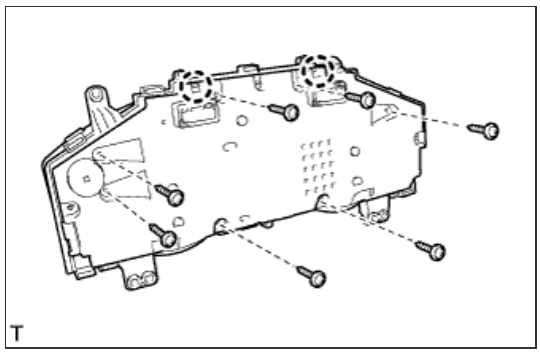
b. Detach the 9 claws and remove the cover.




## 3. REMOVE NO. 2 COMBINATION METER COVER

a. Remove the 7 screws.

b. Detach the 2 claws and remove the cover.

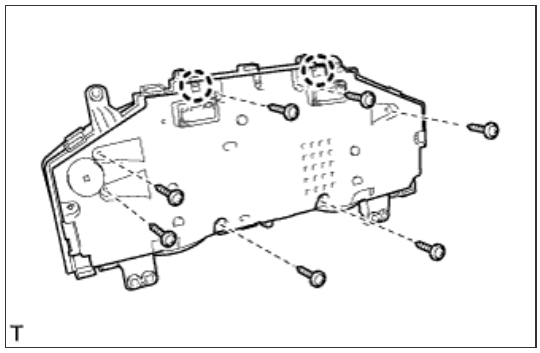


**for Preparation** Click here

## 1. INSTALL NO. 2 COMBINATION METER COVER

a. Attach the 2 claws to install the cover.

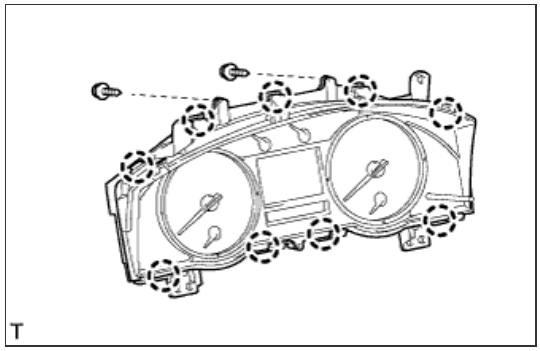
b. Install the 7 screws.




## 2. INSTALL NO. 1 COMBINATION METER COVER

a. Attach the 9 claws to install the cover.

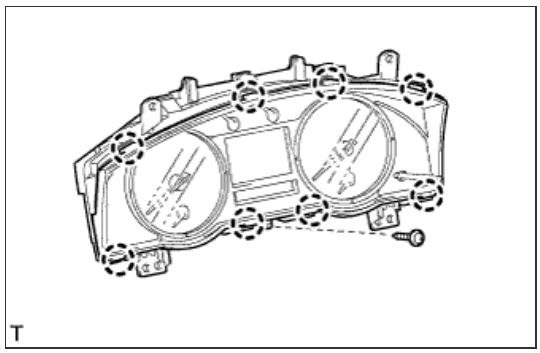
b. Install the 2 screws.




## 3. INSTALL COMBINATION METER GLASS

a. Attach the 8 claws to install the meter glass.

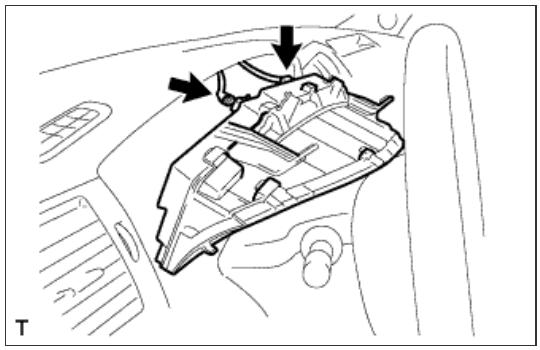
b. Install the screw.



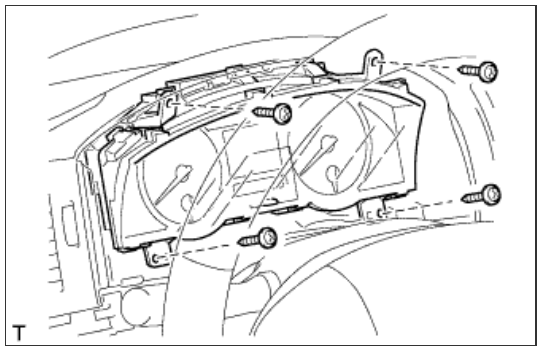
**for Preparation** Click here

## 1. INSTALL COMBINATION METER ASSEMBLY

a. Connect the connectors.

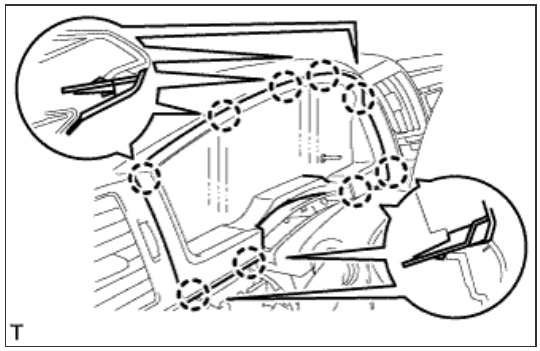



b. Install the combination meter with the 4 screws.

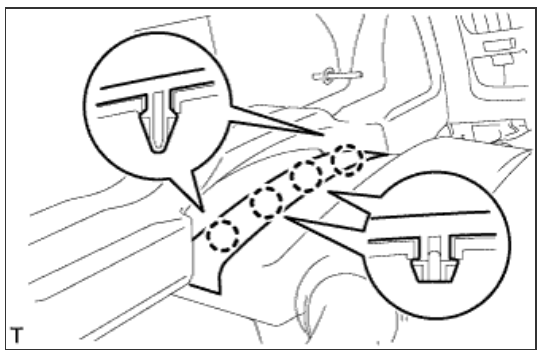



## 2. INSTALL INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

a. Attach the 9 claws to install the finish panel.

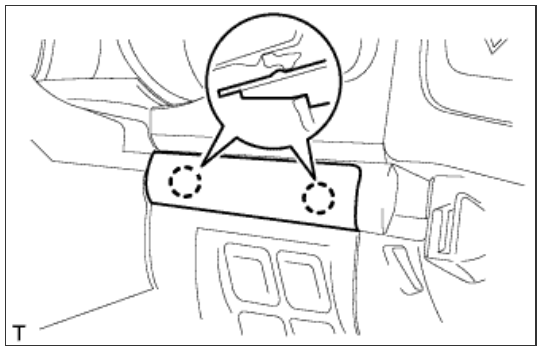



b. Attach the 4 claws.



### 3. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 2 claws to install the panel garnish.



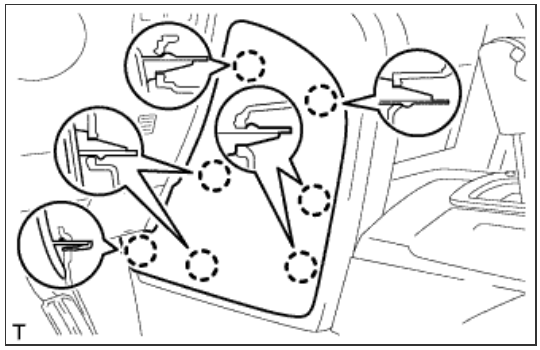

### 4. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. w/ Entry and Start System:
(Click here)

b. w/o Entry and Start System:
(Click here)

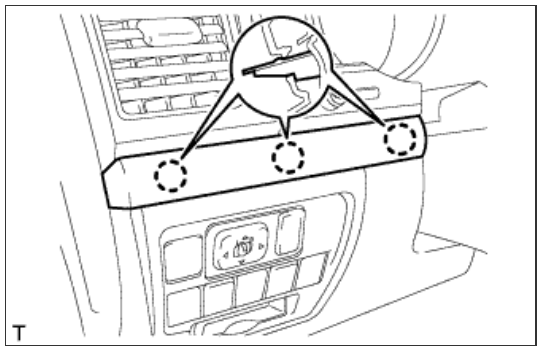
### 5. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the panel cushion.




### 6. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 3 claws to install the panel garnish.

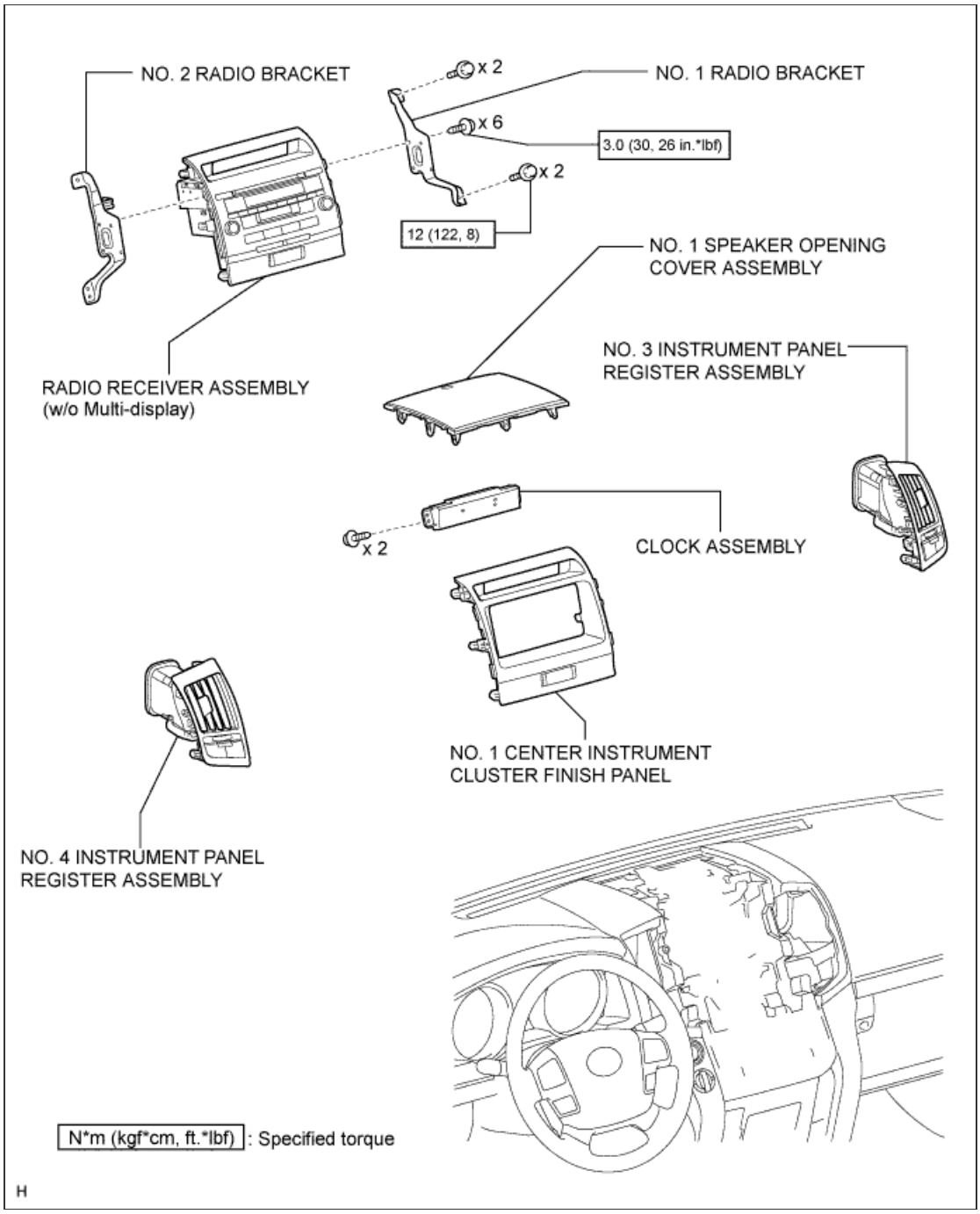



### 7. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

- **Reset the Autoaway/Return function setting to the previous condition by changing the customize parameter ( Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**for Preparation** Click here



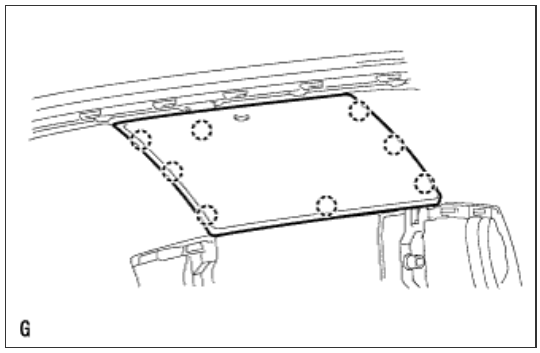
**for Preparation** Click here

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. REMOVE NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Detach the 8 claws and remove the opening cover.




## 2. REMOVE NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY

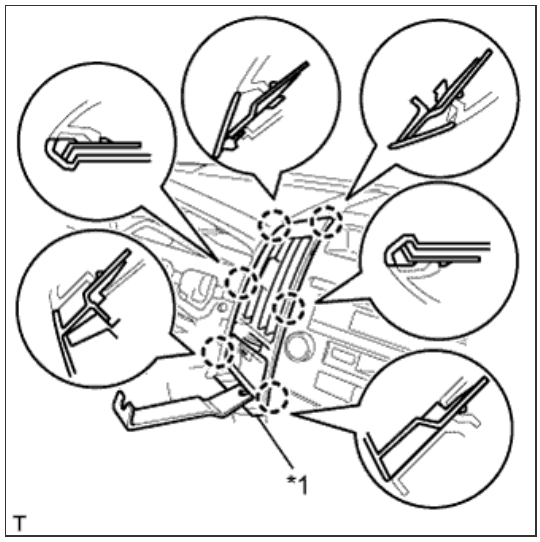
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the No. 3 instrument panel register.




## 3. REMOVE NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY

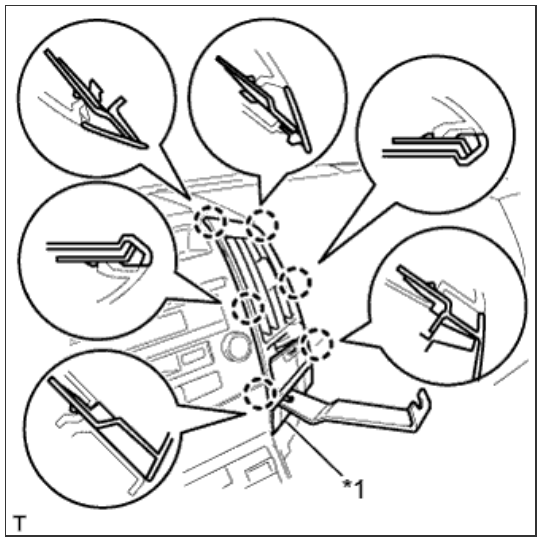
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws.

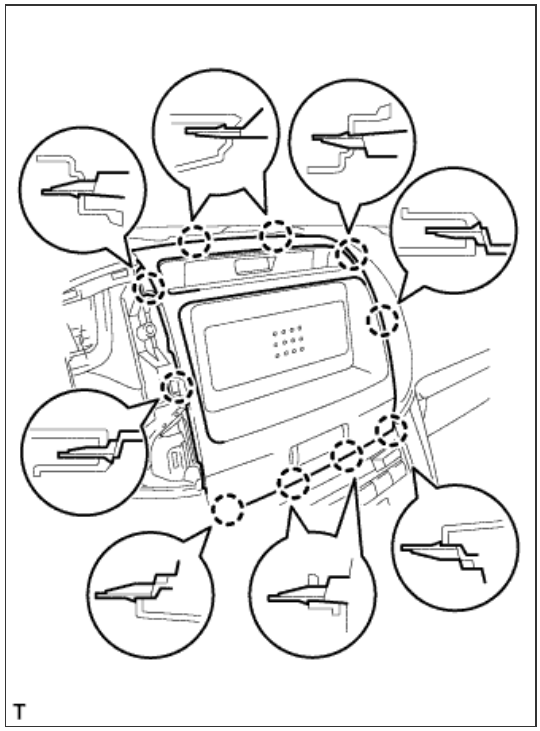
c. Disconnect the connector and remove the No. 4 instrument panel register.




### 4. REMOVE NO. 1 CENTER INSTRUMENT CLUSTER FINISH PANEL

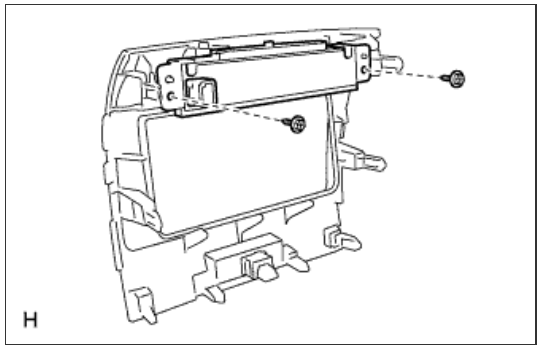
a. Detach the 10 claws.

b. Disconnect the connector and remove the No. 1 center instrument cluster finish panel.



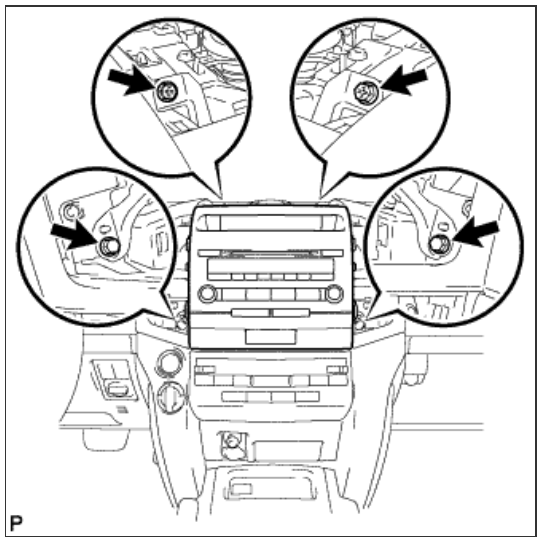

### 5. REMOVE CLOCK ASSEMBLY

a. Remove the 2 screws and clock.



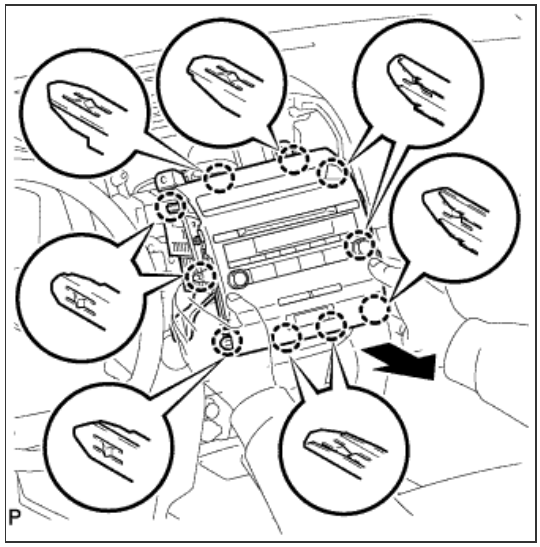

### 6. REMOVE RADIO RECEIVER ASSEMBLY (w/o Multi-display)

a. Remove the 2 screws and 2 bolts.



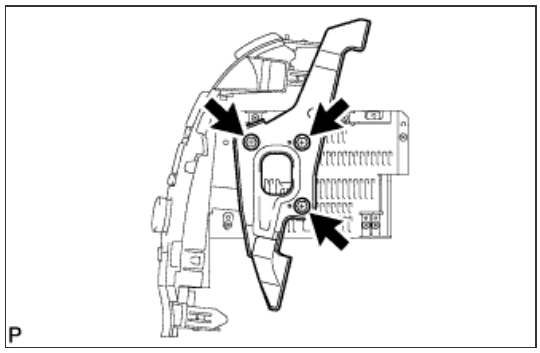

b. Pull the radio receiver to detach the 10 claws on the backside of the radio receiver.

c. Disconnect the connectors and remove the radio receiver.



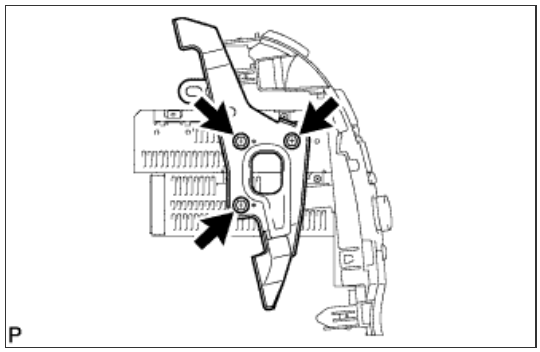

**7. REMOVE NO. 2 RADIO BRACKET (w/o Multi-display)**

a. Remove the 3 bolts and bracket.



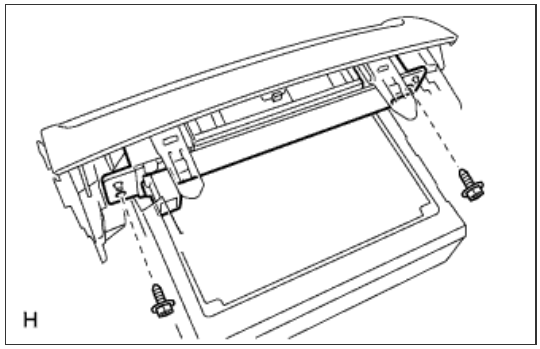

**8. REMOVE NO. 1 RADIO BRACKET (w/o Multi-display)**

a. Remove the 3 bolts and bracket.




**9. REMOVE CLOCK ASSEMBLY (w/o Multi-display)**

a. Remove the 2 screws and clock.



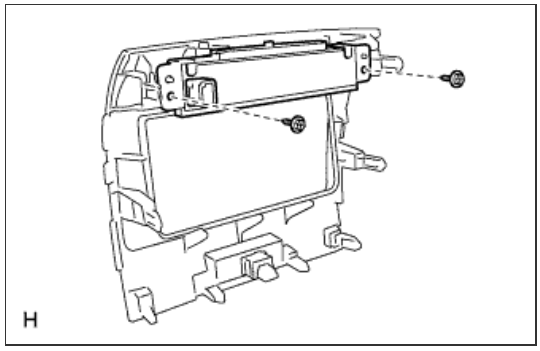
**for Preparation** Click here

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. INSTALL CLOCK ASSEMBLY

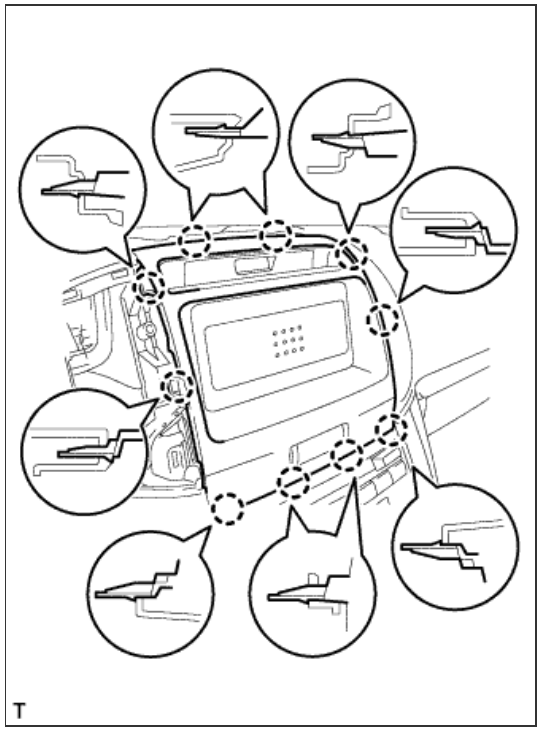
a. Install the clock with the 2 screws.




## 2. INSTALL NO. 1 CENTER INSTRUMENT CLUSTER FINISH PANEL

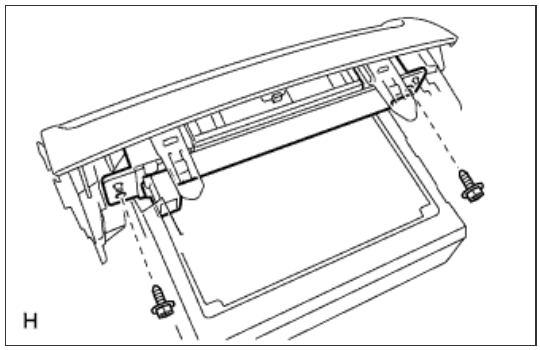
a. Connect the connector.

b. Attach the 10 claws to install the No. 1 center instrument cluster finish panel.




## 3. INSTALL CLOCK ASSEMBLY (w/o Multi-display)

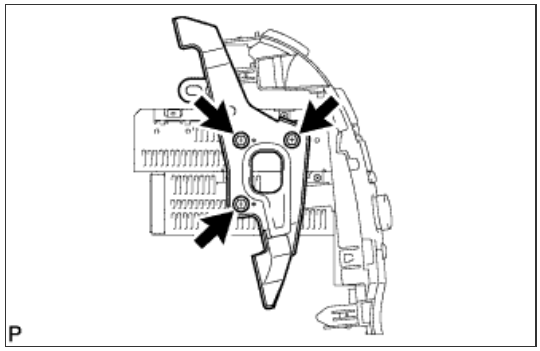
a. Install the clock with the 2 screws.




### 4. INSTALL NO. 1 RADIO BRACKET (w/o Multi-display)

a. Install the bracket with the 3 bolts.

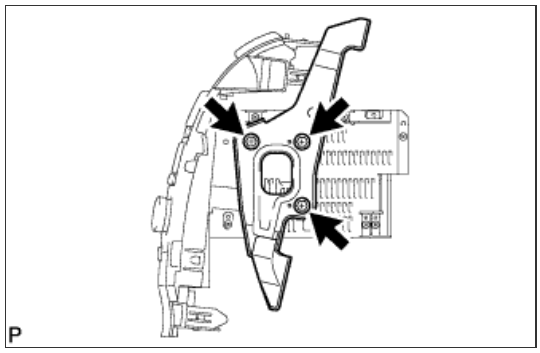
**Torque:**
**3.0 N*m{ 30 kgf*cm , 26 in.*lbf }**




### 5. INSTALL NO. 2 RADIO BRACKET (w/o Multi-display)

a. Install the bracket with the 3 bolts.

**Torque:**
**3.0 N*m{ 30 kgf*cm , 26 in.*lbf }**



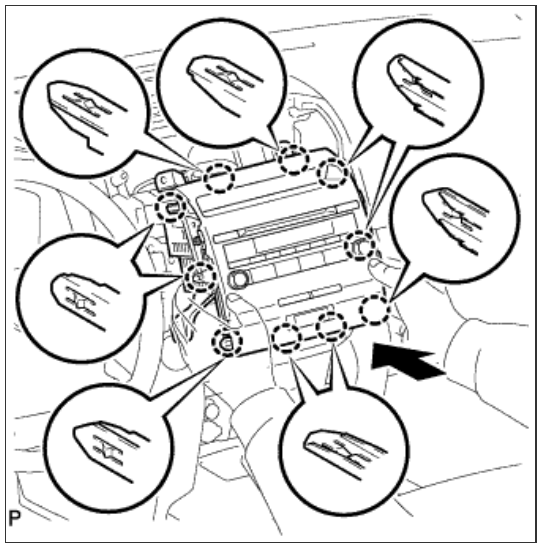

### 6. INSTALL RADIO RECEIVER ASSEMBLY (w/o Multi-display)

a. Connect the connectors.

b. Insert the radio receiver to attach the 10 claws on its backside.

**NOTICE:**

When inserting the radio receiver, do not press the knobs on it.




c. Install the radio receiver with the 2 screws and 2 bolts.

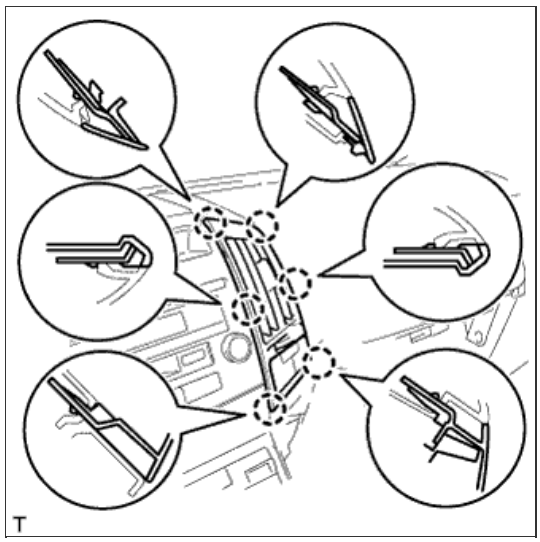
**Torque:**
**Bolt:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




## 7. INSTALL NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY

a. Connect the connector.

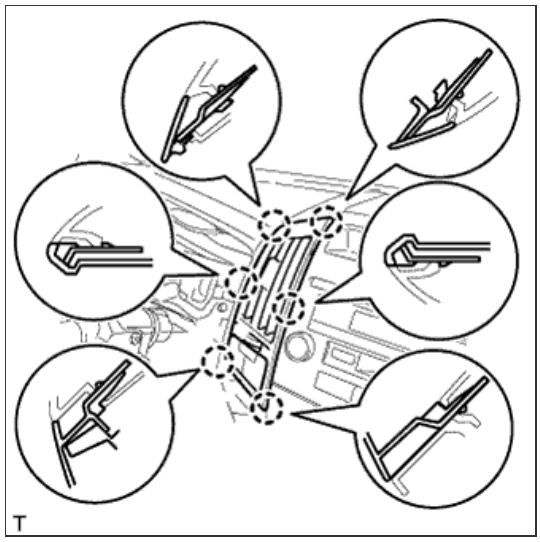
b. Attach the 6 claws to install the No. 4 instrument panel register.




## 8. INSTALL NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY

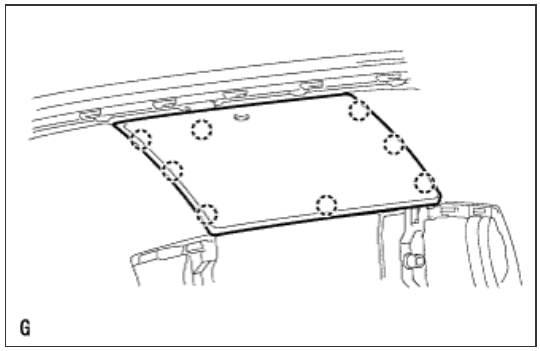
a. Connect the connector.

b. Attach the 6 claws to install the No. 3 instrument panel register.

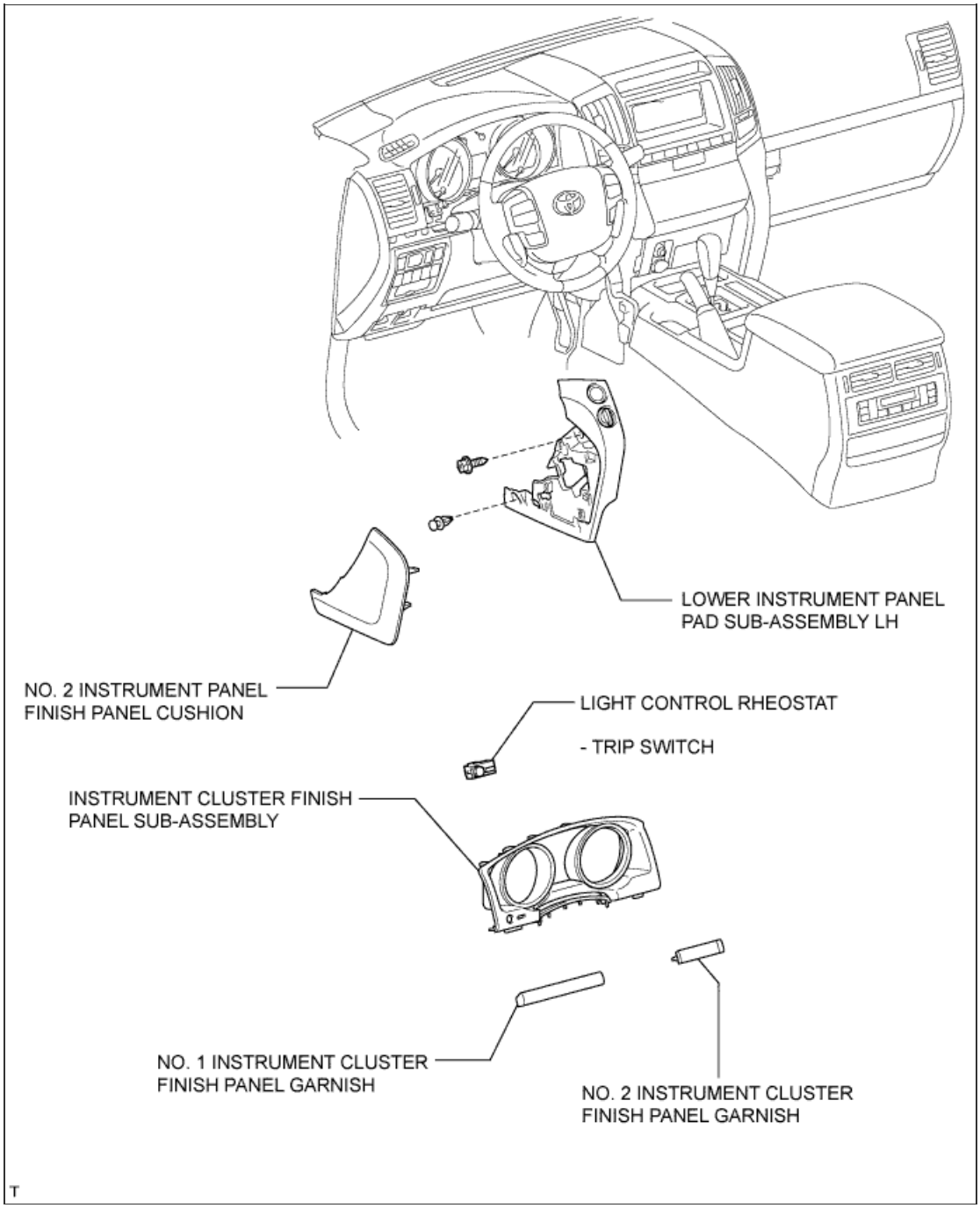



## 9. INSTALL NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Attach the 8 claws to install the opening cover.



**for Preparation** Click here



**for Preparation** Click here

## 1. DISABLE AUTO TILT AWAY FUNCTION

a. Disable the Autoaway/Return function by changing the customize parameter ( Click here).

**NOTICE:**

Record the current customize parameter setting (whether the Autoaway/Return function is enabled or disabled) in order to restore the current setting after finishing the operation.

**HINT:**

Performing the above operation causes the Autoaway/Return function to be disabled when the engine switch is turned off.

b. Turn the engine switch on (IG). Operate the tilt and telescopic switch to fully extend and lower the steering column.

c. Turn the engine switch off.

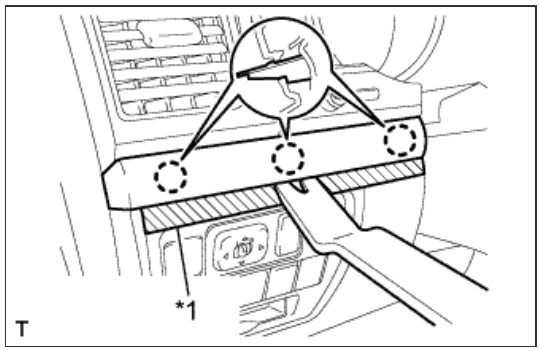
## 2. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

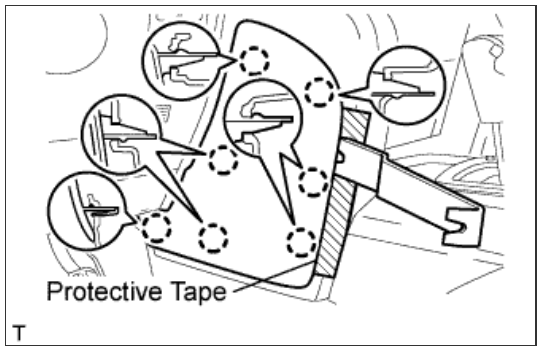
b. Using a moulding remover, detach the 3 claws and remove the No. 1 instrument cluster finish panel garnish.




## 3. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.



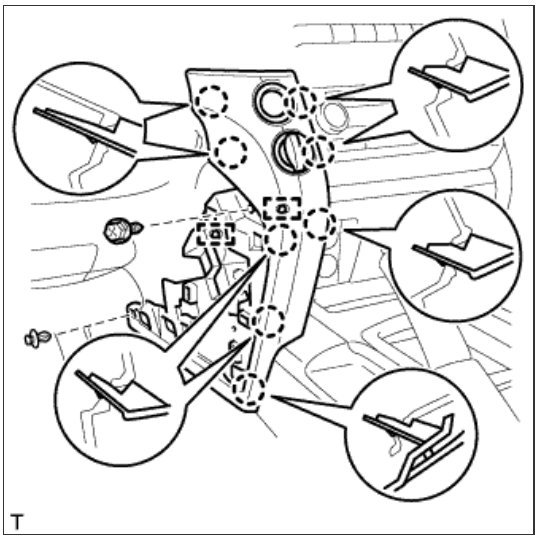

## 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip.

b. Remove the screw.

c. Detach the 8 claws.

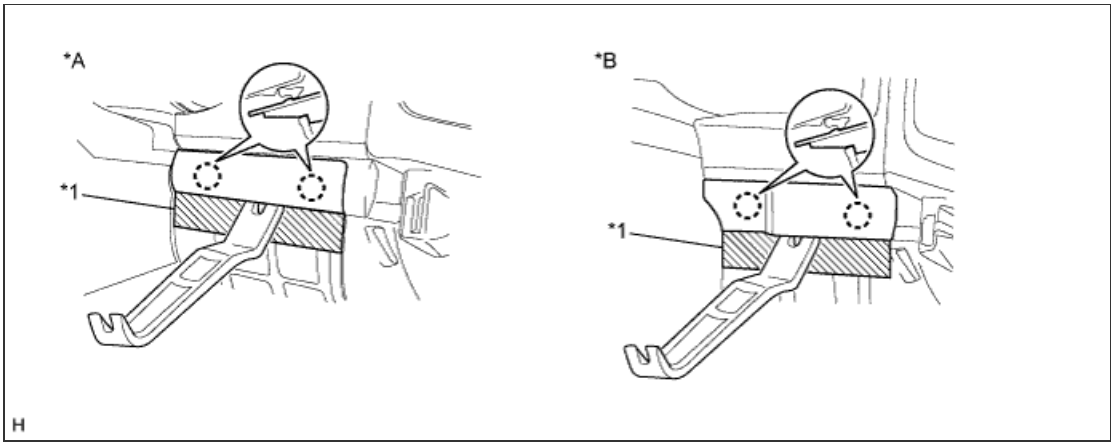
d. Remove the panel pad and disconnect the connectors and 2 clamps.




## 5. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 2 claws and remove the No. 2 instrument cluster finish panel garnish.



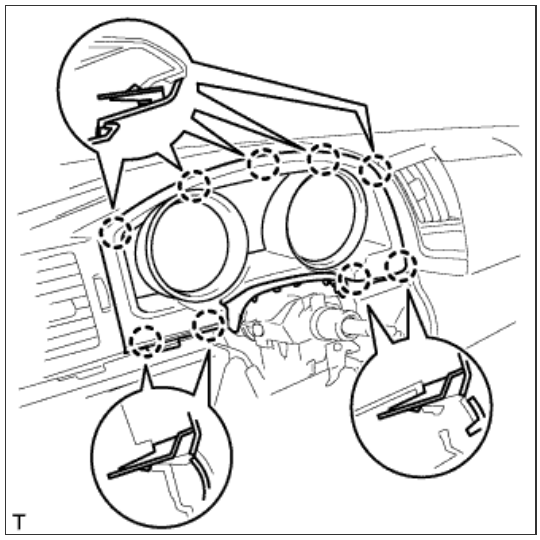

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |
| *1 | Protective Tape | - | - |

## 6. REMOVE INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

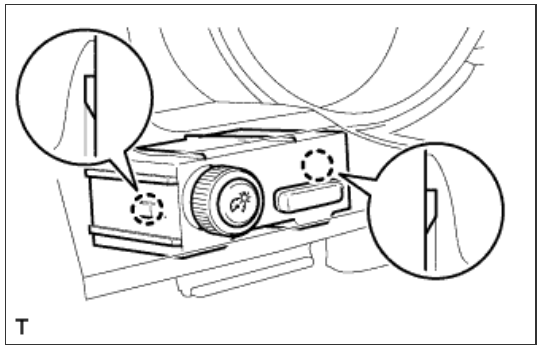
a. Detach the 9 claws.

b. Disconnect the connector and remove the instrument cluster finish panel.




### 7. REMOVE LIGHT CONTROL RHEOSTAT

a. Detach the 2 claws and remove the rheostat.

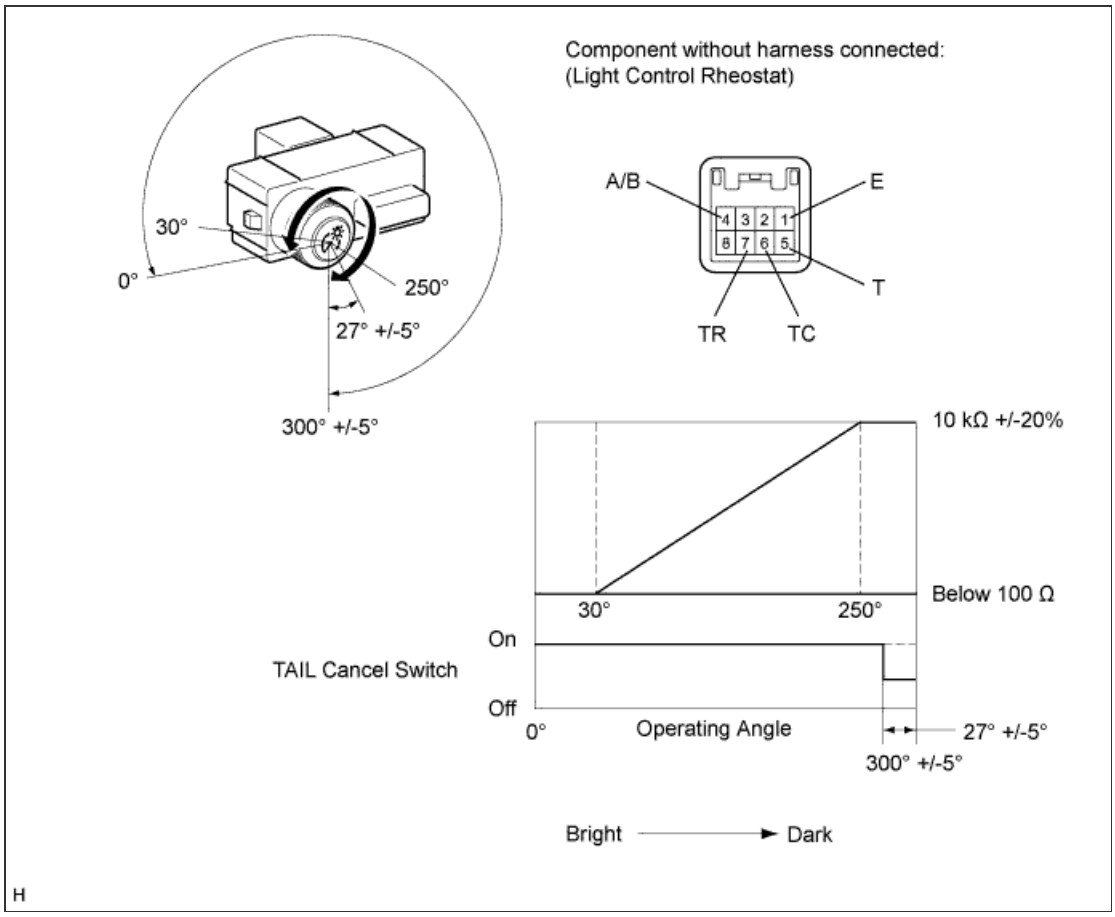


**for Preparation** Click here

## 1. INSPECT LIGHT CONTROL RHEOSTAT

a. Inspect the light control rheostat.

i. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (TC) - 1 (E) | TAIL cancel switch off → on | 10 kΩ or higher → Below 1 Ω |
| 5 (T) - 1 (E) | Always | 10 kΩ or higher |
| 7 (TR) - 1 (E) | Light control rheostat fully turned right → fully turned left | 10 kΩ or higher → Below 100 Ω |

b. Inspect the trip switch.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester | Switch | Specified |
|---|---|---|

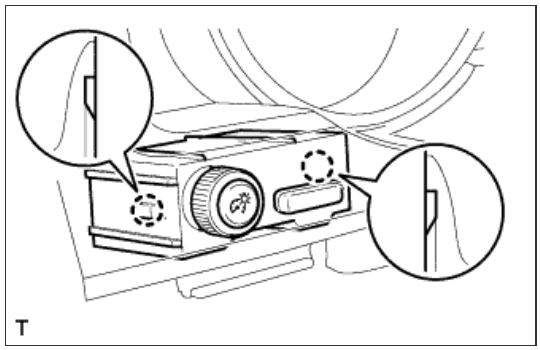
| Connection | Condition | Condition |
|---|---|---|
| 4 (A/B) - 1 (E) | Trip switch on (Pushed) | Below 200 Ω |
| | Trip switch off (Not Pushed) | 1 MΩ or higher |

If the result is not as specified, replace the rheostat.

**for Preparation** Click here

## 1. INSTALL LIGHT CONTROL RHEOSTAT

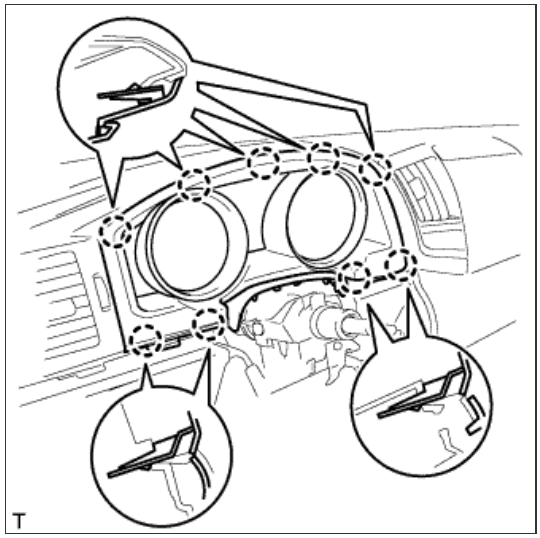
a. Attach the 2 claws to install the rheostat.




## 2. INSTALL INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

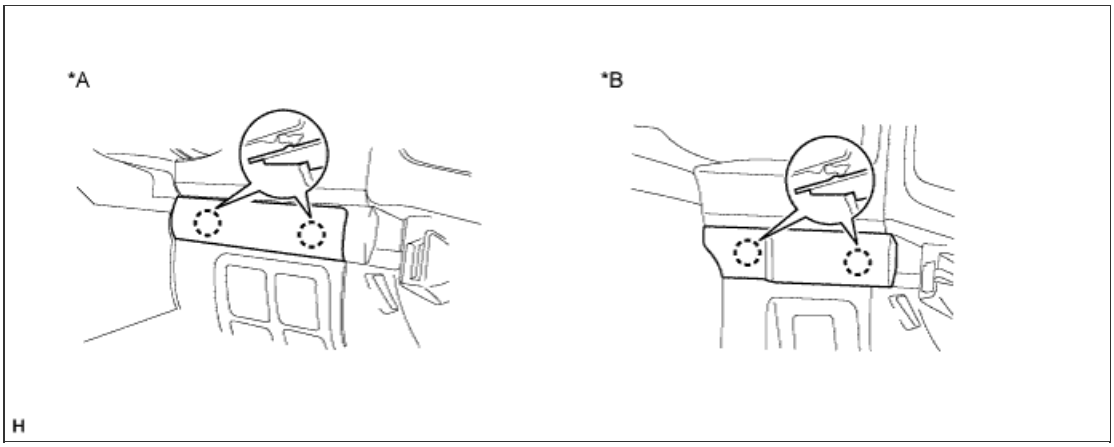
a. Connect the connector.

b. Attach the 9 claws to install the instrument cluster finish panel.




## 3. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 2 claws to install the No. 2 instrument cluster finish panel garnish.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |

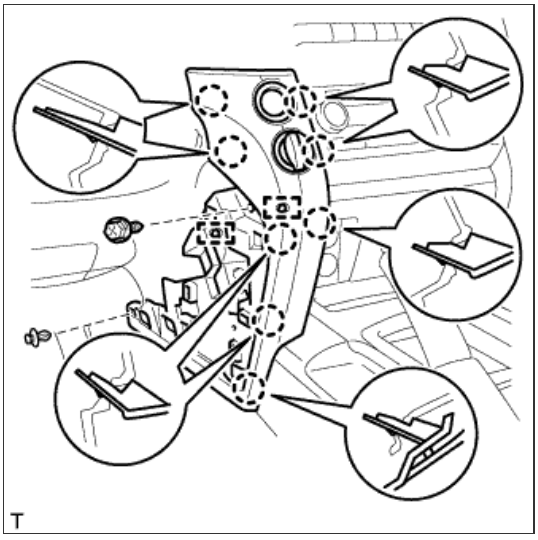
## 4. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the panel pad.

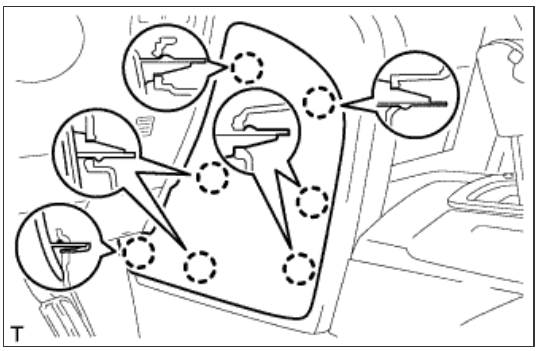
c. Install the screw.

d. Install the clip.



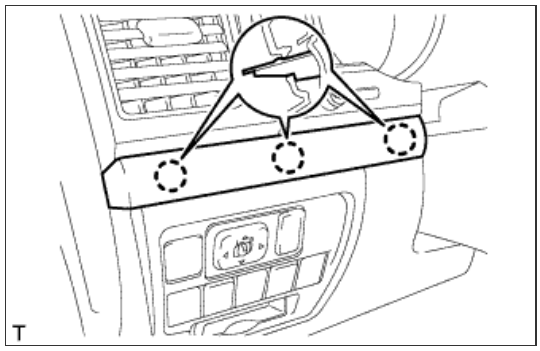

## 5. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the panel cushion.

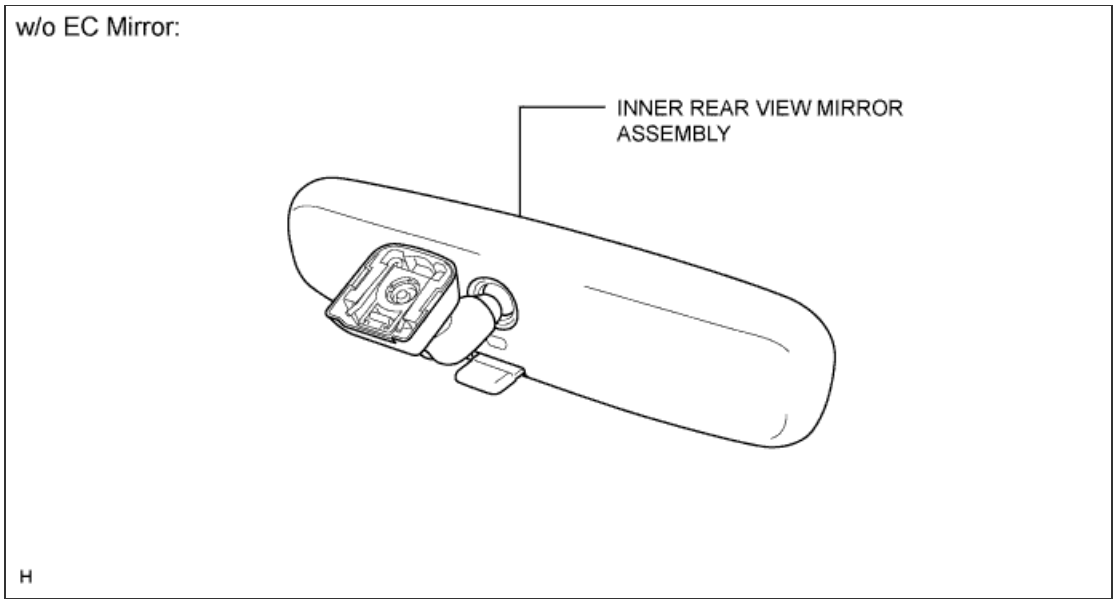



## 6. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

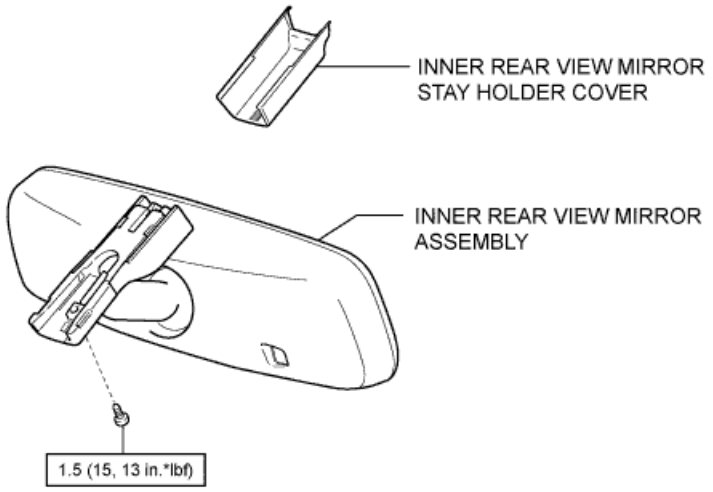
a. Attach the 3 claws to install the No. 1 instrument cluster finish panel garnish.


T

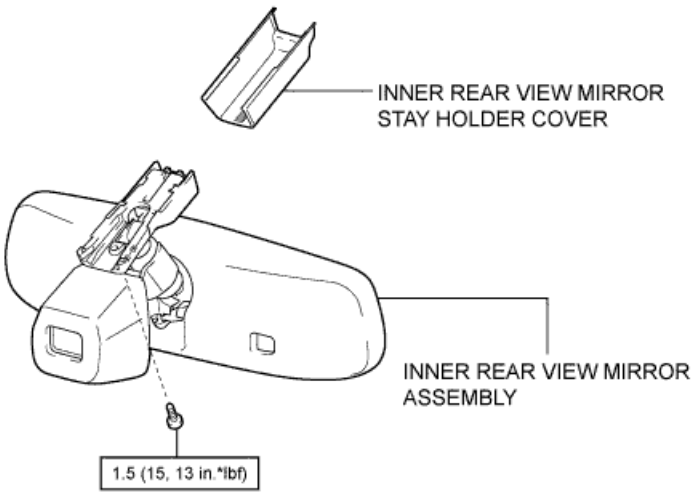
**for Preparation** Click here



w/ EC Mirror, w/o Automatic High Beam System:



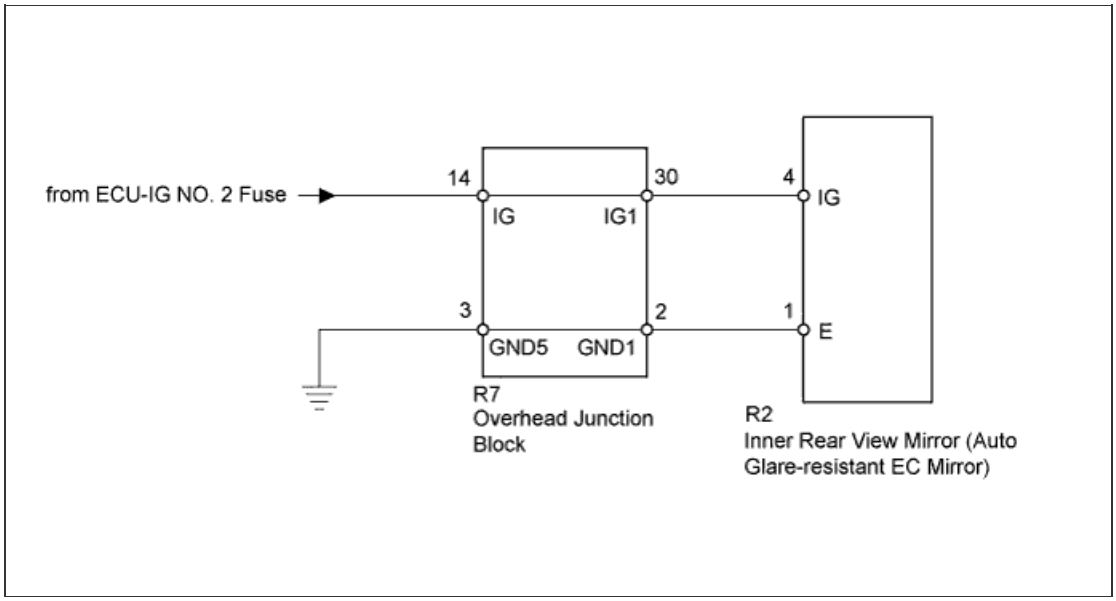

w/ EC Mirror, w/ Automatic High Beam System:




N*m (kgf*cm, ft.*lbf) : Specified torque

P

**for Preparation** Click here



**for Preparation** Click here

**HINT:**

Refer to the Owner's Manual for more information.

## SELECT COMPASS DISPLAY MODE

a. The compass switch allows you to select the Display or Non-display mode of the compass.

## SET ZONE

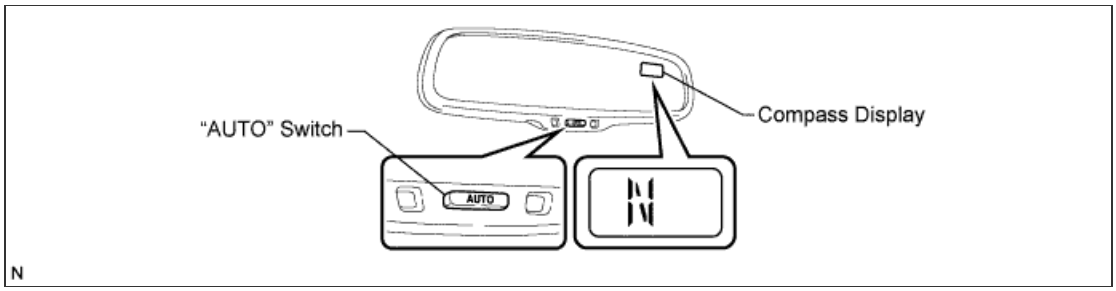
a. Deviation between the "magnetic north" and "actual north" differs depending on the location. Therefore, adjustment of the magnetism is required. Because the magnetic condition differs depending on the area where the vehicle is used, it is necessary for each user to set the zone (refer to Compass Zone Map). The zone setting can be changed using the compass switch of the inner mirror.

## PERFORM CALIBRATION

a. Because each vehicle has its own magnetic field, calibration should be performed for each individual vehicle. This compass function is used when storing the record of the vehicle's magnetic field.

## WHEN COMPASS IS MAGNETIZED

a. The compass could be magnetized during shipping by vessels or freight cars. Therefore, ensure that calibration is performed properly before delivery. If driving the vehicle in a circle several times does not complete the calibration procedure, there may be a compass magnetization problem.

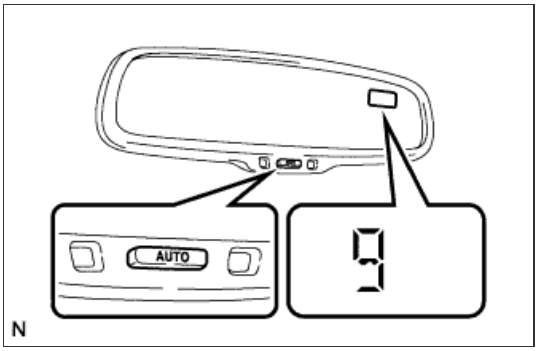



## Deviation Calibration Procedure

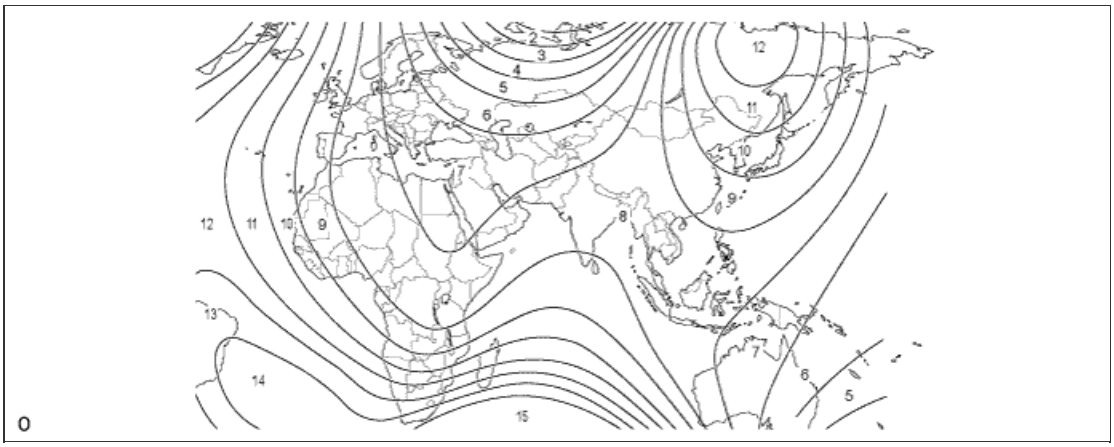
a. Turn the ignition switch to the "IG-ON" position and push and hold the "AUTO" switch for 6 seconds until the zone number appears on the display.

**HINT:**

Pushing the "AUTO" switch for 3 seconds turns on or off the compass display.

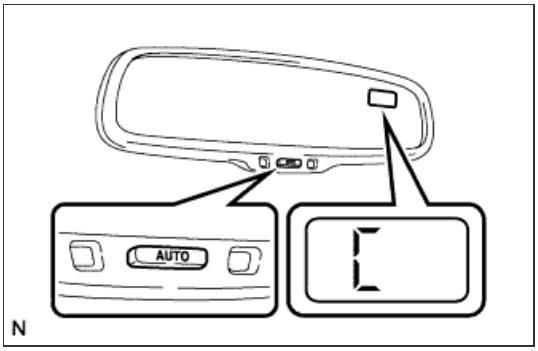



b. Push the "AUTO" switch to select the number of the zone where the vehicle is located.
See the map for zone reference.




## Circling Calibration Procedure

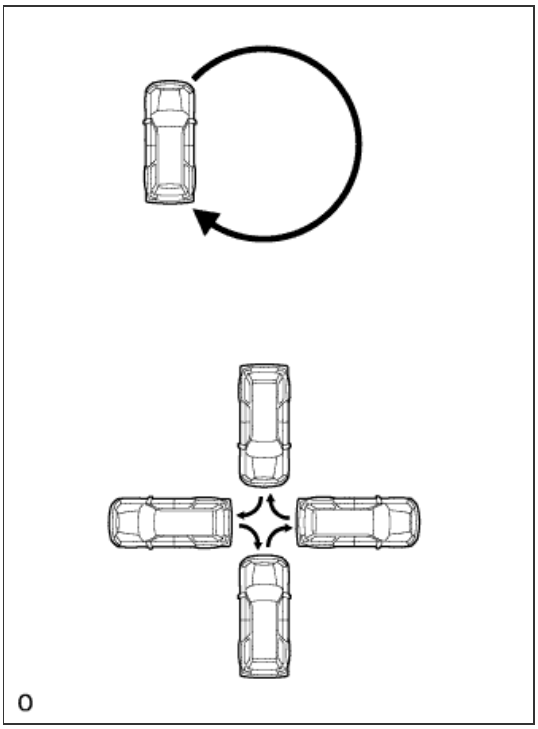
a. Start the engine and push and hold the "AUTO" switch for 9 seconds until "C" appears on the display.




b. Drive the vehicle slowly at 8 km/h (5 mph) or lower in a circle.
If there is not enough space to drive in a circle, turn the car around in the following manner, doing two three-point turns in succession.
After driving in 1 to 3 circles in the above method, calibration is completed with the direction is shown on the display.

**HINT:**

- **Do not perform calibration of the compass in a place where the earth's magnetic field is subject to interference by artificial magnetic fields (underground parking, under a steel tower, between buildings, roof parking, near a crossing, near a large vehicle, etc.).**
- **During calibration, do not operate electric systems (sliding roof, power windows, etc.) as they may interfere with the calibration.**



**for Preparation** Click here

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

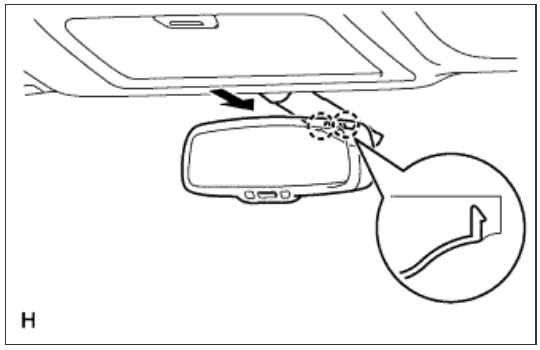
**Automatic Glare-resistant EC Mirror**

| Symptom | Suspected Area | See page |
|---|---|---|
| Automatic glare-resistant EC mirror does not operate | ECU-IG NO. 2 fuse | - |
| | Inner rear view mirror | Click here |
| | Overhead junction block | - |
| | Harness or connector | - |

**for Preparation** Click here

## 1. REMOVE INNER REAR VIEW MIRROR STAY HOLDER COVER (w/ EC Mirror)

a. Detach the 2 claws and remove the cover as shown in the illustration.

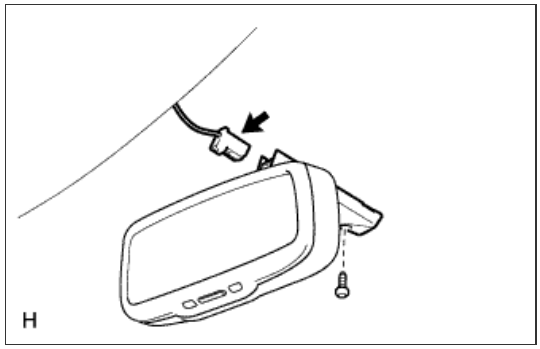



## 2. REMOVE INNER REAR VIEW MIRROR ASSEMBLY (w/ EC Mirror)

a. w/o Automatic High Beam System:

i. Disconnect the connector.

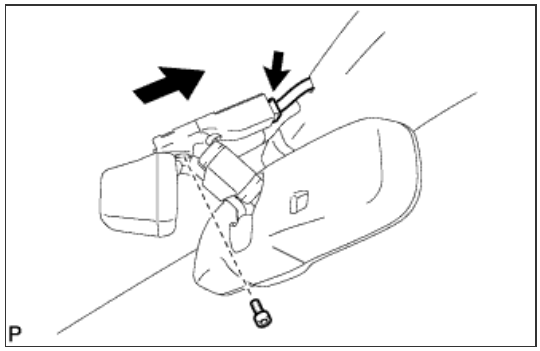
ii. Using a T20 "TORX" socket wrench, remove the screw and inner rear view mirror.




b. w/ Automatic High Beam System:

i. Disconnect the connector.

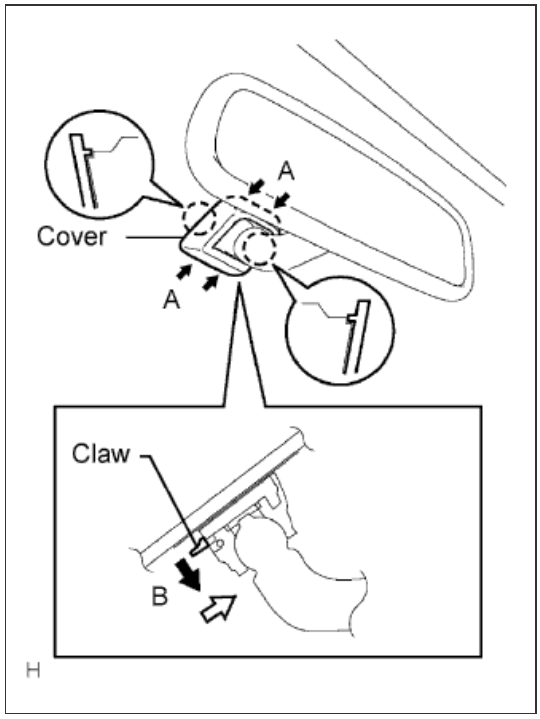
ii. Using a T20 "TORX" socket wrench, remove the screw and inner rear view mirror.




## 3. REMOVE INNER REAR VIEW MIRROR ASSEMBLY (w/o EC Mirror)

a. Push the cover in the direction indicated by the arrows labeled A and remove it.

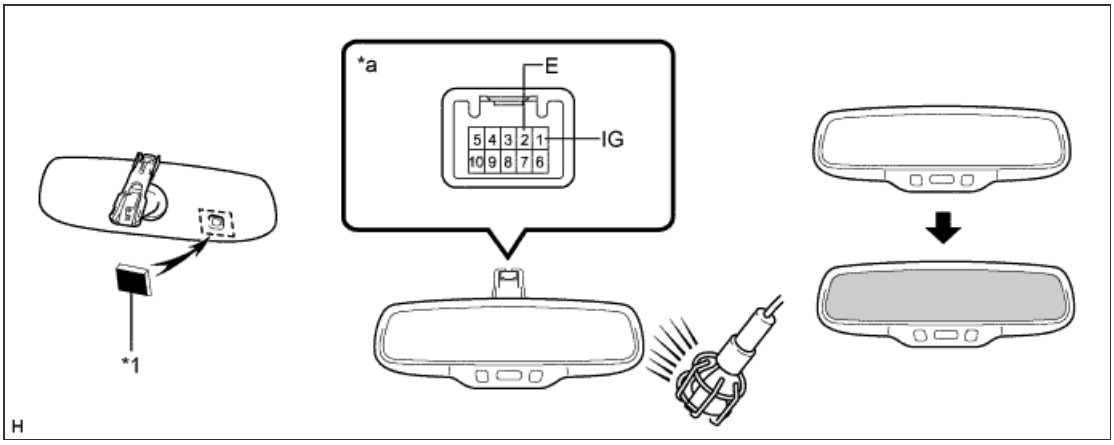
b. While holding down the claw in the direction of the black arrow labeled B, slide the mirror in the direction of the white arrow and remove it.



**for Preparation** Click here

## 1. INSPECT INNER REAR VIEW MIRROR ASSEMBLY (w/o Automatic High Beam System)

a. Check operation of the electrochromic inner mirror.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Black Colored Tape | - | - |
| *a | Component without harness connected<br>Inner Rear View Mirror Assembly | - | - |

i. Connect the battery positive (+) lead to terminal 1(IG) and the negative (-) lead to terminal 2(E).

ii. Attach black colored tape to the forward sensor to prevent it from sensing.

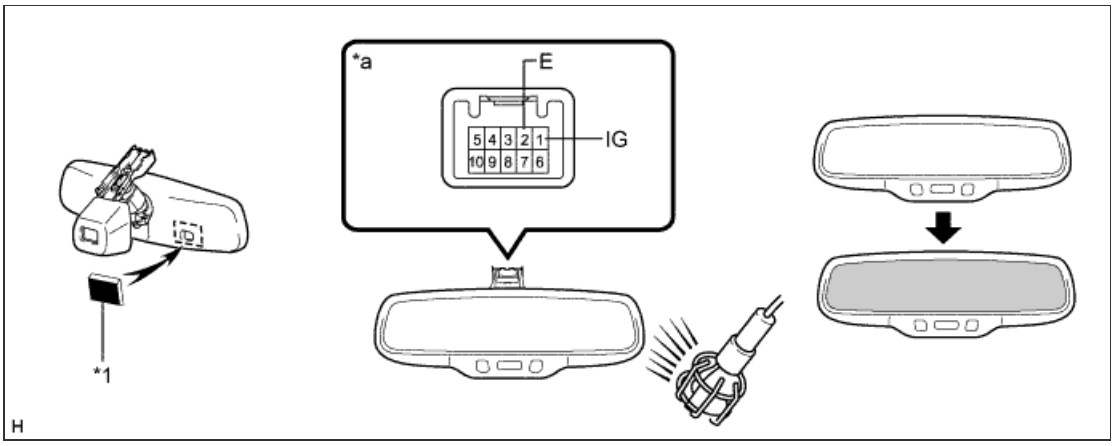
iii. Shine an electric light on the mirror. Check that the mirror surface changes from bright to dark.

**HINT:**

When the environment is very bright, the antiglare operation may occur immediately after the tape is applied. If the result is not as specified, replace the inner rear view mirror assembly.

## 2. INSPECT INNER REAR VIEW MIRROR ASSEMBLY (w/ Automatic High Beam System)

a. Check operation of the electrochromic inner mirror.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Black Colored Tape | - | - |
| *a | Component without harness connected<br>Inner Rear View Mirror Assembly | - | - |

i. Connect the battery positive (+) lead to terminal 1(IG) and the negative (-) lead to terminal 2(E).

ii. Attach black colored tape to the forward sensor to prevent it from sensing.

iii. Shine an electric light on the mirror. Check that the mirror surface changes from bright to dark.

**HINT:**

When the environment is very bright, the antiglare operation may occur immediately after the tape is applied. If the result is not as specified, replace the inner rear view mirror assembly.

**for Preparation** Click here

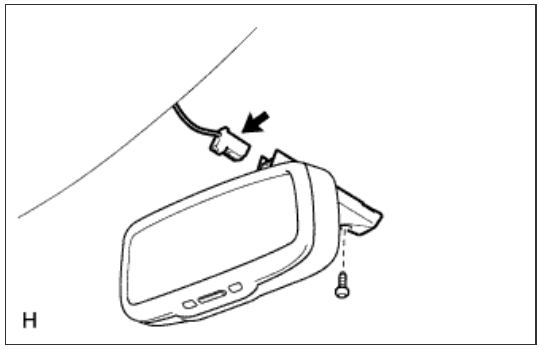
## 1. INSTALL INNER REAR VIEW MIRROR ASSEMBLY (w/ EC Mirror)

a. w/o Automatic High Beam System:

i. Using a T20 "TORX" socket wrench, install the inner rear view mirror with the screw.

**Torque:**
**1.5 N*m{ 15 kgf*cm , 13 in.*lbf }**

ii. Connect the connector.

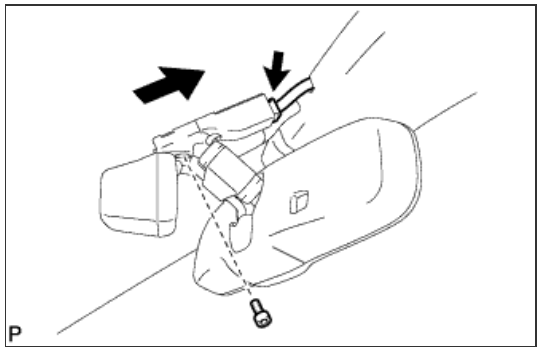



b. w/ Automatic High Beam System:

i. Using a T20 "TORX" socket wrench, install the inner rear view mirror with the screw.

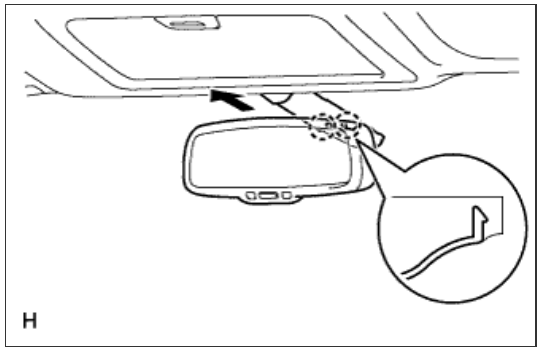
**Torque:**
**1.5 N*m{ 15 kgf*cm , 13 in.*lbf }**

ii. Connect the connector.




## 2. INSTALL INNER REAR VIEW MIRROR STAY HOLDER COVER (w/ EC Mirror)

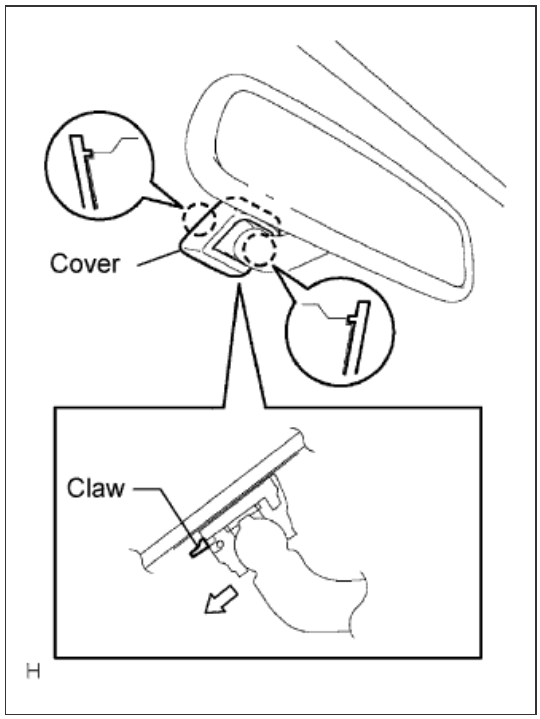
a. Attach the 2 claws to install the cover.




## 3. INSTALL INNER REAR VIEW MIRROR ASSEMBLY (w/o EC Mirror)

a. Install the mirror in the direction of the white arrow.

b. Install the cover with the 2 claws.



**for Preparation** Click here

**CAUTION:**

- **The vehicle is equipped with a Supplemental Restraint System (SRS), which consists of a steering pad, front passenger airbag, curtain shield airbag, front seat airbag, driver side knee airbag, front passenger side knee airbag, rear seat side airbag, rear floor airbag sensor, seat belt pretensioner, center airbag sensor, front airbag sensor, side airbag sensor, rear airbag sensor and seat position sensor. Failure to carry out service procedures in the correct sequence could cause SRS parts to unexpectedly deploy and possibly lead to serious injuries. Furthermore, if a mistake is made when servicing SRS parts, they may fail to operate when required. Before performing servicing (including installation/removal, inspection and replacement of parts), be sure to read the following precautions.**
- **Before starting work, wait at least 90 seconds after the ignition switch is turned off and after the cable is disconnected from the negative (-) battery terminal (SRS parts are equipped with a backup power source. If work is started within 90 seconds of turning the ignition switch off and disconnecting the cable from the negative (-) battery terminal, SRS parts may deploy).**
- **Do not expose SRS parts directly to hot air or flames.**

**NOTICE:**

- **Malfunction symptoms of SRS parts are difficult to confirm. DTCs are the most important source of information when troubleshooting. During troubleshooting, always confirm DTCs before disconnecting the cable from the negative (-) battery terminal.**
- **For minor collisions where SRS parts do not deploy, always inspect the SRS parts.**
- **Before performing repairs, remove the airbag sensors if any kind of impact is likely to occur to an airbag sensor during repairs.**
- **Never use SRS parts from another vehicle. When replacing SRS parts, replace them with new ones.**
- **Never disassemble or attempt to repair SRS parts.**
- **If an SRS part has been dropped, or if there are any cracks, dents or other defects in the case, bracket or connector, replace the SRS part with a new one.**
- **Use an ohmmeter/voltmeter with high impedance (10 kΩ/V minimum) for troubleshooting the electrical circuits.**
- **Information labels are attached to the periphery of SRS parts. Follow the cautions and instructions on the labels.**
- **After work on the SRS is completed, perform the SRS warning light check ( Click here).**
- **When the cable is disconnected from the negative (-) battery terminal, the memory settings of each system will be cleared. Because of this, be sure to write down the settings of each system before starting work. When work is finished, reset the settings of each system as before. Never use a backup power supply from outside the vehicle to avoid erasing the memory in a system.**
- **If the vehicle is equipped with a mobile communication system, refer to the Precaution in the Introduction section.**

**HINT:**

In the airbag system, the center airbag sensor, front airbag sensor LH and RH, side airbag sensor LH and RH, rear airbag sensor LH and RH, rear floor airbag sensor are collectively referred to as the airbag sensors.

## 1.IGNITION SWITCH EXPRESSION

a. The type of ignition switch used on this model differs depending on the specifications of the vehicle. The expressions listed in the table below are used in this section.

| Expression | Ignition Switch (Position) | Engine Switch (Condition) |
|---|---|---|
| Ignition Switch off | LOCK | Off (Lock) |
| Ignition Switch ACC | ACC | On (ACC) |
| Ignition Switch ON | ON | On (IG) |
| Engine Start | START | On (Start) |

## 2.HANDLING PRECAUTIONS FOR AIRBAG SENSORS

a. Before starting the following operations, wait for at least 90 seconds after disconnecting the cable from the negative (-) battery terminal:

   i. Replacement of the airbag sensors.

   ii. Adjustment of the front/rear doors of the vehicle equipped with side airbags and curtain shield airbags (fitting adjustment).

b. When connecting or disconnecting the airbag sensor connectors, ensure that each sensor is installed in the vehicle.

c. Do not use airbag sensors which have been dropped during operation or transportation.

d. Do not disassemble the airbag sensors.

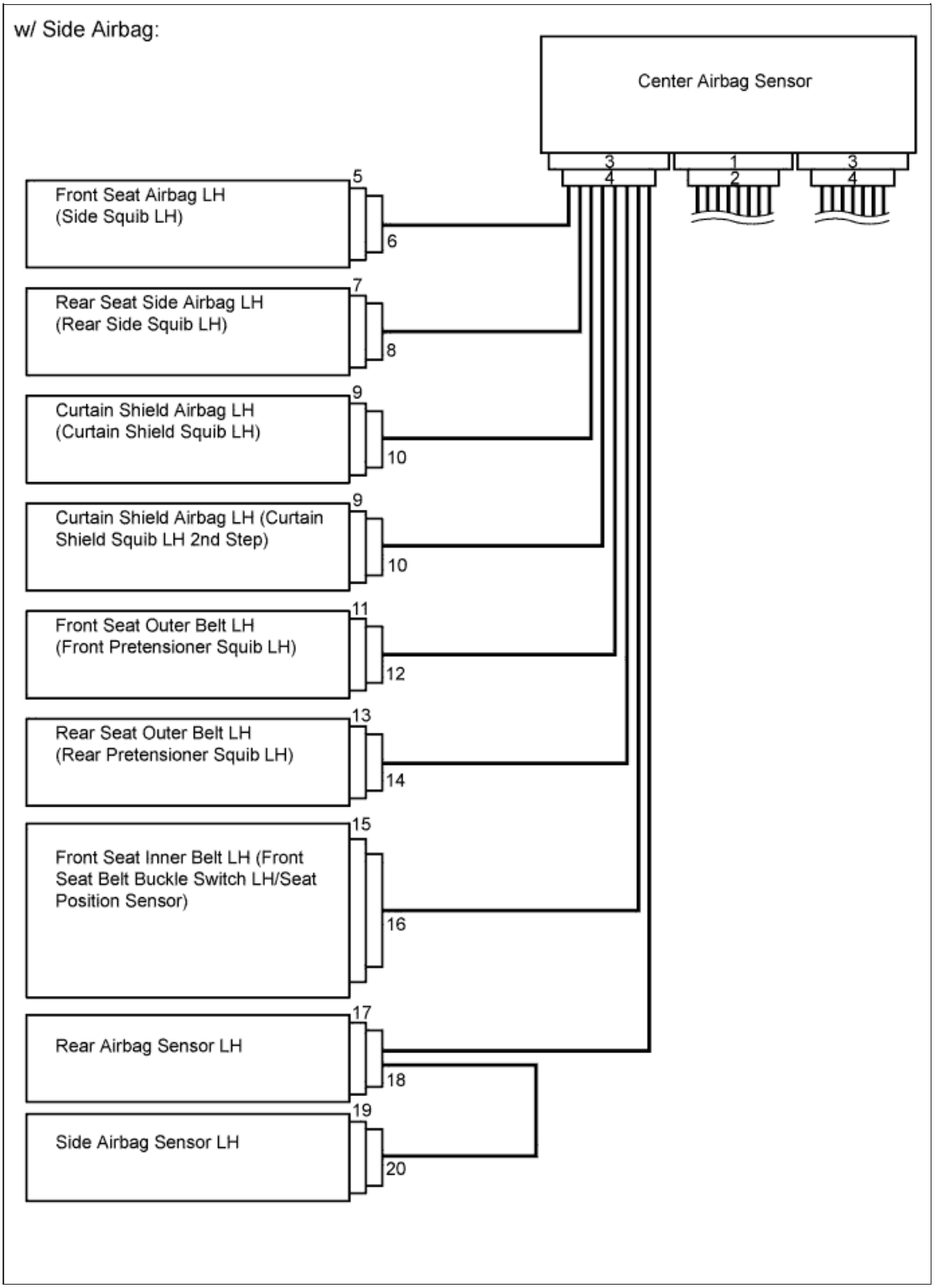
## 3.INSPECTION PROCEDURE FOR VEHICLE INVOLVED IN ACCIDENT

a. When the airbag has not deployed, confirm the DTCs by checking the SRS warning light. If there is any malfunction in the SRS airbag system, perform troubleshooting.

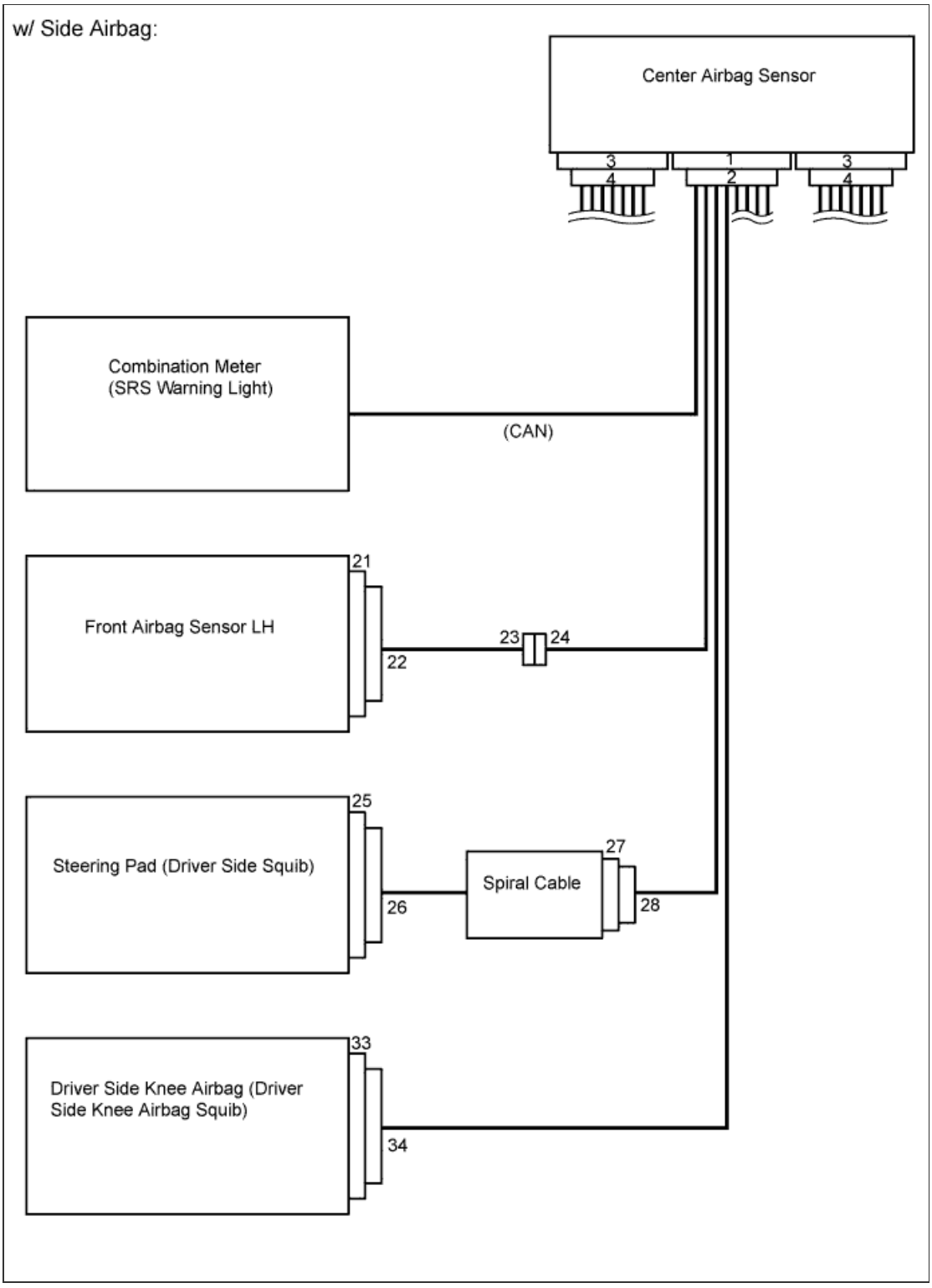
b. When any of the airbags have deployed, replace the airbag sensors and check the installation condition.

## 4.SRS CONNECTORS

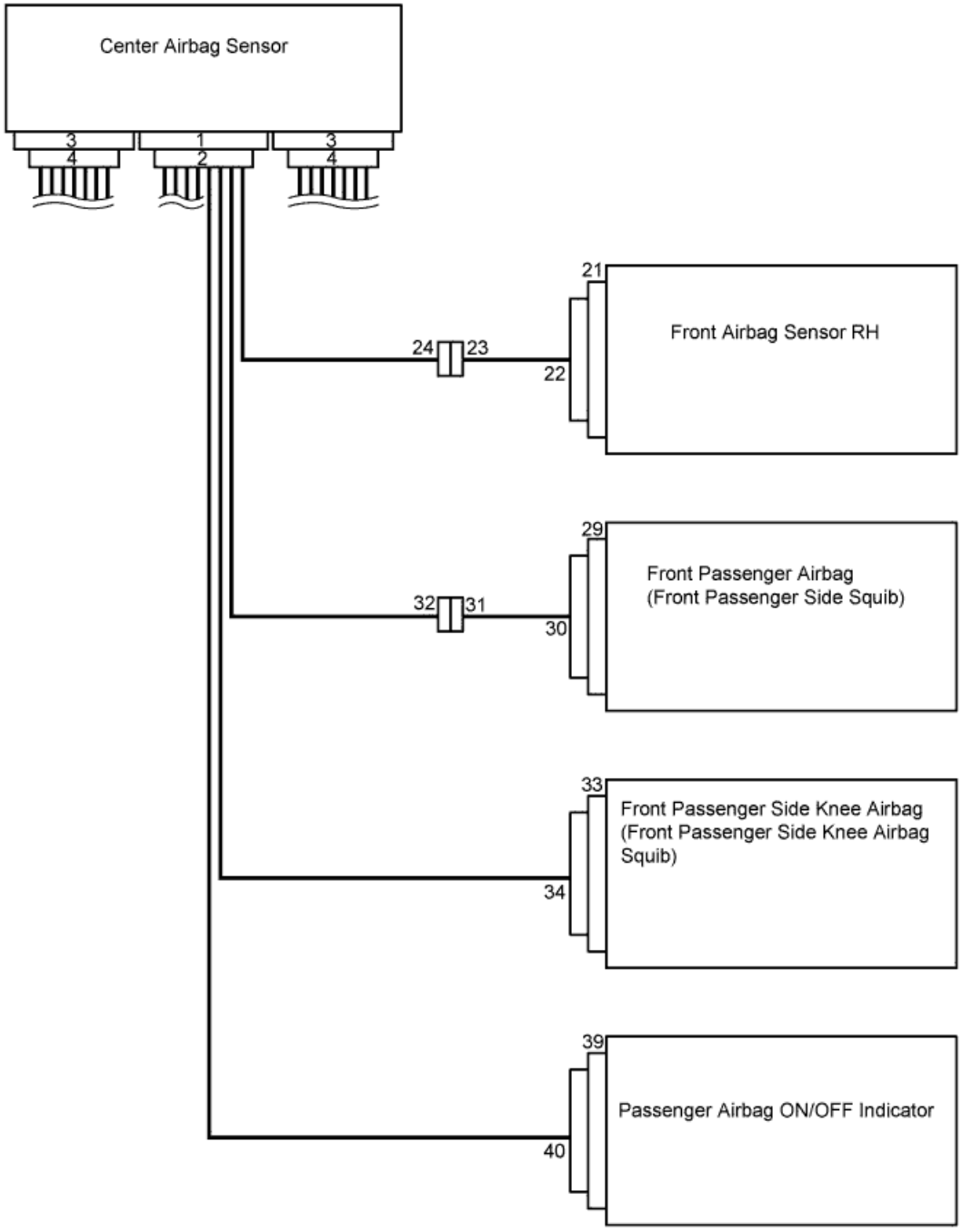
a. SRS connectors are located as shown in the following illustration.



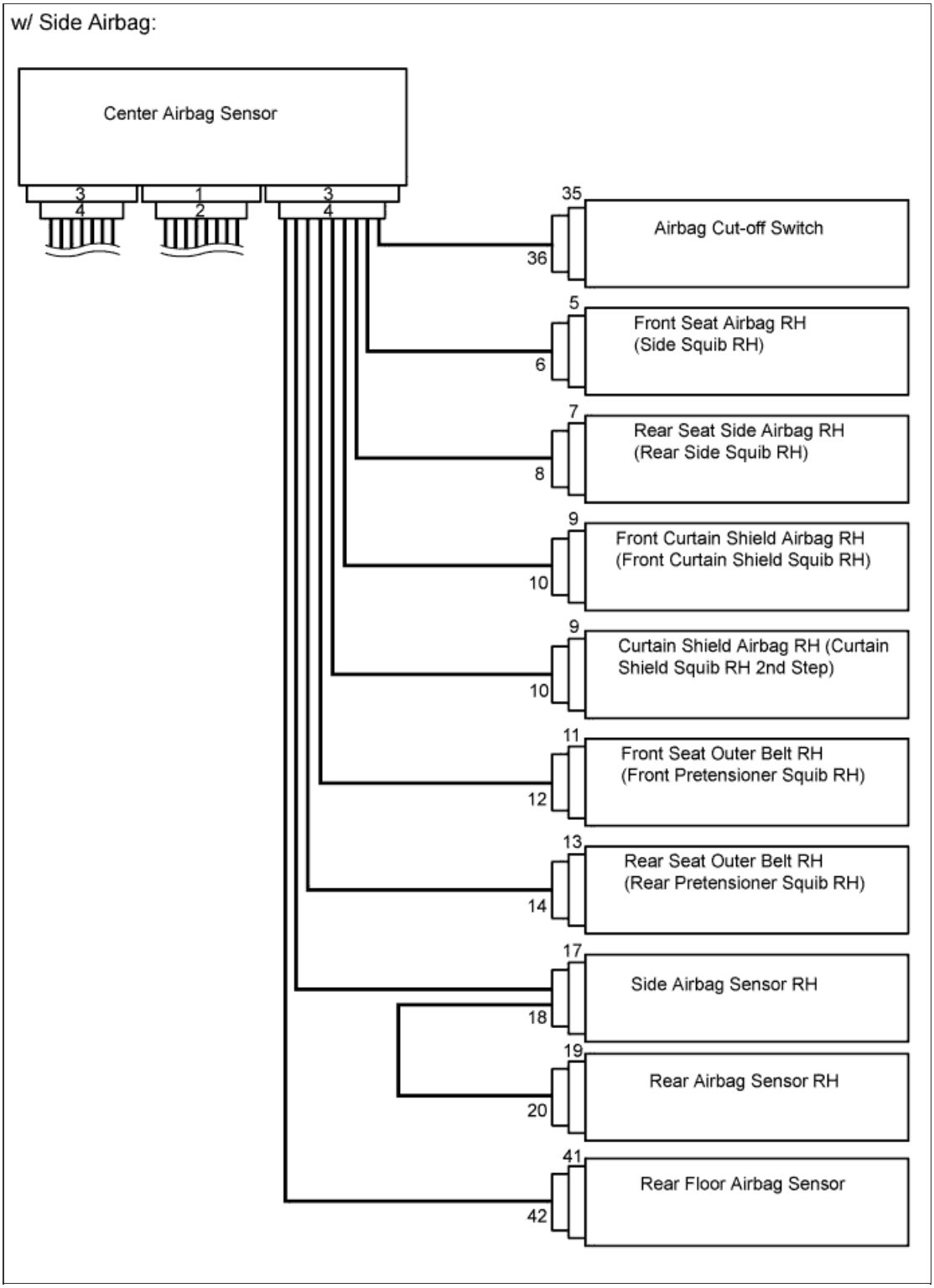
w/ Side Airbag:



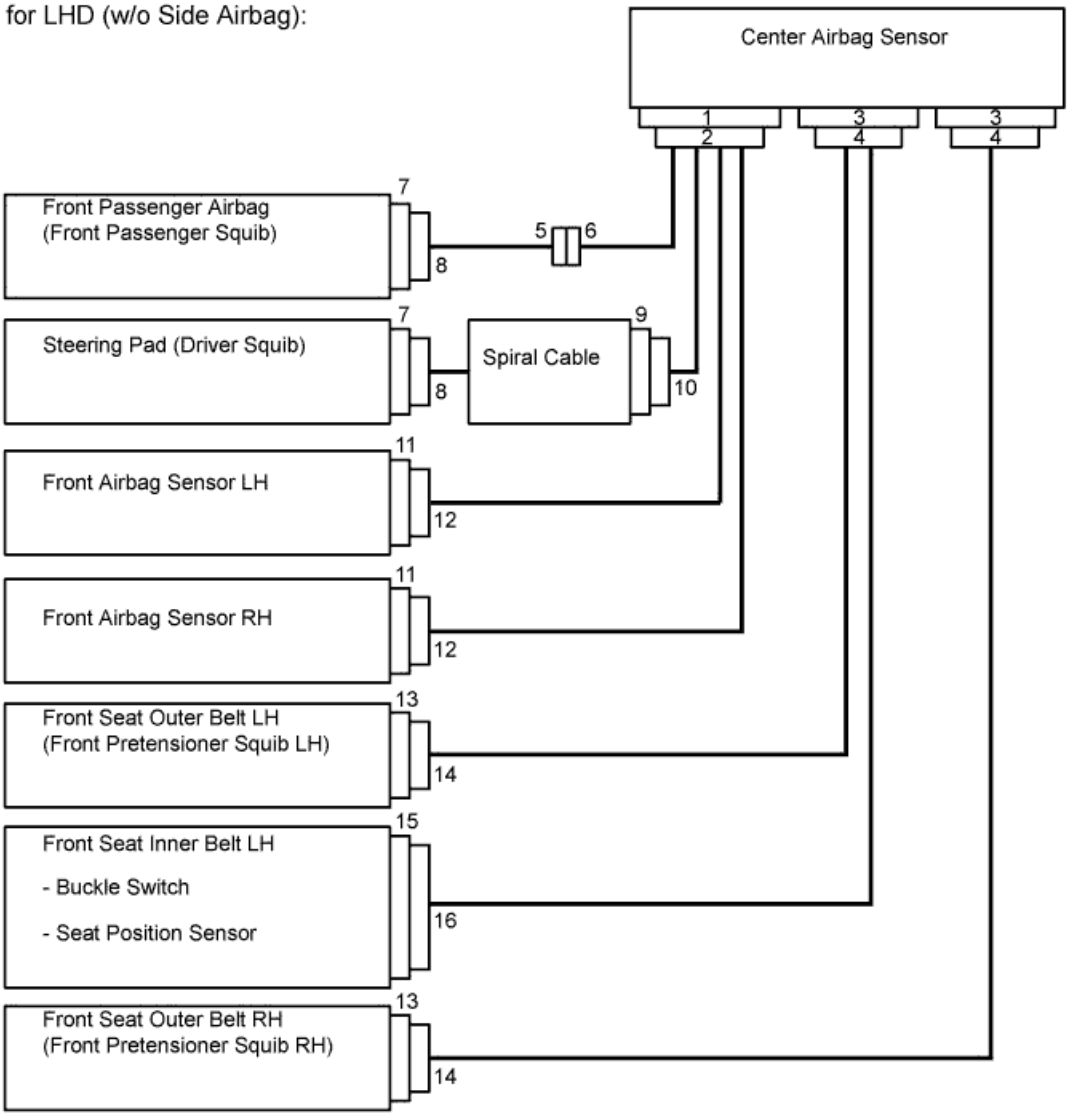
w/ Side Airbag:

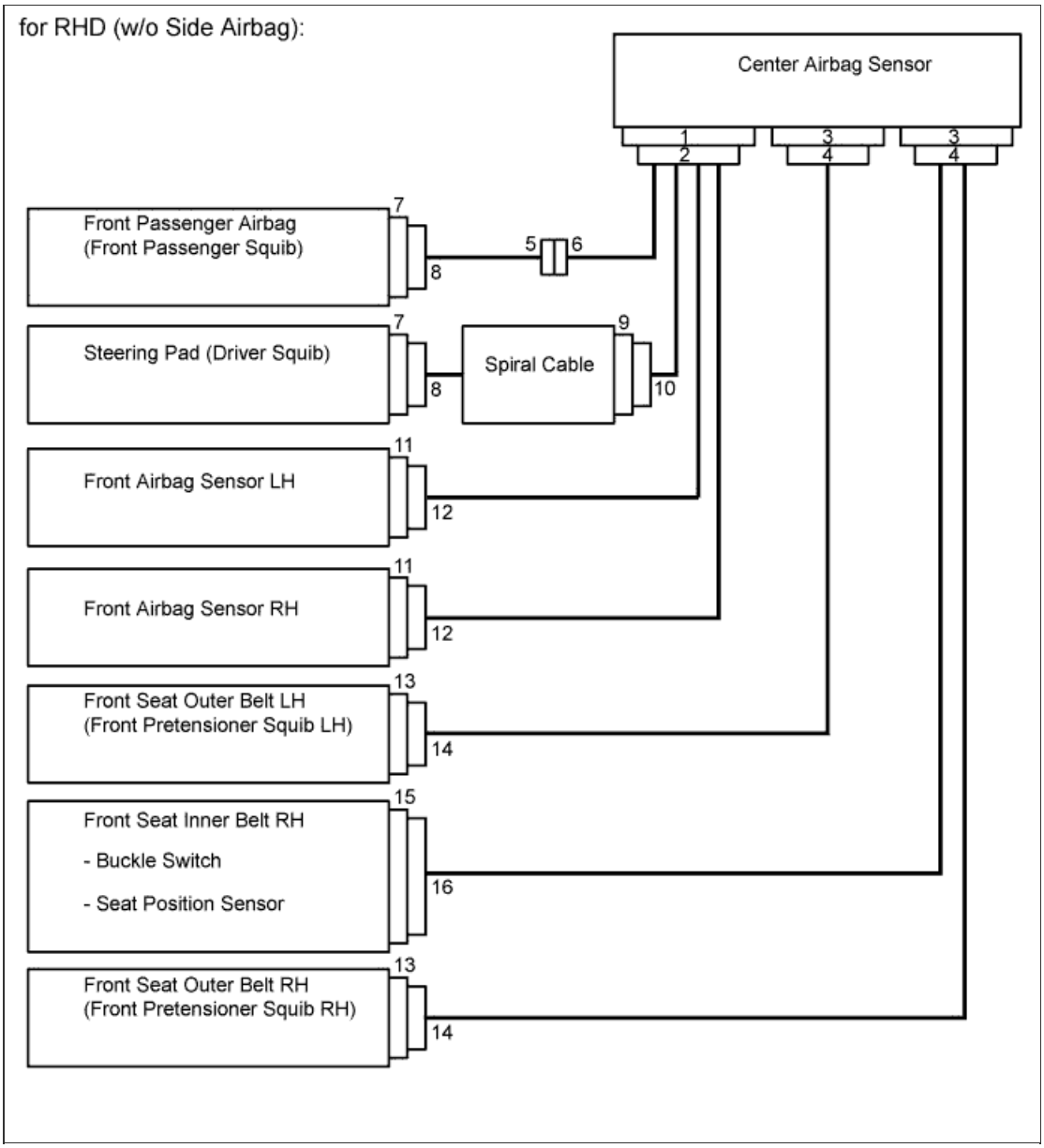


w/ Side Airbag:



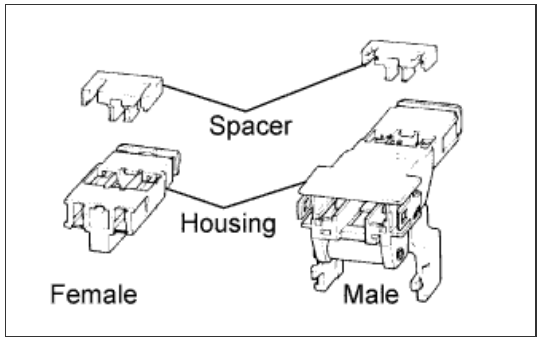
for LHD (w/o Side Airbag):





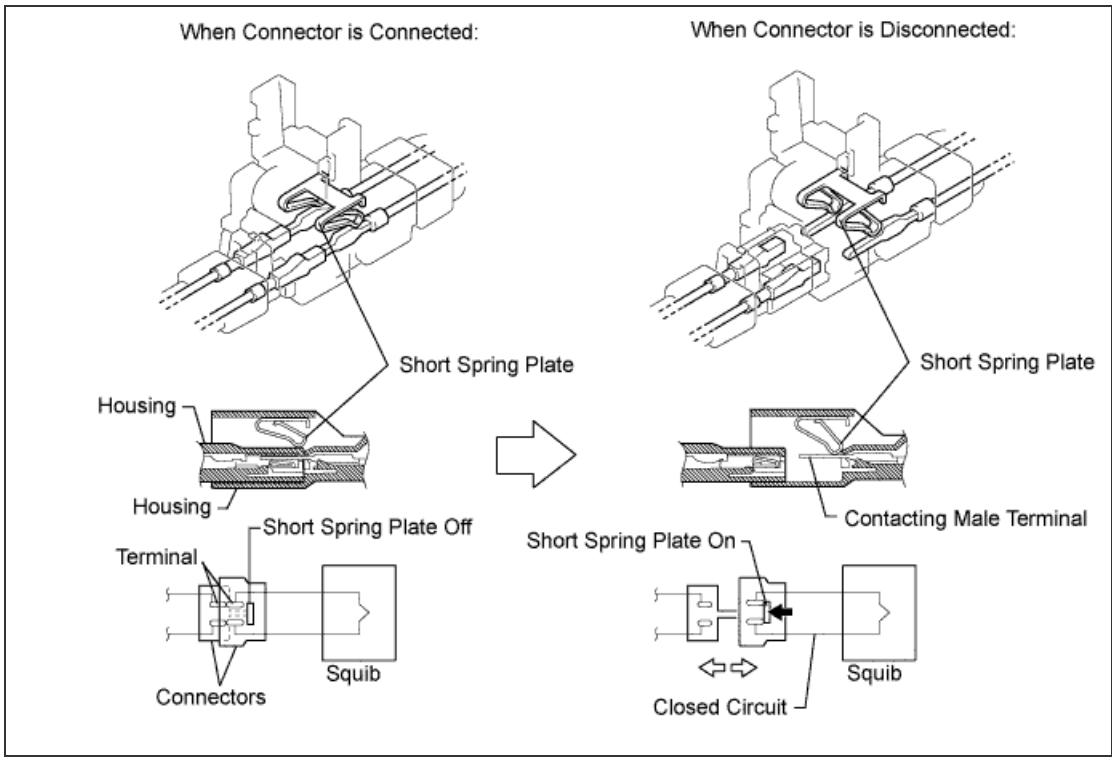

| Item | Application |
|---|---|
| Terminal Twin-lock Mechanism | Connectors 5, 6, 7, 8, 18, 20, 23, 24, 27, 28, 31, 32, 37, 38, 41, 42 |
| Activation Prevention Mechanism | Connectors 5, 7, 27, 31, 37, 41 |
| Half Connection Prevention Mechanism | Connectors 6, 8, 23, 28, 32, 38, 42 |
| Connector Position Assurance Mechanism | Connectors 18, 20, 22 |
| Connector Lock Mechanism (1) | Connectors 10, 12, 14, 26, 30, 34 |
| Connector Lock Mechanism (2) | Connectors 2, 4 |
| Improper Connection Prevention Lock Mechanism | Connectors 1, 3 |

**b.** All connectors in the SRS, except the seat position sensor connector, are colored yellow to distinguish them from other connectors. These connectors have special functions, and are specially designed for the SRS. All SRS connectors use durable gold-plated terminals which are placed in the locations shown below to ensure high reliability.

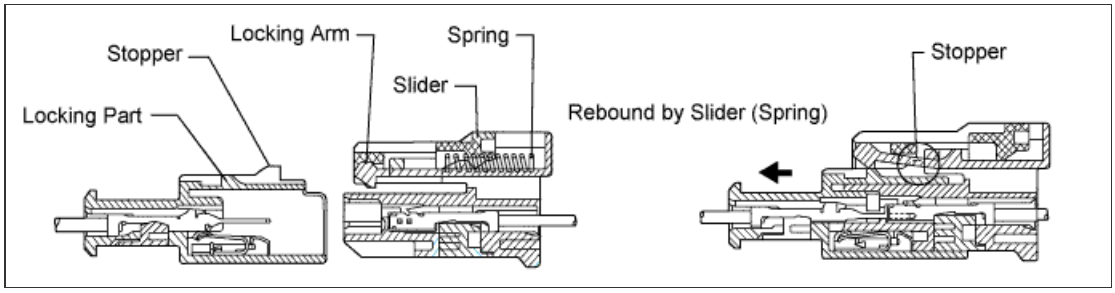



**i.** Terminal twin-lock mechanism:
All connectors with a terminal twin-lock mechanism have a two-piece component consisting of a housing and a spacer. This design enables the terminal to be locked securely by two locking devices (the retainer and the lance) to prevent terminals from coming out.

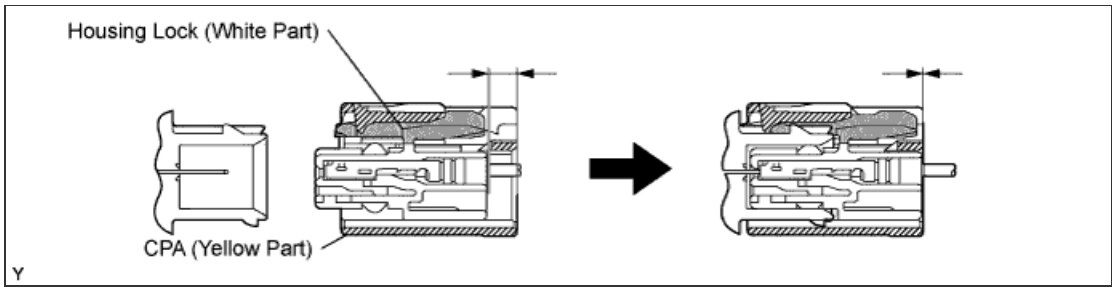
ii. Activation prevention mechanism:
All connectors with an activation prevention mechanism contain a short spring plate. When these connectors are disconnected, the short spring plate creates a short circuit by automatically connecting the positive (+) and negative (-) terminals of the squib.




iii. Half connection prevention mechanism:
If the connector is not completely connected, the connector is disconnected due to the spring force so that no continuity exists.

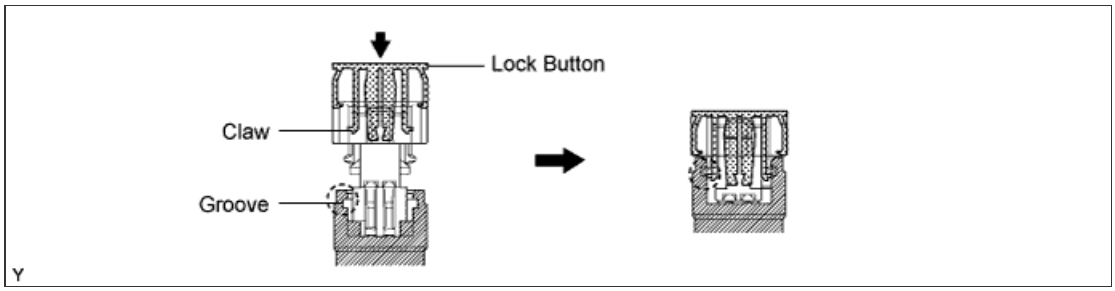



iv. Connector position assurance mechanism:
Only when the housing lock (white part) is completely engaged, the CPA (yellow part) slides, which completes the connector engagement.

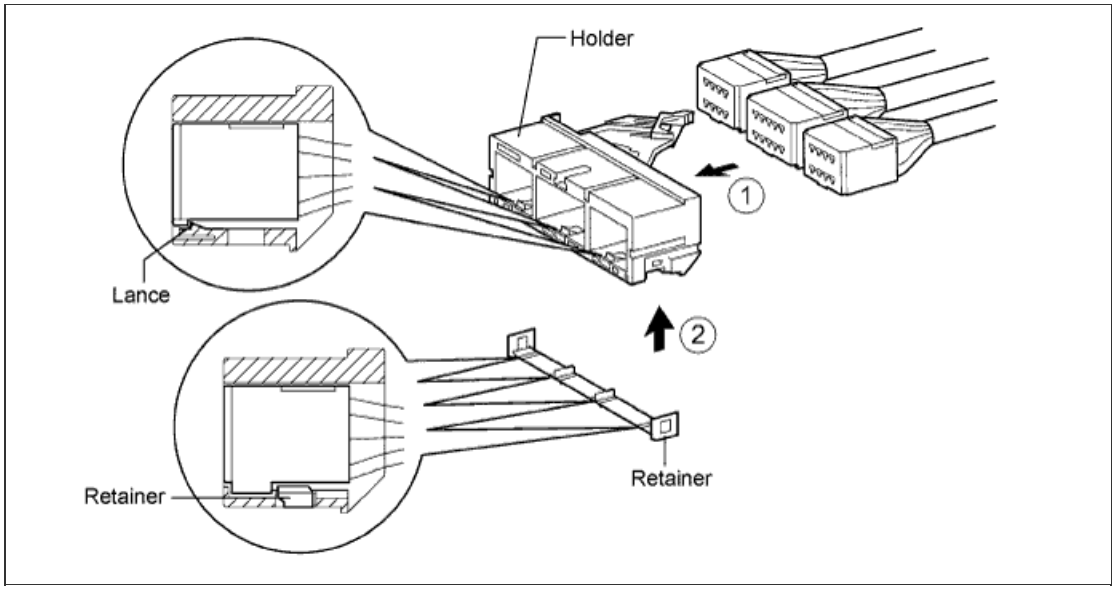



v. Connector lock mechanism (1):

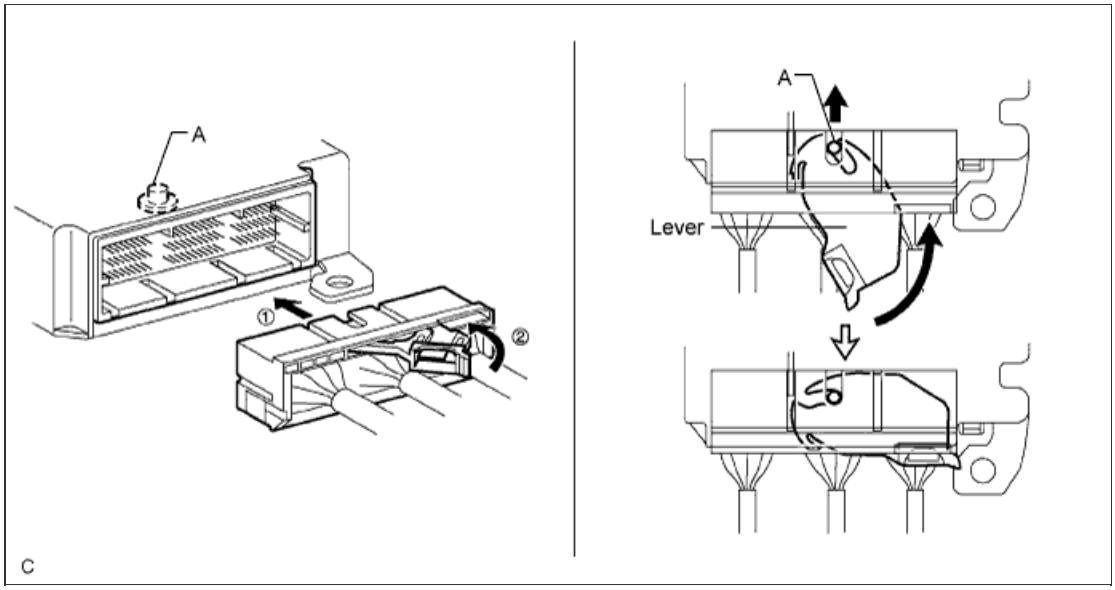
Locking the connector lock button connects the connector securely.




vi. Connector lock mechanism (2):
Both the primary lock with holder lances and the secondary lock with retainer prevent the connectors from becoming disconnected.




vii. Improper connection prevention lock mechanism:
When connecting the holder, the lever is pushed into the lock position by rotating around the A axis to lock the holder securely.



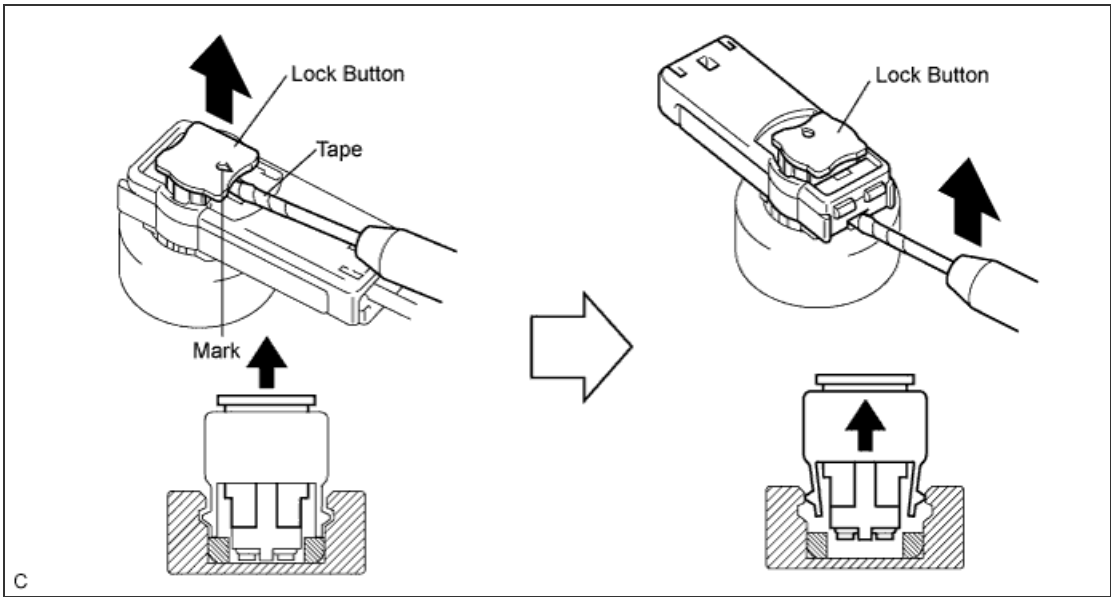
### 5.DISCONNECTION OF CONNECTORS FOR STEERING PAD, FRONT PASSENGER AIRBAG (SQUIB SIDE), DRIVER SIDE KNEE AIRBAG, FRONT PASSENGER SIDE KNEE AIRBAG, CURTAIN SHIELD AIRBAG, FRONT SEAT AIRBAG (SQUIB SIDE) AND REAR SEAT SIDE AIRBAG (SQUIB SIDE)

**HINT:**

Tape the screwdriver tip before use.

a. Release the lock button of the connector using a screwdriver.

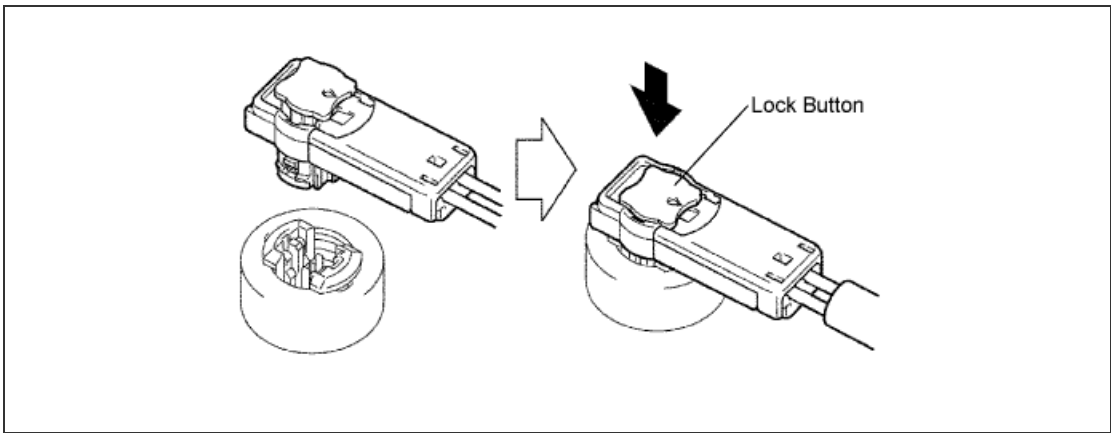
b. Insert the screwdriver tip between the connector and the base, and then raise the connector.




### 6.CONNECTION OF CONNECTORS FOR STEERING PAD, FRONT PASSENGER AIRBAG (SQUIB SIDE), DRIVER SIDE KNEE AIRBAG, FRONT PASSENGER SIDE KNEE AIRBAG, CURTAIN SHIELD AIRBAG, FRONT SEAT AIRBAG (SQUIB SIDE) AND REAR SEAT SIDE AIRBAG (SQUIB SIDE)

a. Connect the connector.

b. Push down securely on the lock button of the connector (when locked, a click sound can be heard).



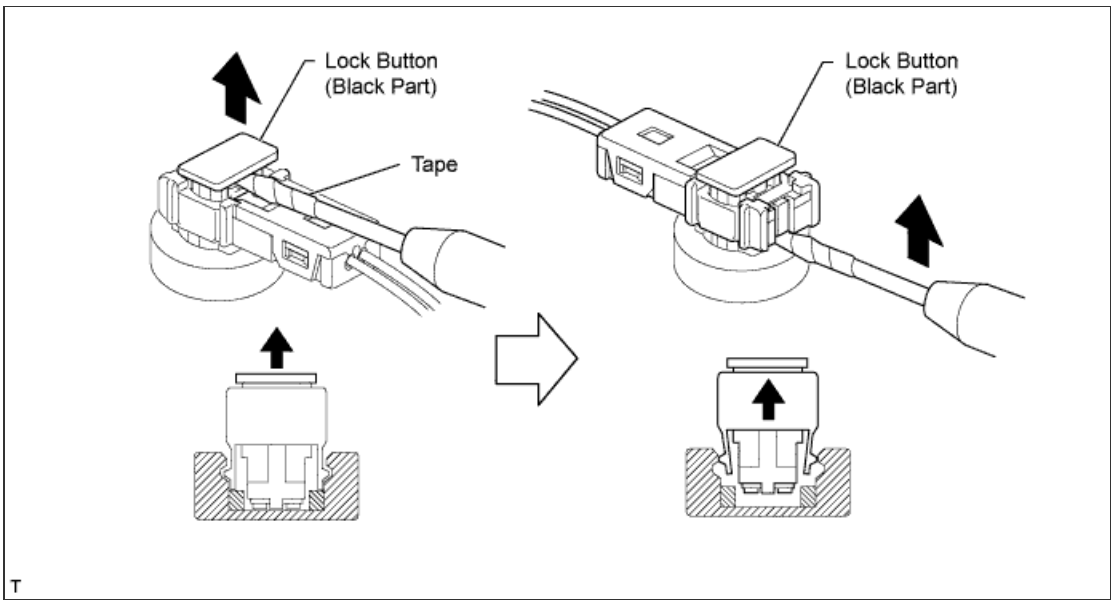

### 7.DISCONNECTION OF CONNECTORS FOR FRONT SEAT OUTER BELT AND REAR SEAT OUTER BELT

**HINT:**

Tape the screwdriver tip before use.

a. Release the lock button (black part) of the connector using a screwdriver.

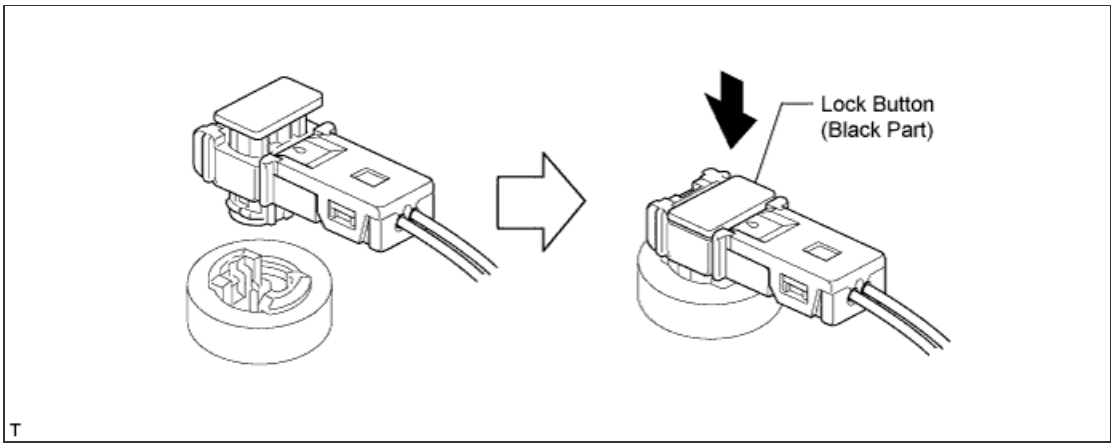
b. Insert the screwdriver tip between the connector and the base, and then raise the connector.




## 8.CONNECTION OF CONNECTORS FOR FRONT SEAT OUTER BELT AND REAR SEAT OUTER BELT

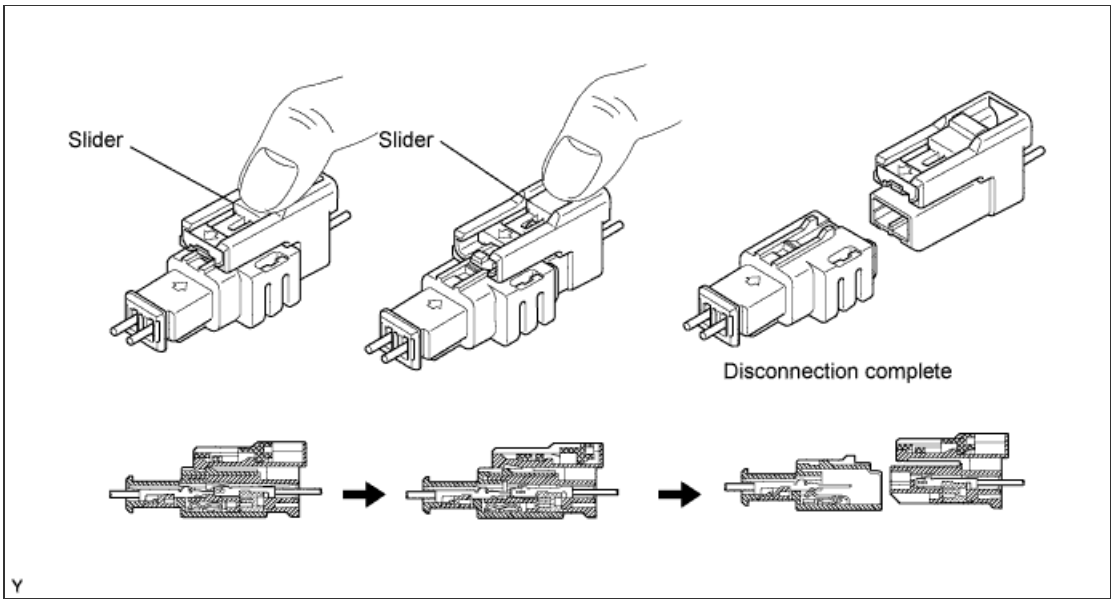
a. Connect the connector.

b. Push down security on the lock button (black part) of the connector (when locked, a click sound can be heard).




## 9.DISCONNECTION OF CONNECTOR FOR SPIRAL CABLE (INSTRUMENT PANEL WIRE SIDE) AND FRONT PASSENGER AIRBAG (INSTRUMENT PANEL WIRE SIDE)

a. Place a finger on the slider, slide the slider to release the lock, and then disconnect the connector.

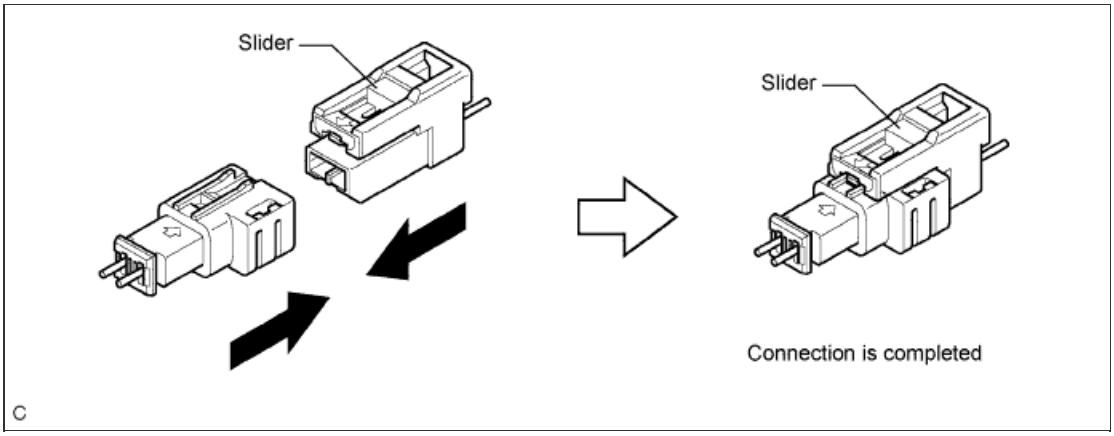



**10.CONNECTION OF CONNECTOR FOR SPIRAL CABLE (INSTRUMENT PANEL WIRE SIDE) AND FRONT PASSENGER AIRBAG (INSTRUMENT PANEL WIRE ASSEMBLY SIDE)**

a. Connect the connector as shown in the illustration (when locking, make sure that the slider returns to its original position and a click sound can be heard).

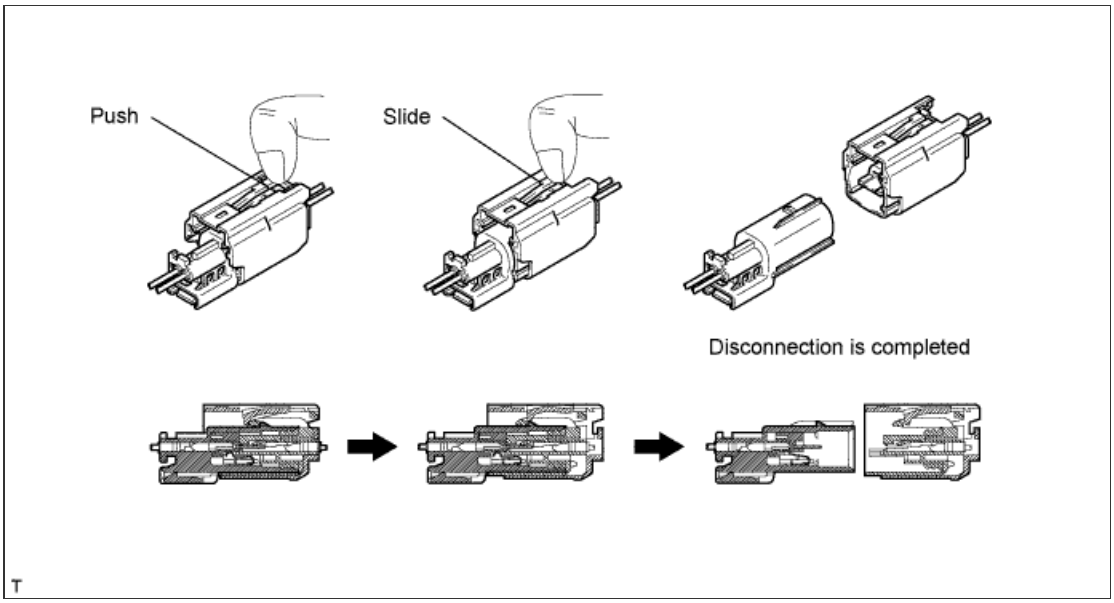
**HINT:**

When connecting, the slider will slide. Be sure not to touch the slider while connecting, as it may result in an insecure fit.




**11.DISCONNECTION OF CONNECTORS FOR FRONT SEAT AIRBAG (FLOOR WIRE SIDE) AND REAR SEAT SIDE AIRBAG (FLOOR WIRE SIDE)**

a. Push the slider with a finger to detach the first claw. Without releasing your finger, slide the slider to detach the second claw and disconnect the connector.

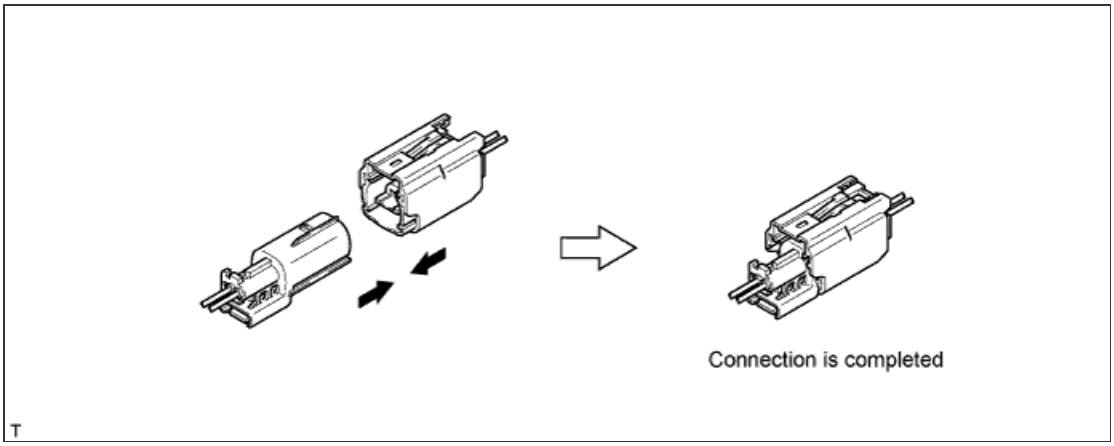



## 12.CONNECTION OF CONNECTORS FOR FRONT SEAT AIRBAG (FLOOR WIRE SIDE) AND REAR SEAT SIDE AIRBAG (FLOOR WIRE SIDE)

a. Connect the connector as shown in the illustration (when locking, make sure that the slider returns to its original position and click sounds can be heard).

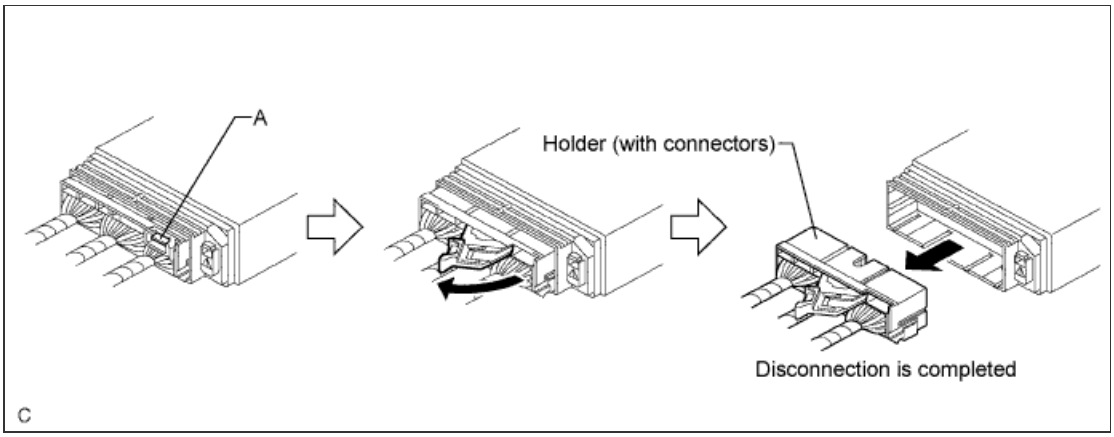
**HINT:**

When connecting, the slider will slide. Be sure not to touch the slider while connecting, as it may result in an insecure fit.




## 13.DISCONNECTION OF CONNECTOR FOR CENTER AIRBAG SENSOR

a. Pull the lever by pushing part A as shown in the illustration and disconnect the holder (with connectors).

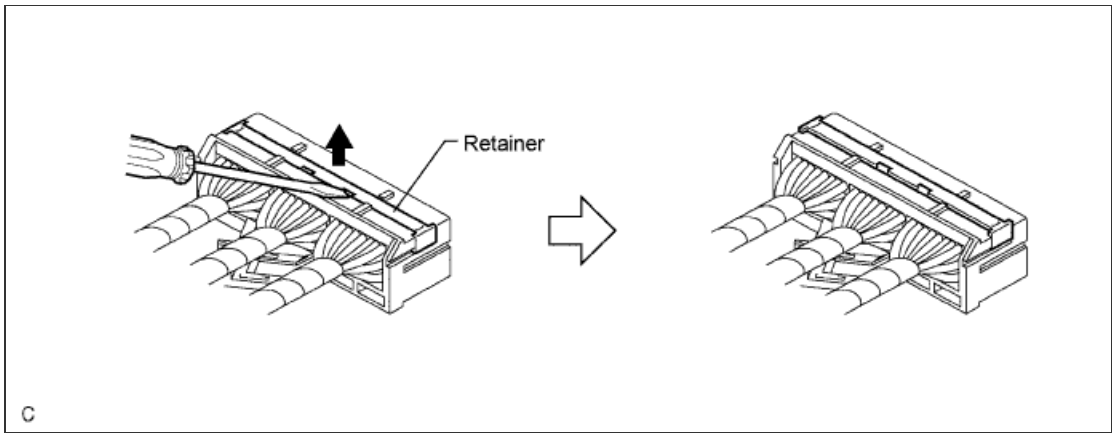



**HINT:**

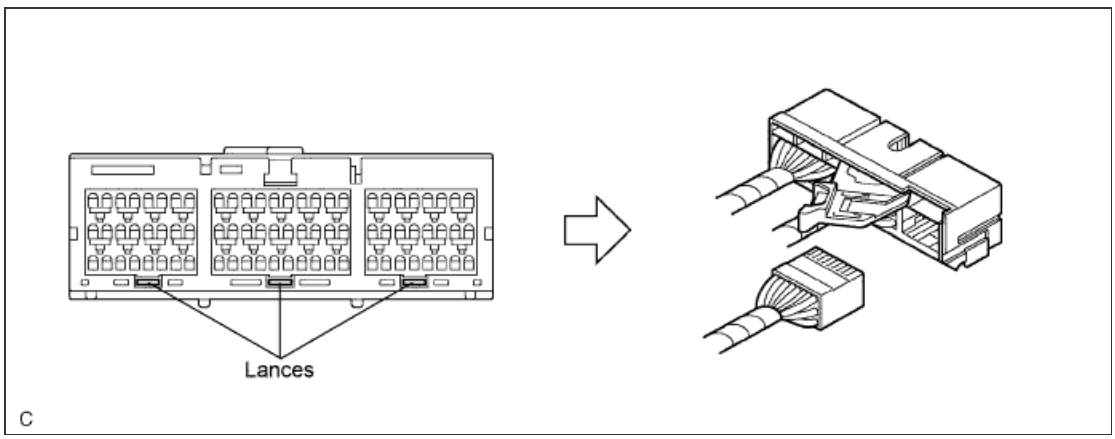
Perform the following procedures when replacing the holder.

**b.** Remove the holder.

**i.** Using a screwdriver, unlock the retainer.




**ii.** Release the fitting lances and remove the holder.

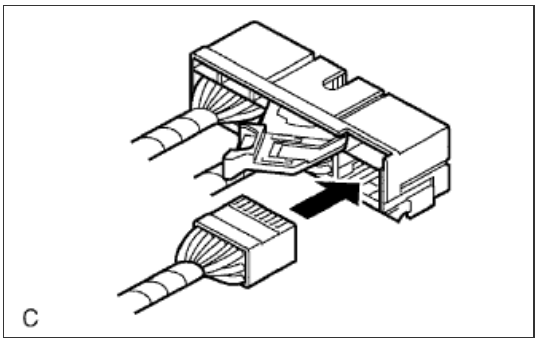



**c.** Install the holder.

i. Install the connectors to the holder (when locked, a click sound can be heard).

**HINT:**

The retainer is locked when the holder is connected.



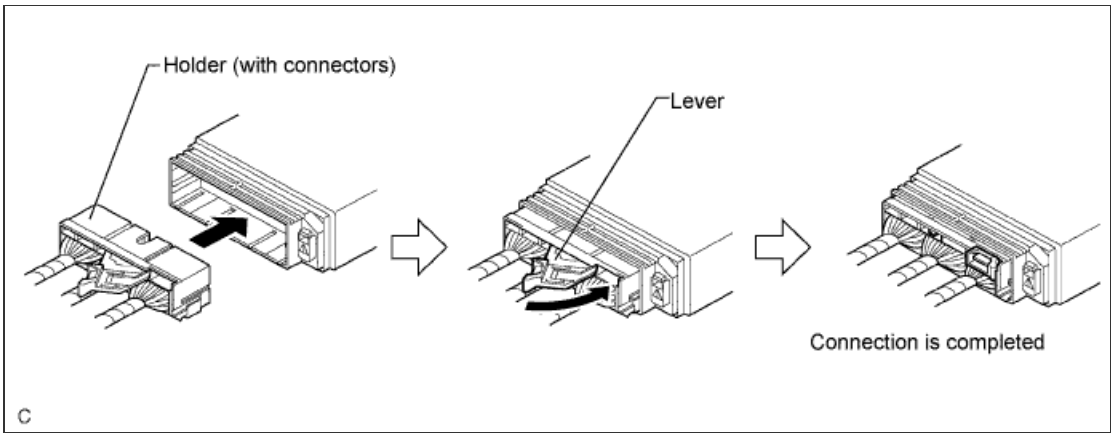

## 14.CONNECTION OF CONNECTOR FOR CENTER AIRBAG SENSOR

a. Firmly insert the holder (with connectors) into the center airbag sensor until it cannot be pushed any further.

b. Push the lever to connect the holder (with connectors) (when locked, a click sound can be heard).

**HINT:**

The holder slides into the center airbag sensor when it is being connected. Be sure not to hold the holder while connecting, as it may result in an insecure fit.



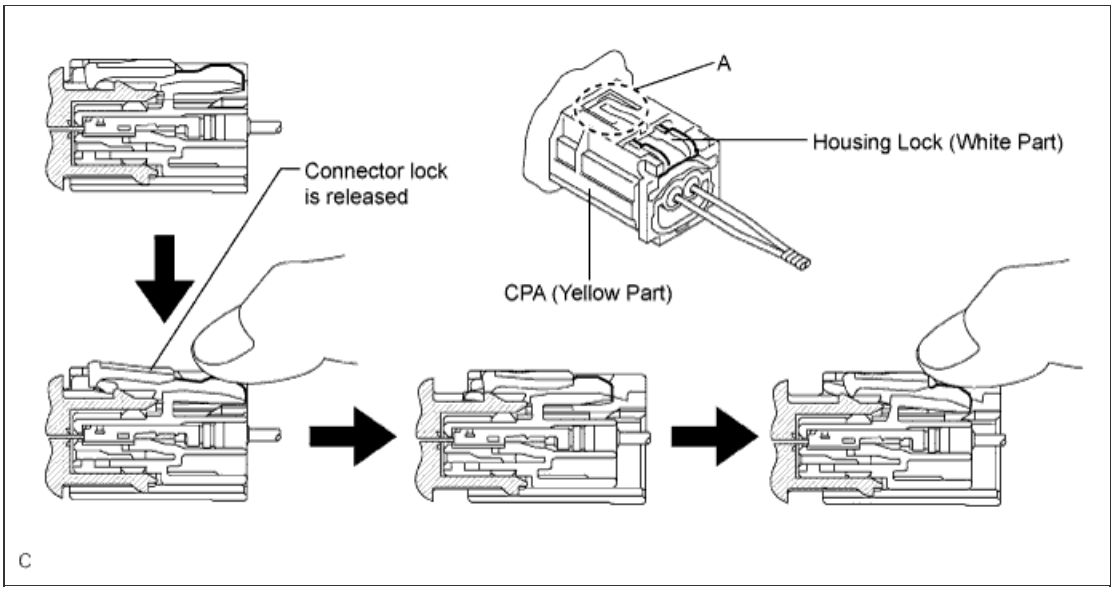

## 15.DISCONNECTION OF CONNECTOR FOR FRONT AIRBAG SENSOR, REAR AIRBAG SENSOR RH AND REAR FLOOR AIRBAG SENSOR

a. Push down the housing lock (white part) and slide the CPA (yellow part) (at this time, the connector cannot be disconnected yet).

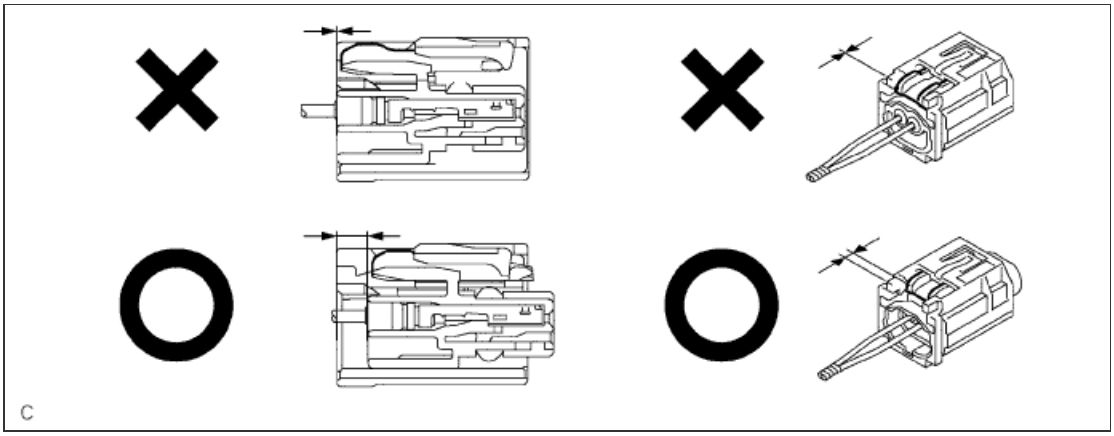
b. Push down the housing lock (white part) again and disconnect the connector.

**HINT:**

Do not push down the part labeled A shown in the illustration when disconnecting.

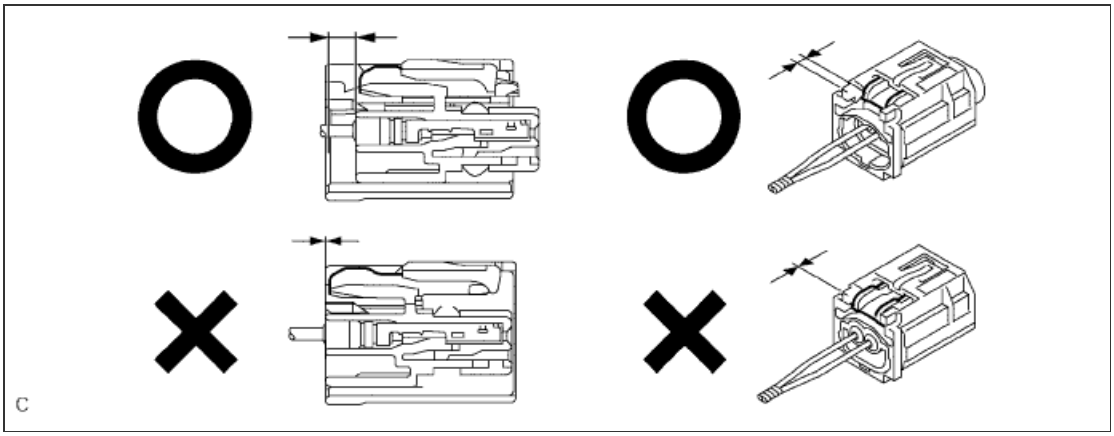



c. After disconnecting the connector, check that the position of the housing lock (white part) is as shown in the illustration.




## 16.CONNECTION OF CONNECTOR FOR FRONT AIRBAG SENSOR, REAR AIRBAG SENSOR RH AND REAR FLOOR AIRBAG SENSOR

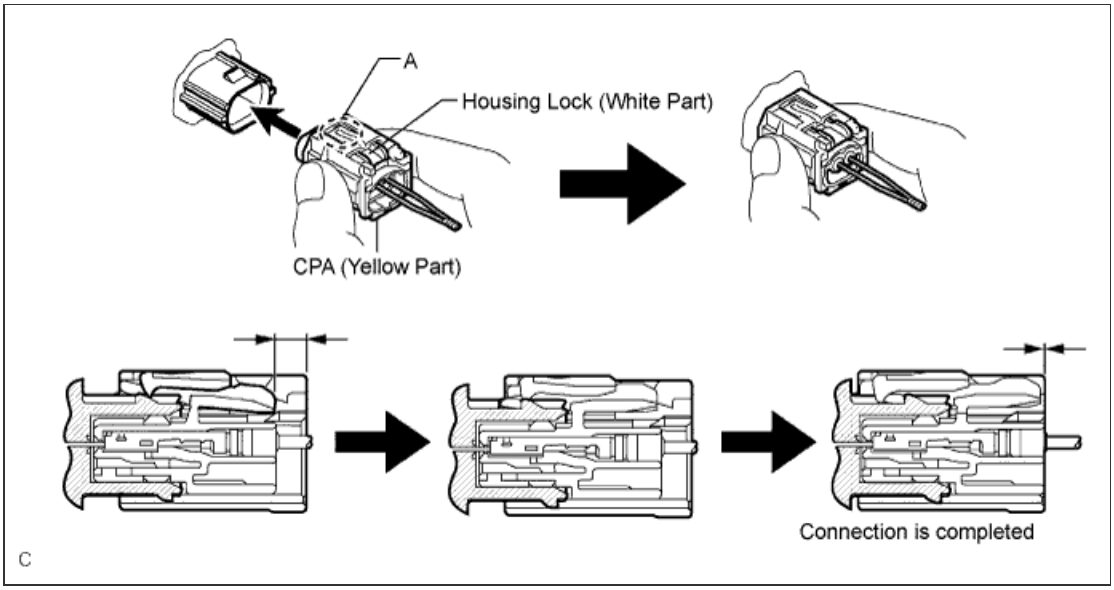
a. Before connecting the connectors, check that the position of the housing lock (white part) is as shown in the illustration.




b. Be sure to engage the connectors until they are locked (when locking, make sure that a click sound can be heard).

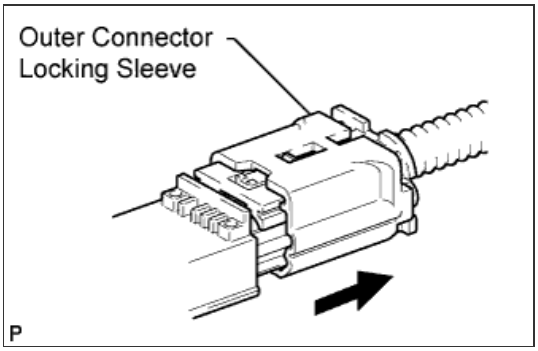
**HINT:**

When connecting the connectors, the housing lock (white part) slides. Be sure not to hold the housing lock (white part) and the part labeled A, as it may result in an insecure fit.




## 17.DISCONNECTION OF CONNECTORS FOR SIDE AIRBAG SENSOR AND REAR AIRBAG SENSOR LH

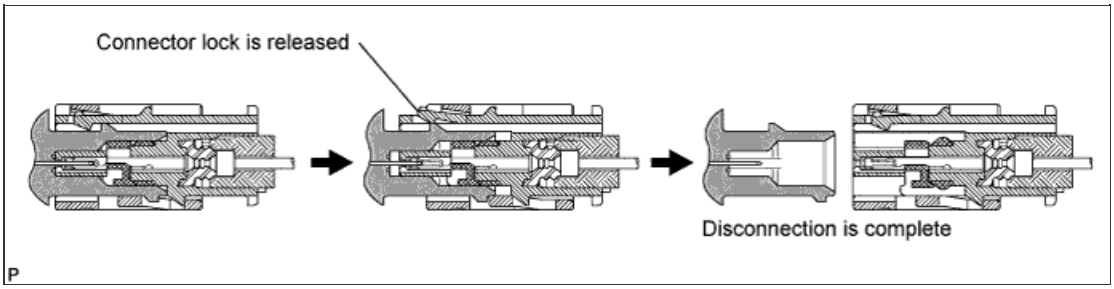
a. While holding the sides of the outer connector locking sleeve, slide the sleeve in the direction shown by the arrow.




b. When the connector lock is released, the connectors are disconnected.

**HINT:**

Be sure to hold both sides of the sleeve. Holding the top and bottom will make disconnection difficult.



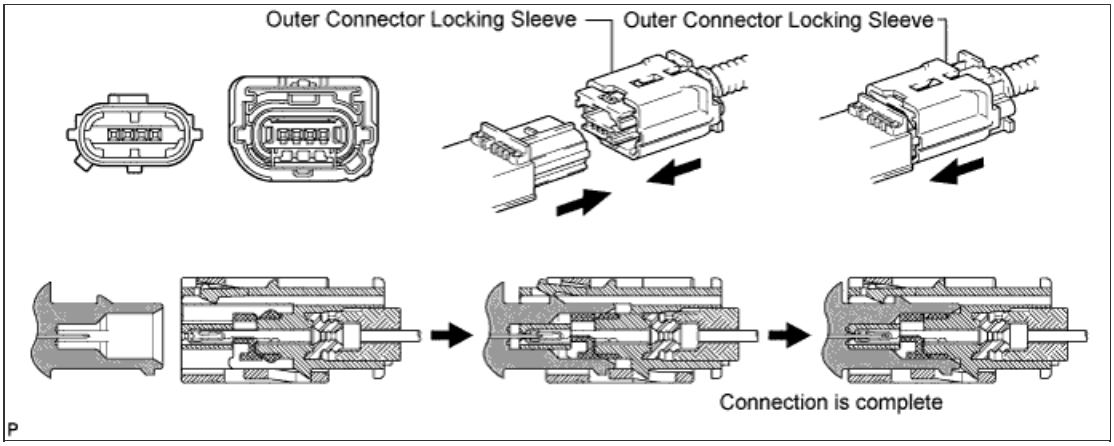

## 18.CONNECTION OF CONNECTORS FOR SIDE AIRBAG SENSOR AND REAR AIRBAG SENSOR LH

a. Connect the connector as shown in the illustration (when locking, make sure that the outer connector locking sleeve returns to its original

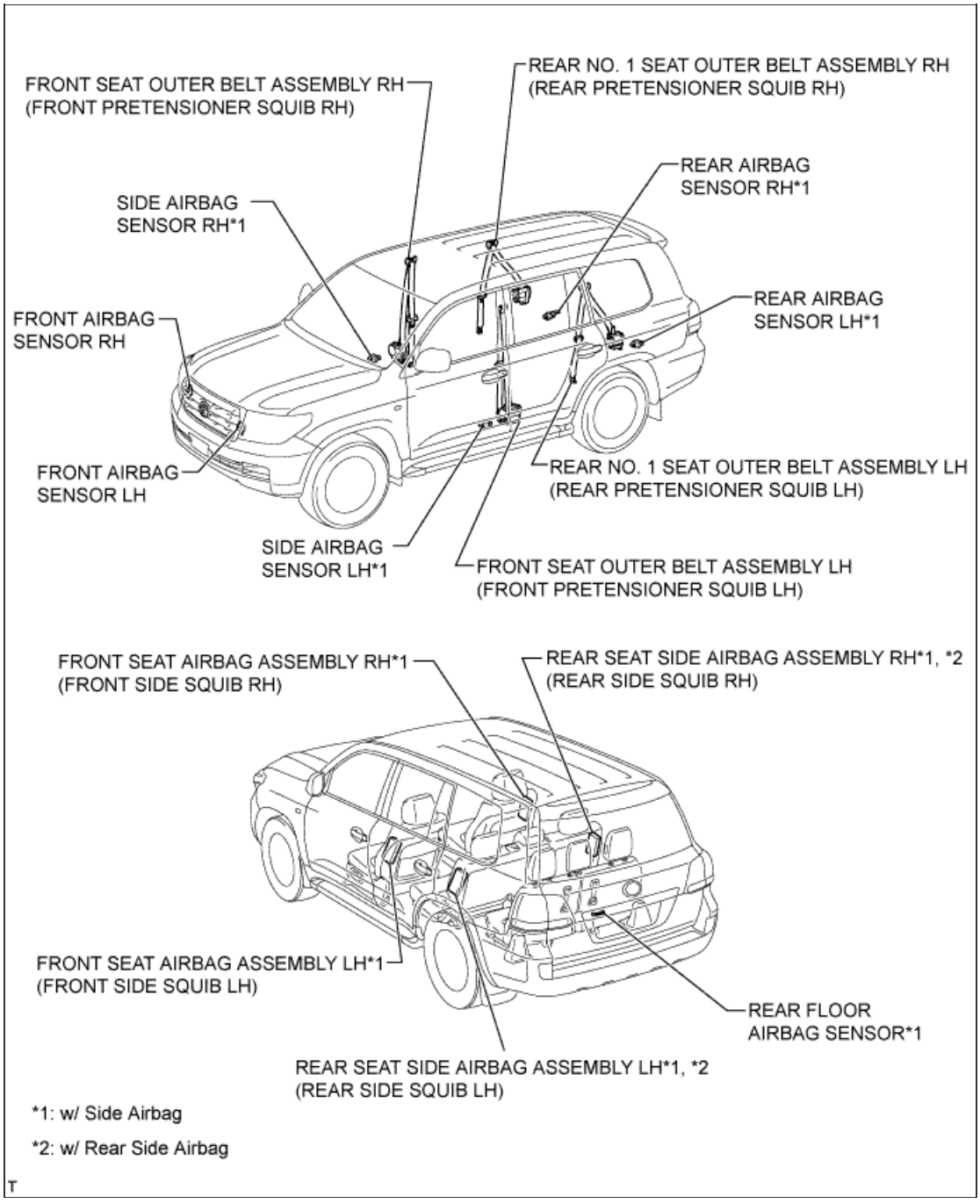
position and a click sound can be heard).

**HINT:**

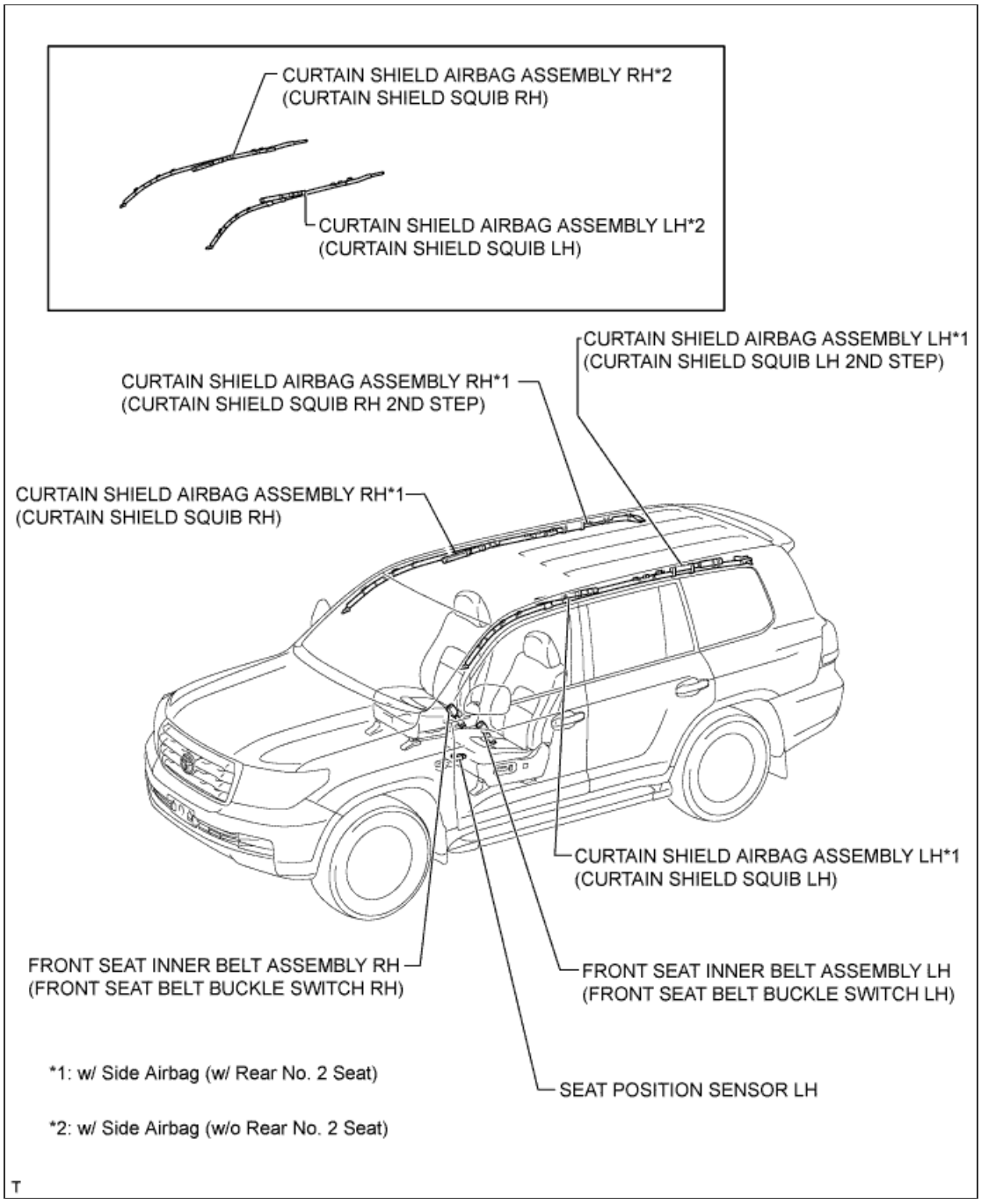
When connecting, the sleeve will slide. Be sure not to hold the sleeve while connecting, as it may result in an insecure fit.



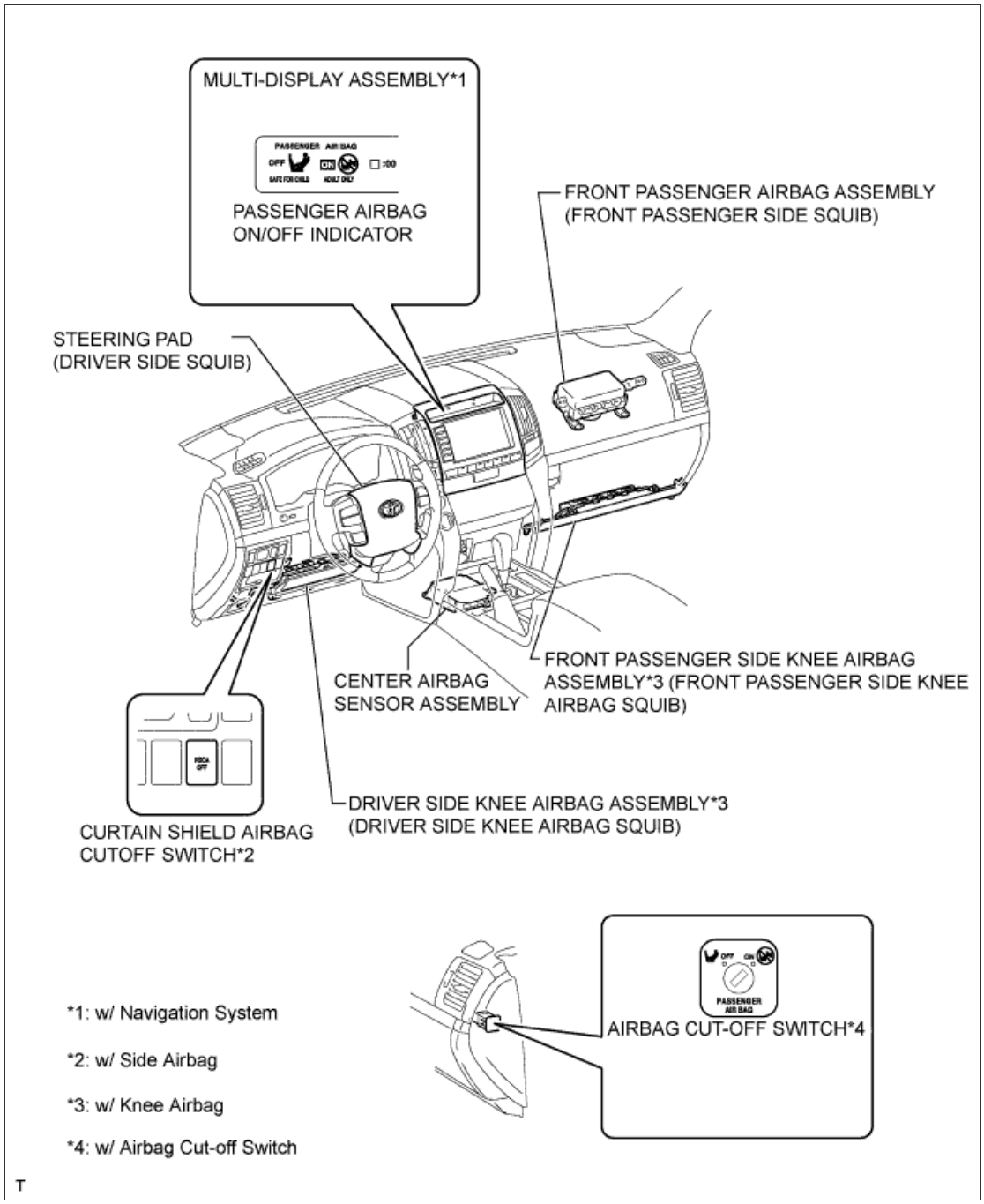
**for Preparation** Click here

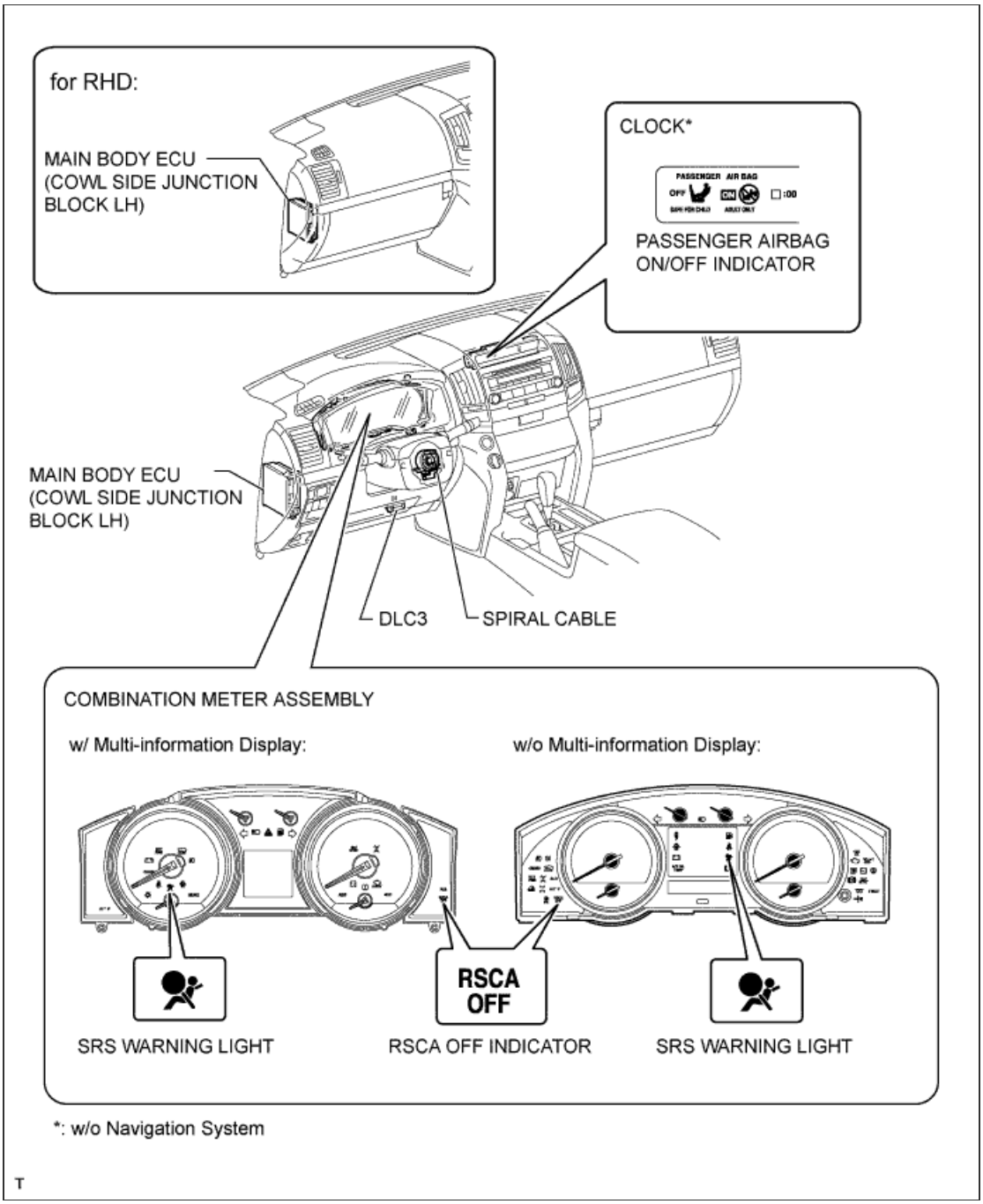



T


CURTAIN SHIELD AIRBAG ASSEMBLY RH*2
(CURTAIN SHIELD SQUIB RH)
CURTAIN SHIELD AIRBAG ASSEMBLY LH*2
(CURTAIN SHIELD SQUIB LH)
CURTAIN SHIELD AIRBAG ASSEMBLY LH*1
(CURTAIN SHIELD SQUIB LH 2ND STEP)
CURTAIN SHIELD AIRBAG ASSEMBLY RH*1
(CURTAIN SHIELD SQUIB RH 2ND STEP)
CURTAIN SHIELD AIRBAG ASSEMBLY RH*1
(CURTAIN SHIELD SQUIB RH)
CURTAIN SHIELD AIRBAG ASSEMBLY LH*1
(CURTAIN SHIELD SQUIB LH)
FRONT SEAT INNER BELT ASSEMBLY RH
(FRONT SEAT BELT BUCKLE SWITCH RH)
FRONT SEAT INNER BELT ASSEMBLY LH
(FRONT SEAT BELT BUCKLE SWITCH LH)
SEAT POSITION SENSOR LH
*1: w/ Side Airbag (w/ Rear No. 2 Seat)
*2: w/ Side Airbag (w/o Rear No. 2 Seat)

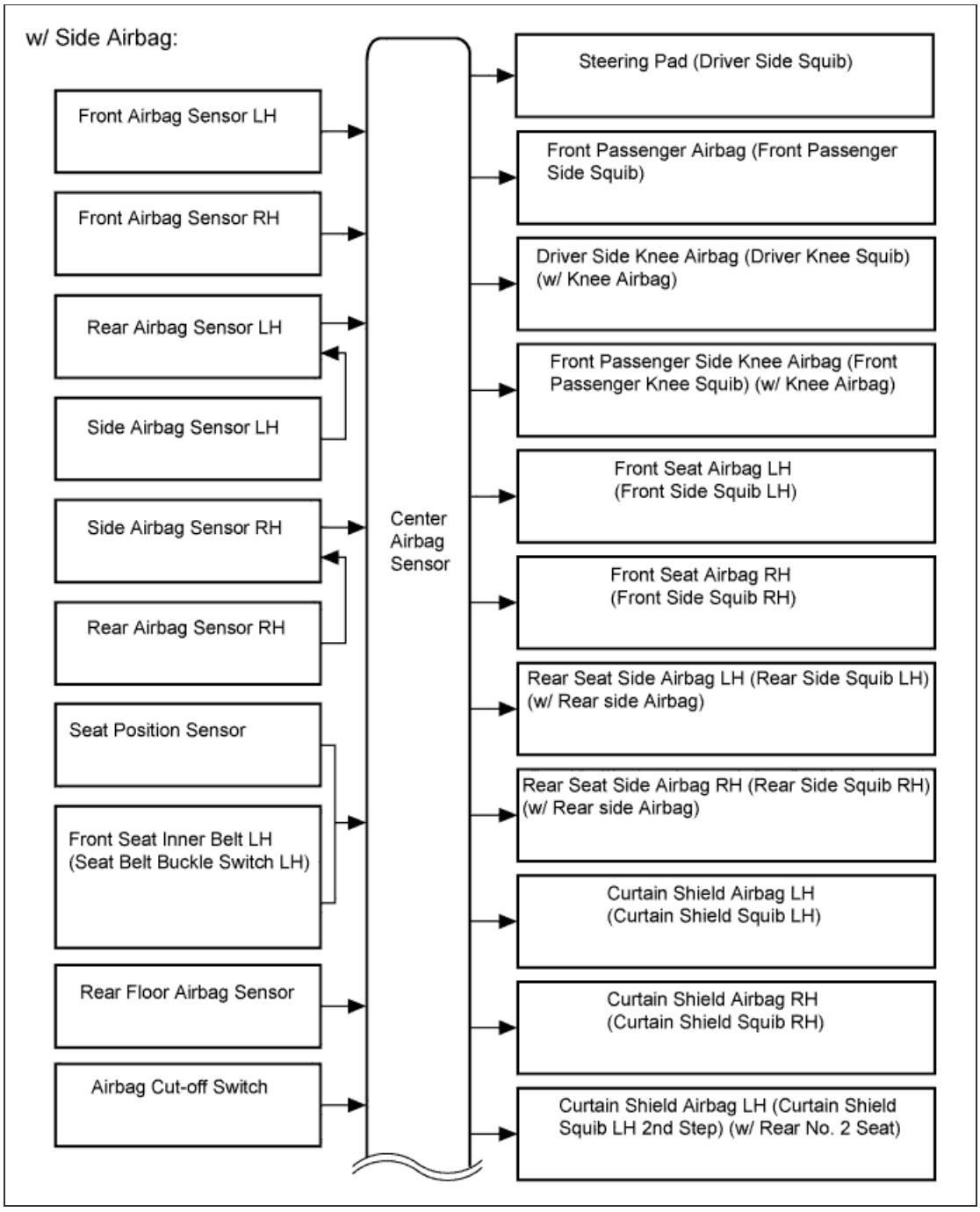
T


MULTI-DISPLAY ASSEMBLY*1
PASSENGER AIRBAG
ON/OFF INDICATOR
FRONT PASSENGER AIRBAG ASSEMBLY
(FRONT PASSENGER SIDE SQUIB)
STEERING PAD
(DRIVER SIDE SQUIB)
CENTER AIRBAG
SENSOR ASSEMBLY
FRONT PASSENGER SIDE KNEE AIRBAG
ASSEMBLY*3 (FRONT PASSENGER SIDE KNEE
AIRBAG SQUIB)
DRIVER SIDE KNEE AIRBAG ASSEMBLY*3
(DRIVER SIDE KNEE AIRBAG SQUIB)
CURTAIN SHIELD AIRBAG
CUTOFF SWITCH*2
AIRBAG CUT-OFF SWITCH*4
*1: w/ Navigation System
*2: w/ Side Airbag
*3: w/ Knee Airbag
*4: w/ Airbag Cut-off Switch
T

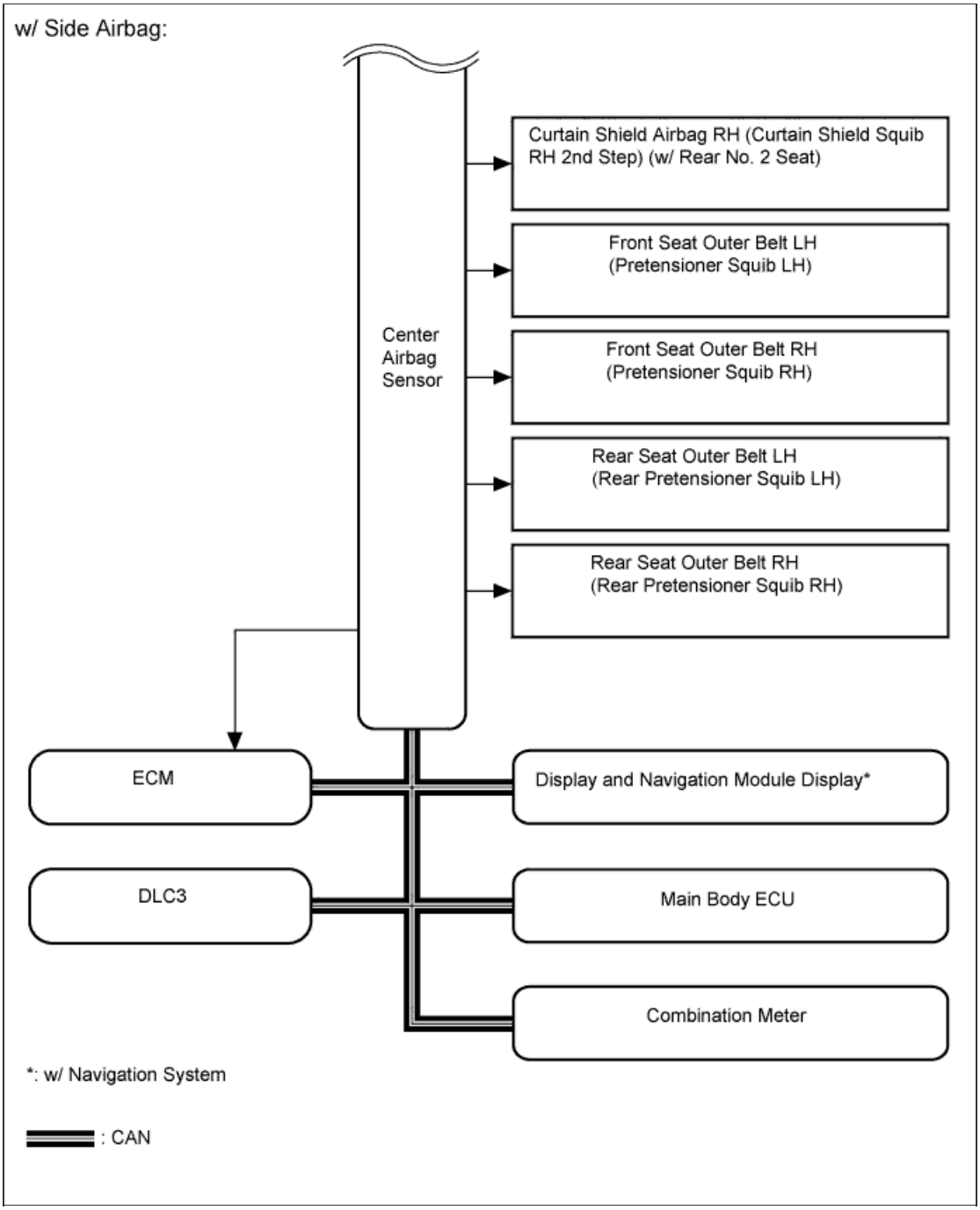

for RHD:
MAIN BODY ECU
(COWL SIDE JUNCTION
BLOCK LH)
CLOCK*
PASSENGER AIR BAG
OFF
ON
PASSENGER AIRBAG
ON/OFF INDICATOR
MAIN BODY ECU
(COWL SIDE JUNCTION
BLOCK LH)
DLC3
SPIRAL CABLE
COMBINATION METER ASSEMBLY
w/ Multi-information Display:
w/o Multi-information Display:
RSCA
OFF
SRS WARNING LIGHT
RSCA OFF INDICATOR
SRS WARNING LIGHT
*: w/o Navigation System

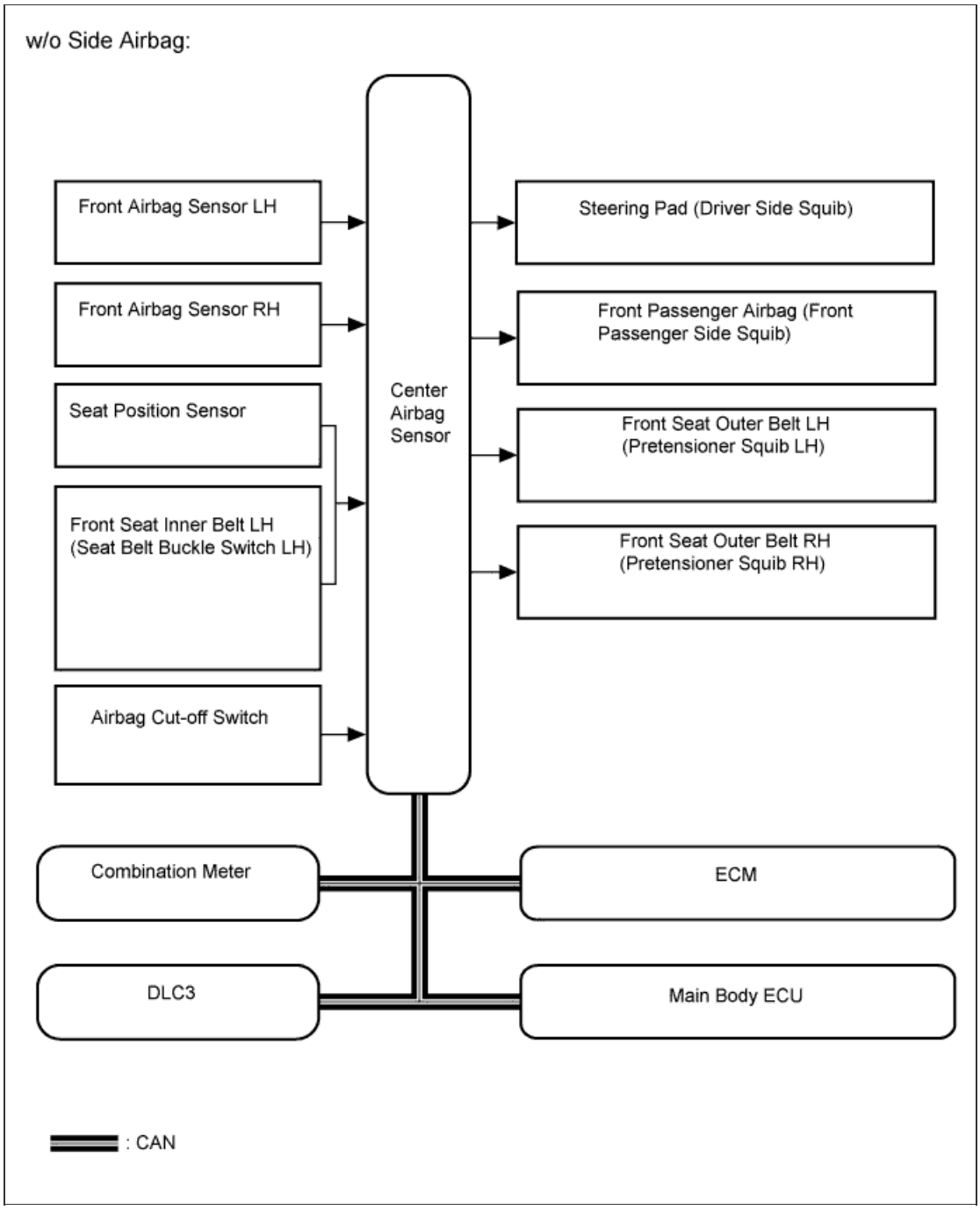
T

**for Preparation** Click here



w/ Side Airbag:






| Transmitting ECU (Transmitter) | Receiving ECU | Signal | Communication Method |
|---|---|---|---|
| Center Airbag Sensor | ECM | • Crash detection signal<br>• Fuel cut signal | CAN |
| Center Airbag Sensor | Main Body ECU | Driver seat buckle switch signal | |
| Center Airbag Sensor | Combination Meter | • SRS warning light on demand signal<br>• SRS warning light blink demand signal<br>• Passenger seat occupant detection signal<br>• Passenger seat buckle switch signal<br>• Diagnosis signal (DTC) | |
| Combination Meter | Center Airbag Sensor | • Vehicle speed signal<br>• Meter diagnosis polling signal | |
| | | • Engine speed signal<br>• Accelerator opening | |

| | | | |
|---|---|---|---|
| ECM | Center Airbag Sensor | angle information<br>• Accelerator opening angle signal<br>• Shift position signal<br>• Test mode signal<br>• Stop signal | |
| Center Airbag Sensor | Display and Navigation Module Display | • Passenger occupant signal<br>• Passenger seat buckle switch signal | |

**for Preparation** Click here

## GENERAL

a. In conjunction with the impact absorbing structure for a front collision, the SRS (Supplemental Restraint System) driver airbag, front passenger airbag, driver side knee airbag, and front passenger side knee airbag are designed to supplement seat belts in the event of a front collision in order to help reduce shock to the head, chest, and knees of the driver and front passenger. This system is a 3-sensor type airbag system which detects the impact during a front collision using the center airbag sensor and front airbag sensors. It also operates the airbag system and seat belt pretensioners.

b. This vehicle is equipped with electrical type deceleration sensors for the front airbags in order to detect details about the extent of a collision during the initial stages of the collision. Therefore, the deployment of the driver airbag and front passenger airbag is controlled in two stages according to the severity of the impact.

c. In conjunction with the impact absorbing structure for a side collision, the side airbag and curtain shield airbag are designed to help reduce shock to the driver, front passenger, and rear outer passengers in the event of a side collision.

d. The curtain shield airbag helps reduce shock to the front and rear seat occupants. In conjunction with the curtain shield airbag, side airbag sensors are installed at the bottom of the center pillars and rear airbag sensors are installed at the bottom of the rear pillars.

e. In this system, a front side collision is detected by the side airbag sensor in order to simultaneously deploy the front seat, rear seat side, and curtain shield airbags. A rear side collision is detected by the rear airbag sensor and the center airbag sensor in order to deploy the rear seat side airbags, and curtain shield airbag.

f. The center airbag sensor sends the airbag deployment signal to the ECM through the CAN (Controller Area Network) to operate the fuel pump control.

g. The center airbag sensor sends the airbag deployment signal to the main body ECU via the discrete line to operate collision door lock release control.

## CONSTRUCTION AND OPERATION

a. FRONT AIRBAG SENSOR

   i. The front airbag sensors are installed on the right and left radiator supports respectively.

   ii. The front airbag sensor consists of a deceleration sensor.

   iii. The deceleration sensor is built into the front airbag sensor, and the distortion that is created in the sensor is converted into an electric signal based on the vehicle deceleration rate during a front collision. Accordingly, the extent of the initial collision can be detected in detail.

b. SIDE AIRBAG SENSOR

   i. The side airbag sensors are installed on the bottom of the right and left center pillars respectively.

   ii. The side airbag sensor consists of a deceleration sensor.

   iii. The deceleration sensor is built into the side airbag sensor, and the distortion that is created in the sensor is converted into an electric signal based on the vehicle deceleration rate during a front side collision. Accordingly, the extent of the initial collision can be detected in detail.

c. REAR AIRBAG SENSOR

   i. The rear airbag sensors are installed on the right and left rear pillars respectively.

   ii. The rear airbag sensor consists of a deceleration sensor.

   iii. The deceleration sensor is built into the rear airbag sensor, and the distortion that is created in the sensor is converted into an electric signal based on the vehicle deceleration rate during a rear side collision. Accordingly, the extent of the initial collision can be detected in detail.

d. REAR FLOOR AIRBAG SENSOR

   i. The floor airbag sensor is installed in the center of the floor between the rear pillars.

   ii. The floor airbag sensor consists of the deceleration sensor.

   iii. The deceleration sensor is built into the floor airbag sensor, and the distortion that is created in the sensor is converted into an electric signal based on the vehicle deceleration rate during a side collision. Accordingly, the extent of the initial collision can be

detected in detail.

e. CENTER AIRBAG SENSOR

i. General

- The center airbag sensor is installed in the center floor under the instrument panel.
- The center airbag sensor consists of a deceleration sensor, safing sensor, electronic safing sensor, ignition control circuit, and diagnostic circuit.
- The center airbag sensor receives signals from the deceleration sensor and safing sensor built into the center airbag sensor and front airbag sensor. Then the center airbag sensor determines whether the driver airbag, front passenger airbag, driver side knee airbag, front passenger side knee airbag, front seat belt pretensioners and rear seat belt pretensioners should be activated, and diagnoses system malfunctions.
- The center airbag sensor causes the front side, rear side, and curtain shield airbags to deploy when receiving signals from the side airbag sensors (w/ Side Airbag).
- The center airbag sensor receives signals from the deceleration sensor and the electronic safing sensor built into the center airbag sensor and the rear airbag sensor, and determines whether the rear seat side curtain shield airbag should be activated, and diagnoses system malfunctions (w/ Side Airbag).
- The center airbag sensor sends the airbag deployment signal to the ECM through the CAN to operate the fuel pump control.
- The center airbag sensor sends the airbag deployment signal to the main body ECU through the discrete line to operate collision door lock release control.

ii. Deceleration sensor and ignition control circuit

- The deceleration sensor is built into the center airbag sensor.
- The ignition control circuit performs calculations based on the signal output from the deceleration sensors of the center airbag sensor and front airbag sensor. If the calculated values are more than the specified values, it activates an ignition operation.

iii. Safing sensor

The safing sensor is built into the center airbag sensor. During a front collision, the sensor turns on and outputs an ON signal to the center airbag sensor if a deceleration rate sent to the safing sensor is more than the specified value.

iv. Electronic safing sensor

The electronic safing sensor is built into the center airbag sensor. During a side collision, the sensor turns on and outputs an ON signal to the center airbag sensor if a deceleration rate sent to the electronic safing sensor is more than the specified value.

v. Backup power source

The backup power source consists of a power supply capacitor and a DC-DC converter. When the power system does not function during a collision, the power supply capacitor discharges and supplies electric power to the system. The DC-DC converter operates as a boosting transformer when the battery voltage falls below a predetermined level.

vi. Diagnostic circuit

This circuit constantly diagnoses system malfunctions. When a malfunction is detected, it turns on the SRS warning light on the combination meter to inform the driver.

vii. Memory circuit

When a malfunction is detected in the diagnostic circuit, it is coded and stored in the memory circuit.

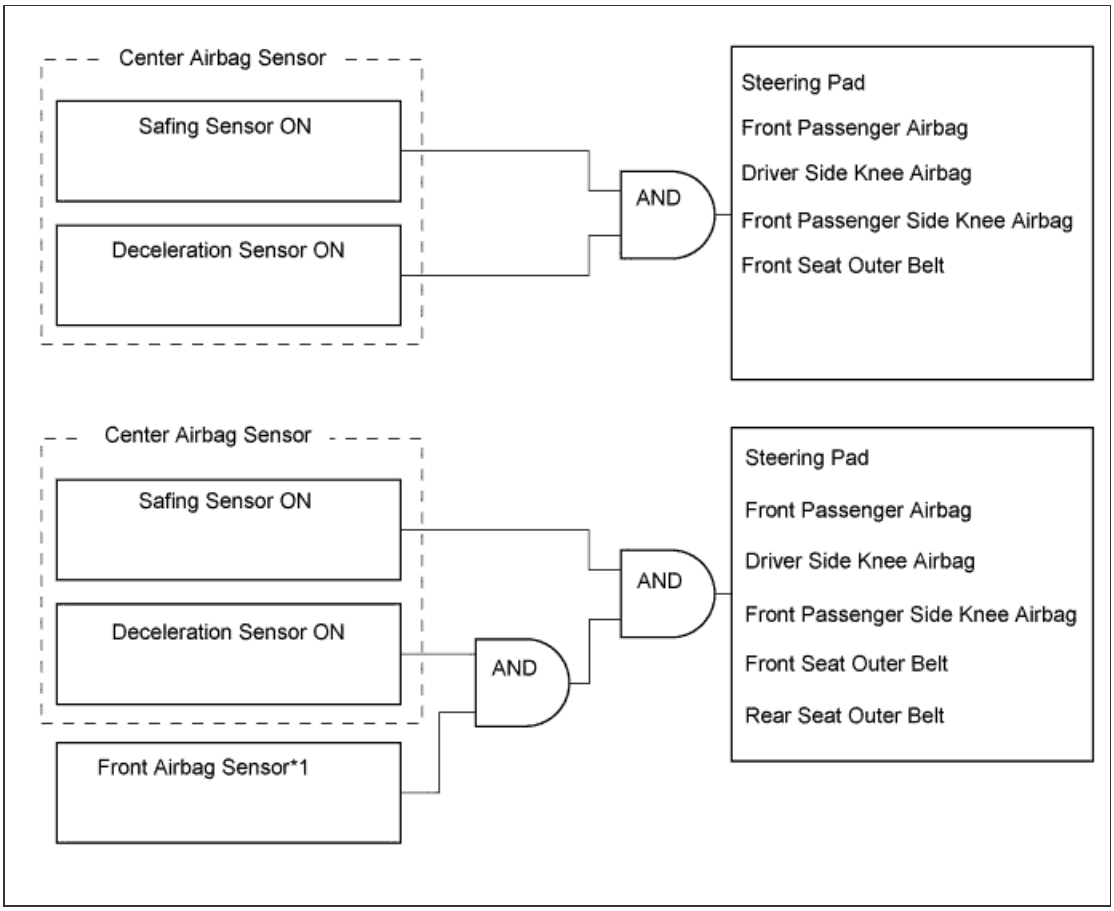
f. SRS Warning Light

i. The SRS warning light is located on the combination meter. It comes on to inform the driver of system trouble when a malfunction is detected in the self-diagnosis of the center airbag sensor. Under normal operating conditions when the ignition switch is turned on (IG), it comes on for approximately 6 seconds and then goes off.

## DEPLOYMENT CONDITION

If the vehicle is in a collision and the shock is more than the specified value, the SRS is activated automatically. The center airbag sensor includes the safing sensor and deceleration sensor. The safing sensor is designed to turn on at a lower deceleration rate than the deceleration sensor.

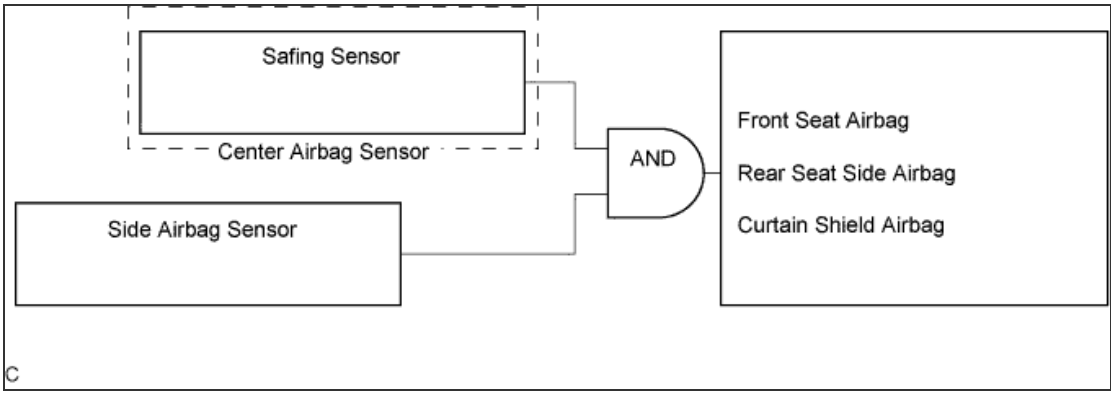
a. The center airbag sensor determines whether ignition is necessary based on signals from the deceleration sensor and the front airbag sensor*1. If the safing sensor turns on simultaneously, current flows to the squibs to deploy the SRS as shown in the illustration below.



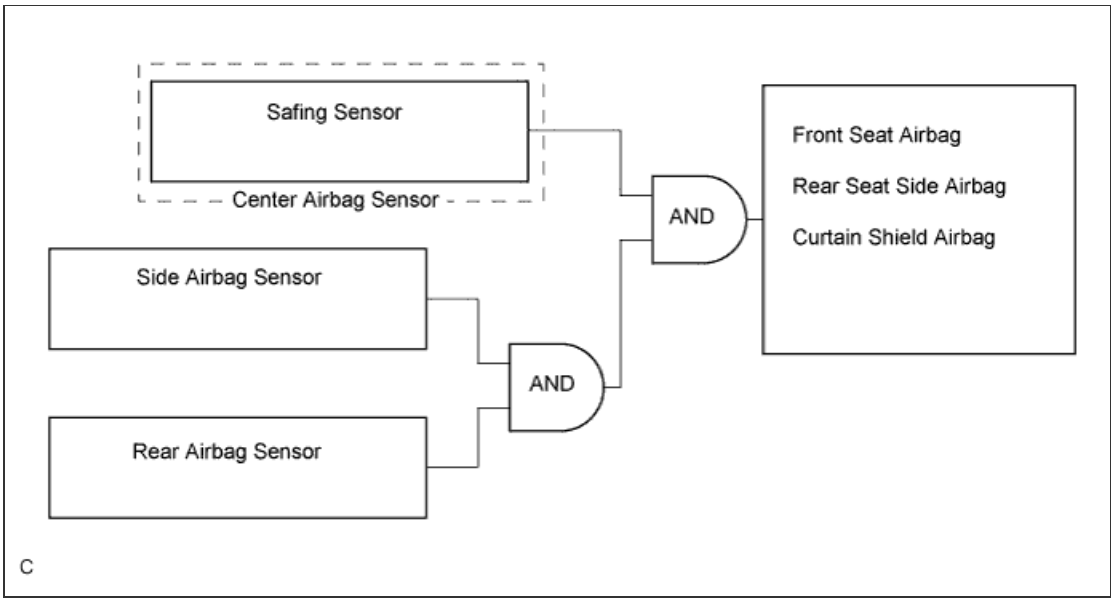

**HINT:**

*1: In case of a front collision, the ignition signal could be output with the deceleration sensor ON signal even without a signal from the front airbag sensor.

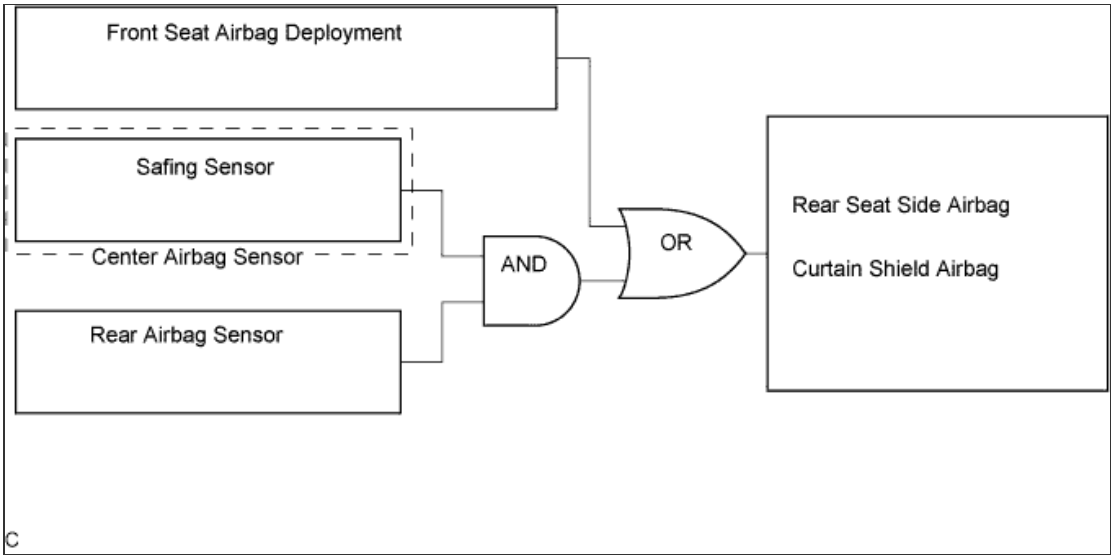
b. The center airbag sensor determines whether ignition is necessary based on signals from the side airbag sensor. If the safing sensor turns on simultaneously, current flows to the squib to deploy the SRS as shown in the illustration below.




c. The center airbag sensor determines whether ignition is necessary based on signals from the side airbag sensor and rear airbag sensor. If the safing sensor turns on simultaneously, current flows to the squib to deploy the SRS as shown in the illustration below.




d. The center airbag sensor determines whether ignition is necessary based on signals from the rear airbag sensor. If the safing sensor turns on simultaneously, current flows to the squib to deploy the SRS as shown in the illustration below.




**HINT:**

If the front seat airbag deploys, the rear seat side airbag, and the curtain shield airbag will also deploy, regardless of whether the signal is output from the rear airbag sensor.

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the airbag system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.CHECK CAN COMMUNICATION SYSTEM*

a. Check for DTC (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output (for LHD) | B |
| DTC is output (for RHD) | C |

B. Go to CAN COMMUNICATION SYSTEM (Click here)

C. Go to CAN COMMUNICATION SYSTEM (Click here)

A

## 4.WARNING LIGHT CHECK

NEXT

## 5.CHECK DTC (Present and Past DTCs)*

a. Check for DTC (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output | B |

B. Go to PROBLEM SYMPTOMS TABLE (Click here)

A

6.DTC CHART

NEXT

7.CIRCUIT INSPECTION

NEXT

8.REPAIR

NEXT

9.CLEAR DTC (Present and Past DTCs)*

NEXT

10.CHECK DTC (Present and Past DTCs)*

a. Check for DTC (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output | B |

B. Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

A

11.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

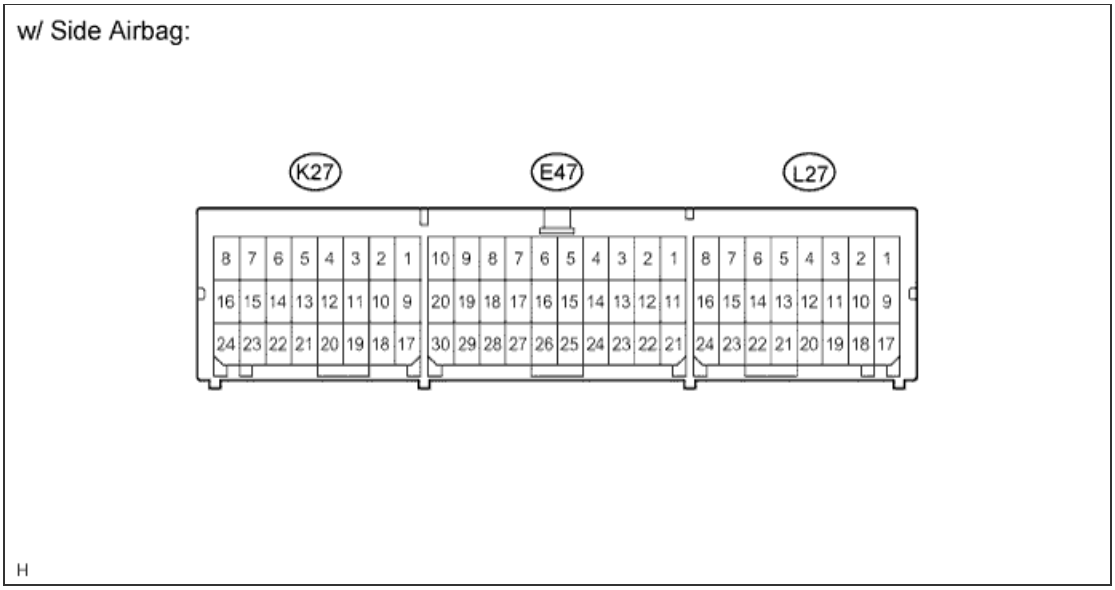
**Airbag System**

| Symptom | Suspected Area | See page |
|---|---|---|
| The SRS warning light goes off after the primary check, but then comes on. | SRS Warning Light Remains ON | Click here |
| With the ignition switch ON, the SRS warning light sometimes comes on after approximately 6 seconds. | SRS Warning Light Remains ON | Click here |
| The SRS warning light always comes on even when DTC is not output. | SRS Warning Light Remains ON | Click here |
| With the ignition switch ON, the SRS warning light does not come on. | SRS Warning Light does not Come ON | Click here |
| Although the SRS warning light operates normally, a DTC or a normal system code is not output. | Diagnosis Circuit | Click here |
| Although terminals TC and CG of the DLC3 are not connected, a DTC or a normal system code is output. | Diagnosis Circuit | Click here |

**for Preparation** Click here

## CENTER AIRBAG SENSOR (w/ Side Airbag)

w/ Side Airbag:




| Terminal No. | Symbols | Destination |
|---|---|---|
| E47-1 | P2+ | Front passenger airbag (Front passenger side squib 2nd step) |
| E47-2 | P2- | Front passenger airbag (Front passenger side squib 2nd step) |
| E47-3 | P- | Front passenger airbag (Front passenger side squib) |
| E47-4 | P+ | Front passenger airbag (Front passenger side squib) |
| E47-5 | D+ | Steering pad (Driver side squib) |
| E47-6 | D- | Steering pad (Driver side squib) |
| E47-7 | D2- | Steering pad (Driver side squib 2nd step) |
| E47-8 | D2+ | Steering pad (Driver side squib 2nd step) |
| E47-9 | DK+ | Driver side knee airbag (Driver side knee airbag squib)*3 |
| E47-10 | DK- | Driver side knee airbag (Driver side knee airbag squib)*3 |
| E47-11 | MSW+ | Airbag cut-off switch*4 |
| E47-12 | MSW- | Airbag cut-off switch*4 |
| E47-13 | CANH | CAN communication line |
| E47-14 | RMSW | Curtain shield airbag cutoff switch |
| E47-15 | RMIL | Combination meter (RSCA OFF Indicator) |
| E47-17 | P-AB | Passenger airbag ON/OFF indicator |
| E47-19 | PK+ | Front passenger side knee airbag (Front passenger side knee airbag squib)*3 |
| E47-20 | PK- | Front passenger side knee airbag (Front passenger side knee airbag squib)*3 |
| E47-21 | IG2 | IGN fuse |
| E47-22 | CANL | CAN communication line |
| E47-23 | PAON | Passenger airbag ON/OFF indicator |
| E47-25 | E1 | Ground |
| E47-26 | E2 | Ground |
| E47-27 | -SR | Front airbag sensor RH |
| E47-28 | -SL | Front airbag sensor LH |

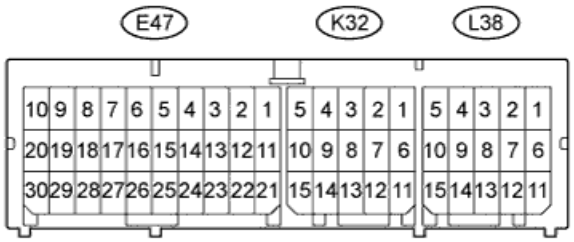
| | | |
|---|---|---|
| E47-29 | +SR | Front airbag sensor RH |
| E47-30 | +SL | Front airbag sensor LH |
| K27-1 | SFL+ | Front seat airbag LH (Front side squib LH) |
| K27-2 | SFL- | Front seat airbag LH (Front side squib LH) |
| K27-3 | ICL- | Curtain shield airbag LH (Curtain shield squib LH) |
| K27-4 | ICL+ | Curtain shield airbag LH (Curtain shield squib LH) |
| K27-5 | PL+ | Front seat outer belt LH (Front pretensioner squib LH) |
| K27-6 | PL- | Front seat outer belt LH (Front pretensioner squib LH) |
| K27-7 | PLR- | Rear seat outer belt LH (Rear pretensioner squib LH) |
| K27-8 | PLR+ | Rear seat outer belt LH (Rear pretensioner squib LH) |
| K27-9 | LSP+ | Front seat inner belt LH (Seat position sensor)*5 |
| K27-10 | LBE+ | Front seat inner belt LH (Seat belt buckle switch LH)*5 |
| K27-11 | CL2- | Curtain shield airbag LH (Curtain shield squib LH 2nd step)*1 |
| K27-12 | CL2+ | Curtain shield airbag LH (Curtain shield squib LH 2nd step)*1 |
| K27-15 | SRL- | Rear seat side airbag LH (Rear side squib LH)*2 |
| K27-16 | SRL+ | Rear seat side airbag LH (Rear side squib LH)*2 |
| K27-17 | LSP- | Front seat inner belt LH (Seat position sensor)*5 |
| K27-18 | LBE- | Front seat inner belt LH (Seat belt buckle switch LH)*5 |
| K27-23 | BBL- | Side airbag sensor LH |
| K27-24 | BBL+ | Side airbag sensor LH |
| L27-1 | PRR+ | Rear seat outer belt RH (Rear pretensioner squib RH) |
| L27-2 | PRR- | Rear seat outer belt RH (Rear pretensioner squib RH) |
| L27-3 | PR- | Front seat outer belt RH (Front pretensioner squib RH) |
| L27-4 | PR+ | Front seat outer belt RH (Front pretensioner squib RH) |
| L27-5 | ICR+ | Curtain shield airbag RH (Curtain shield squib RH) |
| L27-6 | ICR- | Curtain shield airbag RH (Curtain shield squib RH) |
| L27-7 | SFR- | Front seat airbag RH (Front side squib RH) |
| L27-8 | SFR+ | Front seat airbag RH (Front side squib RH) |
| L27-9 | SRR+ | Rear seat side airbag RH (Rear side squib RH)*2 |
| L27-10 | SRR- | Rear seat side airbag RH (Rear side squib RH)*2 |
| L27-13 | CR2+ | Curtain shield airbag RH (Curtain shield squib RH 2nd step)*1 |
| L27-14 | CR2- | Curtain shield airbag RH (Curtain shield squib RH 2nd step)*1 |
| L27-15 | RBE+ | Front seat inner belt RH (Seat position sensor)*6 |
| L27-16 | RSP+ | Front seat inner belt RH (Seat belt buckle switch RH)*6 |
| L27-17 | BBR+ | Rear airbag sensor RH |
| L27-18 | BBR- | Rear airbag sensor RH |
| L27-21 | BDR+ | Rear floor airbag sensor |
| L27-22 | BDR- | Rear floor airbag sensor |
| L27-23 | RBE- | Front seat inner belt RH (Seat position sensor)*6 |
| L27-24 | RSP- | Front seat inner belt RH (Seat belt buckle switch RH)*6 |

**HINT:**

*1: w/ Rear No. 2 Seat
*2: w/ Rear Side Airbag
*3: w/ Knee Airbag
*4: w/ Airbag Cut-off Switch
*5: for LHD
*6: for RHD

## CENTER AIRBAG SENSOR (w/o Side Airbag)

w/o Side Airbag:




| Terminal No. | Symbols | Destination |
|---|---|---|
| E47-1 | P2+ | Front passenger airbag assembly (Front passenger side squib 2nd step) |
| E47-2 | P2- | Front passenger airbag assembly (Front passenger side squib 2nd step) |
| E47-3 | P- | Front passenger airbag assembly (Front passenger side squib) |
| E47-4 | P+ | Front passenger airbag assembly (Front passenger side squib) |
| E47-5 | D+ | Steering pad (Driver side squib) |
| E47-6 | D- | Steering pad (Driver side squib) |
| E47-7 | D2- | Steering pad (Driver side squib 2nd step) |
| E47-8 | D2+ | Steering pad (Driver side squib 2nd step) |
| E47-13 | CANH | CAN communication signal |
| E47-21 | IG2 | IGN fuse (Power Source) |
| E47-22 | CANL | CAN communication signal |
| E47-25 | E1 | Ground |
| E47-26 | E2 | Ground |
| E47-27 | -SR | Front airbag sensor RH |
| E47-28 | -SL | Front airbag sensor LH |
| E47-29 | +SR | Front airbag sensor RH |
| E47-30 | +SL | Front airbag sensor LH |
| K32-1 | PL- | Front seat outer belt assembly LH (Front pretensioner squib LH) |
| K32-2 | PL+ | Front seat outer belt assembly LH (Front pretensioner squib LH) |
| K32-11 | LBE+ | Front seat inner belt assembly LH*1 |
| K32-12 | LBE- | Front seat inner belt assembly LH*1 |
| K32-13 | LSP- | Seat position sensor*1 |
| K32-14 | LSP+ | Seat position sensor*1 |
| L38-4 | PR+ | Front seat outer belt assembly RH (Front pretensioner squib RH) |
| L38-5 | PR- | Front seat outer belt assembly RH (Front pretensioner squib RH) |
| L38-12 | RSP+ | Seat position sensor*2 |
| L38-13 | RSP- | Seat position sensor*2 |
| L38-14 | RBE- | Front seat inner belt assembly RH*2 |

| | | |
|---|---|---|
| L38-15 | RBE+ | Front seat inner belt assembly RH*2 |

**HINT:**

*1: for LHD

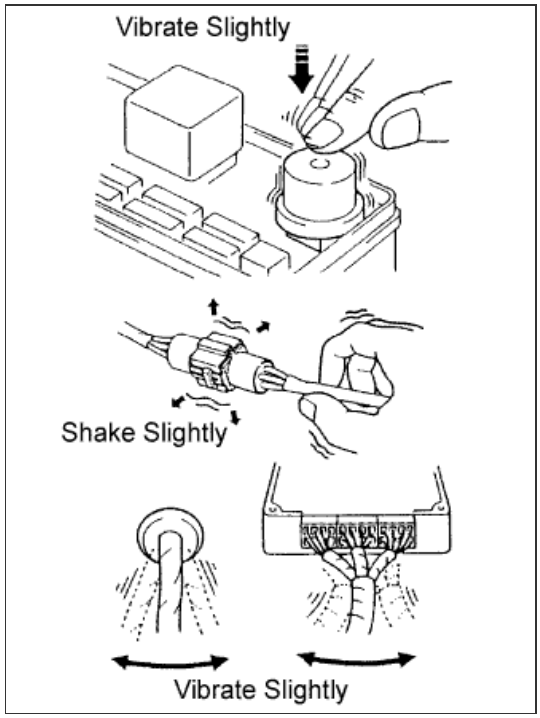
*2: for RHD

**for Preparation** Click here

## SYMPTOM SIMULATION

**HINT:**

The most difficult case in troubleshooting is when no problem symptoms occur. In such a case, a thorough problem analysis must be carried out. A simulation of the same or similar conditions and environment in which the problem occurred in the customer's vehicle should be carried out. No matter how much skill or experience a technician has, troubleshooting without confirming the problem symptoms will lead to important repairs being overlooked and mistakes or delays.




a. Vibration method: When vibration seems to be the major cause.

**HINT:**

Perform the simulation method only during the primary check period (for approximately 6 seconds after the ignition switch is turnedON).

i. Slightly vibrate the part of the sensor considered to be the cause of the problem with your fingers and check whether the malfunction occurs.

**NOTICE:**

Shaking the relays too strongly may result in open relays.

ii. Slightly shake the connector vertically and horizontally.

iii. Slightly shake the wire harness vertically and horizontally.

**HINT:**

The connector joint and fulcrum of the vibration are the major areas to be checked thoroughly.

## FUNCTION OF SRS WARNING LIGHT

a. Primary check.

i. Turn the ignition switch off. Wait for at least 2 seconds, then turn the ignition switch to ON. The SRS warning light comes on for approximately 6 seconds and the diagnosis of the airbag system (including the seat belt pretensioners) is performed.

**HINT:**

If trouble is detected during the primary check, the SRS warning light remains on even after the primary check period (of approximately 6 seconds) has elapsed.

b. Constant check.

i. After the primary check, the center airbag sensor constantly monitors the airbag system for trouble.

**HINT:**

If trouble is detected during the constant check, the center airbag sensor functions as follows:

- **The SRS warning light comes on.**
- **The SRS warning light goes off, and then comes on. This blinking pattern indicates a source voltage drop. The SRS warning light goes off 10 seconds after the source voltage returns to normal.**

c. Review.

i. When the airbag system is normal:
The SRS warning light comes on only during the primary check period (for approximately 6 seconds after the ignition switch is turned to ON).

ii. When the airbag system has trouble:

- The SRS warning light remains on even after the primary check period has elapsed.
- The SRS warning light goes off after the primary check, but comes on again during the constant check.

- The SRS warning light does not come on when turning the ignition switch from off to ON.

**HINT:**

The center airbag sensor functions to keep the SRS warning light on if the airbag has been deployed.

## CHECK SRS WARNING LIGHT

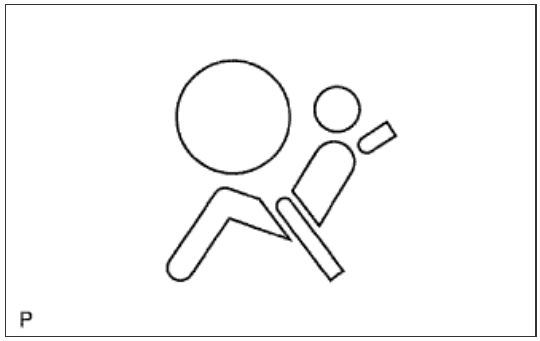
a. Turn the ignition switch to ON, and check that the SRS warning light comes on for approximately 6 seconds (primary check).

b. Check that the SRS warning light goes off approximately 6 seconds after the ignition switch is turned to ON (constant check).

**HINT:**

When any of the following symptoms occur, refer to the "Problem Symptoms Table" (Click here).

- **The SRS warning light comes on occasionally, after the primary check period has elapsed.**
- **The SRS warning light comes on, but a DTC is not output.**
- **The ignition switch is turned from off to ON, but the SRS warning light does not come on.**




## FUNCTION OF PASSENGER AIRBAG ON/OFF INDICATOR

a. Initial check

i. Turn the ignition switch to ON.

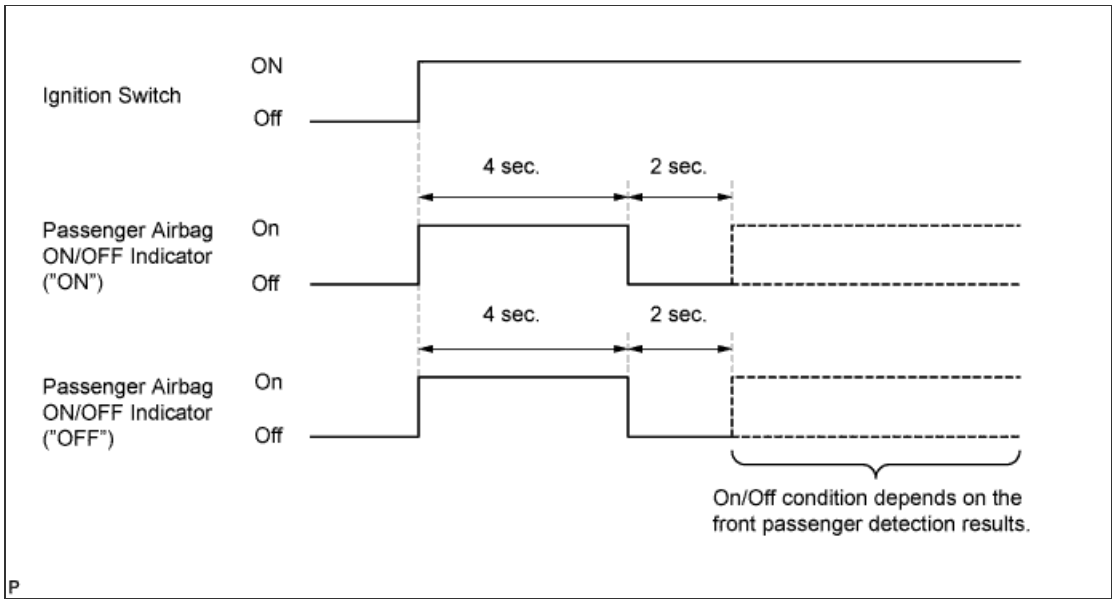
ii. The passenger airbag ON/OFF indicator comes on for approximately 4 seconds, then goes off for approximately 2 seconds.

iii. Approximately 6 seconds after the ignition switch is turned to ON, the passenger airbag ON/OFF indicator will be ON or OFF depending on the conditions listed below.

| Condition | "ON" indicator | "OFF" indicator |
|---|---|---|
| Vacant | Off | Off |
| Adult is seated | On | Off |
| Child is seated | Off | On |
| Child restraint system is set | Off | On |
| Front passenger occupant classification failure | Off | On |

**HINT:**

- **The timing chart below shows the operation of the passenger airbag ON/OFF indicator. Use the chart to check the indicator light circuit.**
- **When the occupant classification system has trouble, both the SRS warning light and the passenger airbag ON/OFF indicator ("OFF") come on. In this case, check the DTCs for "Airbag System" first. Then troubleshoot the occupant classification system if DTC B1650/32 is output, and troubleshoot the passenger airbag ON/OFF indicator if DTC B1660/43 is output.**




## CHECK PASSENGER AIRBAG ON/OFF INDICATOR

a. Turn the ignition switch to ON.

b. Check that the passenger airbag ON/OFF indicator ("ON" and "OFF") comes on for approximately 4 seconds, then goes off for approximately 2 seconds.

**HINT:**

Refer to the table in the previous step regarding the passenger airbag ON/OFF indicator when the ignition switch is turned to ON and approximately 6 seconds have passed.




## ACTIVATION PREVENTION MECHANISM

a. FUNCTION OF ACTIVATION PREVENTION MECHANISM

i. An activation prevention mechanism is built into the connector (on the center airbag sensor side) of the airbag system squib circuit to prevent accidental airbag activation.

ii. This mechanism closes the circuit when the connector is disconnected by bringing the short spring into contact with the terminals and shutting off external electricity to prevent accidental airbag activation.

b. RELEASING OF ACTIVATION PREVENTION MECHANISM

i. To release the activation prevention mechanism, insert a piece of paper with the same thickness as the male terminal (approximately 0.5 mm (0.020 in.)) between the terminals and the short spring to break the connection.

ii. Refer to the following illustrations concerning connectors utilizing the activation prevention mechanism and its release method.

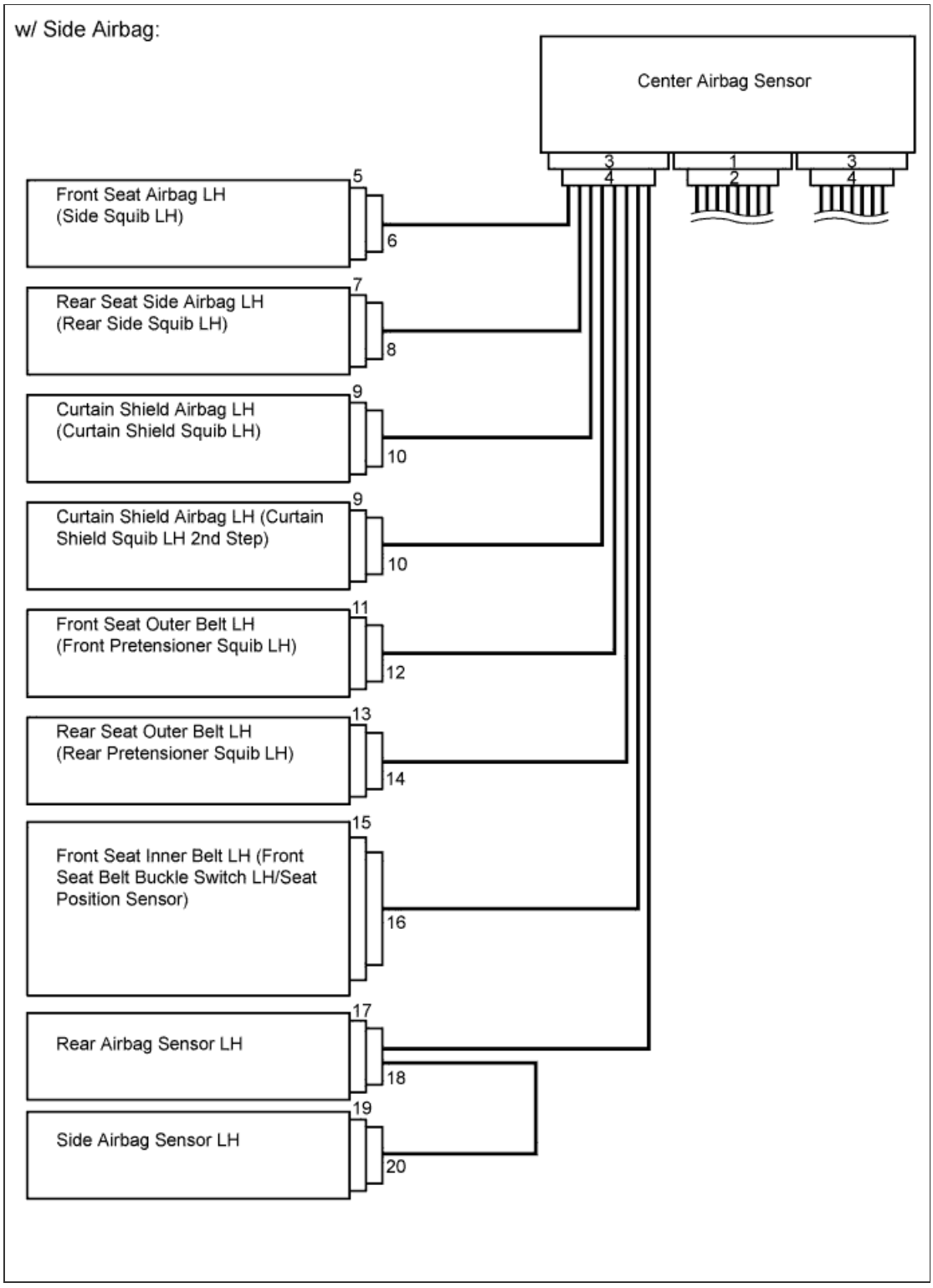
**CAUTION:**

Never release the activation prevention mechanism on the squib connector even when inspecting with the squib disconnected.

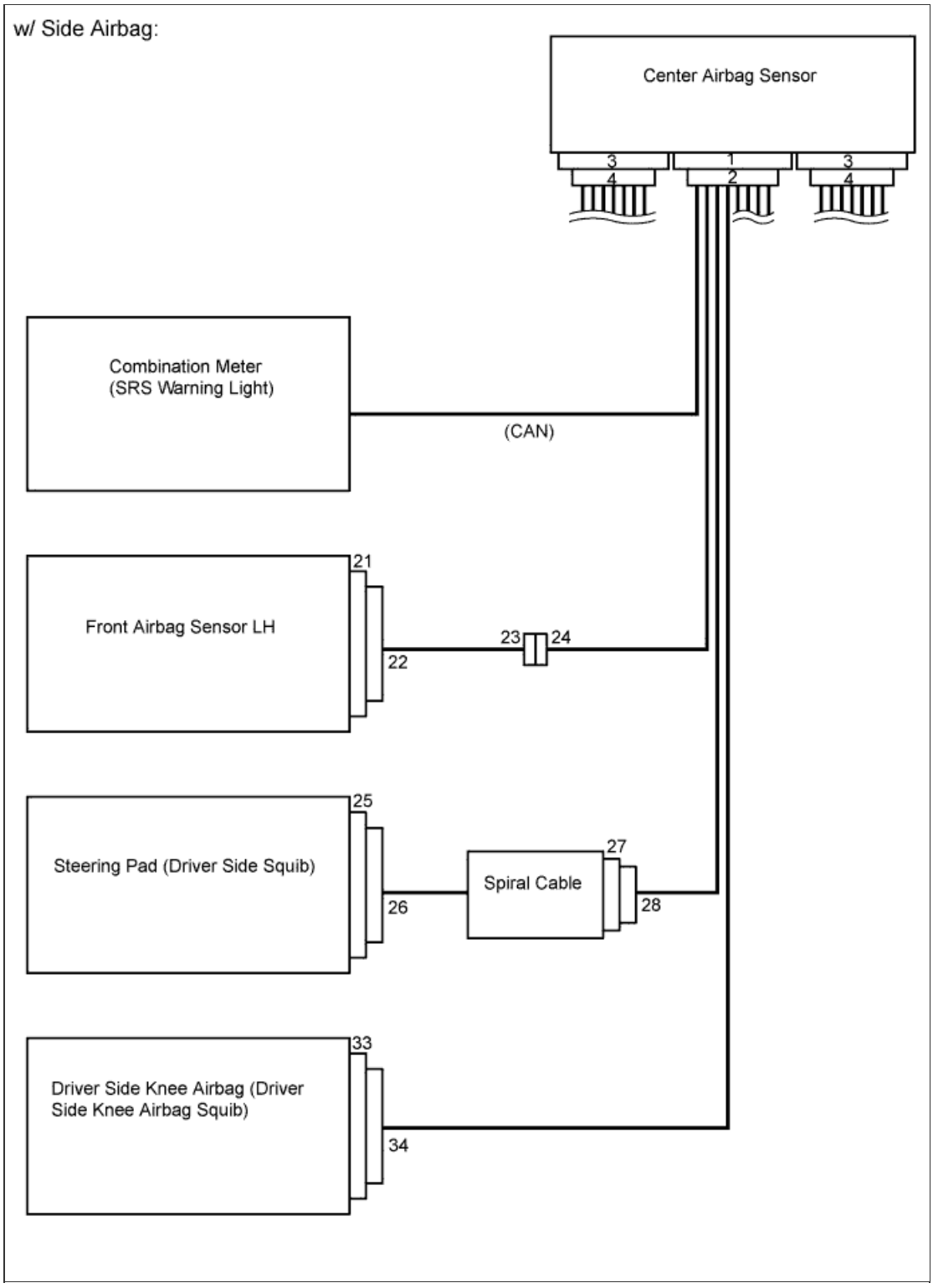
**NOTICE:**

- **Do not release the activation prevention mechanism unless specially directed by the troubleshooting procedure.**
- **To prevent the terminal and the short spring from being damaged, always use a piece of paper with the same thickness as the male terminal.**

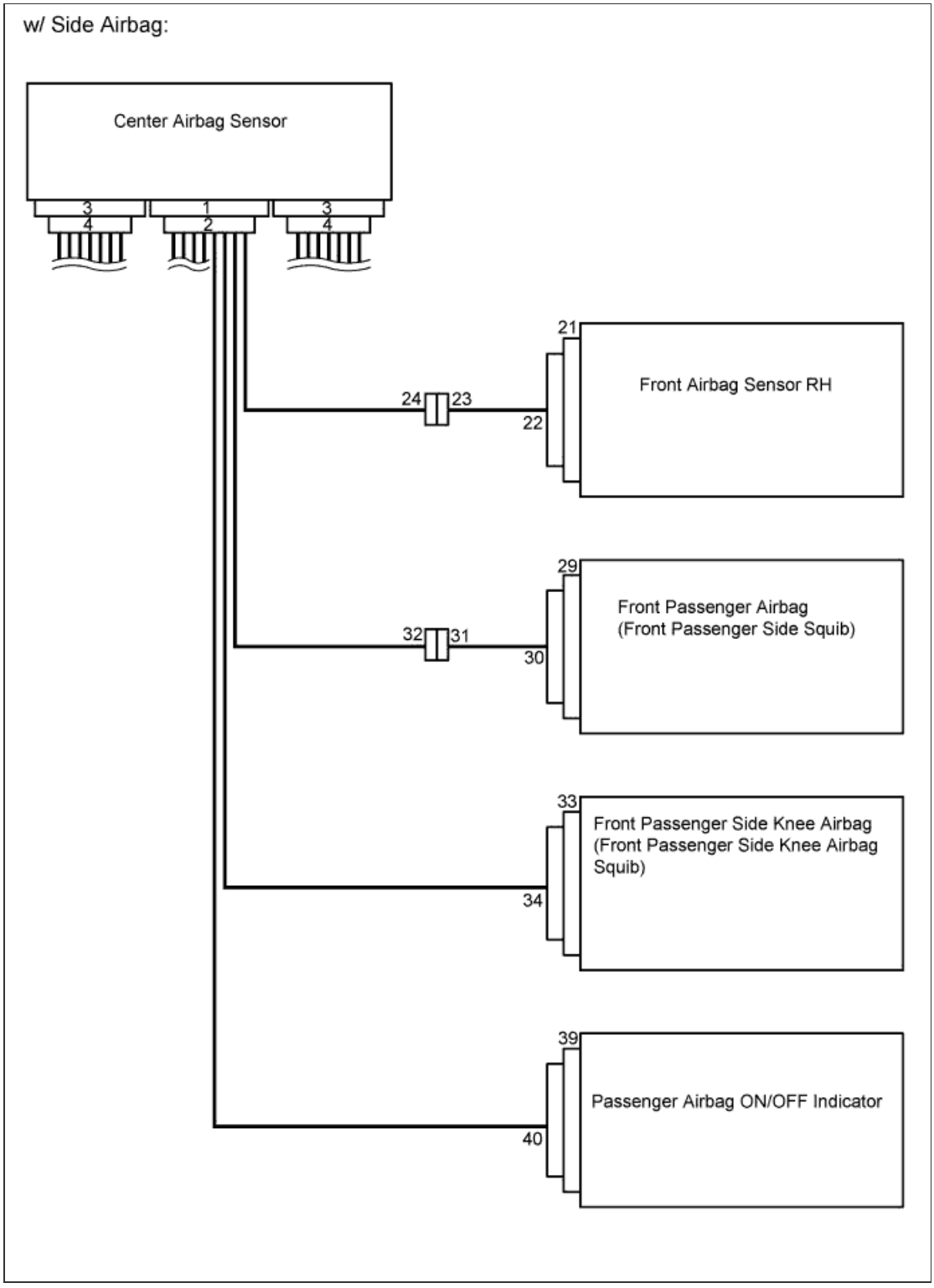
w/ Side Airbag:



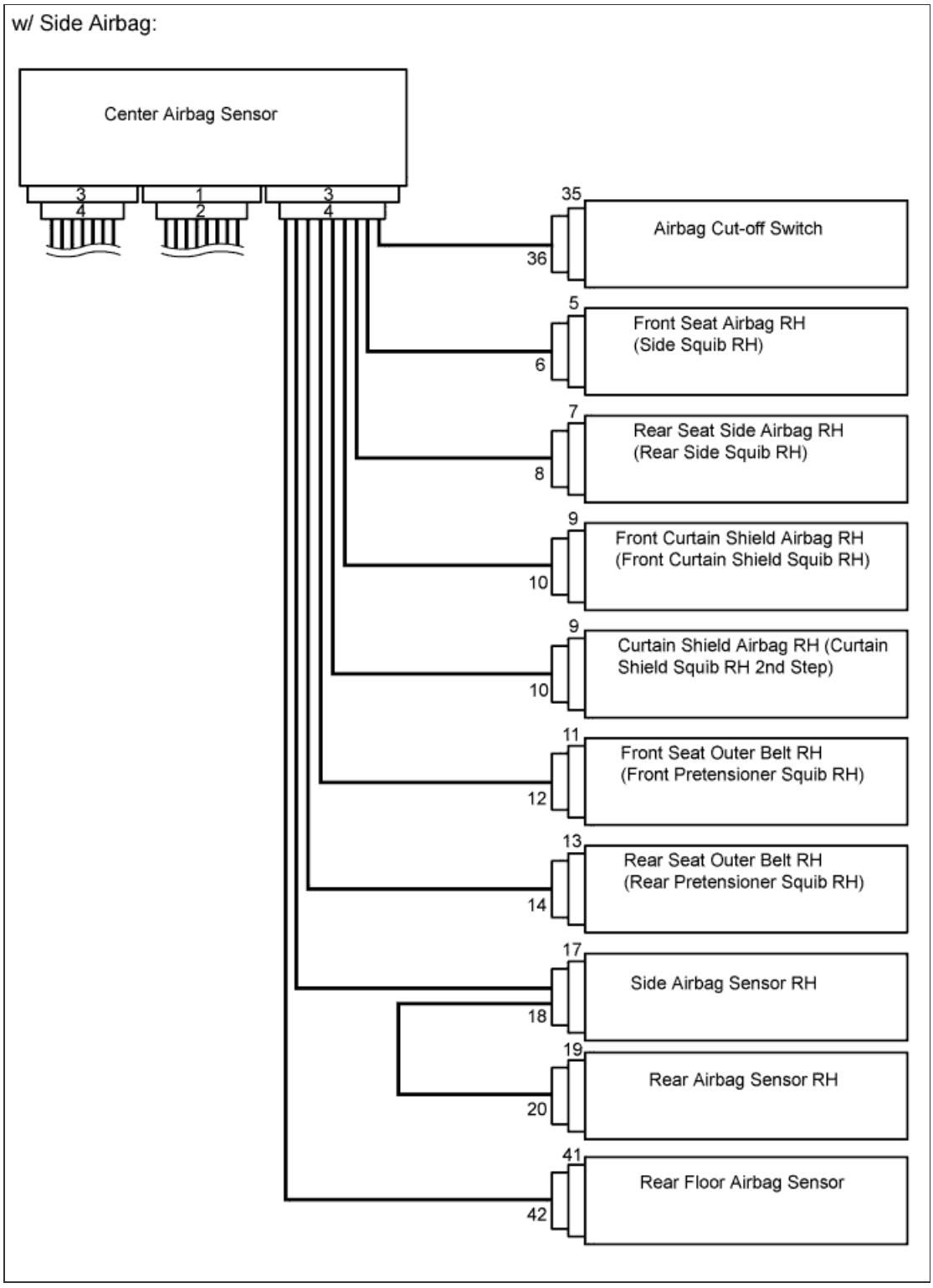
w/ Side Airbag:



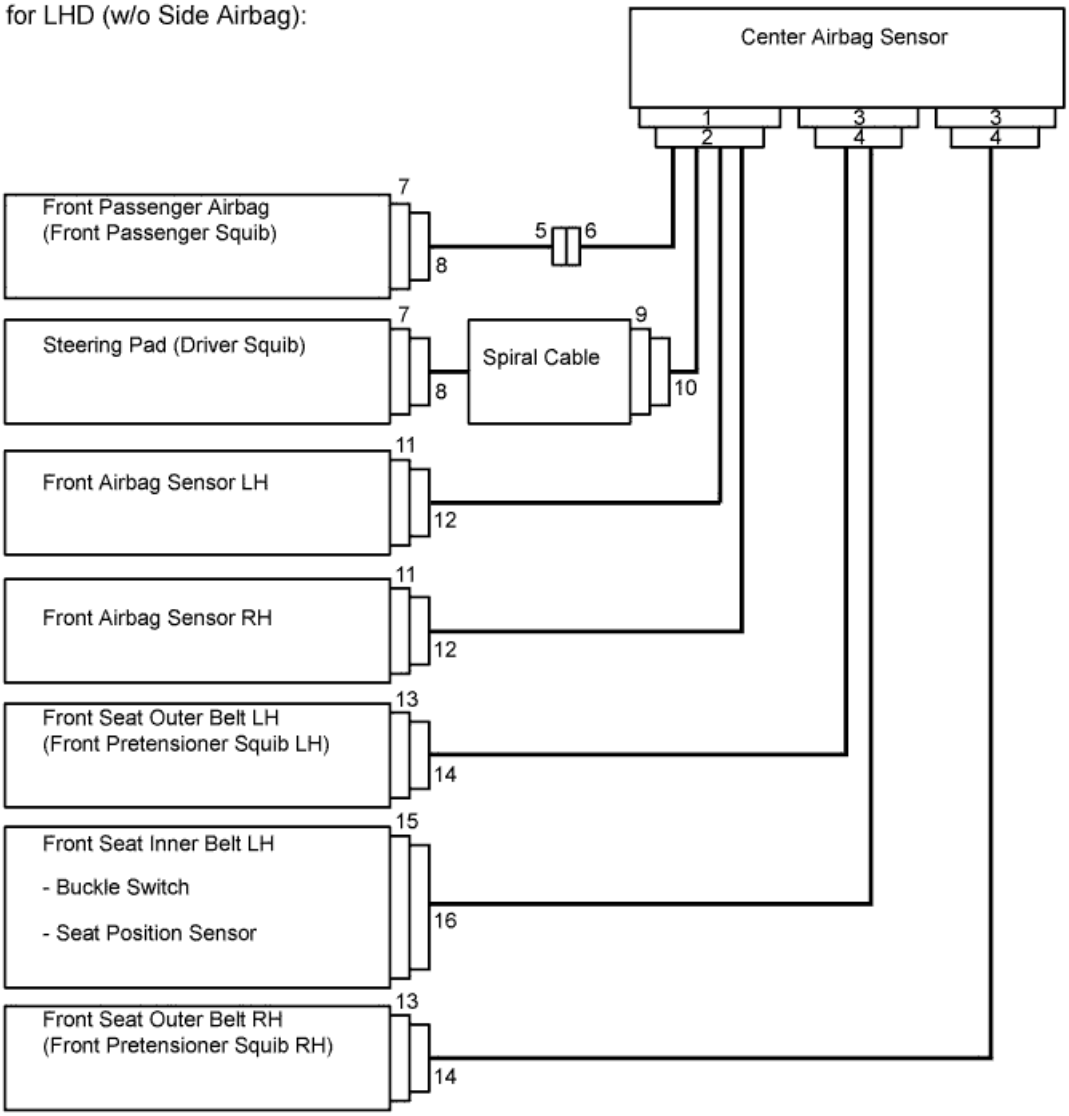
w/ Side Airbag:



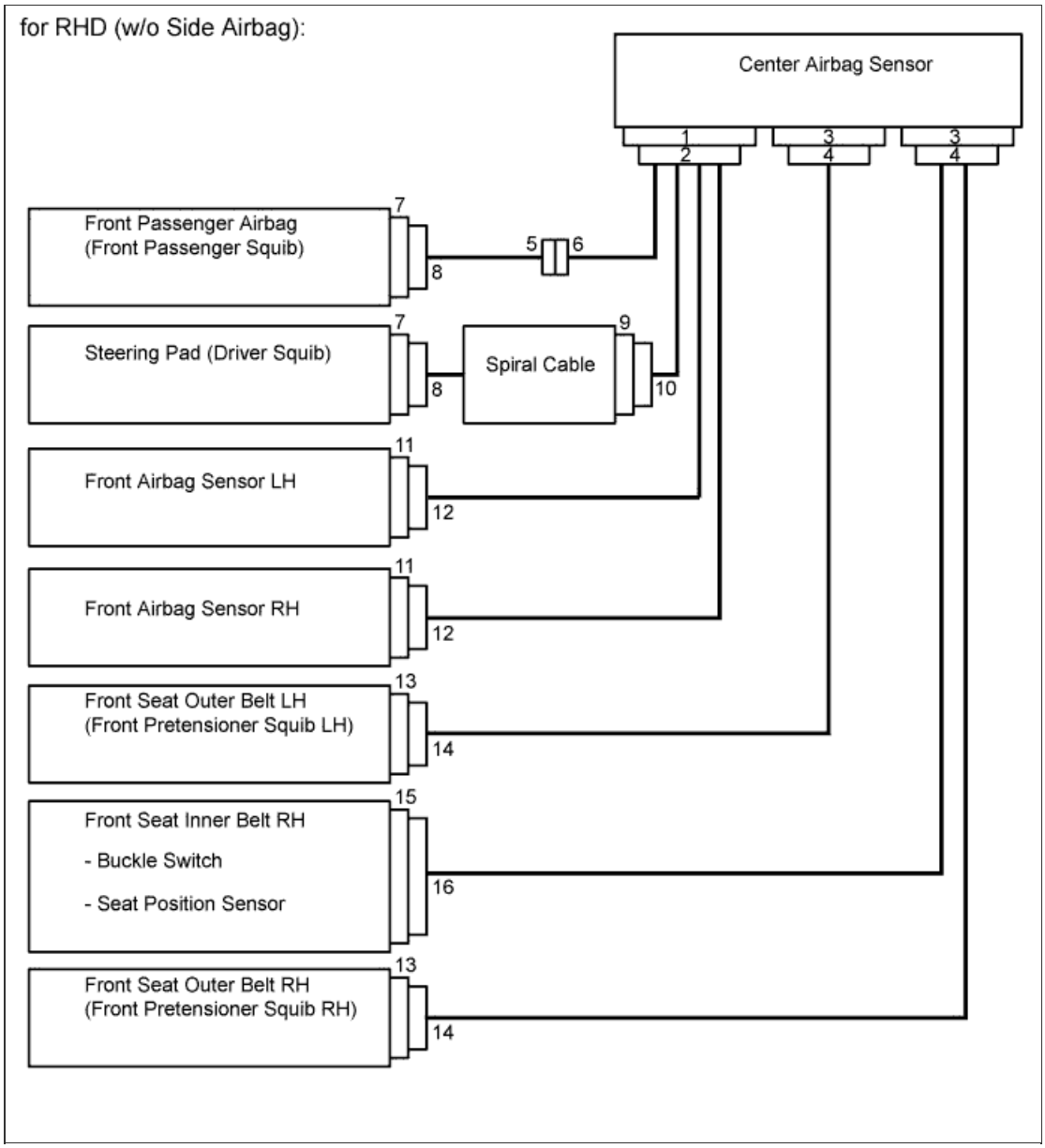
w/ Side Airbag:



for LHD (w/o Side Airbag):

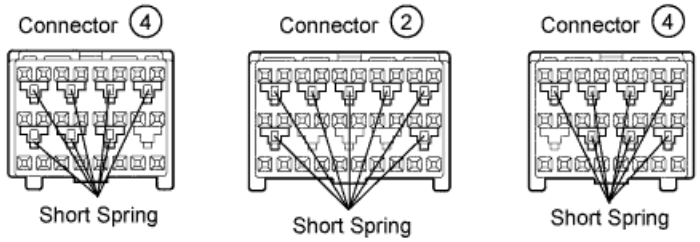


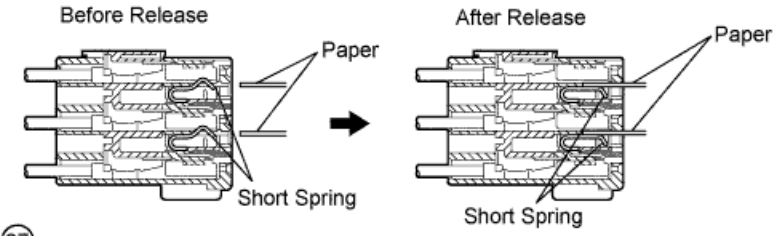
for RHD (w/o Side Airbag):



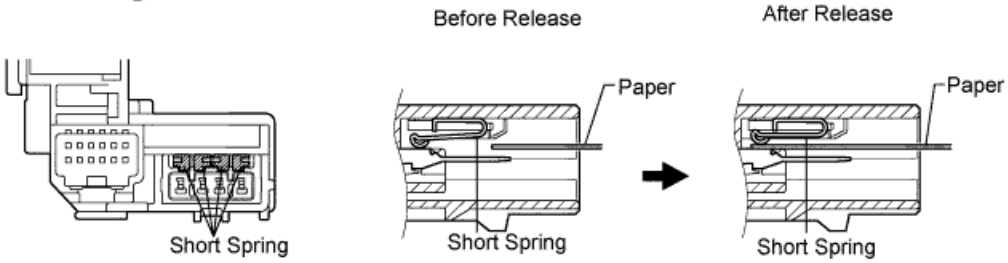
w/ Side Airbag:

Center Airbag Sensor Connector

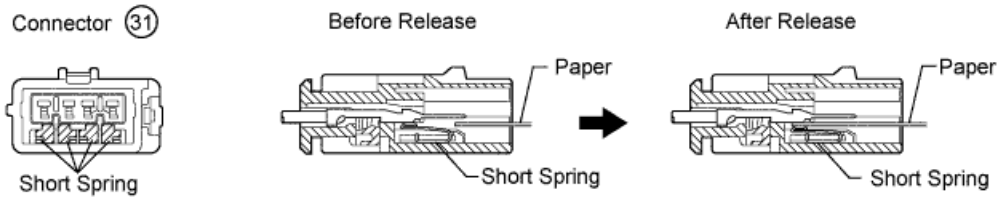


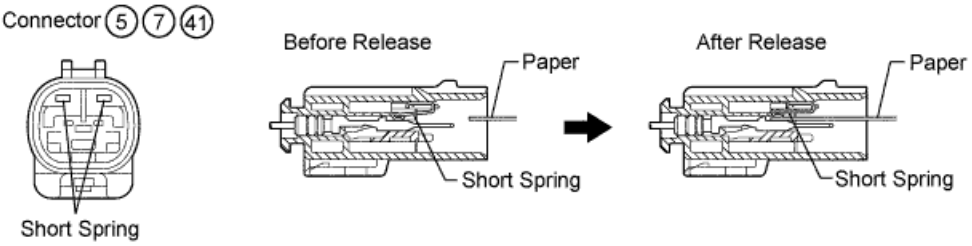

Connector 27




Connector 31

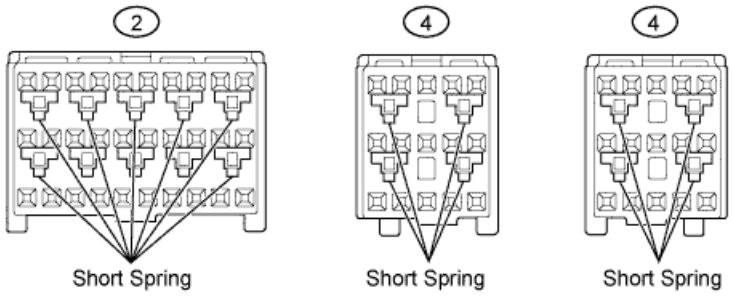


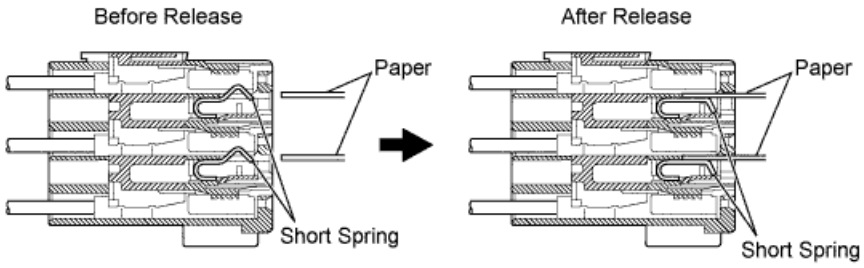

Connector 5 7 41



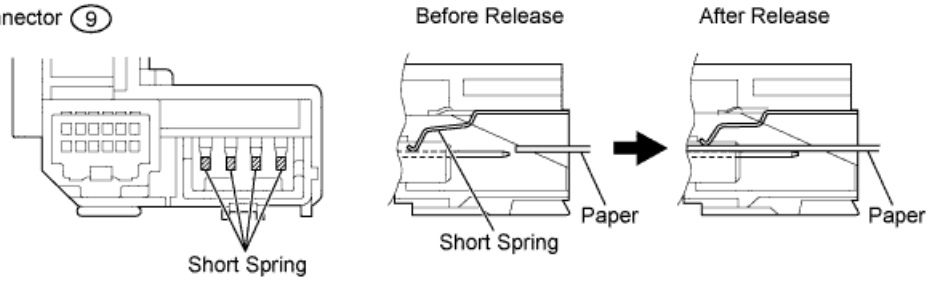
w/o Side Airbag:

Airbag Sensor Assembly Connector

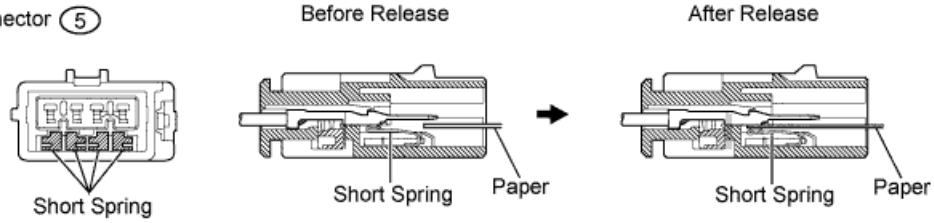



Connector (9)



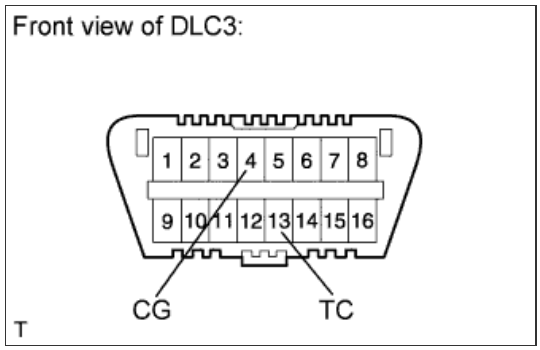

Connector (5)



**for Preparation** Click here

## CHECK DTC (Using SST Check Wire)

a. Check the DTCs (Present trouble code).




i. Turn the ignition switch to ON, and wait for approximately 60 seconds.

ii. Using SST, connect terminals 13 (TC) and 4 (CG) of the DLC3.

*SST*
09843-18040

**NOTICE:**

Connect the correct terminals to avoid a malfunction.

b. Check the DTCs (Past trouble code).

i. Using SST, connect terminals 13 (TC) and 4 (CG) of the DLC3.

*SST*
09843-18040

**NOTICE:**

Connect the correct terminals to avoid a malfunction.

ii. Turn the ignition switch to ON, and wait for approximately 60 seconds.

c. Read the DTCs.

i. Read the blinking patterns of the DTCs. As examples, the blinking patterns for the normal system code and trouble codes 11 and 31 are shown in the illustration.

- Normal system code indication (without past trouble code):
  The light blinks twice per second.
- Normal system code indication (with past trouble code):
  When a past trouble code is stored in the center airbag sensor, the light blinks only once per second.
- Trouble code indication:
  Each digit of a DTC is separated by a 1.5 second pause.

If there is more than 1 code, there will be a 2.5 second pause between each code. After all codes are shown, there will be a 4.0 second pause, and then all codes will be repeated.

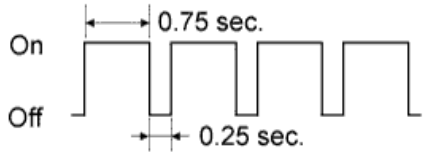
**HINT:**

- **If 2 or more malfunctions are found, the indication begins with the smaller-numbered code.**
- **If DTCs are output without connecting the terminals, proceed to "Diagnosis Circuit" (Click here).**

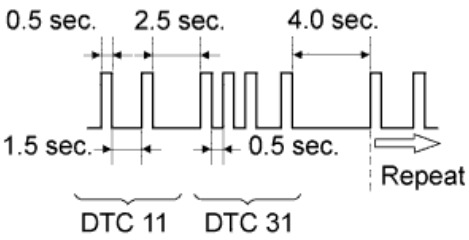
Normal System Code (without Past Trouble Code):




Normal System Code (with Past Trouble Code):




Trouble Code (Example Codes 11 and 31):




## CLEAR DTC (Using SST Check Wire)

a. When the ignition switch is turned off, the DTCs are cleared.

**HINT:**

Depending on the DTC, the code may not be cleared by turning off the ignition switch. In this case, proceed to the next procedure.

b. Using SST, connect terminals 13 (TC) and 4 (CG) of the DLC3, and then turn the ignition switch to ON.

*SST*
09843-18040

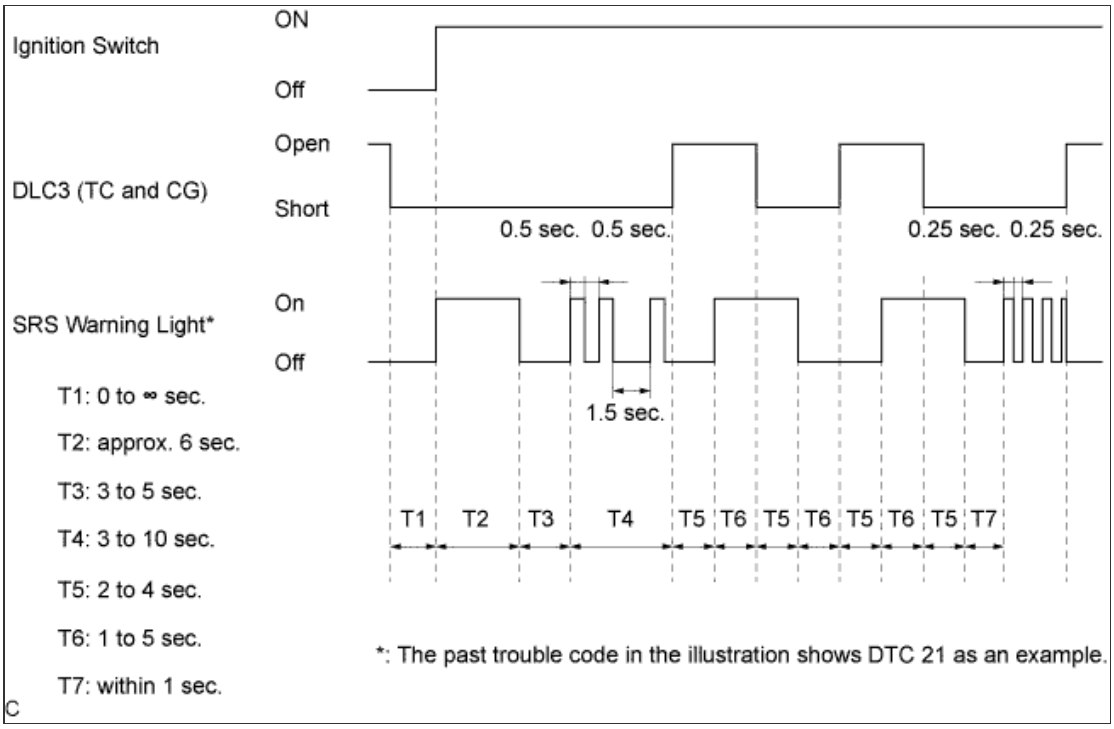
c. Disconnect terminal TC of the DLC3 within 3 to 10 seconds after the DTCs are output, and check if the SRS warning light comes on after 3 seconds.

d. Within 2 to 4 seconds after the SRS warning light comes on, connect terminals 13 (TC) and 4 (CG) of the DLC3.

e. The SRS warning light should go off within 2 to 4 seconds after connecting terminals 13 (TC) and 4 (CG) of the DLC3. Then, disconnect terminal 13 (TC) within 2 to 4 seconds after the SRS warning light goes off.

f. The SRS warning light comes on again within 2 to 4 seconds after disconnecting terminal 13 (TC). Then, reconnect terminals 13 (TC) and 4 (CG) within 2 to 4 seconds after the SRS warning light comes on.

g. Check if the SRS warning light goes off within 2 to 4 seconds after connecting terminals 13 (TC) and 4 (CG) of the DLC3. Also check if the normal system code is output within 1 second after the SRS warning light goes off.
If DTCs are not cleared, repeat this procedure until the codes are cleared.




## CHECK DTC (Using the Intelligent Tester)

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Check the DTCs by following the prompts on the tester screen.

**HINT:**

Refer to the intelligent tester operator's manual for further details.

## CLEAR DTC (Using the Intelligent Tester)

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Clear the DTCs by following the prompts on the tester screen.

**HINT:**

Refer to the intelligent tester operator's manual for further details.

**for Preparation** Click here

**NOTICE:**

Enter "Signal Check" from the "DTC CHECK" screen displayed on the intelligent tester to clear the output DTCs (both present and past).

**HINT:**

- **DTCs can be stored more sensitively in check mode than in normal diagnosis mode.**
- **Perform the check mode inspection when a malfunction in each squib circuit is suspected even after the normal system code is output through normal diagnosis mode inspection.**

## CHECK MODE PROCEDURE (for Using an Intelligent Tester)

a. Turn the ignition switch off.

b. Connect the intelligent tester to the DLC3.

c. Turn the ignition switch to ON.

d. Turn the intelligent tester on.

e. Enter the following menus: Body / SRS Airbag / Utility / Signal Check / *.

**HINT:**

*: Follow the directions on the tester screen.

**for Preparation** Click here

## READ DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Warm up the engine.

b. Turn the ignition switch off.

c. Connect the intelligent tester to the DLC3.

d. Turn the ignition switch to ON.

e. Turn the intelligent tester on.

f. Enter the following menus: Body / SRS Airbag / Data List.

g. According to the display on tester, read the Data List.

**Center Airbag Sensor**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Driver Seat Position | Driver Seat Position/<br>FORWARD: Seat position is forward<br>BKWARD: Seat position is backward<br>FAIL: Failure detected | FORWARD/BKWARD | - |
| Passenger Detection | Passenger Detection/<br>NG: Data is not determined<br>OFF: Vacant<br>NONE: No passenger<br>DETECT: A passenger is seated<br>FAIL: Failure detected | NONE/DETECT | - |
| Right Side Buckle SW | Right Side Buckle SW/<br>UNSET: The seat belt is not fastened<br>SET: The seat belt is fastened<br>NG: Data is not determined | UNSET/SET | - |
| Left Side Buckle SW | Left Side Buckle SW/<br>UNSET: The seat belt is not fastened<br>SET: The seat belt is fastened<br>NG: Data is not determined | UNSET/SET | - |
| Display Type Information | Display Type Information/<br>LR: The display is indicated by LH/RH<br>DP: The display is indicated by Driver/Passenger | LR | - |
| Number of Past DTC | Number of Past DTCs/<br>Min.: 0, Max.: 255 | 0 | - |

**for Preparation** Click here

- If a trouble code is output during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.
- When the SRS warning light remains on and the DTC output is the normal system code, a voltage source drop is likely to occur. This malfunction is not stored in the memory by the center airbag sensor.
- If the power source voltage returns to normal, the SRS warning light will automatically go off. When 2 or more codes are output, the code with the lower number is output first.
- When 2 or more codes are output, the code with the lower number is output first.
- If a code not listed in the chart is output, the center airbag sensor may have a malfunction.
- If a DTC is output indicating a short to ground, short to B+ or open in an airbag squib circuit area, other DTCs may not be output. First replace or repair the malfunctioning area indicated by the current DTC, and then check for DTCs again to output the other DTCs.
- Mark in the check mode column:
  *1: DTC is not output in check mode.
  *2: DTC is output in check mode.
  *3: DTC is only for rear side airbag equipped vehicles.

**Airbag System**

| DTC Code | Detection Item | Check Mode | See page |
|---|---|---|---|
| B1000/31 | Center Airbag Sensor Assembly Malfunction | *1 | Click here |
| B1610/13 | Front Airbag Sensor RH Malfunction | *1 | Click here |
| B1612/83 | Lost Communication with Front Airbag Sensor RH | *1 | Click here |
| B1613/83 | Front Airbag Sensor RH Initialization Incomplete | *1 | Click here |
| B1615/14 | Front Airbag Sensor LH Malfunction | *1 | Click here |
| B1617/84 | Lost Communication with Front Airbag Sensor LH | *1 | Click here |
| B1618/84 | Front Airbag Sensor LH Initialization Incomplete | *1 | Click here |
| B161A/8A | Lost Communication with Front Satellite Sensor Bus | *1 | Click here |
| B1630/23 | Rear Airbag Sensor RH Circuit Malfunction | *1 | Click here |
| B1632/81 | Lost Communication with Rear Airbag Sensor RH | *1 | Click here |
| B1633/81 | Rear Airbag Sensor Assembly RH Initialization Incomplete | *1 | Click here |
| B1635/24 | Rear Airbag Sensor LH Circuit Malfunction | *1 | Click here |
| B1637/82 | Lost Communication with Rear Airbag Sensor LH | *1 | Click here |
| B1638/82 | Rear Airbag Sensor Assembly LH Initialization Incomplete | *1 | Click here |
| B1642/81 | Lost Communication with Side Satellite Sensor Bus RH | *1 | Click here |
| B1647/82 | Lost Communication with Side Satellite Sensor Bus LH | *1 | Click here |
| B1651/33 | Manual Cut off Switch Trouble | *1 | Click here |
| B1653/35 | Seat Position Airbag Sensor Circuit Malfunction | *1 | Click here |
| B1655/37 | Seat Belt Buckle Switch RH Circuit Malfunction | *1 | Click here |
| B1656/38 | Seat Belt Buckle Switch LH Circuit Malfunction | *1 | Click here |
| B1660/43 | Passenger Airbag ON/OFF Indicator Circuit Malfunction | *1 | Click here |
| B1661/44 | Roll Over Cut Off Indicator Malfunction | *1 | Click here |
| B1662/45 | Indicator Light Circuit Malfunction | *1 | Click here |
| B1675/18 | Rear Floor Airbag Sensor Malfunction | *1 | Click here |
| B1676/85 | Lost Communication with Rear Floor Airbag Sensor RH | *1 | Click here |
| B1677/85 | Rear Floor Airbag Sensor RH Initialization Incomplete | *1 | Click here |
| B1690/15 | Door Side Airbag Sensor RH Malfunction | *1 | Click here |
| B1692/81 | Lost Communication with Door Side Airbag Sensor RH | *1 | Click here |
| B1693/81 | Door Side Airbag Sensor RH Initialization Incomplete | *1 | Click here |
| B1695/16 | Door Side Airbag Sensor LH Malfunction | *1 | Click here |
| B1697/82 | Lost Communication with Door Side Airbag Sensor LH | *1 | Click here |
| B1698/82 | Door Side Airbag Sensor LH Initialization Incomplete | *1 | Click here |
| B1800/51 | Short in Driver Side Squib Circuit | *2 | Click here |
| B1801/51 | Open in Driver Side Squib Circuit | *2 | Click here |
| B1802/51 | Short to GND in Driver Side Squib Circuit | *2 | Click here |
| B1803/51 | Short to B+ in Driver Side Squib Circuit | *2 | Click here |
| B1805/52 | Short in Front Passenger Side Squib Circuit | *2 | Click here |
| | | | |

| | | | |
|---|---|---|---|
| B1806/52 | Open in Front Passenger Side Squib Circuit | *2 | Click here |
| B1807/52 | Short to GND in Front Passenger Side Squib Circuit | *2 | Click here |
| B1808/52 | Short to B+ in Front Passenger Side Squib Circuit | *2 | Click here |
| B1810/53 | Short in Driver Side Squib 2nd Step Circuit | *2 | Click here |
| B1811/53 | Open in Driver Side Squib 2nd Step Circuit | *2 | Click here |
| B1812/53 | Short to GND in Driver Side Squib 2nd Step Circuit | *2 | Click here |
| B1813/53 | Short to B+ in Driver Side Squib 2nd Step Circuit | *2 | Click here |
| B1815/54 | Short in Front Passenger Side Squib 2nd Step Circuit | *2 | Click here |
| B1816/54 | Open in Front Passenger Side Squib 2nd Step Circuit | *2 | Click here |
| B1817/54 | Short to GND in Front Passenger Side Squib 2nd Step Circuit | *2 | Click here |
| B1818/54 | Short to B+ in Front Passenger Side Squib 2nd Step Circuit | *2 | Click here |
| B1820/55 | Short in Side Squib RH Circuit | *2 | Click here |
| B1821/55 | Open in Side Squib RH Circuit | *2 | Click here |
| B1822/55 | Short to GND in Side Squib RH Circuit | *2 | Click here |
| B1823/55 | Short to B+ in Side Squib RH Circuit | *2 | Click here |
| B1825/56 | Short in Side Squib LH Circuit | *2 | Click here |
| B1826/56 | Open in Side Squib LH Circuit | *2 | Click here |
| B1827/56 | Short to GND in Side Squib LH Circuit | *2 | Click here |
| B1828/56 | Short to B+ in Side Squib LH Circuit | *2 | Click here |
| B1830/57 | Short in Curtain Shield Squib RH Circuit | *2 | Click here |
| B1831/57 | Open in Curtain Shield Squib RH Circuit | *2 | Click here |
| B1832/57 | Short to GND in Curtain Shield Squib RH Circuit | *2 | Click here |
| B1833/57 | Short to B+ in Curtain Shield Squib RH Circuit | *2 | Click here |
| B1835/58 | Short in Curtain Shield Squib LH Circuit | *2 | Click here |
| B1836/58 | Open in Curtain Shield Squib LH Circuit | *2 | Click here |
| B1837/58 | Short to GND in Curtain Shield Squib LH Circuit | *2 | Click here |
| B1838/58 | Short to B+ in Curtain Shield Squib LH Circuit | *2 | Click here |
| B1840/59 | Short in Curtain Shield Squib RH 2nd Step Circuit | *2 | Click here |
| B1841/59 | Open in Curtain Shield Squib RH 2nd Step Circuit | *2 | Click here |
| B1842/59 | Short to GND in Curtain Shield Squib RH 2nd Step Circuit | *2 | Click here |
| B1843/59 | Short to B+ in Curtain Shield Squib RH 2nd Step Circuit | *2 | Click here |
| B1845/61 | Short in Curtain Shield Squib LH 2nd Step Circuit | *2 | Click here |
| B1846/61 | Open in Curtain Shield Squib LH 2nd Step Circuit | *2 | Click here |
| B1847/61 | Short to GND in Curtain Shield Squib LH 2nd Step Circuit | *2 | Click here |
| B1848/61 | Short to B+ in Curtain Shield Squib LH 2nd Step Circuit | *2 | Click here |
| B1850/62 | Short in Rear Side Squib RH Circuit | *2, *3 | Click here |
| B1851/62 | Open in Rear Side Squib RH Circuit | *2, *3 | Click here |
| B1852/62 | Short to GND in Rear Side Squib RH Circuit | *2, *3 | Click here |
| B1853/62 | Short to B+ in Rear Side Squib RH Circuit | *2, *3 | Click here |
| B1855/63 | Short in Rear Side Squib LH Circuit | *2, *3 | Click here |
| B1856/63 | Open in Rear Side Squib LH Circuit | *2, *3 | Click here |
| B1857/63 | Short to GND in Rear Side Squib LH Circuit | *2, *3 | Click here |
| B1858/63 | Short to B+ in Rear Side Squib LH Circuit | *2, *3 | Click here |
| B1860/64 | Short in Driver Side Knee Airbag Squib Circuit | *2 | Click here |
| B1861/64 | Open in Driver Side Knee Airbag Squib Circuit | *2 | Click here |
| B1862/64 | Short to GND in Driver Side Knee Airbag Squib Circuit | *2 | Click here |
| B1863/64 | Short to B+ in Driver Side Knee Airbag Squib Circuit | *2 | Click here |
| B1865/65 | Short in Front Passenger Side Knee Airbag Squib Circuit | *2 | Click here |
| B1866/65 | Open in Front Passenger Side Knee Airbag Squib Circuit | *2 | Click here |
| B1867/65 | Short to GND in Front Passenger Side Knee Airbag Squib Circuit | *2 | Click here |
| B1868/65 | Short to B+ in Front Passenger Side Knee Airbag Squib Circuit | *2 | Click here |
| B1900/73 | Short in Front Pretensioner Squib RH Circuit | *2 | Click here |
| B1901/73 | Open in Front Pretensioner Squib RH Circuit | *2 | Click here |
| B1902/73 | Short to GND in Front Pretensioner Squib RH Circuit | *2 | Click here |
| B1903/73 | Short to B+ in Front Pretensioner Squib RH Circuit | *2 | Click here |
| B1905/74 | Short in Front Pretensioner Squib LH Circuit | *2 | Click here |
| B1906/74 | Open in Front Pretensioner Squib LH Circuit | *2 | Click here |

| | | | |
|---|---|---|---|
| B1907/74 | Short to GND in Front Pretensioner Squib LH Circuit | *2 | Click here |
| B1908/74 | Short to B+ in Front Pretensioner Squib LH Circuit | *2 | Click here |
| B1920/77 | Short in Rear Pretensioner Squib RH Circuit | *2 | Click here |
| B1921/77 | Open in Rear Pretensioner Squib RH Circuit | *2 | Click here |
| B1922/77 | Short to GND in Rear Pretensioner Squib RH Circuit | *2 | Click here |
| B1923/77 | Short to B+ in Rear Pretensioner Squib RH Circuit | *2 | Click here |
| B1925/78 | Short in Rear Pretensioner Squib LH Circuit | *2 | Click here |
| B1926/78 | Open in Rear Pretensioner Squib LH Circuit | *2 | Click here |
| B1927/78 | Short to GND in Rear Pretensioner Squib LH Circuit | *2 | Click here |
| B1928/78 | Short to B+ in Rear Pretensioner Squib LH Circuit | *2 | Click here |

# DTC B1000/31 Center Airbag Sensor Assembly Malfunction

**for Preparation** Click here

## DESCRIPTION

The center airbag sensor consists of the airbag sensor, the safing sensor, the drive circuit, the diagnosis circuit, the ignition control, etc.
If the center airbag sensor receives signals from the airbag sensor, it determines whether the SRS should be activated.
DTC B1000/31 is output when a malfunction is detected in the center airbag sensor.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1000/31 | A center airbag sensor malfunction. | Center airbag sensor assembly |

**HINT:**

When a trouble code is output simultaneously with B1000/31, repair the malfunction indicated by the other code first.

## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK CENTER AIRBAG SENSOR

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1000/31 is output | A |
| DTC B1000/31 and other DTCs are output | B |

**NOTICE:**

If only DTC B1000/31 is output, do not clear the DTCs. Instead, immediately replace the center airbag sensor assembly.

**HINT:**

If any DTCs other than DTC B1000/31 are output, troubleshoot those DTCs first.

**B** → Go to DIAGNOSTIC TROUBLE CODE CHART ( Click here)

**A**

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## DTC B1825/56 Short in Side Squib LH Circuit

## DTC B1826/56 Open in Side Squib LH Circuit

## DTC B1827/56 Short to GND in Side Squib LH Circuit

## DTC B1828/56 Short to B+ in Side Squib LH Circuit

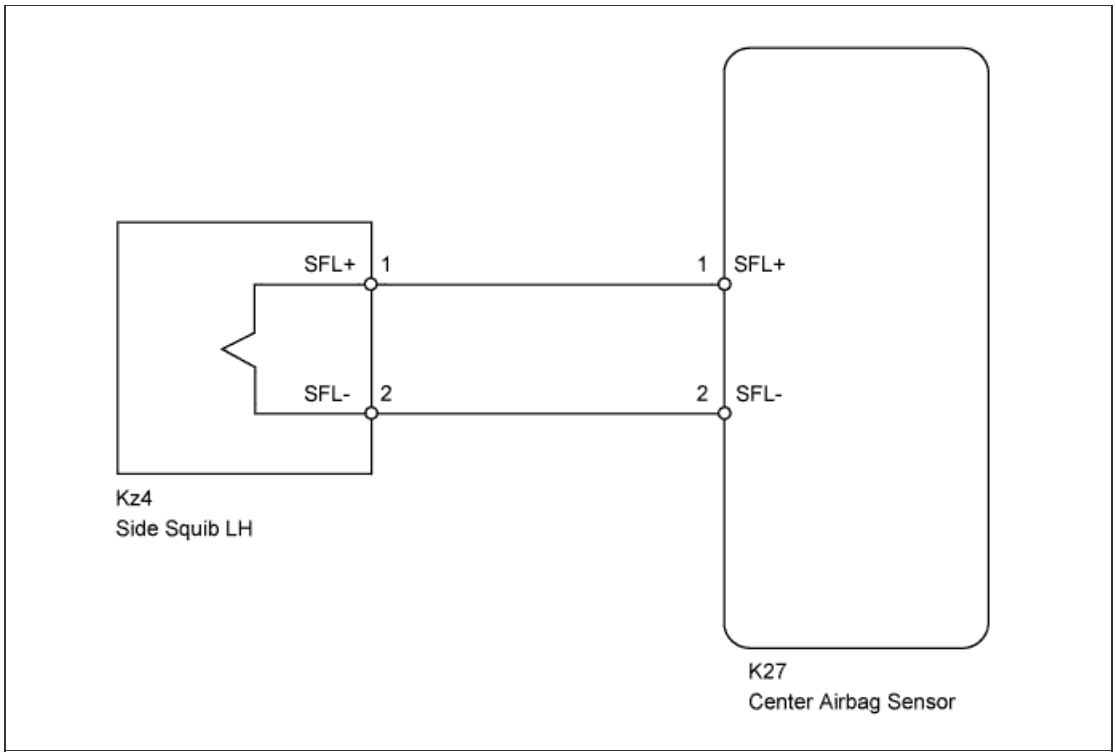
**for Preparation** Click here

### DESCRIPTION

The side squib LH circuit consists of the center airbag sensor and the front seat airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the side squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1825/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the side squib LH circuit during the primary check.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1826/56 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the side squib LH circuit for 2 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1827/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the side squib LH circuit for 0.5 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1828/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the side squib LH circuit for 0.5 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT SEAT AIRBAG LH (SIDE SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front seat airbag LH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

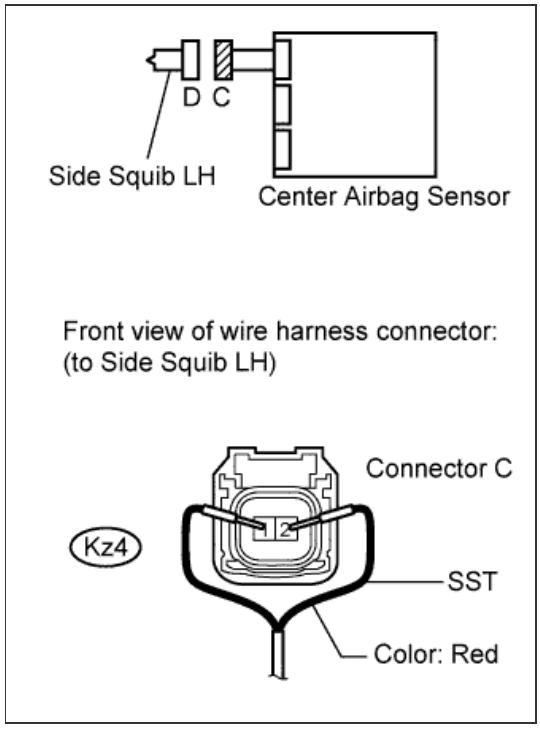
Never connect the tester to the front seat airbag LH (side squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1825, B1826, B1827 or B1828 is not output.**

**HINT:**

Codes other than DTC B1825, B1826, B1827 and B1828 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for Manual Seat) | A |
| OK (for Power Seat) | B |
| NG | C |

B → REPLACE FRONT SEAT AIRBAG ASSEMBLY LH (Click here)

C → Go to step 2

A

REPLACE FRONT SEAT AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK FLOOR WIRE (SIDE SQUIB LH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

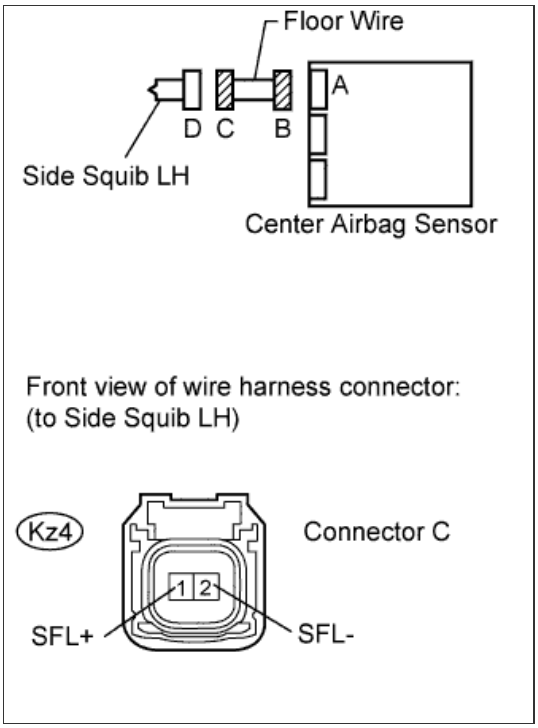
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Body ground | Ignition switch ON | Below 1 V |
| Kz4-2 (SFL-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Kz4-2 (SFL-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Kz4-2 (SFL-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| Kz4-1 (SFL+) - Body ground | Always | 1 MΩ or higher |
| Kz4-2 (SFL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

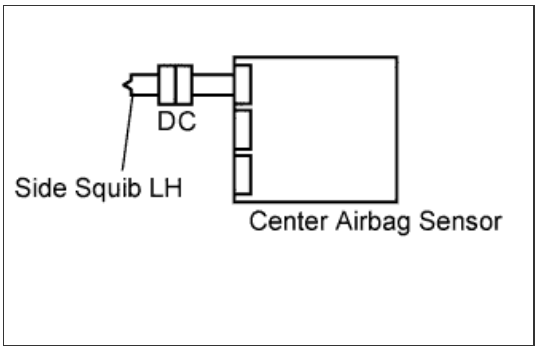
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1825, B1826, B1827 or B1828 is not output.**

**HINT:**

Codes other than DTC B1825, B1826, B1827 and B1828 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1610/13 Front Airbag Sensor RH Malfunction

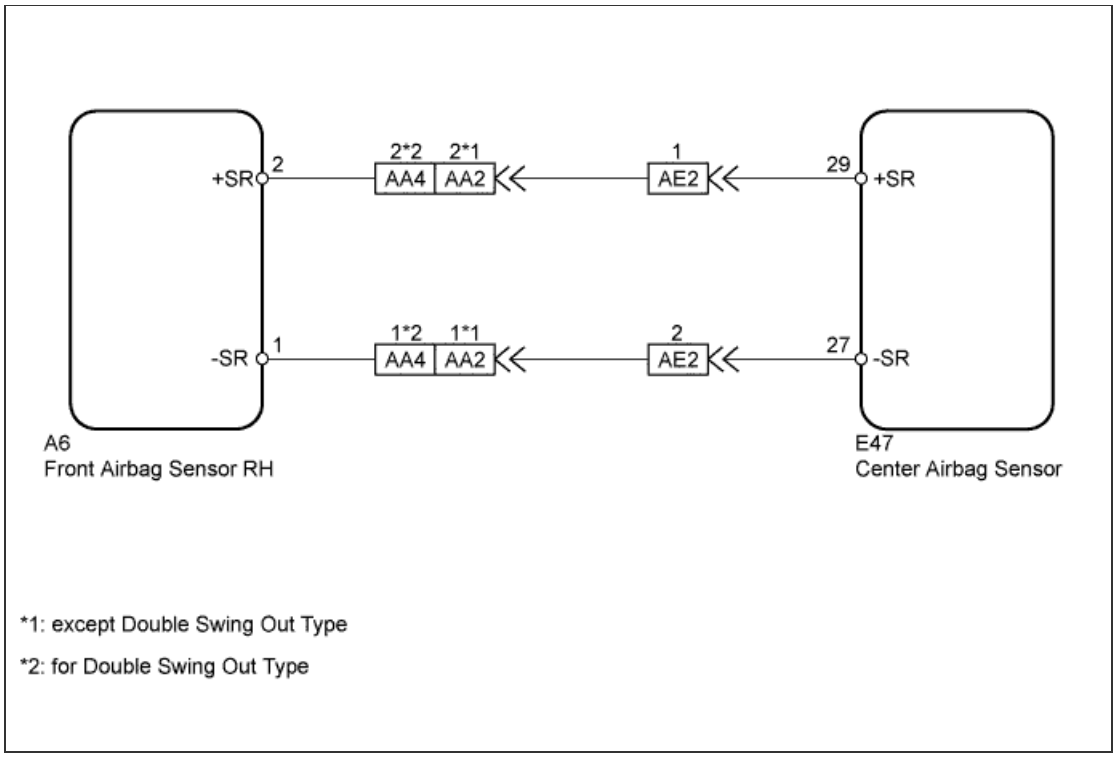
**for Preparation** Click here

### DESCRIPTION

The front airbag sensor RH consists of the diagnostic circuit and the frontal deceleration sensor, etc.
If the center airbag sensor receives signals from the frontal deceleration sensor, it determines whether the SRS should be activated.
DTC B1610/13 is stored when a malfunction is detected in the front airbag sensor RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1610/13 | When one of the following conditions is met:<br>• A front airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Front airbag sensor RH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

#### 1.CHECK FRONT AIRBAG SENSOR RH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Interchange the front airbag sensor RH with LH and connect the connectors to them.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, and wait for at least 60 seconds.

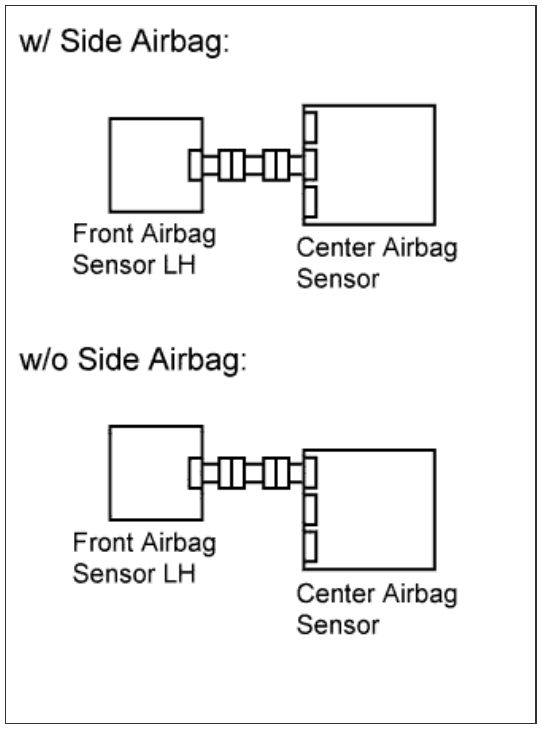
i. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1610 is output | A |
| DTC B1615 is output | B |
| DTC B1610 and B1615 are not output | C |

**HINT:**

Codes other than DTC B1610 and B1615 may be output at this time, but they are not related to this check.




**A** → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**B** → REPLACE FRONT AIRBAG SENSOR RH (Click here)

**C**

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1825/56 Short in Side Squib LH Circuit

## DTC B1826/56 Open in Side Squib LH Circuit

## DTC B1827/56 Short to GND in Side Squib LH Circuit

## DTC B1828/56 Short to B+ in Side Squib LH Circuit

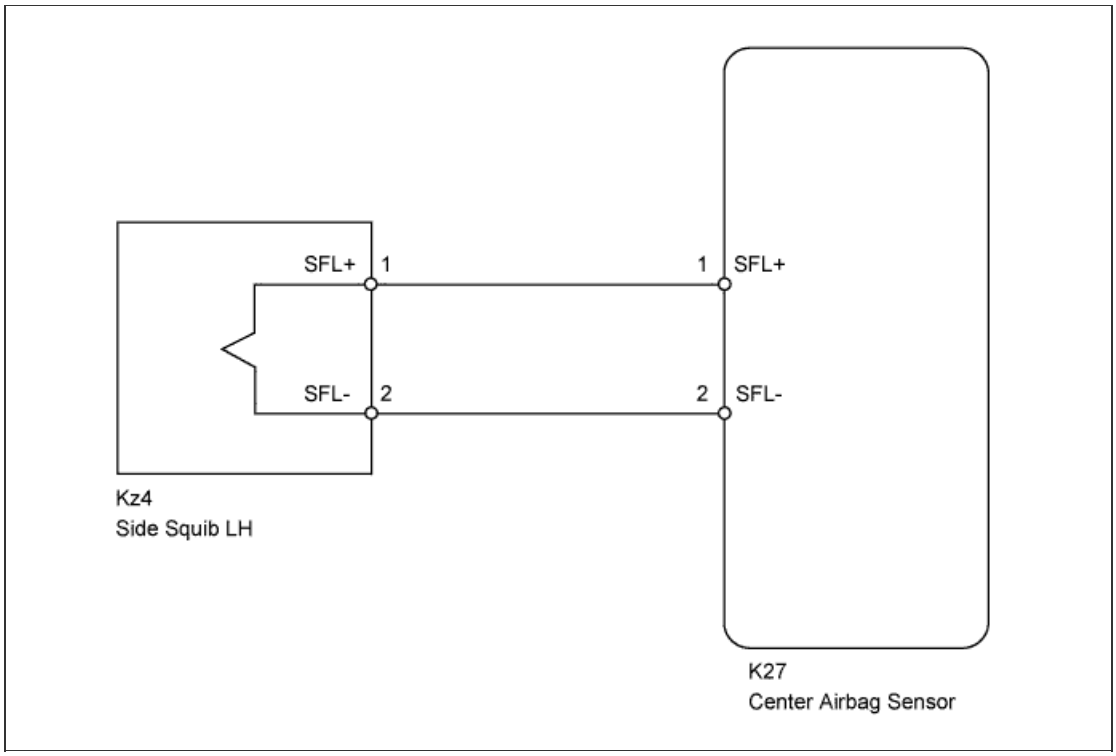
**for Preparation** Click here

### DESCRIPTION

The side squib LH circuit consists of the center airbag sensor and the front seat airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the side squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1825/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the side squib LH circuit during the primary check.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1826/56 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the side squib LH circuit for 2 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1827/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the side squib LH circuit for 0.5 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1828/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the side squib LH circuit for 0.5 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT SEAT AIRBAG LH (SIDE SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front seat airbag LH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

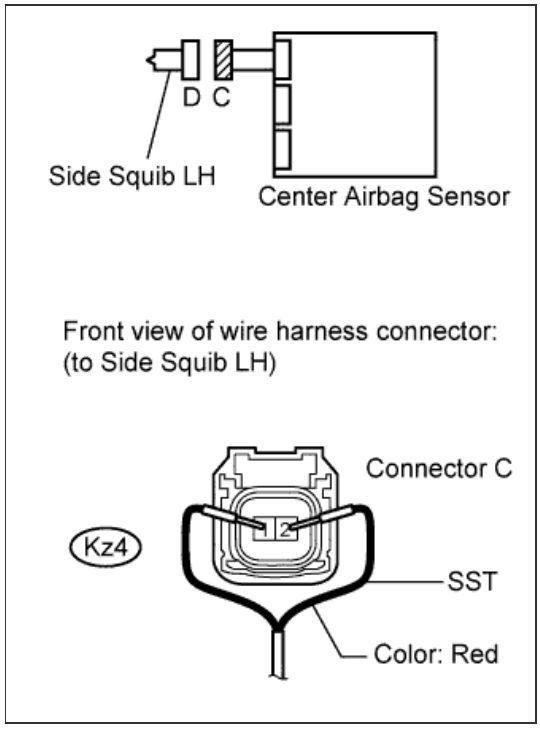
Never connect the tester to the front seat airbag LH (side squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1825, B1826, B1827 or B1828 is not output.**

**HINT:**

Codes other than DTC B1825, B1826, B1827 and B1828 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for Manual Seat) | A |
| OK (for Power Seat) | B |
| NG | C |

B → REPLACE FRONT SEAT AIRBAG ASSEMBLY LH (Click here)

C → Go to step 2

A

REPLACE FRONT SEAT AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK FLOOR WIRE (SIDE SQUIB LH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

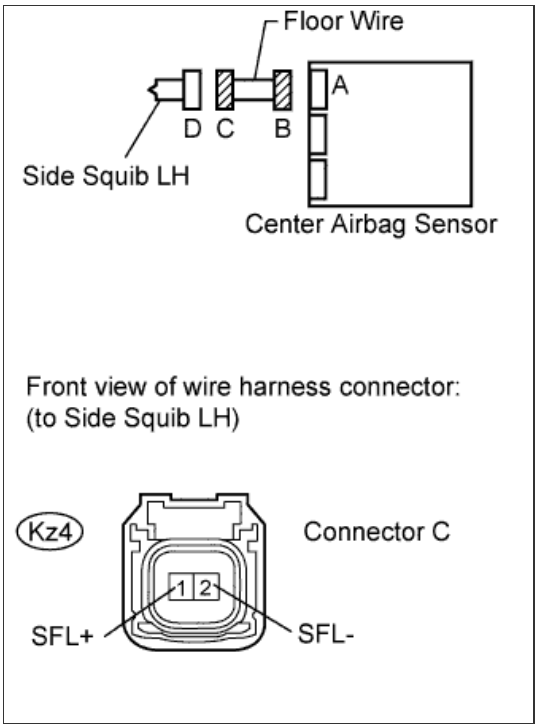
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Body ground | Ignition switch ON | Below 1 V |
| Kz4-2 (SFL-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Kz4-2 (SFL-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Kz4-2 (SFL-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| Kz4-1 (SFL+) - Body ground | Always | 1 MΩ or higher |
| Kz4-2 (SFL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

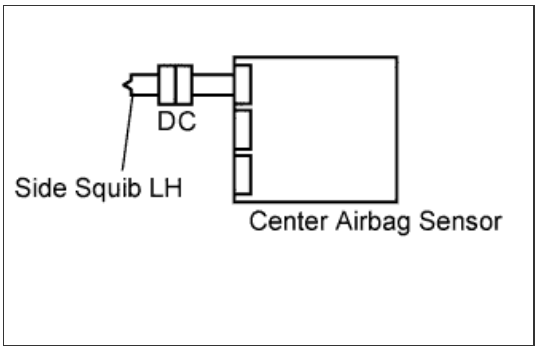
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1825, B1826, B1827 or B1828 is not output.**

**HINT:**

Codes other than DTC B1825, B1826, B1827 and B1828 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1612/83 Lost Communication with Front Airbag Sensor RH

## DTC B1613/83 Front Airbag Sensor RH Initialization Incomplete

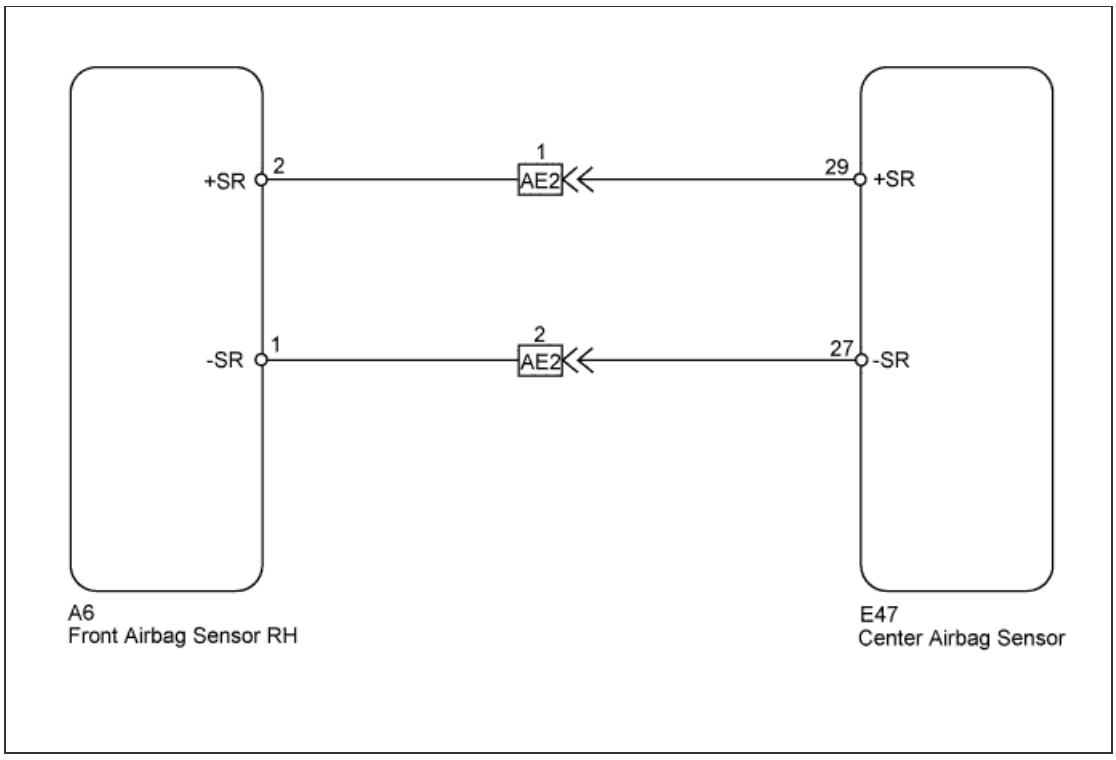
**for Preparation** Click here

### DESCRIPTION

The front airbag sensor RH circuit consists of the center airbag sensor and front airbag sensor RH.
The front airbag sensor RH detects impacts to the vehicle and sends signals to the center airbag sensor to determine if the airbag should be deployed.
DTC B1612/83 or B1613/83 is stored when a malfunction is detected in the front airbag sensor RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1612/83 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front airbag sensor RH circuit for 2 seconds.<br>• A front airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor RH<br>• Center airbag sensor assembly |
| B1613/83 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front airbag sensor RH circuit for 2 seconds.<br>• A front airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor RH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the front airbag sensor RH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

### 2.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and front airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side and front airbag sensor RH side) are not damaged.

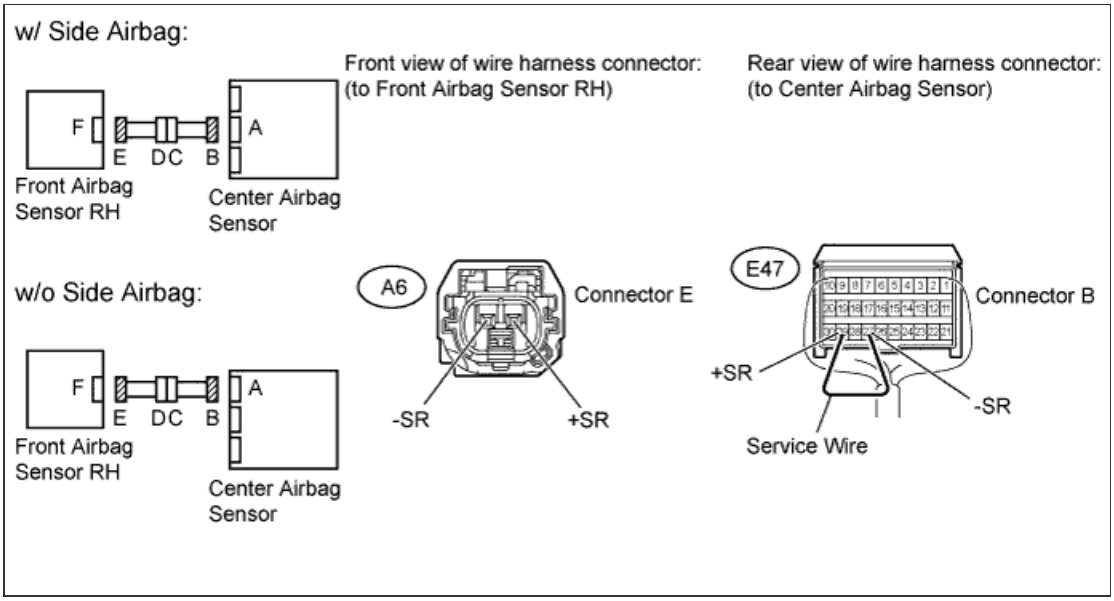
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

### 3.CHECK FRONT AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A6-2 (+SR) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| A6-1 (-SR) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 29 (+SR) and 27 (-SR) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A6-2 (+SR) - A6-1 (-SR) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A6-2 (+SR) - A6-1 (-SR) | Always | 1 MΩ or higher |
| A6-2 (+SR) - Body ground | Always | 1 MΩ or higher |
| A6-1 (-SR) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK FRONT AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Interchange the front airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

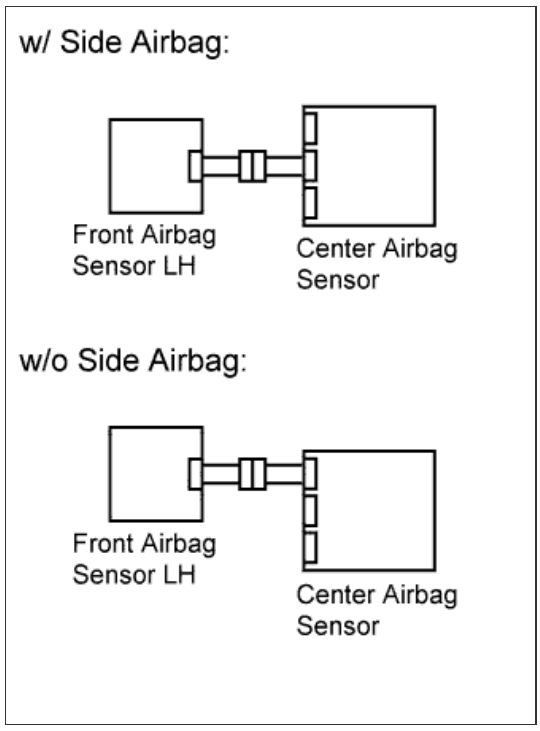
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1612, B1613, B1617 and B1618 are not output | A |
| DTC B1617 or B1618 is output | B |
| DTC B1612 or B1613 is output | C |

**HINT:**

Codes other than DTC B1612, B1613, B1617 and B1618 may be output at this time, but they are not related to this check.

A → USE SIMULATION METHOD TO CHECK (Click here)

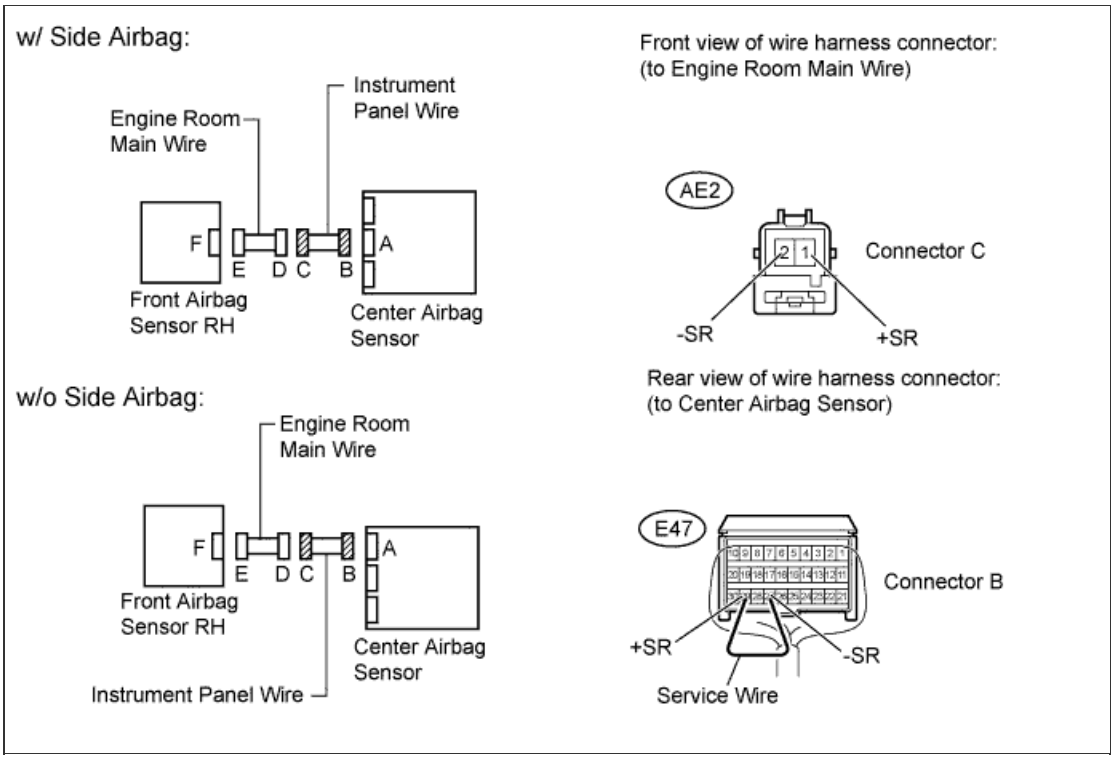
B → REPLACE FRONT AIRBAG SENSOR RH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - ENGINE ROOM MAIN WIRE)

a. Disconnect the instrument panel wire connector from the engine room main wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| AE2-1 (+SR) - Body ground | Ignition switch ON | Below 1 V |
| AE2-2 (-SR) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminal 29 (+SR) and 27 (-SR) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminal of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AE2-1 (+SR) - | | |

| | | |
|---|---|---|
| AE2-2 (-SR) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AE2-1 (+SR) - AE2-2 (-SR) | Always | 1 MΩ or higher |
| AE2-1 (+SR) - Body ground | Always | 1 MΩ or higher |
| AE2-2 (-SR) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE ENGINE ROOM MAIN WIRE

## DTC B1825/56 Short in Side Squib LH Circuit

## DTC B1826/56 Open in Side Squib LH Circuit

## DTC B1827/56 Short to GND in Side Squib LH Circuit

## DTC B1828/56 Short to B+ in Side Squib LH Circuit

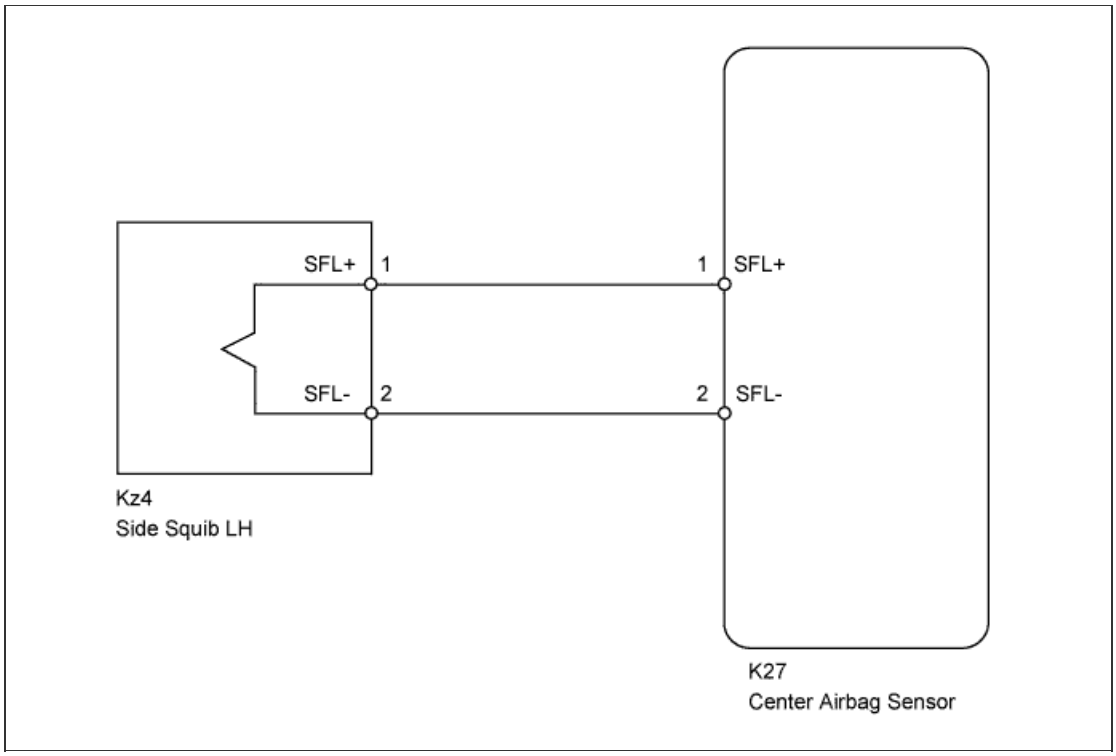
**for Preparation** Click here

### DESCRIPTION

The side squib LH circuit consists of the center airbag sensor and the front seat airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the side squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1825/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the side squib LH circuit during the primary check.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1826/56 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the side squib LH circuit for 2 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1827/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the side squib LH circuit for 0.5 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1828/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the side squib LH circuit for 0.5 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT SEAT AIRBAG LH (SIDE SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front seat airbag LH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

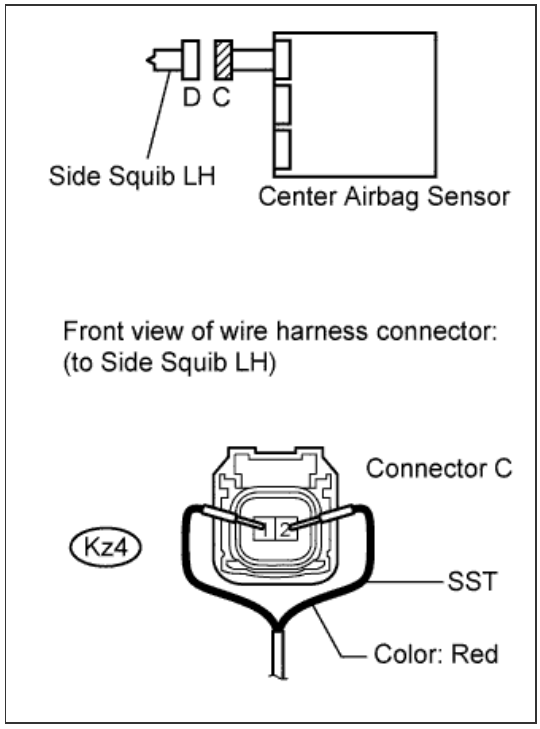
Never connect the tester to the front seat airbag LH (side squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1825, B1826, B1827 or B1828 is not output.**

**HINT:**

Codes other than DTC B1825, B1826, B1827 and B1828 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for Manual Seat) | A |
| OK (for Power Seat) | B |
| NG | C |

B → REPLACE FRONT SEAT AIRBAG ASSEMBLY LH (Click here)

C → Go to step 2

A

REPLACE FRONT SEAT AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK FLOOR WIRE (SIDE SQUIB LH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

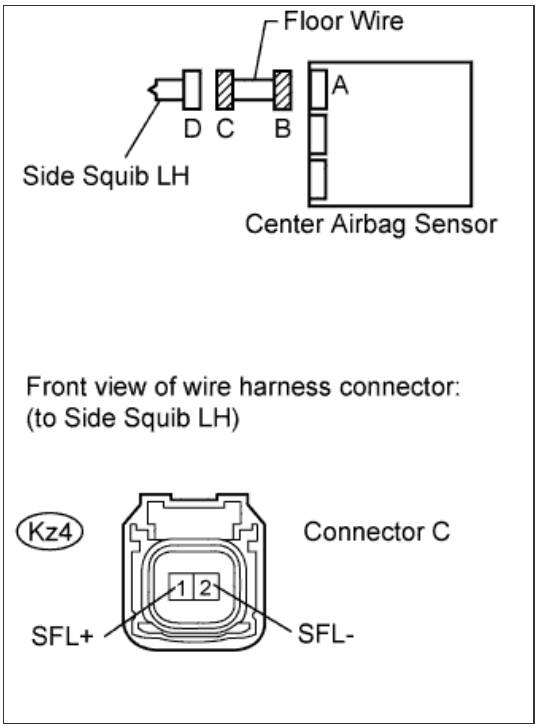
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Body ground | Ignition switch ON | Below 1 V |
| Kz4-2 (SFL-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Kz4-2 (SFL-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Kz4-2 (SFL-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| Kz4-1 (SFL+) - Body ground | Always | 1 MΩ or higher |
| Kz4-2 (SFL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

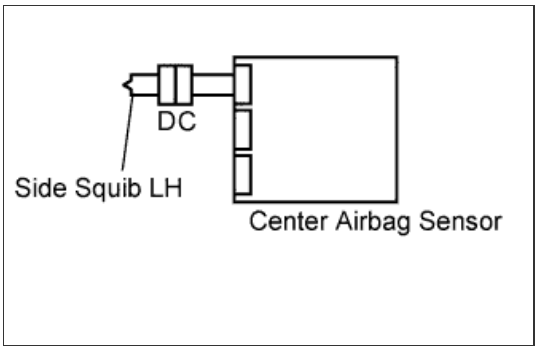
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1825, B1826, B1827 or B1828 is not output.**

**HINT:**

Codes other than DTC B1825, B1826, B1827 and B1828 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1612/83 Lost Communication with Front Airbag Sensor RH

## DTC B1613/83 Front Airbag Sensor RH Initialization Incomplete

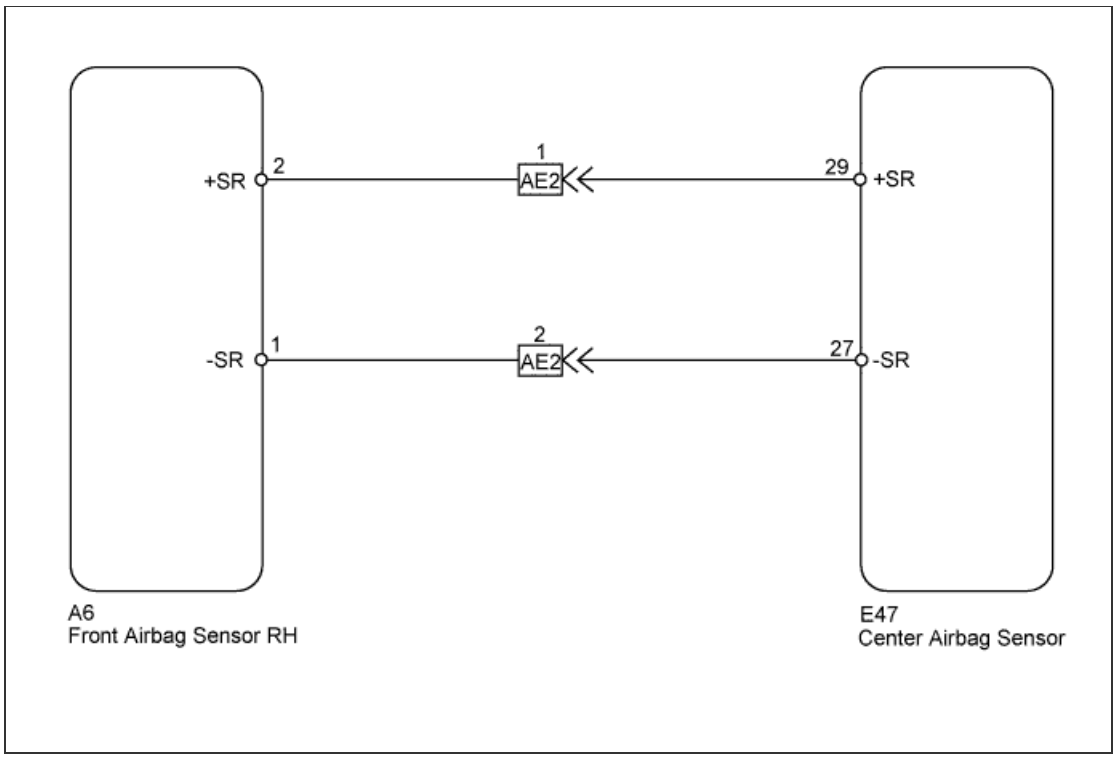
**for Preparation** Click here

### DESCRIPTION

The front airbag sensor RH circuit consists of the center airbag sensor and front airbag sensor RH.
The front airbag sensor RH detects impacts to the vehicle and sends signals to the center airbag sensor to determine if the airbag should be deployed.
DTC B1612/83 or B1613/83 is stored when a malfunction is detected in the front airbag sensor RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1612/83 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front airbag sensor RH circuit for 2 seconds.<br>• A front airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor RH<br>• Center airbag sensor assembly |
| B1613/83 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front airbag sensor RH circuit for 2 seconds.<br>• A front airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor RH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the front airbag sensor RH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

### 2.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and front airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side and front airbag sensor RH side) are not damaged.

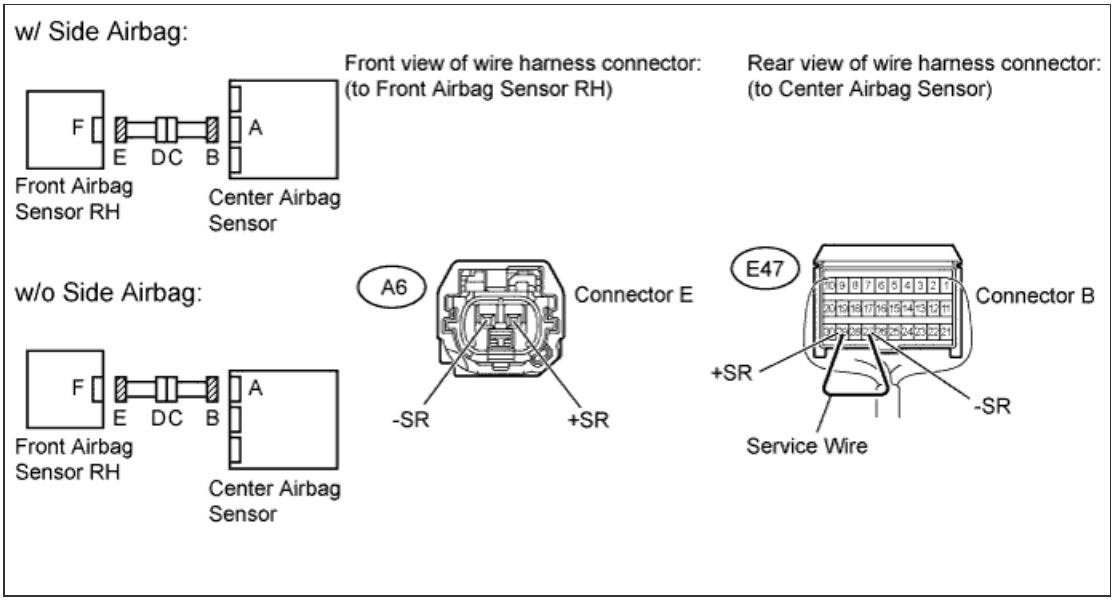
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

### 3.CHECK FRONT AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A6-2 (+SR) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| A6-1 (-SR) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 29 (+SR) and 27 (-SR) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A6-2 (+SR) - A6-1 (-SR) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A6-2 (+SR) - A6-1 (-SR) | Always | 1 MΩ or higher |
| A6-2 (+SR) - Body ground | Always | 1 MΩ or higher |
| A6-1 (-SR) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK FRONT AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Interchange the front airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

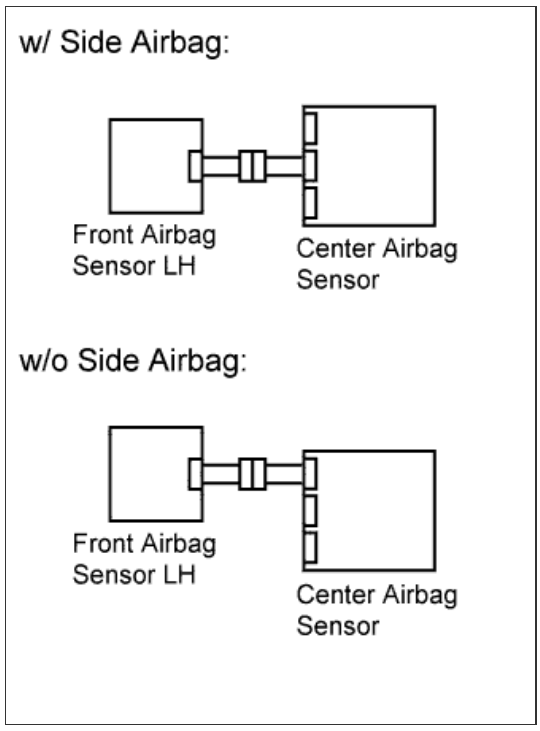
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1612, B1613, B1617 and B1618 are not output | A |
| DTC B1617 or B1618 is output | B |
| DTC B1612 or B1613 is output | C |

**HINT:**

Codes other than DTC B1612, B1613, B1617 and B1618 may be output at this time, but they are not related to this check.

A → USE SIMULATION METHOD TO CHECK (Click here)

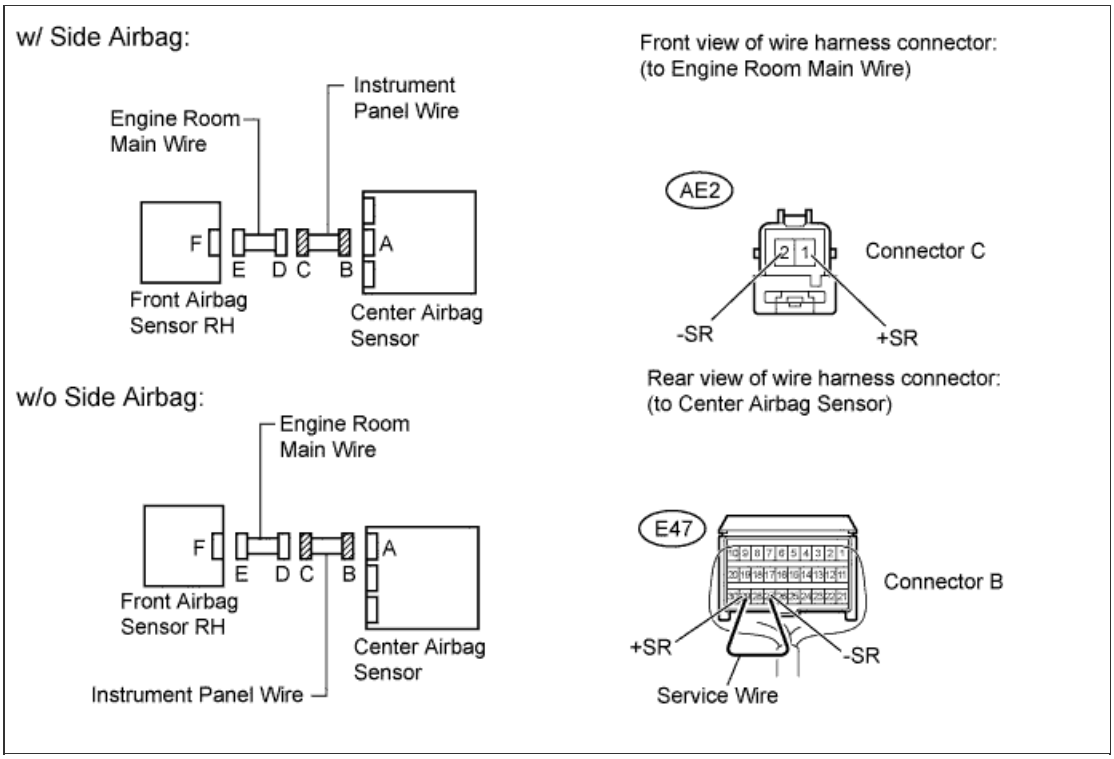
B → REPLACE FRONT AIRBAG SENSOR RH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - ENGINE ROOM MAIN WIRE)

a. Disconnect the instrument panel wire connector from the engine room main wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| AE2-1 (+SR) - Body ground | Ignition switch ON | Below 1 V |
| AE2-2 (-SR) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminal 29 (+SR) and 27 (-SR) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminal of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AE2-1 (+SR) - | | |

| | | |
|---|---|---|
| AE2-2 (-SR) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AE2-1 (+SR) - AE2-2 (-SR) | Always | 1 MΩ or higher |
| AE2-1 (+SR) - Body ground | Always | 1 MΩ or higher |
| AE2-2 (-SR) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE ENGINE ROOM MAIN WIRE

## DTC B1825/56 Short in Side Squib LH Circuit

## DTC B1826/56 Open in Side Squib LH Circuit

## DTC B1827/56 Short to GND in Side Squib LH Circuit

## DTC B1828/56 Short to B+ in Side Squib LH Circuit

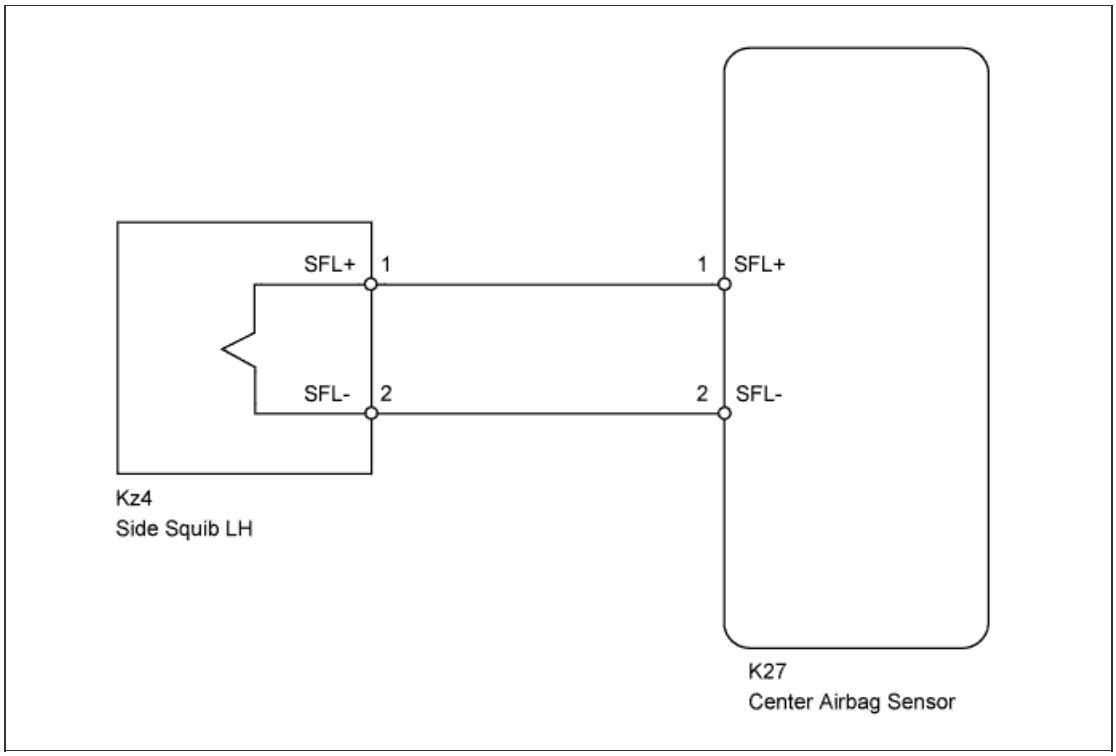
**for Preparation** Click here

### DESCRIPTION

The side squib LH circuit consists of the center airbag sensor and the front seat airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the side squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1825/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the side squib LH circuit during the primary check.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1826/56 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the side squib LH circuit for 2 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1827/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the side squib LH circuit for 0.5 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |
| B1828/56 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the side squib LH circuit for 0.5 seconds.<br>• A side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat airbag assembly LH (Side squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT SEAT AIRBAG LH (SIDE SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front seat airbag LH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

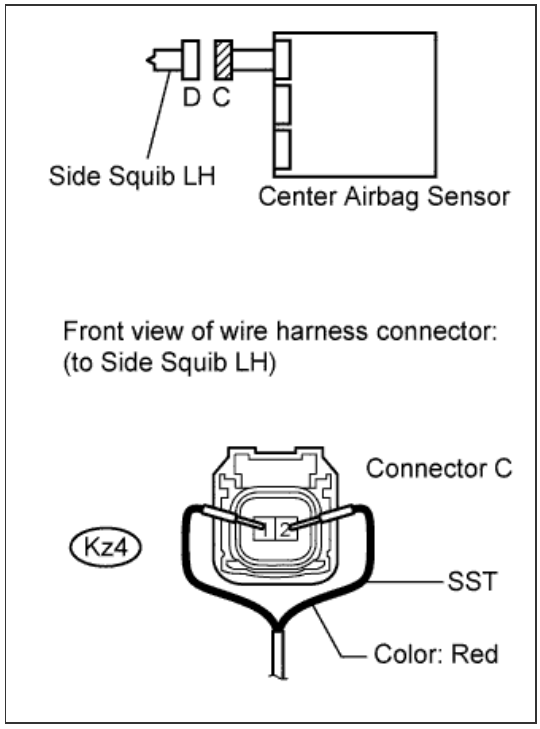
Never connect the tester to the front seat airbag LH (side squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1825, B1826, B1827 or B1828 is not output.**

**HINT:**

Codes other than DTC B1825, B1826, B1827 and B1828 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for Manual Seat) | A |
| OK (for Power Seat) | B |
| NG | C |

B → REPLACE FRONT SEAT AIRBAG ASSEMBLY LH (Click here)

C → Go to step 2

A

REPLACE FRONT SEAT AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK FLOOR WIRE (SIDE SQUIB LH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

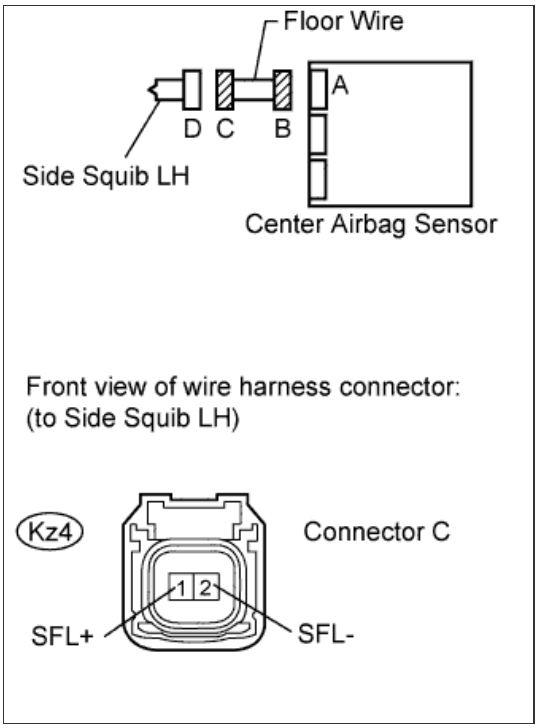
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Body ground | Ignition switch ON | Below 1 V |
| Kz4-2 (SFL-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Kz4-2 (SFL-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz4-1 (SFL+) - Kz4-2 (SFL-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| Kz4-1 (SFL+) - Body ground | Always | 1 MΩ or higher |
| Kz4-2 (SFL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

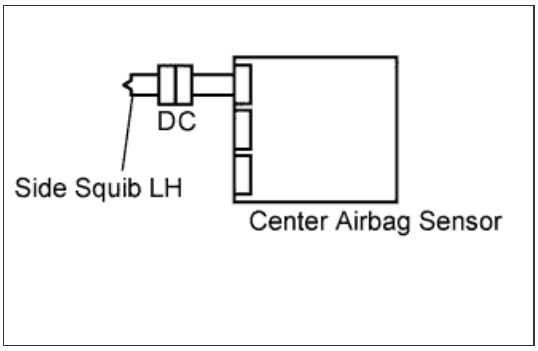
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1825, B1826, B1827 or B1828 is not output.**

**HINT:**

Codes other than DTC B1825, B1826, B1827 and B1828 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1615/14 Front Airbag Sensor LH Malfunction

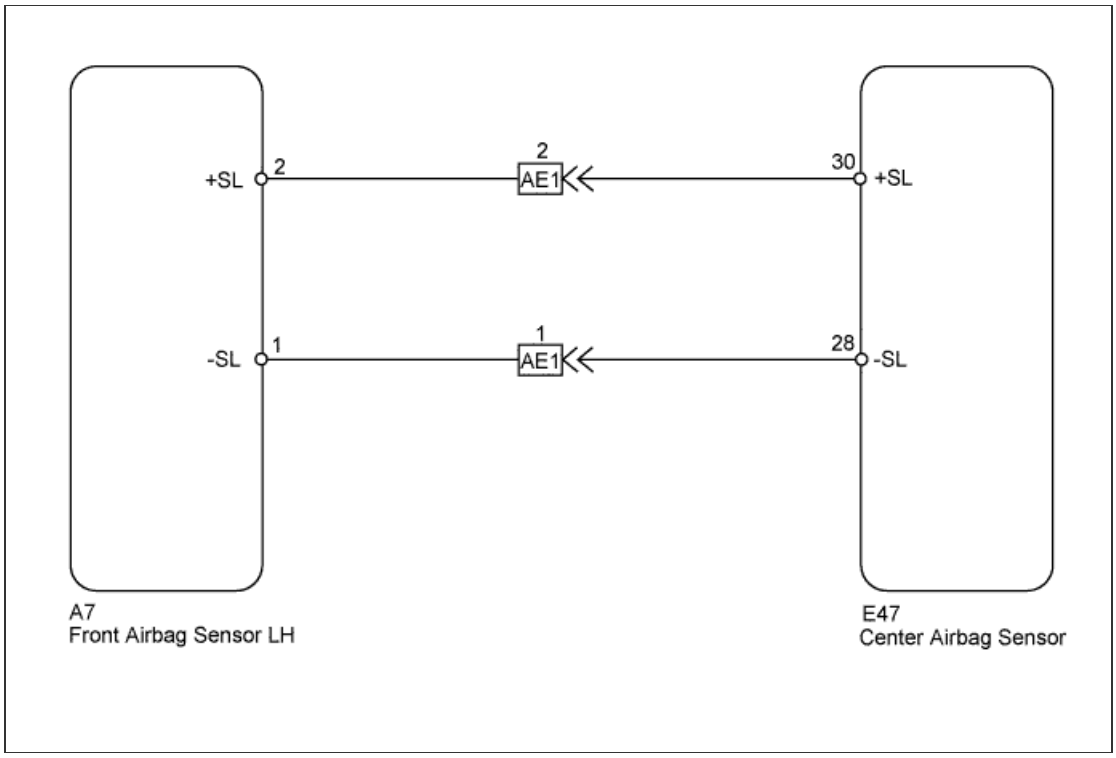
**for Preparation** Click here

### DESCRIPTION

The front airbag sensor LH consists of the diagnostic circuit and the frontal deceleration sensor, etc.
If the center airbag sensor receives signals from the frontal deceleration sensor, it determines whether the SRS should be activated.
DTC B1615/14 is stored when a malfunction is detected in the front airbag sensor LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1615/14 | When one of the following conditions is met:<br>• A front airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Front airbag sensor LH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

#### 1.CHECK FRONT AIRBAG SENSOR LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Interchange the front airbag sensor LH with RH and connect the connectors to them.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2

seconds.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, and wait for at least 60 seconds.

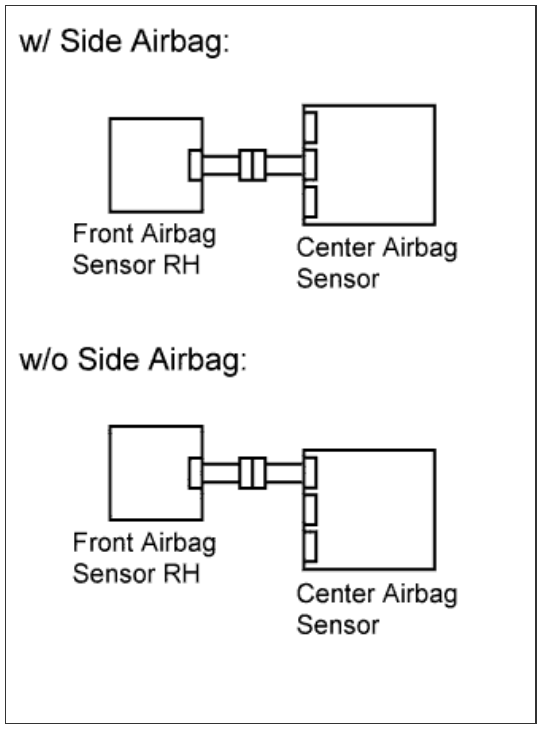
i. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1615 is output | A |
| DTC B1610 is output | B |
| DTC B1610 and B1615 are not output | C |

**HINT:**

Codes other than DTC B1610 and B1615 may be output at this time, but they are not related to this check.




**A** → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**B** → REPLACE FRONT AIRBAG SENSOR LH (Click here)

**C**

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1830/57 Short in Curtain Shield Squib RH Circuit

## DTC B1831/57 Open in Curtain Shield Squib RH Circuit

## DTC B1832/57 Short to GND in Curtain Shield Squib RH Circuit

## DTC B1833/57 Short to B+ in Curtain Shield Squib RH Circuit

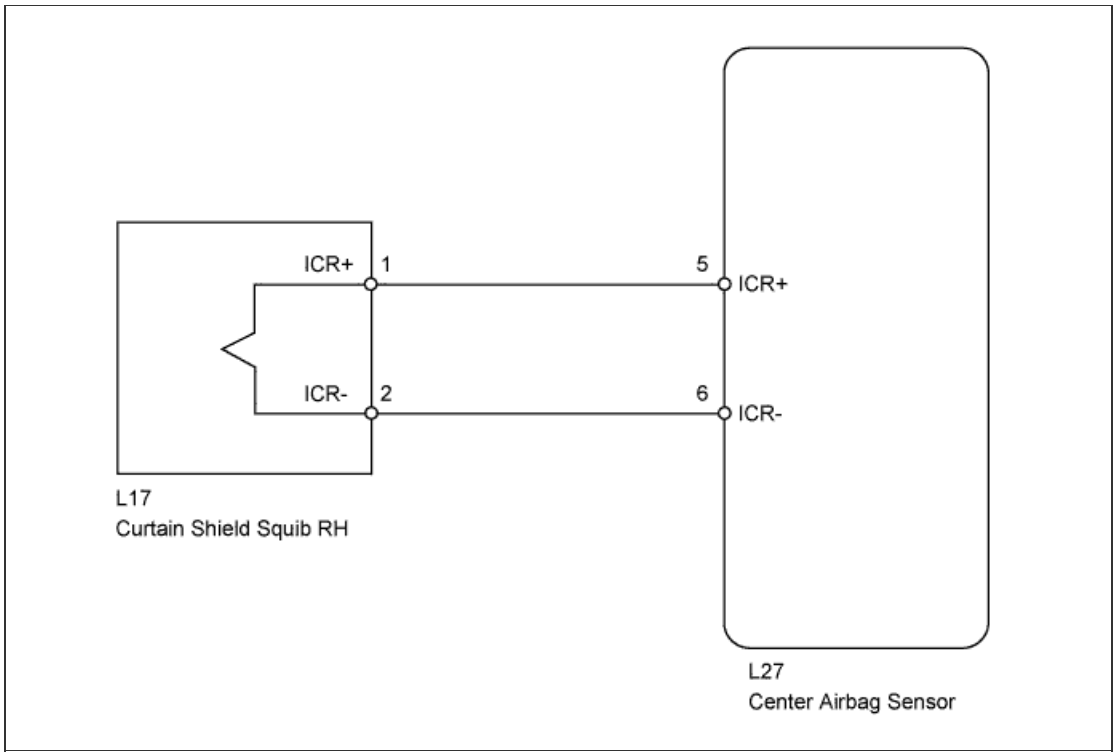
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib RH circuit consists of the center airbag sensor and the curtain shield airbag RH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1830/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib RH circuit during the primary check.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1831/57 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib RH circuit for 2 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1832/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib RH circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1833/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib RH circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG RH (CURTAIN SHIELD SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the curtain shield airbag RH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

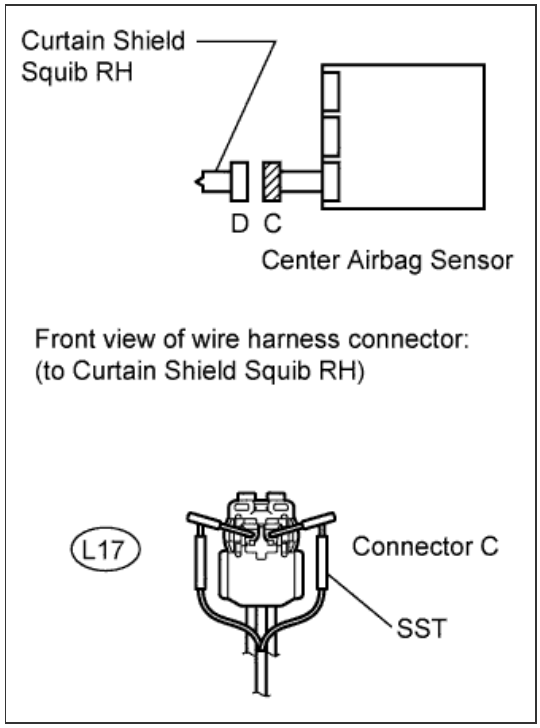
Never connect the tester to the curtain shield airbag RH (curtain shield squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1830, B1831, B1832 or B1833 is not output.**

**HINT:**

Codes other than DTC B1830, B1831, B1832 and B1833 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY RH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the curtain shield airbag RH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (CURTAIN SHIELD AIRBAG RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - Body ground | Ignition switch ON | Below 1 V |
| L17-2 (ICR-) - Body ground | Ignition switch ON | Below 1 V |

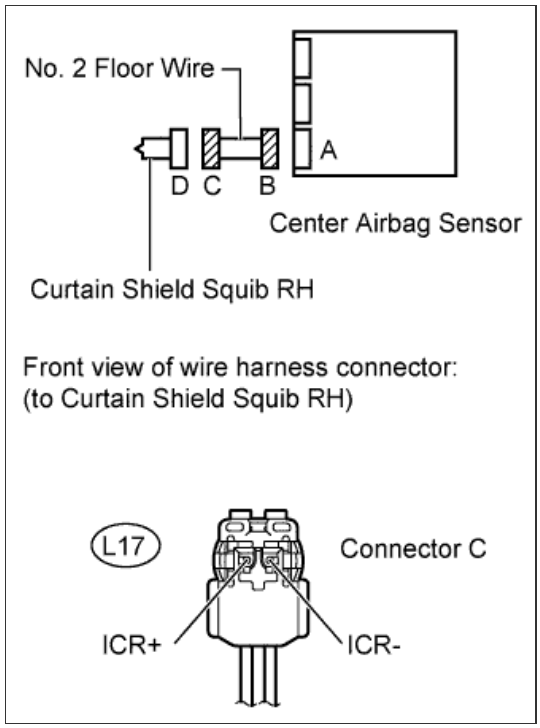
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - L17-2 (ICR-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - L17-2 (ICR-) | Always | 1 MΩ or higher |
| L17-1 (ICR+) - Body ground | Always | 1 MΩ or higher |
| L17-2 (ICR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

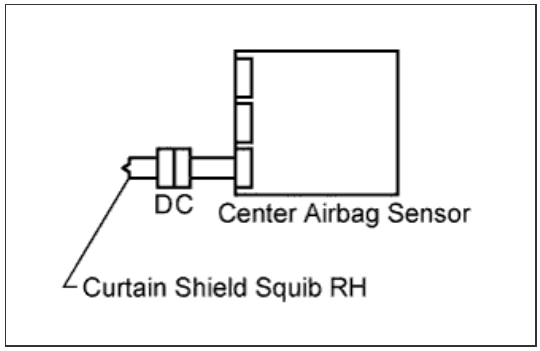
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1830, B1831, B1832 or B1833 is not output.**

**HINT:**

Codes other than DTC B1830, B1831, B1832 and B1833 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1617/84 Lost Communication with Front Airbag Sensor LH

## DTC B1618/84 Front Airbag Sensor LH Initialization Incomplete

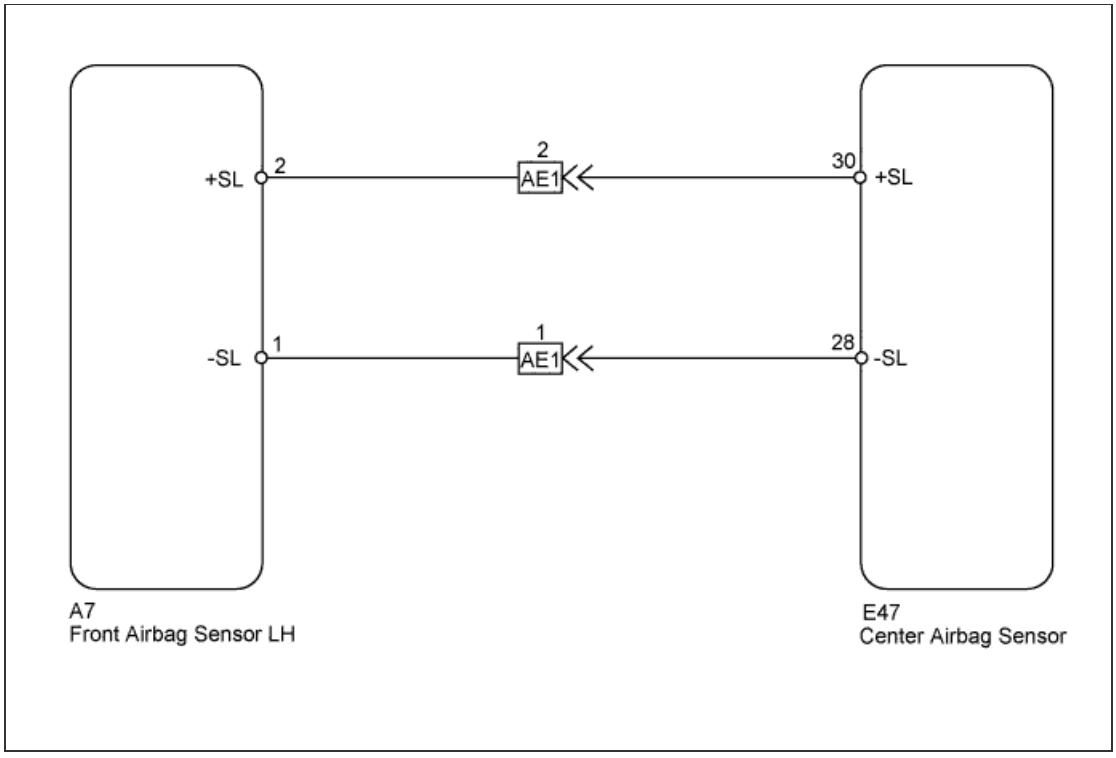
**for Preparation** Click here

### DESCRIPTION

The front airbag sensor LH circuit consists of the center airbag sensor and front airbag sensor LH.
The front airbag sensor LH detects impacts to the vehicle and sends signals to the center airbag sensor to determine if the airbag should be deployed.
DTC B1617/84 or B1618/84 is stored when a malfunction is detected in the front airbag sensor LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1617/84 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front airbag sensor LH circuit for 2 seconds.<br>• A front airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor LH<br>• Center airbag sensor assembly |
| B1618/84 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front airbag sensor LH circuit for 2 seconds.<br>• A front airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor LH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the front airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 2.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and front airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side and front airbag sensor LH side) are not damaged.

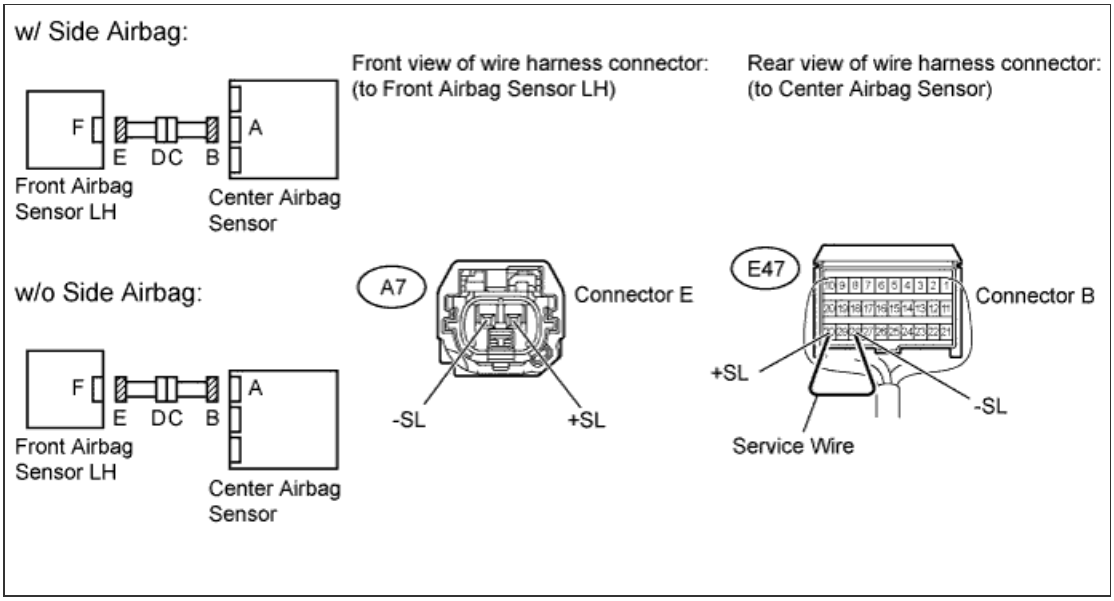
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 3.CHECK FRONT AIRBAG SENSOR LH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A7-2 (+SL) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| A7-1 (-SL) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 30 (+SL) and 28 (-SL) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A7-2 (+SL) - A7-1 (-SL) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A7-2 (+SL) - A7-1 (-SL) | Always | 1 MΩ or higher |
| A7-2 (+SL) - Body ground | Always | 1 MΩ or higher |
| A7-1 (-SL) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK FRONT AIRBAG SENSOR LH

a. Connect the connectors to the center airbag sensor.

b. Interchange the front airbag sensor LH with RH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

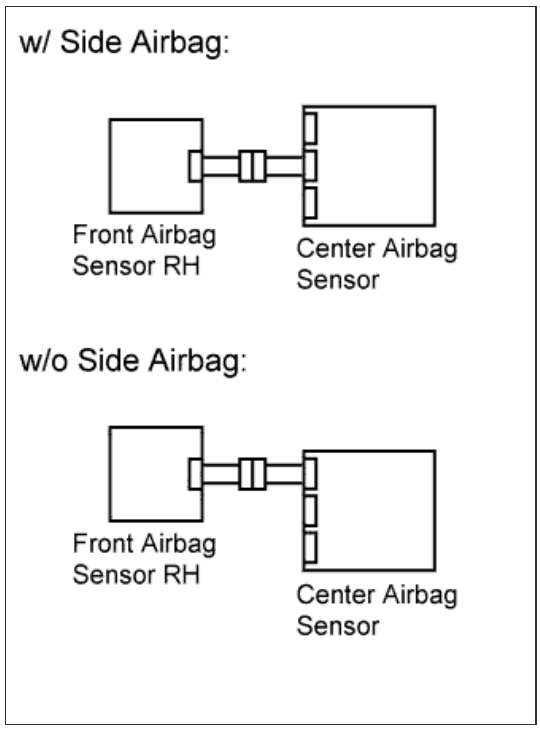
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1617 or B1618 is output | A |
| DTC B1612 or B1613 is output | B |
| DTC B1612, B1613, B1617 and B1618 are not output | C |

**HINT:**

Codes other than DTC B1612, B1613, B1617 and B1618 may be output at this time, but they are not related to this check.

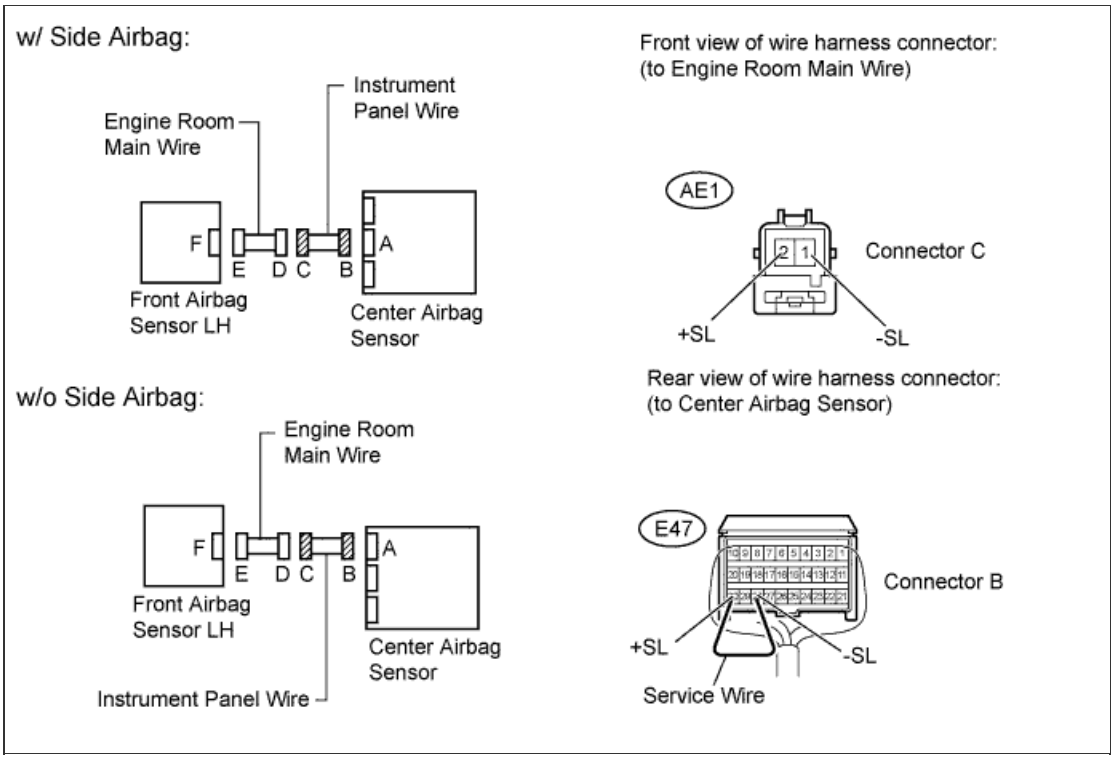
A → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

B → REPLACE FRONT AIRBAG SENSOR LH (Click here)

C → USE SIMULATION METHOD TO CHECK (Click here)

**5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - ENGINE ROOM MAIN WIRE)**

a. Disconnect the instrument panel wire connector from the engine room main wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| AE1-2 (+SL) - Body ground | Ignition switch ON | Below 1 V |
| AE1-1 (-SL) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 30 (+SL) and 28 (-SL) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AE1-2 (+SL) - | | |

| | | |
|---|---|---|
| AE1-1 (-SL) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AE1-2 (+SL) - AE1-1 (-SL) | Always | 1 MΩ or higher |
| AE1-2 (+SL) - Body ground | Always | 1 MΩ or higher |
| AE1-1 (-SL) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE ENGINE ROOM MAIN WIRE

## DTC B1830/57 Short in Curtain Shield Squib RH Circuit

## DTC B1831/57 Open in Curtain Shield Squib RH Circuit

## DTC B1832/57 Short to GND in Curtain Shield Squib RH Circuit

## DTC B1833/57 Short to B+ in Curtain Shield Squib RH Circuit

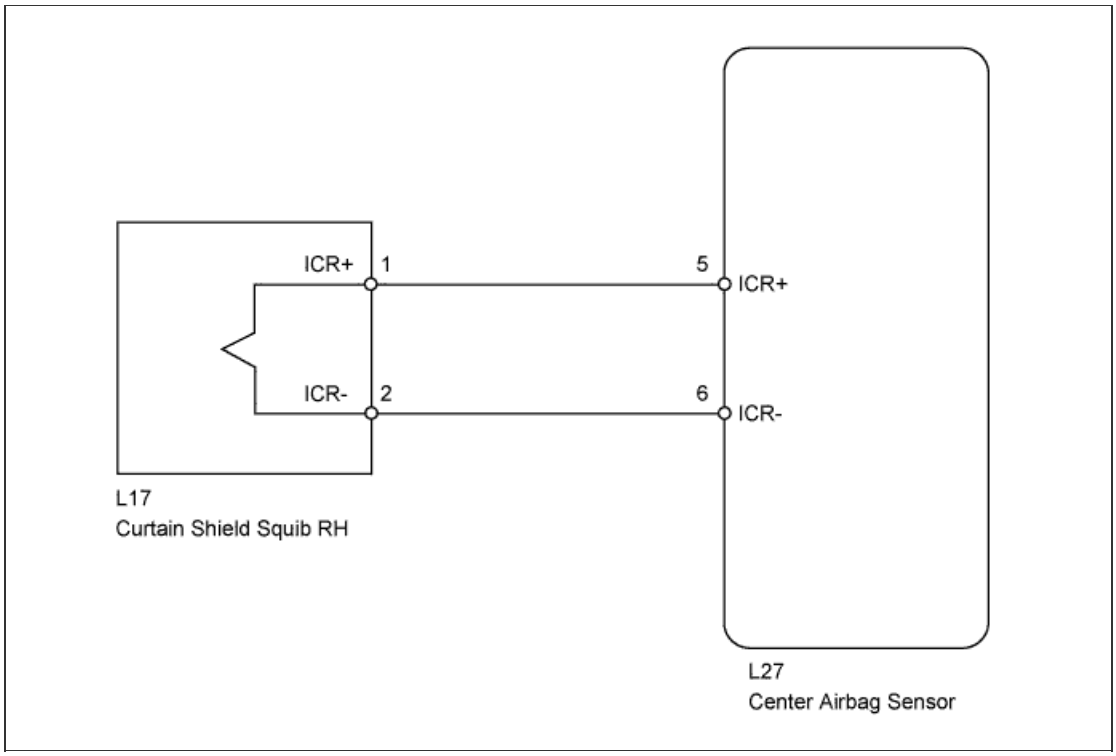
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib RH circuit consists of the center airbag sensor and the curtain shield airbag RH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1830/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib RH circuit during the primary check.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1831/57 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib RH circuit for 2 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1832/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib RH circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1833/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib RH circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG RH (CURTAIN SHIELD SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the curtain shield airbag RH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

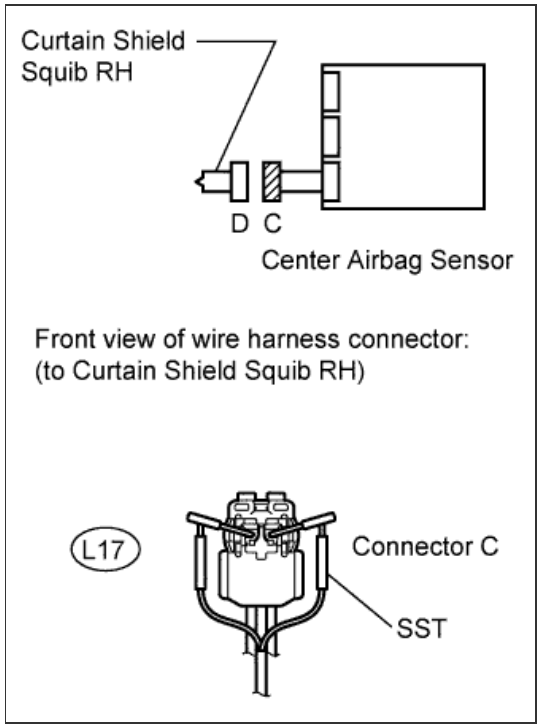
Never connect the tester to the curtain shield airbag RH (curtain shield squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1830, B1831, B1832 or B1833 is not output.**

**HINT:**

Codes other than DTC B1830, B1831, B1832 and B1833 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY RH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the curtain shield airbag RH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (CURTAIN SHIELD AIRBAG RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - Body ground | Ignition switch ON | Below 1 V |
| L17-2 (ICR-) - Body ground | Ignition switch ON | Below 1 V |

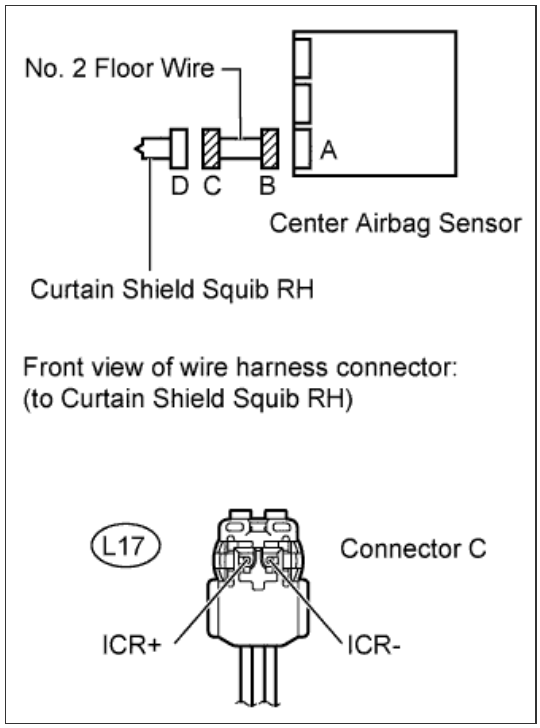
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - L17-2 (ICR-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - L17-2 (ICR-) | Always | 1 MΩ or higher |
| L17-1 (ICR+) - Body ground | Always | 1 MΩ or higher |
| L17-2 (ICR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

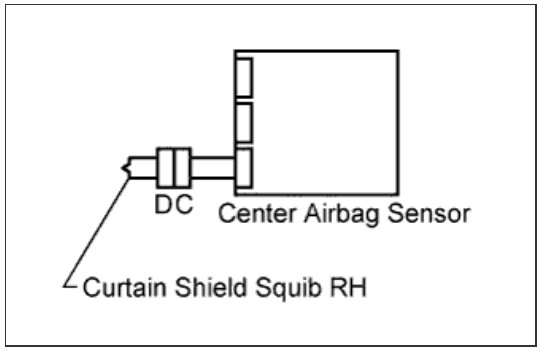
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1830, B1831, B1832 or B1833 is not output.**

**HINT:**

Codes other than DTC B1830, B1831, B1832 and B1833 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1617/84 Lost Communication with Front Airbag Sensor LH

## DTC B1618/84 Front Airbag Sensor LH Initialization Incomplete

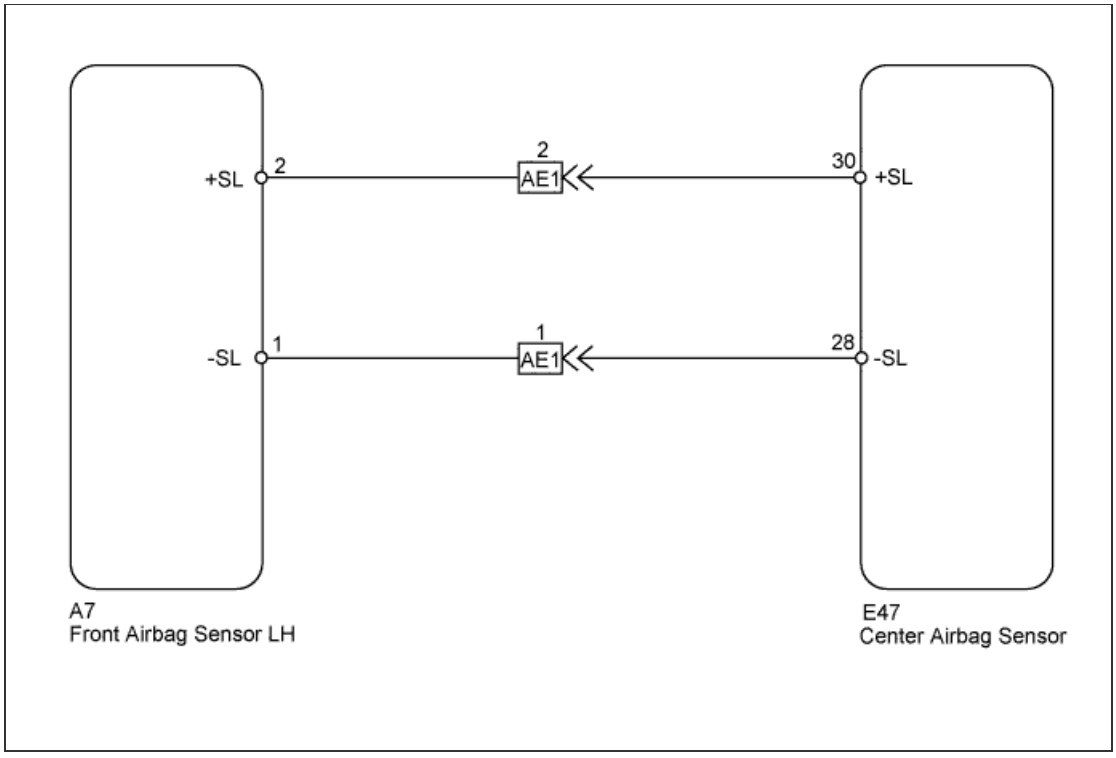
**for Preparation** Click here

### DESCRIPTION

The front airbag sensor LH circuit consists of the center airbag sensor and front airbag sensor LH.
The front airbag sensor LH detects impacts to the vehicle and sends signals to the center airbag sensor to determine if the airbag should be deployed.
DTC B1617/84 or B1618/84 is stored when a malfunction is detected in the front airbag sensor LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1617/84 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front airbag sensor LH circuit for 2 seconds.<br>• A front airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor LH<br>• Center airbag sensor assembly |
| B1618/84 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front airbag sensor LH circuit for 2 seconds.<br>• A front airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor LH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the front airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 2.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and front airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side and front airbag sensor LH side) are not damaged.

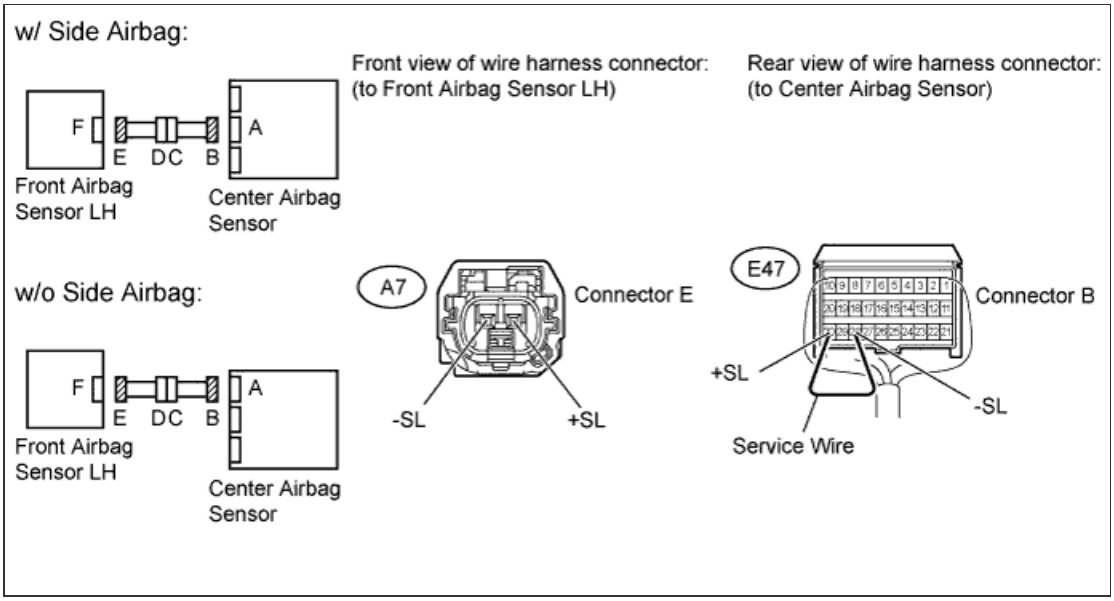
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 3.CHECK FRONT AIRBAG SENSOR LH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A7-2 (+SL) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| A7-1 (-SL) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 30 (+SL) and 28 (-SL) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A7-2 (+SL) - A7-1 (-SL) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A7-2 (+SL) - A7-1 (-SL) | Always | 1 MΩ or higher |
| A7-2 (+SL) - Body ground | Always | 1 MΩ or higher |
| A7-1 (-SL) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK FRONT AIRBAG SENSOR LH

a. Connect the connectors to the center airbag sensor.

b. Interchange the front airbag sensor LH with RH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

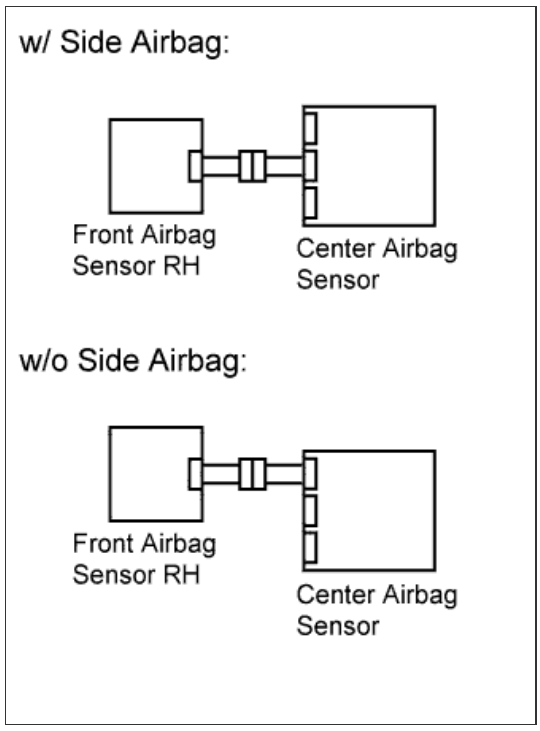
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1617 or B1618 is output | A |
| DTC B1612 or B1613 is output | B |
| DTC B1612, B1613, B1617 and B1618 are not output | C |

**HINT:**

Codes other than DTC B1612, B1613, B1617 and B1618 may be output at this time, but they are not related to this check.

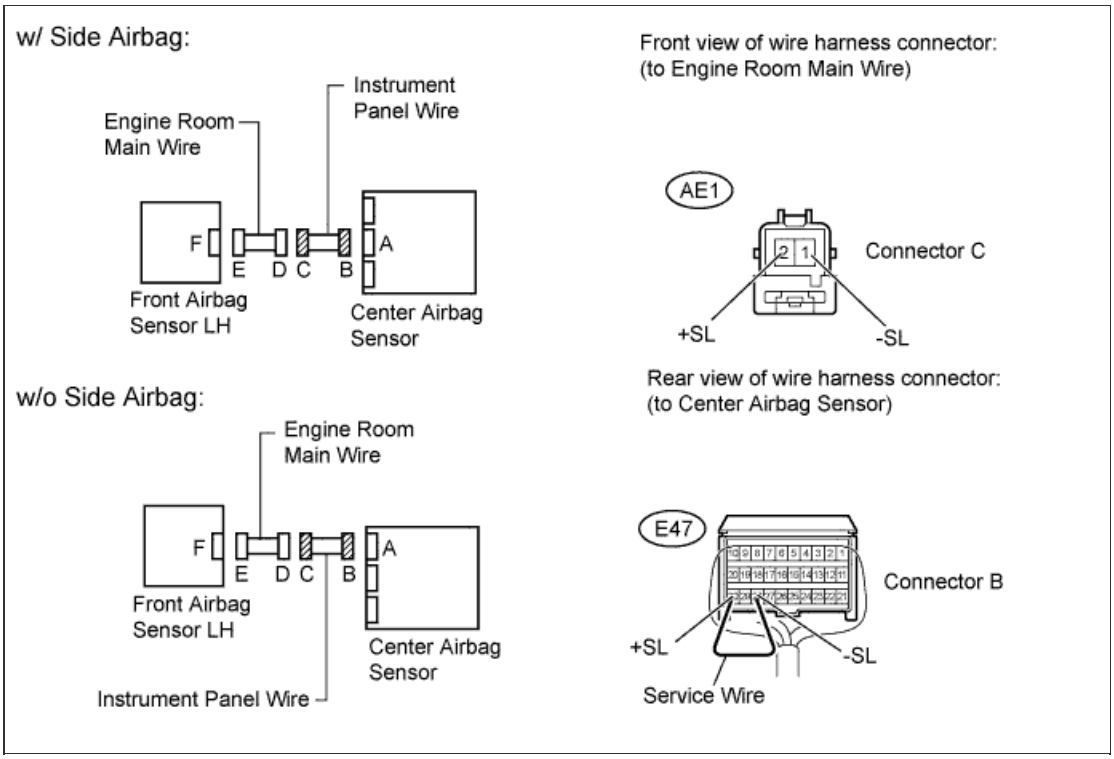
A → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

B → REPLACE FRONT AIRBAG SENSOR LH (Click here)

C → USE SIMULATION METHOD TO CHECK (Click here)

**5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - ENGINE ROOM MAIN WIRE)**

a. Disconnect the instrument panel wire connector from the engine room main wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| AE1-2 (+SL) - Body ground | Ignition switch ON | Below 1 V |
| AE1-1 (-SL) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 30 (+SL) and 28 (-SL) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AE1-2 (+SL) - | | |

| | | |
|---|---|---|
| AE1-1 (-SL) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| AE1-2 (+SL) - AE1-1 (-SL) | Always | 1 MΩ or higher |
| AE1-2 (+SL) - Body ground | Always | 1 MΩ or higher |
| AE1-1 (-SL) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE ENGINE ROOM MAIN WIRE

## DTC B1830/57 Short in Curtain Shield Squib RH Circuit

## DTC B1831/57 Open in Curtain Shield Squib RH Circuit

## DTC B1832/57 Short to GND in Curtain Shield Squib RH Circuit

## DTC B1833/57 Short to B+ in Curtain Shield Squib RH Circuit

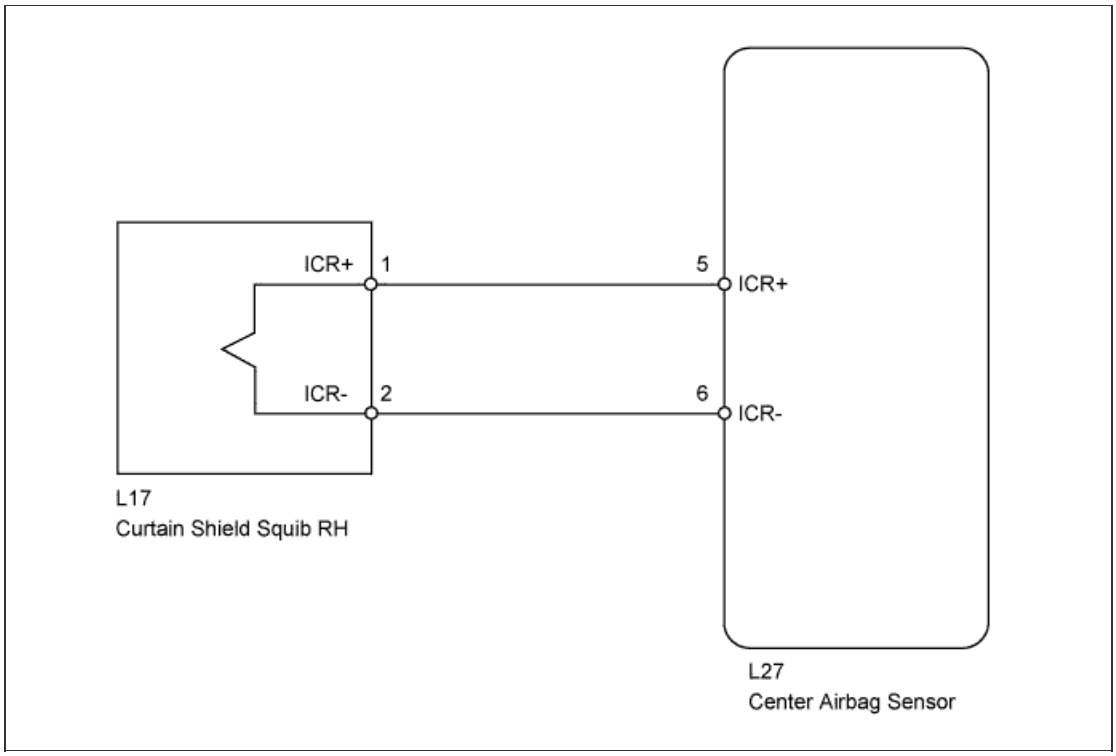
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib RH circuit consists of the center airbag sensor and the curtain shield airbag RH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1830/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib RH circuit during the primary check.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1831/57 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib RH circuit for 2 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1832/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib RH circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1833/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib RH circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG RH (CURTAIN SHIELD SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the curtain shield airbag RH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

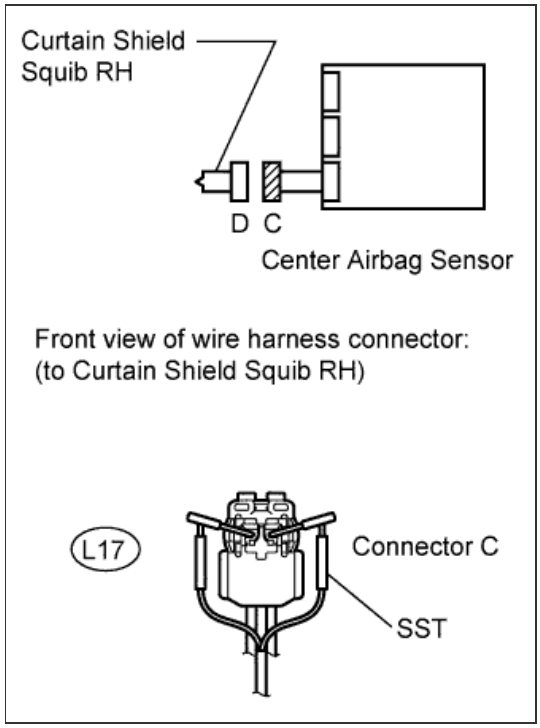
Never connect the tester to the curtain shield airbag RH (curtain shield squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1830, B1831, B1832 or B1833 is not output.**

**HINT:**

Codes other than DTC B1830, B1831, B1832 and B1833 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY RH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the curtain shield airbag RH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (CURTAIN SHIELD AIRBAG RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - Body ground | Ignition switch ON | Below 1 V |
| L17-2 (ICR-) - Body ground | Ignition switch ON | Below 1 V |

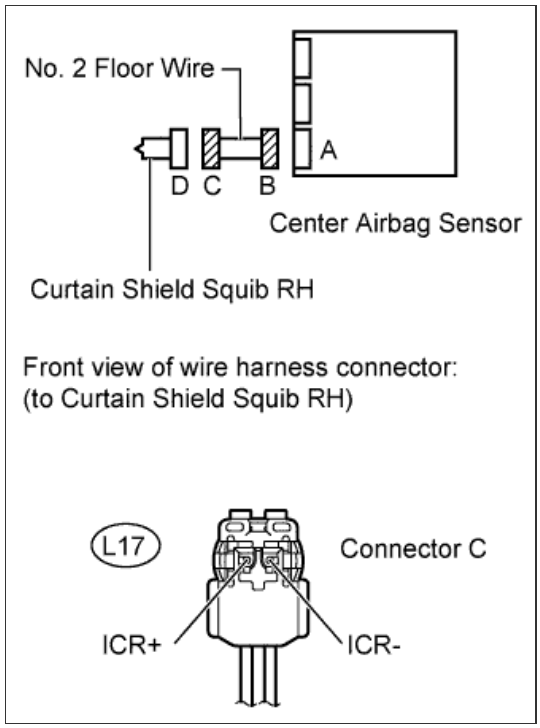
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - L17-2 (ICR-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - L17-2 (ICR-) | Always | 1 MΩ or higher |
| L17-1 (ICR+) - Body ground | Always | 1 MΩ or higher |
| L17-2 (ICR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

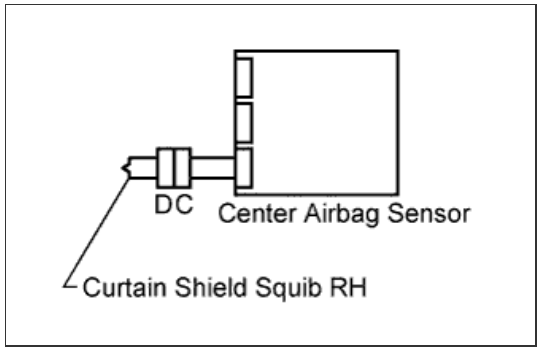
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1830, B1831, B1832 or B1833 is not output.**

**HINT:**

Codes other than DTC B1830, B1831, B1832 and B1833 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B161A/8A Lost Communication with Front Satellite Sensor Bus

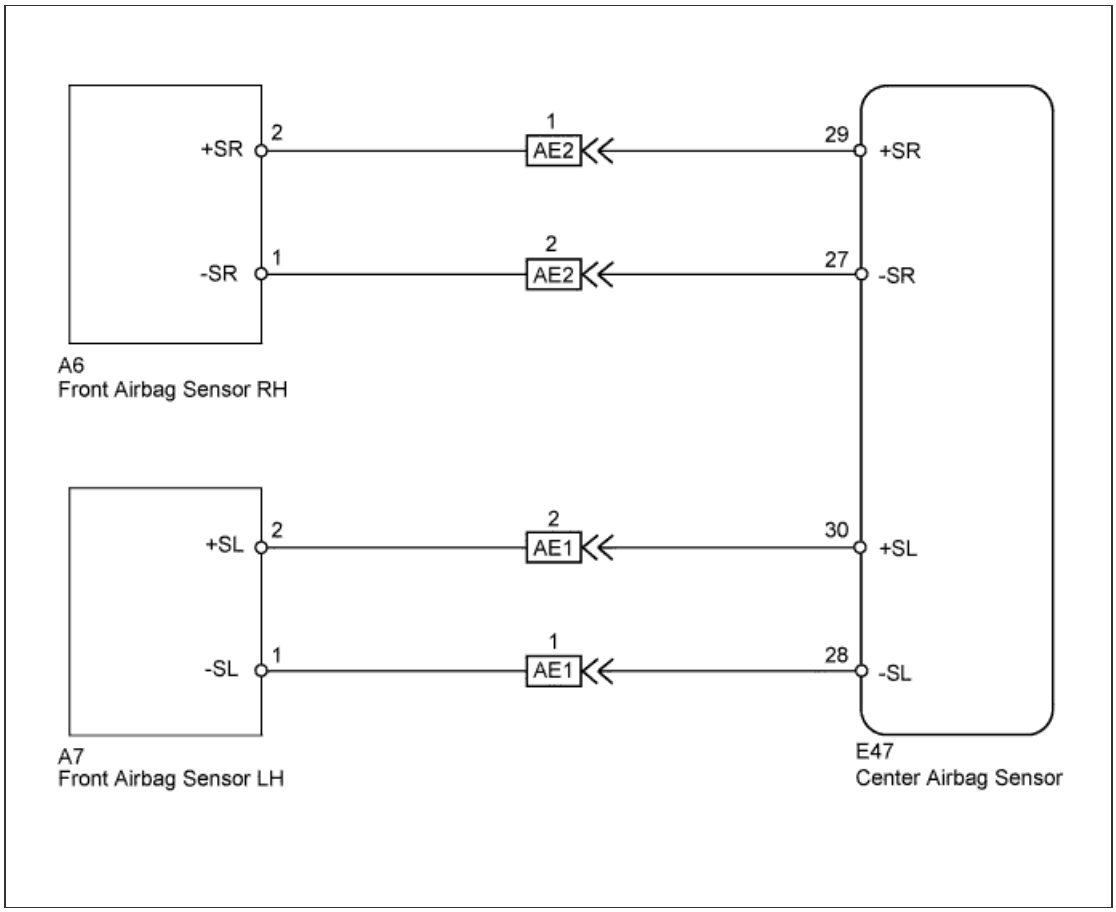
**for Preparation** Click here

### DESCRIPTION

The front collision sensor circuit (front airbag sensor RH circuit and front airbag sensor LH circuit) is composed of the center airbag sensor assembly, front airbag sensor RH and front airbag sensor LH.
The front airbag sensor RH or front airbag sensor LH detects impacts to the vehicle and sends signals to the center airbag sensor assembly to determine if the airbag should be deployed.
DTC B161A/8A is stored when a malfunction is detected in the front collision sensor circuit (front airbag sensor RH circuit and front airbag sensor LH circuit).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B161A/8A | One of the following conditions is met:<br>• The center airbag sensor assembly detects a line short circuit signal, open circuit signal, short circuit to ground signal or short circuit to B+ signal in the front collision sensor circuit (front airbag sensor RH circuit and front airbag sensor LH circuit).<br>• A front airbag sensor RH malfunction.<br>• A front airbag sensor LH malfunction.<br>• A center airbag sensor assembly malfunction. | • Instrument panel wire<br>• Engine room main wire<br>• Front airbag sensor RH<br>• Front airbag sensor LH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Turn the ignition switch off.

**HINT:**

If a communication error occurs, DTCs for both the LH and RH sides will be stored simultaneously. To identify the malfunctioning area, turn the ignition switch off and then to ON again.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1613/83 is output | A |
| DTC B1618/84 is output | B |
| DTCs B1613/83 and B1618/84 are not output | C |

**HINT:**

- **DTCs indicating communication errors will be changed to DTCs indicating errors in initialization by turning the ignition switch off and then to ON again.**
- **Codes other than DTCs B1613/83 and B1618/84 may be output at this time, but they are not related to this check.**

**A** → GO TO DTC B1613/83 (**Click here**)

**B** → GO TO DTC B1618/84 (**Click here**)

**C**

**2.CHECK CENTER AIRBAG SENSOR ASSEMBLY**

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in memory (Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**OK:**
**DTC B161A/8A is not output.**

**HINT:**

Codes other than DTC B161A/8A may be output at this time, but they are not related to this check.

**NG** → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

**OK**

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1830/57 Short in Curtain Shield Squib RH Circuit

## DTC B1831/57 Open in Curtain Shield Squib RH Circuit

## DTC B1832/57 Short to GND in Curtain Shield Squib RH Circuit

## DTC B1833/57 Short to B+ in Curtain Shield Squib RH Circuit

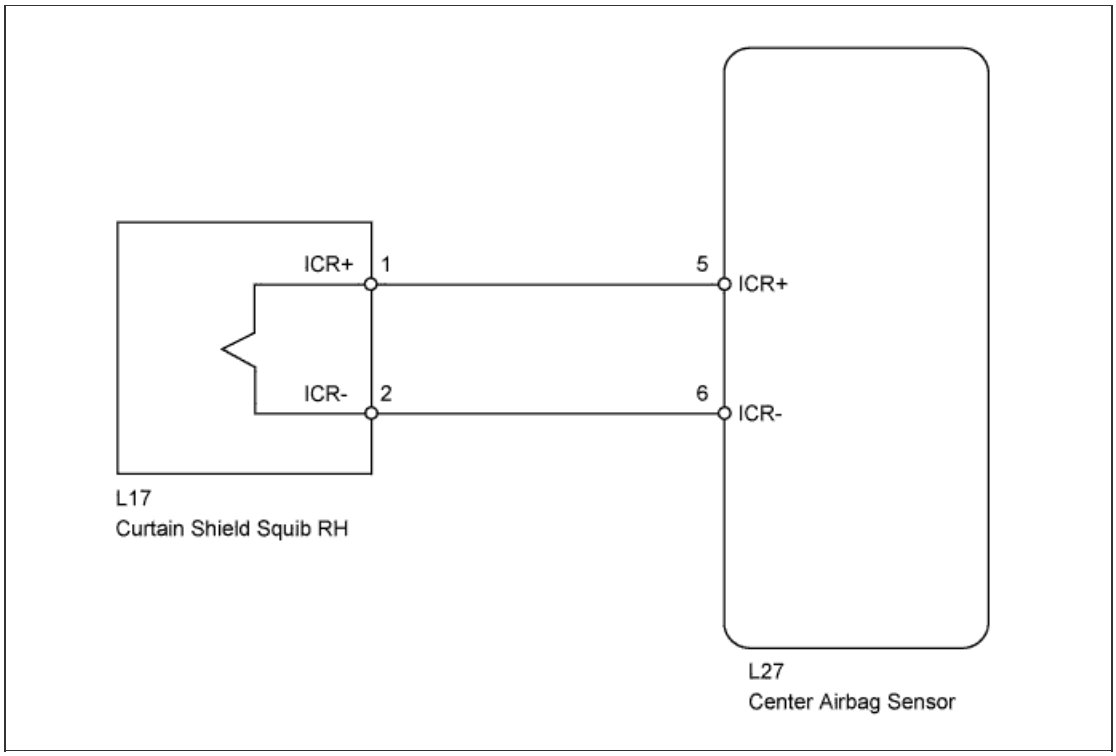
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib RH circuit consists of the center airbag sensor and the curtain shield airbag RH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1830/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib RH circuit during the primary check.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1831/57 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib RH circuit for 2 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1832/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib RH circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |
| B1833/57 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib RH circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG RH (CURTAIN SHIELD SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the curtain shield airbag RH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

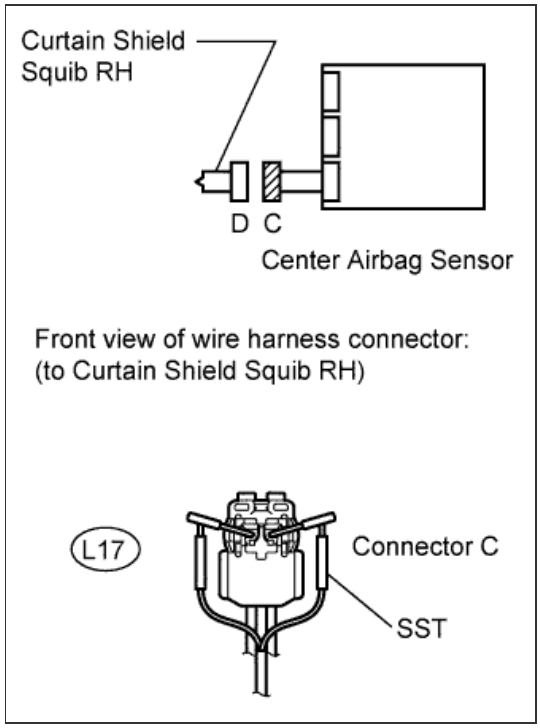
Never connect the tester to the curtain shield airbag RH (curtain shield squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1830, B1831, B1832 or B1833 is not output.**

**HINT:**

Codes other than DTC B1830, B1831, B1832 and B1833 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY RH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the curtain shield airbag RH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (CURTAIN SHIELD AIRBAG RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - Body ground | Ignition switch ON | Below 1 V |
| L17-2 (ICR-) - Body ground | Ignition switch ON | Below 1 V |

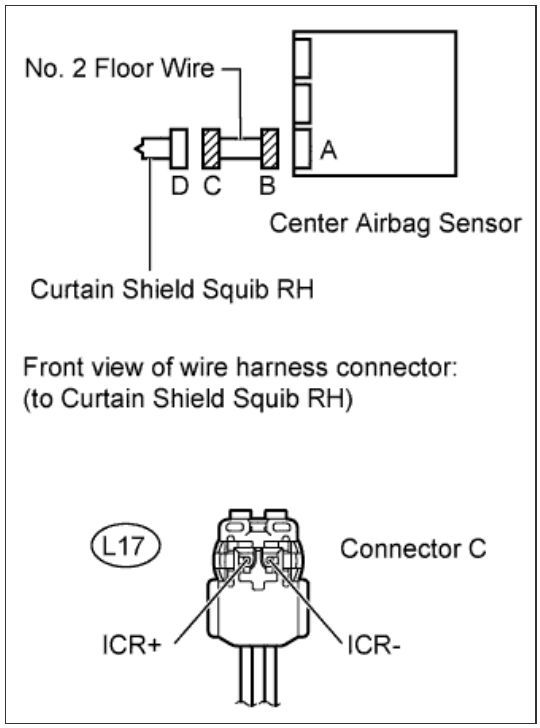
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - L17-2 (ICR-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L17-1 (ICR+) - L17-2 (ICR-) | Always | 1 MΩ or higher |
| L17-1 (ICR+) - Body ground | Always | 1 MΩ or higher |
| L17-2 (ICR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

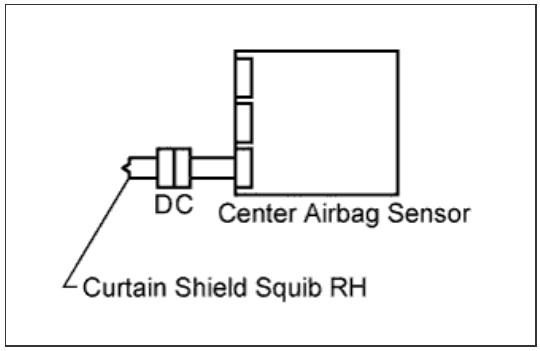
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1830, B1831, B1832 or B1833 is not output.**

**HINT:**

Codes other than DTC B1830, B1831, B1832 and B1833 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1630/23 Rear Airbag Sensor RH Circuit Malfunction

## DTC B1695/16 Door Side Airbag Sensor LH Malfunction

**for Preparation** Click here

### DESCRIPTION

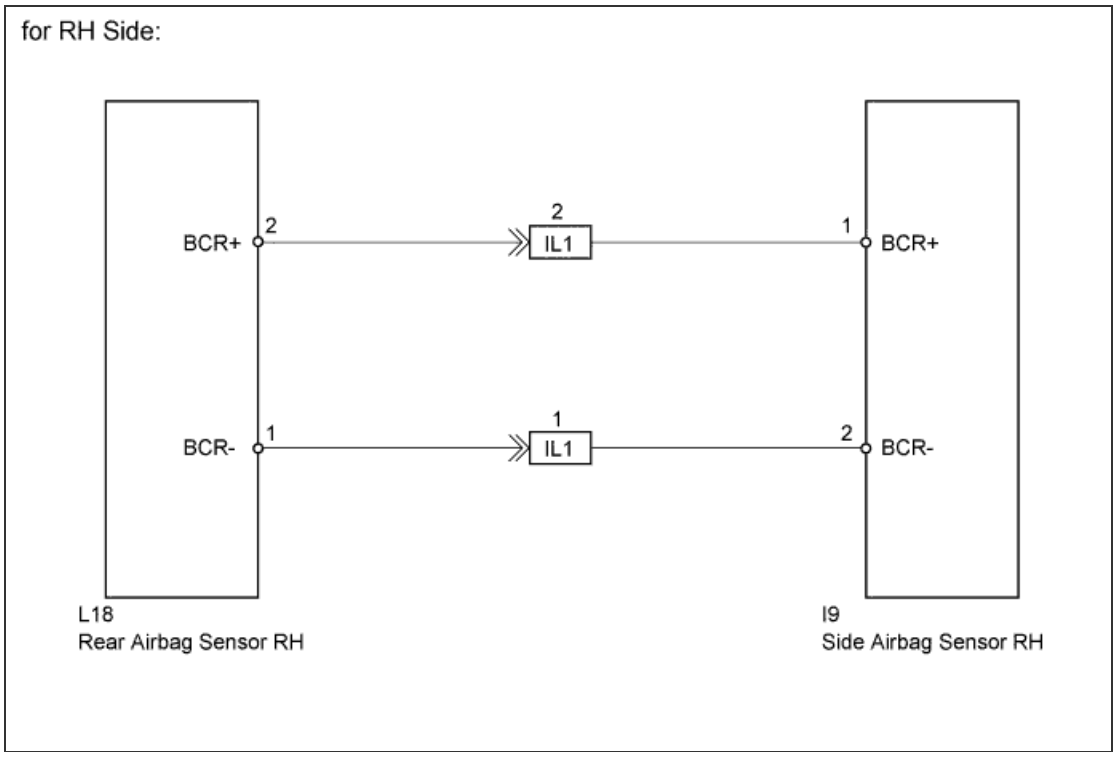
**HINT:**

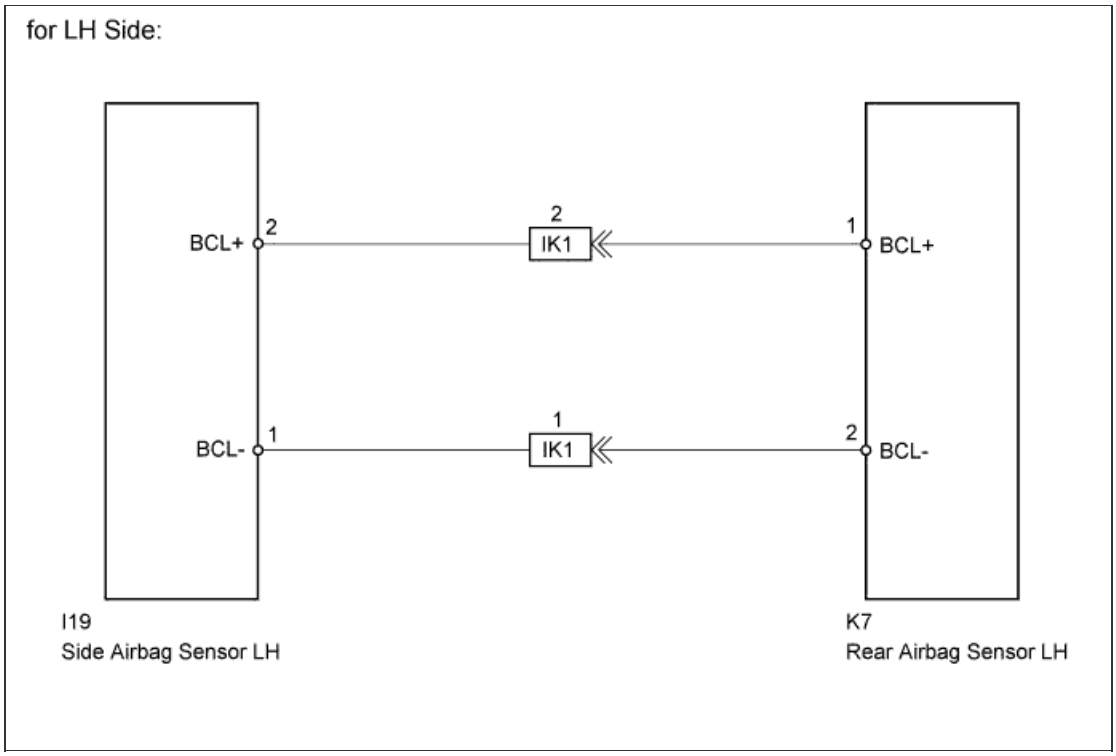
"Door side airbag sensor LH" refer to the side airbag sensor LH.

- The side airbag sensor LH or rear airbag sensor RH consists of the safing sensor, the diagnostic circuit, the lateral deceleration sensor, etc. If the center airbag sensor receives signals from the lateral deceleration sensor, it determines whether the SRS should be activated. DTC B1630/23 or B1695/16 is stored when a malfunction is detected in the side airbag sensor LH or rear airbag sensor RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1630/23 | When one of the following conditions is met:<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1695/16 | When one of the following conditions is met:<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor LH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK FOR DTC

a. Turn the ignition switch to ON.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1630 and B1695 are not output | A |
| DTC B1695 is output | B |
| DTC B1630 is output | C |

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 3

**C**

### 2.CHECK REAR AIRBAG SENSOR RH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Temporarily replace the rear airbag sensor RH with a new one.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

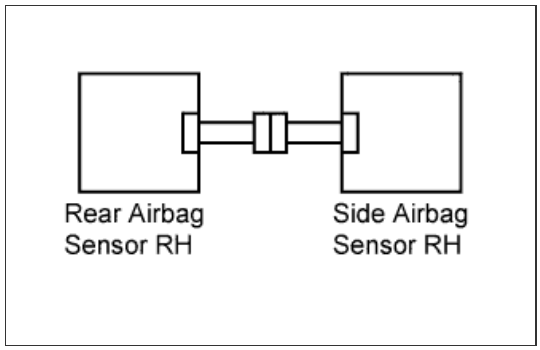
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, and wait for at least 60 seconds.

i. Check for DTCs (Click here).




**OK:**
**DTC B1630 is not output.**

**HINT:**

Codes other than DTC B1630 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 3.CHECK SIDE AIRBAG SENSOR LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Interchange the side airbag sensor LH with RH and connect the connectors to them.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

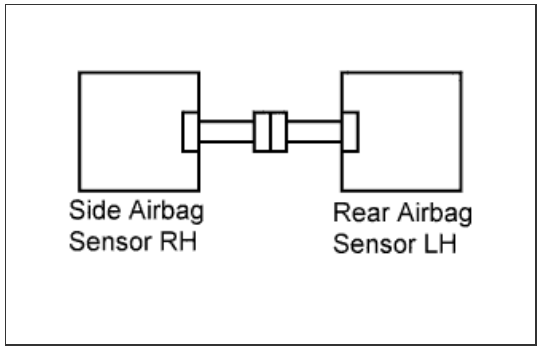
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, and wait for at least 60 seconds.

i. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1690 and B1695 are not output | A |
| DTC B1695 is output | B |
| DTC B1690 is output | C |

**HINT:**

Codes other than DTC B1690 and B1695 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

C

REPLACE SIDE AIRBAG SENSOR LH (Click here)

## DTC B1835/58 Short in Curtain Shield Squib LH Circuit

## DTC B1836/58 Open in Curtain Shield Squib LH Circuit

## DTC B1837/58 Short to GND in Curtain Shield Squib LH Circuit

## DTC B1838/58 Short to B+ in Curtain Shield Squib LH Circuit

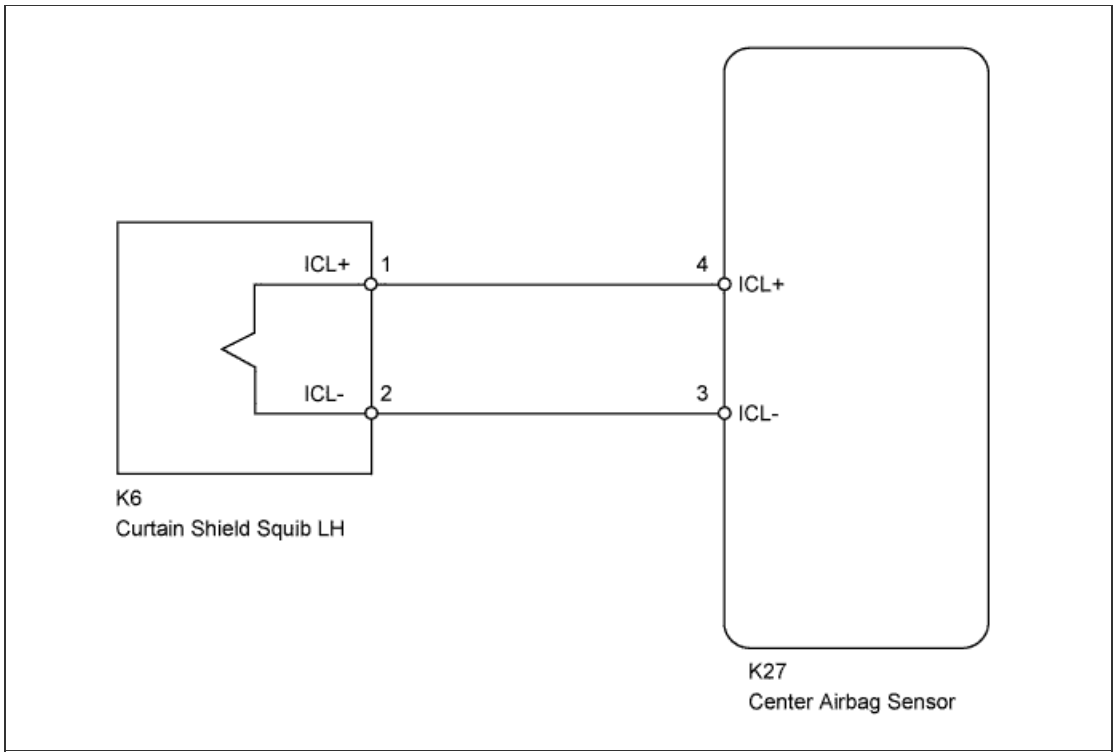
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib LH circuit consists of the center airbag sensor and the curtain shield airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1835/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib LH circuit during the primary check.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1836/58 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib LH circuit for 2 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1837/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib LH circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1838/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib LH circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG LH (CURTAIN SHIELD SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the curtain shield airbag LH.

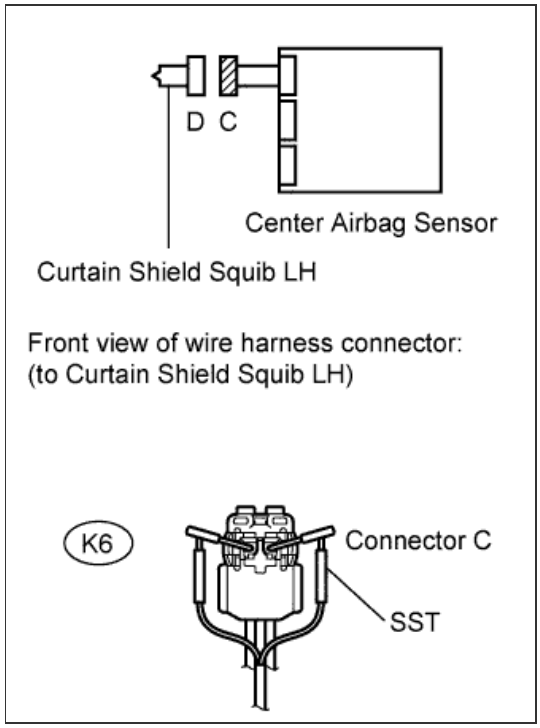
d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the curtain shield airbag LH (curtain shield squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**




*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1835, B1836, B1837 or B1838 is not output.**

**HINT:**

Codes other than DTC B1835, B1836, B1837 and B1838 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connectors (on the curtain shield airbag LH side) are not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (CURTAIN SHIELD AIRBAG LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - Body ground | Ignition switch ON | Below 1 V |
| K6-2 (ICL-) - Body ground | Ignition switch ON | Below 1 V |

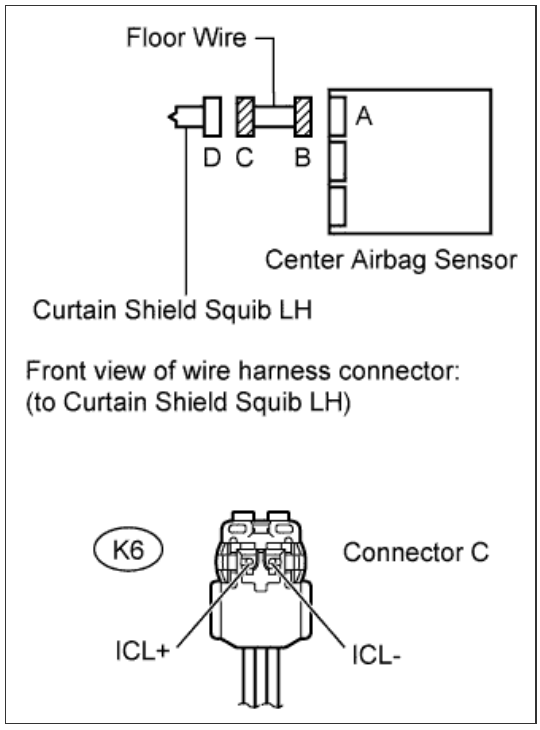
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - K6-2 (ICL-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - K6-2 (ICL-) | Always | 1 MΩ or higher |
| K6-1 (ICL+) - Body ground | Always | 1 MΩ or higher |
| K6-2 (ICL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the curtain shield airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

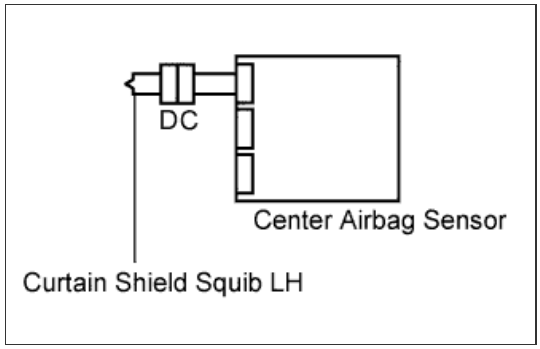
c. Turn the ignition switch ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1835, B1836, B1837 or B1838 is not output.**

**HINT:**

Codes other than DTC B1835, B1836, B1837 and B1838 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1630/23 Rear Airbag Sensor RH Circuit Malfunction

## DTC B1695/16 Door Side Airbag Sensor LH Malfunction

**for Preparation** Click here

### DESCRIPTION

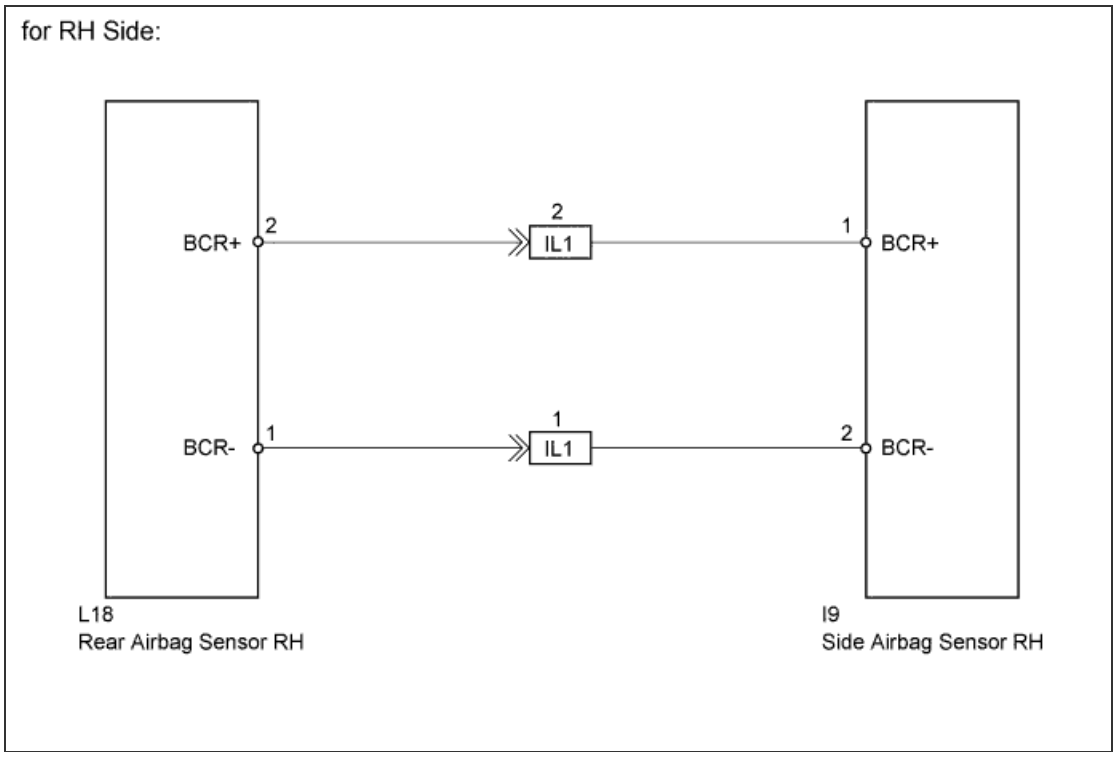
**HINT:**

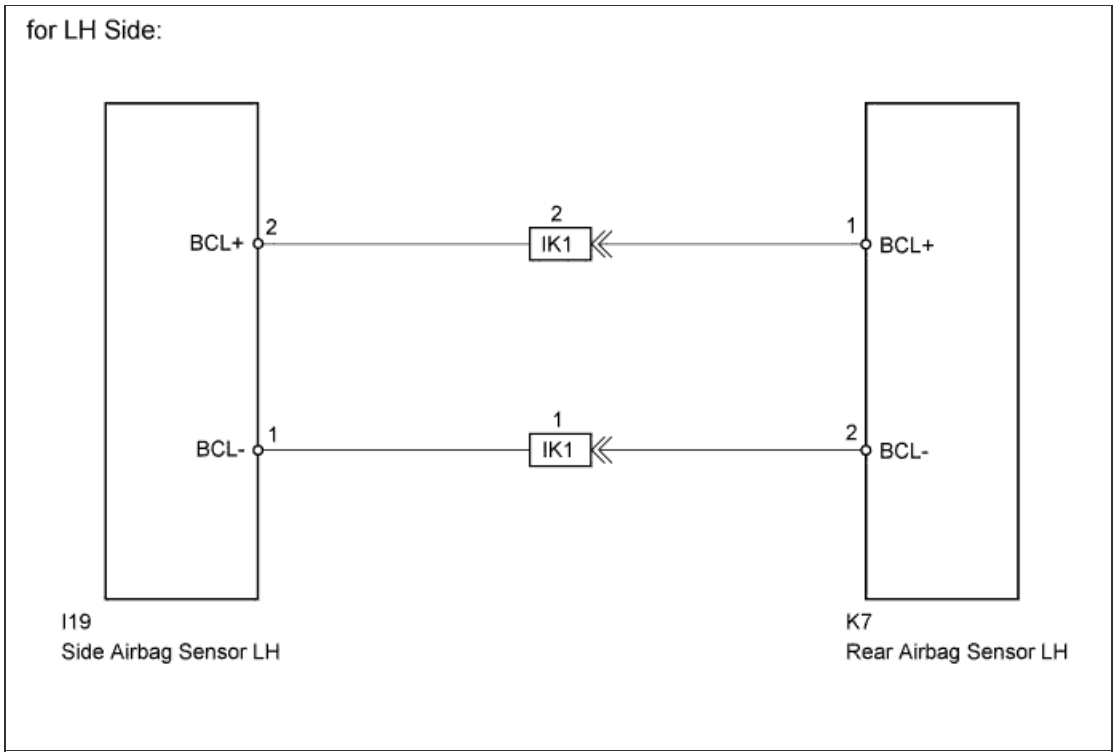
"Door side airbag sensor LH" refer to the side airbag sensor LH.

- The side airbag sensor LH or rear airbag sensor RH consists of the safing sensor, the diagnostic circuit, the lateral deceleration sensor, etc. If the center airbag sensor receives signals from the lateral deceleration sensor, it determines whether the SRS should be activated. DTC B1630/23 or B1695/16 is stored when a malfunction is detected in the side airbag sensor LH or rear airbag sensor RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1630/23 | When one of the following conditions is met:<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1695/16 | When one of the following conditions is met:<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor LH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK FOR DTC

a. Turn the ignition switch to ON.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1630 and B1695 are not output | A |
| DTC B1695 is output | B |
| DTC B1630 is output | C |

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 3

**C**

### 2.CHECK REAR AIRBAG SENSOR RH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Temporarily replace the rear airbag sensor RH with a new one.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

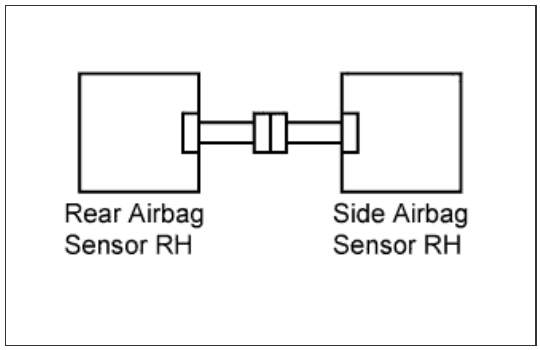
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, and wait for at least 60 seconds.

i. Check for DTCs (Click here).




**OK:**
**DTC B1630 is not output.**

**HINT:**

Codes other than DTC B1630 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 3.CHECK SIDE AIRBAG SENSOR LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Interchange the side airbag sensor LH with RH and connect the connectors to them.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

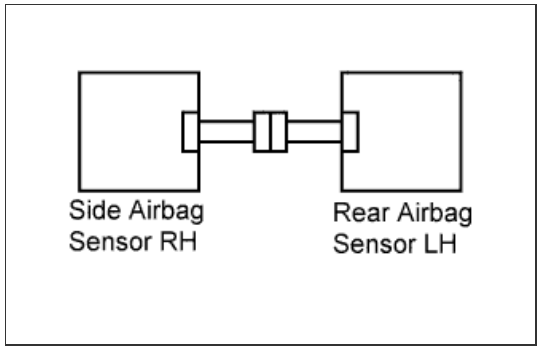
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, and wait for at least 60 seconds.

i. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1690 and B1695 are not output | A |
| DTC B1695 is output | B |
| DTC B1690 is output | C |

**HINT:**

Codes other than DTC B1690 and B1695 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

C

REPLACE SIDE AIRBAG SENSOR LH (Click here)

## DTC B1835/58 Short in Curtain Shield Squib LH Circuit

## DTC B1836/58 Open in Curtain Shield Squib LH Circuit

## DTC B1837/58 Short to GND in Curtain Shield Squib LH Circuit

## DTC B1838/58 Short to B+ in Curtain Shield Squib LH Circuit

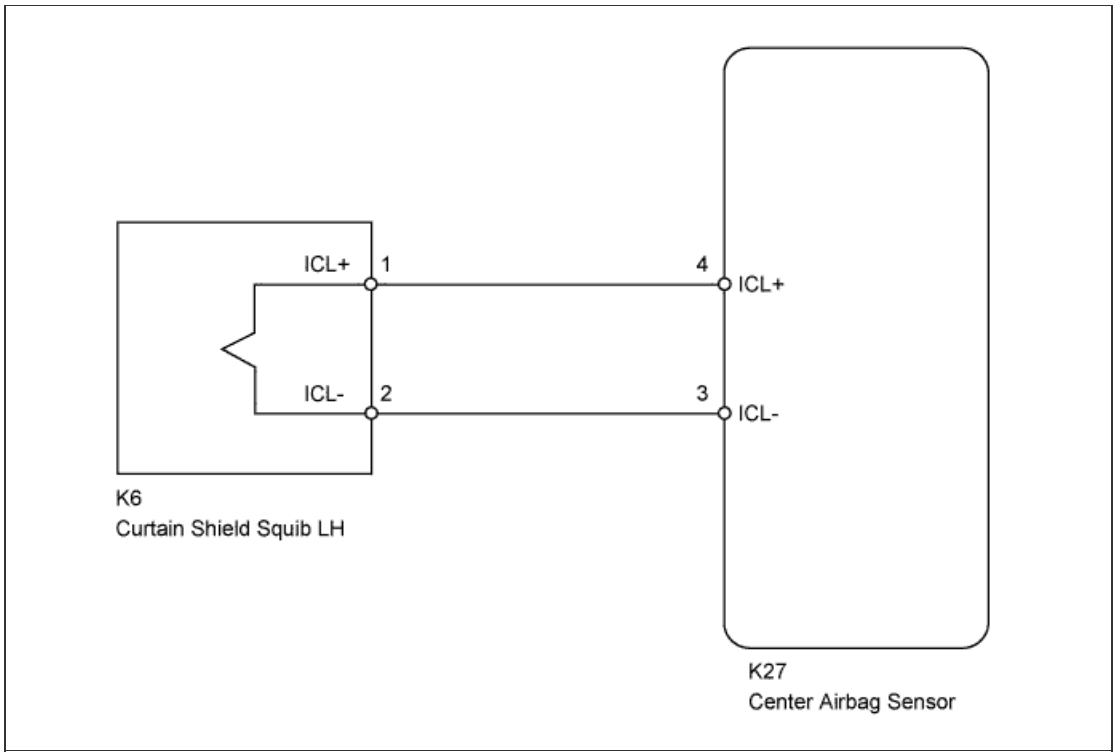
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib LH circuit consists of the center airbag sensor and the curtain shield airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1835/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib LH circuit during the primary check.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1836/58 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib LH circuit for 2 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1837/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib LH circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1838/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib LH circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG LH (CURTAIN SHIELD SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the curtain shield airbag LH.

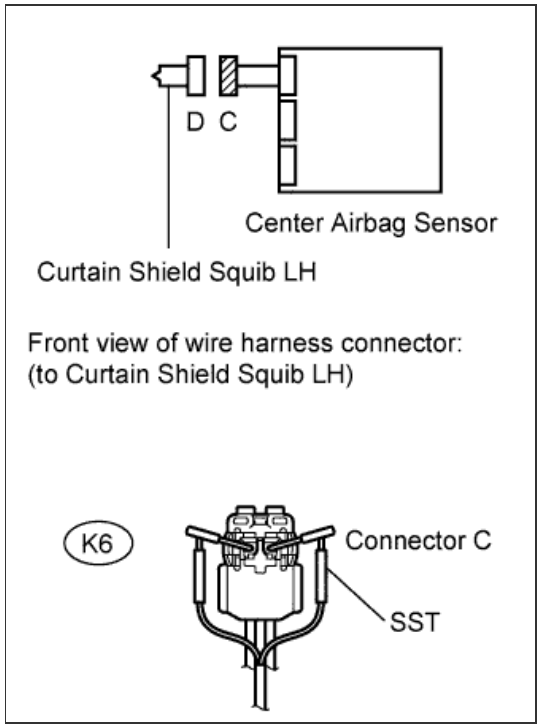
d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the curtain shield airbag LH (curtain shield squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**




*SST*

09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1835, B1836, B1837 or B1838 is not output.**

**HINT:**

Codes other than DTC B1835, B1836, B1837 and B1838 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connectors (on the curtain shield airbag LH side) are not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (CURTAIN SHIELD AIRBAG LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - Body ground | Ignition switch ON | Below 1 V |
| K6-2 (ICL-) - Body ground | Ignition switch ON | Below 1 V |

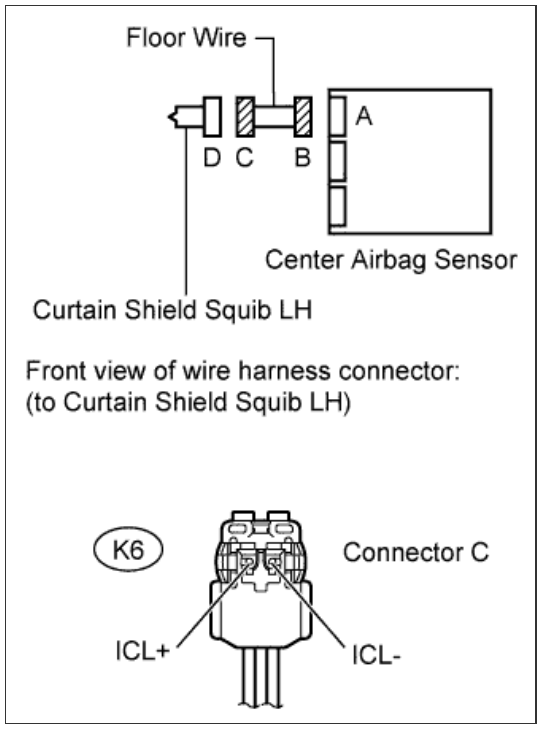
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - K6-2 (ICL-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - K6-2 (ICL-) | Always | 1 MΩ or higher |
| K6-1 (ICL+) - Body ground | Always | 1 MΩ or higher |
| K6-2 (ICL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the curtain shield airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

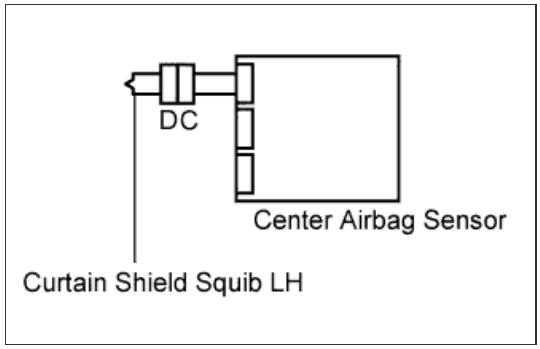
c. Turn the ignition switch ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1835, B1836, B1837 or B1838 is not output.**

**HINT:**

Codes other than DTC B1835, B1836, B1837 and B1838 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1632/81 Lost Communication with Rear Airbag Sensor RH

## DTC B1633/81 Rear Airbag Sensor Assembly RH Initialization Incomplete

## DTC B1697/82 Lost Communication with Door Side Airbag Sensor LH

## DTC B1698/82 Door Side Airbag Sensor LH Initialization Incomplete

**for Preparation** Click here

### DESCRIPTION

**HINT:**

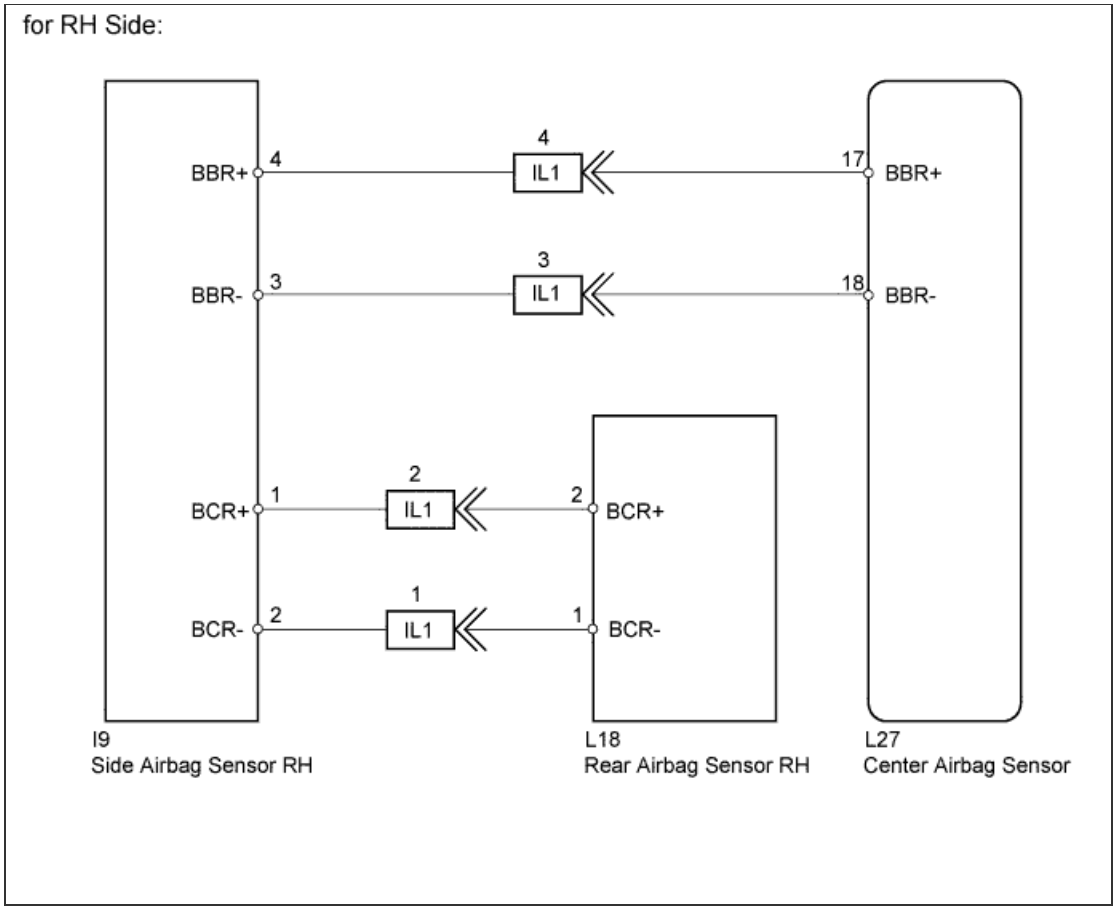
"Door side airbag sensor LH" refer to the side airbag sensor LH.

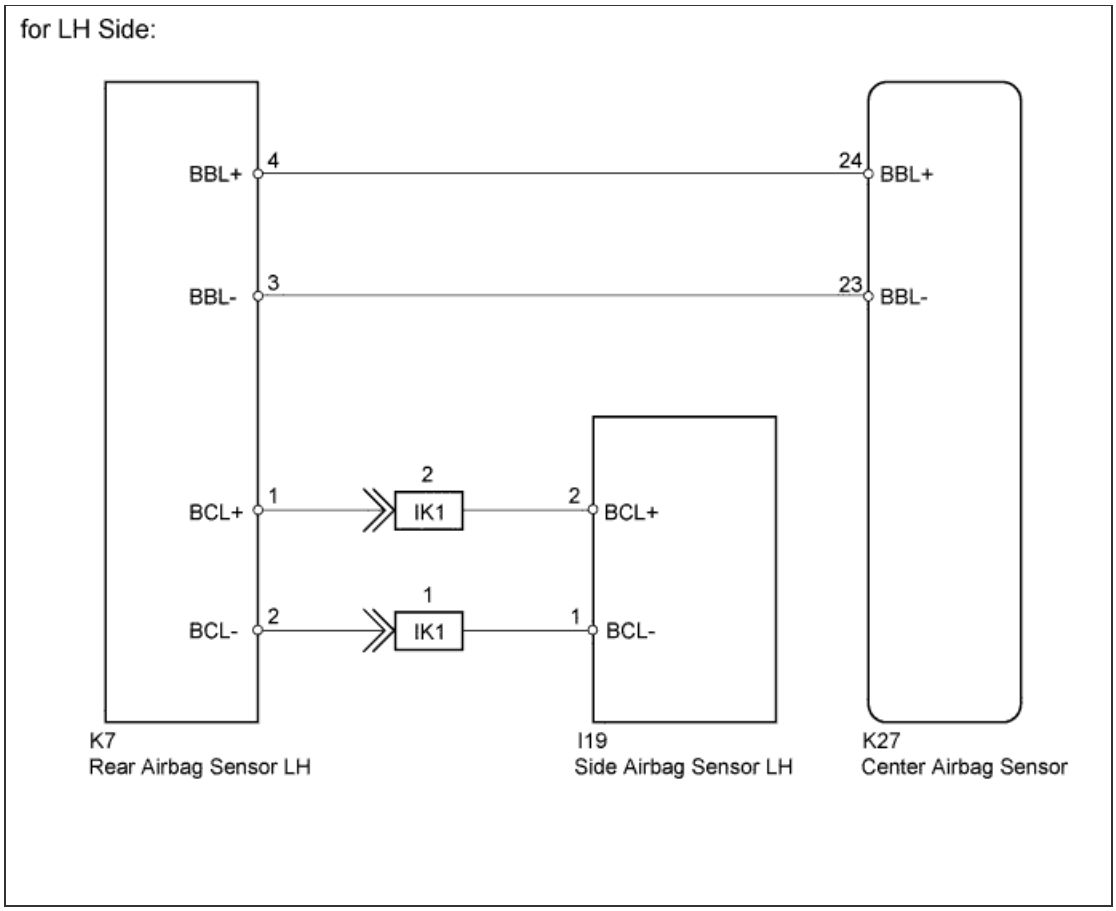
- The circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH) is composed of the center airbag sensor, side airbag sensor LH or RH, and rear airbag sensor LH or RH.
  The side airbag sensor LH or RH and rear airbag sensor LH or RH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1632/81 or B1697/82 is stored when a malfunction is detected in the circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1632/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1633/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1697/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

| | | |
|---|---|---|
| | • A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | |
| B1698/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

**WIRING DIAGRAM**






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1697 or B1698 is output | B |
| DTC B1632 or B1633 is output | C |

**HINT:**

Codes other than DTC B1632, B1633, B1697 and B1698 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 8

**C**

## 2.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor, the side airbag sensor RH and rear airbag sensor RH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 3.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor, rear airbag sensor RH and side airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side, the rear airbag sensor RH side and side airbag sensor RH side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 4.CHECK SIDE AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Interchange the side airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

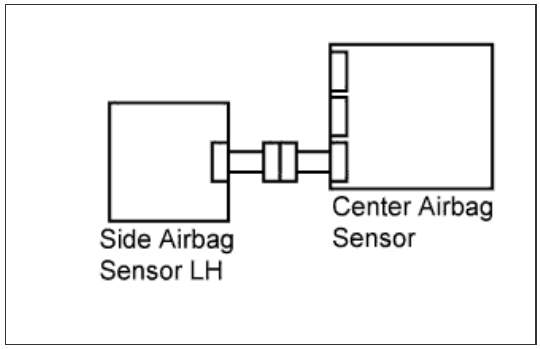
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1697 or B1698 is output | B |
| DTC B1632 or B1633 is output | C |

**HINT:**

Codes other than DTC B1632, B1633, B1697 and B1698 may be output at this time, but they are not related to this check.

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

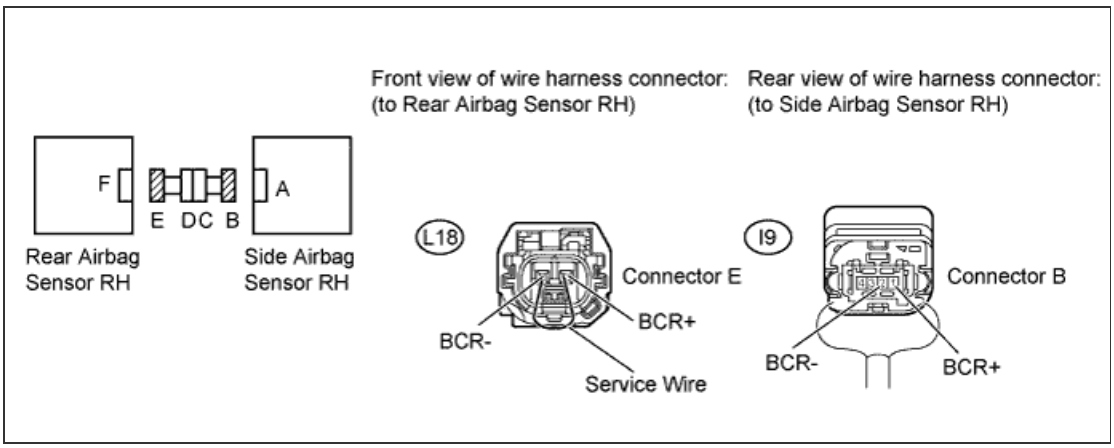
A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR RH (Click here)

C

## 5.CHECK REAR AIRBAG SENSOR RH CIRCUIT

a. Disconnect the connectors from the side airbag sensor RH and rear airbag sensor RH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector E.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 7

OK

## 6.CHECK REAR AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Temporarily replace the rear airbag sensor RH with a new one.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

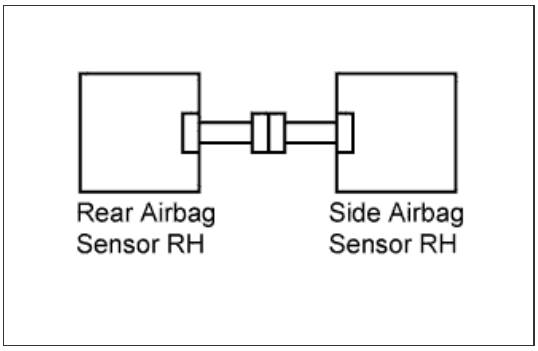
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**OK:**

**DTC B1632 and B1633 is not output.**

**HINT:**

Codes other than DTC B1632 and B1633 may be output at this time, but they are not related to this check.

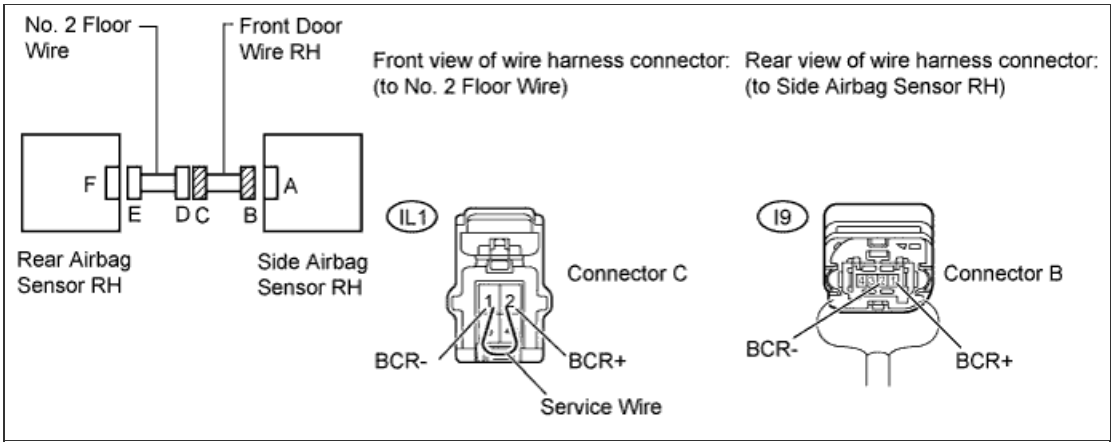
NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 7.CHECK FRONT DOOR WIRE RH (SIDE AIRBAG SENSOR RH - NO. 2 FLOOR WIRE)

a. Disconnect the front door wire RH connectors from the No. 2 floor wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| ground | | |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FRONT DOOR WIRE RH

OK

REPLACE NO. 2 FLOOR WIRE

8.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor, the side airbag sensor LH and rear airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

9.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor, side airbag sensor LH and rear airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side, the rear airbag sensor LH side and side airbag sensor LH side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

10.CHECK REAR AIRBAG SENSOR LH

a. Connect the connector to the center airbag sensor.

b. Temporarily replace the rear airbag sensor LH with a new one.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

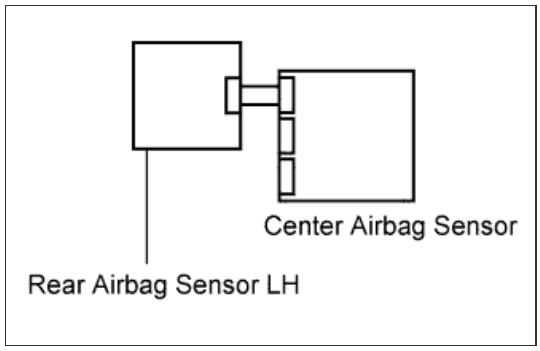
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**OK:**
**DTC B1697 and B1698 are not output.**

**HINT:**

Codes other than DTC B1697 and B1698 may be output at this time, but they are not related to this check.

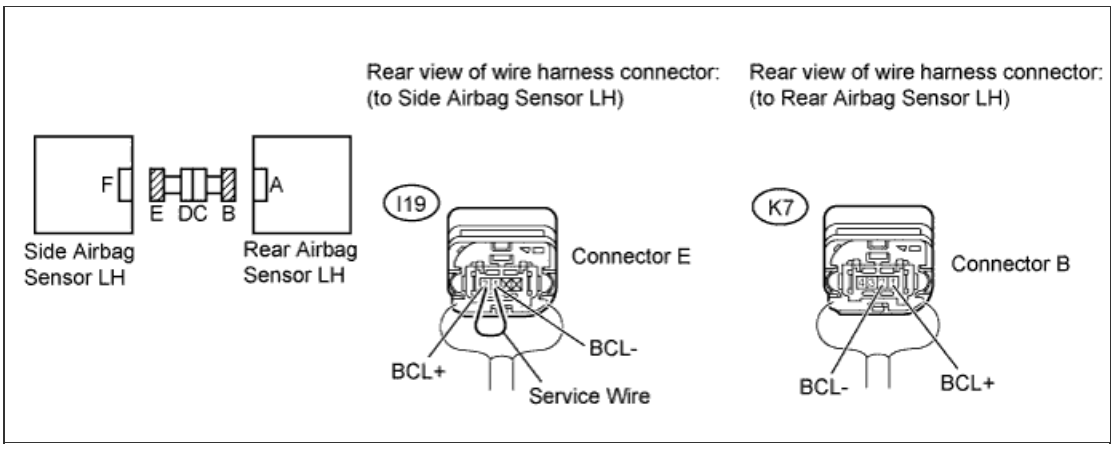
NG → Go to step 11

OK

REPLACE REAR AIRBAG SENSOR LH (Click here)

11.CHECK SIDE AIRBAG SENSOR LH CIRCUIT

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the side airbag sensor LH and rear airbag sensor LH.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

f. Turn the ignition switch off.

g. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

h. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

j. Disconnect the service wire from connector E.

k. Measure the resistance according to the value(s) in the table below.

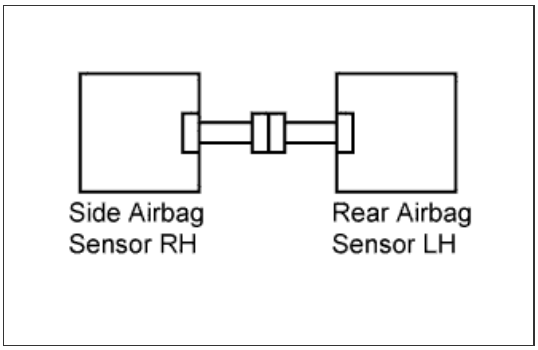
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 13

OK

## 12.CHECK SIDE AIRBAG SENSOR LH




a. Connect the connectors to the rear airbag sensor LH.

b. Interchange the side airbag sensor LH with RH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1632 or B1633 is output | B |
| DTC B1697 or B1698 is output | C |

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

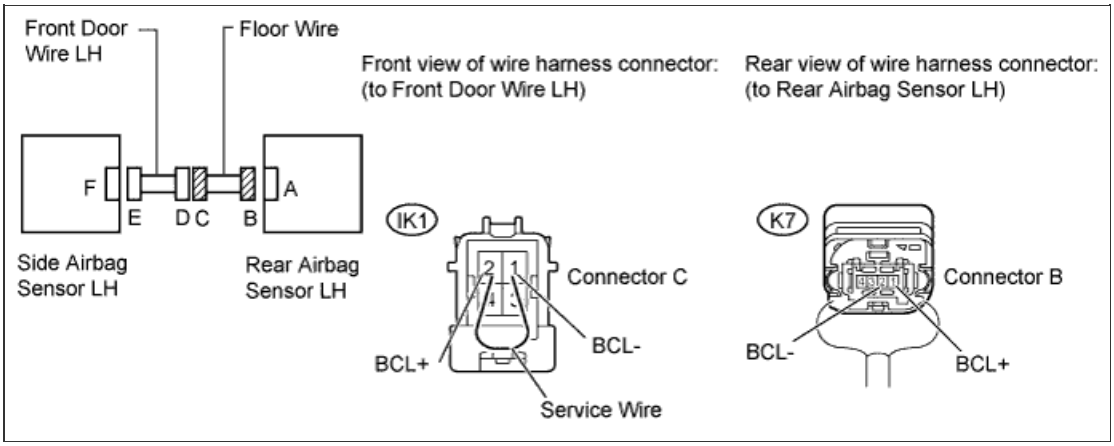
B → REPLACE SIDE AIRBAG SENSOR LH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 13.CHECK FLOOR WIRE (SIDE AIRBAG SENSOR LH - FRONT DOOR WIRE LH)

a. Disconnect the floor wire connector from the front door wire LH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

REPLACE FRONT DOOR WIRE LH

## DTC B1835/58 Short in Curtain Shield Squib LH Circuit

## DTC B1836/58 Open in Curtain Shield Squib LH Circuit

## DTC B1837/58 Short to GND in Curtain Shield Squib LH Circuit

## DTC B1838/58 Short to B+ in Curtain Shield Squib LH Circuit

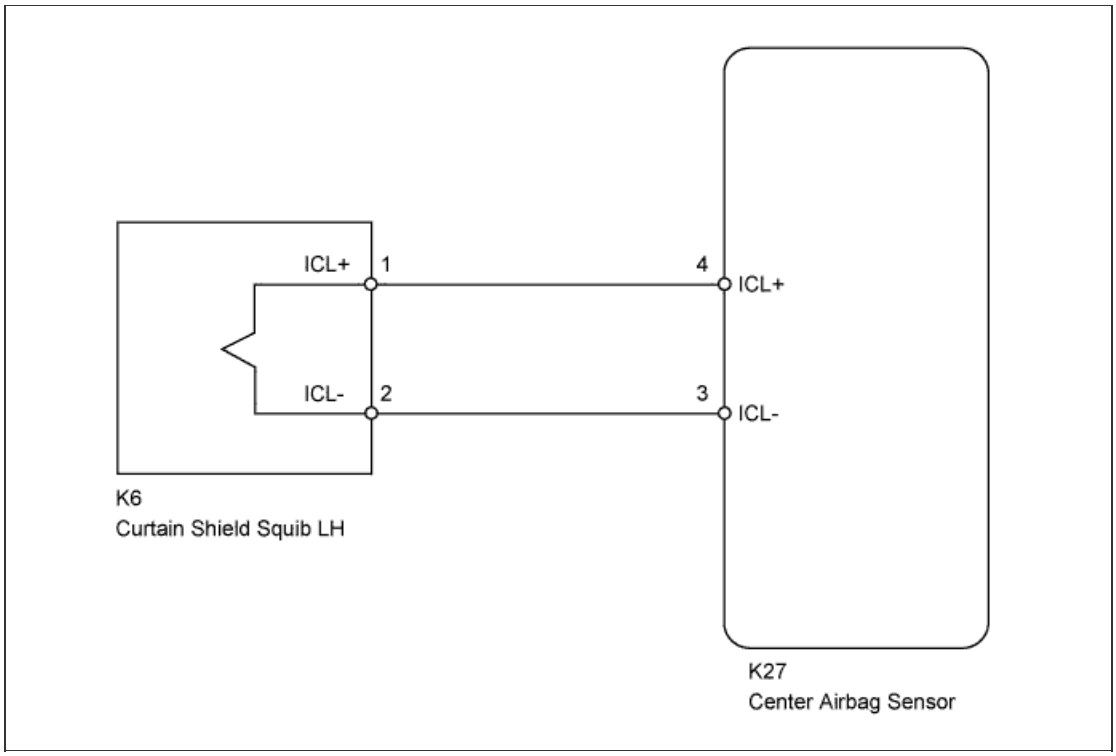
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib LH circuit consists of the center airbag sensor and the curtain shield airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1835/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib LH circuit during the primary check.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1836/58 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib LH circuit for 2 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1837/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib LH circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1838/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib LH circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG LH (CURTAIN SHIELD SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the curtain shield airbag LH.

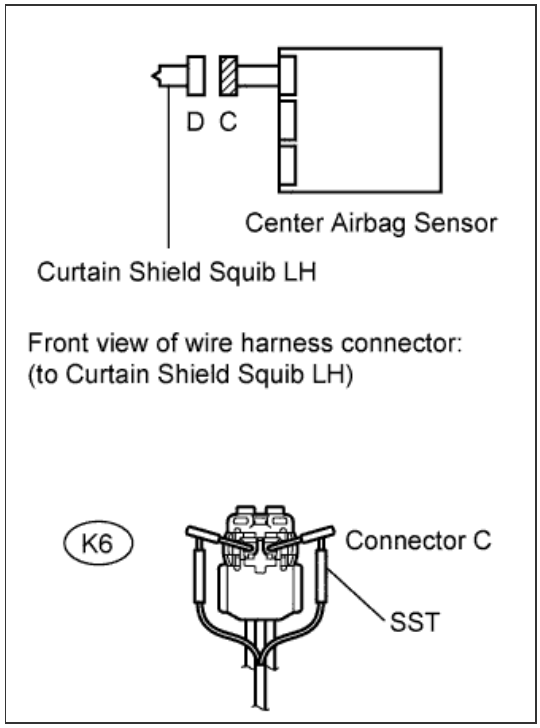
d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the curtain shield airbag LH (curtain shield squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**




*SST*

09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1835, B1836, B1837 or B1838 is not output.**

**HINT:**

Codes other than DTC B1835, B1836, B1837 and B1838 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connectors (on the curtain shield airbag LH side) are not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (CURTAIN SHIELD AIRBAG LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - Body ground | Ignition switch ON | Below 1 V |
| K6-2 (ICL-) - Body ground | Ignition switch ON | Below 1 V |

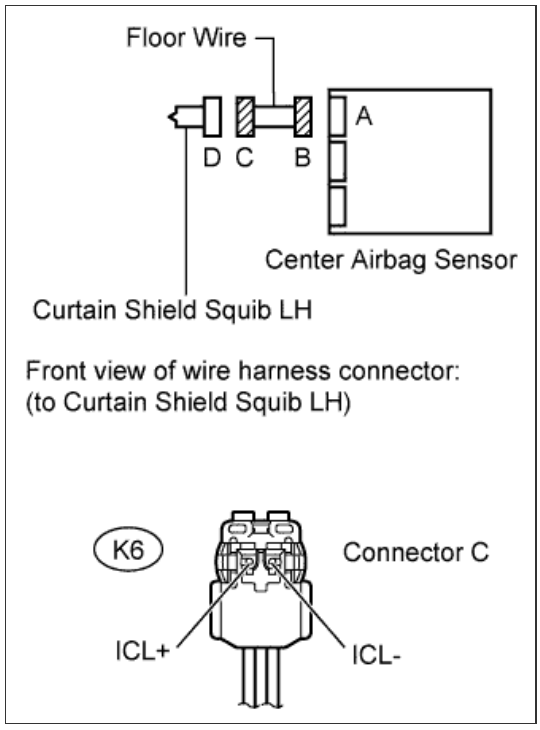
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - K6-2 (ICL-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - K6-2 (ICL-) | Always | 1 MΩ or higher |
| K6-1 (ICL+) - Body ground | Always | 1 MΩ or higher |
| K6-2 (ICL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the curtain shield airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

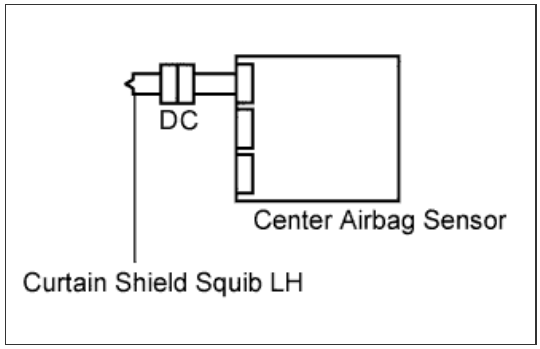
c. Turn the ignition switch ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1835, B1836, B1837 or B1838 is not output.**

**HINT:**

Codes other than DTC B1835, B1836, B1837 and B1838 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1632/81 Lost Communication with Rear Airbag Sensor RH

## DTC B1633/81 Rear Airbag Sensor Assembly RH Initialization Incomplete

## DTC B1697/82 Lost Communication with Door Side Airbag Sensor LH

## DTC B1698/82 Door Side Airbag Sensor LH Initialization Incomplete

**for Preparation** Click here

### DESCRIPTION

**HINT:**

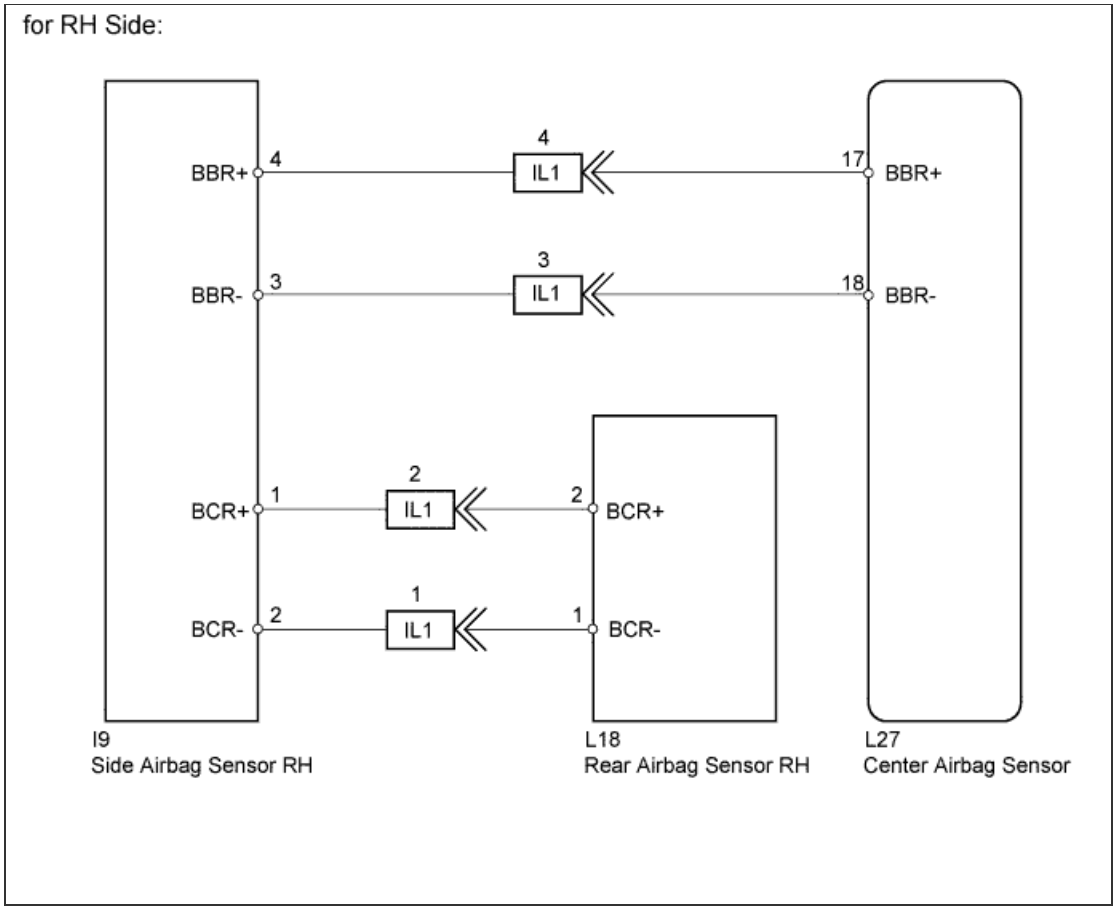
"Door side airbag sensor LH" refer to the side airbag sensor LH.

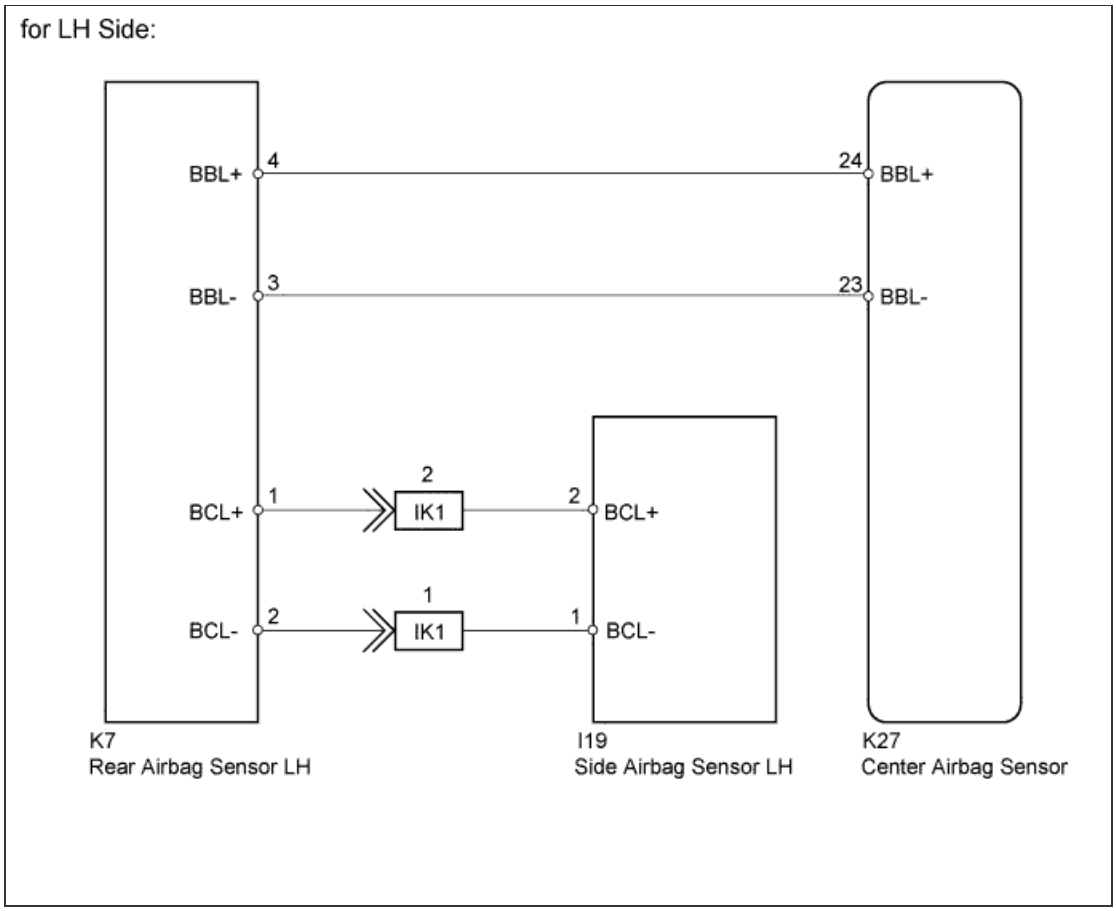
- The circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH) is composed of the center airbag sensor, side airbag sensor LH or RH, and rear airbag sensor LH or RH.
  The side airbag sensor LH or RH and rear airbag sensor LH or RH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1632/81 or B1697/82 is stored when a malfunction is detected in the circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1632/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1633/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1697/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

| | | |
|---|---|---|
| | • A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | |
| B1698/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

**WIRING DIAGRAM**






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1697 or B1698 is output | B |
| DTC B1632 or B1633 is output | C |

**HINT:**

Codes other than DTC B1632, B1633, B1697 and B1698 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 8

**C**

## 2.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor, the side airbag sensor RH and rear airbag sensor RH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 3.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor, rear airbag sensor RH and side airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side, the rear airbag sensor RH side and side airbag sensor RH side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 4.CHECK SIDE AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Interchange the side airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

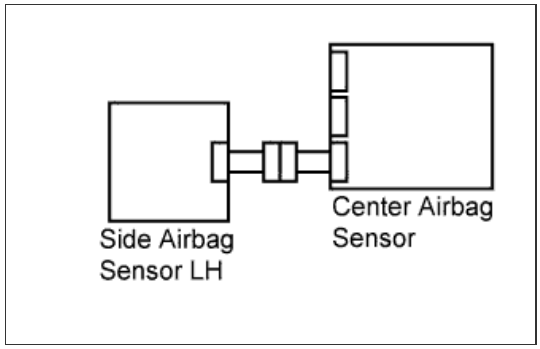
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1697 or B1698 is output | B |
| DTC B1632 or B1633 is output | C |

**HINT:**

Codes other than DTC B1632, B1633, B1697 and B1698 may be output at this time, but they are not related to this check.

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

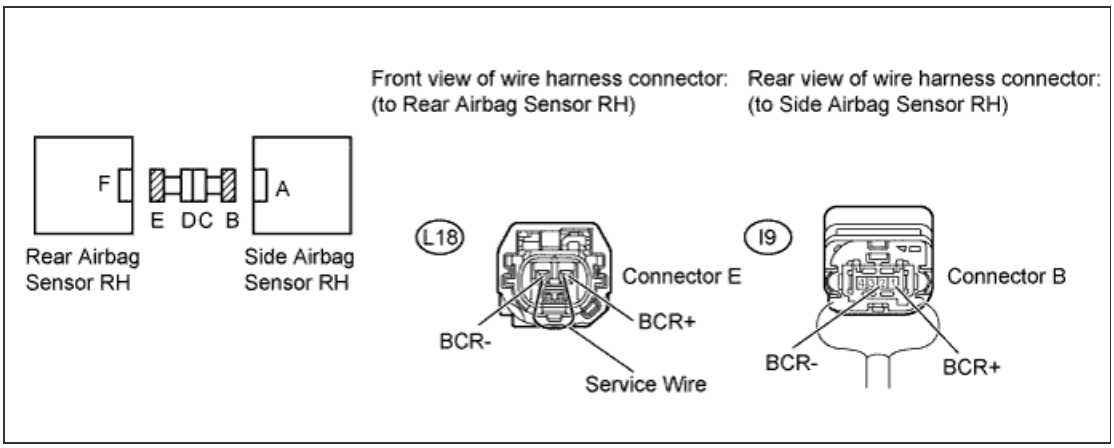
A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR RH (Click here)

C

## 5.CHECK REAR AIRBAG SENSOR RH CIRCUIT

a. Disconnect the connectors from the side airbag sensor RH and rear airbag sensor RH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector E.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 7

OK

## 6.CHECK REAR AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Temporarily replace the rear airbag sensor RH with a new one.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

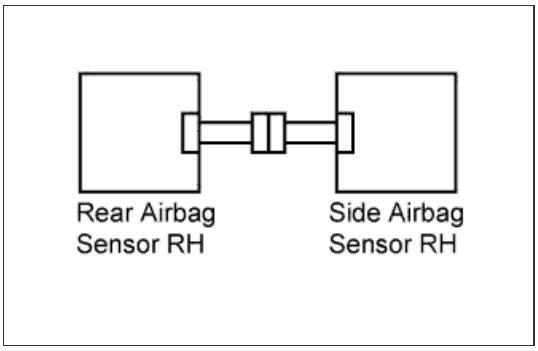
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**OK:**

**DTC B1632 and B1633 is not output.**

**HINT:**

Codes other than DTC B1632 and B1633 may be output at this time, but they are not related to this check.

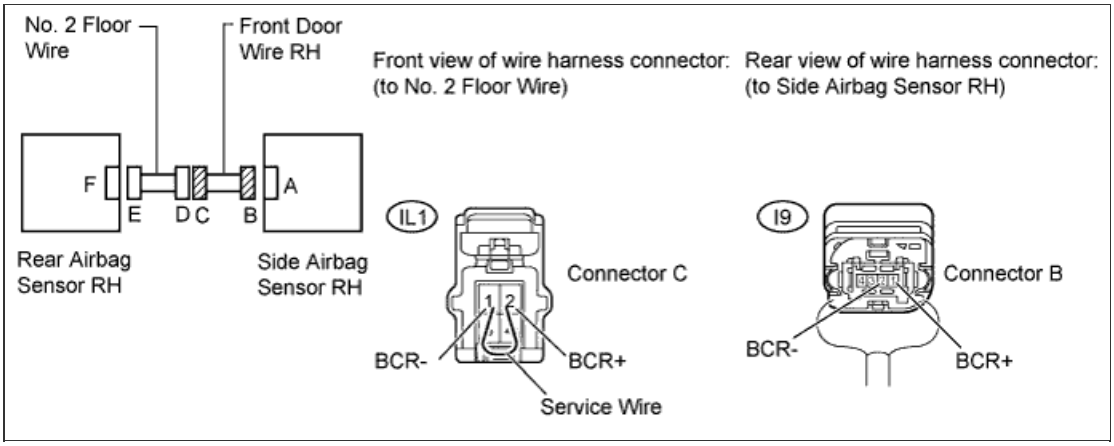
NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 7.CHECK FRONT DOOR WIRE RH (SIDE AIRBAG SENSOR RH - NO. 2 FLOOR WIRE)

a. Disconnect the front door wire RH connectors from the No. 2 floor wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| ground | | |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FRONT DOOR WIRE RH

OK

REPLACE NO. 2 FLOOR WIRE

8.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor, the side airbag sensor LH and rear airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

9.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor, side airbag sensor LH and rear airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side, the rear airbag sensor LH side and side airbag sensor LH side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

10.CHECK REAR AIRBAG SENSOR LH

a. Connect the connector to the center airbag sensor.

b. Temporarily replace the rear airbag sensor LH with a new one.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

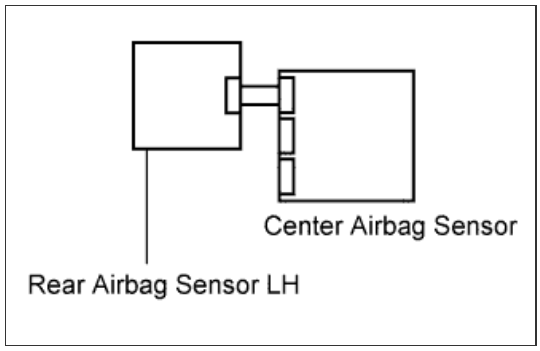
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**OK:**
**DTC B1697 and B1698 are not output.**

**HINT:**

Codes other than DTC B1697 and B1698 may be output at this time, but they are not related to this check.

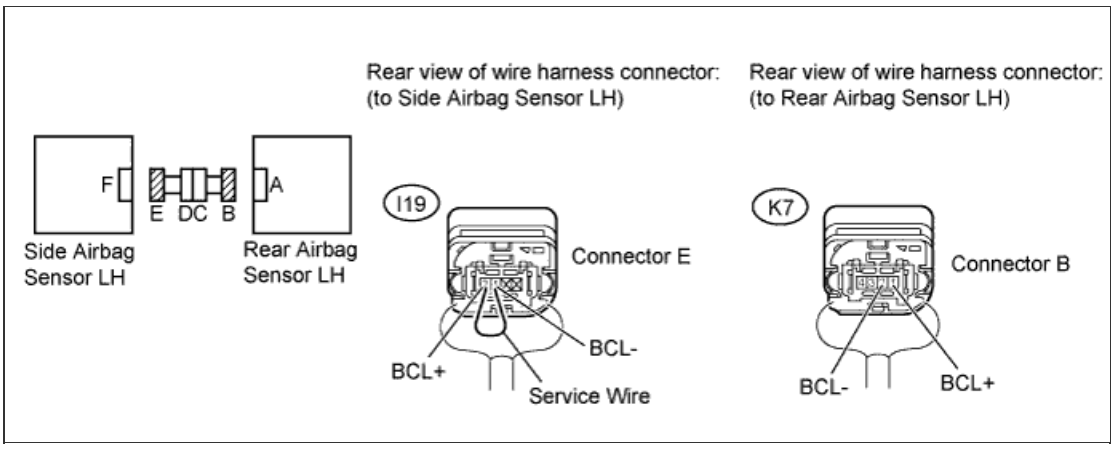
NG → Go to step 11

OK

REPLACE REAR AIRBAG SENSOR LH (Click here)

11.CHECK SIDE AIRBAG SENSOR LH CIRCUIT

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the side airbag sensor LH and rear airbag sensor LH.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

f. Turn the ignition switch off.

g. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

h. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

j. Disconnect the service wire from connector E.

k. Measure the resistance according to the value(s) in the table below.

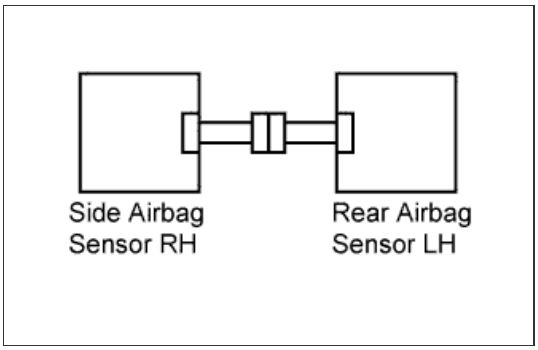
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 13

OK

## 12.CHECK SIDE AIRBAG SENSOR LH




a. Connect the connectors to the rear airbag sensor LH.

b. Interchange the side airbag sensor LH with RH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1632 or B1633 is output | B |
| DTC B1697 or B1698 is output | C |

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

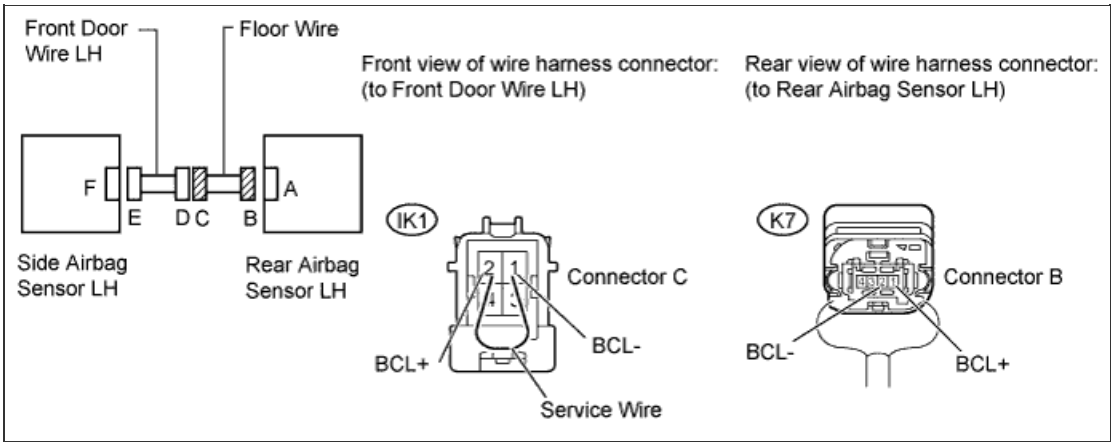
B → REPLACE SIDE AIRBAG SENSOR LH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 13.CHECK FLOOR WIRE (SIDE AIRBAG SENSOR LH - FRONT DOOR WIRE LH)

a. Disconnect the floor wire connector from the front door wire LH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

REPLACE FRONT DOOR WIRE LH

## DTC B1835/58 Short in Curtain Shield Squib LH Circuit

## DTC B1836/58 Open in Curtain Shield Squib LH Circuit

## DTC B1837/58 Short to GND in Curtain Shield Squib LH Circuit

## DTC B1838/58 Short to B+ in Curtain Shield Squib LH Circuit

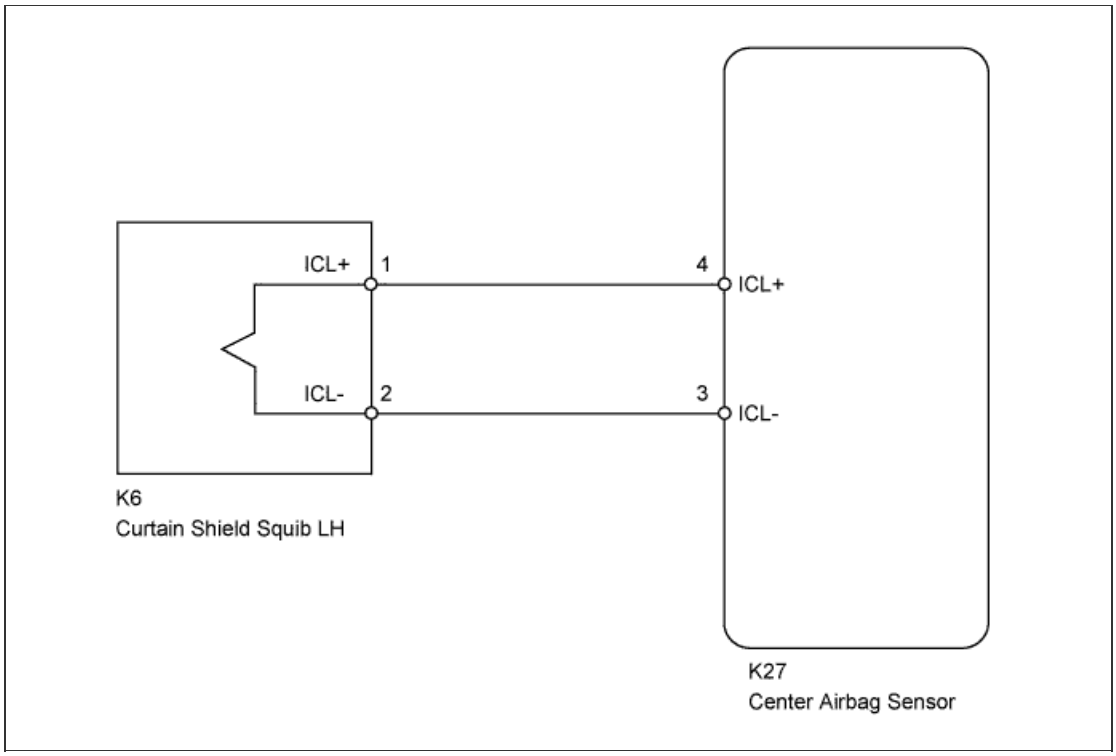
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib LH circuit consists of the center airbag sensor and the curtain shield airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1835/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib LH circuit during the primary check.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1836/58 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib LH circuit for 2 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1837/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib LH circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |
| B1838/58 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib LH circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG LH (CURTAIN SHIELD SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the curtain shield airbag LH.

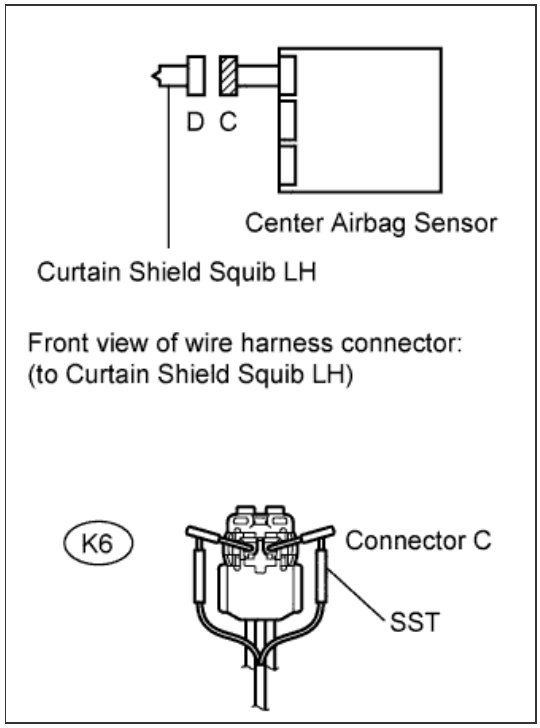
d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the curtain shield airbag LH (curtain shield squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**




*SST*

09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1835, B1836, B1837 or B1838 is not output.**

**HINT:**

Codes other than DTC B1835, B1836, B1837 and B1838 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connectors (on the curtain shield airbag LH side) are not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (CURTAIN SHIELD AIRBAG LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - Body ground | Ignition switch ON | Below 1 V |
| K6-2 (ICL-) - Body ground | Ignition switch ON | Below 1 V |

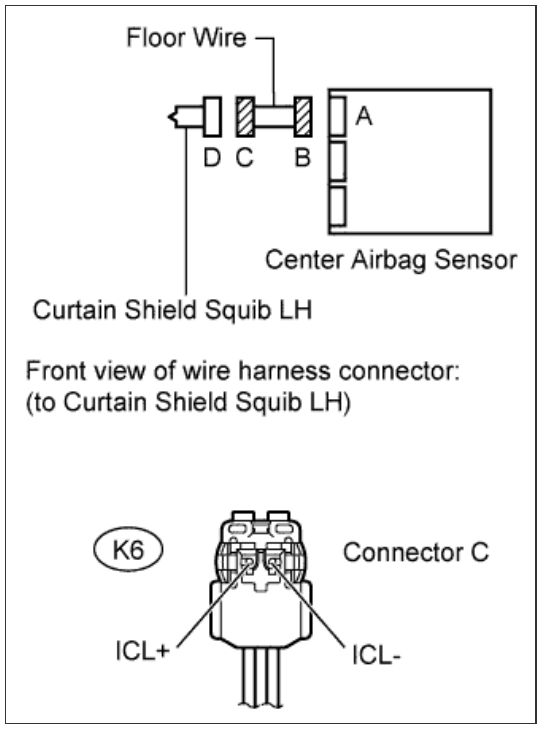
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - K6-2 (ICL-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K6-1 (ICL+) - K6-2 (ICL-) | Always | 1 MΩ or higher |
| K6-1 (ICL+) - Body ground | Always | 1 MΩ or higher |
| K6-2 (ICL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the curtain shield airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

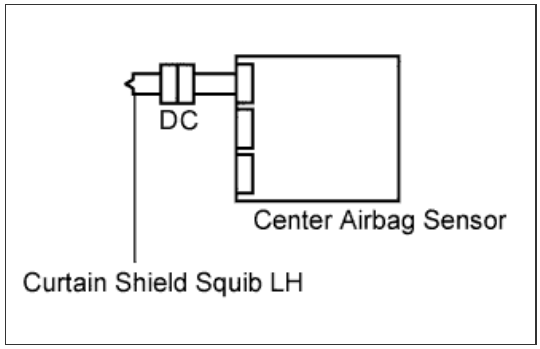
c. Turn the ignition switch ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1835, B1836, B1837 or B1838 is not output.**

**HINT:**

Codes other than DTC B1835, B1836, B1837 and B1838 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1632/81 Lost Communication with Rear Airbag Sensor RH

## DTC B1633/81 Rear Airbag Sensor Assembly RH Initialization Incomplete

## DTC B1697/82 Lost Communication with Door Side Airbag Sensor LH

## DTC B1698/82 Door Side Airbag Sensor LH Initialization Incomplete

**for Preparation** Click here

### DESCRIPTION

**HINT:**

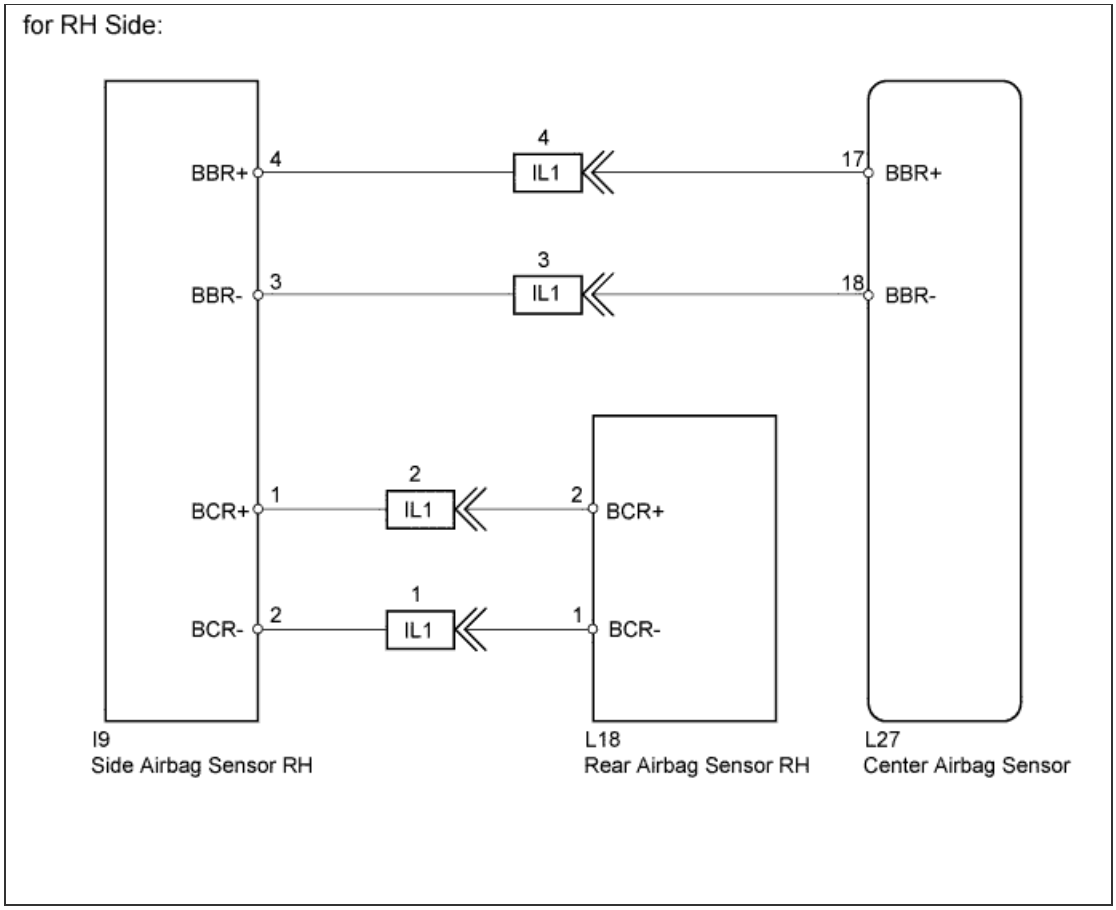
"Door side airbag sensor LH" refer to the side airbag sensor LH.

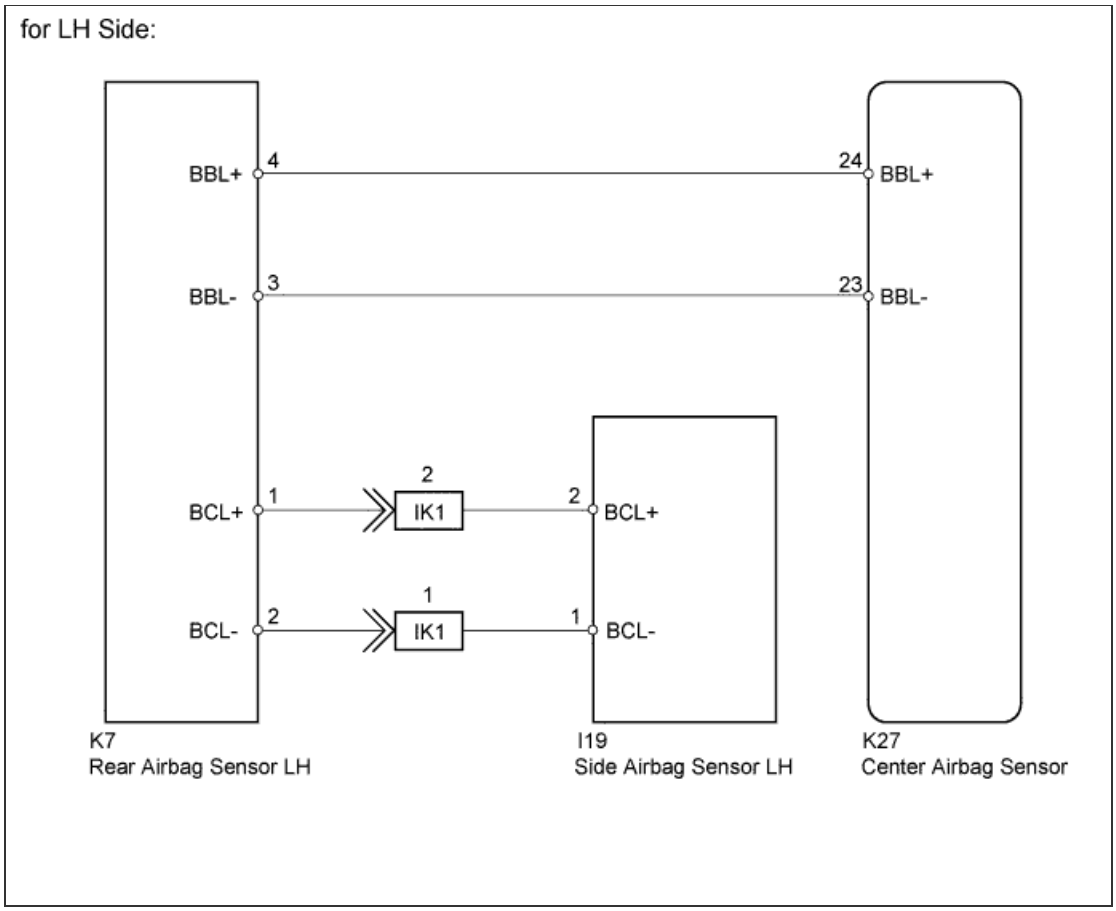
- The circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH) is composed of the center airbag sensor, side airbag sensor LH or RH, and rear airbag sensor LH or RH.
  The side airbag sensor LH or RH and rear airbag sensor LH or RH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1632/81 or B1697/82 is stored when a malfunction is detected in the circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1632/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1633/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1697/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

| | | |
|---|---|---|
| | • A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | |
| B1698/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

**WIRING DIAGRAM**






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1697 or B1698 is output | B |
| DTC B1632 or B1633 is output | C |

**HINT:**

Codes other than DTC B1632, B1633, B1697 and B1698 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 8

**C**

## 2.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor, the side airbag sensor RH and rear airbag sensor RH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 3.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor, rear airbag sensor RH and side airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side, the rear airbag sensor RH side and side airbag sensor RH side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 4.CHECK SIDE AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Interchange the side airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

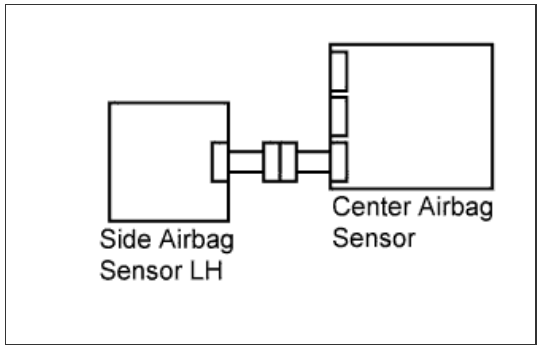
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1697 or B1698 is output | B |
| DTC B1632 or B1633 is output | C |

**HINT:**

Codes other than DTC B1632, B1633, B1697 and B1698 may be output at this time, but they are not related to this check.

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

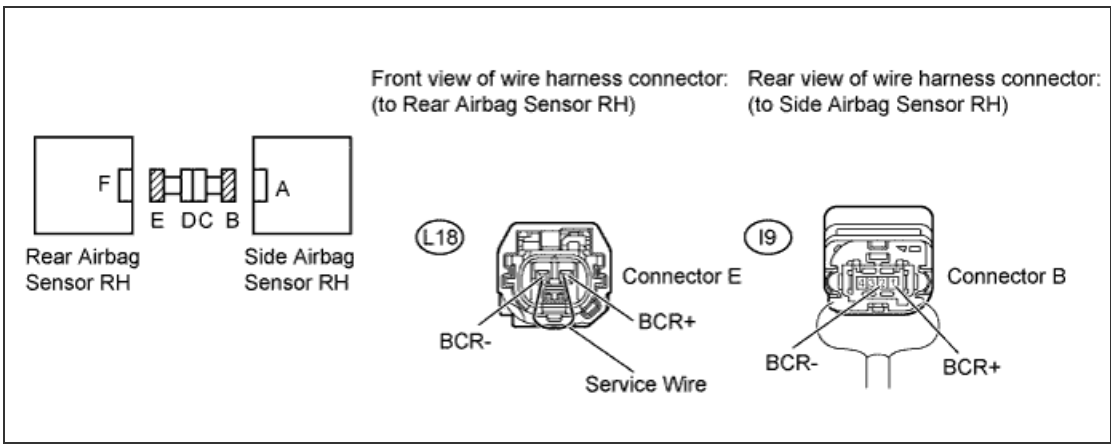
A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR RH (Click here)

C

## 5.CHECK REAR AIRBAG SENSOR RH CIRCUIT

a. Disconnect the connectors from the side airbag sensor RH and rear airbag sensor RH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector E.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 7

OK

## 6.CHECK REAR AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Temporarily replace the rear airbag sensor RH with a new one.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

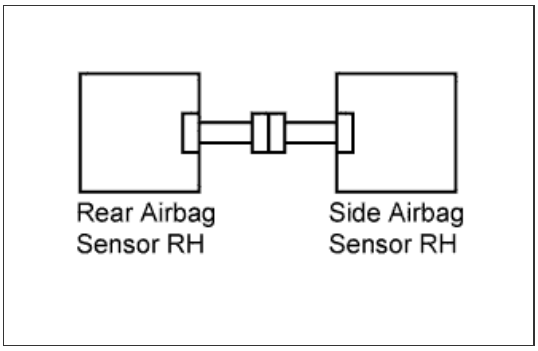
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**OK:**

**DTC B1632 and B1633 is not output.**

**HINT:**

Codes other than DTC B1632 and B1633 may be output at this time, but they are not related to this check.

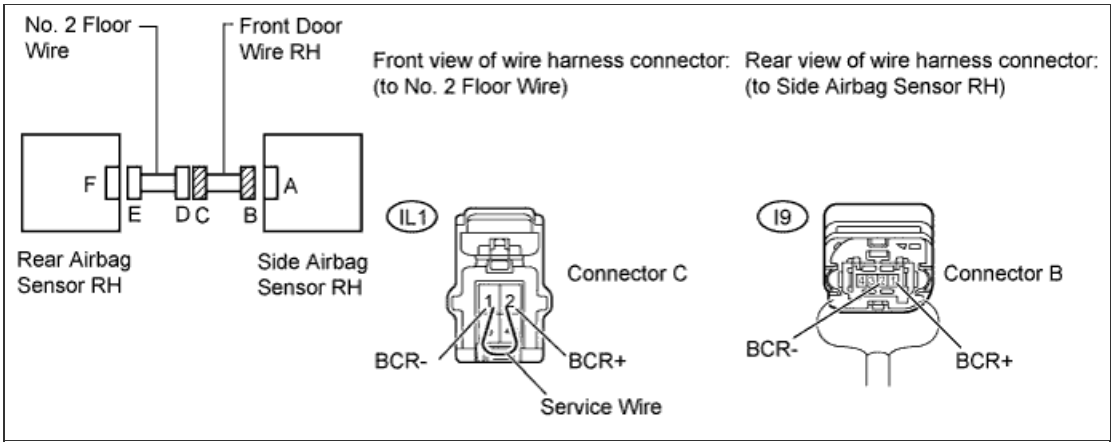
NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 7.CHECK FRONT DOOR WIRE RH (SIDE AIRBAG SENSOR RH - NO. 2 FLOOR WIRE)

a. Disconnect the front door wire RH connectors from the No. 2 floor wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| ground | | |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FRONT DOOR WIRE RH

OK

REPLACE NO. 2 FLOOR WIRE

8.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor, the side airbag sensor LH and rear airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

9.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor, side airbag sensor LH and rear airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side, the rear airbag sensor LH side and side airbag sensor LH side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

10.CHECK REAR AIRBAG SENSOR LH

a. Connect the connector to the center airbag sensor.

b. Temporarily replace the rear airbag sensor LH with a new one.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

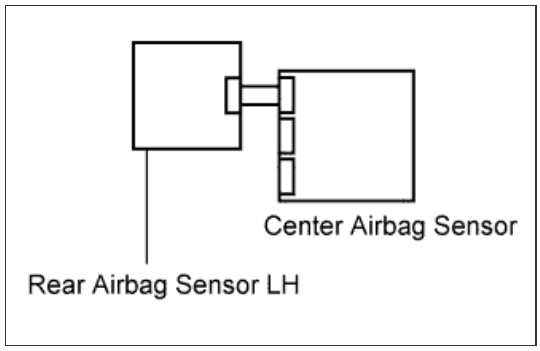
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**OK:**
**DTC B1697 and B1698 are not output.**

**HINT:**

Codes other than DTC B1697 and B1698 may be output at this time, but they are not related to this check.

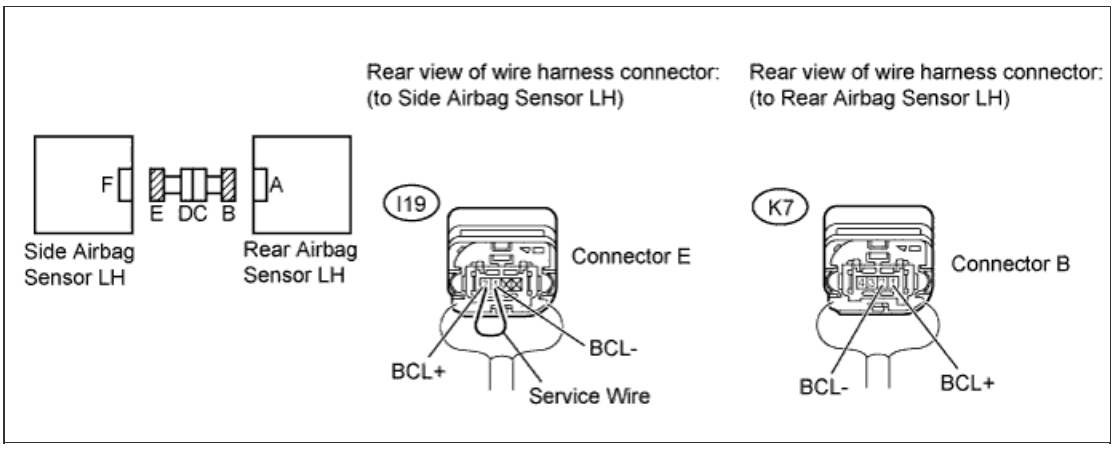
NG → Go to step 11

OK

REPLACE REAR AIRBAG SENSOR LH (Click here)

11.CHECK SIDE AIRBAG SENSOR LH CIRCUIT

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the side airbag sensor LH and rear airbag sensor LH.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

f. Turn the ignition switch off.

g. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

h. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

j. Disconnect the service wire from connector E.

k. Measure the resistance according to the value(s) in the table below.

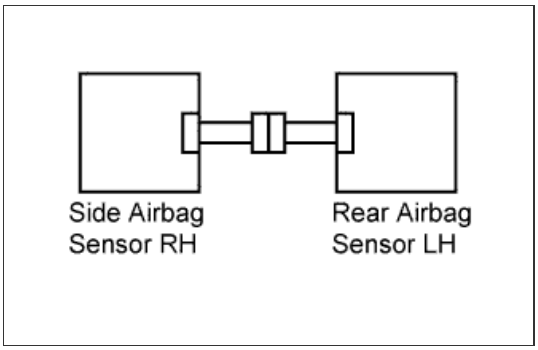
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 13

OK

## 12.CHECK SIDE AIRBAG SENSOR LH




a. Connect the connectors to the rear airbag sensor LH.

b. Interchange the side airbag sensor LH with RH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1632 or B1633 is output | B |
| DTC B1697 or B1698 is output | C |

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

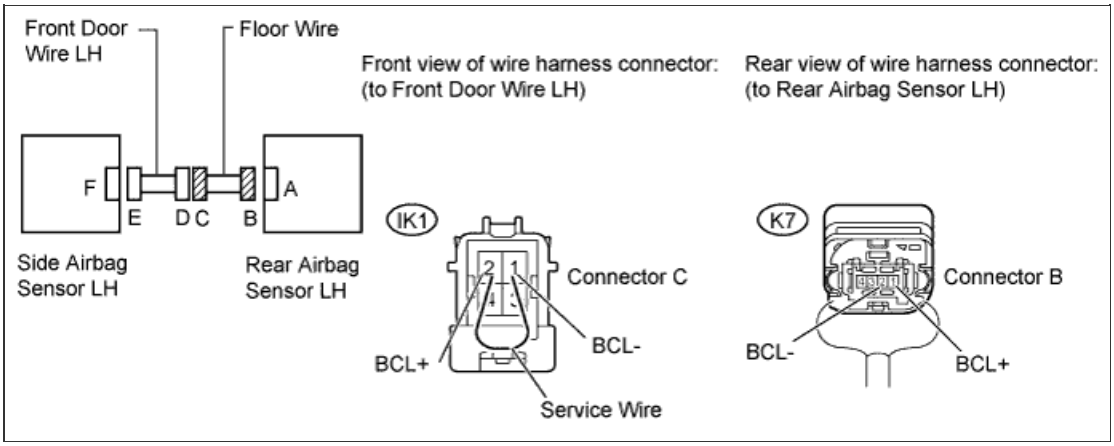
B → REPLACE SIDE AIRBAG SENSOR LH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 13.CHECK FLOOR WIRE (SIDE AIRBAG SENSOR LH - FRONT DOOR WIRE LH)

a. Disconnect the floor wire connector from the front door wire LH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

REPLACE FRONT DOOR WIRE LH

## DTC B1840/59 Short in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1841/59 Open in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1842/59 Short to GND in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1843/59 Short to B+ in Curtain Shield Squib RH 2nd Step Circuit

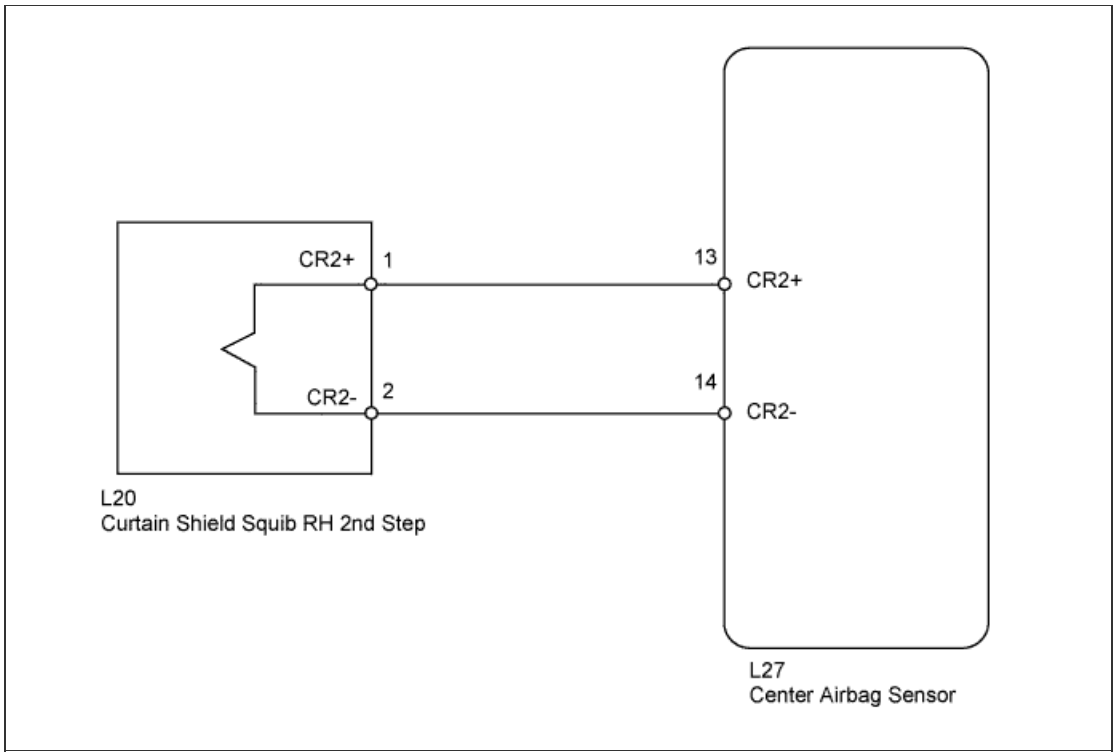
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib RH 2nd step circuit consists of the center airbag sensor and the curtain shield airbag RH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib RH 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1840/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib RH 2nd step circuit during the primary check.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1841/59 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib RH 2nd step circuit for 2 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1842/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib RH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1843/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib RH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG RH (CURTAIN SHIELD SQUIB RH 2ND STEP)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the curtain shield squib RH 2nd step.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

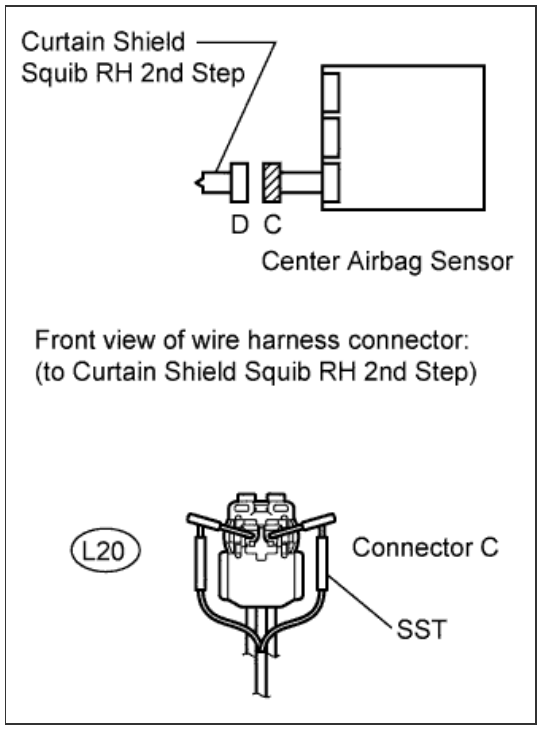
Never connect the tester to the curtain shield airbag RH (curtain shield squib RH 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1840, B1841, B1842 or B1843 is not output.**

**HINT:**

Codes other than DTC B1840, B1841, B1842 and B1843 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY RH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the curtain shield squib RH 2nd step side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (CURTAIN SHIELD AIRBAG RH 2ND STEP CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - Body ground | Ignition switch ON | Below 1 V |
| L20-2 (CR2-) - Body ground | Ignition switch ON | Below 1 V |

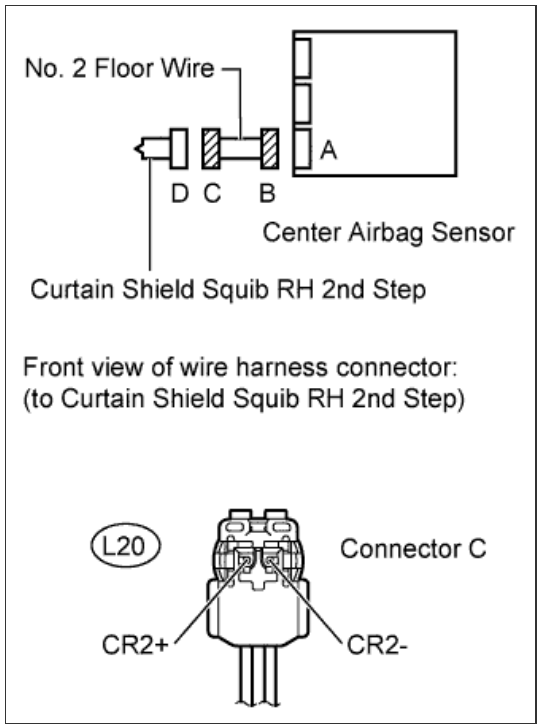
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - L20-2 (CR2-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - L20-2 (CR2-) | Always | 1 MΩ or higher |
| L20-1 (CR2+) - Body ground | Always | 1 MΩ or higher |
| L20-2 (CR2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield squib RH 2nd step and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

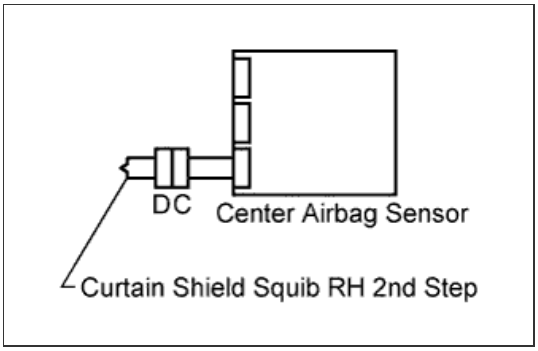
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1840, B1841, B1842 or B1843 is not output.**

**HINT:**

Codes other than DTC B1840, B1841, B1842 and B1843 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1632/81 Lost Communication with Rear Airbag Sensor RH

## DTC B1633/81 Rear Airbag Sensor Assembly RH Initialization Incomplete

## DTC B1697/82 Lost Communication with Door Side Airbag Sensor LH

## DTC B1698/82 Door Side Airbag Sensor LH Initialization Incomplete

**for Preparation** Click here

### DESCRIPTION

**HINT:**

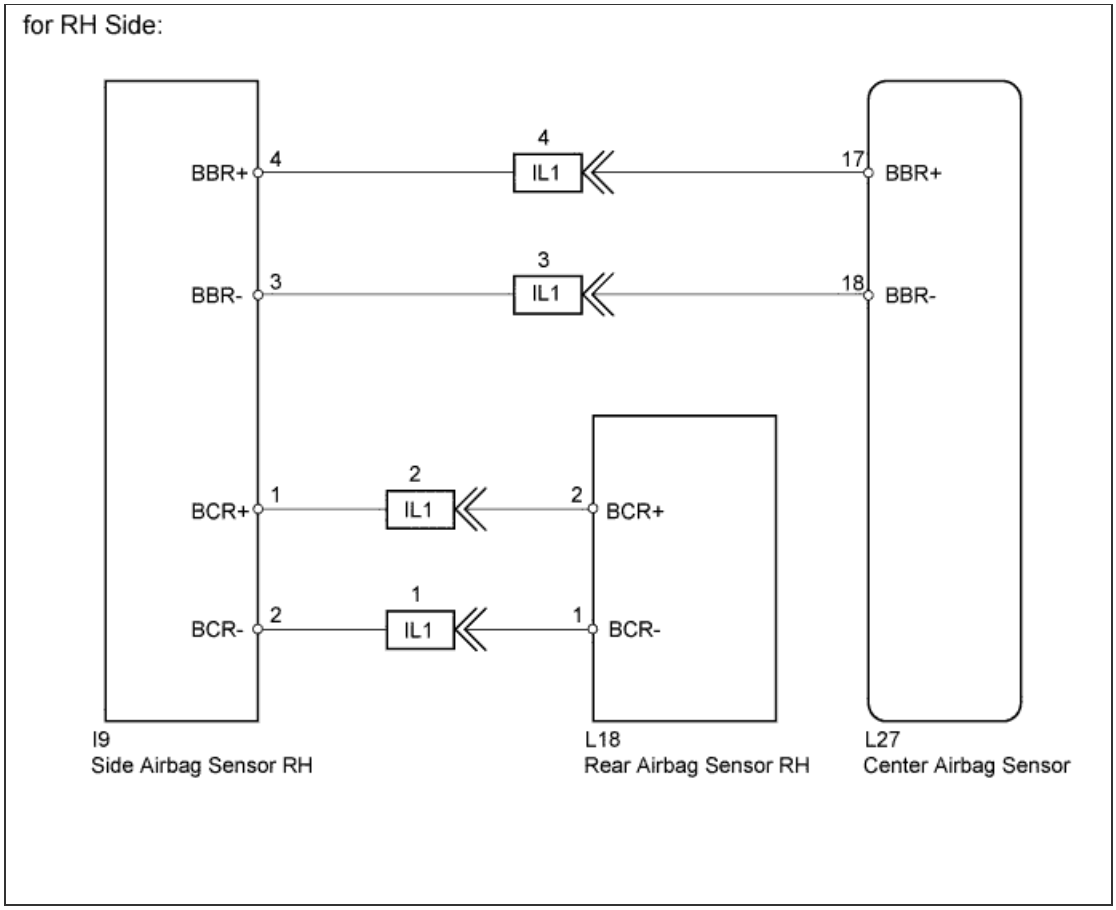
"Door side airbag sensor LH" refer to the side airbag sensor LH.

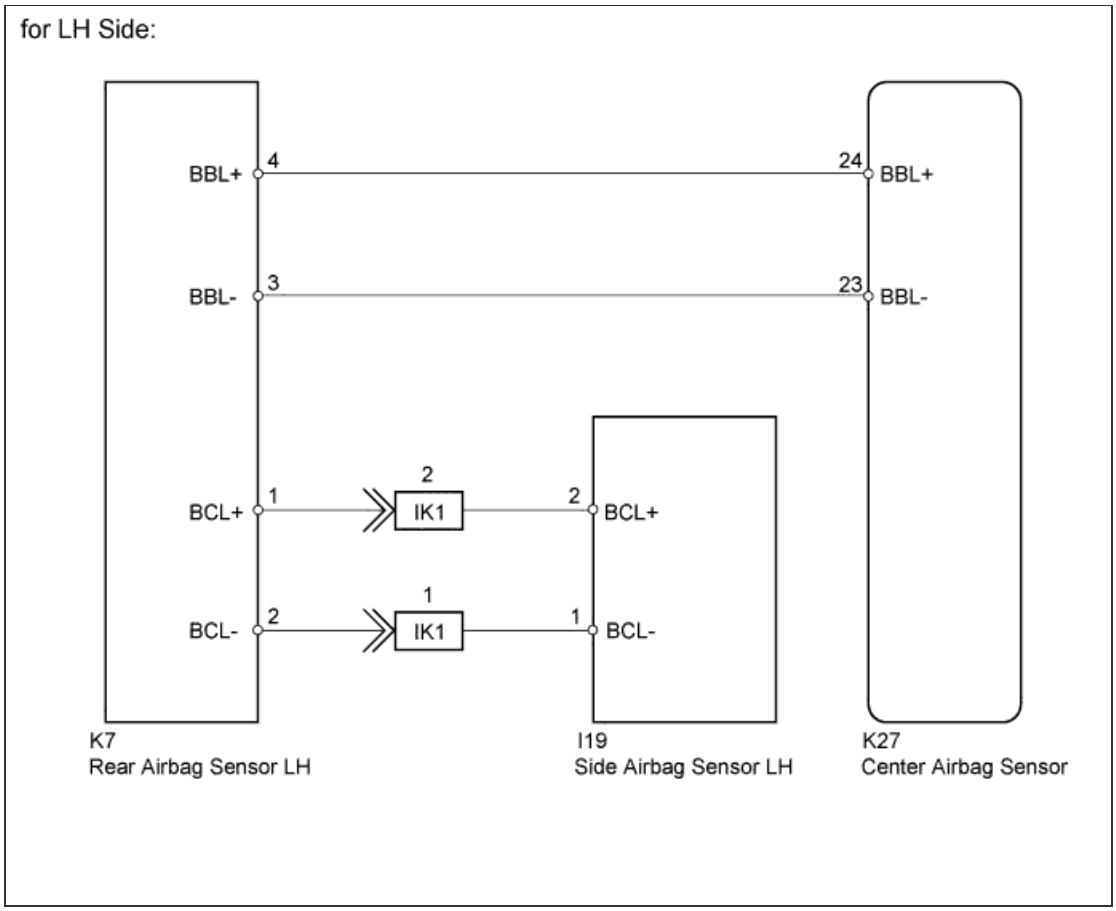
- The circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH) is composed of the center airbag sensor, side airbag sensor LH or RH, and rear airbag sensor LH or RH.
  The side airbag sensor LH or RH and rear airbag sensor LH or RH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1632/81 or B1697/82 is stored when a malfunction is detected in the circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1632/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1633/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1697/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

| | | |
|---|---|---|
| | • A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | |
| B1698/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

**WIRING DIAGRAM**






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1697 or B1698 is output | B |
| DTC B1632 or B1633 is output | C |

**HINT:**

Codes other than DTC B1632, B1633, B1697 and B1698 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 8

**C**

## 2.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor, the side airbag sensor RH and rear airbag sensor RH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 3.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor, rear airbag sensor RH and side airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side, the rear airbag sensor RH side and side airbag sensor RH side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 4.CHECK SIDE AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Interchange the side airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

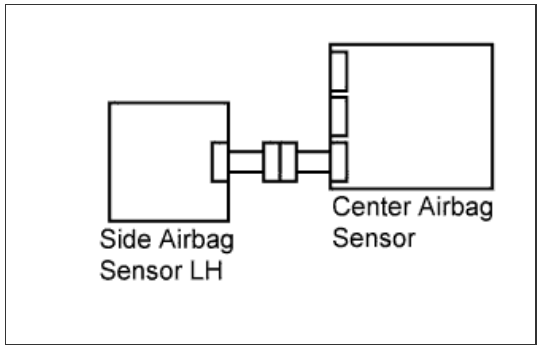
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1697 or B1698 is output | B |
| DTC B1632 or B1633 is output | C |

**HINT:**

Codes other than DTC B1632, B1633, B1697 and B1698 may be output at this time, but they are not related to this check.

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

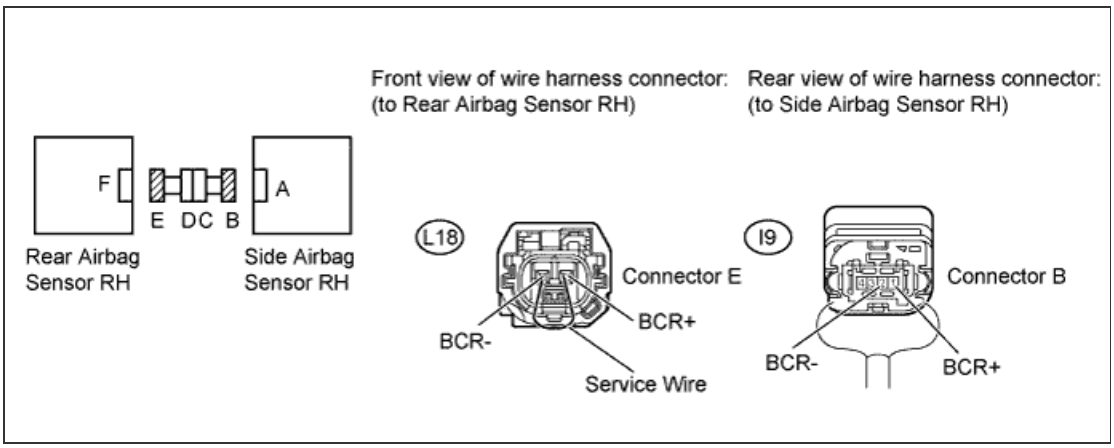
A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR RH (Click here)

C

## 5.CHECK REAR AIRBAG SENSOR RH CIRCUIT

a. Disconnect the connectors from the side airbag sensor RH and rear airbag sensor RH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector E.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 7

OK

## 6.CHECK REAR AIRBAG SENSOR RH

a. Connect the connectors to the center airbag sensor.

b. Temporarily replace the rear airbag sensor RH with a new one.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

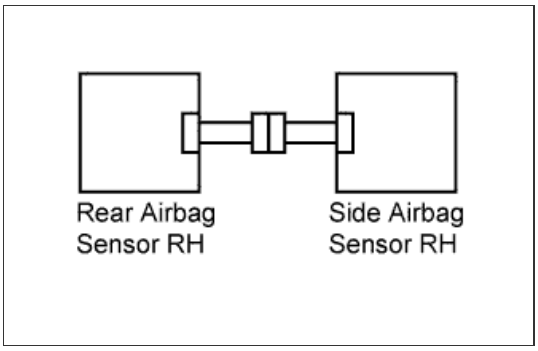
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**OK:**

**DTC B1632 and B1633 is not output.**

**HINT:**

Codes other than DTC B1632 and B1633 may be output at this time, but they are not related to this check.

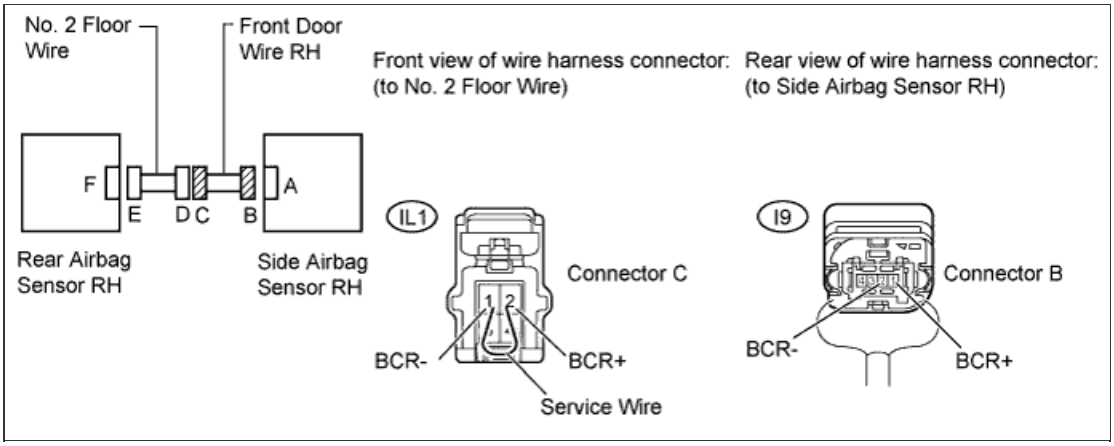
NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 7.CHECK FRONT DOOR WIRE RH (SIDE AIRBAG SENSOR RH - NO. 2 FLOOR WIRE)

a. Disconnect the front door wire RH connectors from the No. 2 floor wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| ground | | |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FRONT DOOR WIRE RH

OK

REPLACE NO. 2 FLOOR WIRE

8.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor, the side airbag sensor LH and rear airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

9.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor, side airbag sensor LH and rear airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side, the rear airbag sensor LH side and side airbag sensor LH side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

10.CHECK REAR AIRBAG SENSOR LH

a. Connect the connector to the center airbag sensor.

b. Temporarily replace the rear airbag sensor LH with a new one.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

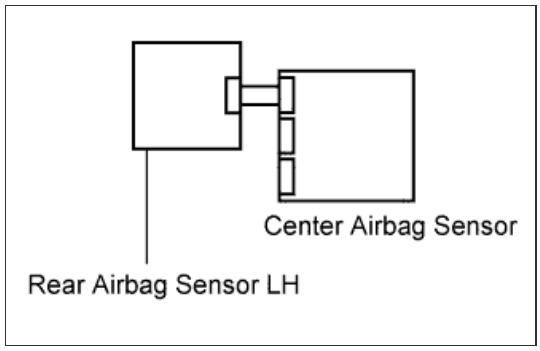
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).




**OK:**
**DTC B1697 and B1698 are not output.**

**HINT:**

Codes other than DTC B1697 and B1698 may be output at this time, but they are not related to this check.

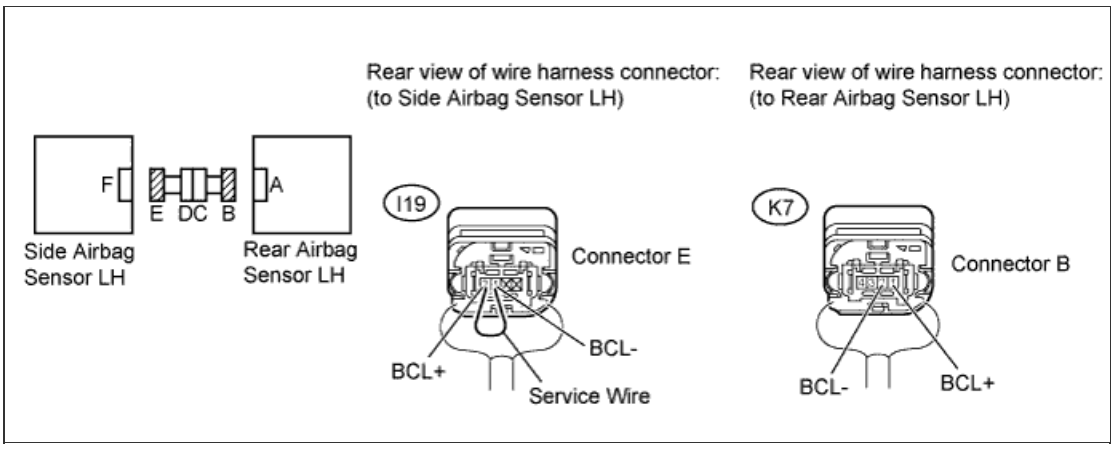
NG → Go to step 11

OK

REPLACE REAR AIRBAG SENSOR LH (Click here)

11.CHECK SIDE AIRBAG SENSOR LH CIRCUIT

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the side airbag sensor LH and rear airbag sensor LH.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

f. Turn the ignition switch off.

g. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

h. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

j. Disconnect the service wire from connector E.

k. Measure the resistance according to the value(s) in the table below.

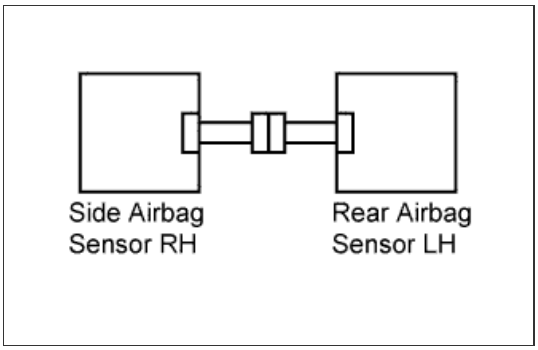
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 13

OK

## 12.CHECK SIDE AIRBAG SENSOR LH




a. Connect the connectors to the rear airbag sensor LH.

b. Interchange the side airbag sensor LH with RH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1632, B1633, B1697 and B1698 are not output | A |
| DTC B1632 or B1633 is output | B |
| DTC B1697 or B1698 is output | C |

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

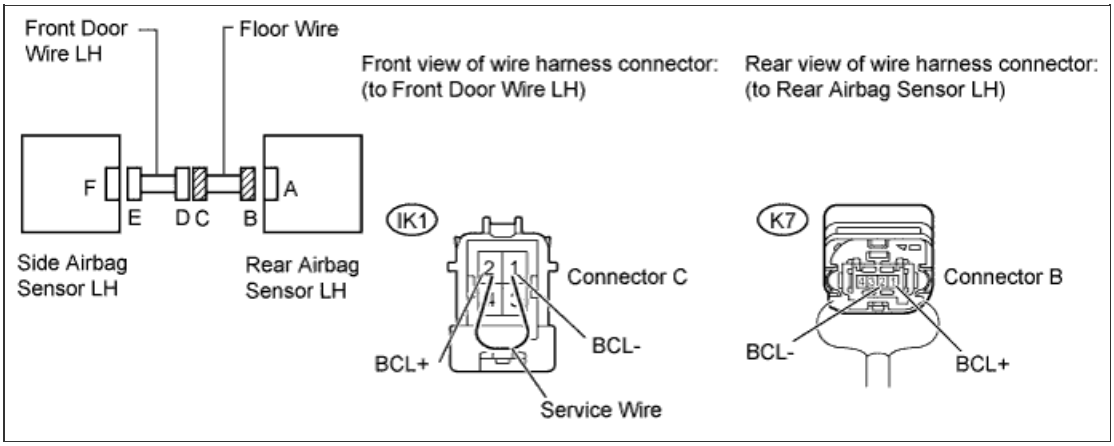
B → REPLACE SIDE AIRBAG SENSOR LH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 13.CHECK FLOOR WIRE (SIDE AIRBAG SENSOR LH - FRONT DOOR WIRE LH)

a. Disconnect the floor wire connector from the front door wire LH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

REPLACE FRONT DOOR WIRE LH

## DTC B1840/59 Short in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1841/59 Open in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1842/59 Short to GND in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1843/59 Short to B+ in Curtain Shield Squib RH 2nd Step Circuit

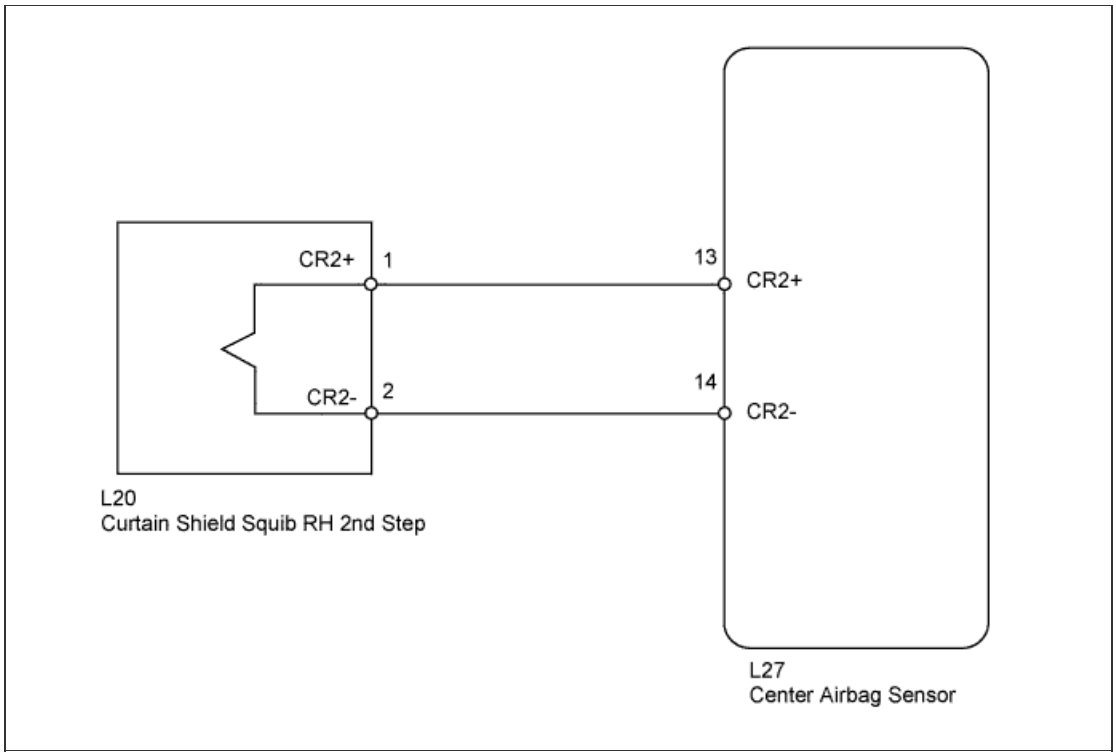
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib RH 2nd step circuit consists of the center airbag sensor and the curtain shield airbag RH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib RH 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1840/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib RH 2nd step circuit during the primary check.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1841/59 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib RH 2nd step circuit for 2 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1842/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib RH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1843/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib RH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG RH (CURTAIN SHIELD SQUIB RH 2ND STEP)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the curtain shield squib RH 2nd step.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

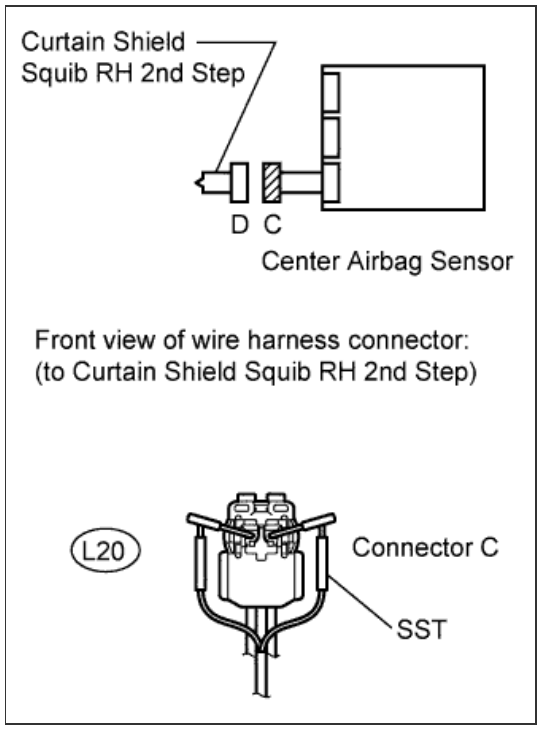
Never connect the tester to the curtain shield airbag RH (curtain shield squib RH 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1840, B1841, B1842 or B1843 is not output.**

**HINT:**

Codes other than DTC B1840, B1841, B1842 and B1843 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY RH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the curtain shield squib RH 2nd step side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (CURTAIN SHIELD AIRBAG RH 2ND STEP CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - Body ground | Ignition switch ON | Below 1 V |
| L20-2 (CR2-) - Body ground | Ignition switch ON | Below 1 V |

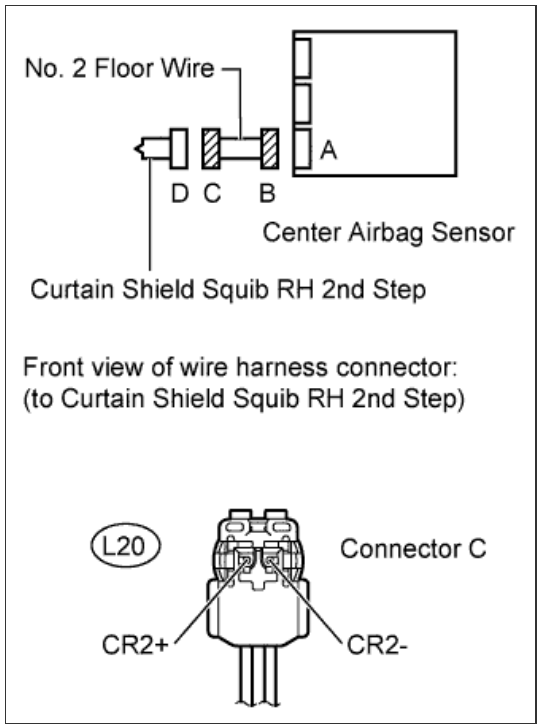
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - L20-2 (CR2-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - L20-2 (CR2-) | Always | 1 MΩ or higher |
| L20-1 (CR2+) - Body ground | Always | 1 MΩ or higher |
| L20-2 (CR2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield squib RH 2nd step and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

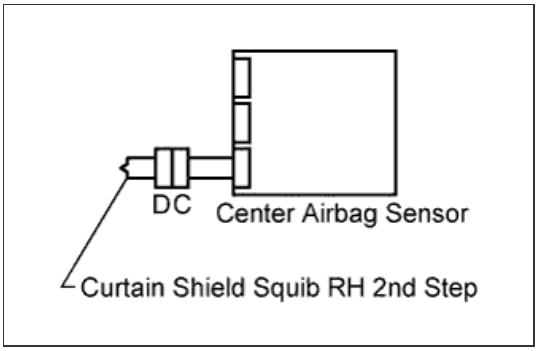
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1840, B1841, B1842 or B1843 is not output.**

**HINT:**

Codes other than DTC B1840, B1841, B1842 and B1843 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1635/24 Rear Airbag Sensor LH Circuit Malfunction

## DTC B1637/82 Lost Communication with Rear Airbag Sensor LH

## DTC B1690/15 Door Side Airbag Sensor RH Malfunction

## DTC B1692/81 Lost Communication with Door Side Airbag Sensor RH

**for Preparation** Click here

### DESCRIPTION

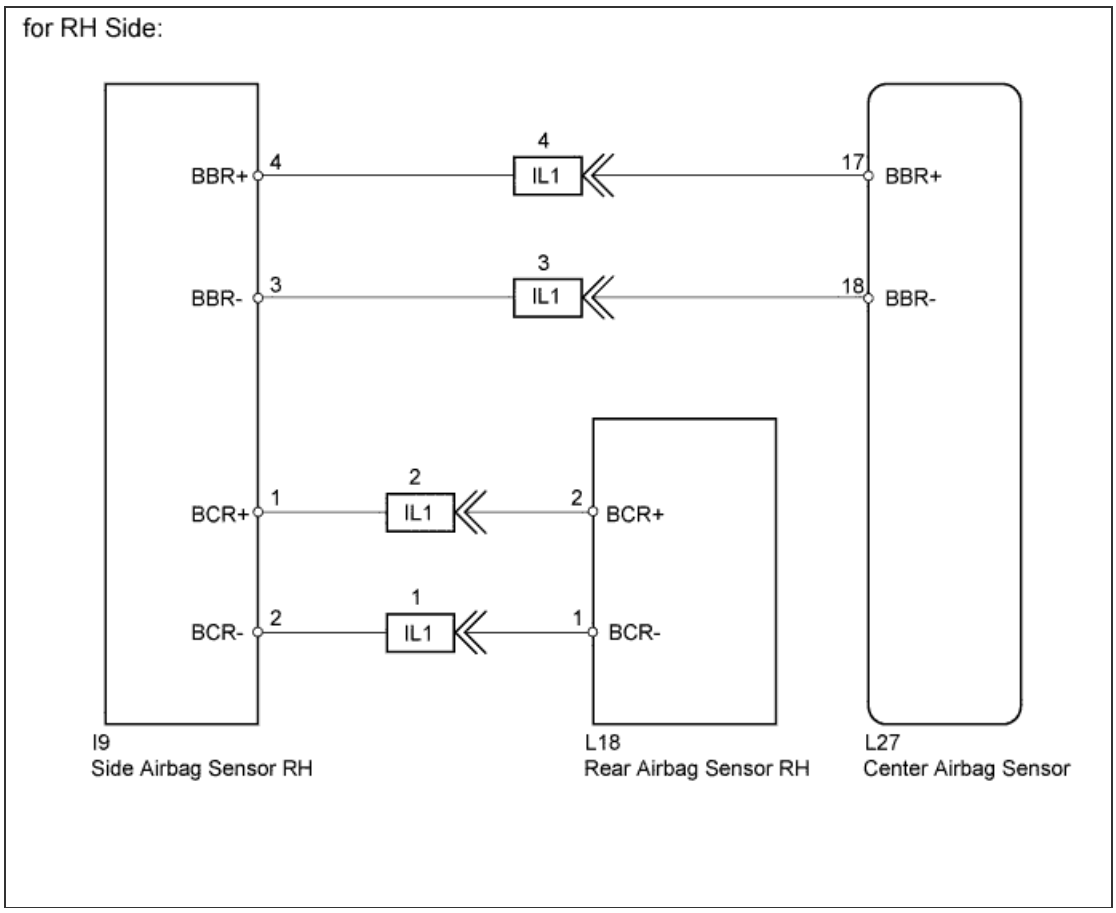
**HINT:**

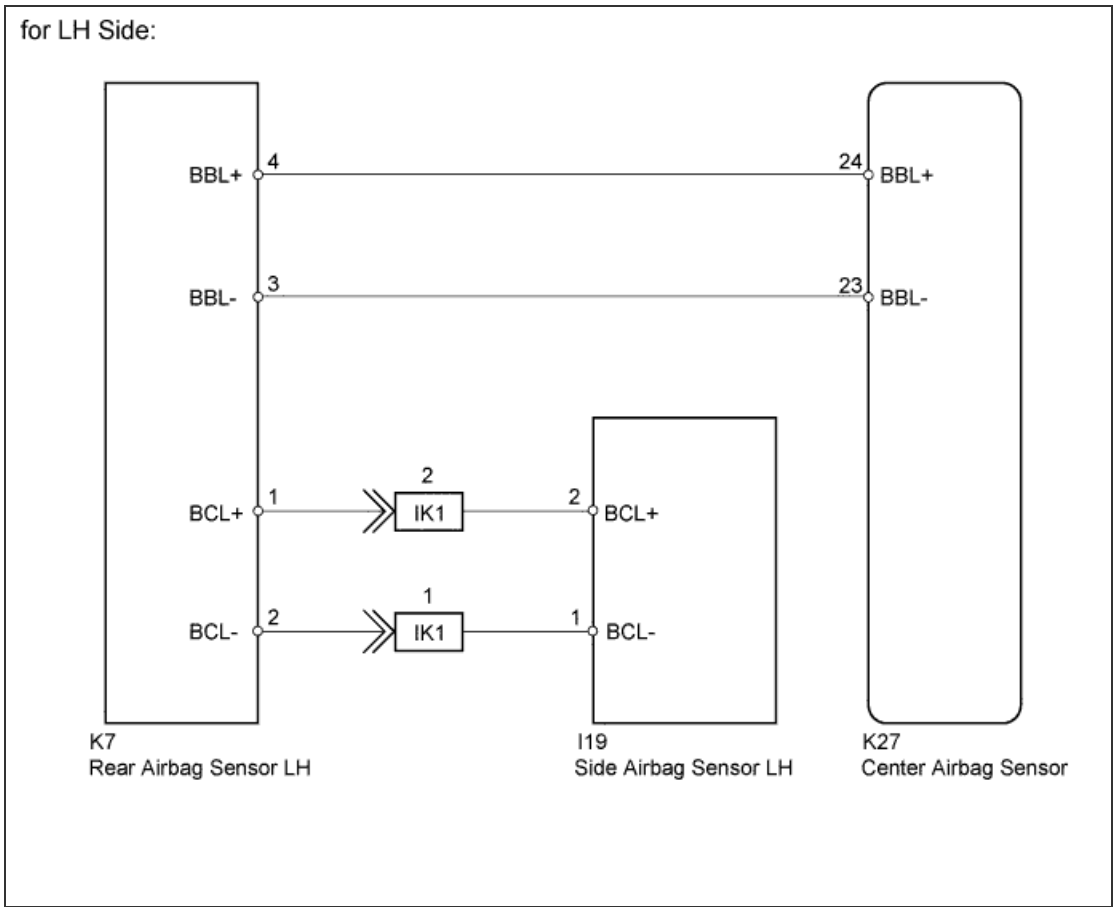
"Door side airbag sensor RH" refer to the side airbag sensor RH.

- For DTC B1690 and B1635:
  The rear airbag sensor LH and side airbag sensor RH consists of the safing sensor, the diagnostic circuit, the lateral deceleration sensor, etc.
  If the center airbag sensor receives signals from the lateral deceleration sensor, it determines whether the SRS should be activated.
  DTC B1690/15 or B1635/24 is stored when a malfunction is detected in the rear airbag sensor LH or side airbag sensor RH circuit.
- For DTC B1692 and B1637:
  The circuit for the side collision sensor RH or LH (to determine deployment of the front seat airbag RH or LH, rear seat side airbag RH or LH and curtain shield airbag RH or LH) is composed of the center airbag sensor, side airbag sensor RH or LH, and rear airbag sensor RH or LH.
  The side airbag sensor RH or LH, and rear airbag sensor RH or LH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1692 or B1637 is stored when a malfunction is detected in the circuit for the side collision sensor RH or LH (to determine deployment of the front seat airbag RH or LH, rear seat side airbag RH or LH, and curtain shield airbag RH or LH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1635/24 | When one of the following conditions is met:<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor LH<br>• Center airbag sensor assembly |
| B1637/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH, rear seat side airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor LH<br>• Center airbag sensor assembly |
| B1690/15 | When one of the following conditions is met:<br>• A side airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor RH<br>• Center airbag sensor assembly |
| B1692/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH, rear seat side airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor RH<br>• Center airbag sensor assembly |

**WIRING DIAGRAM**




**INSPECTION PROCEDURE**

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1635, B1637, B1690 and B1692 are not output | A |
| DTC B1635 or B1637 is output | B |
| DTC B1690 or B1692 is output | C |

**HINT:**

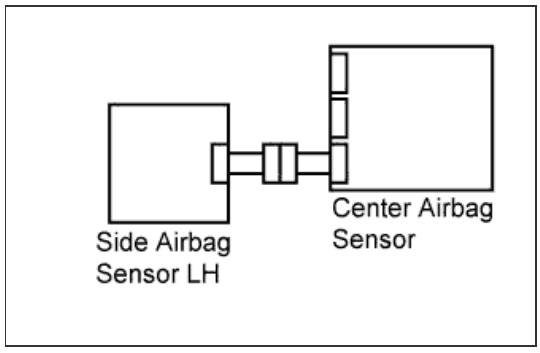
Codes other than DTC B1635, B1637, B1690 and B1692 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 3

**C**

## 2.CHECK SIDE AIRBAG SENSOR RH




a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Interchange the side airbag sensor RH with LH and connect the connectors to them.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory ( Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, wait for at least 60 seconds.

i. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1695, B1697, B1690 and B1692 are not output | A |
| DTC B1695 or B1697 is output | B |
| DTC B1690 or B1692 is output | C |

**HINT:**

Codes other than DTC B1690, B1692, B1695 and B1697 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR RH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

3.CHECK REAR AIRBAG SENSOR LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Temporarily replace the rear airbag sensor LH with a new one.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

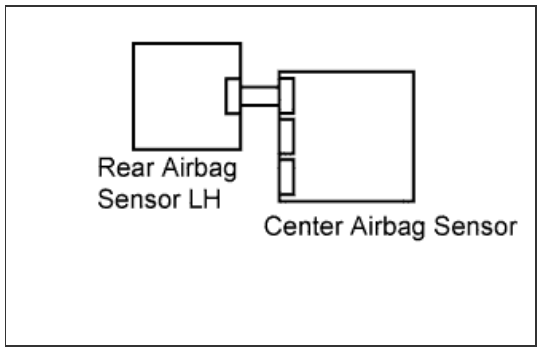
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, wait for at least 60 seconds.

i. Check for DTCs (Click here).




**OK:**
**DTC B1635 and B1637 are not output.**

**HINT:**

Codes other than DTC B1635 and B1637 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR LH (Click here)

## DTC B1840/59 Short in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1841/59 Open in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1842/59 Short to GND in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1843/59 Short to B+ in Curtain Shield Squib RH 2nd Step Circuit

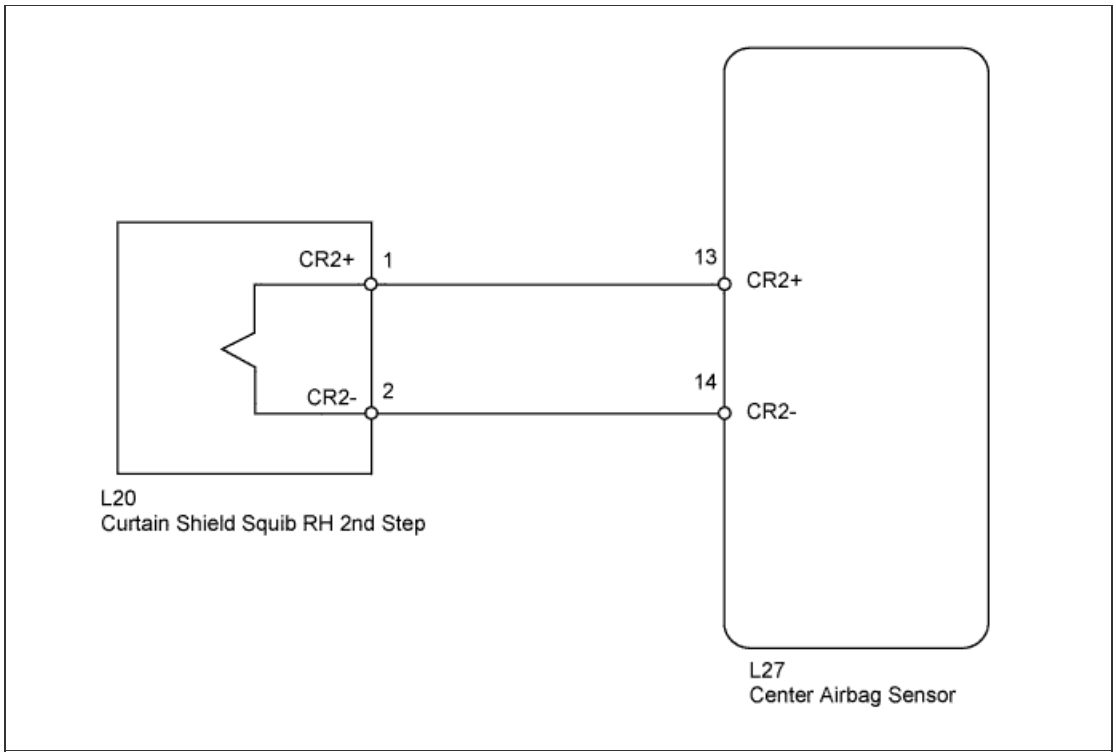
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib RH 2nd step circuit consists of the center airbag sensor and the curtain shield airbag RH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib RH 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1840/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib RH 2nd step circuit during the primary check.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1841/59 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib RH 2nd step circuit for 2 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1842/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib RH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1843/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib RH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG RH (CURTAIN SHIELD SQUIB RH 2ND STEP)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the curtain shield squib RH 2nd step.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

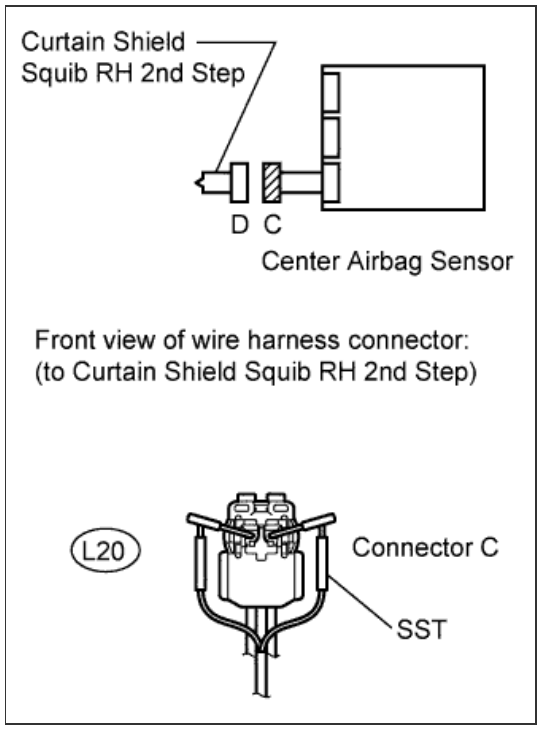
Never connect the tester to the curtain shield airbag RH (curtain shield squib RH 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1840, B1841, B1842 or B1843 is not output.**

**HINT:**

Codes other than DTC B1840, B1841, B1842 and B1843 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY RH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the curtain shield squib RH 2nd step side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (CURTAIN SHIELD AIRBAG RH 2ND STEP CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - Body ground | Ignition switch ON | Below 1 V |
| L20-2 (CR2-) - Body ground | Ignition switch ON | Below 1 V |

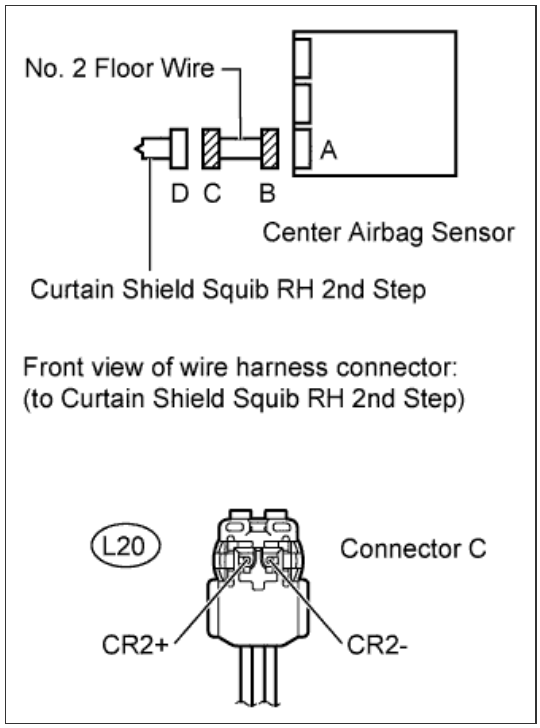
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - L20-2 (CR2-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - L20-2 (CR2-) | Always | 1 MΩ or higher |
| L20-1 (CR2+) - Body ground | Always | 1 MΩ or higher |
| L20-2 (CR2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield squib RH 2nd step and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

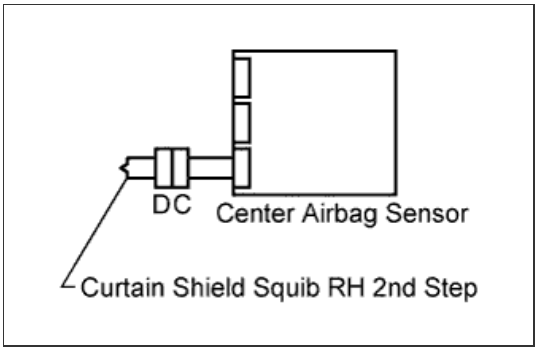
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1840, B1841, B1842 or B1843 is not output.**

**HINT:**

Codes other than DTC B1840, B1841, B1842 and B1843 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1635/24 Rear Airbag Sensor LH Circuit Malfunction

## DTC B1637/82 Lost Communication with Rear Airbag Sensor LH

## DTC B1690/15 Door Side Airbag Sensor RH Malfunction

## DTC B1692/81 Lost Communication with Door Side Airbag Sensor RH

**for Preparation** Click here

### DESCRIPTION

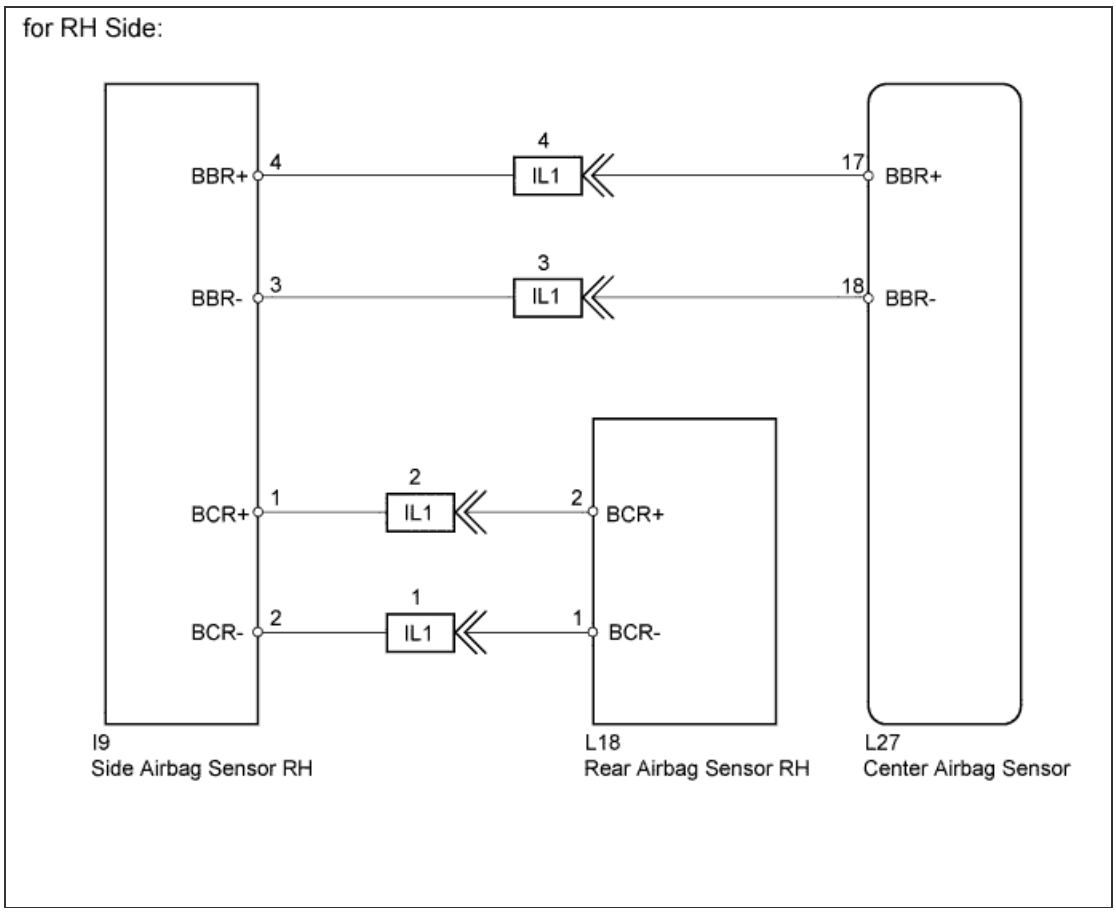
**HINT:**

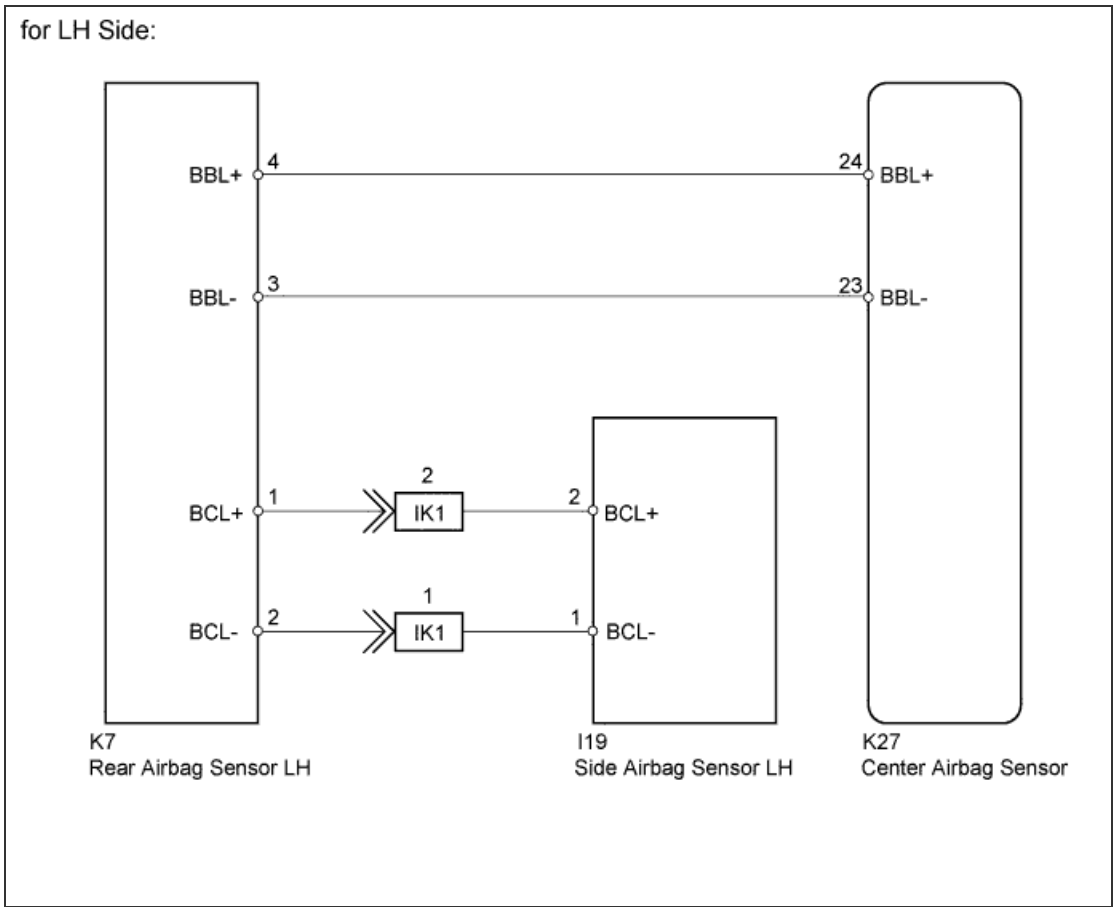
"Door side airbag sensor RH" refer to the side airbag sensor RH.

- For DTC B1690 and B1635:
  The rear airbag sensor LH and side airbag sensor RH consists of the safing sensor, the diagnostic circuit, the lateral deceleration sensor, etc.
  If the center airbag sensor receives signals from the lateral deceleration sensor, it determines whether the SRS should be activated.
  DTC B1690/15 or B1635/24 is stored when a malfunction is detected in the rear airbag sensor LH or side airbag sensor RH circuit.
- For DTC B1692 and B1637:
  The circuit for the side collision sensor RH or LH (to determine deployment of the front seat airbag RH or LH, rear seat side airbag RH or LH and curtain shield airbag RH or LH) is composed of the center airbag sensor, side airbag sensor RH or LH, and rear airbag sensor RH or LH.
  The side airbag sensor RH or LH, and rear airbag sensor RH or LH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1692 or B1637 is stored when a malfunction is detected in the circuit for the side collision sensor RH or LH (to determine deployment of the front seat airbag RH or LH, rear seat side airbag RH or LH, and curtain shield airbag RH or LH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1635/24 | When one of the following conditions is met:<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor LH<br>• Center airbag sensor assembly |
| B1637/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH, rear seat side airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor LH<br>• Center airbag sensor assembly |
| B1690/15 | When one of the following conditions is met:<br>• A side airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor RH<br>• Center airbag sensor assembly |
| B1692/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH, rear seat side airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor RH<br>• Center airbag sensor assembly |

**WIRING DIAGRAM**




**INSPECTION PROCEDURE**

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1635, B1637, B1690 and B1692 are not output | A |
| DTC B1635 or B1637 is output | B |
| DTC B1690 or B1692 is output | C |

**HINT:**

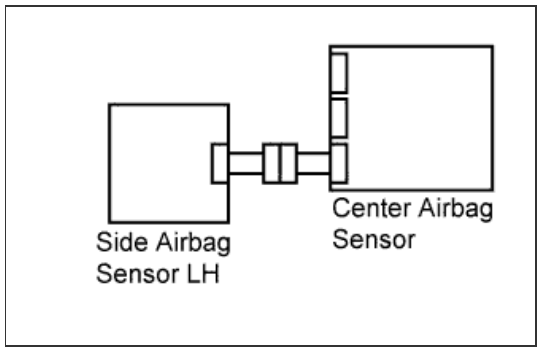
Codes other than DTC B1635, B1637, B1690 and B1692 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 3

**C**

## 2.CHECK SIDE AIRBAG SENSOR RH




a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Interchange the side airbag sensor RH with LH and connect the connectors to them.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory ( Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, wait for at least 60 seconds.

i. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1695, B1697, B1690 and B1692 are not output | A |
| DTC B1695 or B1697 is output | B |
| DTC B1690 or B1692 is output | C |

**HINT:**

Codes other than DTC B1690, B1692, B1695 and B1697 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR RH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

3.CHECK REAR AIRBAG SENSOR LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Temporarily replace the rear airbag sensor LH with a new one.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

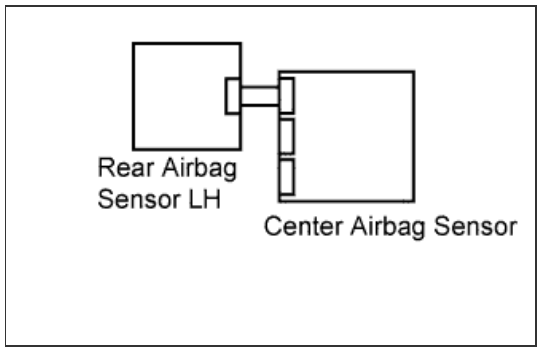
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, wait for at least 60 seconds.

i. Check for DTCs (Click here).




**OK:**
**DTC B1635 and B1637 are not output.**

**HINT:**

Codes other than DTC B1635 and B1637 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR LH (Click here)

## DTC B1840/59 Short in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1841/59 Open in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1842/59 Short to GND in Curtain Shield Squib RH 2nd Step Circuit

## DTC B1843/59 Short to B+ in Curtain Shield Squib RH 2nd Step Circuit

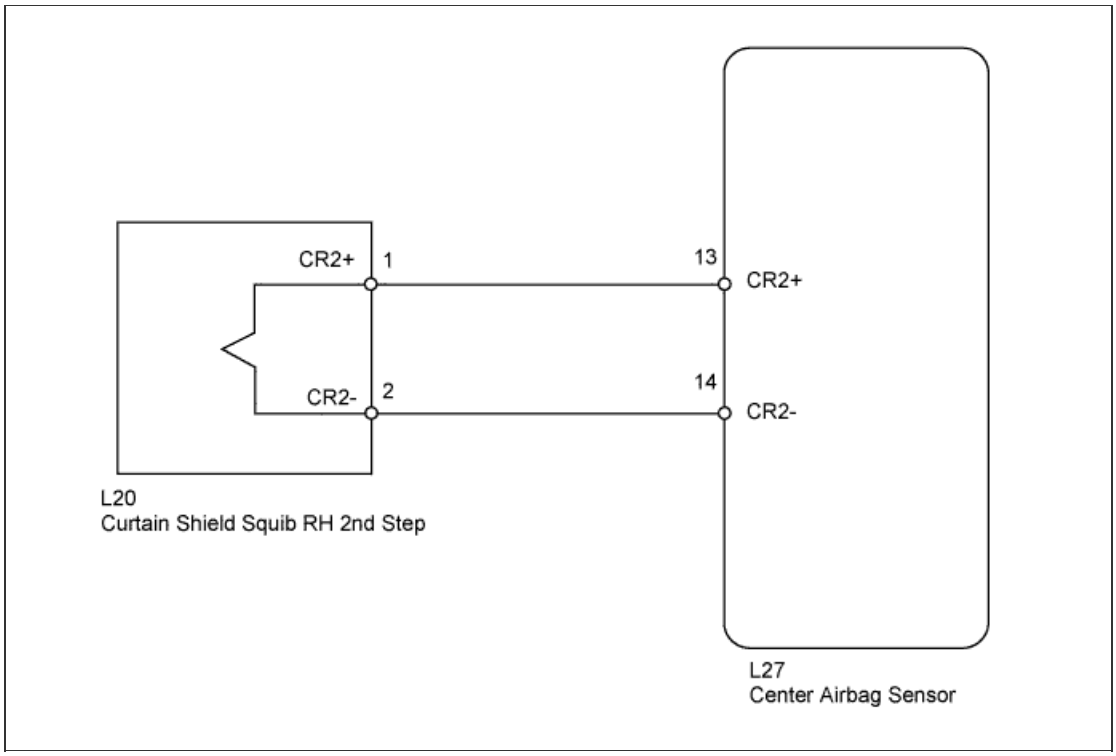
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib RH 2nd step circuit consists of the center airbag sensor and the curtain shield airbag RH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib RH 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1840/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib RH 2nd step circuit during the primary check.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1841/59 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib RH 2nd step circuit for 2 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1842/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib RH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |
| B1843/59 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib RH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Curtain shield airbag assembly RH (Curtain shield squib RH 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG RH (CURTAIN SHIELD SQUIB RH 2ND STEP)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the curtain shield squib RH 2nd step.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

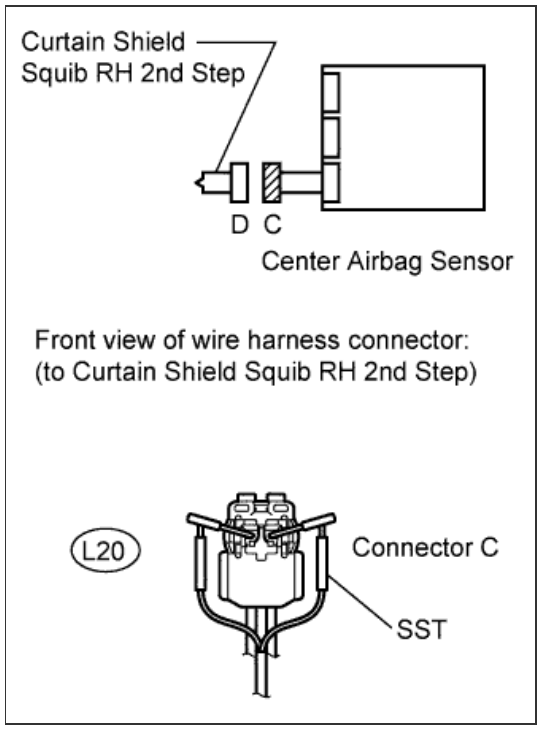
Never connect the tester to the curtain shield airbag RH (curtain shield squib RH 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1840, B1841, B1842 or B1843 is not output.**

**HINT:**

Codes other than DTC B1840, B1841, B1842 and B1843 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY RH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the curtain shield squib RH 2nd step side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (CURTAIN SHIELD AIRBAG RH 2ND STEP CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - Body ground | Ignition switch ON | Below 1 V |
| L20-2 (CR2-) - Body ground | Ignition switch ON | Below 1 V |

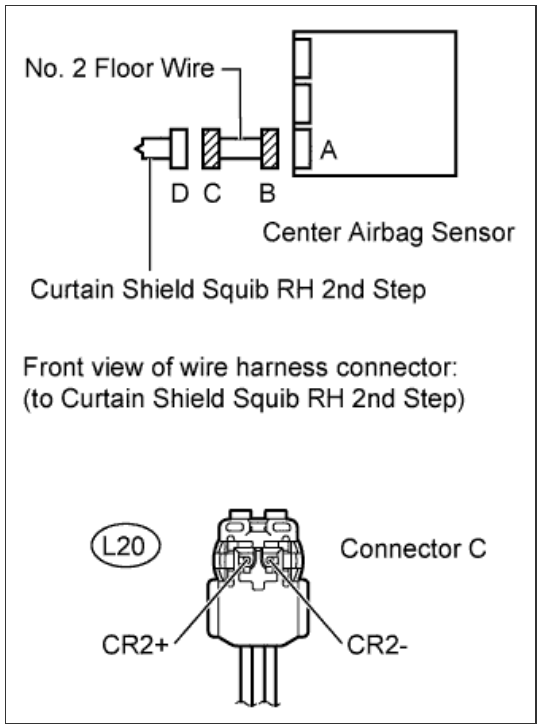
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - L20-2 (CR2-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L20-1 (CR2+) - L20-2 (CR2-) | Always | 1 MΩ or higher |
| L20-1 (CR2+) - Body ground | Always | 1 MΩ or higher |
| L20-2 (CR2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield squib RH 2nd step and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

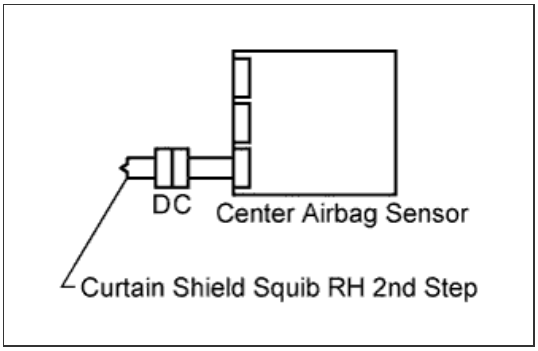
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1840, B1841, B1842 or B1843 is not output.**

**HINT:**

Codes other than DTC B1840, B1841, B1842 and B1843 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1635/24 Rear Airbag Sensor LH Circuit Malfunction

## DTC B1637/82 Lost Communication with Rear Airbag Sensor LH

## DTC B1690/15 Door Side Airbag Sensor RH Malfunction

## DTC B1692/81 Lost Communication with Door Side Airbag Sensor RH

**for Preparation** Click here

### DESCRIPTION

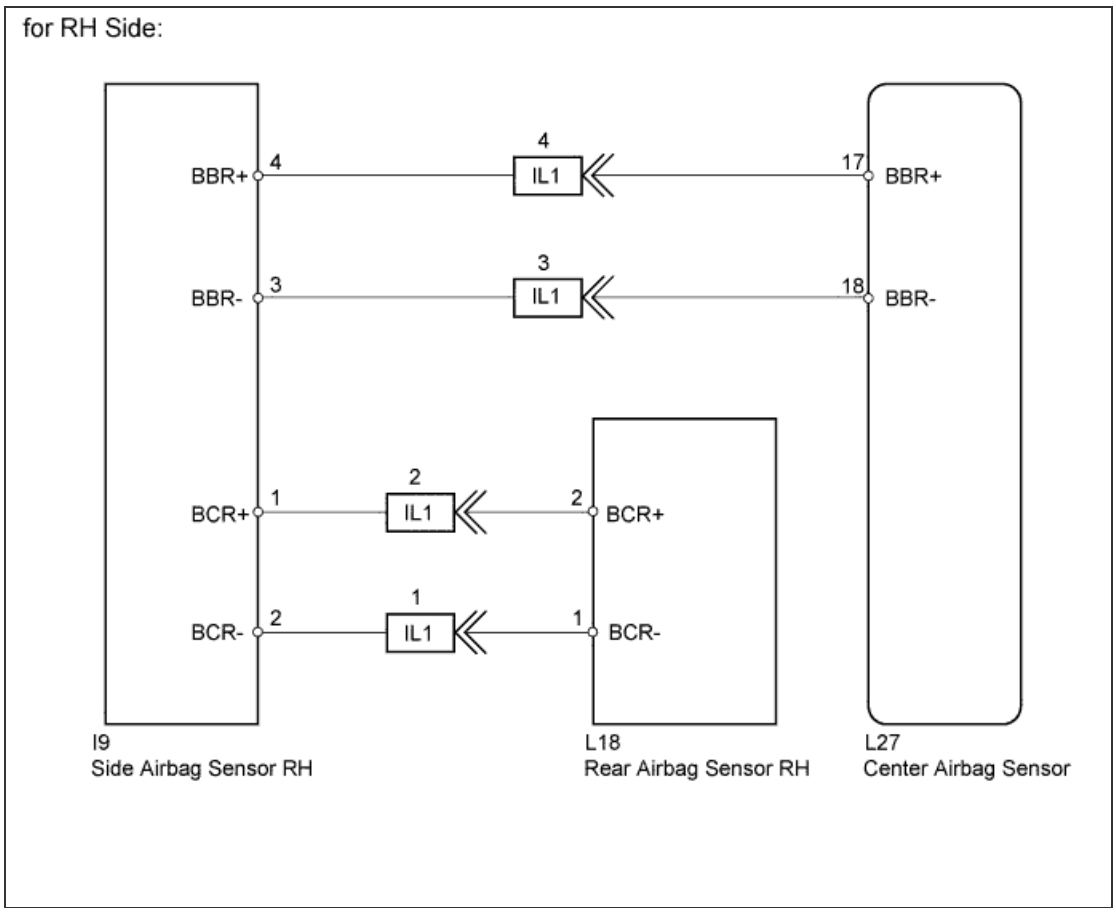
**HINT:**

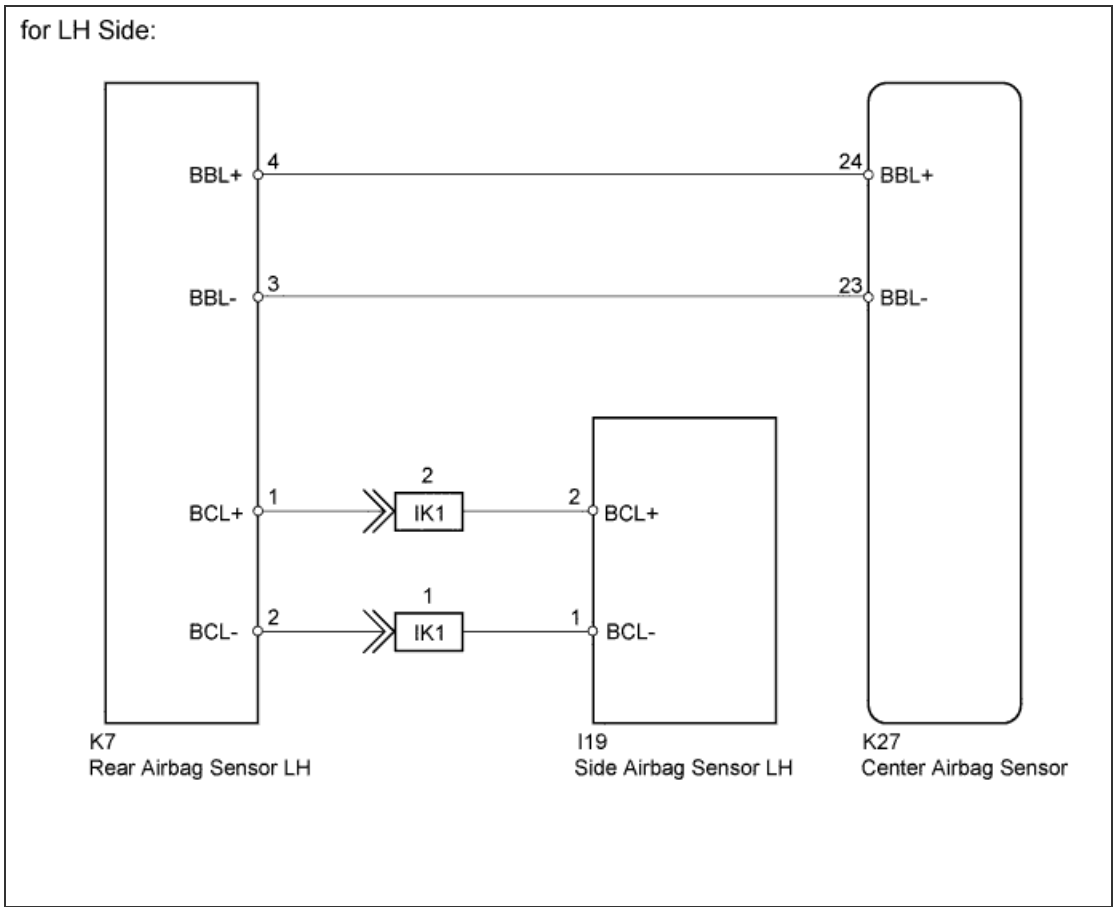
"Door side airbag sensor RH" refer to the side airbag sensor RH.

- For DTC B1690 and B1635:
  The rear airbag sensor LH and side airbag sensor RH consists of the safing sensor, the diagnostic circuit, the lateral deceleration sensor, etc.
  If the center airbag sensor receives signals from the lateral deceleration sensor, it determines whether the SRS should be activated.
  DTC B1690/15 or B1635/24 is stored when a malfunction is detected in the rear airbag sensor LH or side airbag sensor RH circuit.
- For DTC B1692 and B1637:
  The circuit for the side collision sensor RH or LH (to determine deployment of the front seat airbag RH or LH, rear seat side airbag RH or LH and curtain shield airbag RH or LH) is composed of the center airbag sensor, side airbag sensor RH or LH, and rear airbag sensor RH or LH.
  The side airbag sensor RH or LH, and rear airbag sensor RH or LH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1692 or B1637 is stored when a malfunction is detected in the circuit for the side collision sensor RH or LH (to determine deployment of the front seat airbag RH or LH, rear seat side airbag RH or LH, and curtain shield airbag RH or LH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1635/24 | When one of the following conditions is met:<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor LH<br>• Center airbag sensor assembly |
| B1637/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH, rear seat side airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor LH<br>• Center airbag sensor assembly |
| B1690/15 | When one of the following conditions is met:<br>• A side airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor RH<br>• Center airbag sensor assembly |
| B1692/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH, rear seat side airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor RH<br>• Center airbag sensor assembly |

**WIRING DIAGRAM**




**INSPECTION PROCEDURE**

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1635, B1637, B1690 and B1692 are not output | A |
| DTC B1635 or B1637 is output | B |
| DTC B1690 or B1692 is output | C |

**HINT:**

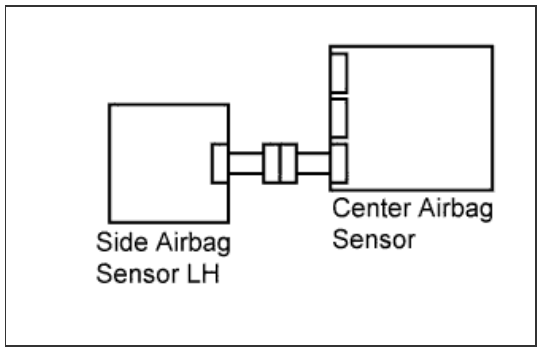
Codes other than DTC B1635, B1637, B1690 and B1692 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 3

**C**

## 2.CHECK SIDE AIRBAG SENSOR RH




a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Interchange the side airbag sensor RH with LH and connect the connectors to them.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory ( Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, wait for at least 60 seconds.

i. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1695, B1697, B1690 and B1692 are not output | A |
| DTC B1695 or B1697 is output | B |
| DTC B1690 or B1692 is output | C |

**HINT:**

Codes other than DTC B1690, B1692, B1695 and B1697 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR RH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

3.CHECK REAR AIRBAG SENSOR LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Temporarily replace the rear airbag sensor LH with a new one.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

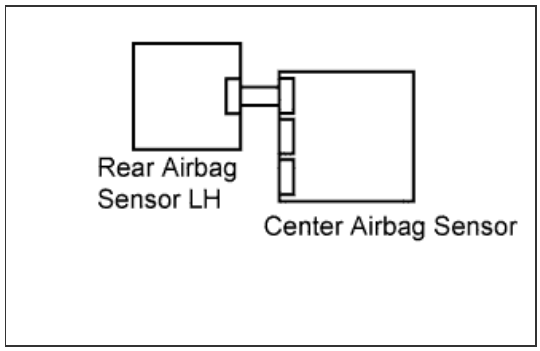
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, wait for at least 60 seconds.

i. Check for DTCs (Click here).




**OK:**
**DTC B1635 and B1637 are not output.**

**HINT:**

Codes other than DTC B1635 and B1637 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR LH (Click here)

## DTC B1845/61 Short in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1846/61 Open in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1847/61 Short to GND in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1848/61 Short to B+ in Curtain Shield Squib LH 2nd Step Circuit

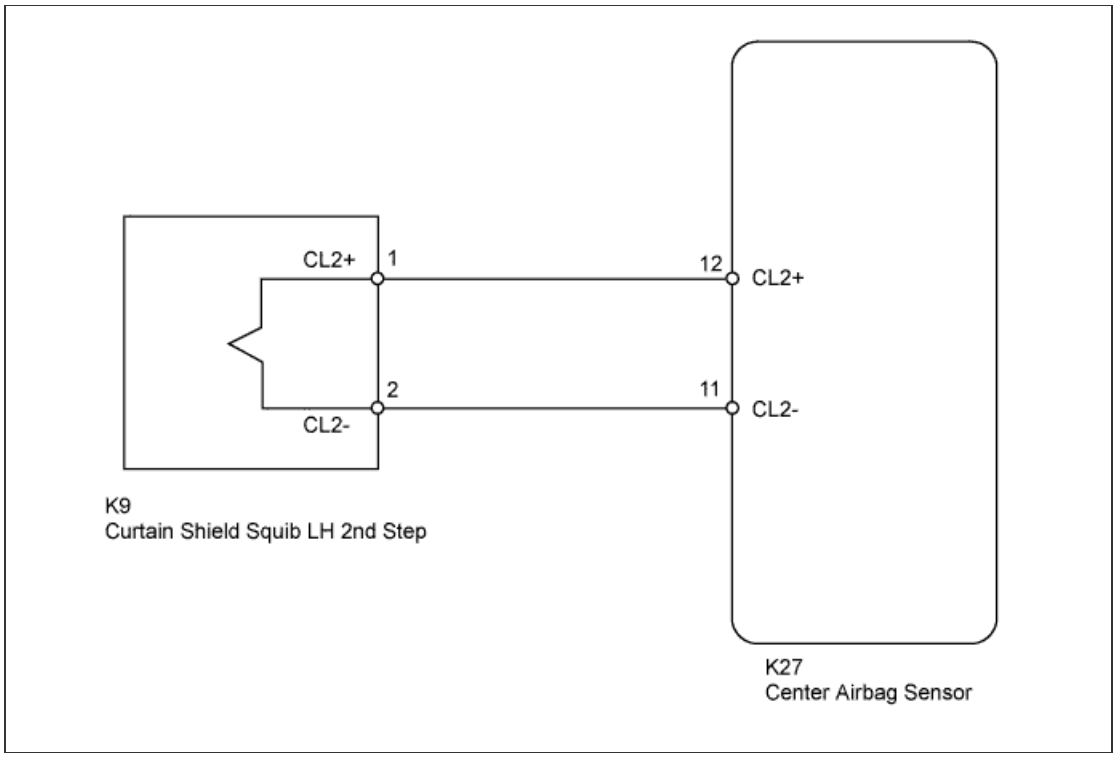
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib LH 2nd step circuit consists of the center airbag sensor and the curtain shield airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib LH 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1845/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib LH 2nd step circuit during the primary check.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1846/61 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib LH 2nd step circuit for 2 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1847/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib LH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1848/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib LH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG LH (CURTAIN SHIELD SQUIB LH 2ND STEP)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the curtain shield squib LH 2nd step.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

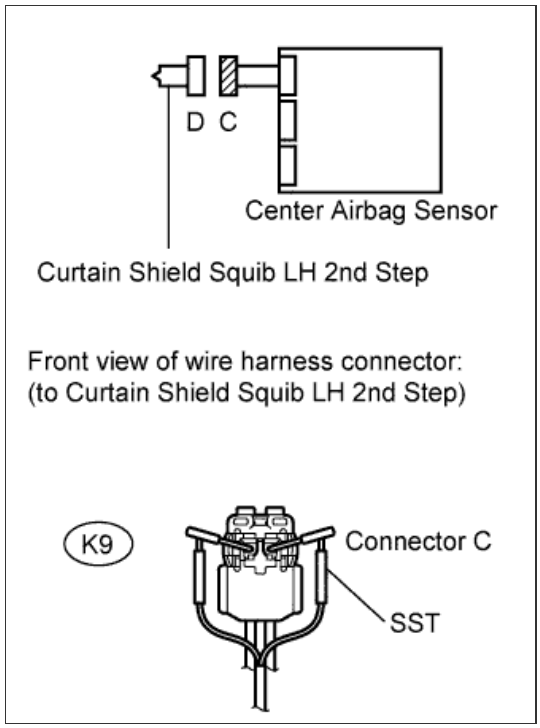
Never connect the tester to the curtain shield airbag LH (curtain shield squib LH 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1845, B1846, B1847 or B1848 is not output.**

**HINT:**

Codes other than DTC B1845, B1846, B1847 and B1848 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connectors (on the curtain shield squib LH 2nd step side) are not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (CURTAIN SHIELD SQUIB LH 2ND STEP CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - Body ground | Ignition switch ON | Below 1 V |
| K9-2 (CL2-) - Body ground | Ignition switch ON | Below 1 V |

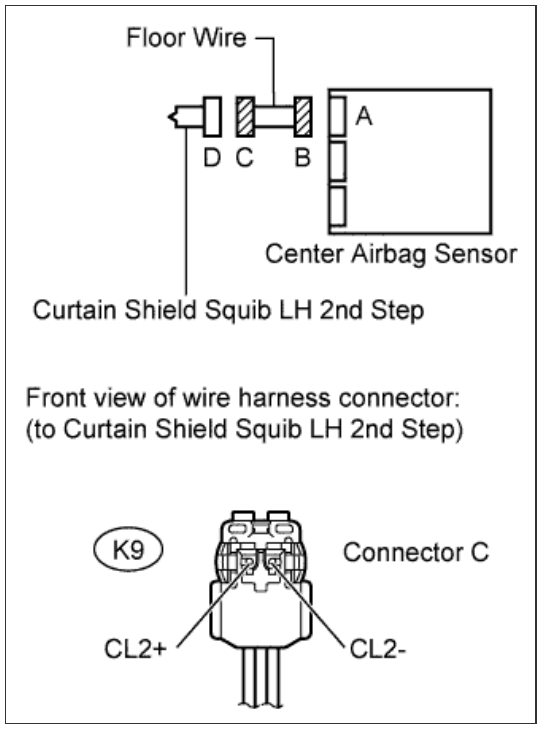
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - K9-2 (CL2-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - K9-2 (CL2-) | Always | 1 MΩ or higher |
| K9-1 (CL2+) - Body ground | Always | 1 MΩ or higher |
| K9-2 (CL2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield squib LH 2nd step and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

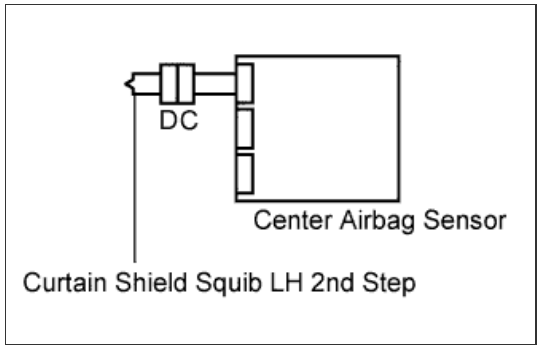
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1845, B1846, B1847 or B1848 is not output.**

**HINT:**

Codes other than DTC B1845, B1846, B1847 and B1848 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1635/24 Rear Airbag Sensor LH Circuit Malfunction

## DTC B1637/82 Lost Communication with Rear Airbag Sensor LH

## DTC B1690/15 Door Side Airbag Sensor RH Malfunction

## DTC B1692/81 Lost Communication with Door Side Airbag Sensor RH

**for Preparation** Click here

### DESCRIPTION

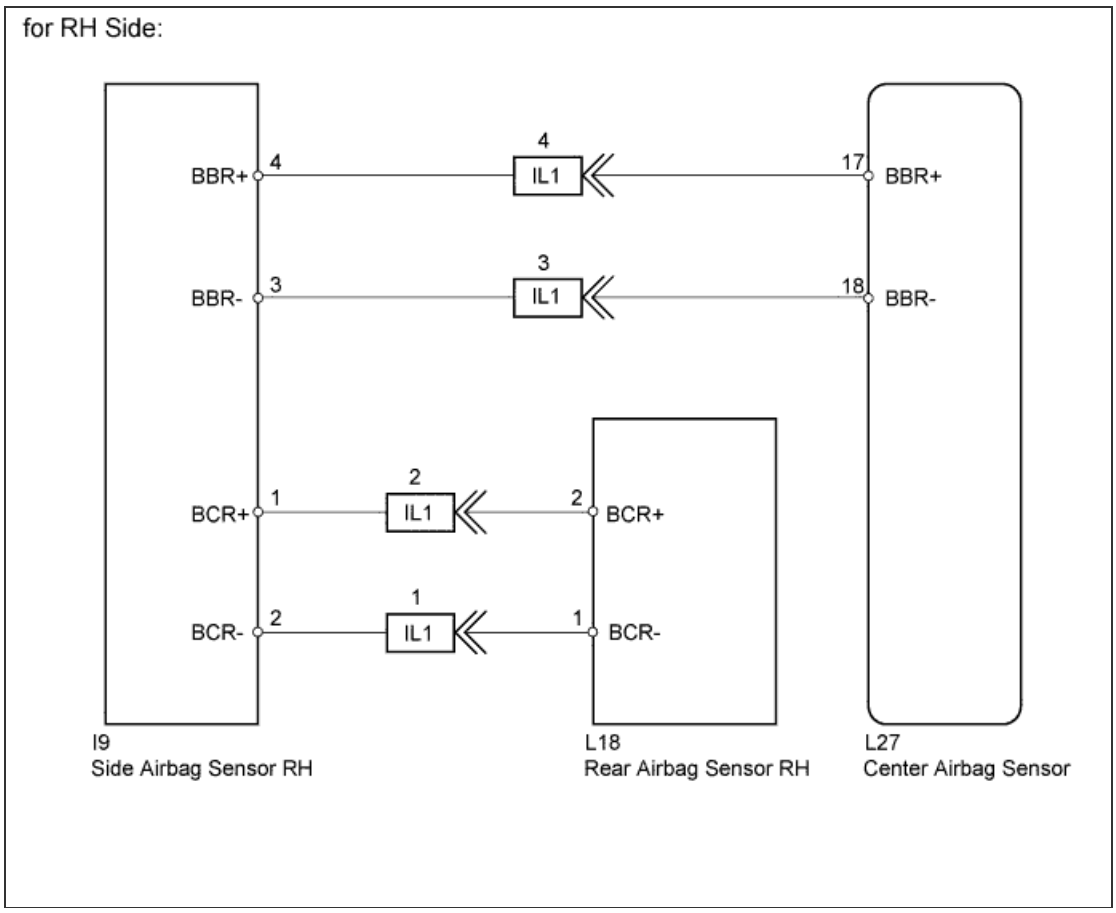
**HINT:**

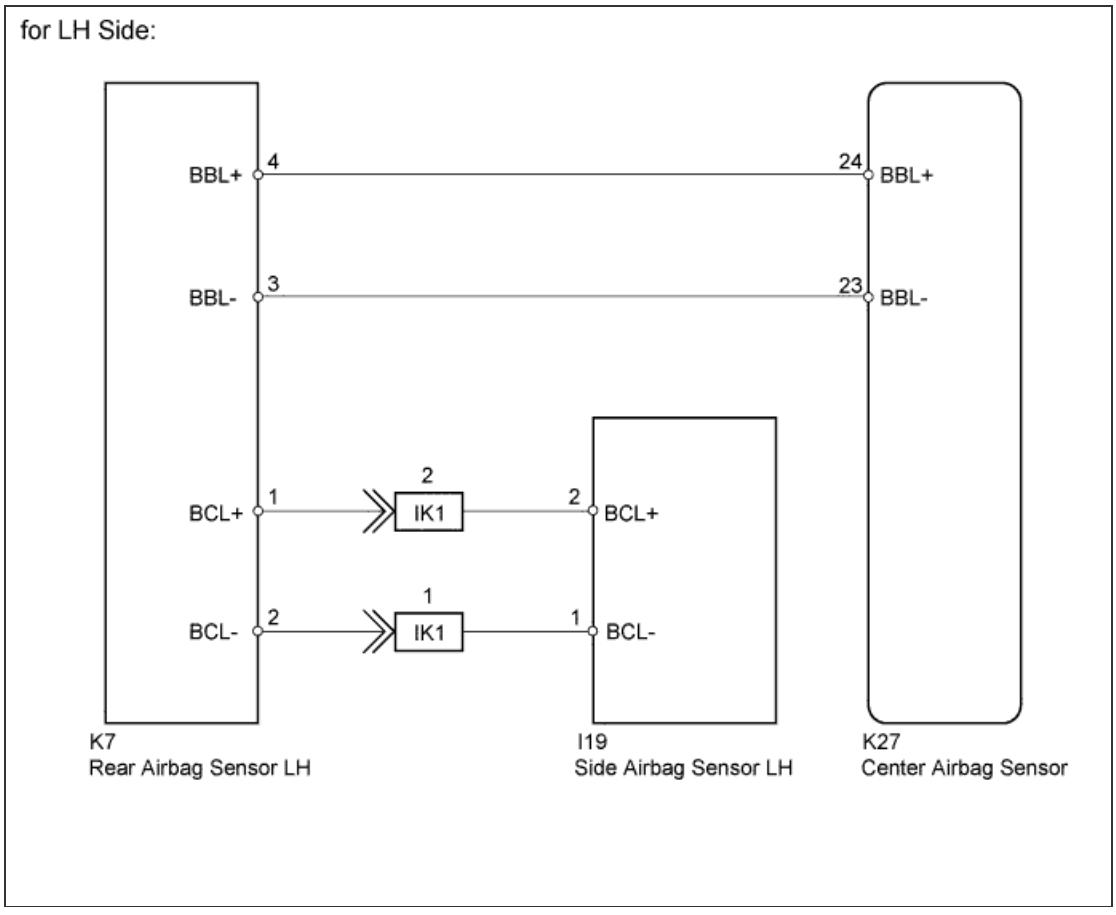
"Door side airbag sensor RH" refer to the side airbag sensor RH.

- For DTC B1690 and B1635:
  The rear airbag sensor LH and side airbag sensor RH consists of the safing sensor, the diagnostic circuit, the lateral deceleration sensor, etc.
  If the center airbag sensor receives signals from the lateral deceleration sensor, it determines whether the SRS should be activated.
  DTC B1690/15 or B1635/24 is stored when a malfunction is detected in the rear airbag sensor LH or side airbag sensor RH circuit.
- For DTC B1692 and B1637:
  The circuit for the side collision sensor RH or LH (to determine deployment of the front seat airbag RH or LH, rear seat side airbag RH or LH and curtain shield airbag RH or LH) is composed of the center airbag sensor, side airbag sensor RH or LH, and rear airbag sensor RH or LH.
  The side airbag sensor RH or LH, and rear airbag sensor RH or LH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1692 or B1637 is stored when a malfunction is detected in the circuit for the side collision sensor RH or LH (to determine deployment of the front seat airbag RH or LH, rear seat side airbag RH or LH, and curtain shield airbag RH or LH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1635/24 | When one of the following conditions is met:<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor LH<br>• Center airbag sensor assembly |
| B1637/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH, rear seat side airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Rear airbag sensor LH<br>• Center airbag sensor assembly |
| B1690/15 | When one of the following conditions is met:<br>• A side airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor RH<br>• Center airbag sensor assembly |
| B1692/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH, rear seat side airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Side airbag sensor RH<br>• Center airbag sensor assembly |

**WIRING DIAGRAM**




**INSPECTION PROCEDURE**

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs stored in the memory ( Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1635, B1637, B1690 and B1692 are not output | A |
| DTC B1635 or B1637 is output | B |
| DTC B1690 or B1692 is output | C |

**HINT:**

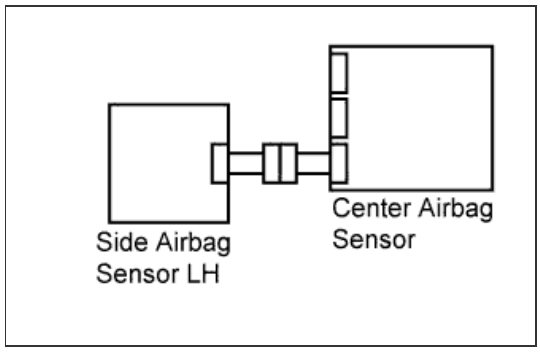
Codes other than DTC B1635, B1637, B1690 and B1692 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 3

**C**

## 2.CHECK SIDE AIRBAG SENSOR RH




a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Interchange the side airbag sensor RH with LH and connect the connectors to them.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory ( Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, wait for at least 60 seconds.

i. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1695, B1697, B1690 and B1692 are not output | A |
| DTC B1695 or B1697 is output | B |
| DTC B1690 or B1692 is output | C |

**HINT:**

Codes other than DTC B1690, B1692, B1695 and B1697 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR RH (Click here)

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

3.CHECK REAR AIRBAG SENSOR LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Temporarily replace the rear airbag sensor LH with a new one.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

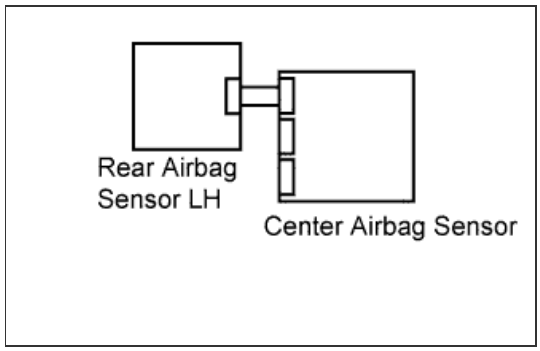
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, wait for at least 60 seconds.

i. Check for DTCs (Click here).




**OK:**
**DTC B1635 and B1637 are not output.**

**HINT:**

Codes other than DTC B1635 and B1637 may be output at this time, but they are not related to this check.

j. Turn the ignition switch off.

k. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

l. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR LH (Click here)

## DTC B1845/61 Short in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1846/61 Open in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1847/61 Short to GND in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1848/61 Short to B+ in Curtain Shield Squib LH 2nd Step Circuit

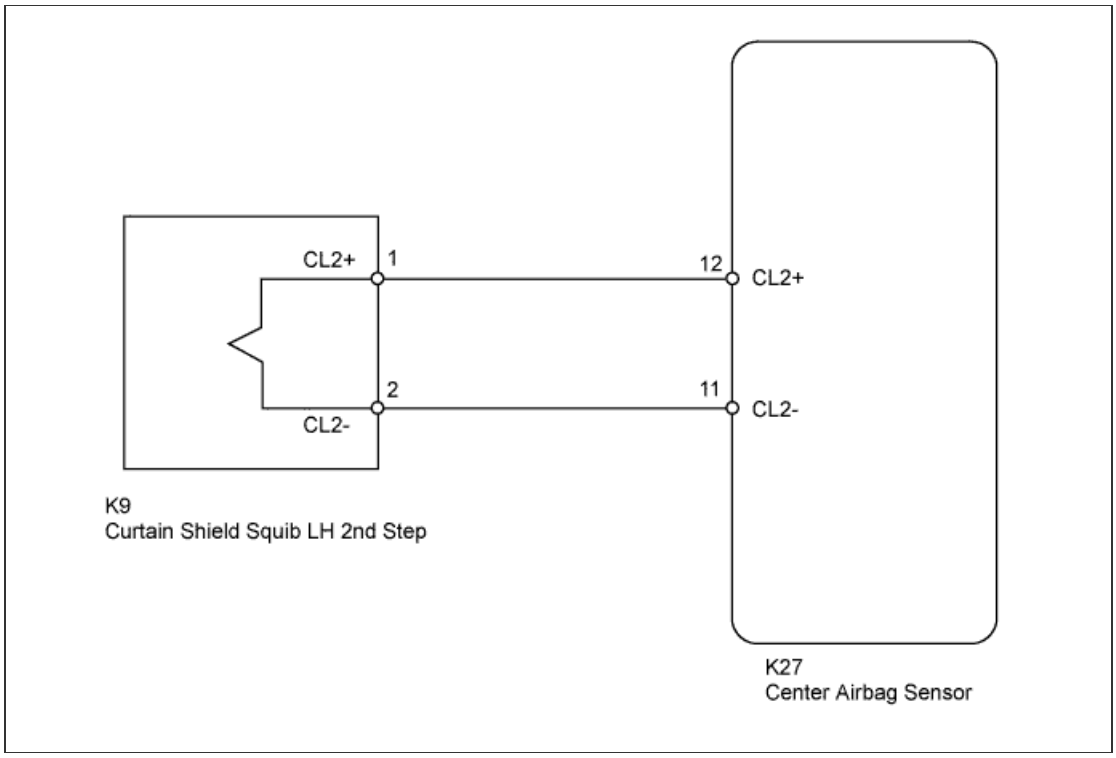
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib LH 2nd step circuit consists of the center airbag sensor and the curtain shield airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib LH 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1845/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib LH 2nd step circuit during the primary check.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1846/61 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib LH 2nd step circuit for 2 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1847/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib LH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1848/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib LH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG LH (CURTAIN SHIELD SQUIB LH 2ND STEP)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the curtain shield squib LH 2nd step.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

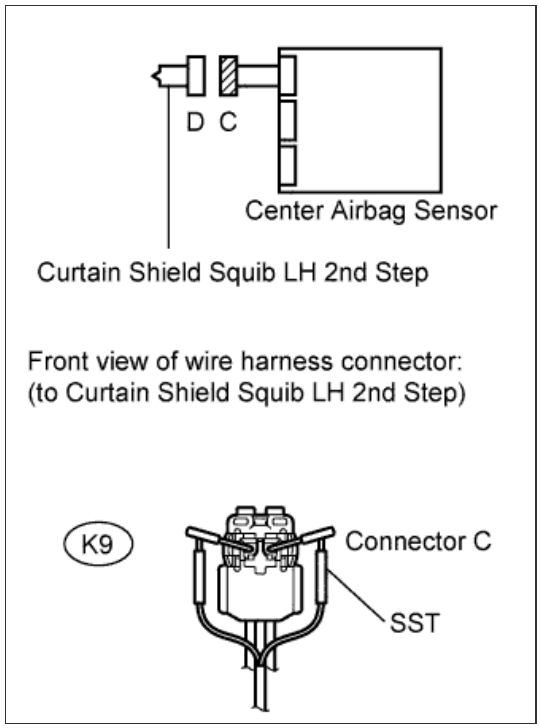
Never connect the tester to the curtain shield airbag LH (curtain shield squib LH 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1845, B1846, B1847 or B1848 is not output.**

**HINT:**

Codes other than DTC B1845, B1846, B1847 and B1848 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connectors (on the curtain shield squib LH 2nd step side) are not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (CURTAIN SHIELD SQUIB LH 2ND STEP CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - Body ground | Ignition switch ON | Below 1 V |
| K9-2 (CL2-) - Body ground | Ignition switch ON | Below 1 V |

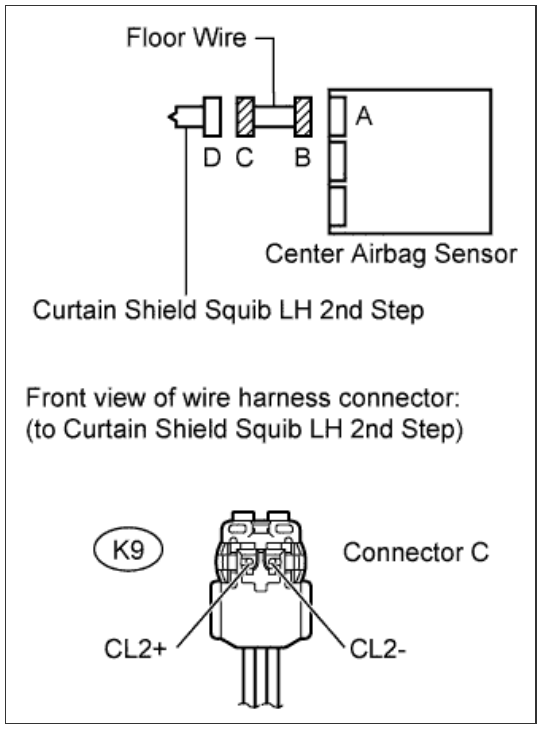
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - K9-2 (CL2-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - K9-2 (CL2-) | Always | 1 MΩ or higher |
| K9-1 (CL2+) - Body ground | Always | 1 MΩ or higher |
| K9-2 (CL2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield squib LH 2nd step and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

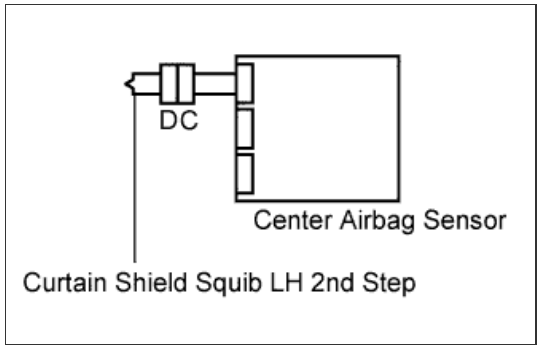
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1845, B1846, B1847 or B1848 is not output.**

**HINT:**

Codes other than DTC B1845, B1846, B1847 and B1848 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1638/82 Rear Airbag Sensor Assembly LH Initialization Incomplete

## DTC B1693/81 Door Side Airbag Sensor RH Initialization Incomplete

**for Preparation** Click here

### DESCRIPTION

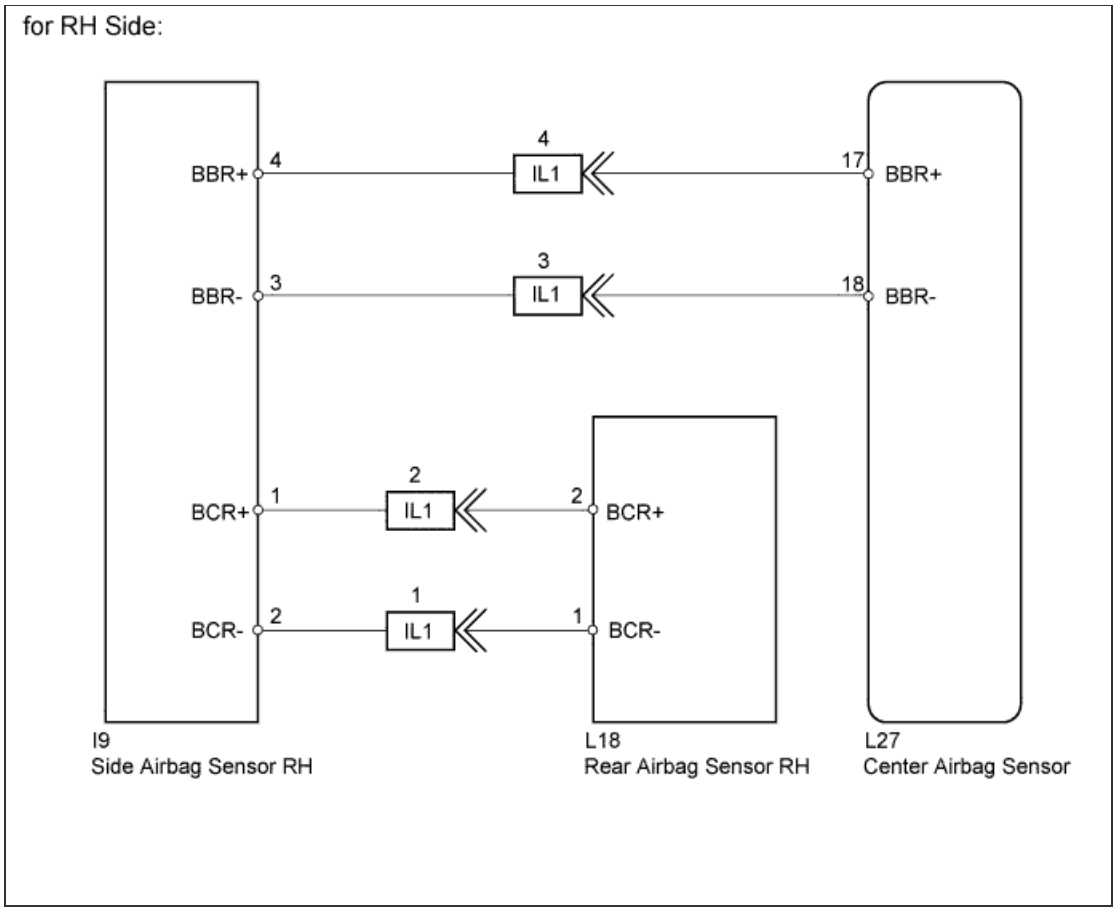
**HINT:**

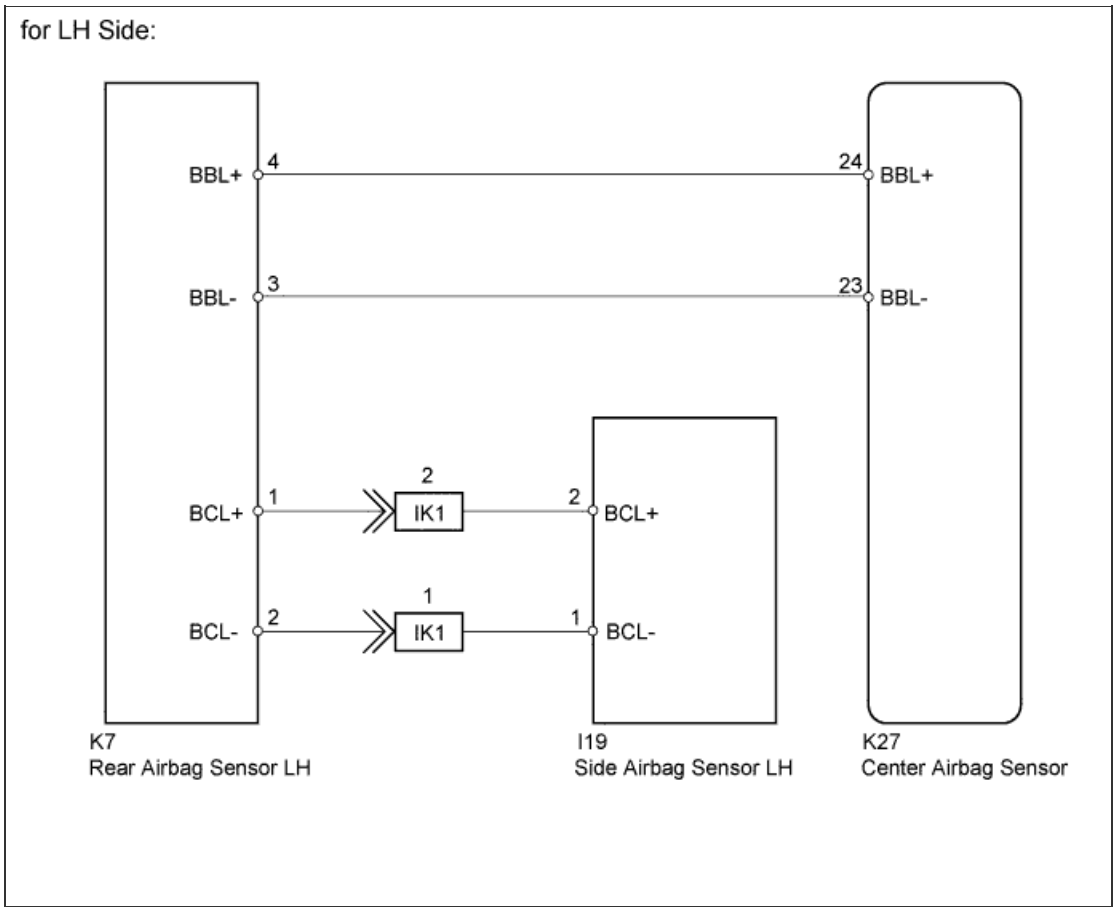
"Door side airbag sensor RH" refer to the side airbag sensor RH.

- The circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH) is composed of the center airbag sensor, side airbag sensor LH or RH, and rear airbag sensor LH or RH.
  The side airbag sensor LH or RH and rear airbag sensor LH or RH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1693/81 is stored when a malfunction is detected in the circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH and curtain shield airbag LH or RH).
  DTC B1638/82 is stored when a malfunction is detected in the circuit for the rear collision sensor LH or RH (to determine deployment of the rear seat side airbag LH or RH and curtain shield airbag LH or RH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1638/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the rear collision sensor LH (to determine deployment of the rear side seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A rear airbag sensor LH malfunction.<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear airbag sensor LH<br>• Side airbag sensor LH<br>• Center airbag sensor assembly |
| B1693/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**

- When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 1.CHECK PAST DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1637 or B1692 is output | A |
| DTC B1632 or B1697 is output | B |
| DTC B1632, B1637, B1692 and B1697 are not output | C |

A → GO TO DTC B1637 (Click here)

B → GO TO DTC B1632 (Click here)

C

## 2.CHECK FOR DTC

a. Turn the ignition switch off.

**HINT:**

If a communication error occurs, DTCs for both the LH and RH sides will be stored simultaneously. The malfunctioning area can be identified by turning the ignition switch off and then to ON again.

b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1638 and B1693 are not output | A |
| DTC B1638 is output | B |
| DTC B1693 is output | C |

**HINT:**

Codes other than DTC B1638 and B1693 may be output at this time, but they are not related to this check.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → Go to step 13

C

## 3.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and side airbag sensor RH.

**OK:**

**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 4.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and side airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side and side airbag sensor RH side) are not damaged.

**OK:**

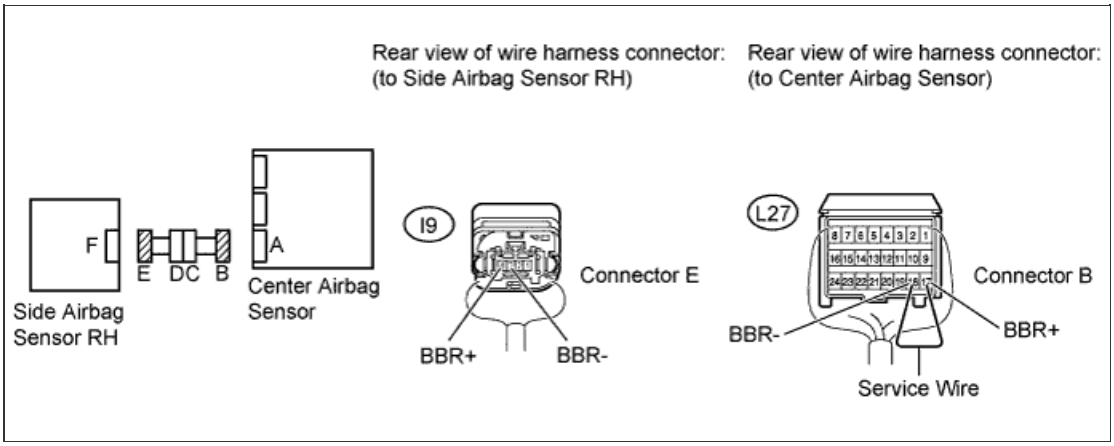
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 5.CHECK SIDE AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-3 (BBR-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 17 (BBR+) and 18 (BBR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - I9-3 (BBR-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| I9-4 (BBR+) - I9-3 (BBR-) | Always | 1 MΩ or higher |
| I9-4 (BBR+) - Body ground | Always | 1 MΩ or higher |
| I9-3 (BBR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 11

OK ↓

## 6.CHECK CONNECTION OF CONNECTORS

a. Check that the connector is properly connected to the rear airbag sensor RH.

**OK:**
**The connector is properly connected.**

NG → CONNECT CONNECTOR PROPERLY

OK ↓

## 7.CHECK CONNECTORS

a. Disconnect the connectors from the side airbag sensor RH and rear airbag sensor RH.

b. Check that the connector (on the rear airbag sensor RH side) is not damaged.

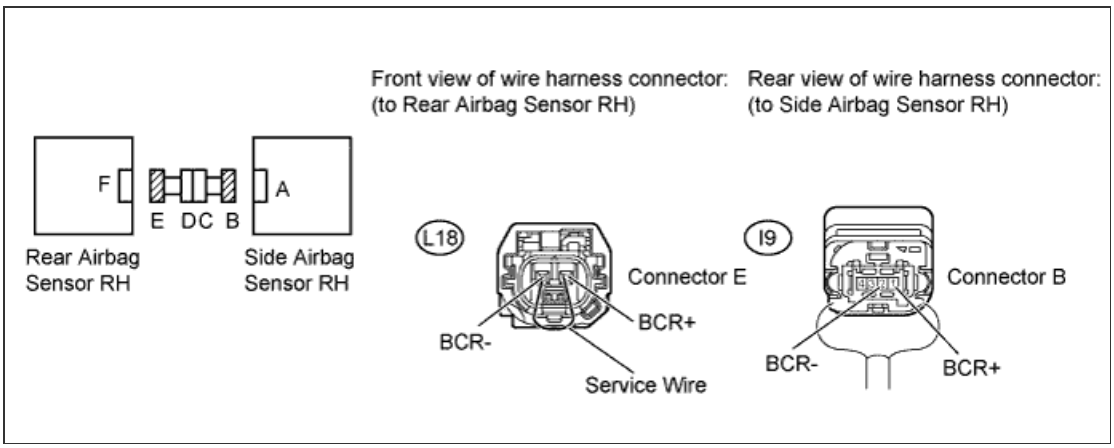
**OK:**
**The connector is not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK ↓

## 8.CHECK REAR AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body | | |

| | | |
|---|---|---|
| ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector E.

h. Measure the resistance according to the value(s) in the table below.

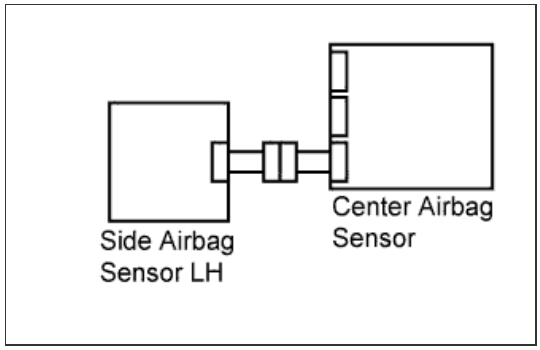
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 12

OK

## 9.CHECK SIDE AIRBAG SENSOR RH




a. Connect the connector to the center airbag sensor.

b. Interchange the side airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1693 and B1698 are not output | A |
| DTC B1698 is output | B |
| DTC B1693 is output | C |

**HINT:**

Codes other than DTC B1693 and B1698 may be output at this time, but they are not related to this check.

i. Turn the ignition switch off.

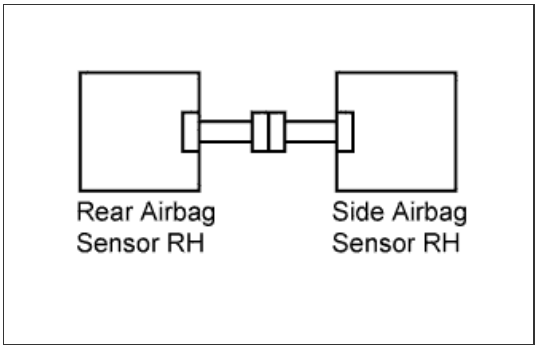
j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor LH and RH to their original positions and connect the connectors to them.

| | |
|---|---|
| A | USE SIMULATION METHOD TO CHECK (Click here) |
| B | REPLACE SIDE AIRBAG SENSOR RH (Click here) |

C

## 10.CHECK REAR AIRBAG SENSOR RH




a. Temporarily replace the rear airbag sensor RH with a new one.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1693 is not output.**

**HINT:**

Codes other than DTC B1693 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

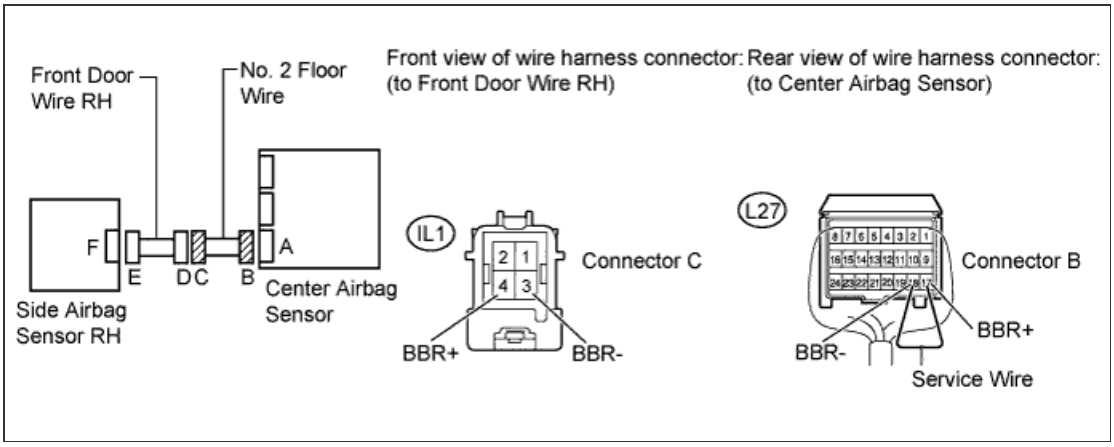
| | |
|---|---|
| NG | REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here) |

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 11.CHECK NO. 2 FLOOR WIRE (CENTER AIRBAG SENSOR - FRONT DOOR WIRE RH)

a. Disconnect the No. 2 floor wire from the front door wire RH.



b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - Body ground | Ignition switch ON | Below 1 V |
| IL1-3 (BBR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 17 (BBR+) and 18 (BBR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - IL1-3 (BBR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - IL1-3 (BBR-) | Always | 1 MΩ or higher |
| IL1-4 (BBR+) - Body ground | Always | 1 MΩ or higher |
| IL1-3 (BBR-) - Body ground | Always | 1 MΩ or higher |

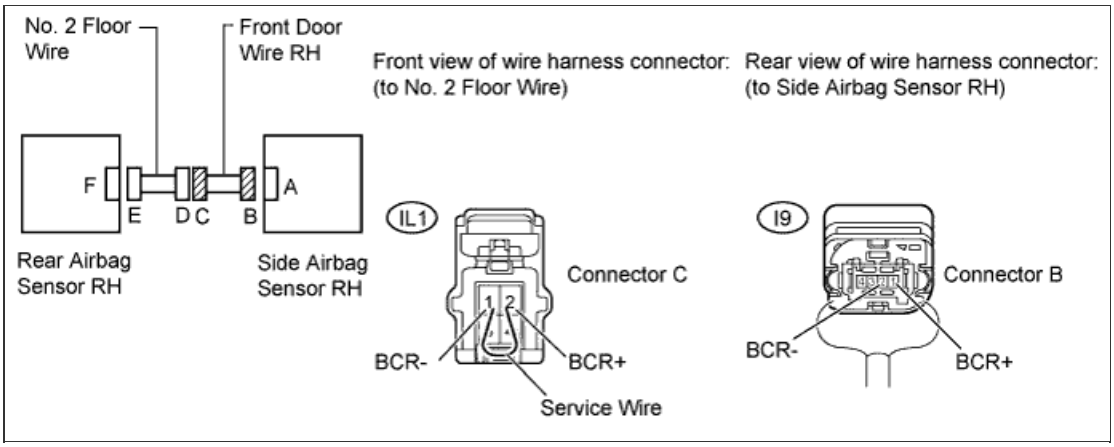
NG → REPLACE NO. 2 FLOOR WIRE

OK

REPLACE FRONT DOOR WIRE RH

**12.CHECK FRONT DOOR WIRE RH (SIDE AIRBAG SENSOR RH - NO. 2 FLOOR WIRE)**

a. Disconnect the front door wire RH from the No. 2 floor wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FRONT DOOR WIRE RH

OK

REPLACE NO. 2 FLOOR WIRE

## 13.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and rear airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

**14.CHECK CONNECTORS**

a. Disconnect the connectors from the center airbag sensor and rear airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side and rear airbag sensor LH side) are not damaged.

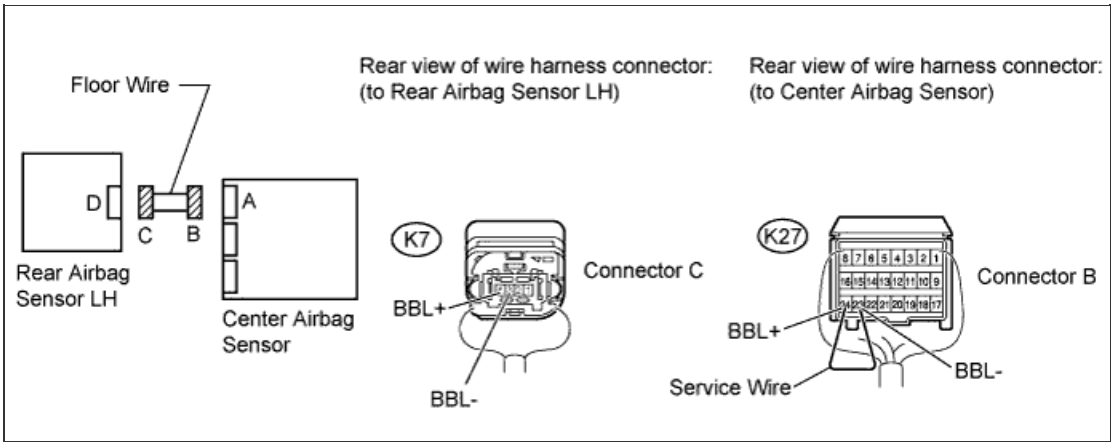
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

**15.CHECK FLOOR WIRE (CENTER AIRBAG SENSOR - REAR AIRBAG SENSOR LH)**

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-3 (BBL-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 24 (BBL+) and 23 (BBL-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| | | |

| | | |
|---|---|---|
| K7-4 (BBL+) - K7-3 (BBL-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - K7-3 (BBL-) | Always | 1 MΩ or higher |
| K7-4 (BBL+) - Body ground | Always | 1 MΩ or higher |
| K7-3 (BBL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**16.CHECK CONNECTION OF CONNECTOR**

a. Check that the connector is properly connected to the side airbag sensor LH.

**OK:**
**The connector is properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

**17.CHECK CONNECTORS**

a. Disconnect the connectors from the rear airbag sensor LH and side airbag sensor LH.

b. Check that the connector (on the side airbag sensor LH side) is not damaged.

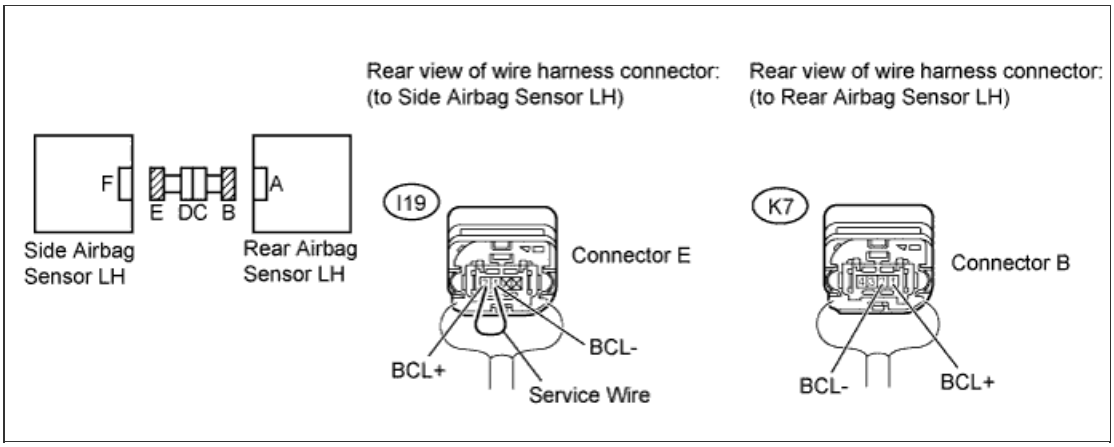
**OK:**
**The connector is not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

**18.CHECK SIDE AIRBAG SENSOR LH CIRCUIT**

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector E.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | 1 MΩ or higher |
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 21

OK

**19.CHECK REAR AIRBAG SENSOR LH**

a. Temporarily replace the side airbag sensor LH with a new one.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

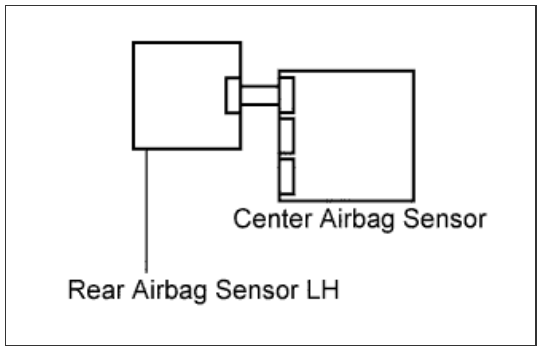
e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**

**DTC B1638 is not output.**




**HINT:**

Codes other than DTC B1638 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

**NG** → **Go to step 20**

**OK**

**REPLACE REAR AIRBAG SENSOR LH (Click here)**

**20.CHECK SIDE AIRBAG SENSOR LH**

a. Interchange the side airbag sensor LH with LRH and connect the connectors to them.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

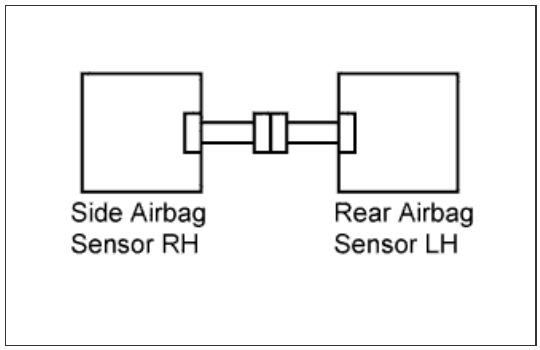
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 90 seconds.

g. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1638 is output | A |
| DTC B1633 is output | B |
| DTC B1633 and B1638 are not output | C |

**HINT:**

Codes other than DTC B1633 and B1638 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

j. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

**A** → **REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)**

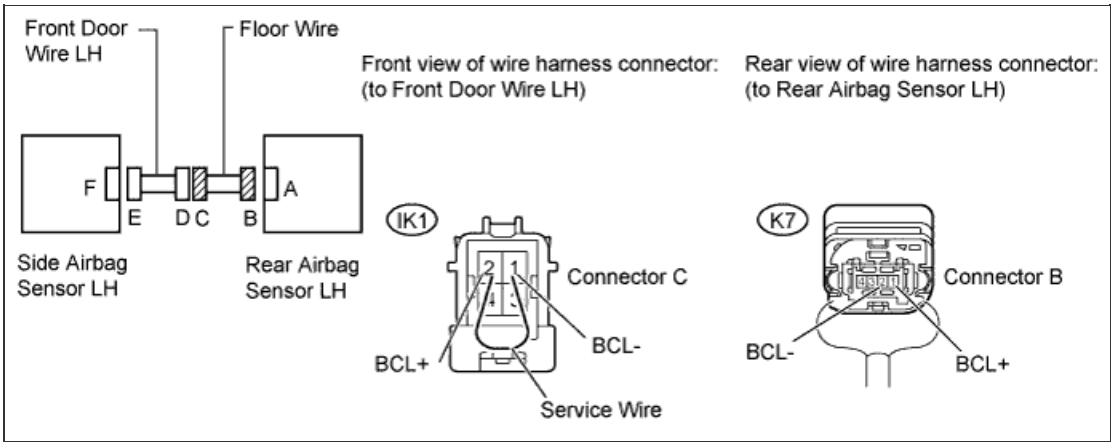
**B** → **REPLACE SIDE AIRBAG SENSOR LH (Click here)**

**C**

**USE SIMULATION METHOD TO CHECK (Click here)**

**21.CHECK FLOOR WIRE (REAR AIRBAG SENSOR LH - FRONT DOOR WIRE LH)**

a. Disconnect the floor wire from the front door wire LH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | 1 MΩ or higher |
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK → REPLACE FRONT DOOR WIRE LH

## DTC B1845/61 Short in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1846/61 Open in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1847/61 Short to GND in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1848/61 Short to B+ in Curtain Shield Squib LH 2nd Step Circuit

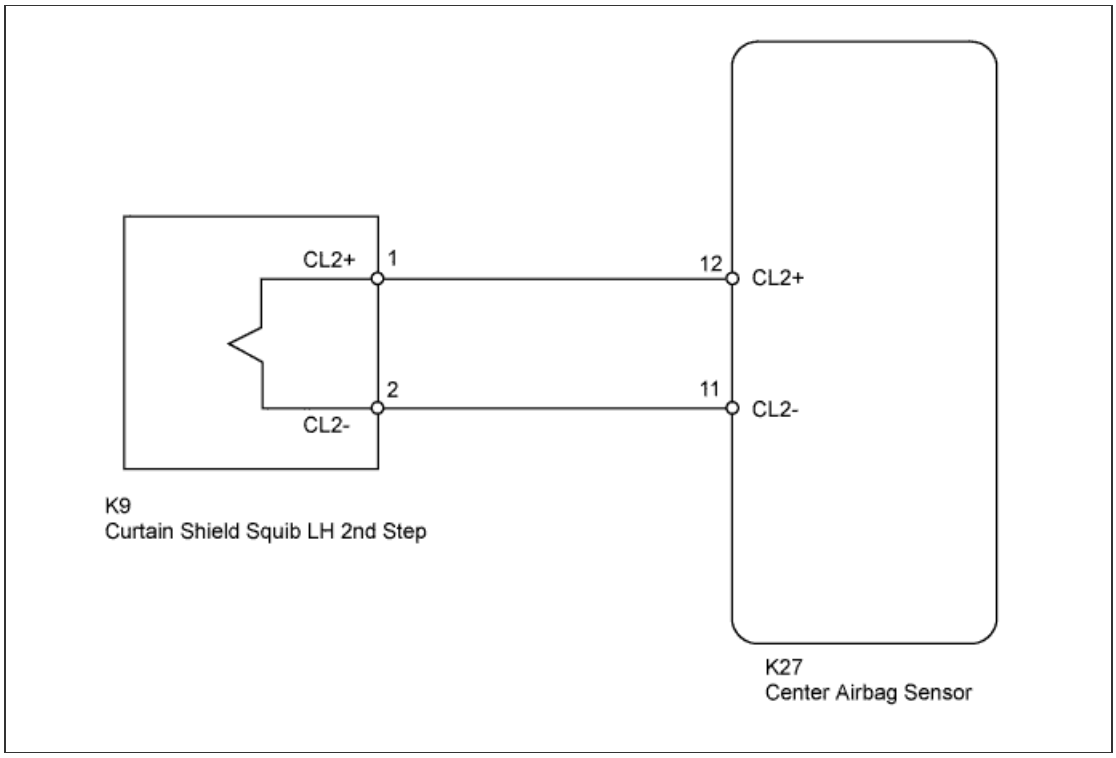
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib LH 2nd step circuit consists of the center airbag sensor and the curtain shield airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib LH 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1845/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib LH 2nd step circuit during the primary check.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1846/61 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib LH 2nd step circuit for 2 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1847/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib LH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1848/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib LH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG LH (CURTAIN SHIELD SQUIB LH 2ND STEP)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the curtain shield squib LH 2nd step.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

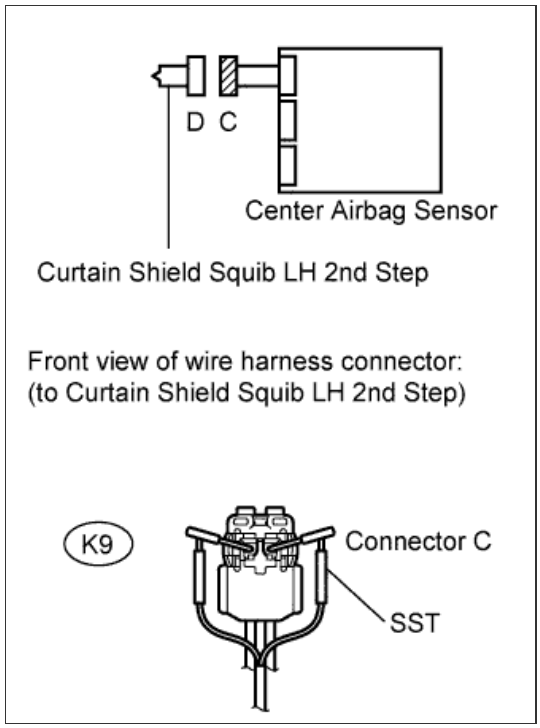
Never connect the tester to the curtain shield airbag LH (curtain shield squib LH 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1845, B1846, B1847 or B1848 is not output.**

**HINT:**

Codes other than DTC B1845, B1846, B1847 and B1848 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connectors (on the curtain shield squib LH 2nd step side) are not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (CURTAIN SHIELD SQUIB LH 2ND STEP CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - Body ground | Ignition switch ON | Below 1 V |
| K9-2 (CL2-) - Body ground | Ignition switch ON | Below 1 V |

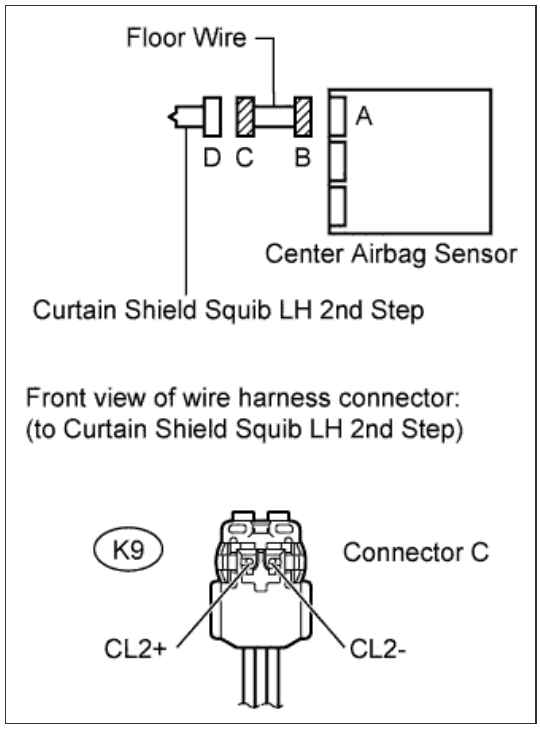
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - K9-2 (CL2-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - K9-2 (CL2-) | Always | 1 MΩ or higher |
| K9-1 (CL2+) - Body ground | Always | 1 MΩ or higher |
| K9-2 (CL2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield squib LH 2nd step and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

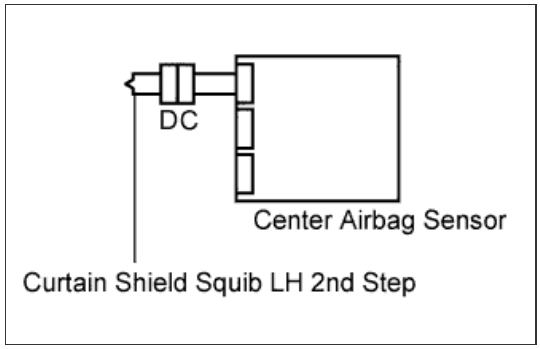
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1845, B1846, B1847 or B1848 is not output.**

**HINT:**

Codes other than DTC B1845, B1846, B1847 and B1848 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1638/82 Rear Airbag Sensor Assembly LH Initialization Incomplete

## DTC B1693/81 Door Side Airbag Sensor RH Initialization Incomplete

**for Preparation** Click here

### DESCRIPTION

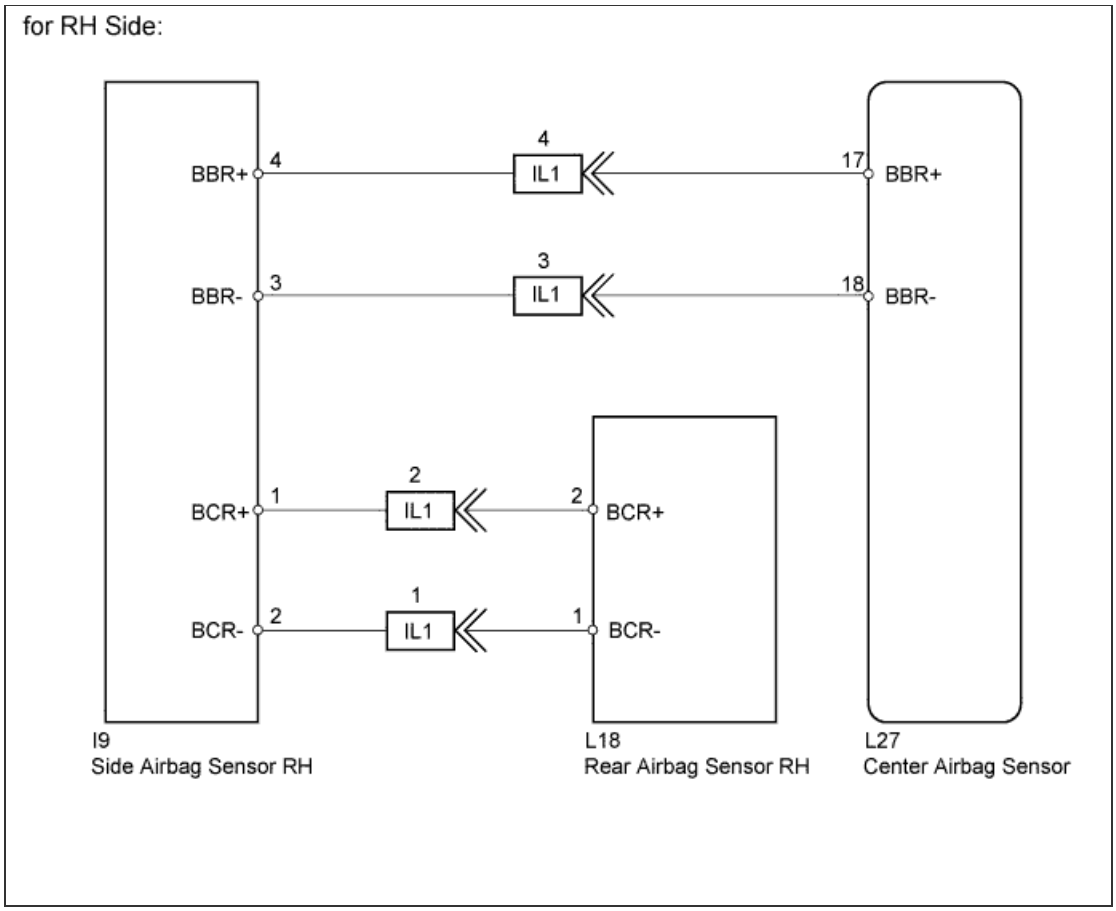
**HINT:**

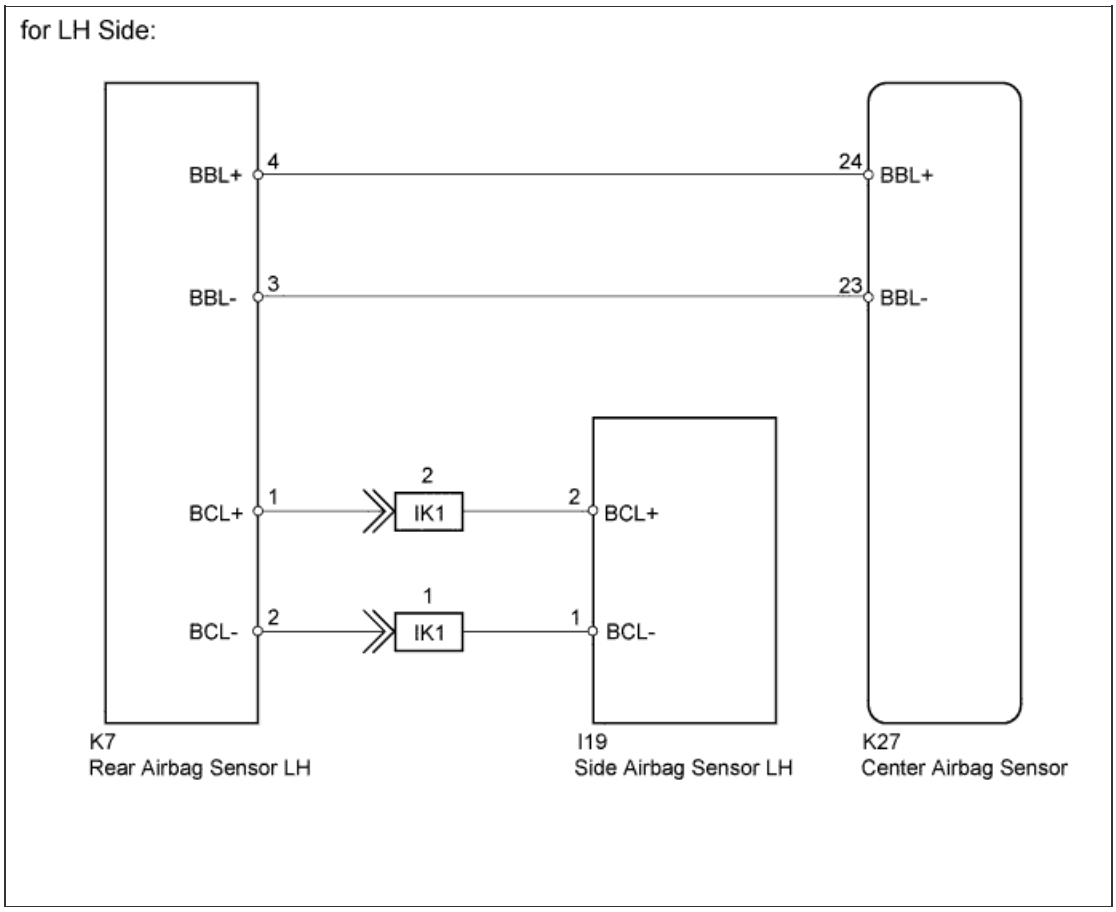
"Door side airbag sensor RH" refer to the side airbag sensor RH.

- The circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH) is composed of the center airbag sensor, side airbag sensor LH or RH, and rear airbag sensor LH or RH.
  The side airbag sensor LH or RH and rear airbag sensor LH or RH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1693/81 is stored when a malfunction is detected in the circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH and curtain shield airbag LH or RH).
  DTC B1638/82 is stored when a malfunction is detected in the circuit for the rear collision sensor LH or RH (to determine deployment of the rear seat side airbag LH or RH and curtain shield airbag LH or RH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1638/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the rear collision sensor LH (to determine deployment of the rear side seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A rear airbag sensor LH malfunction.<br>• A side airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear airbag sensor LH<br>• Side airbag sensor LH<br>• Center airbag sensor assembly |
| B1693/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**

- When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 1.CHECK PAST DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1637 or B1692 is output | A |
| DTC B1632 or B1697 is output | B |
| DTC B1632, B1637, B1692 and B1697 are not output | C |

A → GO TO DTC B1637 (Click here)

B → GO TO DTC B1632 (Click here)

C

## 2.CHECK FOR DTC

a. Turn the ignition switch off.

**HINT:**

If a communication error occurs, DTCs for both the LH and RH sides will be stored simultaneously. The malfunctioning area can be identified by turning the ignition switch off and then to ON again.

b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1638 and B1693 are not output | A |
| DTC B1638 is output | B |
| DTC B1693 is output | C |

**HINT:**

Codes other than DTC B1638 and B1693 may be output at this time, but they are not related to this check.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → Go to step 13

C

## 3.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and side airbag sensor RH.

**OK:**

**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 4.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and side airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side and side airbag sensor RH side) are not damaged.

**OK:**

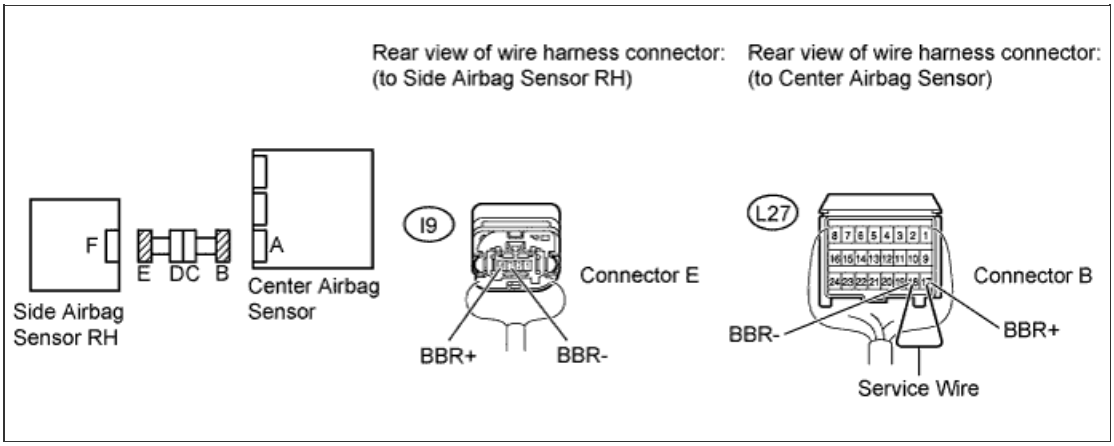
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 5.CHECK SIDE AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-3 (BBR-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 17 (BBR+) and 18 (BBR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - I9-3 (BBR-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| I9-4 (BBR+) - I9-3 (BBR-) | Always | 1 MΩ or higher |
| I9-4 (BBR+) - Body ground | Always | 1 MΩ or higher |
| I9-3 (BBR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 11

OK ↓

## 6.CHECK CONNECTION OF CONNECTORS

a. Check that the connector is properly connected to the rear airbag sensor RH.

**OK:**
**The connector is properly connected.**

NG → CONNECT CONNECTOR PROPERLY

OK ↓

## 7.CHECK CONNECTORS

a. Disconnect the connectors from the side airbag sensor RH and rear airbag sensor RH.

b. Check that the connector (on the rear airbag sensor RH side) is not damaged.

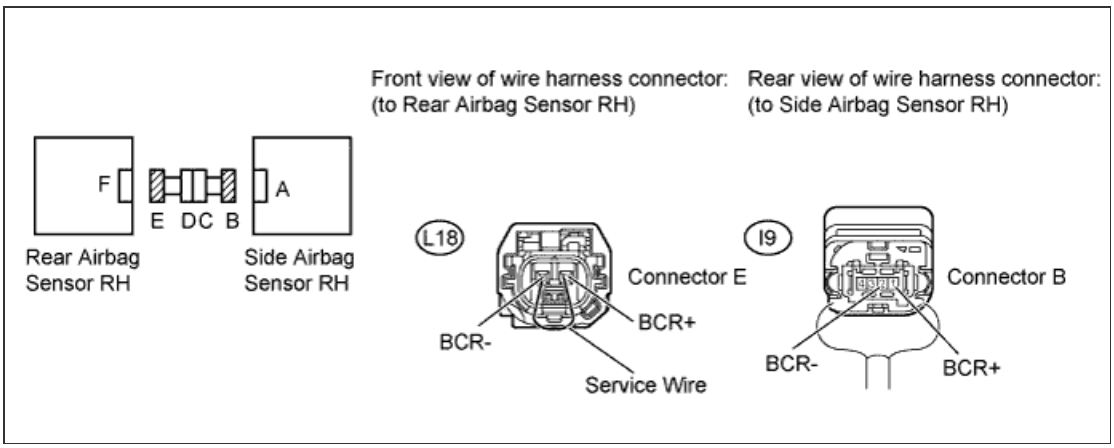
**OK:**
**The connector is not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK ↓

## 8.CHECK REAR AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body | | |

| | | |
|---|---|---|
| ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector E.

h. Measure the resistance according to the value(s) in the table below.

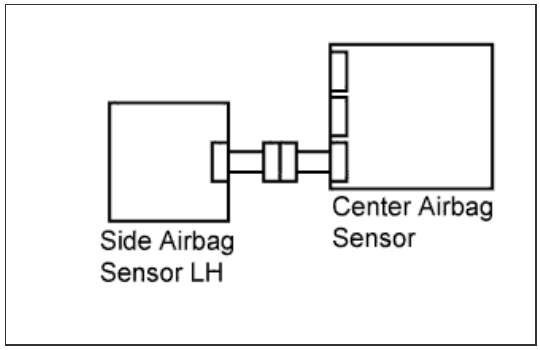
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 12

OK

## 9.CHECK SIDE AIRBAG SENSOR RH




a. Connect the connector to the center airbag sensor.

b. Interchange the side airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1693 and B1698 are not output | A |
| DTC B1698 is output | B |
| DTC B1693 is output | C |

**HINT:**

Codes other than DTC B1693 and B1698 may be output at this time, but they are not related to this check.

i. Turn the ignition switch off.

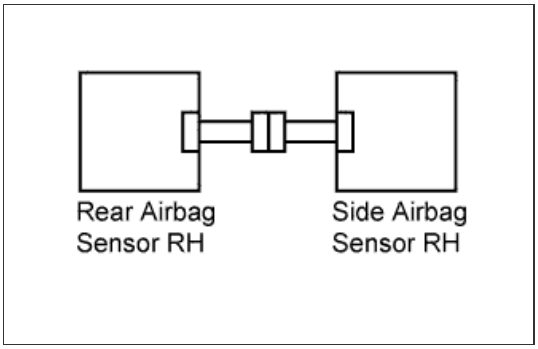
j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor LH and RH to their original positions and connect the connectors to them.

| | |
|---|---|
| A | USE SIMULATION METHOD TO CHECK (Click here) |
| B | REPLACE SIDE AIRBAG SENSOR RH (Click here) |

C

## 10.CHECK REAR AIRBAG SENSOR RH




a. Temporarily replace the rear airbag sensor RH with a new one.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1693 is not output.**

**HINT:**

Codes other than DTC B1693 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

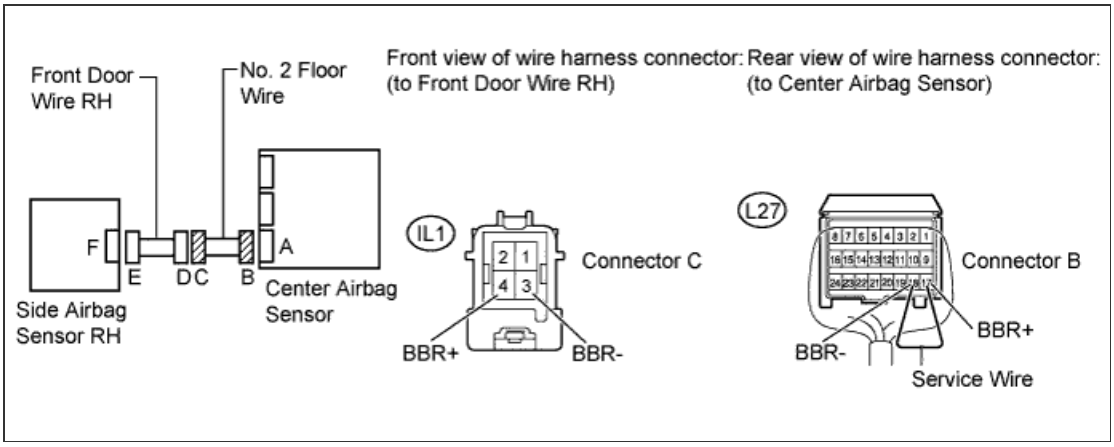
| | |
|---|---|
| NG | REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here) |

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 11.CHECK NO. 2 FLOOR WIRE (CENTER AIRBAG SENSOR - FRONT DOOR WIRE RH)

a. Disconnect the No. 2 floor wire from the front door wire RH.



b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - Body ground | Ignition switch ON | Below 1 V |
| IL1-3 (BBR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 17 (BBR+) and 18 (BBR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - IL1-3 (BBR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - IL1-3 (BBR-) | Always | 1 MΩ or higher |
| IL1-4 (BBR+) - Body ground | Always | 1 MΩ or higher |
| IL1-3 (BBR-) - Body ground | Always | 1 MΩ or higher |

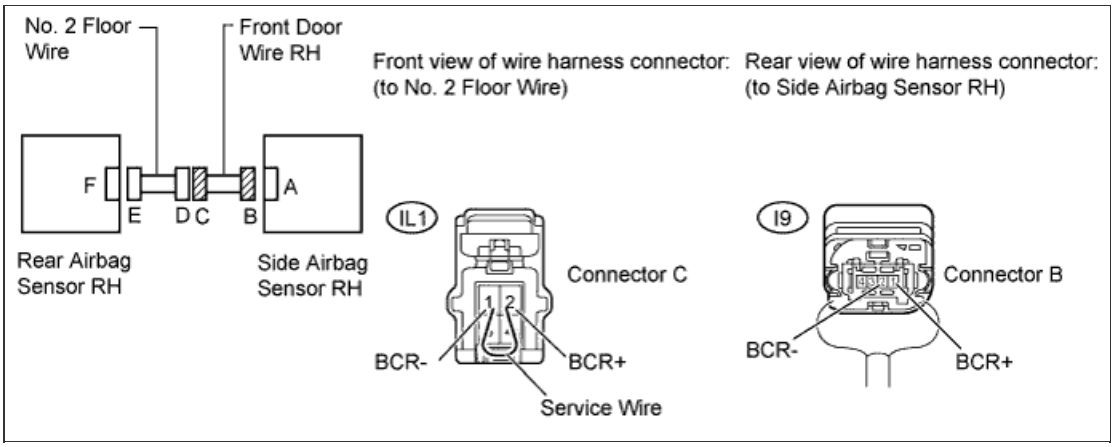
NG → REPLACE NO. 2 FLOOR WIRE

OK

REPLACE FRONT DOOR WIRE RH

**12.CHECK FRONT DOOR WIRE RH (SIDE AIRBAG SENSOR RH - NO. 2 FLOOR WIRE)**

a. Disconnect the front door wire RH from the No. 2 floor wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FRONT DOOR WIRE RH

OK

REPLACE NO. 2 FLOOR WIRE

## 13.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and rear airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

**14.CHECK CONNECTORS**

a. Disconnect the connectors from the center airbag sensor and rear airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side and rear airbag sensor LH side) are not damaged.

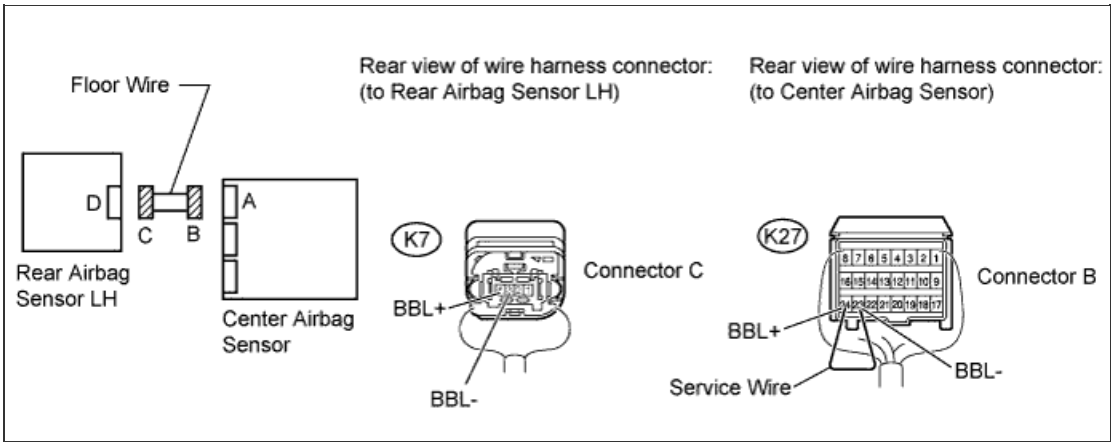
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

**15.CHECK FLOOR WIRE (CENTER AIRBAG SENSOR - REAR AIRBAG SENSOR LH)**

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-3 (BBL-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 24 (BBL+) and 23 (BBL-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| | | |

| | | |
|---|---|---|
| K7-4 (BBL+) - K7-3 (BBL-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - K7-3 (BBL-) | Always | 1 MΩ or higher |
| K7-4 (BBL+) - Body ground | Always | 1 MΩ or higher |
| K7-3 (BBL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**16.CHECK CONNECTION OF CONNECTOR**

a. Check that the connector is properly connected to the side airbag sensor LH.

**OK:**
**The connector is properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

**17.CHECK CONNECTORS**

a. Disconnect the connectors from the rear airbag sensor LH and side airbag sensor LH.

b. Check that the connector (on the side airbag sensor LH side) is not damaged.

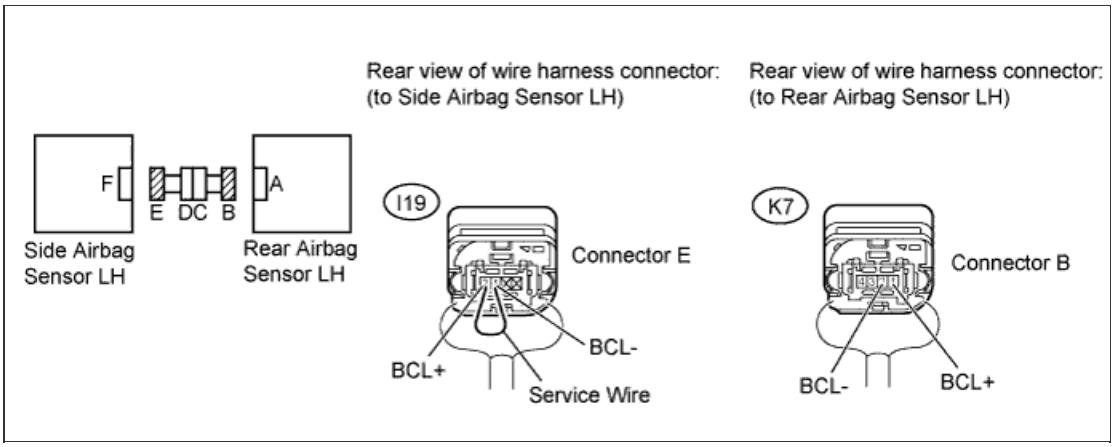
**OK:**
**The connector is not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

**18.CHECK SIDE AIRBAG SENSOR LH CIRCUIT**

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector E.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | 1 MΩ or higher |
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 21

OK

**19.CHECK REAR AIRBAG SENSOR LH**

a. Temporarily replace the side airbag sensor LH with a new one.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

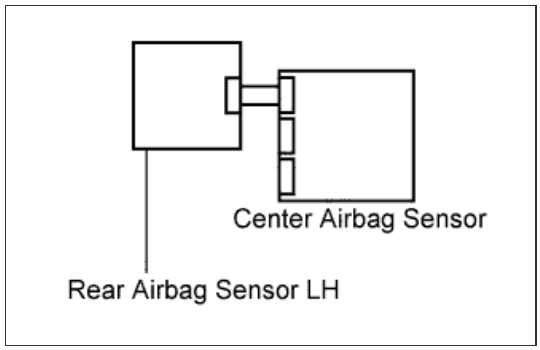
e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**

**DTC B1638 is not output.**




**HINT:**

Codes other than DTC B1638 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

**NG** → **Go to step 20**

**OK**

**REPLACE REAR AIRBAG SENSOR LH (Click here)**

**20.CHECK SIDE AIRBAG SENSOR LH**

a. Interchange the side airbag sensor LH with LRH and connect the connectors to them.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

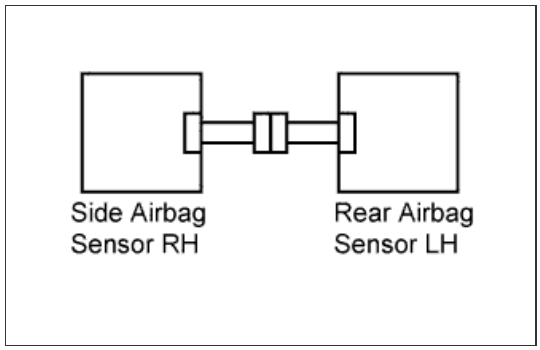
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 90 seconds.

g. Check for DTCs (Click here).




**Result**

| Result | Proceed to |
|---|---|
| DTC B1638 is output | A |
| DTC B1633 is output | B |
| DTC B1633 and B1638 are not output | C |

**HINT:**

Codes other than DTC B1633 and B1638 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

j. Return the side airbag sensor RH and LH to their original positions and connect the connectors to them.

**A** → **REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)**

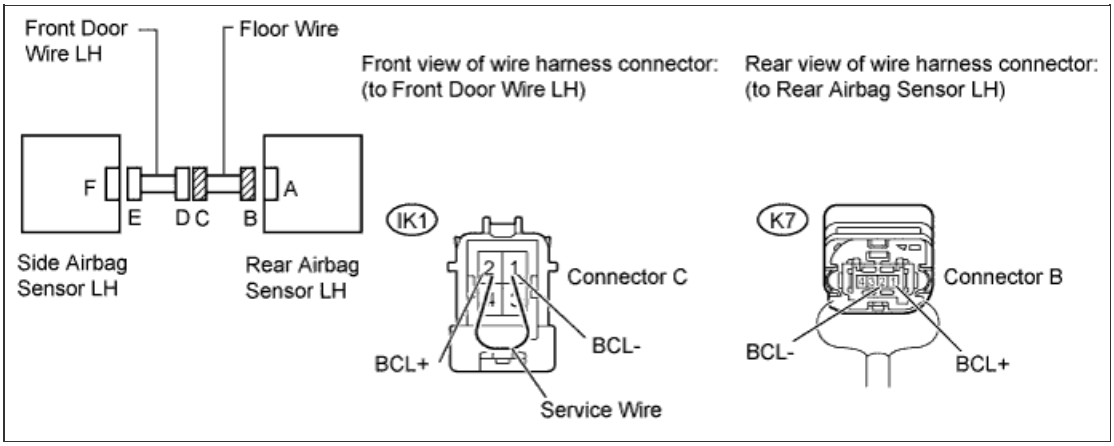
**B** → **REPLACE SIDE AIRBAG SENSOR LH (Click here)**

**C**

**USE SIMULATION METHOD TO CHECK (Click here)**

**21.CHECK FLOOR WIRE (REAR AIRBAG SENSOR LH - FRONT DOOR WIRE LH)**

a. Disconnect the floor wire from the front door wire LH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | 1 MΩ or higher |
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK → REPLACE FRONT DOOR WIRE LH

## DTC B1845/61 Short in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1846/61 Open in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1847/61 Short to GND in Curtain Shield Squib LH 2nd Step Circuit

## DTC B1848/61 Short to B+ in Curtain Shield Squib LH 2nd Step Circuit

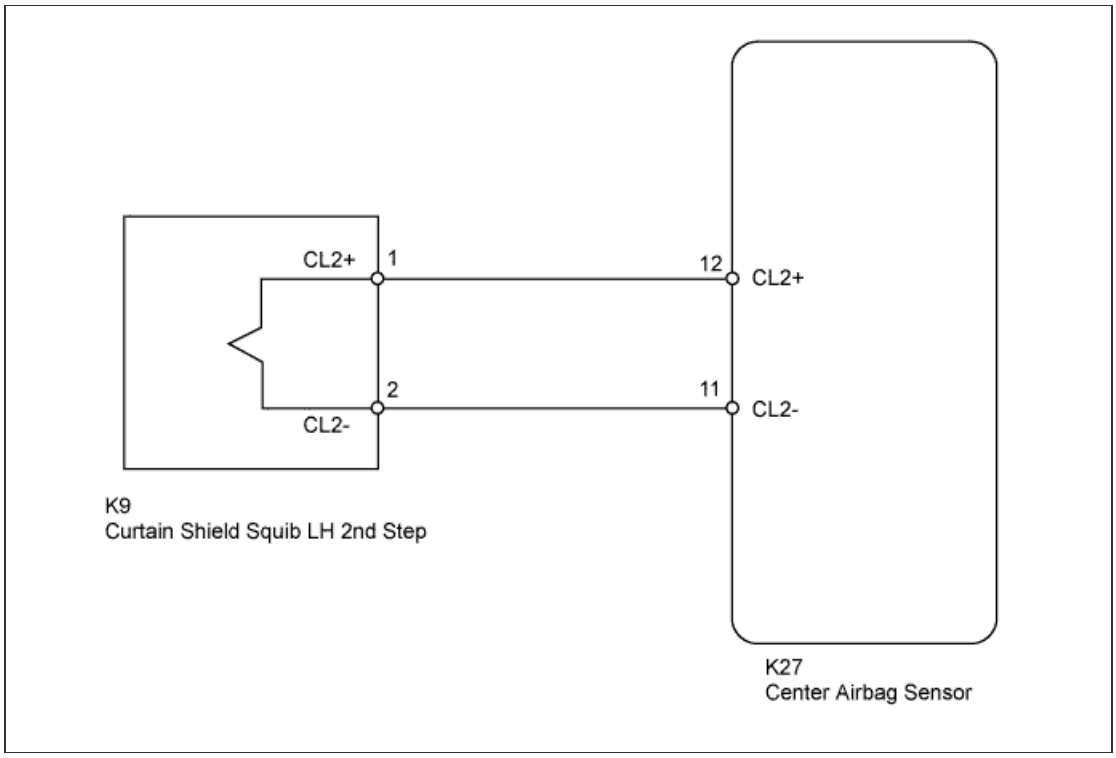
**for Preparation** Click here

### DESCRIPTION

The curtain shield squib LH 2nd step circuit consists of the center airbag sensor and the curtain shield airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the curtain shield squib LH 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1845/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the curtain shield squib LH 2nd step circuit during the primary check.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1846/61 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the curtain shield squib LH 2nd step circuit for 2 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1847/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the curtain shield squib LH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |
| B1848/61 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the curtain shield squib LH 2nd step circuit for 0.5 seconds.<br>• A curtain shield squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Curtain shield airbag assembly LH (Curtain shield squib LH 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK CURTAIN SHIELD AIRBAG LH (CURTAIN SHIELD SQUIB LH 2ND STEP)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the curtain shield squib LH 2nd step.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

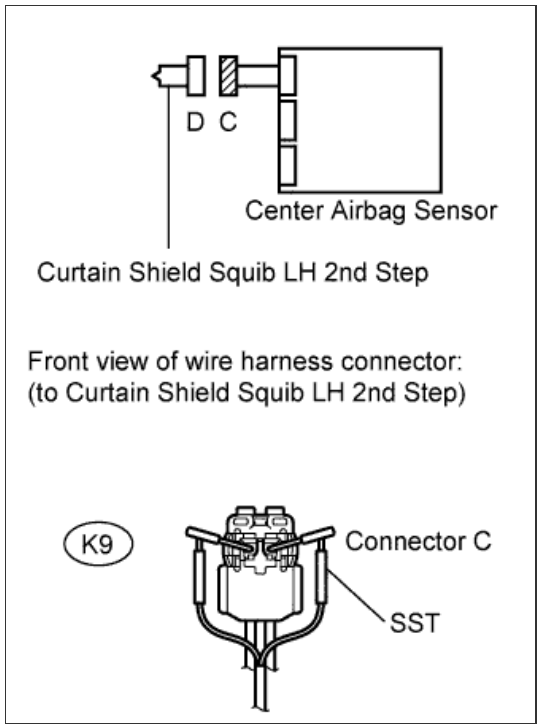
Never connect the tester to the curtain shield airbag LH (curtain shield squib LH 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1845, B1846, B1847 or B1848 is not output.**

**HINT:**

Codes other than DTC B1845, B1846, B1847 and B1848 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE CURTAIN SHIELD AIRBAG ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connectors (on the curtain shield squib LH 2nd step side) are not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (CURTAIN SHIELD SQUIB LH 2ND STEP CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - Body ground | Ignition switch ON | Below 1 V |
| K9-2 (CL2-) - Body ground | Ignition switch ON | Below 1 V |

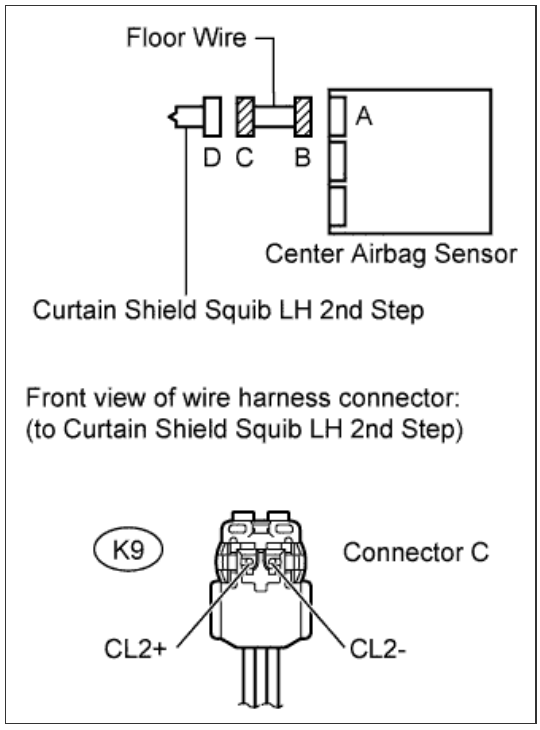
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - K9-2 (CL2-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K9-1 (CL2+) - K9-2 (CL2-) | Always | 1 MΩ or higher |
| K9-1 (CL2+) - Body ground | Always | 1 MΩ or higher |
| K9-2 (CL2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the curtain shield squib LH 2nd step and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

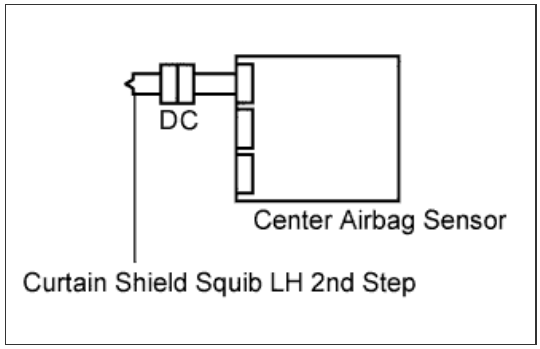
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1845, B1846, B1847 or B1848 is not output.**

**HINT:**

Codes other than DTC B1845, B1846, B1847 and B1848 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1642/81 Lost Communication with Side Satellite Sensor Bus RH

## DTC B1647/82 Lost Communication with Side Satellite Sensor Bus LH

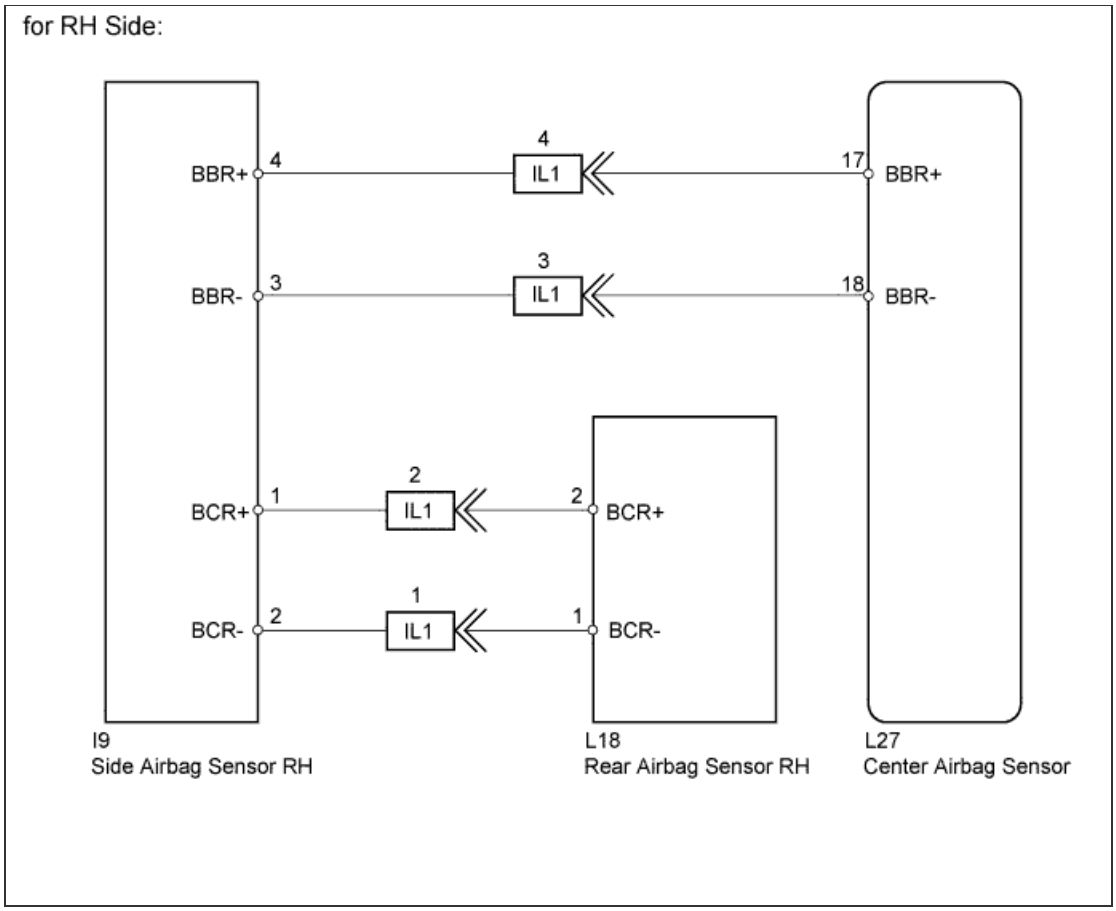
**for Preparation** Click here

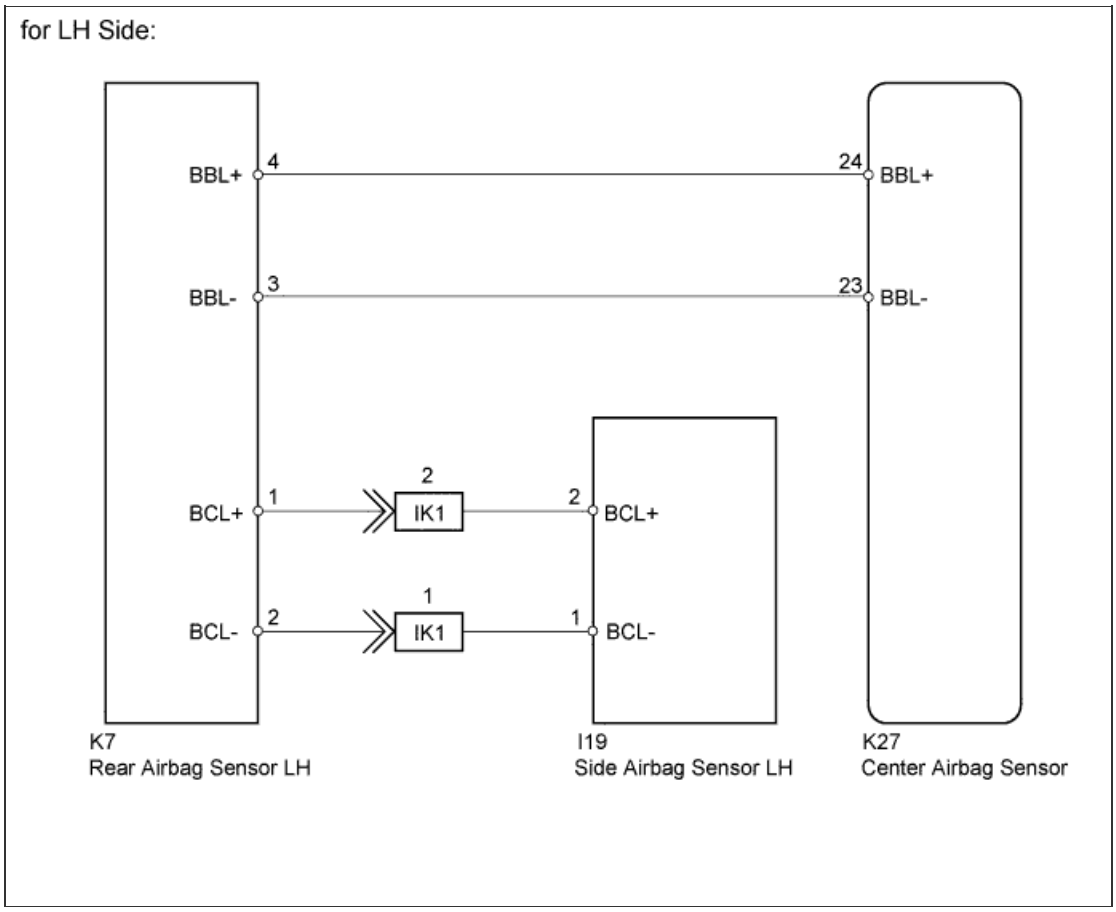
### DESCRIPTION

The circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH) is composed of the center airbag sensor, side airbag sensor LH or RH, and rear airbag sensor LH or RH.
The side airbag sensor LH or RH and rear airbag sensor LH or RH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
DTC B1642/81 or B1647/82 is stored when a malfunction is detected in the circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1642/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1647/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**

- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK FOR DTC

a. Turn the ignition switch off.

b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1642 and B1647 are not output | A |
| DTC B1647 is output | B |
| DTC B1642 is output | C |

**HINT:**

Code other than DTC B1642 and B1647 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 12

**C**

## 2.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and side airbag sensor RH.

**OK:**

**The connectors are properly connected.**

**NG** → CONNECT CONNECTORS PROPERLY

**OK**

## 3.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and side airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side and side airbag sensor RH side) are not damaged.

**OK:**

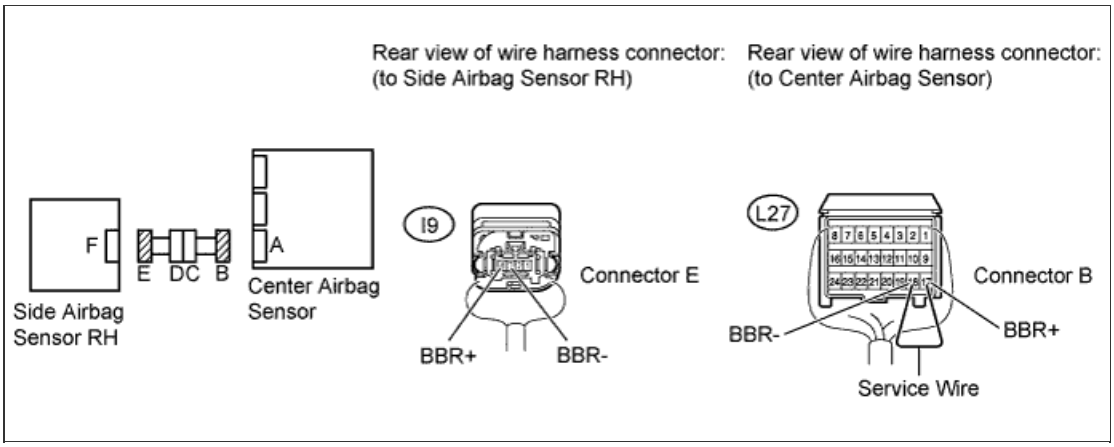
**The connectors are not deformed or damaged.**

**NG** → REPLACE HARNESS AND CONNECTOR

**OK**

## 4.CHECK SIDE AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-3 (BBR-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 17 (BBR+) and 18 (BBR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - I9-3 (BBR-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - I9-3 (BBR-) | Always | 1 MΩ or higher |
| I9-4 (BBR+) - Body ground | Always | 1 MΩ or higher |
| I9-3 (BBR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 10

OK

## 5.CHECK CONNECTION OF CONNECTORS

a. Check that the connector is properly connected to the rear airbag sensor RH.

**OK:**
**The connector is properly connected.**

NG → CONNECT CONNECTOR PROPERLY

OK

## 6.CHECK CONNECTORS

a. Disconnect the connectors from the side airbag sensor RH and rear airbag sensor RH.

b. Check that the connector (on the rear airbag sensor RH side) is not damaged.

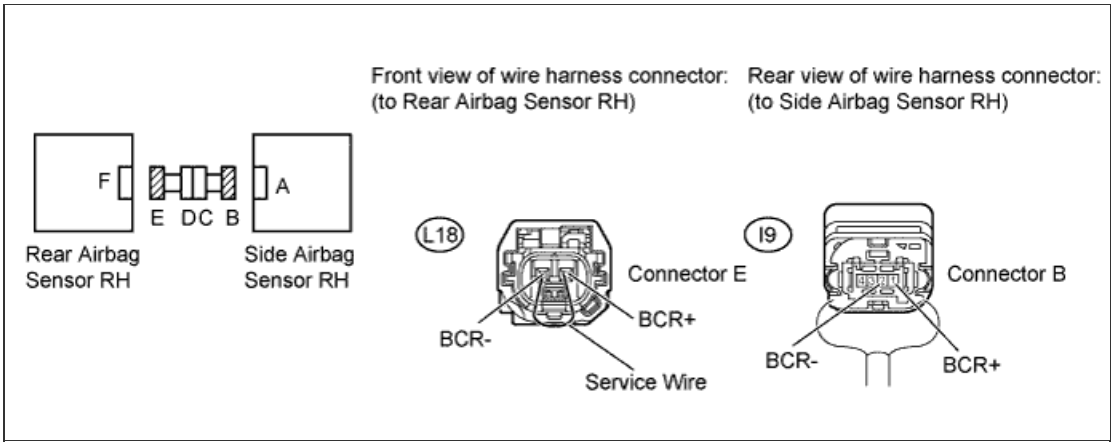
**OK:**
**The connector is not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 7.CHECK REAR AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector E.

h. Measure the resistance according to the value(s) in the table below.

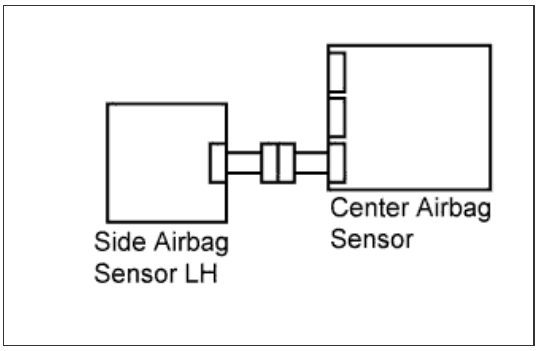
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 11

OK

## 8.CHECK SIDE AIRBAG SENSOR RH




a. Connect the connector to the center airbag sensor.

b. Interchange the side airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1642 and B1647 are not output | A |
| DTC B1647 is output | B |
| DTC B1642 is output | C |

**HINT:**

Codes other than DTC B1642 and B1647 may be output at this time, but they are not related to this check.

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor LH and RH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR ASSEMBLY RH (Click here)

C

## 9.CHECK REAR AIRBAG SENSOR RH

a. Temporarily replace the rear airbag sensor RH with a new one.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

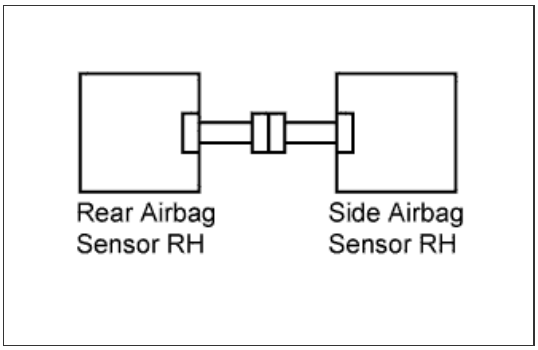
e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**

**DTC B1642 is not output.**




**HINT:**

Codes other than DTC B1642 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

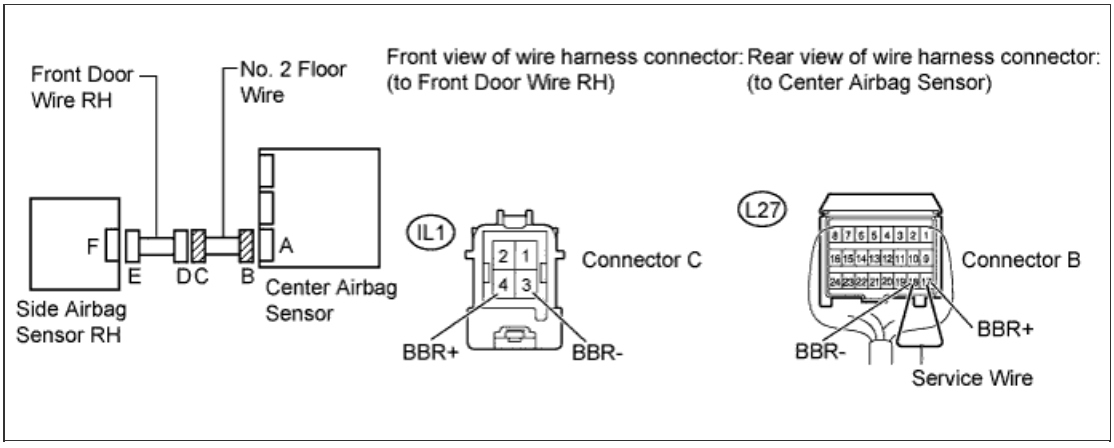
NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 10.CHECK NO. 2 FLOOR WIRE (CENTER AIRBAG SENSOR - FRONT DOOR WIRE RH)

a. Disconnect the No. 2 floor wire connector from the front door wire RH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - Body ground | Ignition switch ON | Below 1 V |
| IL1-3 (BBR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 17 (BBR+) and 18 (BBR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - IL1-3 (BBR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - IL1-3 (BBR-) | Always | 1 MΩ or higher |
| IL1-4 (BBR+) - Body ground | Always | 1 MΩ or higher |
| IL1-3 (BBR-) - Body ground | Always | 1 MΩ or higher |

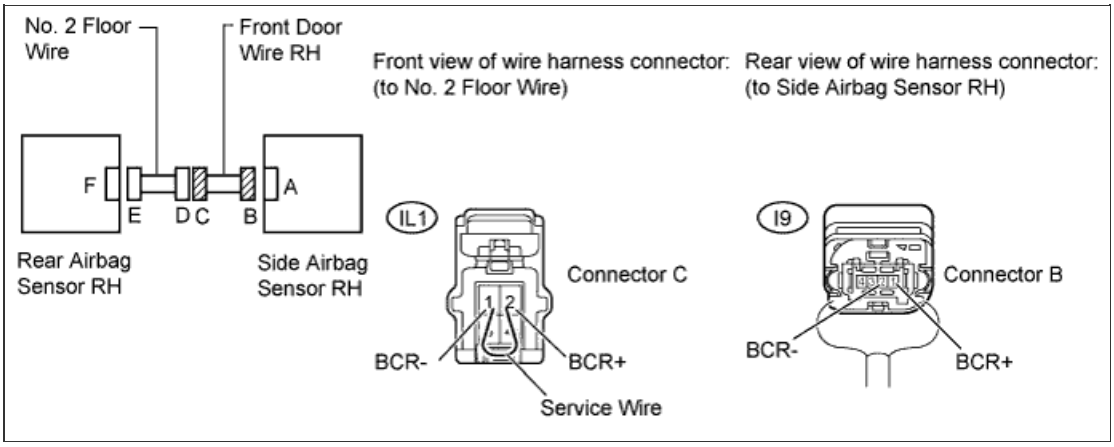
NG → REPLACE NO. 2 FLOOR WIRE

OK

REPLACE FRONT DOOR WIRE RH

11.CHECK FRONT DOOR WIRE RH (SIDE AIRBAG SENSOR RH - NO. 2 FLOOR WIRE)

a. Disconnect the front door wire RH connector from the No. 2 floor wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FRONT DOOR WIRE RH

OK

REPLACE NO. 2 FLOOR WIRE

## 12.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and rear airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 13.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and rear airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side and rear airbag sensor LH side) are not damaged.

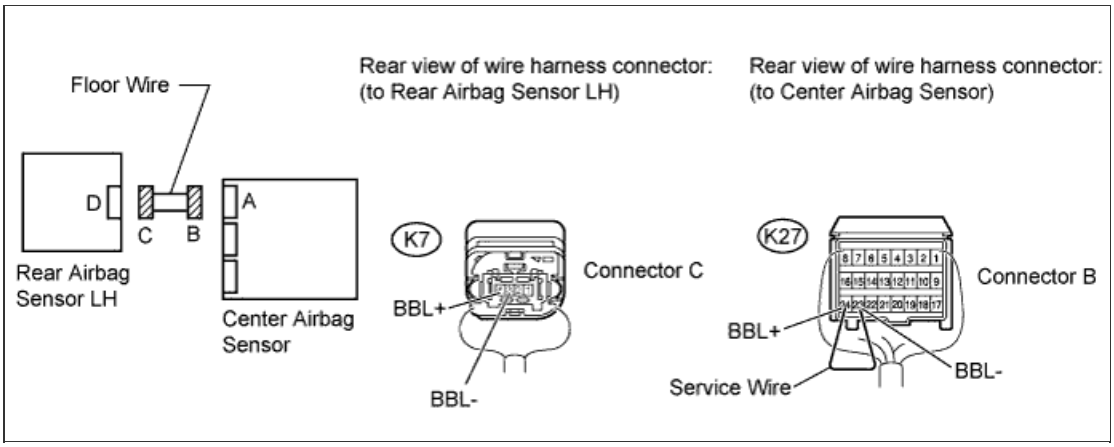
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

## 14.CHECK FLOOR WIRE (CENTER AIRBAG SENSOR - REAR AIRBAG SENSOR LH)

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-3 (BBL-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 24 (BBL+) and 23 (BBL-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - K7-3 (BBL-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - K7-3 (BBL-) | Always | 1 MΩ or higher |
| K7-4 (BBL+) - Body ground | Always | 1 MΩ or higher |
| K7-3 (BBL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**15.CHECK CONNECTION OF CONNECTOR**

a. Check that the connector is properly connected to the side airbag sensor LH.

**OK:**

**The connector is properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 16.CHECK CONNECTORS

a. Disconnect the connectors from the rear airbag sensor LH and side airbag sensor LH.

b. Check that the connector (on the side airbag sensor LH side) is not damaged.

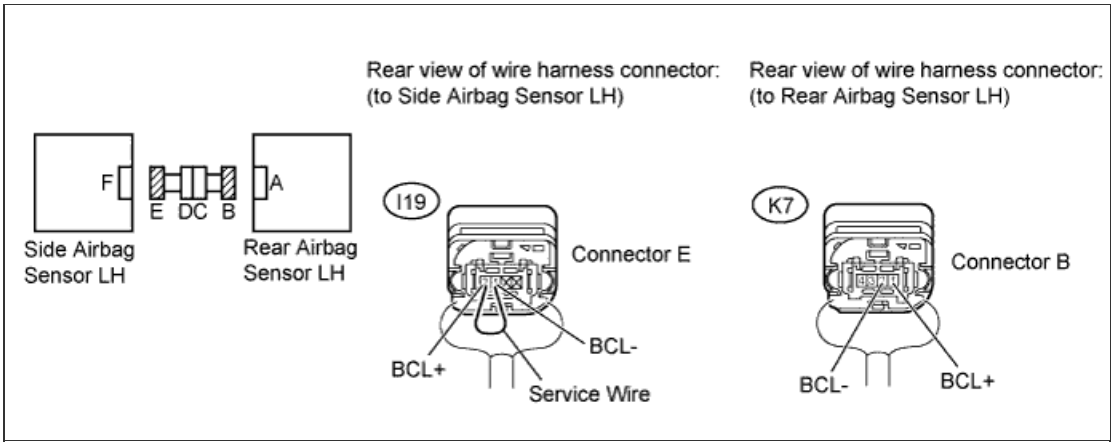
**OK:**
**The connector is not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 17.CHECK SIDE AIRBAG SENSOR LH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector E.

h. Measure the resistance according to the value(s) in the table below.

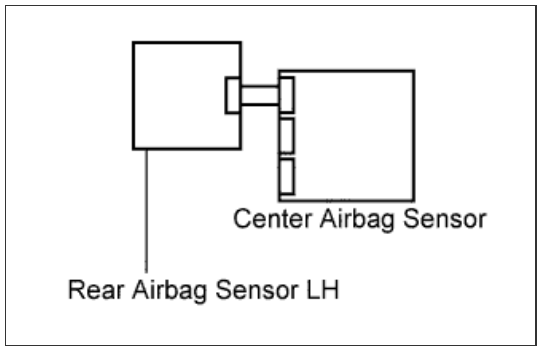
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | 1 MΩ or higher |
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 20

OK

**18.CHECK REAR AIRBAG SENSOR LH**




a. Temporarily replace the side airbag sensor LH with a new one.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1642 or B1647 is not output.**

**HINT:**

Codes other than DTC B1642 and B1647 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

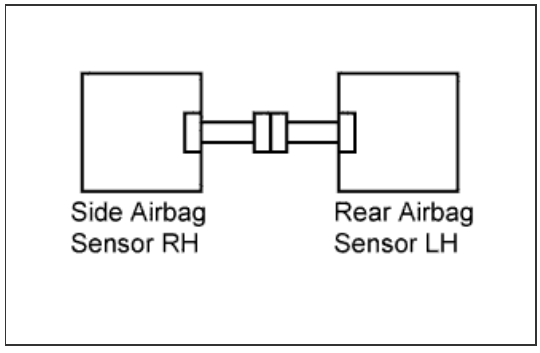
i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

NG → Go to step 19

OK

**REPLACE REAR AIRBAG SENSOR LH (Click here)**

**19.CHECK SIDE AIRBAG SENSOR LH**




a. Interchange the side airbag sensor LH with RH and connect the connectors to them.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1647 is output | A |
| DTC B1642 is output | B |
| DTC B1642 and B1647 are not output | C |

**HINT:**

Codes other than DTC B1642 and B1647 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

j. Return the rear airbag sensor RH and LH to their original positions and connect the connectors to them.

A → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

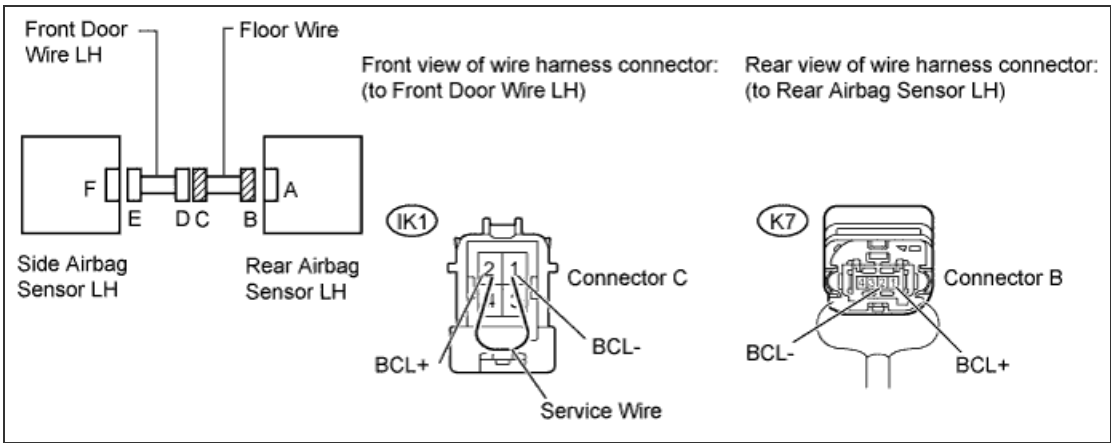
B → REPLACE SIDE AIRBAG SENSOR LH (Click here)

C

USE SIMULATION METHOD TO CHECK (Click here)

## 20.CHECK FLOOR WIRE (REAR SIDE AIRBAG SENSOR LH - FRONT DOOR WIRE LH)

a. Disconnect the floor wire connector from the front door wire LH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | 1 MΩ or higher |
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK → REPLACE FRONT DOOR WIRE LH

## DTC B1850/62 Short in Rear Side Squib RH Circuit

## DTC B1851/62 Open in Rear Side Squib RH Circuit

## DTC B1852/62 Short to GND in Rear Side Squib RH Circuit

## DTC B1853/62 Short to B+ in Rear Side Squib RH Circuit

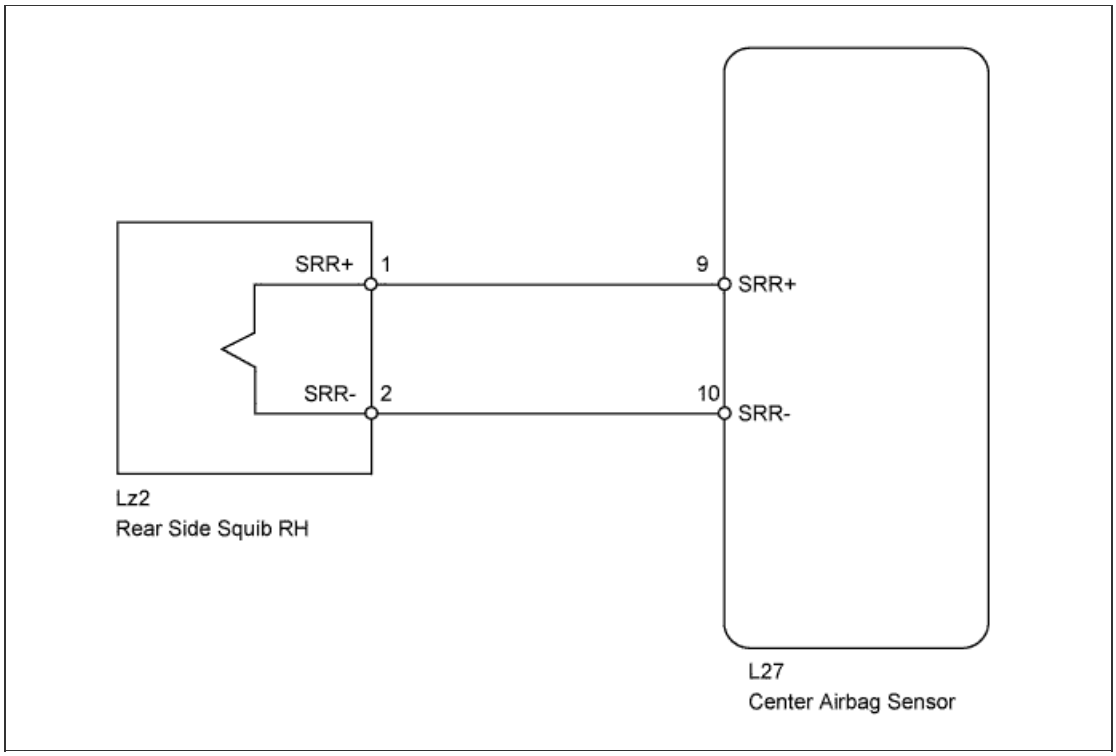
**for Preparation** Click here

### DESCRIPTION

The rear side squib RH circuit consists of the center airbag sensor and the rear seat side airbag RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear side squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1850/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear side squib RH circuit during the primary check.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1851/62 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear side squib RH circuit for 2 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1852/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear side squib RH circuit for 0.5 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1853/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear side squib RH circuit for 0.5 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT SIDE AIRBAG RH (REAR SIDE SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the rear seat side airbag RH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

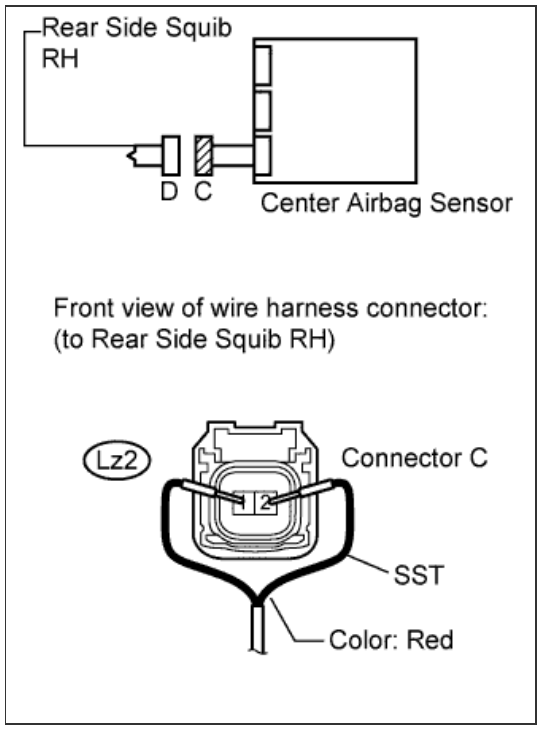
Never connect the tester to the rear seat side airbag RH (rear side squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1850, B1851, B1852 or B1853 is not output.**

**HINT:**

Codes other than DTC B1850, B1851, B1852 and B1853 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE REAR NO. 1 SEAT ASSEMBLY RH ( Click here)

C → Go to step 2

A → REPLACE REAR NO. 1 SEAT ASSEMBLY RH ( Click here)

## 2.CHECK NO. 2 FLOOR WIRE (REAR SIDE SQUIB RH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST (resistance: 2.1 Ω) from connector C.

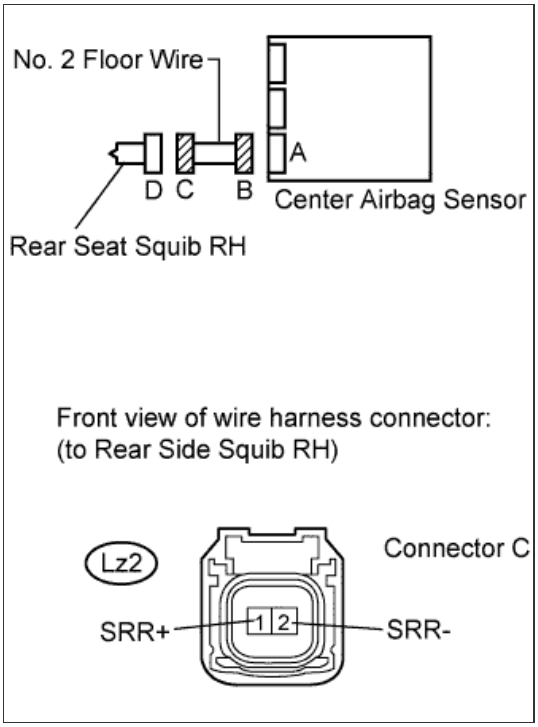
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Lz2-1 (SRR+) - Body ground | Ignition switch ON | Below 1 V |
| Lz2-2 (SRR-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz2-1 (SRR+) - Lz2-2 (SRR-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Lz2-1 (SRR+) - Lz2-2 (SRR-) | Always | 1 MΩ or higher |
| Lz2-1 (SRR+) - Body ground | Always | 1 MΩ or higher |
| Lz2-2 (SRR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the rear seat side airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

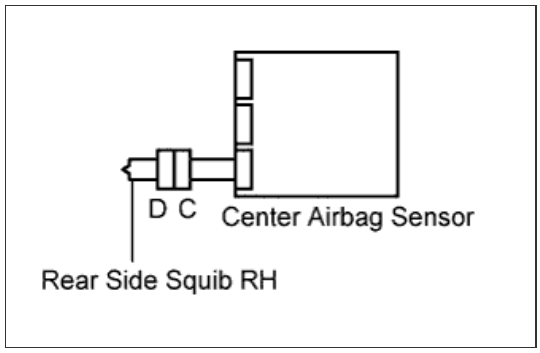
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1850, B1851, B1852 or B1853 is not output.**

**HINT:**

Codes other than DTC B1850, B1851, B1852 and B1853 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1642/81 Lost Communication with Side Satellite Sensor Bus RH

## DTC B1647/82 Lost Communication with Side Satellite Sensor Bus LH

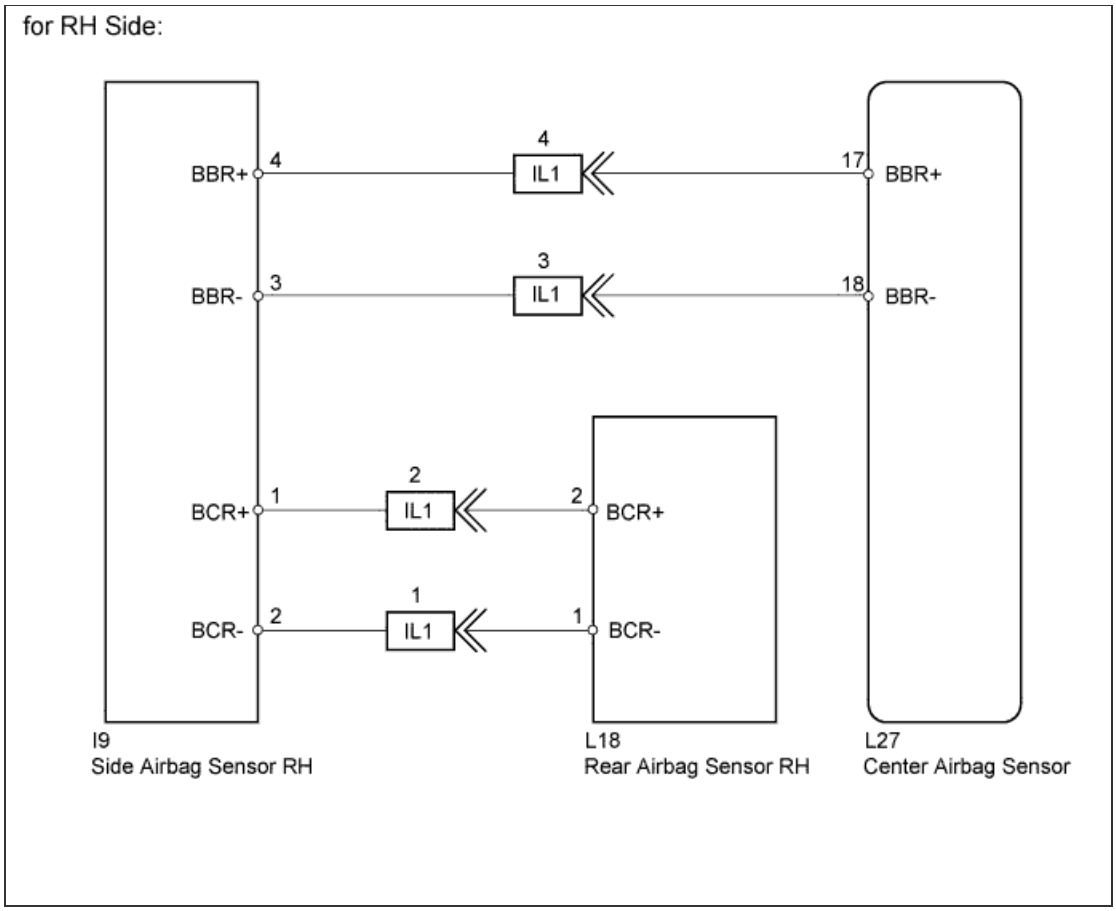
**for Preparation** Click here

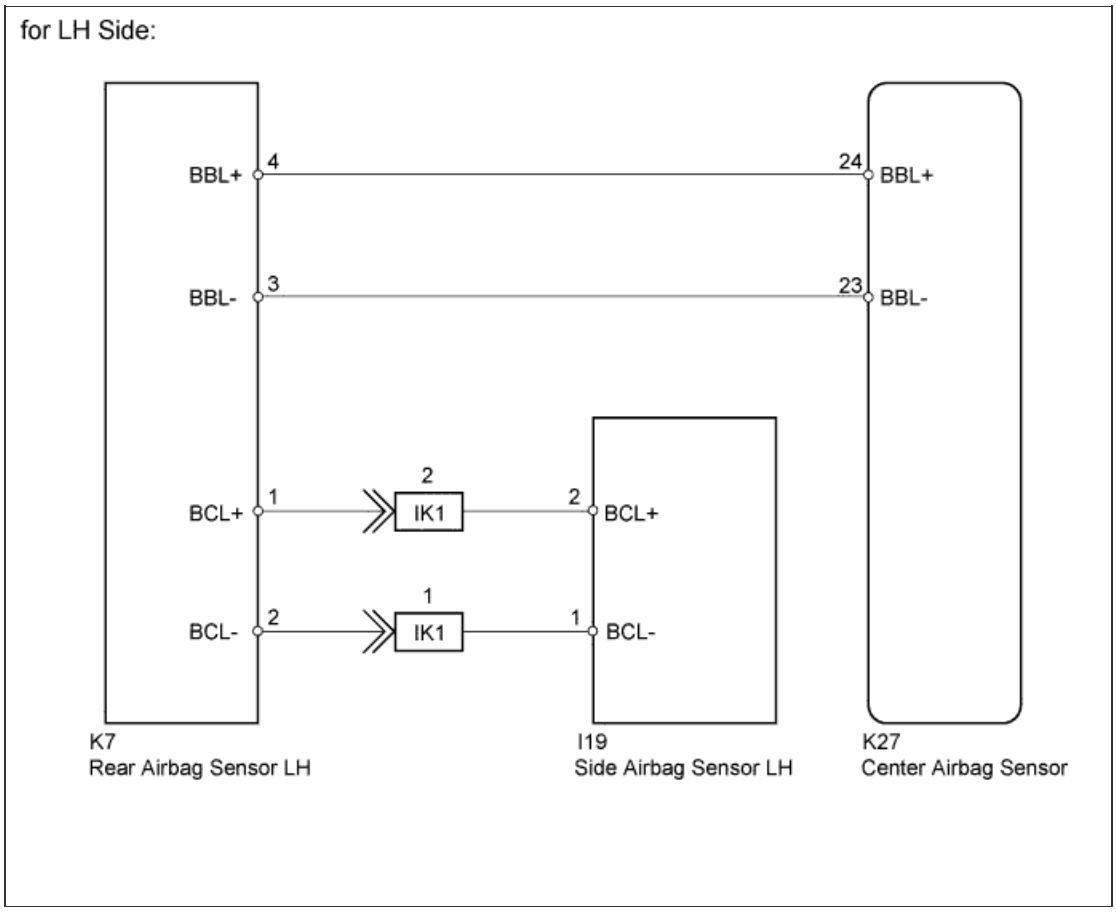
### DESCRIPTION

The circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH) is composed of the center airbag sensor, side airbag sensor LH or RH, and rear airbag sensor LH or RH.
The side airbag sensor LH or RH and rear airbag sensor LH or RH detect impacts to the vehicle and send signals to the center airbag sensor to determine if the airbag should be deployed.
DTC B1642/81 or B1647/82 is stored when a malfunction is detected in the circuit for the side collision sensor LH or RH (to determine deployment of the front seat airbag LH or RH, rear seat side airbag LH or RH and curtain shield airbag LH or RH).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1642/81 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor RH (to determine deployment of the front seat airbag RH and curtain shield airbag RH) for 2 seconds.<br>• A side airbag sensor RH malfunction.<br>• A rear airbag sensor RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front door wire RH<br>• Side airbag sensor RH<br>• Rear airbag sensor RH<br>• Center airbag sensor assembly |
| B1647/82 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the circuit for the side collision sensor LH (to determine deployment of the front seat airbag LH and curtain shield airbag LH) for 2 seconds.<br>• A side airbag sensor LH malfunction.<br>• A rear airbag sensor LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front door wire LH<br>• Side airbag sensor LH<br>• Rear airbag sensor LH<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**

- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK FOR DTC

a. Turn the ignition switch off.

b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1642 and B1647 are not output | A |
| DTC B1647 is output | B |
| DTC B1642 is output | C |

**HINT:**

Code other than DTC B1642 and B1647 may be output at this time, but they are not related to this check.

**A** → USE SIMULATION METHOD TO CHECK (Click here)

**B** → Go to step 12

**C**

## 2.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and side airbag sensor RH.

**OK:**

**The connectors are properly connected.**

**NG** → CONNECT CONNECTORS PROPERLY

**OK**

## 3.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and side airbag sensor RH.

b. Check that the connectors (on the center airbag sensor side and side airbag sensor RH side) are not damaged.

**OK:**

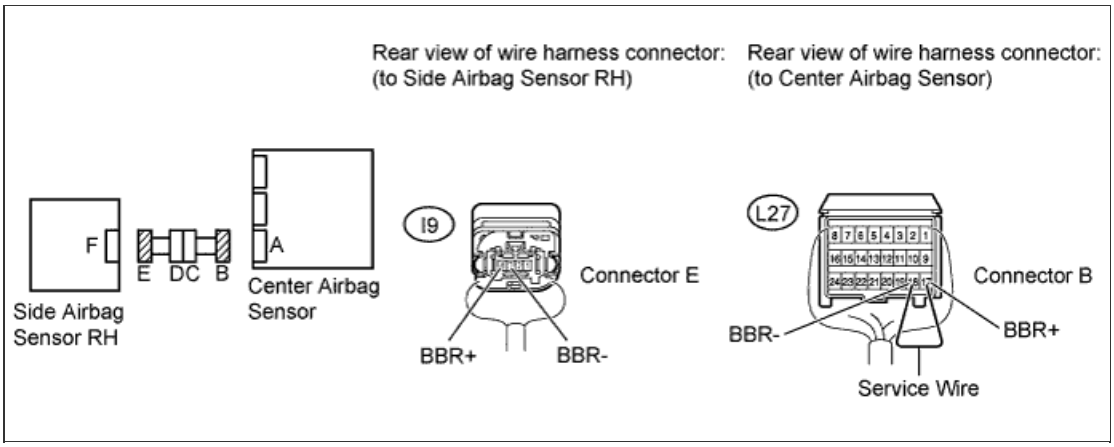
**The connectors are not deformed or damaged.**

**NG** → REPLACE HARNESS AND CONNECTOR

**OK**

## 4.CHECK SIDE AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-3 (BBR-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 17 (BBR+) and 18 (BBR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - I9-3 (BBR-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-4 (BBR+) - I9-3 (BBR-) | Always | 1 MΩ or higher |
| I9-4 (BBR+) - Body ground | Always | 1 MΩ or higher |
| I9-3 (BBR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 10

OK

## 5.CHECK CONNECTION OF CONNECTORS

a. Check that the connector is properly connected to the rear airbag sensor RH.

**OK:**
**The connector is properly connected.**

NG → CONNECT CONNECTOR PROPERLY

OK

## 6.CHECK CONNECTORS

a. Disconnect the connectors from the side airbag sensor RH and rear airbag sensor RH.

b. Check that the connector (on the rear airbag sensor RH side) is not damaged.

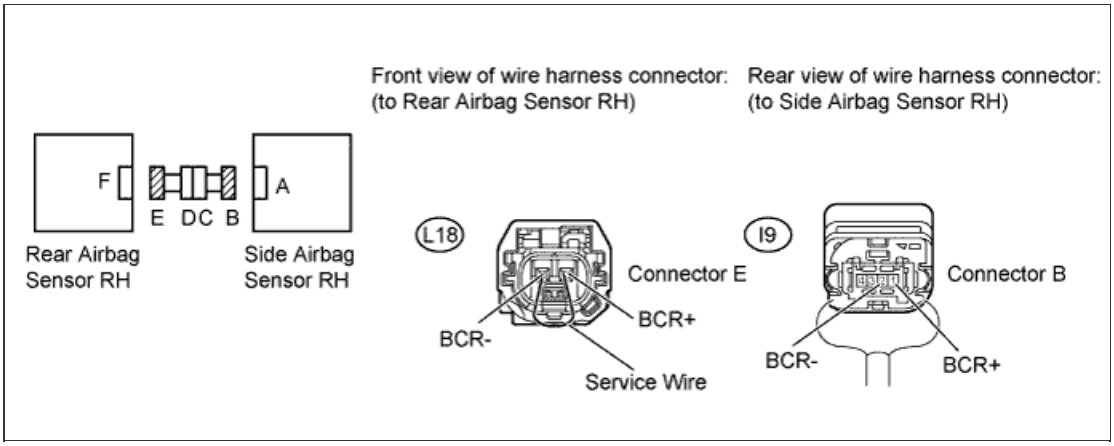
**OK:**
**The connector is not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 7.CHECK REAR AIRBAG SENSOR RH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector E.

h. Measure the resistance according to the value(s) in the table below.

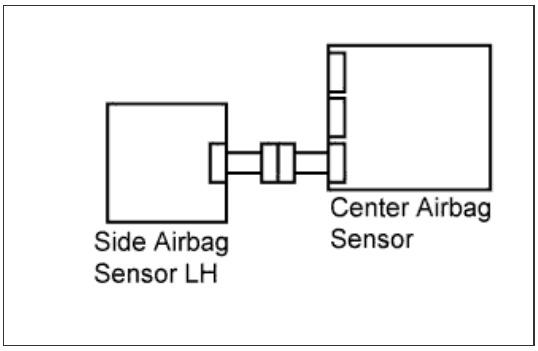
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 11

OK

## 8.CHECK SIDE AIRBAG SENSOR RH




a. Connect the connector to the center airbag sensor.

b. Interchange the side airbag sensor RH with LH and connect the connectors to them.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.

h. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1642 and B1647 are not output | A |
| DTC B1647 is output | B |
| DTC B1642 is output | C |

**HINT:**

Codes other than DTC B1642 and B1647 may be output at this time, but they are not related to this check.

i. Turn the ignition switch off.

j. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

k. Return the side airbag sensor LH and RH to their original positions and connect the connectors to them.

A → USE SIMULATION METHOD TO CHECK (Click here)

B → REPLACE SIDE AIRBAG SENSOR ASSEMBLY RH (Click here)

C

## 9.CHECK REAR AIRBAG SENSOR RH

a. Temporarily replace the rear airbag sensor RH with a new one.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

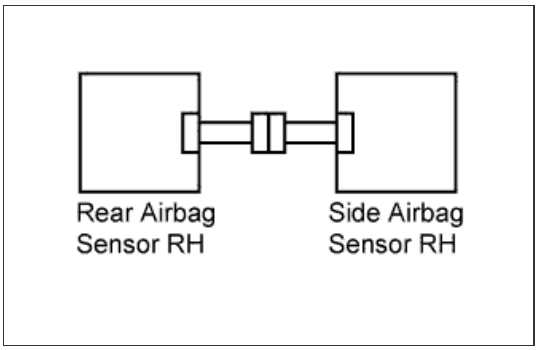
e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**

**DTC B1642 is not output.**




**HINT:**

Codes other than DTC B1642 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

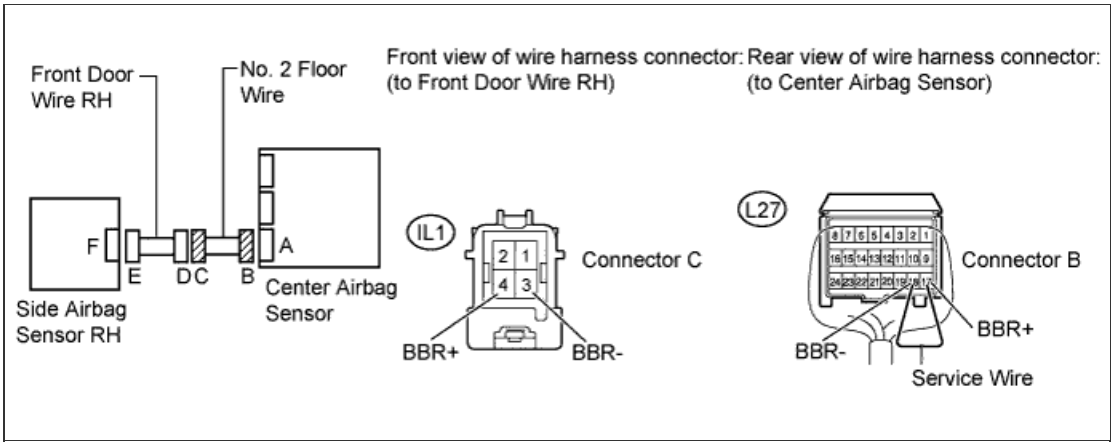
NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE REAR AIRBAG SENSOR RH (Click here)

## 10.CHECK NO. 2 FLOOR WIRE (CENTER AIRBAG SENSOR - FRONT DOOR WIRE RH)

a. Disconnect the No. 2 floor wire connector from the front door wire RH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - Body ground | Ignition switch ON | Below 1 V |
| IL1-3 (BBR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 17 (BBR+) and 18 (BBR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - IL1-3 (BBR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| IL1-4 (BBR+) - IL1-3 (BBR-) | Always | 1 MΩ or higher |
| IL1-4 (BBR+) - Body ground | Always | 1 MΩ or higher |
| IL1-3 (BBR-) - Body ground | Always | 1 MΩ or higher |

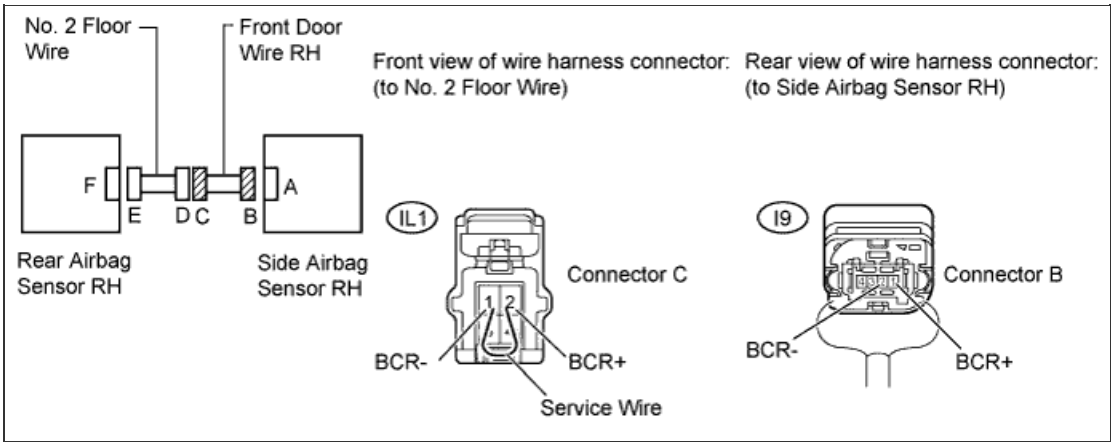
NG → REPLACE NO. 2 FLOOR WIRE

OK

REPLACE FRONT DOOR WIRE RH

11.CHECK FRONT DOOR WIRE RH (SIDE AIRBAG SENSOR RH - NO. 2 FLOOR WIRE)

a. Disconnect the front door wire RH connector from the No. 2 floor wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - Body ground | Ignition switch ON | Below 1 V |
| I9-2 (BCR-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I9-1 (BCR+) - I9-2 (BCR-) | Always | 1 MΩ or higher |
| I9-1 (BCR+) - Body ground | Always | 1 MΩ or higher |
| I9-2 (BCR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FRONT DOOR WIRE RH

OK

REPLACE NO. 2 FLOOR WIRE

## 12.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and rear airbag sensor LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 13.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and rear airbag sensor LH.

b. Check that the connectors (on the center airbag sensor side and rear airbag sensor LH side) are not damaged.

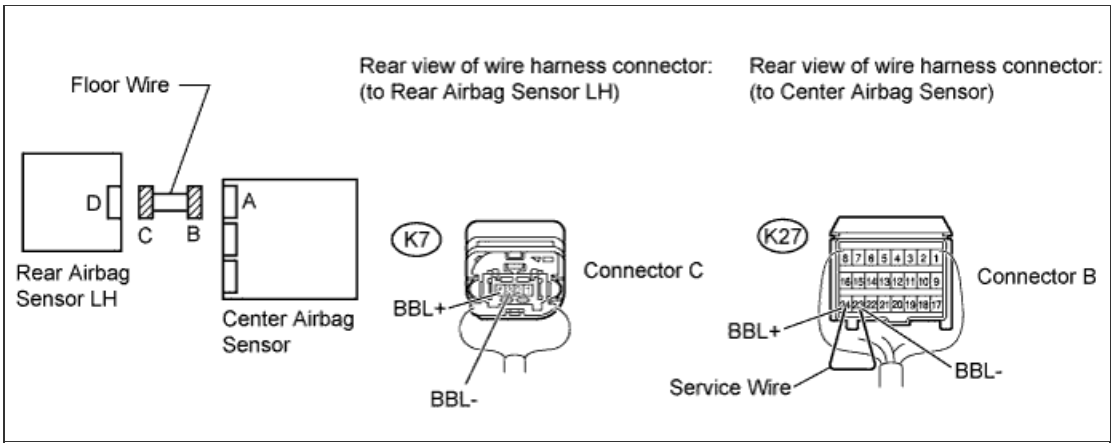
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

## 14.CHECK FLOOR WIRE (CENTER AIRBAG SENSOR - REAR AIRBAG SENSOR LH)

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-3 (BBL-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 24 (BBL+) and 23 (BBL-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - K7-3 (BBL-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-4 (BBL+) - K7-3 (BBL-) | Always | 1 MΩ or higher |
| K7-4 (BBL+) - Body ground | Always | 1 MΩ or higher |
| K7-3 (BBL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**15.CHECK CONNECTION OF CONNECTOR**

a. Check that the connector is properly connected to the side airbag sensor LH.

**OK:**

**The connector is properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 16.CHECK CONNECTORS

a. Disconnect the connectors from the rear airbag sensor LH and side airbag sensor LH.

b. Check that the connector (on the side airbag sensor LH side) is not damaged.

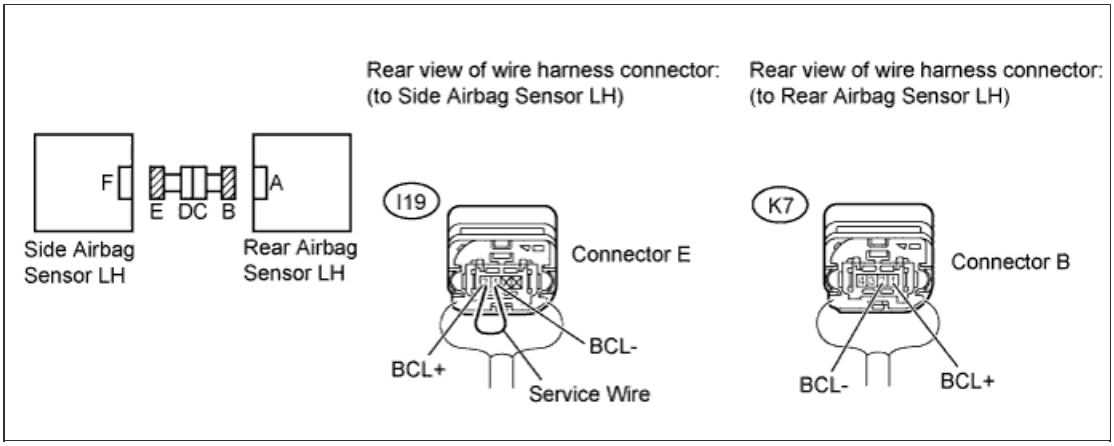
**OK:**
**The connector is not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

## 17.CHECK SIDE AIRBAG SENSOR LH CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 2 (BCL+) and 1 (BCL-) of connector E.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector E.

h. Measure the resistance according to the value(s) in the table below.

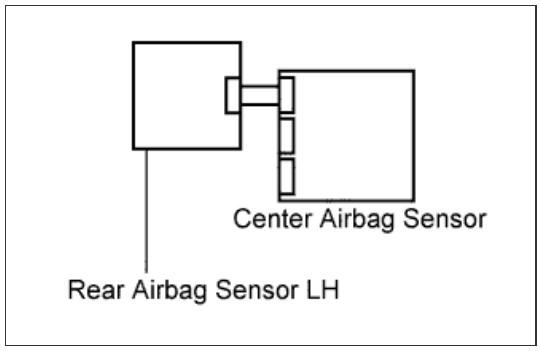
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | 1 MΩ or higher |
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 20

OK

**18.CHECK REAR AIRBAG SENSOR LH**




a. Temporarily replace the side airbag sensor LH with a new one.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1642 or B1647 is not output.**

**HINT:**

Codes other than DTC B1642 and B1647 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

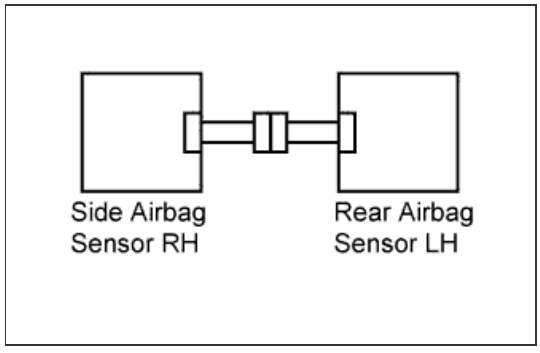
i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

NG → Go to step 19

OK

**REPLACE REAR AIRBAG SENSOR LH (Click here)**

**19.CHECK SIDE AIRBAG SENSOR LH**




a. Interchange the side airbag sensor LH with RH and connect the connectors to them.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1647 is output | A |
| DTC B1642 is output | B |
| DTC B1642 and B1647 are not output | C |

**HINT:**

Codes other than DTC B1642 and B1647 may be output at this time, but they are not related to this check.

h. Turn the ignition switch off.

i. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

j. Return the rear airbag sensor RH and LH to their original positions and connect the connectors to them.

A → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

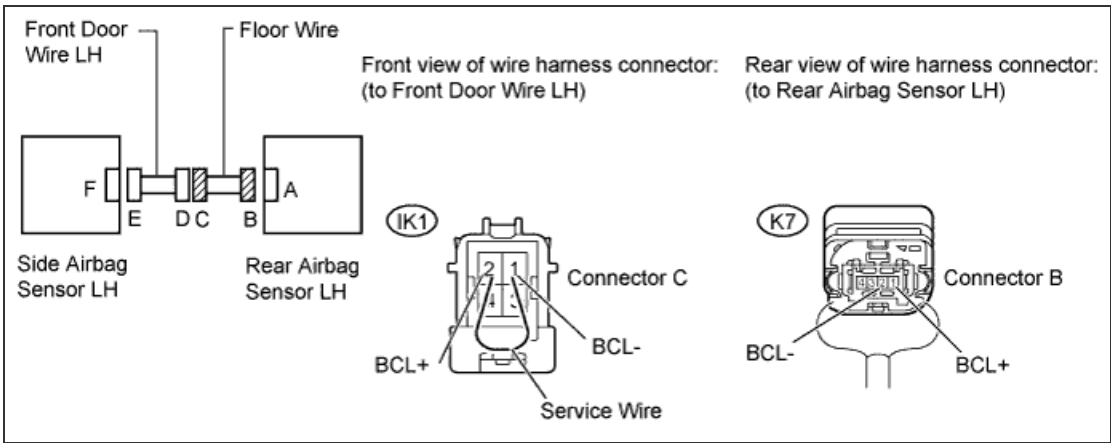
B → REPLACE SIDE AIRBAG SENSOR LH (Click here)

C

USE SIMULATION METHOD TO CHECK (Click here)

## 20.CHECK FLOOR WIRE (REAR SIDE AIRBAG SENSOR LH - FRONT DOOR WIRE LH)

a. Disconnect the floor wire connector from the front door wire LH.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - Body ground | Ignition switch ON | Below 1 V |
| K7-2 (BCL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 2 (BCR+) and 1 (BCR-) of connector C.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | Below 1 Ω |

h. Disconnect the service wire from connector C.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K7-1 (BCL+) - K7-2 (BCL-) | Always | 1 MΩ or higher |
| K7-1 (BCL+) - Body ground | Always | 1 MΩ or higher |
| K7-2 (BCL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK → REPLACE FRONT DOOR WIRE LH

## DTC B1850/62 Short in Rear Side Squib RH Circuit

## DTC B1851/62 Open in Rear Side Squib RH Circuit

## DTC B1852/62 Short to GND in Rear Side Squib RH Circuit

## DTC B1853/62 Short to B+ in Rear Side Squib RH Circuit

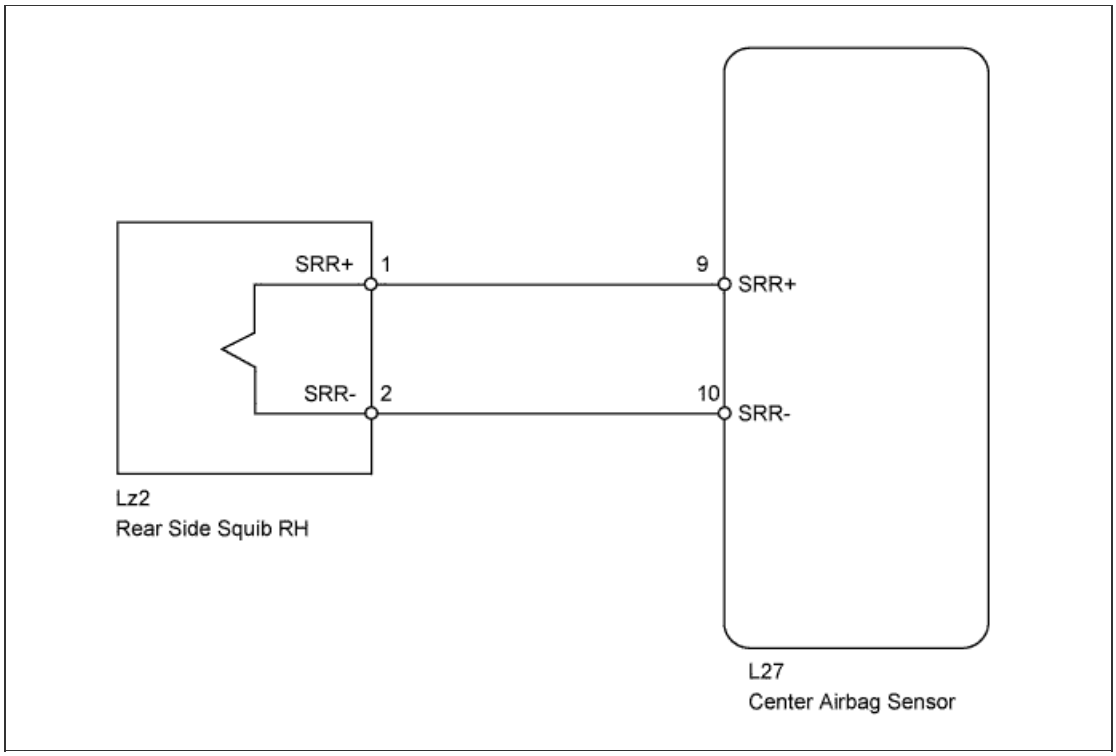
**for Preparation** Click here

### DESCRIPTION

The rear side squib RH circuit consists of the center airbag sensor and the rear seat side airbag RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear side squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1850/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear side squib RH circuit during the primary check.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1851/62 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear side squib RH circuit for 2 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1852/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear side squib RH circuit for 0.5 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1853/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear side squib RH circuit for 0.5 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT SIDE AIRBAG RH (REAR SIDE SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the rear seat side airbag RH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

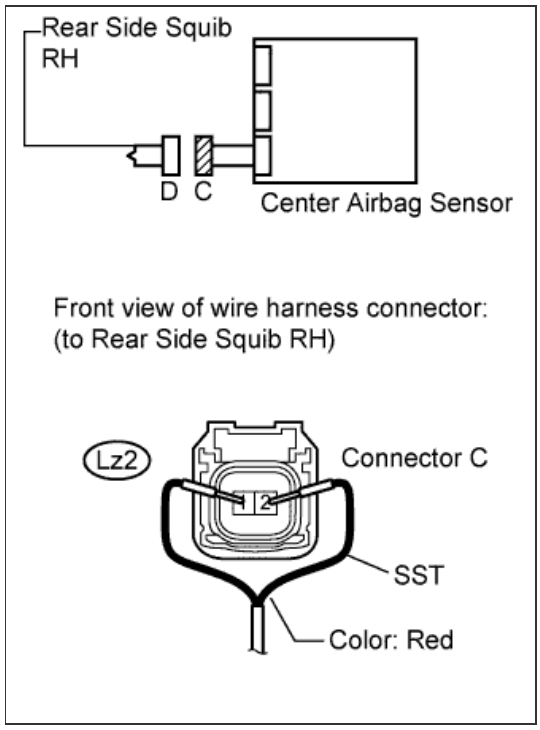
Never connect the tester to the rear seat side airbag RH (rear side squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1850, B1851, B1852 or B1853 is not output.**

**HINT:**

Codes other than DTC B1850, B1851, B1852 and B1853 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE REAR NO. 1 SEAT ASSEMBLY RH ( Click here)

C → Go to step 2

A → REPLACE REAR NO. 1 SEAT ASSEMBLY RH ( Click here)

## 2.CHECK NO. 2 FLOOR WIRE (REAR SIDE SQUIB RH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST (resistance: 2.1 Ω) from connector C.

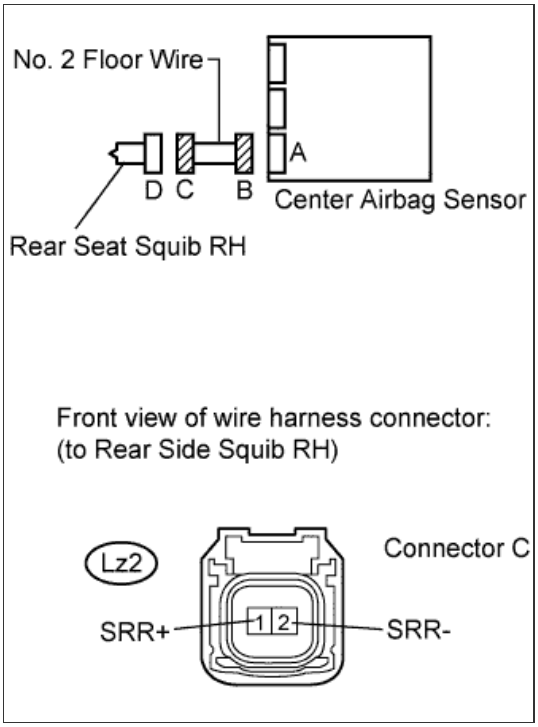
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Lz2-1 (SRR+) - Body ground | Ignition switch ON | Below 1 V |
| Lz2-2 (SRR-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz2-1 (SRR+) - Lz2-2 (SRR-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Lz2-1 (SRR+) - Lz2-2 (SRR-) | Always | 1 MΩ or higher |
| Lz2-1 (SRR+) - Body ground | Always | 1 MΩ or higher |
| Lz2-2 (SRR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the rear seat side airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

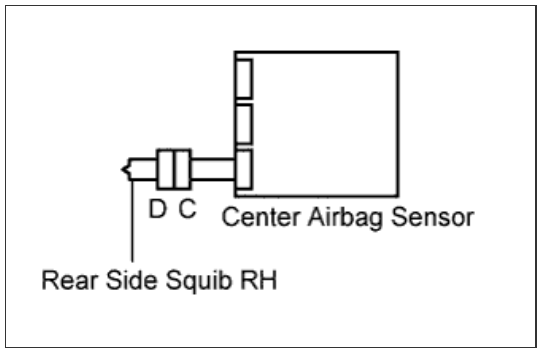
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1850, B1851, B1852 or B1853 is not output.**

**HINT:**

Codes other than DTC B1850, B1851, B1852 and B1853 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1651/33 Manual Cut off Switch Trouble

**for Preparation** Click here

### DESCRIPTION

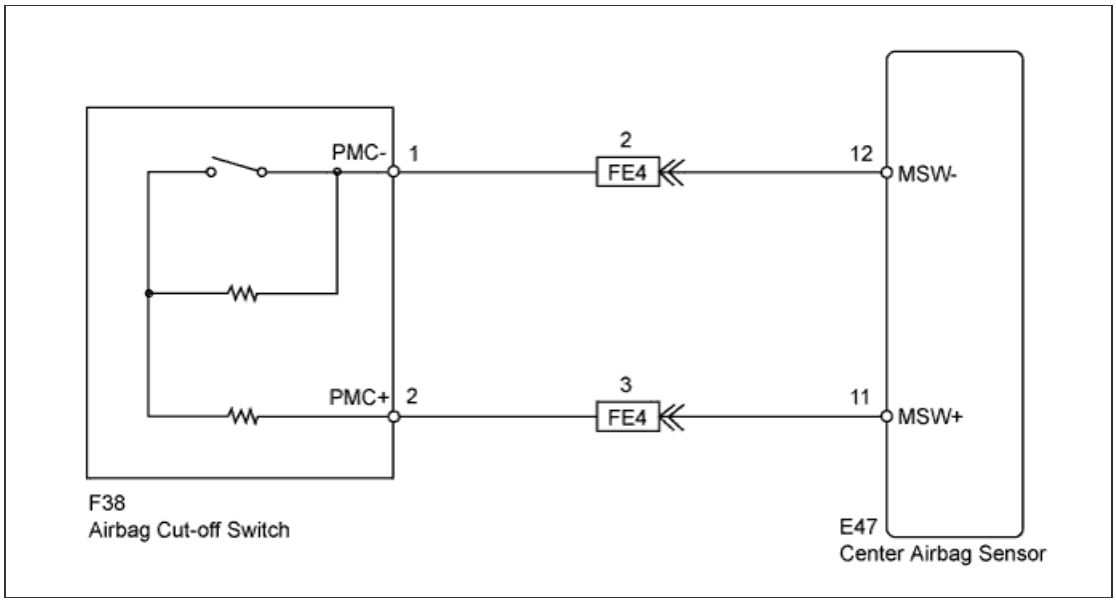
**HINT:**

"Manual cut off switch" refers to the airbag cut-off switch.

- The airbag cut-off switch circuit consists of the center airbag sensor and the airbag cut-off switch.
  The front passenger airbag can be optionally deactivated via this circuit by turning the airbag cut-off switch to the "OFF" position.
  If the front passenger airbag is deactivated, the passenger airbag "OFF" indicator comes on to inform the passengers.
  DTC B1651/33 is recorded when a malfunction is detected in the airbag cut-off switch circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1651/33 | When all the conditions below are met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the airbag cut-off switch circuit for 2 seconds.<br>• A airbag cut-off switch malfunction<br>• A center airbag sensor malfunction | • Instrument panel wire<br>• No. 2 instrument panel wire<br>• Airbag cut-off switch<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

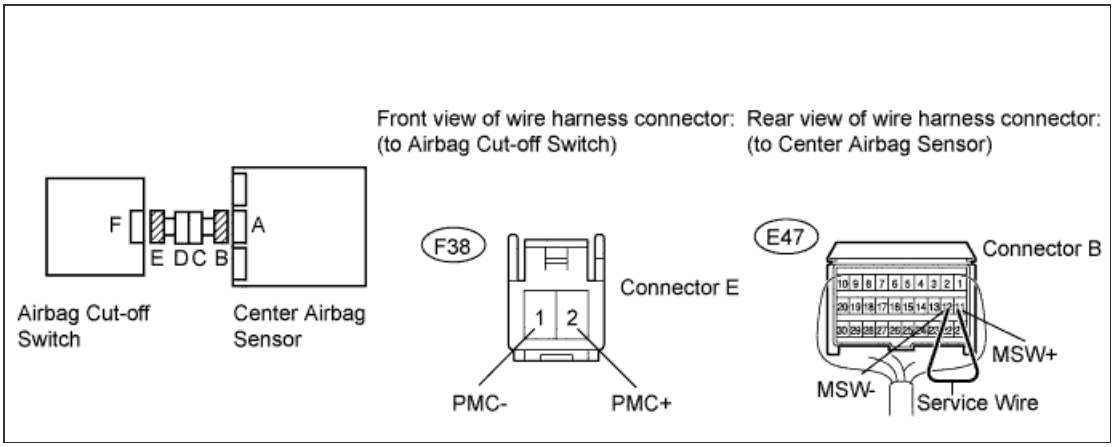
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

The E47-11 (MSW+) and E47-12 (MSW-) terminals in this circuit have an activation prevention mechanism. This mechanism can be used to check for an open circuit in the wire harness. In case of other checks (check for short, short to ground or short to B+), this mechanism should be released.

**1.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - AIRBAG CUT-OFF SWITCH)**

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the center airbag sensor and airbag cut-off switch.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F38-2 (PMC+) - Body ground | Ignition switch ON | Below 1 V |
| F38-1 (PMC-) - Body ground | Ignition switch ON | Below 1 V |

g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Using a service wire, connector terminals 11 (MSW+) and 12 (MSW-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

j. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F38-2 (PMC+) - F38-1 (PMC-) | Always | Below 1 Ω |

k. Disconnect a service wire from connector B.

l. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F38-2 (PMC+) - F38-1 (PMC-) | Always | 1 MΩ or higher |
| F38-2 (PMC+) - Body ground | Always | 1 MΩ or higher |
| F38-1 (PMC-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 4

OK

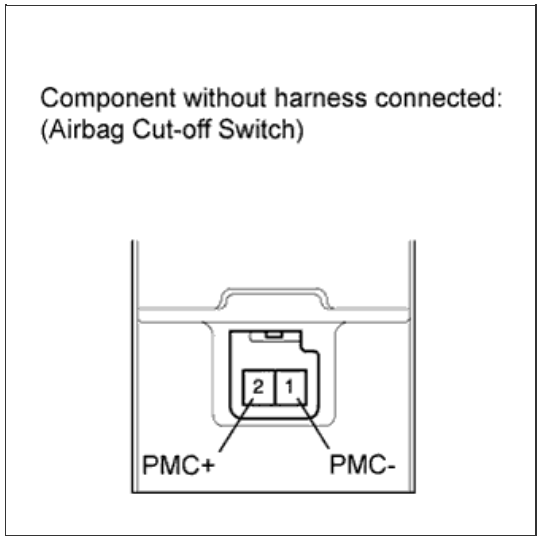
## 2.INSPECT AIRBAG CUT-OFF SWITCH

a. Remove the airbag cut-off switch (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 2 (PMC+) - 1 (PMC-) | Cut off switch is in "ON" position (Front passenger side airbag is active) | 360 to 440 Ω |
| 2 (PMC+) - 1 (PMC-) | Cut off switch is in "OFF" position (Front passenger side airbag is not active) | 90 to 110 Ω |




NG → REPLACE AIRBAG CUT-OFF SWITCH (Click here)

OK

## 3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the center airbag sensor and the airbag cut-off switch.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

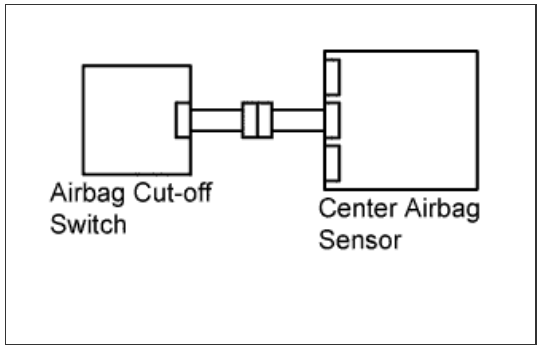
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check the DTCs (Click here).




**OK:**
**DTC B1651 is not output.**

**HINT:**

Codes other than DTC B1651 may be output at this time, but they are not related to this check.

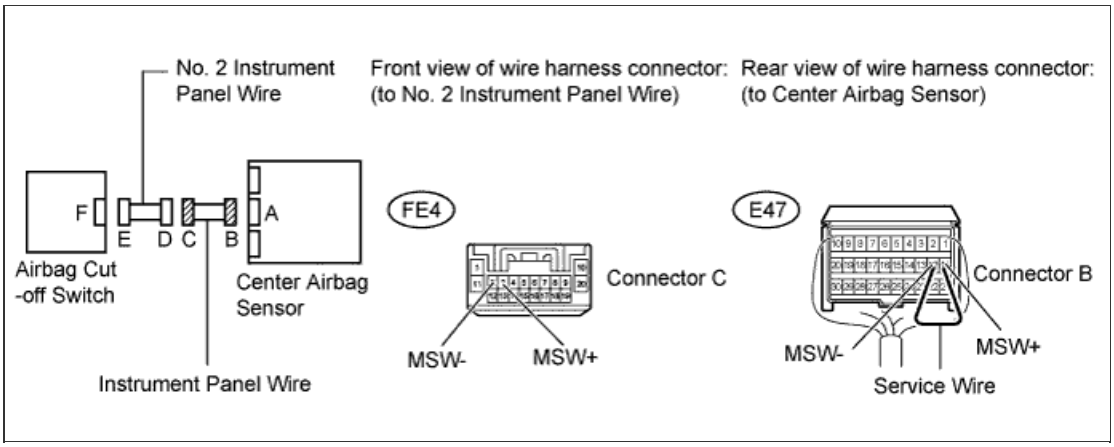
NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 4.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - NO. 2 INSTRUMENT PANEL WIRE)

a. Disconnect the instrument panel wire connector from the No. 2 instrument panel wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| FE4-3 (MSW+) - Body ground | Ignition switch ON | Below 1 V |
| FE4-2 (MSW-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Using a service wire, connector terminals 11 (MSW+) and 12 (MSW-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| FE4-3 (MSW+) - FE4-2 (MSW-) | Always | Below 1 Ω |

i. Disconnect the service wire from connector B.

j. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| FE4-3 (MSW+) - FE4-2 (MSW-) | Always | 1 MΩ or higher |
| FE4-3 (MSW+) - Body ground | Always | 1 MΩ or higher |
| FE4-2 (MSW-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE NO. 2 INSTRUMENT PANEL WIRE

## DTC B1850/62 Short in Rear Side Squib RH Circuit

## DTC B1851/62 Open in Rear Side Squib RH Circuit

## DTC B1852/62 Short to GND in Rear Side Squib RH Circuit

## DTC B1853/62 Short to B+ in Rear Side Squib RH Circuit

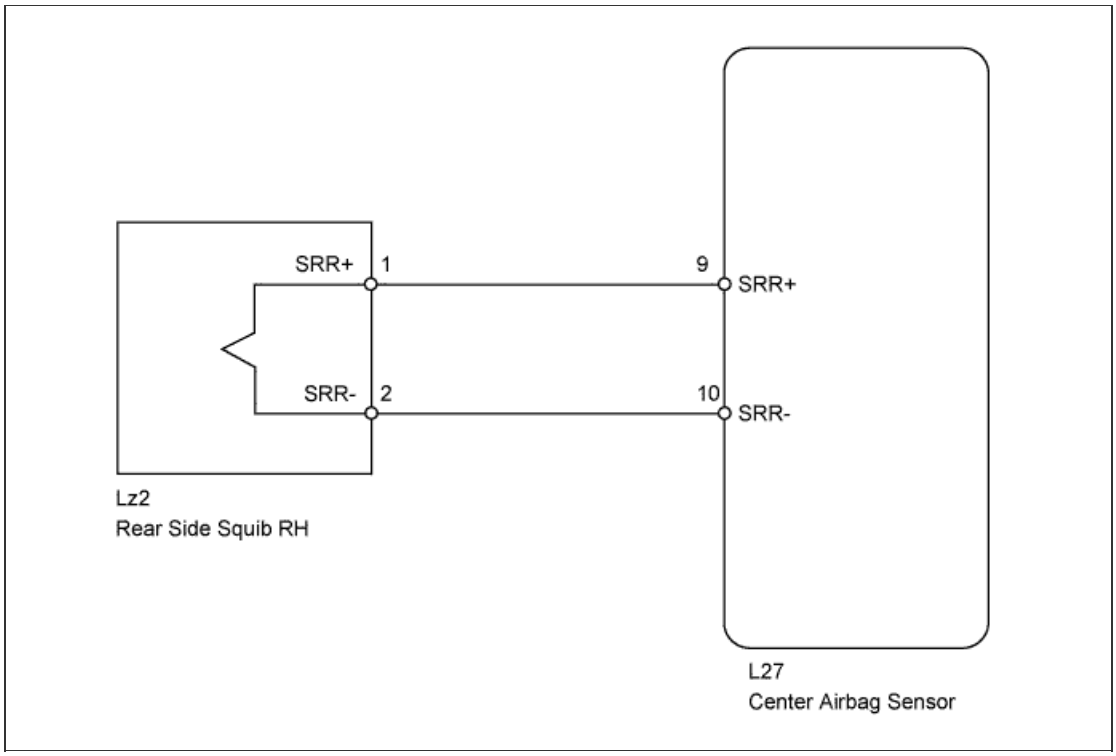
**for Preparation** Click here

### DESCRIPTION

The rear side squib RH circuit consists of the center airbag sensor and the rear seat side airbag RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear side squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1850/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear side squib RH circuit during the primary check.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1851/62 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear side squib RH circuit for 2 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1852/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear side squib RH circuit for 0.5 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1853/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear side squib RH circuit for 0.5 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT SIDE AIRBAG RH (REAR SIDE SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the rear seat side airbag RH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

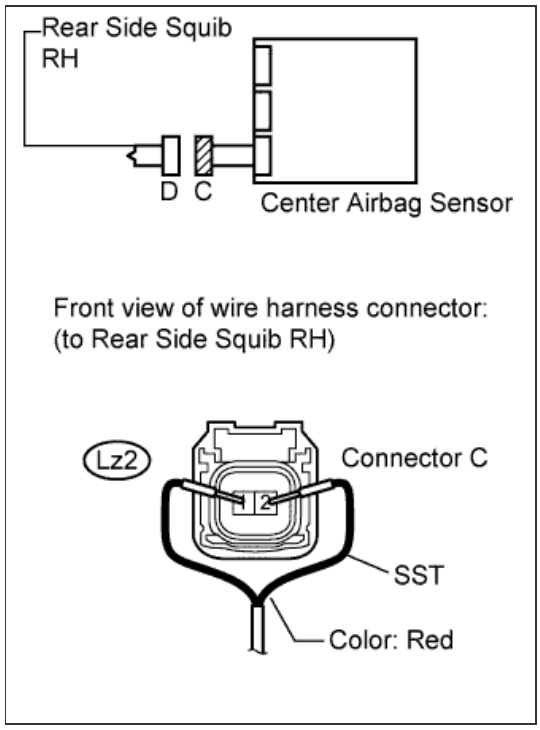
Never connect the tester to the rear seat side airbag RH (rear side squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1850, B1851, B1852 or B1853 is not output.**

**HINT:**

Codes other than DTC B1850, B1851, B1852 and B1853 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE REAR NO. 1 SEAT ASSEMBLY RH ( Click here)

C → Go to step 2

A → REPLACE REAR NO. 1 SEAT ASSEMBLY RH ( Click here)

## 2.CHECK NO. 2 FLOOR WIRE (REAR SIDE SQUIB RH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST (resistance: 2.1 Ω) from connector C.

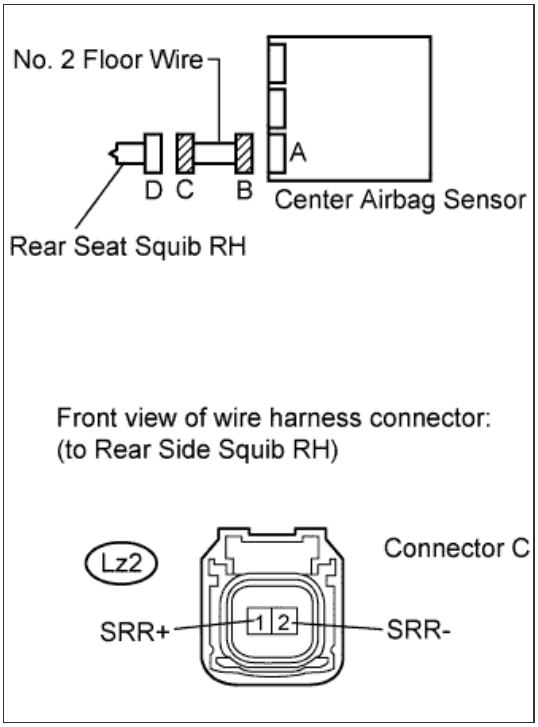
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Lz2-1 (SRR+) - Body ground | Ignition switch ON | Below 1 V |
| Lz2-2 (SRR-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz2-1 (SRR+) - Lz2-2 (SRR-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Lz2-1 (SRR+) - Lz2-2 (SRR-) | Always | 1 MΩ or higher |
| Lz2-1 (SRR+) - Body ground | Always | 1 MΩ or higher |
| Lz2-2 (SRR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the rear seat side airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

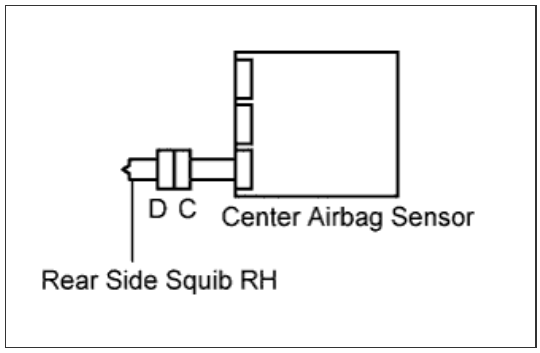
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1850, B1851, B1852 or B1853 is not output.**

**HINT:**

Codes other than DTC B1850, B1851, B1852 and B1853 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1653/35 Seat Position Airbag Sensor Circuit Malfunction

**for Preparation** Click here

### DESCRIPTION

The seat position sensor circuit consists of the center airbag sensor and the seat position sensor.
DTC B1653/35 is stored when a malfunction is detected in the seat position sensor circuit.

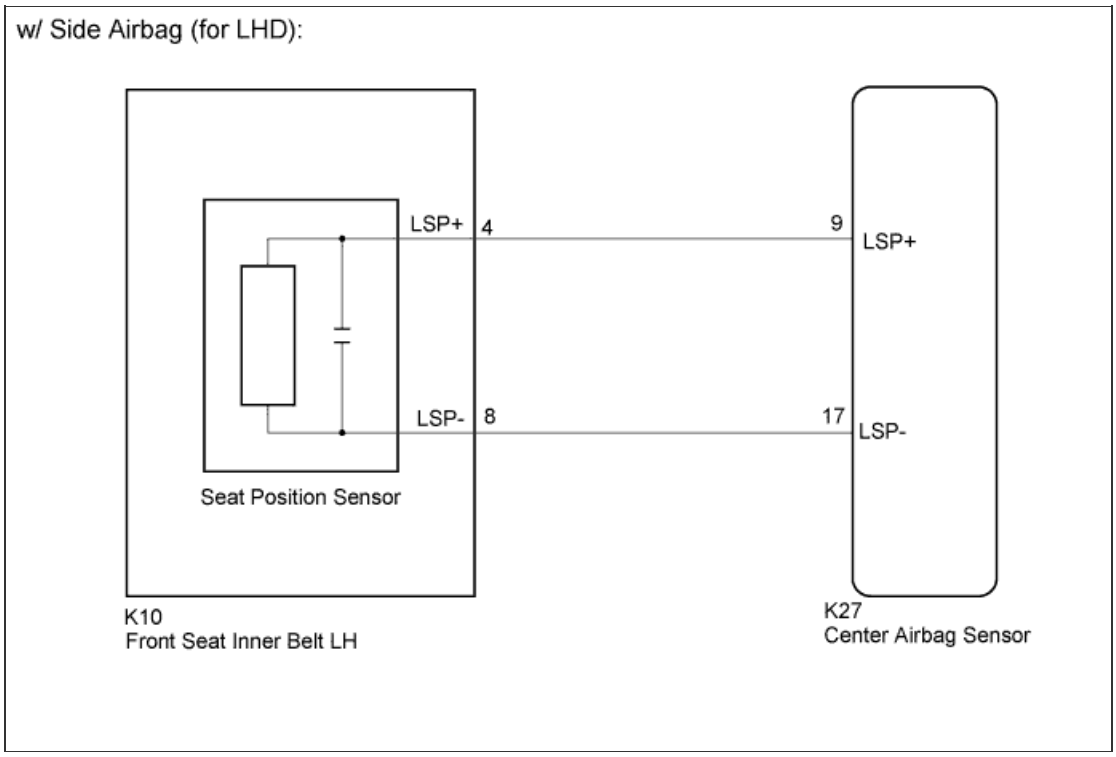
**for LHD**

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1653/35 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the seat position sensor circuit for 2 seconds.<br>• A seat position sensor malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Seat position sensor<br>• Center airbag sensor assembly |

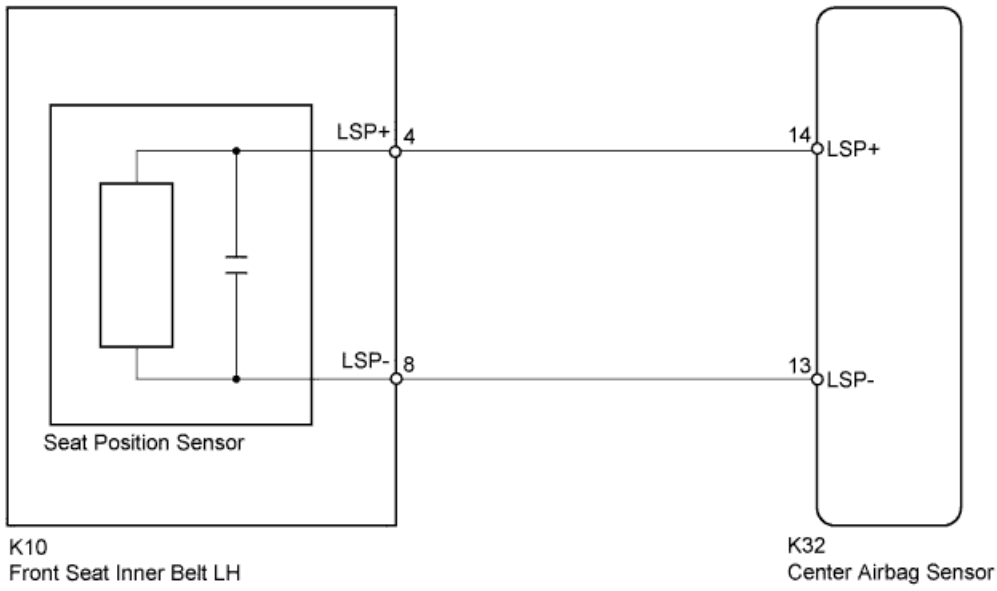
**for RHD**

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1653/35 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the seat position sensor circuit for 2 seconds.<br>• A seat position sensor malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Seat position sensor<br>• Center airbag sensor assembly |

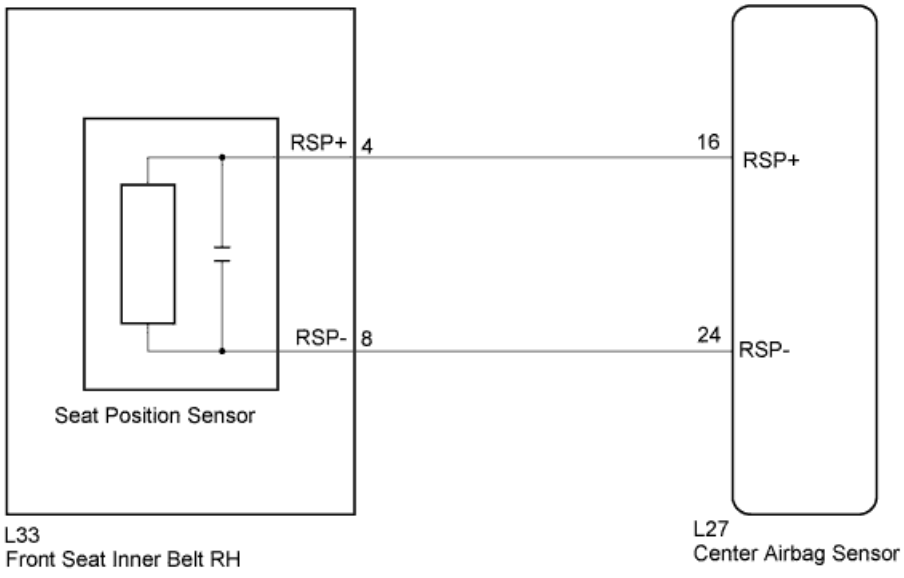
### WIRING DIAGRAM

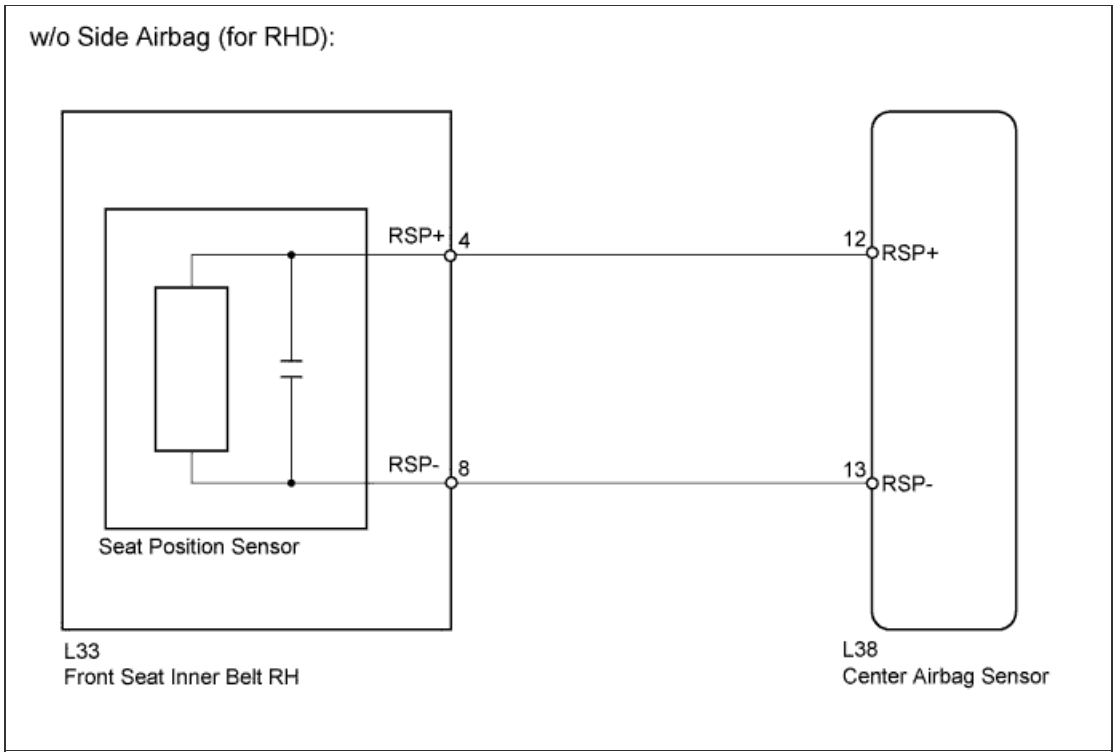


w/o Side Airbag (for LHD):




w/ Side Airbag (for RHD):






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK VEHICLE CONDITION

a. Check vehicle condition.

**Result**

| Result | Proceed to |
|---|---|
| for LHD | A |
| for RHD | B |

**B** → Go to step 9

**A**

### 2.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs (Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

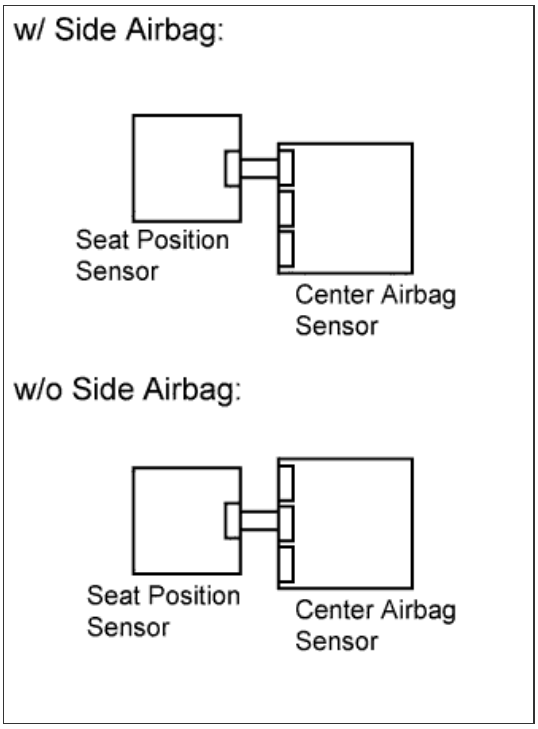
e. Check for DTCs (Click here).

**OK:**

**DTC B1653 is not output.**

**HINT:**

Codes other than DTC B1653 may be output at this time, but they are not related to this check.




NG → Go to step 3

OK

USE SIMULATION METHOD TO CHECK (Click here)

3.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the seat position sensor.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

4.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and the seat position sensor.

b. Check that the connectors (on the center airbag sensor side and seat position sensor side) are not damaged.

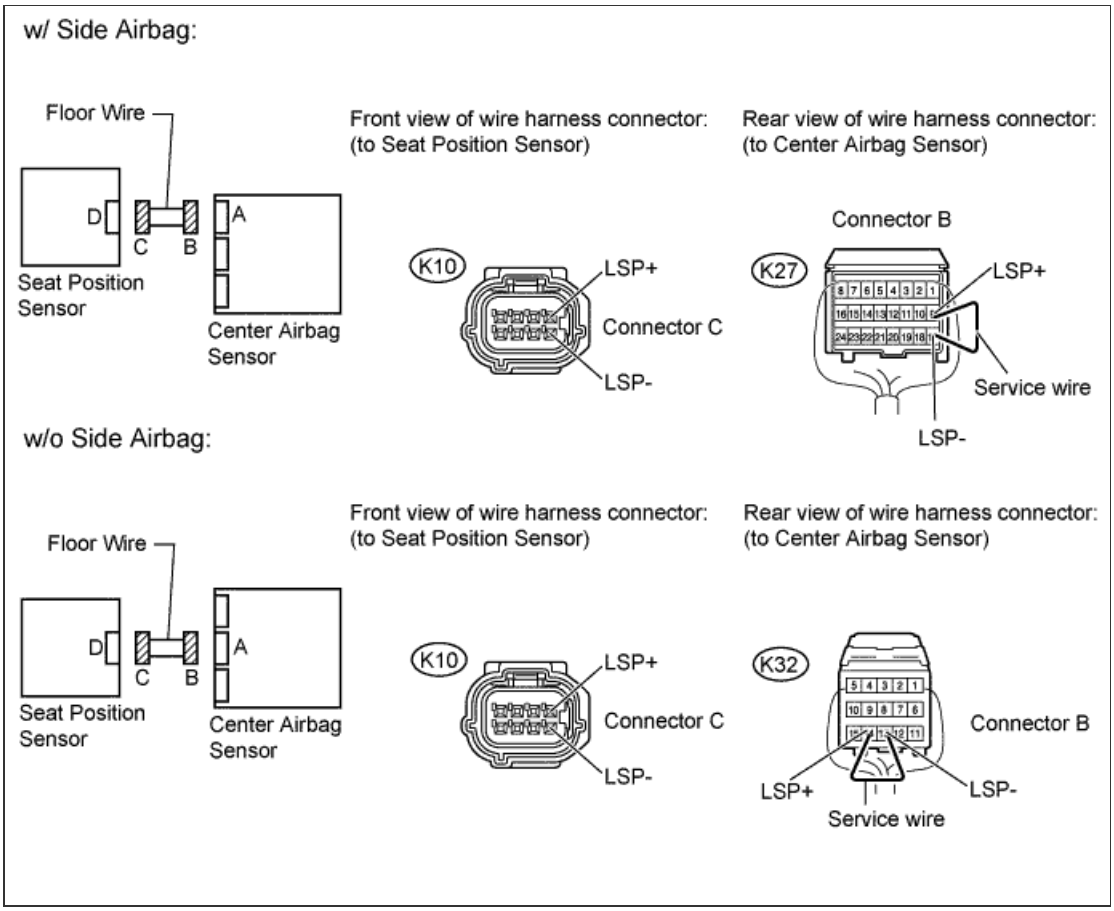
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

5.CHECK FLOOR WIRE (CENTER AIRBAG SENSOR - SEAT POSITION SENSOR)

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Turn the ignition switch to ON.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K10-4 (LSP+) - Body ground | Ignition switch ON | Below 1 V |
| K10-8 (LSP-) - Body ground | Ignition switch ON | Below 1 V |

d. w/ Side Airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 9 (LSP+) and 17 (LSP-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-4 (LSP+) - K10-8 (LSP-) | Always | Below 1 Ω |

v. Disconnect the service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-4 (LSP+) - K10-8 (LSP-) | Always | 1 MΩ or higher |
| K10-4 (LSP+) - Body ground | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K10-8 (LSP-) - Body ground | Always | 1 MΩ or higher |

e. w/o Side Airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 14 (LSP+) and 13 (LSP-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-4 (LSP+) - K10-8 (LSP-) | Always | Below 1 Ω |

v. Disconnect the service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-4 (LSP+) - K10-8 (LSP-) | Always | 1 MΩ or higher |
| K10-4 (LSP+) - Body ground | Always | 1 MΩ or higher |
| K10-8 (LSP-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

## 6.CHECK SEAT POSITION SENSOR (FRONT SEAT INNER BELT LH)

a. Connect the connectors to the center airbag sensor and the seat position sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

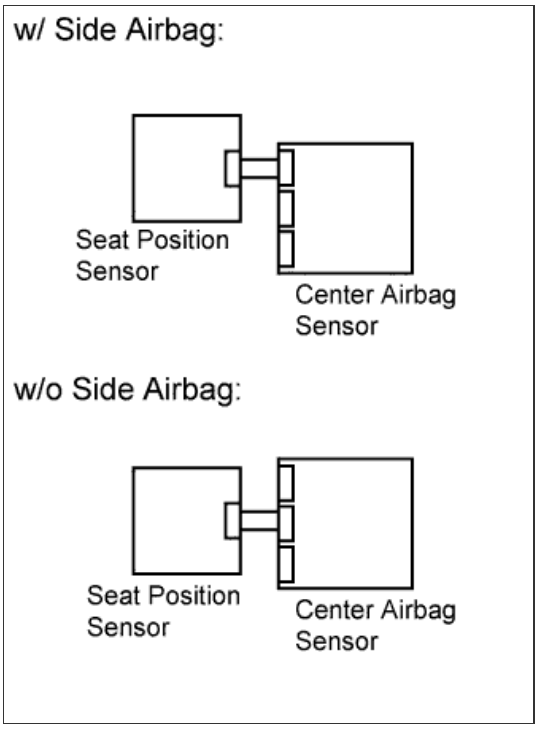
f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1653 is not output.**

**HINT:**

Codes other than DTC B1653 may be output at this time, but they are not related to this check.



NG → Go to step 7

OK

USE SIMULATION METHOD TO CHECK (Click here)

7.REPLACE SEAT POSITION SENSOR (FRONT SEAT INNER BELT LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Replace the front seat inner belt LH ( Click here).

**HINT:**

Perform the inspection using parts from a normally functioning vehicle if possible.

NEXT

8.CHECK CENTER AIRBAG SENSOR

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Clear the DTCs (Click here).

d. Turn the ignition switch off.

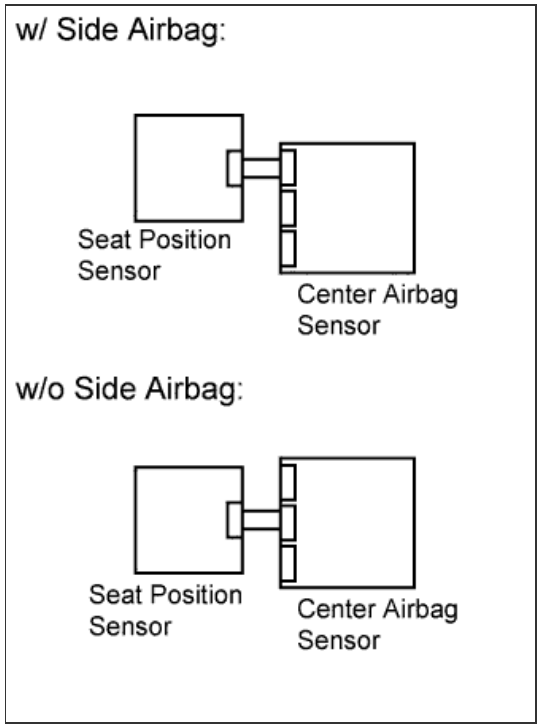
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Check for DTCs (Click here).

**OK:**
**DTC B1653 is not output.**

**HINT:**

Codes other than DTC B1653 may be output at this time, but they are not related to this check.




NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE FRONT SEAT INNER BELT ASSEMBLY LH (Click here)

9.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs (Click here).

c. Turn the ignition switch off.

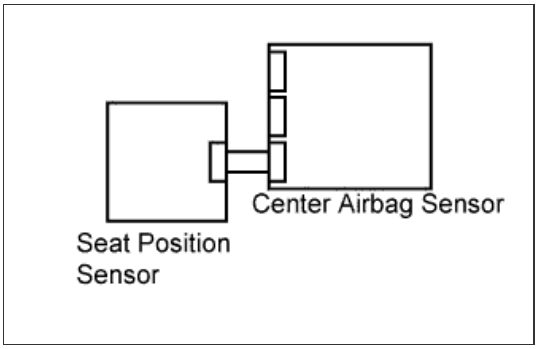
d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Check for DTCs (Click here).

**OK:**
**DTC B1653/35 is not output.**

**HINT:**

Codes other than DTC B1653/35 may be output at this time, but they are not related to this check.




NG → Go to step 10

OK ↓

USE SIMULATION METHOD TO CHECK (Click here)

10.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the seat position sensor.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK ↓

11.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and the seat position sensor.

b. Check that the connectors (on the center airbag sensor side and seat position sensor side) are not damaged.

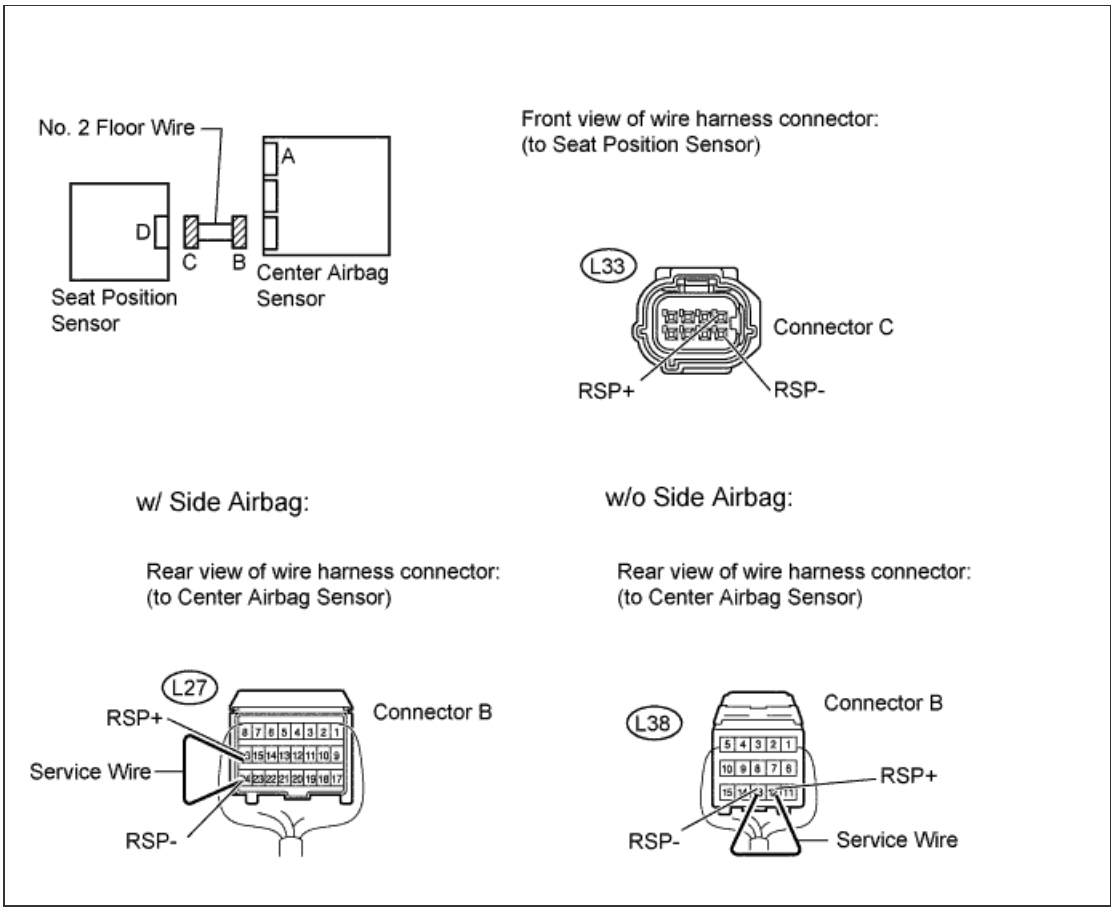
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK ↓

12.CHECK NO. 2 FLOOR WIRE (CENTER AIRBAG SENSOR - SEAT POSITION SENSOR)

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Turn the ignition switch to ON.

c. Measure the voltage according the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-4 (RSP+) - Body ground | Ignition switch ON | Below 1 V |
| L33-8 (RSP-) - Body ground | Ignition switch ON | Below 1 V |

d. w/ Side Airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 16 (RSP+) and 24 (RSP-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-4 (RSP+) - L33-8 (RSP-) | Always | Below 1 Ω |

v. Disconnect the service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-4 (RSP+) - L33-8 (RSP-) | Always | 1 MΩ or higher |
| L33-4 (RSP+) - | | |

| | | |
|---|---|---|
| Body ground | Always | 1 MΩ or higher |
| L33-8 (RSP-) - Body ground | Always | 1 MΩ or higher |

e. w/o Side Airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 12 (RSP+) and 13 (RSP-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-4 (RSP+) - L33-8 (RSP-) | Always | Below 1 Ω |

v. Disconnect the service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-4 (RSP+) - L33-8 (RSP-) | Always | 1 MΩ or higher |
| L33-4 (RSP+) - Body ground | Always | 1 MΩ or higher |
| L33-8 (RSP-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

## 13.CHECK SEAT POSITION SENSOR (FRONT SEAT INNER BELT RH)

a. Connect the connectors to the center airbag sensor and the seat position sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

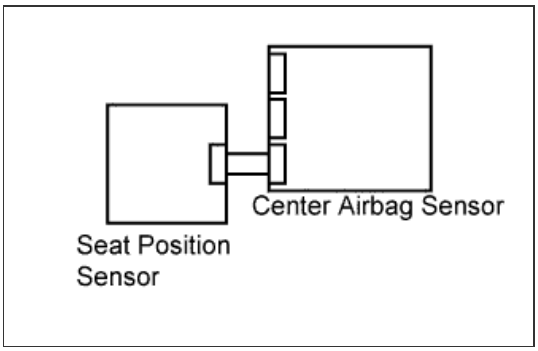
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1653/35 is not output.**

**HINT:**

Codes other than DTC B1653/35 may be output at this time, but they are not related to this check.

NG → Go to step 14

OK

USE SIMULATION METHOD TO CHECK (Click here)

14.REPLACE SEAT POSITION SENSOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Replace the seat position sensor ( Click here).

**HINT:**

Perform inspection using parts from a normal vehicle if possible.

NEXT

15.CHECK CENTER AIRBAG SENSOR

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

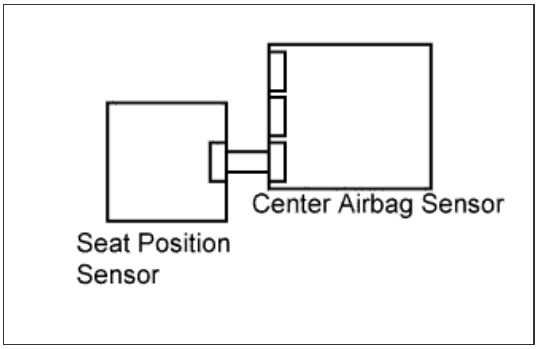
b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Clear the DTCs (Click here).

d. Turn the ignition switch off.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Check for DTCs (Click here).




**OK:**
**DTC B1653/35 is not output.**

**HINT:**

Codes other than DTC B1653/35 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE FRONT SEAT INNER BELT ASSEMBLY RH

## DTC B1850/62 Short in Rear Side Squib RH Circuit

## DTC B1851/62 Open in Rear Side Squib RH Circuit

## DTC B1852/62 Short to GND in Rear Side Squib RH Circuit

## DTC B1853/62 Short to B+ in Rear Side Squib RH Circuit

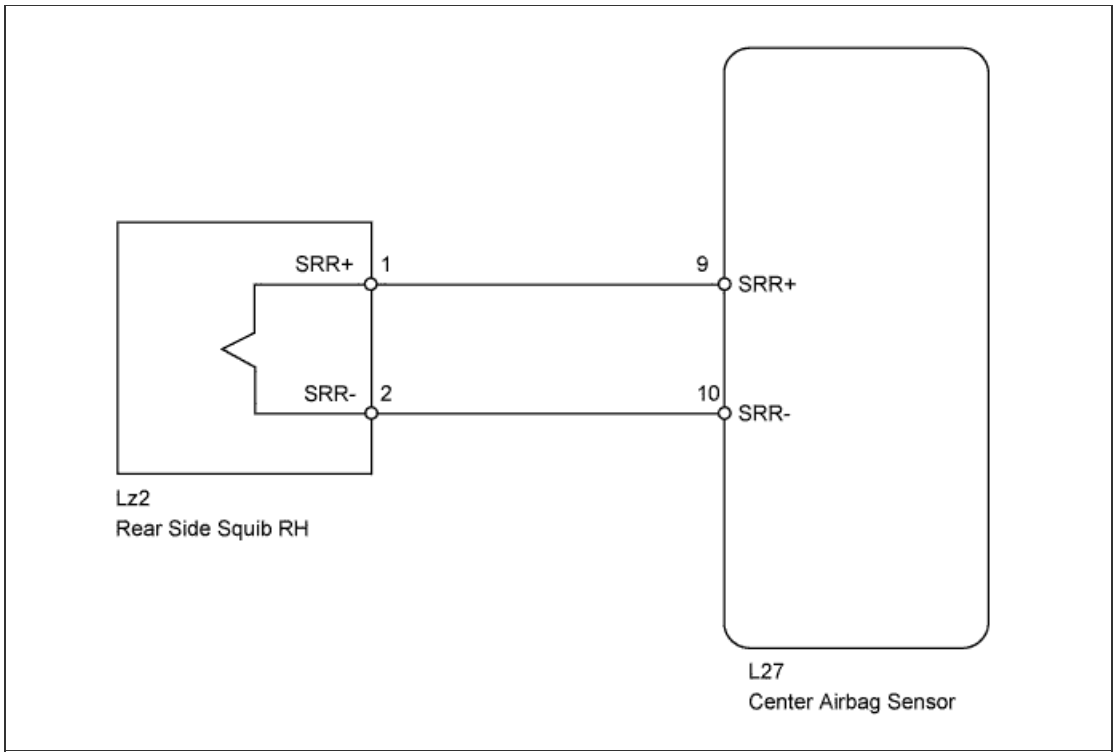
**for Preparation** Click here

### DESCRIPTION

The rear side squib RH circuit consists of the center airbag sensor and the rear seat side airbag RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear side squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1850/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear side squib RH circuit during the primary check.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1851/62 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear side squib RH circuit for 2 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1852/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear side squib RH circuit for 0.5 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |
| B1853/62 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear side squib RH circuit for 0.5 seconds.<br>• A rear side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat side airbag assembly RH (Rear side squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT SIDE AIRBAG RH (REAR SIDE SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the rear seat side airbag RH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

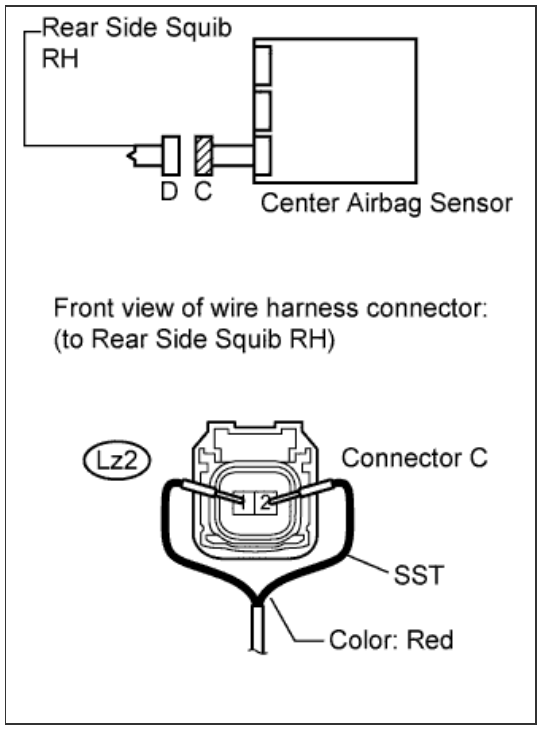
Never connect the tester to the rear seat side airbag RH (rear side squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1850, B1851, B1852 or B1853 is not output.**

**HINT:**

Codes other than DTC B1850, B1851, B1852 and B1853 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE REAR NO. 1 SEAT ASSEMBLY RH ( Click here)

C → Go to step 2

A → REPLACE REAR NO. 1 SEAT ASSEMBLY RH ( Click here)

## 2.CHECK NO. 2 FLOOR WIRE (REAR SIDE SQUIB RH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST (resistance: 2.1 Ω) from connector C.

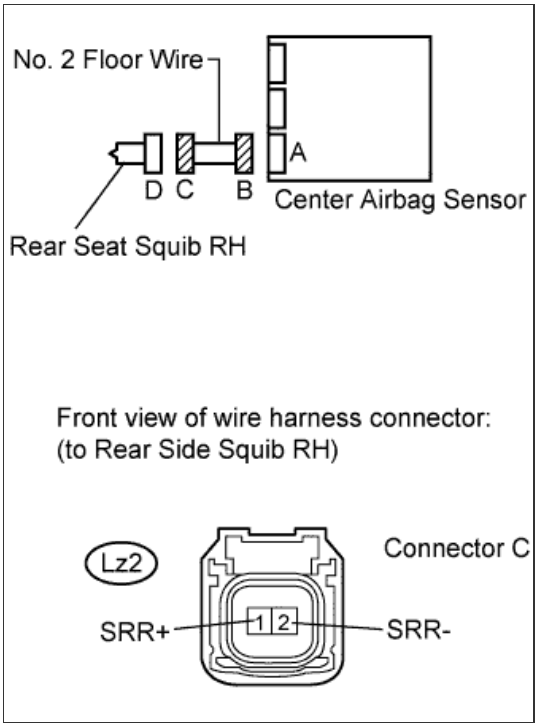
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Lz2-1 (SRR+) - Body ground | Ignition switch ON | Below 1 V |
| Lz2-2 (SRR-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz2-1 (SRR+) - Lz2-2 (SRR-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Lz2-1 (SRR+) - Lz2-2 (SRR-) | Always | 1 MΩ or higher |
| Lz2-1 (SRR+) - Body ground | Always | 1 MΩ or higher |
| Lz2-2 (SRR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the rear seat side airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

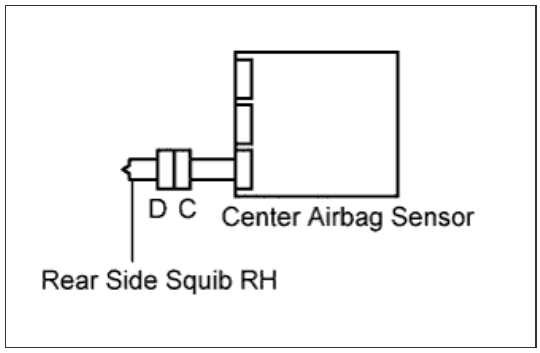
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1850, B1851, B1852 or B1853 is not output.**

**HINT:**

Codes other than DTC B1850, B1851, B1852 and B1853 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1655/37 Seat Belt Buckle Switch RH Circuit Malfunction

## DTC B1656/38 Seat Belt Buckle Switch LH Circuit Malfunction

**for Preparation** Click here

### DESCRIPTION

for RHD:
The seat belt buckle switch RH circuit consists of the center airbag sensor and the front seat inner belt RH. DTC B1655/37 is stored when a malfunction is detected in the seat belt buckle switch RH circuit.
for LHD:
The seat belt buckle switch LH circuit consists of the center airbag sensor and the front seat inner belt LH.
DTC B1656/38 is recorded when a malfunction is detected in the seat belt buckle switch LH circuit.

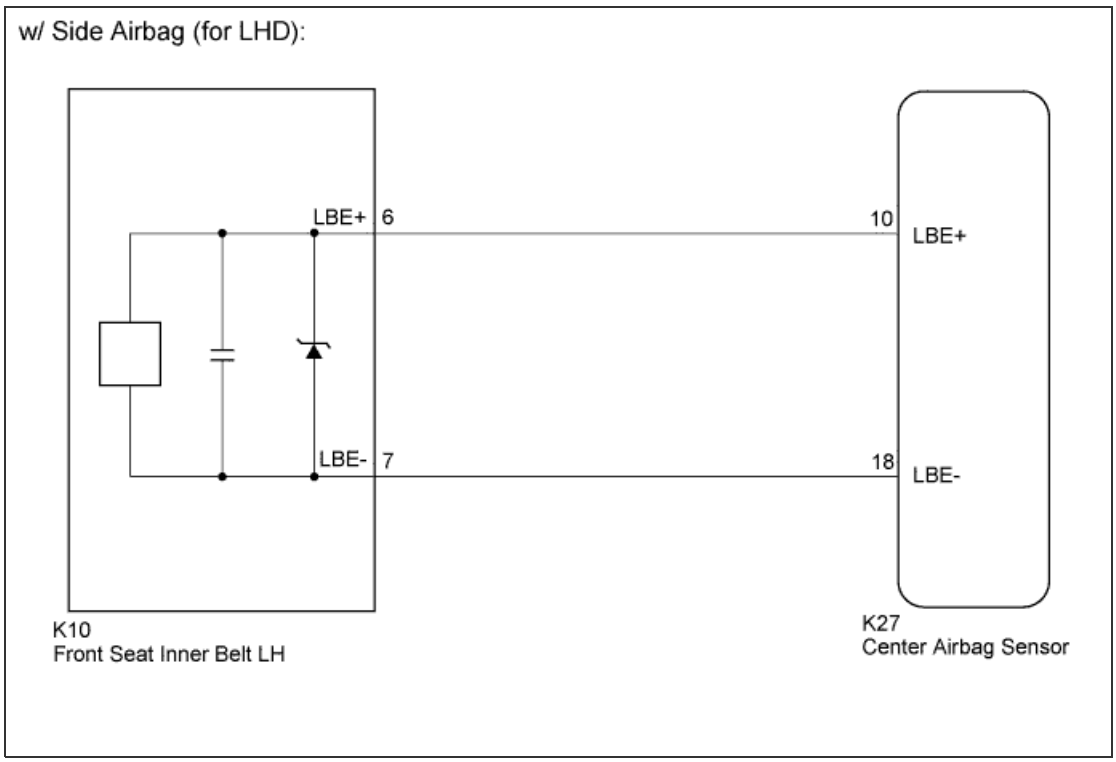
**for RHD**

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1655/37 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the seat belt buckle switch RH circuit for 2 seconds.<br>• A front seat inner belt RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat inner belt assembly RH (Seat belt buckle switch RH)<br>• Center airbag sensor assembly |

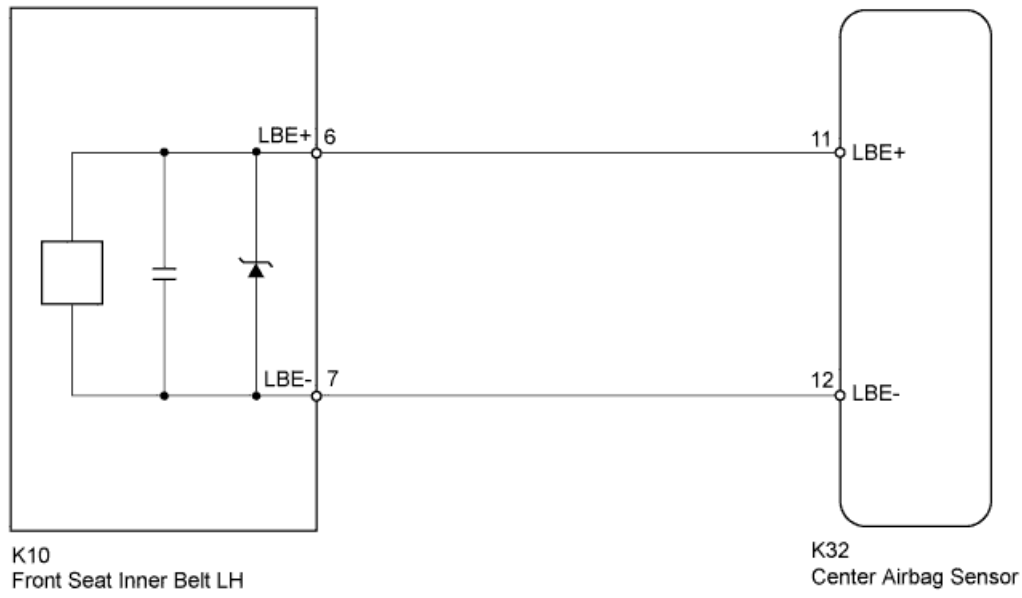
**for LHD**

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1656/38 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the seat belt buckle switch LH circuit for 2 seconds.<br>• A front seat inner belt LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat inner belt assembly LH (Seat belt buckle switch LH)<br>• Center airbag sensor assembly |

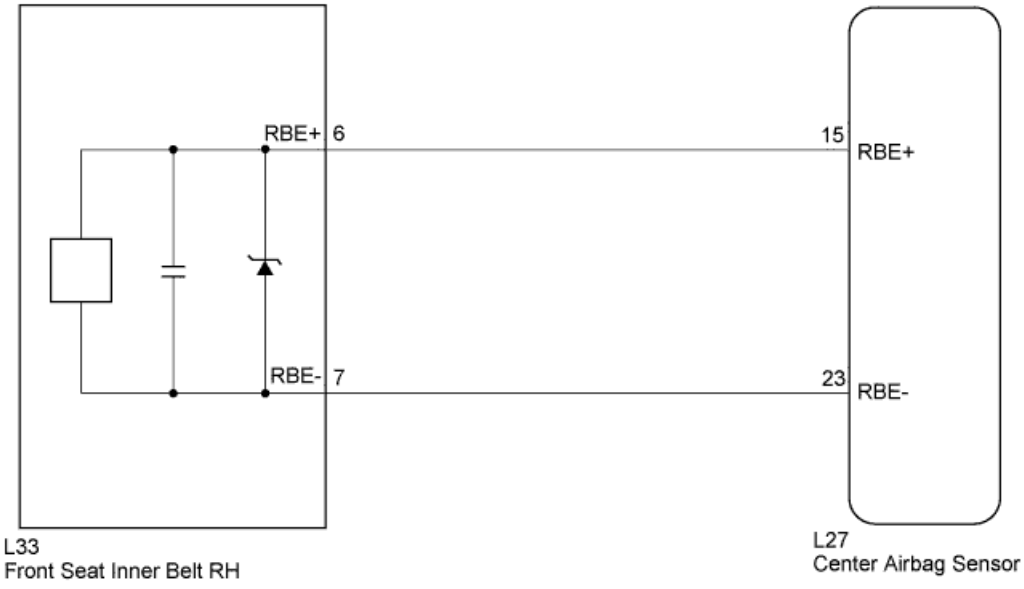
### WIRING DIAGRAM

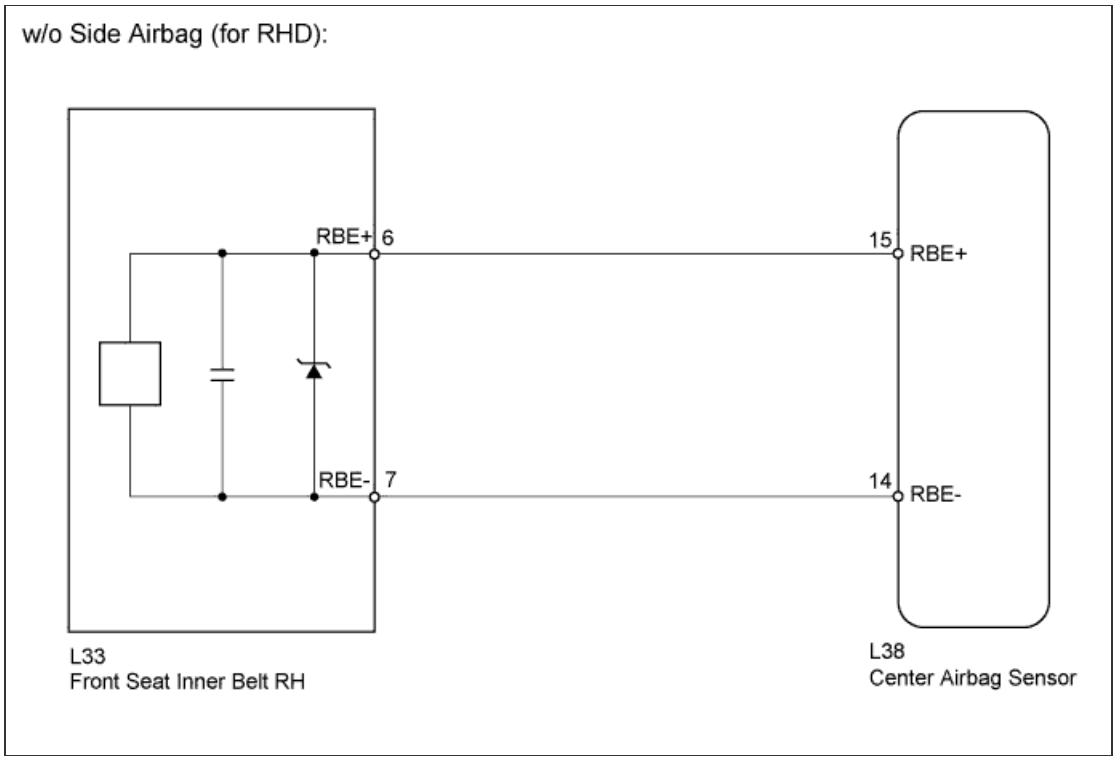


w/o Side Airbag (for LHD):




w/ Side Airbag (for RHD):






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK VEHICLE CONDITION

a. Check vehicle condition.

**Result**

| Result | Proceed to |
|---|---|
| for LHD | A |
| for RHD | B |

**B** → **Go to step 9**

**A**

### 2.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs (Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

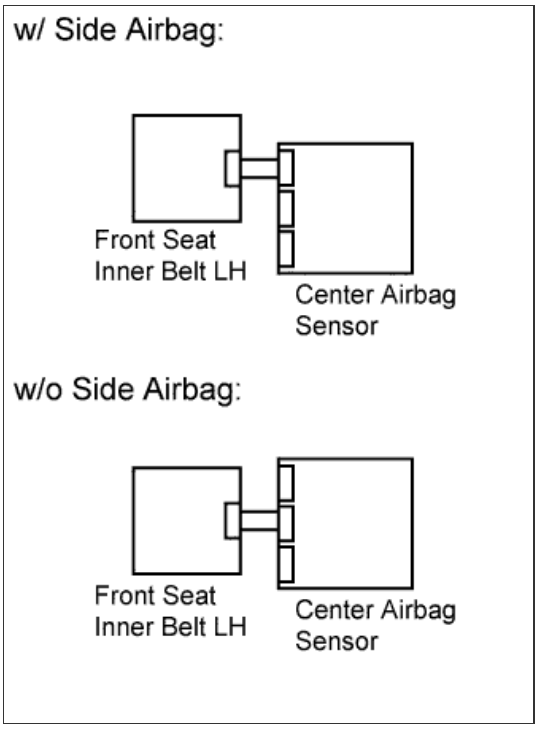
e. Check for DTCs (Click here).

**OK:**

**DTC B1656 is not output.**

**HINT:**

Codes other than DTC B1656 may be output at this time, but they are not related to this check.




NG → Go to step 3

OK

USE SIMULATION METHOD TO CHECK (Click here)

3.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and front seat inner belt LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

4.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and the front seat inner belt LH.

b. Check that the connectors (on the center airbag sensor side and front seat inner belt LH side) are not damaged.

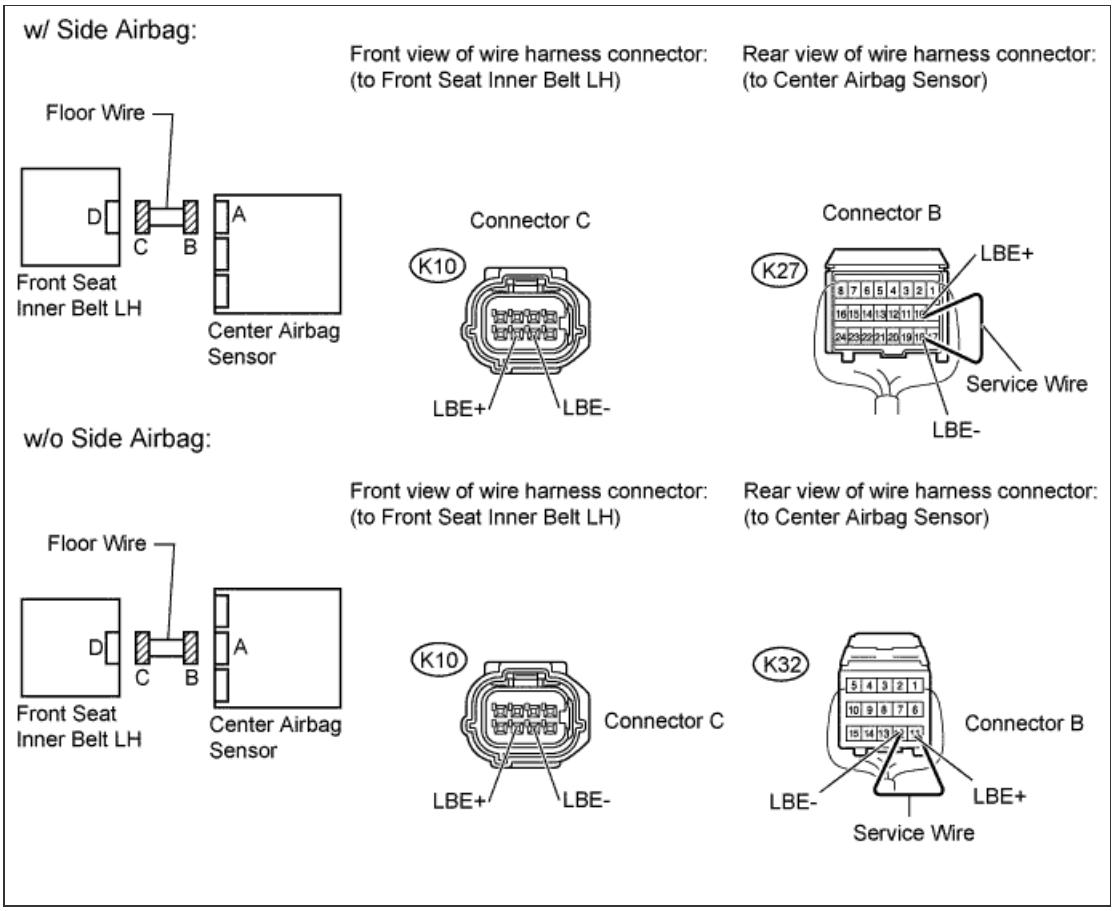
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

5.CHECK FLOOR WIRE (CENTER AIRBAG SENSOR - FRONT SEAT INNER BELT LH)

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Turn the ignition switch to ON.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - Body ground | Ignition switch ON | Below 1 V |
| K10-7 (LBE-) - Body ground | Ignition switch ON | Below 1 V |

d. w/ Side Airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 10 (LBE+) and 18 (LBE-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - K10-7 (LBE-) | Always | Below 1 Ω |

v. Disconnect a service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - K10-7 (LBE-) | Always | 1 MΩ or higher |
| K10-6 (LBE+) - Body ground | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K10-7 (LBE-) - Body ground | Always | 1 MΩ or higher |

e. w/o Side airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 11 (LBE+) and 12 (LBE-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - K10-7 (LBE-) | Always | Below 1 Ω |

v. Disconnect a service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - K10-7 (LBE-) | Always | 1 MΩ or higher |
| K10-6 (LBE+) - Body ground | Always | 1 MΩ or higher |
| K10-7 (LBE-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

## 6.CHECK FRONT SEAT INNER BELT LH (SEAT BELT BUCKLE SWITCH)

a. Connect the connector to the center airbag sensor and the front seat inner belt LH.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

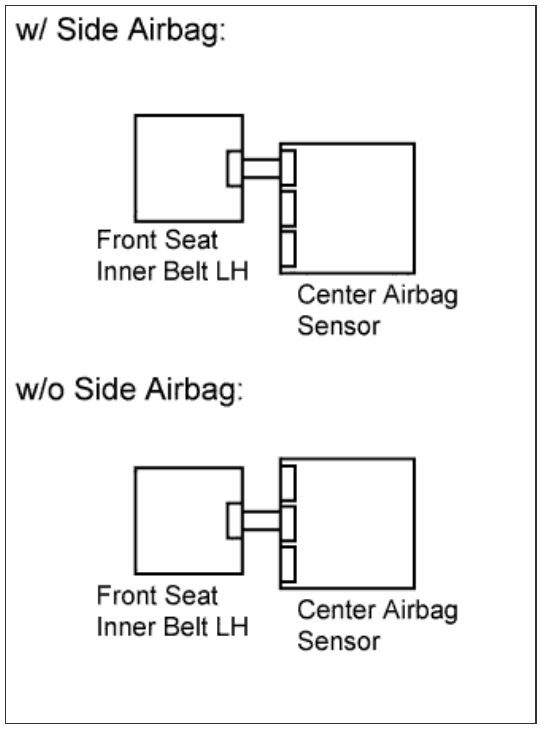
f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1656 is not output.**

**HINT:**

Codes other than DTC B1656 may be output at this time, but they are not related to this check.



NG → Go to step 7

OK

USE SIMULATION METHOD TO CHECK (Click here)

7.REPLACE FRONT SEAT INNER BELT LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Replace the front seat inner belt LH ( Click here).

**HINT:**

Perform the inspection using parts from a normally functioning vehicle if possible.

NEXT

8.CHECK CENTER AIRBAG SENSOR

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Clear the DTCs (Click here).

d. Turn the ignition switch off.

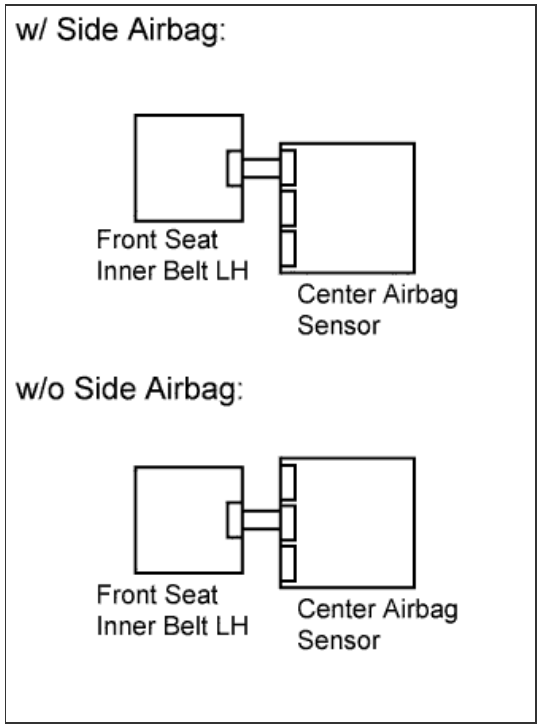
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Check for DTCs (Click here).

**OK:**
**DTC B1656 is not output.**

**HINT:**

Codes other than DTC B1656 may be output at this time, but they are not related to this check.




NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE FRONT SEAT INNER BELT ASSEMBLY LH (Click here)

9.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs (Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

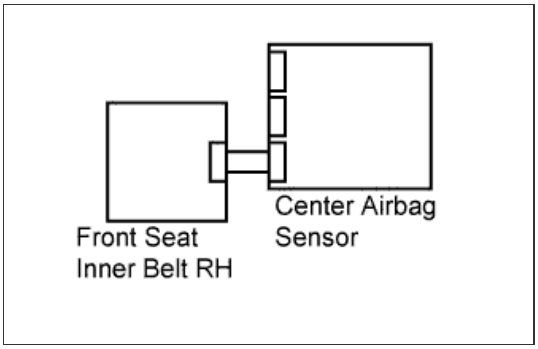
e. Check for DTCs (Click here).

**OK:**

**DTC B1655 is not output.**

**HINT:**

Code other than DTC B1655 may be output at this time, but they are not related to this check.




NG → Go to step 10

OK ↓

USE SIMULATION METHOD TO CHECK (Click here)

## 10.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and front seat inner belt RH.

**OK:**

**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK ↓

## 11.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and the front seat inner belt RH.

b. Check that the connectors (on the center airbag sensor side and front seat inner belt RH side) are not damaged.

**OK:**

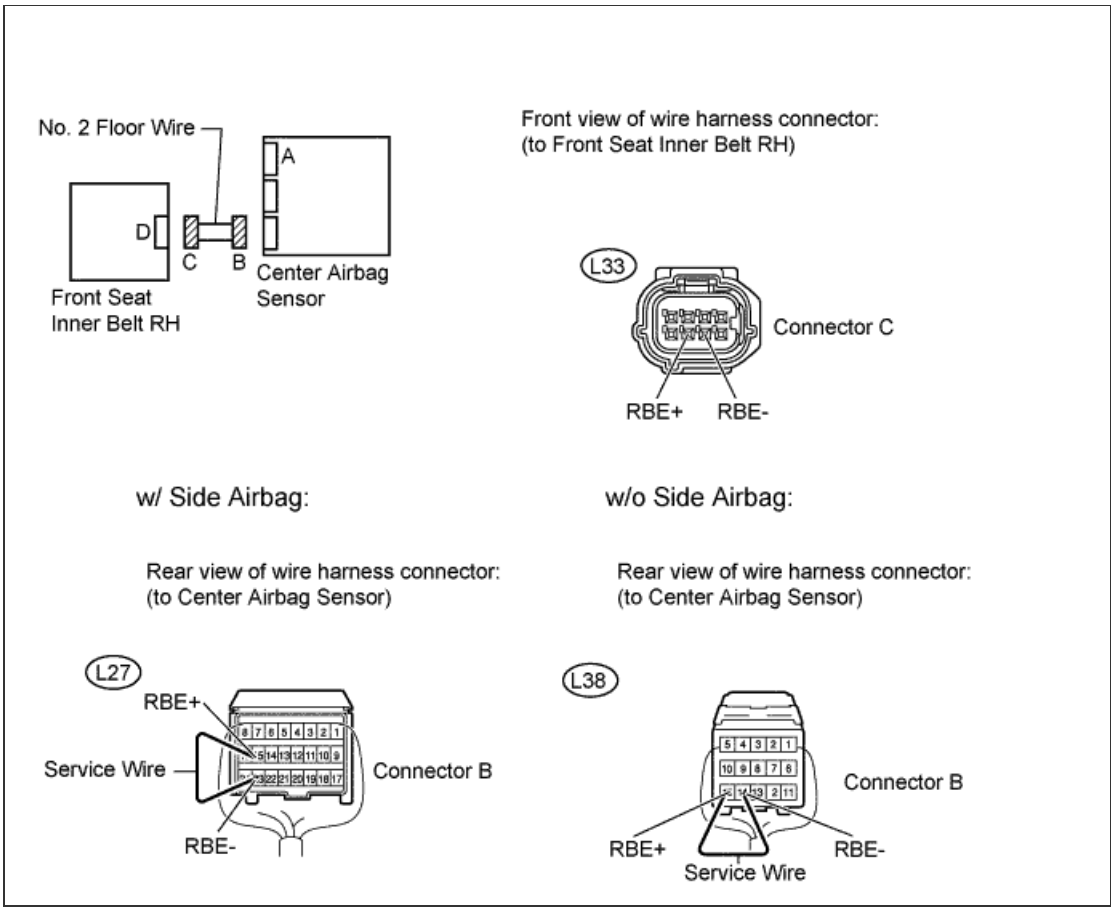
**The connectors are not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK ↓

## 12.CHECK NO. 2 FLOOR WIRE (CENTER AIRBAG SENSOR - FRONT SEAT INNER BELT RH)

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Turn the ignition switch to ON.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - Body ground | Ignition switch ON | Below 1 V |
| L33-7 (RBE-) - Body ground | Ignition switch ON | Below 1 V |

d. w/ Side Airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 15 (RBE+) and 23 (RBE-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - L33-7 (RBE-) | Always | Below 1 Ω |

v. Disconnect a service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - L33-7 (RBE-) | Always | 1 MΩ or higher |
| L33-6 (RBE+) - | | |

| | | |
|---|---|---|
| Body ground | Always | 1 MΩ or higher |
| L33-7 (RBE-) - Body ground | Always | 1 MΩ or higher |

e. w/o Side airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 15 (RBE+) and 14 (RBE-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - L33-7 (RBE-) | Always | Below 1 Ω |

v. Disconnect a service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

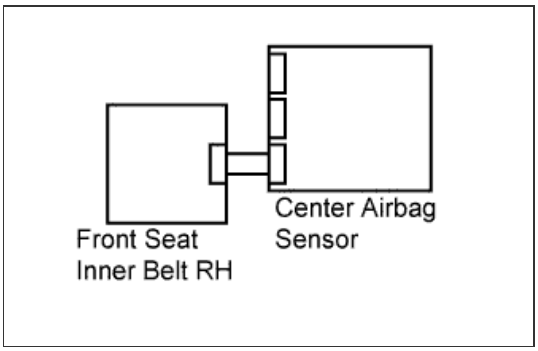
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - L33-7 (RBE-) | Always | 1 MΩ or higher |
| L33-6 (RBE+) - Body ground | Always | 1 MΩ or higher |
| L33-7 (RBE-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

## 13.CHECK FRONT SEAT INNER BELT RH (SEAT BELT BUCKLE SWITCH)




a. Connect the connector to the center airbag sensor and the front seat inner belt RH.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1655 is not output.**

**HINT:**

Codes other than DTC B1655 may be output at this time, but they are not related to this check.

NG → Go to step 14

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

14.REPLACE FRONT SEAT INNER BELT RH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Replace the front seat inner belt RH ( Click here).

**HINT:**

Perform the inspection using parts from a normally functioning vehicle if possible.

**NEXT**

15.CHECK CENTER AIRBAG SENSOR

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

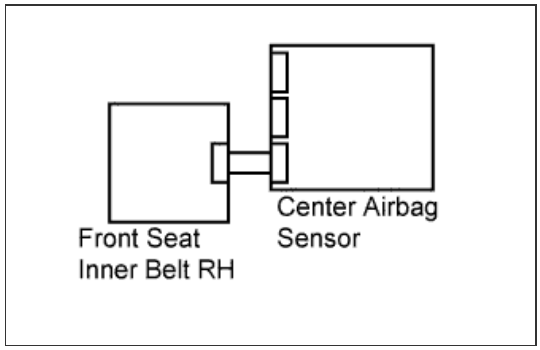
b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Clear the DTCs (Click here).

d. Turn the ignition switch off.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Check for DTCs (Click here).




**OK:**
**DTC B1655 is not output.**

**HINT:**

Codes other than DTC B1655 may be output at this time, but they are not related to this check.

**NG** → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

**OK**

REPLACE FRONT SEAT INNER BELT ASSEMBLY RH

## DTC B1855/63 Short in Rear Side Squib LH Circuit

## DTC B1856/63 Open in Rear Side Squib LH Circuit

## DTC B1857/63 Short to GND in Rear Side Squib LH Circuit

## DTC B1858/63 Short to B+ in Rear Side Squib LH Circuit

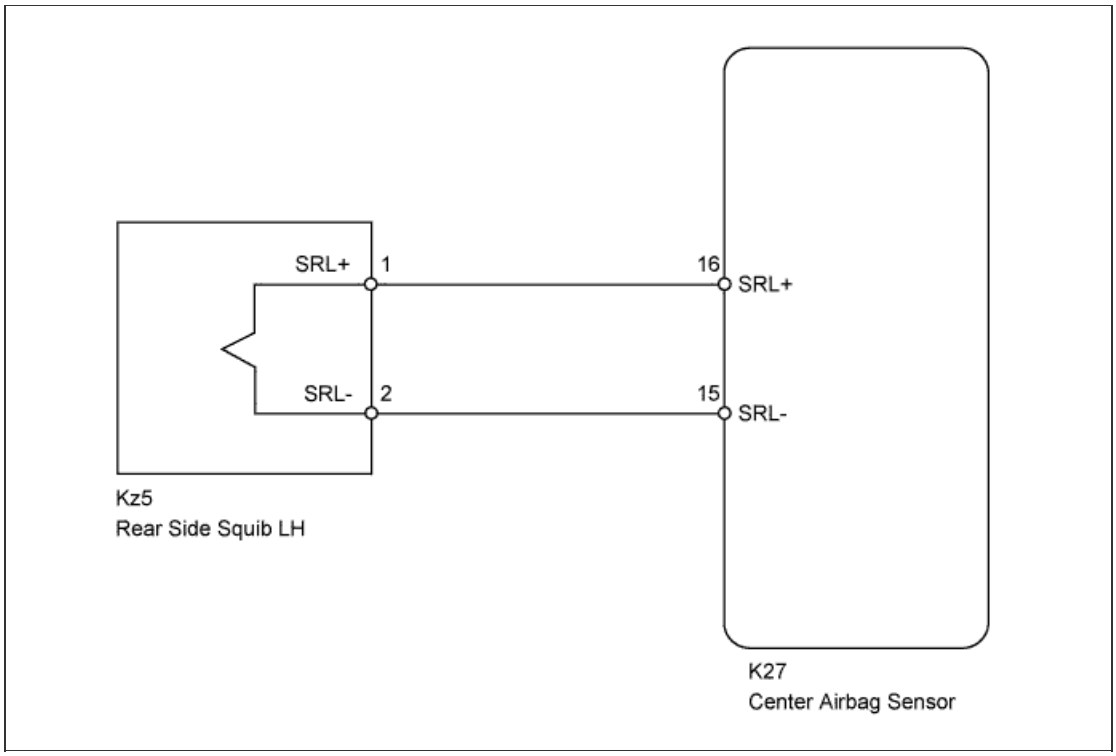
**for Preparation** Click here

### DESCRIPTION

The rear side squib LH circuit consists of the center airbag sensor and the rear seat side airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear side squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1855/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear side squib LH circuit during the primary check.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1856/63 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear side squib LH circuit for 2 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1857/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear side squib LH circuit for 0.5 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1858/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear side squib LH circuit for 0.5 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT SIDE AIRBAG LH (REAR SIDE SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the rear seat side airbag LH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

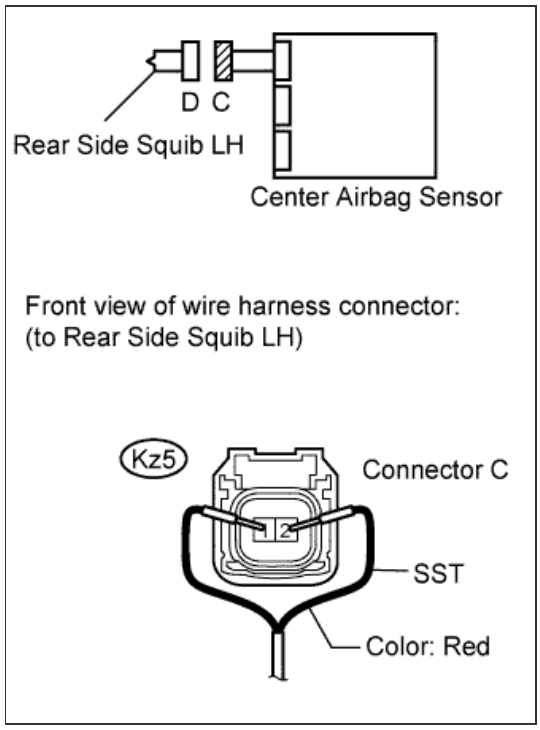
Never connect the tester to the rear seat side airbag LH (rear side squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1855, B1856, B1857 or B1858 is not output.**

**HINT:**

Codes other than DTC B1855, B1856, B1857 and B1858 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE REAR NO. 1 SEAT ASSEMBLY LH (Click here)

C → Go to step 2

A → REPLACE REAR NO. 1 SEAT ASSEMBLY LH (Click here)

## 2.CHECK FLOOR WIRE (REAR SIDE SQUIB LH CIRCUIT)

a. Turn the ignition switch off.

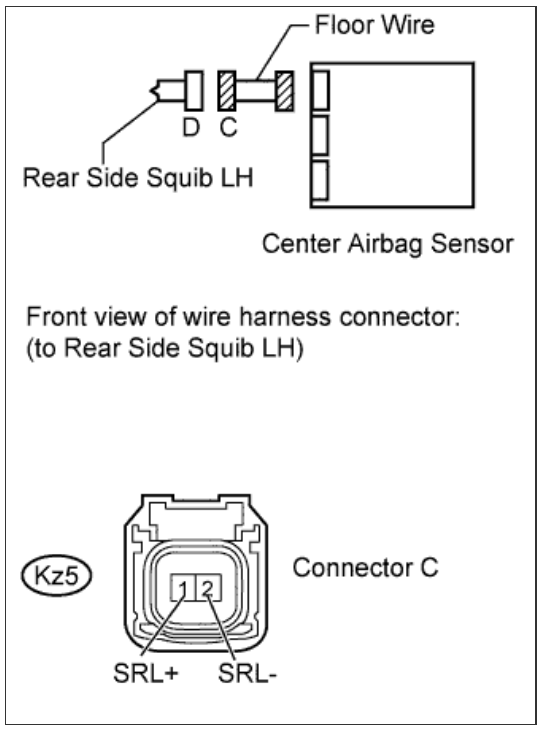
b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Kz5-1 (SRL+) - Body ground | Ignition switch ON | Below 1 V |
| Kz5-2 (SRL-) - Body ground | Ignition switch ON | Below 1 V |

g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz5-1 (SRL+) - Kz5-2 (SRL-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Kz5-1 (SRL+) - Kz5-2 (SRL-) | Always | 1 MΩ or higher |
| Kz5-1 (SRL+) - Body ground | Always | 1 MΩ or higher |
| Kz5-2 (SRL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**3.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat side airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

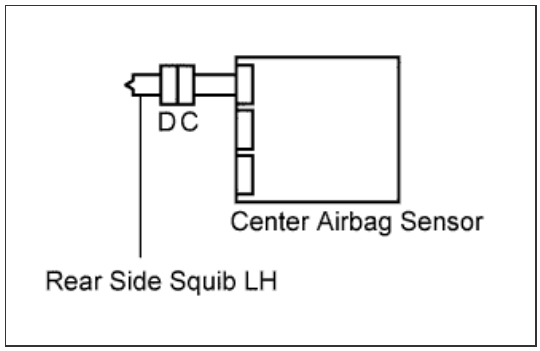
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1855, B1856, B1857 or B1858 is not output.**

**HINT:**

Codes other than DTC B1855, B1856, B1857 and B1858 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1655/37 Seat Belt Buckle Switch RH Circuit Malfunction

## DTC B1656/38 Seat Belt Buckle Switch LH Circuit Malfunction

**for Preparation** Click here

### DESCRIPTION

for RHD:
The seat belt buckle switch RH circuit consists of the center airbag sensor and the front seat inner belt RH. DTC B1655/37 is stored when a malfunction is detected in the seat belt buckle switch RH circuit.
for LHD:
The seat belt buckle switch LH circuit consists of the center airbag sensor and the front seat inner belt LH.
DTC B1656/38 is recorded when a malfunction is detected in the seat belt buckle switch LH circuit.

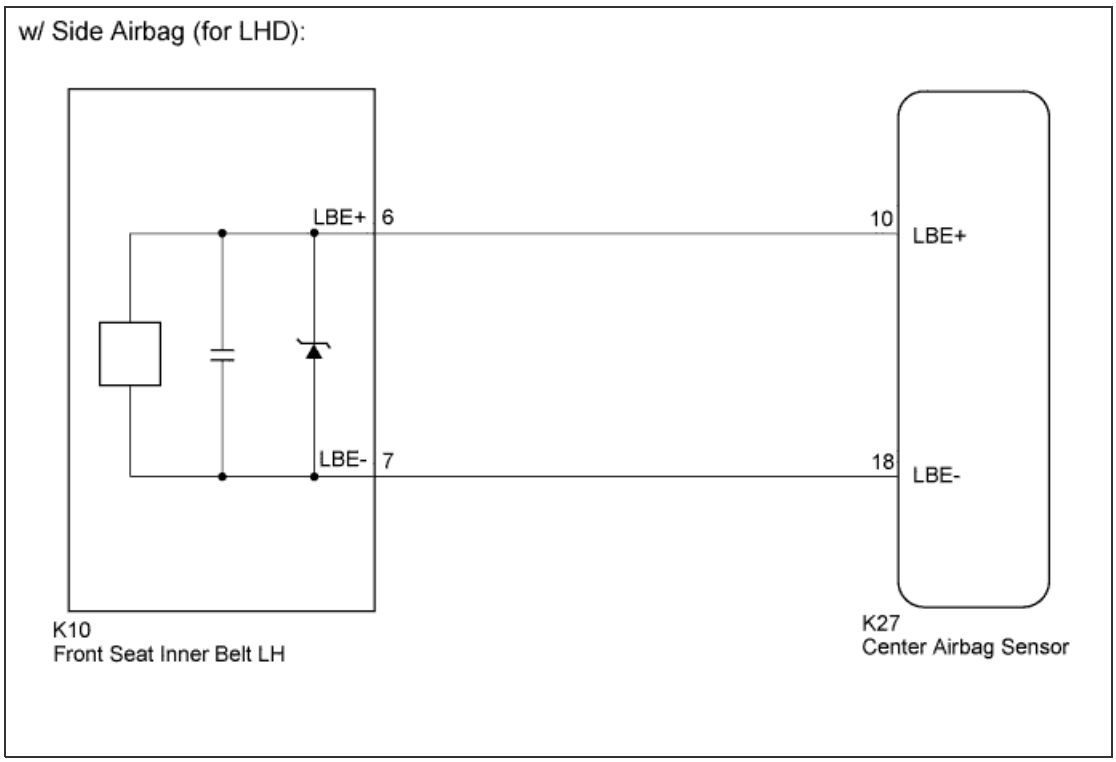
**for RHD**

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1655/37 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the seat belt buckle switch RH circuit for 2 seconds.<br>• A front seat inner belt RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat inner belt assembly RH (Seat belt buckle switch RH)<br>• Center airbag sensor assembly |

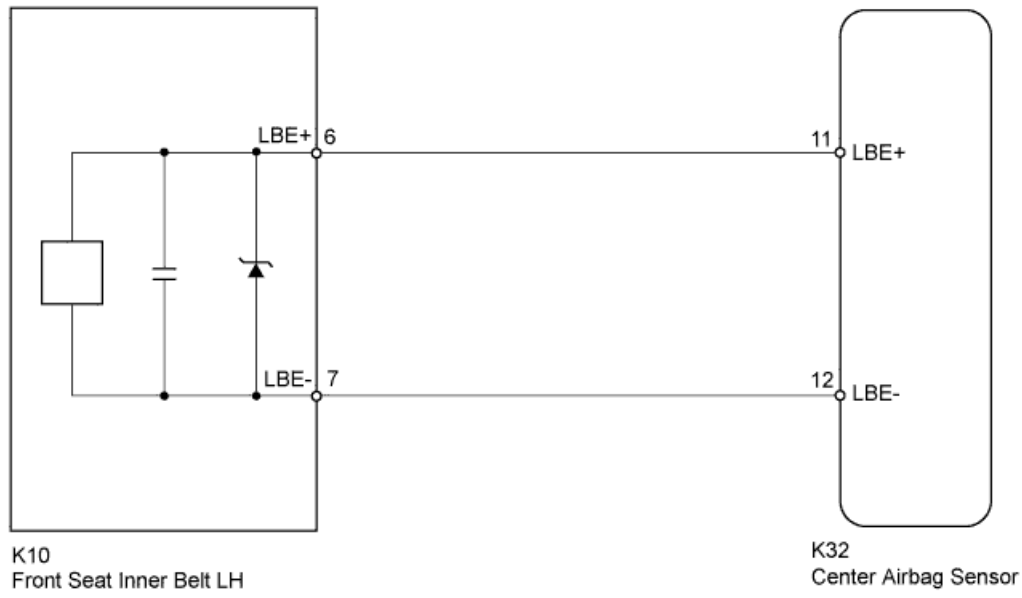
**for LHD**

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1656/38 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the seat belt buckle switch LH circuit for 2 seconds.<br>• A front seat inner belt LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat inner belt assembly LH (Seat belt buckle switch LH)<br>• Center airbag sensor assembly |

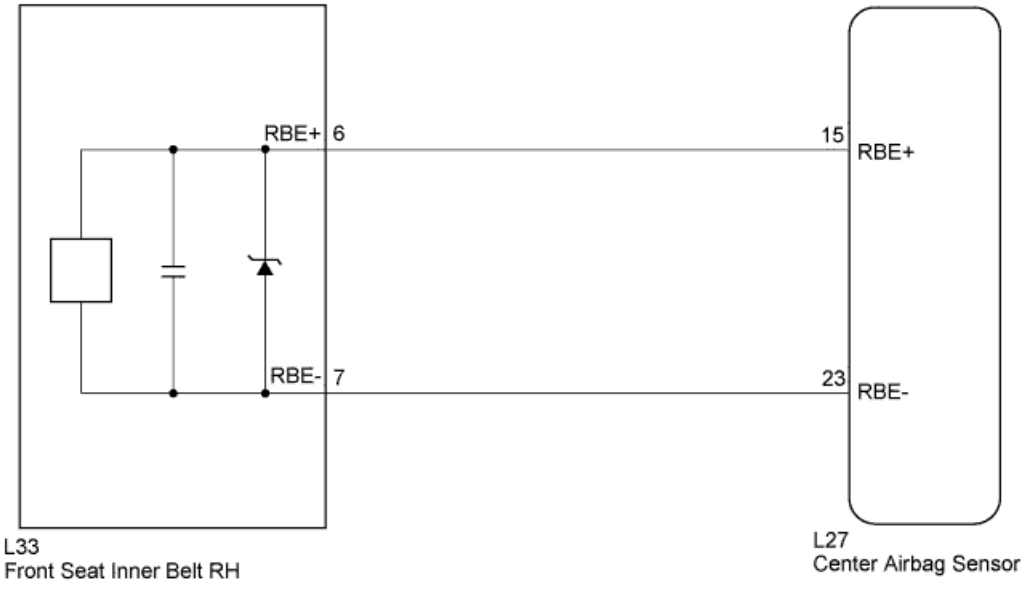
### WIRING DIAGRAM

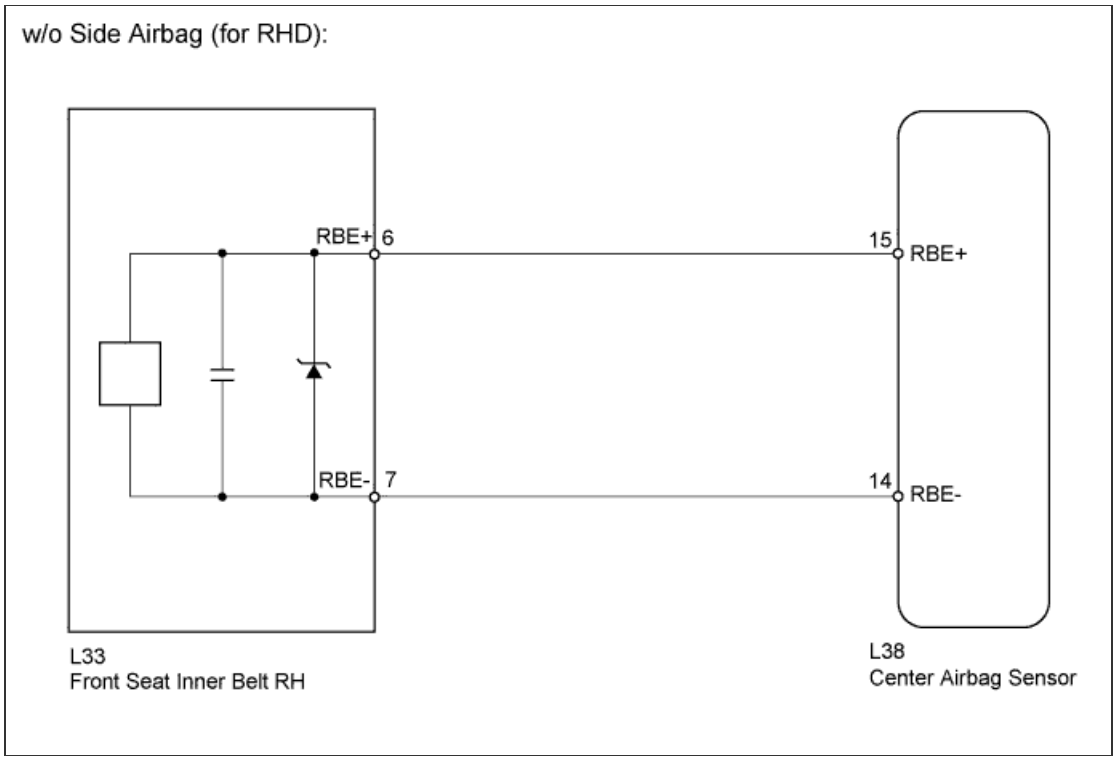


w/o Side Airbag (for LHD):




w/ Side Airbag (for RHD):






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK VEHICLE CONDITION

a. Check vehicle condition.

**Result**

| Result | Proceed to |
|---|---|
| for LHD | A |
| for RHD | B |

**B** → **Go to step 9**

**A**

### 2.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs (Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

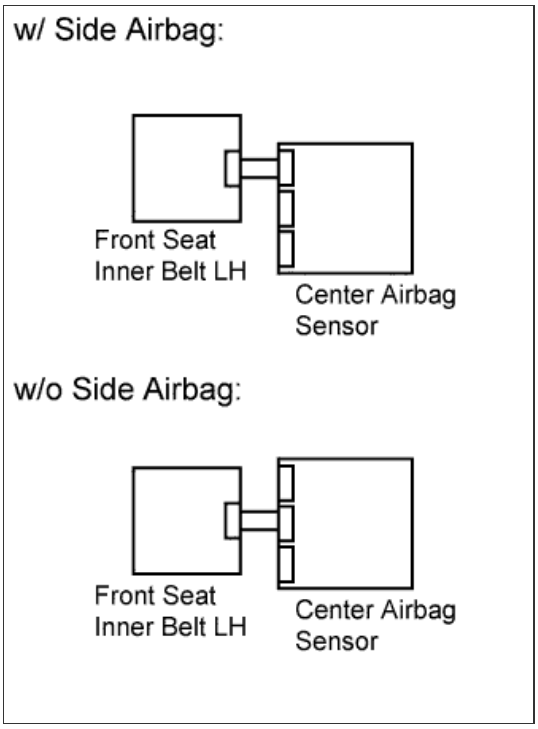
e. Check for DTCs (Click here).

**OK:**

**DTC B1656 is not output.**

**HINT:**

Codes other than DTC B1656 may be output at this time, but they are not related to this check.




NG → Go to step 3

OK

USE SIMULATION METHOD TO CHECK (Click here)

3.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and front seat inner belt LH.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

4.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and the front seat inner belt LH.

b. Check that the connectors (on the center airbag sensor side and front seat inner belt LH side) are not damaged.

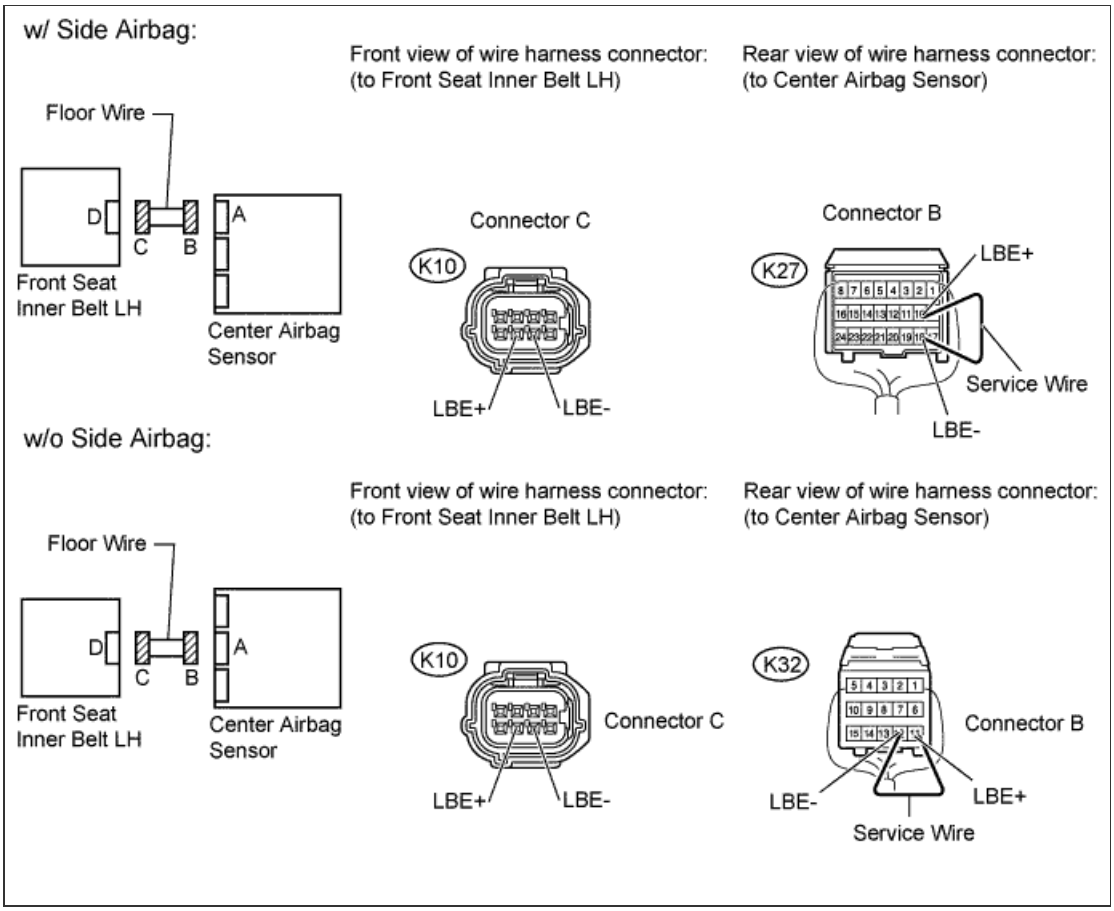
**OK:**
**The connectors are not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

5.CHECK FLOOR WIRE (CENTER AIRBAG SENSOR - FRONT SEAT INNER BELT LH)

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Turn the ignition switch to ON.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - Body ground | Ignition switch ON | Below 1 V |
| K10-7 (LBE-) - Body ground | Ignition switch ON | Below 1 V |

d. w/ Side Airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 10 (LBE+) and 18 (LBE-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - K10-7 (LBE-) | Always | Below 1 Ω |

v. Disconnect a service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - K10-7 (LBE-) | Always | 1 MΩ or higher |
| K10-6 (LBE+) - Body ground | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K10-7 (LBE-) - Body ground | Always | 1 MΩ or higher |

e. w/o Side airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 11 (LBE+) and 12 (LBE-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - K10-7 (LBE-) | Always | Below 1 Ω |

v. Disconnect a service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K10-6 (LBE+) - K10-7 (LBE-) | Always | 1 MΩ or higher |
| K10-6 (LBE+) - Body ground | Always | 1 MΩ or higher |
| K10-7 (LBE-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

## 6.CHECK FRONT SEAT INNER BELT LH (SEAT BELT BUCKLE SWITCH)

a. Connect the connector to the center airbag sensor and the front seat inner belt LH.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

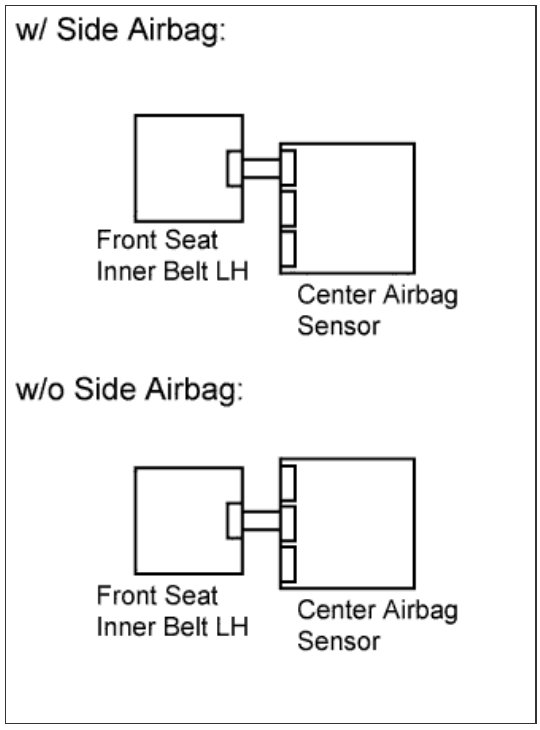
f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1656 is not output.**

**HINT:**

Codes other than DTC B1656 may be output at this time, but they are not related to this check.



NG → Go to step 7

OK

USE SIMULATION METHOD TO CHECK (Click here)

7.REPLACE FRONT SEAT INNER BELT LH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Replace the front seat inner belt LH ( Click here).

**HINT:**

Perform the inspection using parts from a normally functioning vehicle if possible.

NEXT

8.CHECK CENTER AIRBAG SENSOR

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Clear the DTCs (Click here).

d. Turn the ignition switch off.

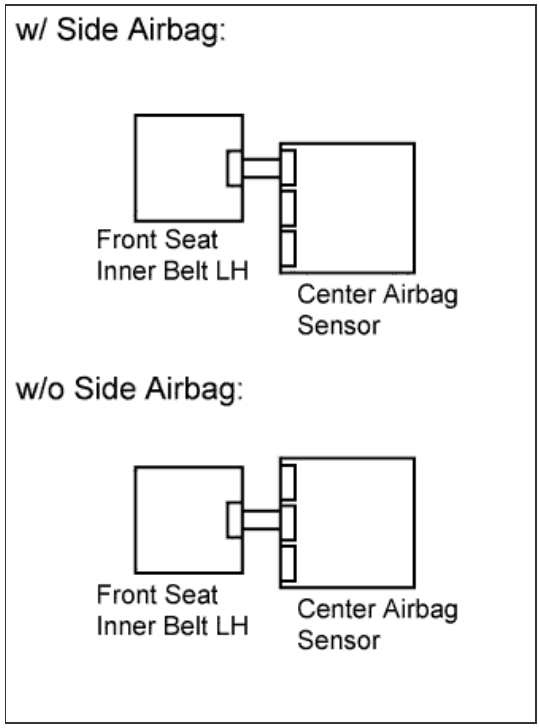
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Check for DTCs (Click here).

**OK:**
**DTC B1656 is not output.**

**HINT:**

Codes other than DTC B1656 may be output at this time, but they are not related to this check.




NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

REPLACE FRONT SEAT INNER BELT ASSEMBLY LH (Click here)

9.CHECK FOR DTC

a. Turn the ignition switch to ON, and wait for at least 60 seconds.

b. Clear the DTCs (Click here).

c. Turn the ignition switch off.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

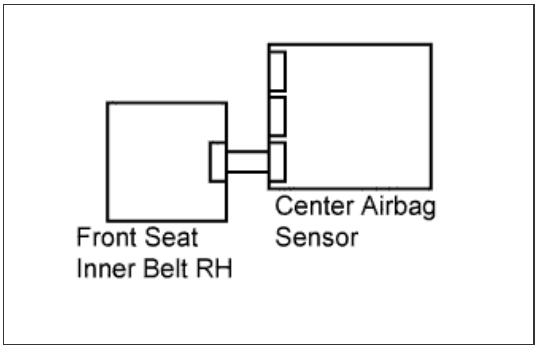
e. Check for DTCs (Click here).

**OK:**

**DTC B1655 is not output.**

**HINT:**

Code other than DTC B1655 may be output at this time, but they are not related to this check.




NG → Go to step 10

OK ↓

USE SIMULATION METHOD TO CHECK (Click here)

## 10.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and front seat inner belt RH.

**OK:**

**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK ↓

## 11.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and the front seat inner belt RH.

b. Check that the connectors (on the center airbag sensor side and front seat inner belt RH side) are not damaged.

**OK:**

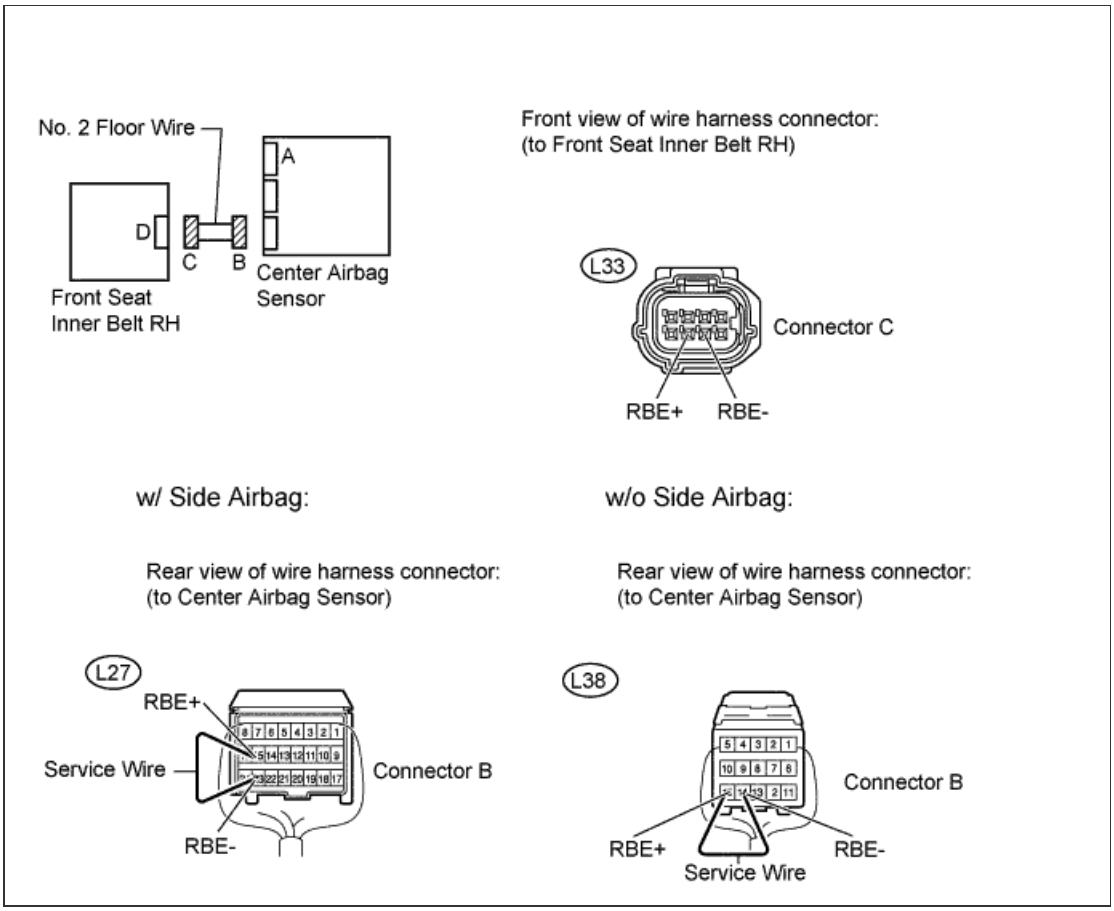
**The connectors are not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK ↓

## 12.CHECK NO. 2 FLOOR WIRE (CENTER AIRBAG SENSOR - FRONT SEAT INNER BELT RH)

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Turn the ignition switch to ON.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - Body ground | Ignition switch ON | Below 1 V |
| L33-7 (RBE-) - Body ground | Ignition switch ON | Below 1 V |

d. w/ Side Airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 15 (RBE+) and 23 (RBE-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - L33-7 (RBE-) | Always | Below 1 Ω |

v. Disconnect a service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - L33-7 (RBE-) | Always | 1 MΩ or higher |
| L33-6 (RBE+) - | | |

| | | |
|---|---|---|
| Body ground | Always | 1 MΩ or higher |
| L33-7 (RBE-) - Body ground | Always | 1 MΩ or higher |

e. w/o Side airbag:

i. Turn the ignition switch off.

ii. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

iii. Using a service wire, connect terminals 15 (RBE+) and 14 (RBE-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

iv. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - L33-7 (RBE-) | Always | Below 1 Ω |

v. Disconnect a service wire from connector B.

vi. Measure the resistance according to the value(s) in the table below.

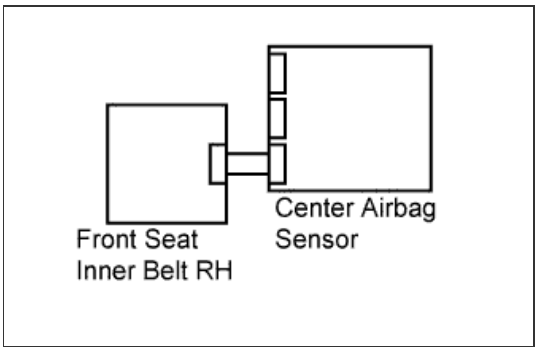
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-6 (RBE+) - L33-7 (RBE-) | Always | 1 MΩ or higher |
| L33-6 (RBE+) - Body ground | Always | 1 MΩ or higher |
| L33-7 (RBE-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

## 13.CHECK FRONT SEAT INNER BELT RH (SEAT BELT BUCKLE SWITCH)




a. Connect the connector to the center airbag sensor and the front seat inner belt RH.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1655 is not output.**

**HINT:**

Codes other than DTC B1655 may be output at this time, but they are not related to this check.

NG → Go to step 14

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

14.REPLACE FRONT SEAT INNER BELT RH

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Replace the front seat inner belt RH ( Click here).

**HINT:**

Perform the inspection using parts from a normally functioning vehicle if possible.

**NEXT**

15.CHECK CENTER AIRBAG SENSOR

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

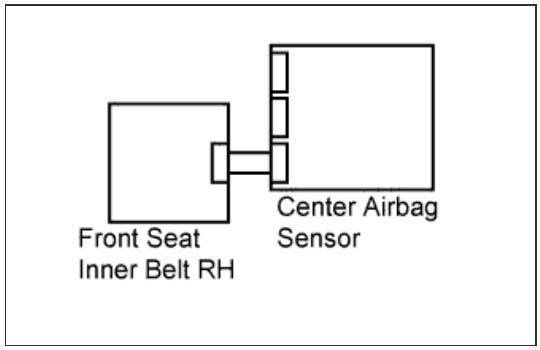
b. Turn the ignition switch to ON, and wait for at least 60 seconds.

c. Clear the DTCs (Click here).

d. Turn the ignition switch off.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Check for DTCs (Click here).




**OK:**
**DTC B1655 is not output.**

**HINT:**

Codes other than DTC B1655 may be output at this time, but they are not related to this check.

**NG** → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

**OK**

REPLACE FRONT SEAT INNER BELT ASSEMBLY RH

## DTC B1855/63 Short in Rear Side Squib LH Circuit

## DTC B1856/63 Open in Rear Side Squib LH Circuit

## DTC B1857/63 Short to GND in Rear Side Squib LH Circuit

## DTC B1858/63 Short to B+ in Rear Side Squib LH Circuit

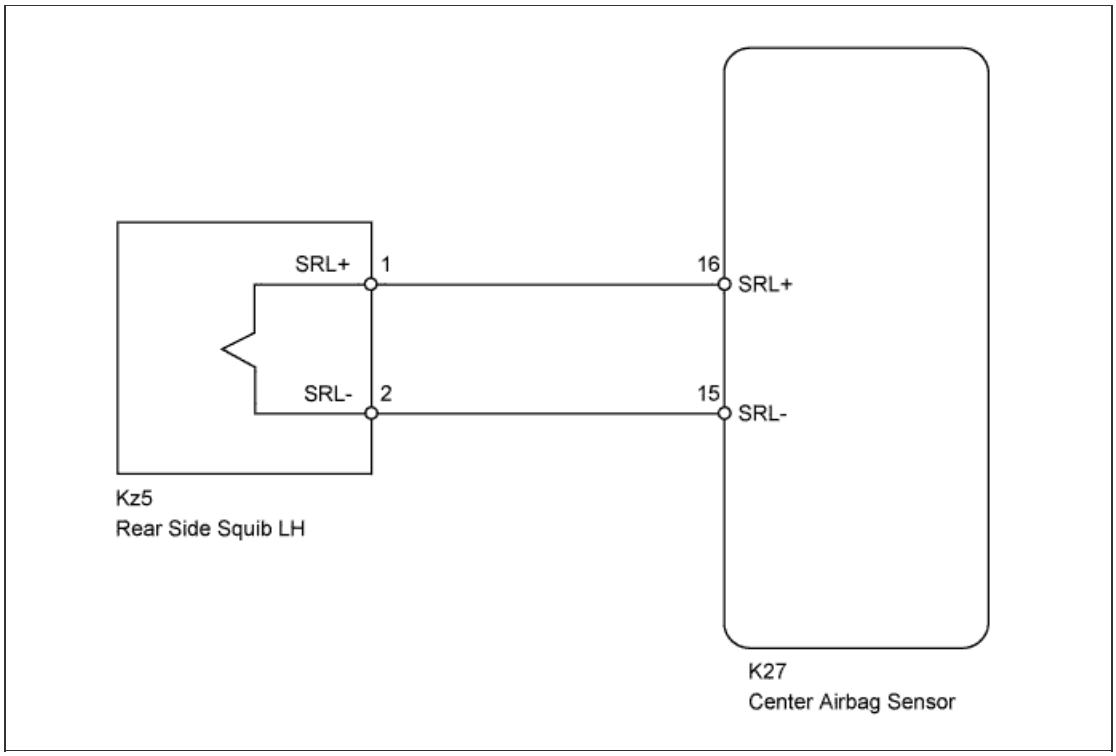
**for Preparation** Click here

### DESCRIPTION

The rear side squib LH circuit consists of the center airbag sensor and the rear seat side airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear side squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1855/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear side squib LH circuit during the primary check.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1856/63 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear side squib LH circuit for 2 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1857/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear side squib LH circuit for 0.5 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1858/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear side squib LH circuit for 0.5 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT SIDE AIRBAG LH (REAR SIDE SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the rear seat side airbag LH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

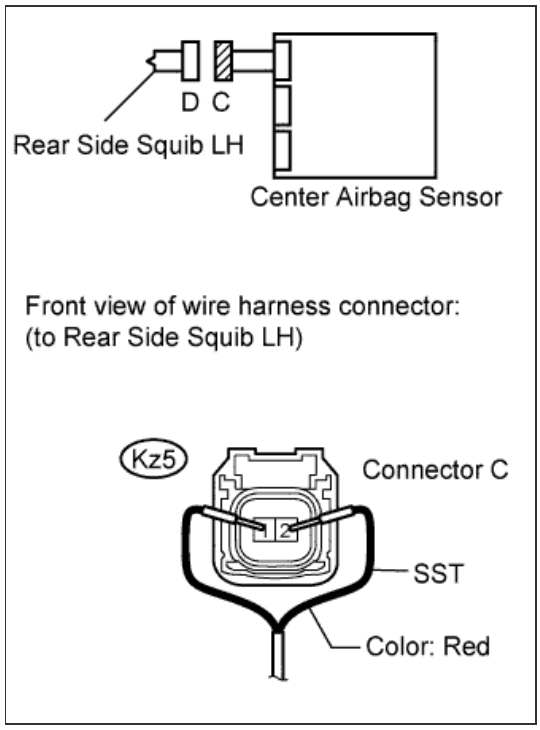
Never connect the tester to the rear seat side airbag LH (rear side squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1855, B1856, B1857 or B1858 is not output.**

**HINT:**

Codes other than DTC B1855, B1856, B1857 and B1858 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE REAR NO. 1 SEAT ASSEMBLY LH (Click here)

C → Go to step 2

A → REPLACE REAR NO. 1 SEAT ASSEMBLY LH (Click here)

## 2.CHECK FLOOR WIRE (REAR SIDE SQUIB LH CIRCUIT)

a. Turn the ignition switch off.

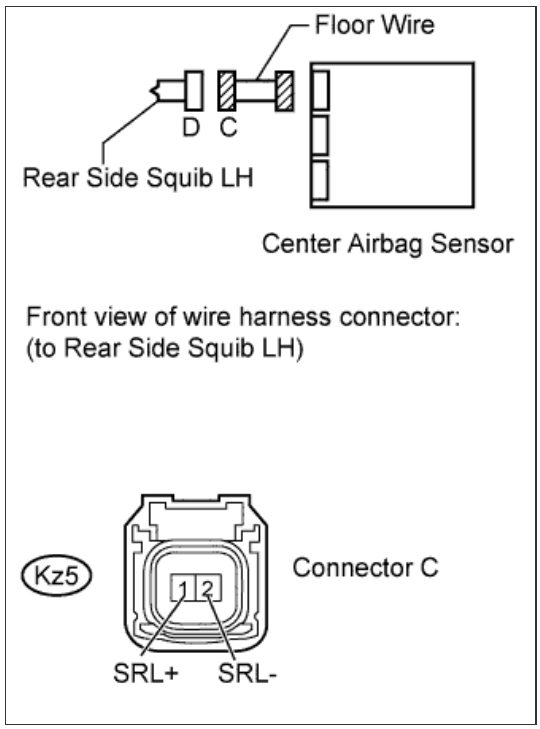
b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Kz5-1 (SRL+) - Body ground | Ignition switch ON | Below 1 V |
| Kz5-2 (SRL-) - Body ground | Ignition switch ON | Below 1 V |

g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz5-1 (SRL+) - Kz5-2 (SRL-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Kz5-1 (SRL+) - Kz5-2 (SRL-) | Always | 1 MΩ or higher |
| Kz5-1 (SRL+) - Body ground | Always | 1 MΩ or higher |
| Kz5-2 (SRL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**3.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat side airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

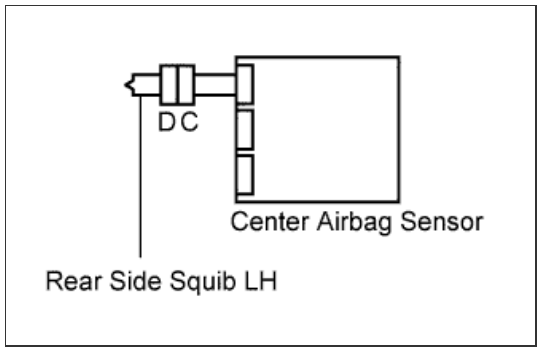
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1855, B1856, B1857 or B1858 is not output.**

**HINT:**

Codes other than DTC B1855, B1856, B1857 and B1858 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1660/43 Passenger Airbag ON/OFF Indicator Circuit Malfunction

**for Preparation** Click here

### DESCRIPTION

The passenger airbag ON/OFF indicator circuit consists of the center airbag sensor and the passenger airbag ON/OFF indicator.
The passenger airbag ON/OFF indicator indicates the operation condition of the front passenger airbag, front passenger side knee airbag, front seat airbag RH and front seat outer belt RH.
DTC B1660/43 is stored when a malfunction is detected in the passenger airbag ON/OFF indicator circuit.

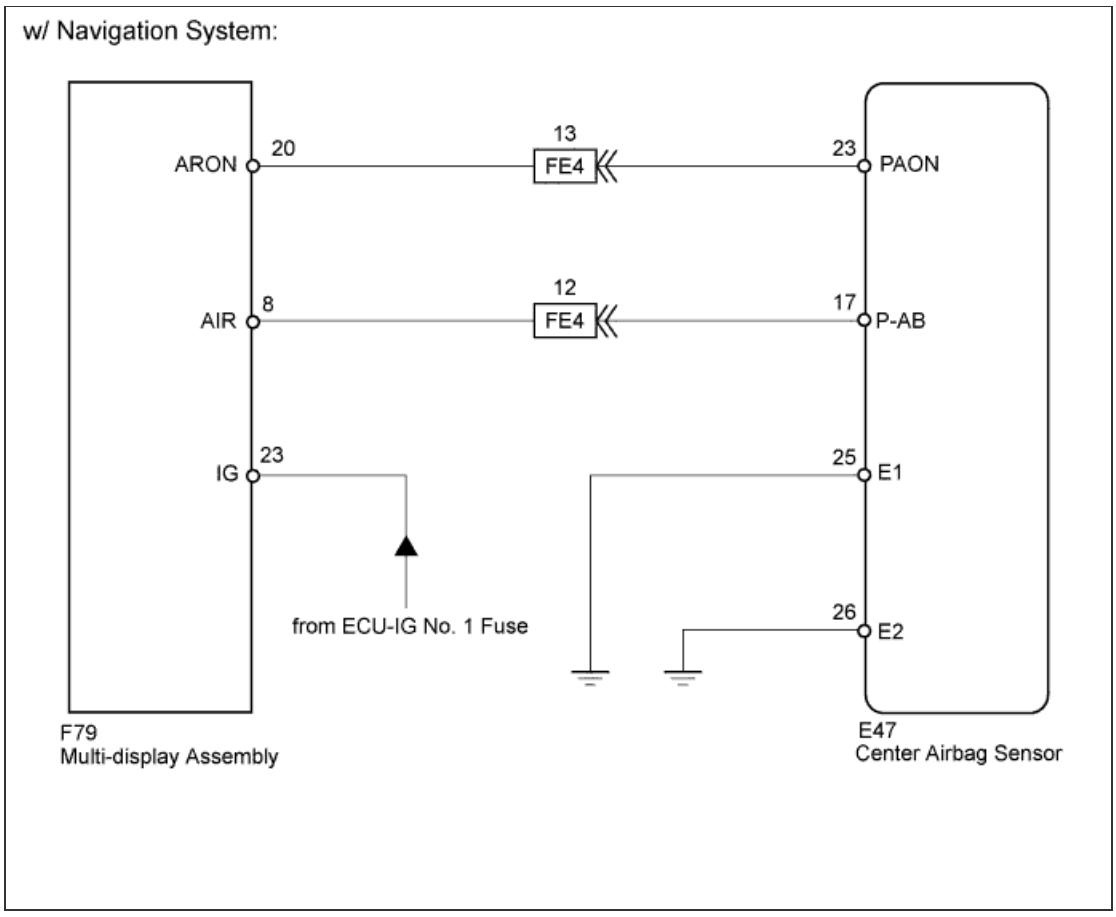
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1660/43 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the passenger airbag ON/OFF indicator circuit for 2 seconds.<br>• A passenger airbag ON/OFF indicator malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Multi-display assembly*1<br>• Clock*2<br>• Center airbag sensor assembly<br>• No. 2 instrument panel wire<br>• No. 5 instrument panel wire*2 |

**HINT:**

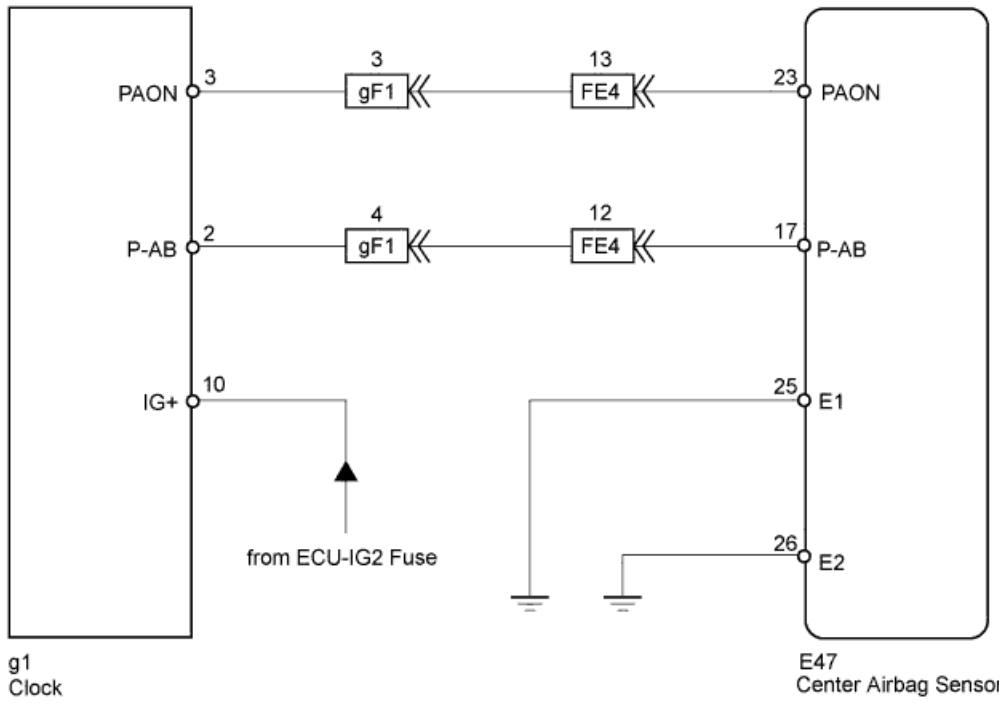
*1: w/ Navigation System

*2: w/o Navigation System

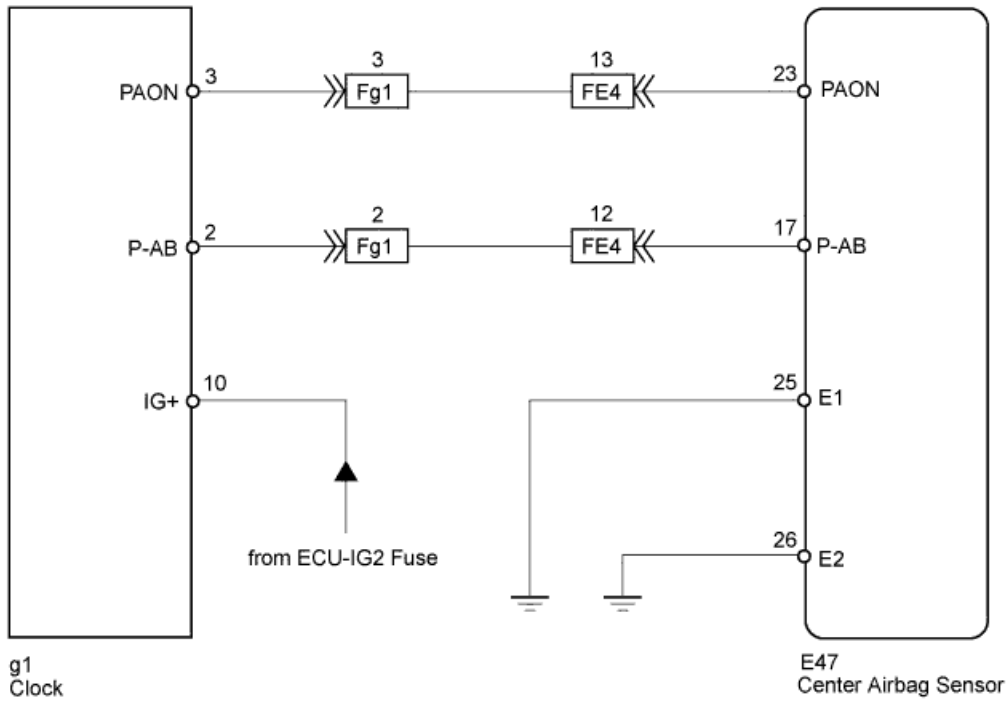
### WIRING DIAGRAM



w/o Navigation System (w/o Cassette Tape Player):




w/o Nabigation System (w/ Cassette Tape Player):




## INSPECTION PROCEDURE

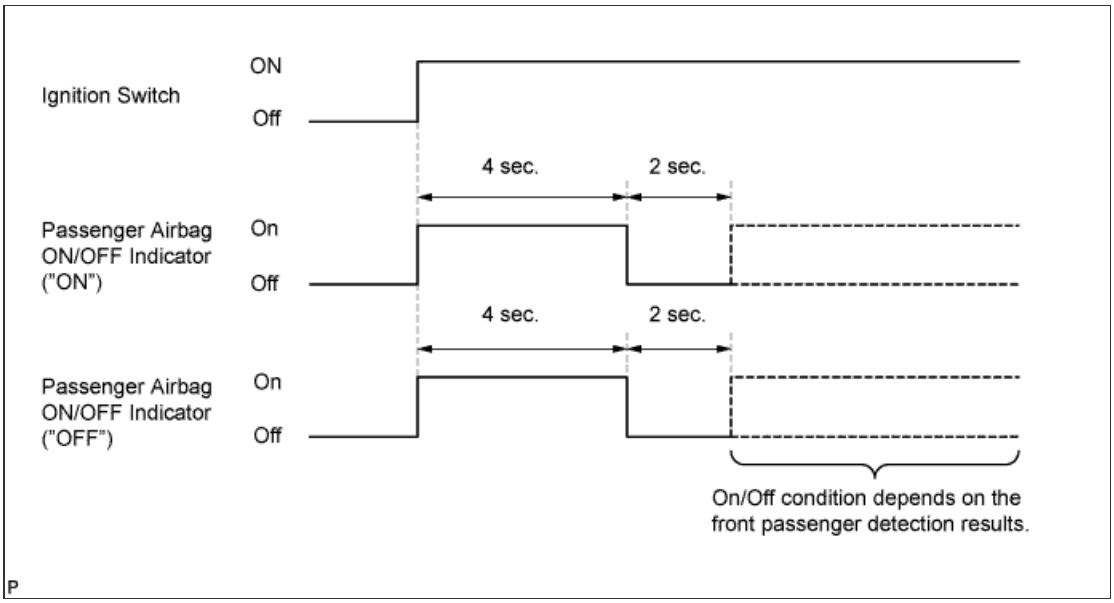
**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**

- When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 1.CHECK PASSENGER AIRBAG ON/OFF INDICATOR CONDITION

a. Turn the ignition switch to ON.




b. Check the passenger airbag ON/OFF indicator operation.

**HINT:**

Refer to the normal condition of the passenger airbag ON/OFF indicator ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| Always on | A |
| Off | B |

B → Go to step 9

A

## 2.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the multi-display assembly or clock.

**OK:**

**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 3.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and the multi-display assembly or clock.

b. Check that the connectors (on the center airbag sensor side and multi-display assembly side or clock side) are not damaged.

**OK:**

**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK

**4.CHECK PASSENGER AIRBAG ON/OFF INDICATOR**

a. Connect the connector to the multi-display assembly or clock.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON.

d. Check the passenger airbag ON/OFF indicator operation.

**OK:**
**The passenger airbag ON/OFF indicator does not come on.**




NG → Go to step 6

OK

**5.CHECK CENTER AIRBAG SENSOR**

a. Connect the connector to the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

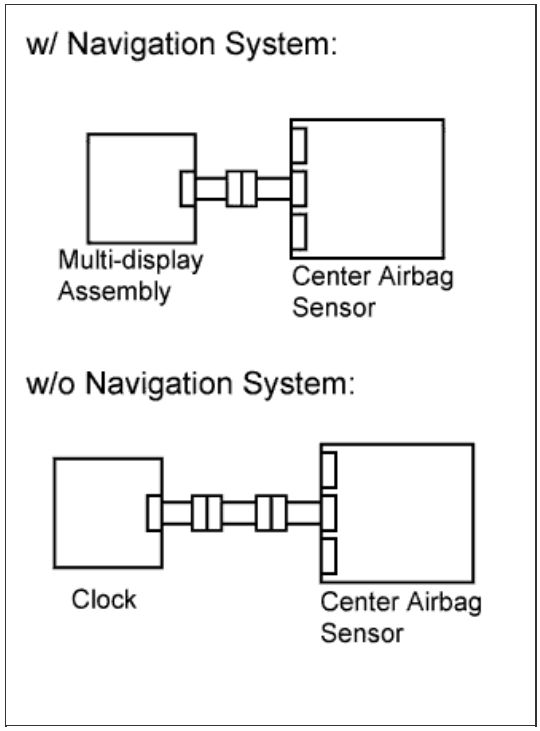
f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).

**OK:**
**DTC B1660 is not output.**

**HINT:**

Codes other than DTC B1660 may be output at this time, but they are not related to this check.



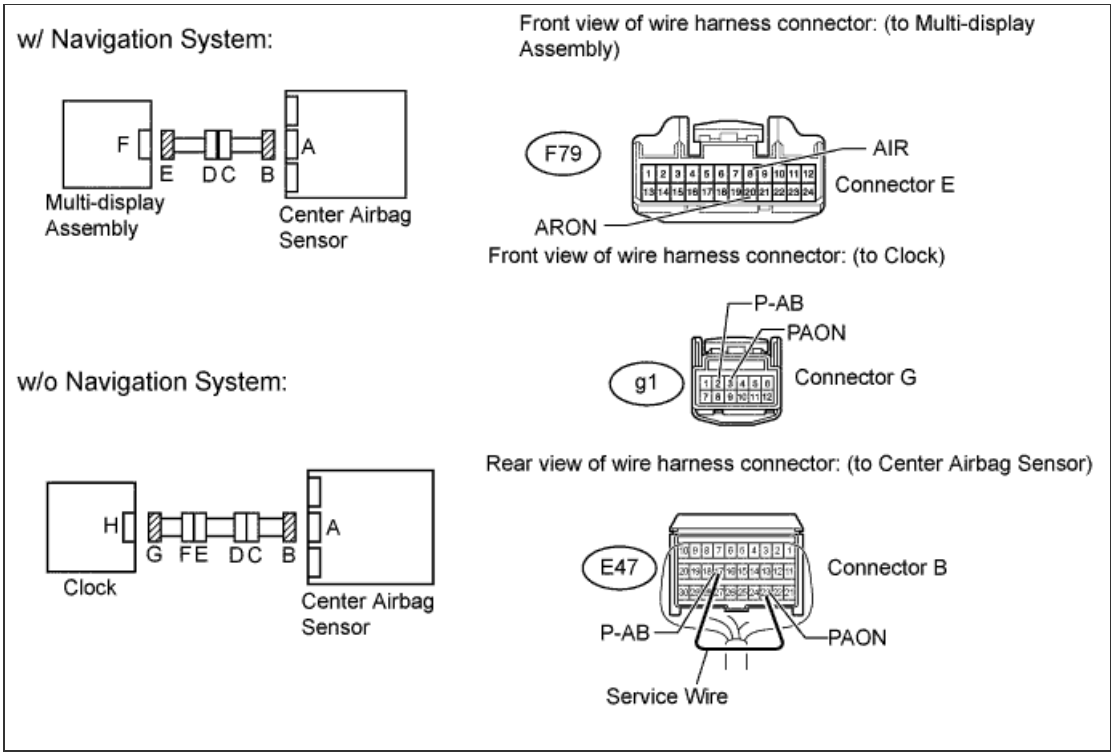

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

**6.CHECK PASSENGER AIRBAG ON/OFF INDICATOR CIRCUIT**

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the center airbag sensor and multi-display assembly or clock.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

**w/ Navigation System**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-20 (ARON) - Body ground | Ignition switch ON | Below 1 V |
| F79-8 (AIR) - Body ground | Ignition switch ON | Below 1 V |

**w/o Navigation System**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| g1-3 (PAON) - Body ground | Ignition switch ON | Below 1 V |
| g1-2 (P-AB) - Body ground | Ignition switch ON | Below 1 V |

f. Turn the ignition switch off.

g. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

h. Using a service wire, connect terminals 23 (PAON) and 17 (P-AB) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**w/ Navigation System**

| | | Specified |
|---|---|---|

| Tester Connection | Condition | Condition |
|---|---|---|
| F79-20 (ARON) - F79-8 (AIR) | Always | Below 1 Ω |

**w/o Navigation System**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| g1-3 (PAON) - g1-2 (P-AB) | Always | Below 1 Ω |

j. Disconnect the service wire from connector B.

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**w/ Navigation System**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F79-20 (ARON) - F79-8 (AIR) | Always | 1 MΩ or higher |
| F79-20 (ARON) - Body ground | Always | 1 MΩ or higher |
| F79-8 (AIR) - Body ground | Always | 1 MΩ or higher |

**w/o Navigation System**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| g1-3 (PAON) - g1-2 (P-AB) | Always | 1 MΩ or higher |
| g1-3 (PAON) - Body ground | Always | 1 MΩ or higher |
| g1-2 (P-AB) - Body ground | Always | 1 MΩ or higher |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |

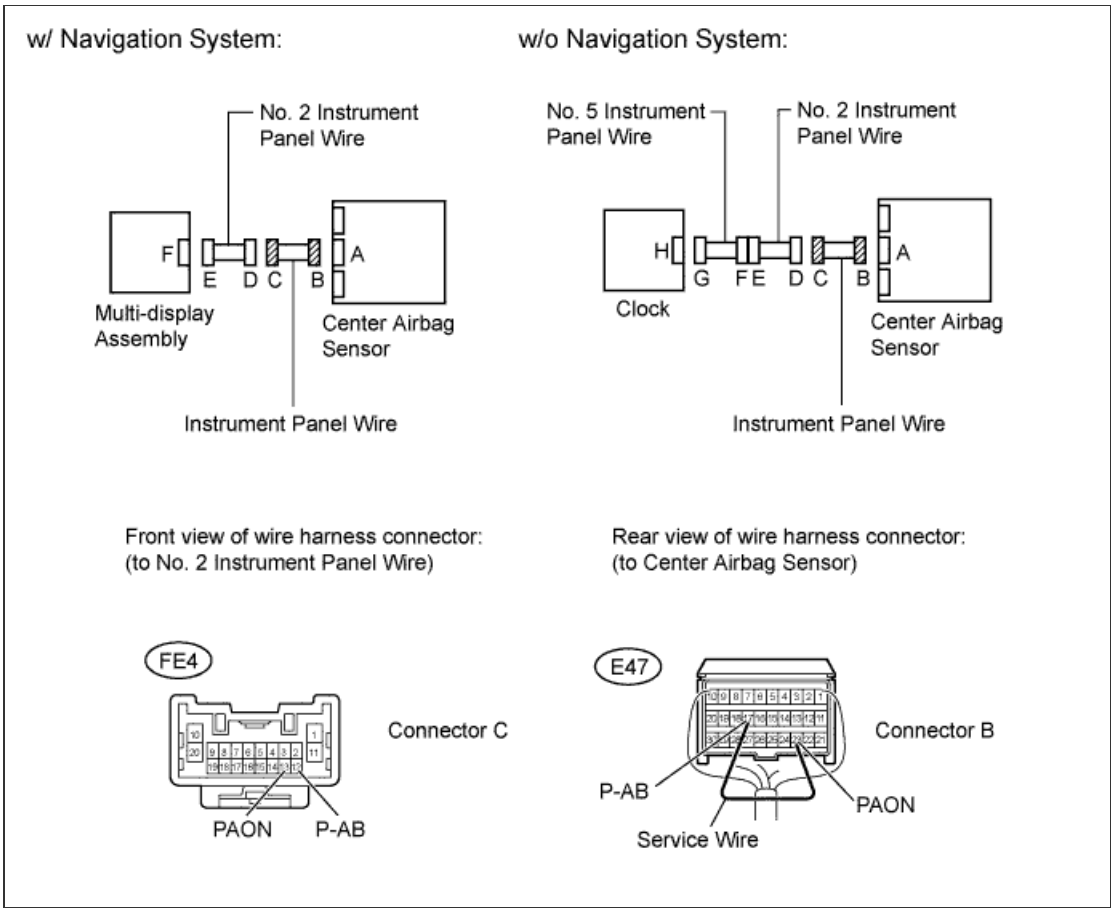
B → REPLACE CLOCK (Click here)

C → Go to step 7

A → REPLACE MULTI-DISPLAY ASSEMBLY (Click here)

**7.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - NO. 2 INSTRUMENT PANEL WIRE)**

a. Disconnect the instrument panel wire connector from the No. 2 instrument panel wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| FE4-13 (PAON) - Body ground | Ignition switch ON | Below 1 V |
| FE4-12 (P-AB) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 23 (PAON) and 17 (P-AB) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| FE4-13 (PAON) - FE4-12 (P-AB) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| FE4-13 (PAON) - FE4-12 (P-AB) | Always | 1 MΩ or higher |
| FE4-13 (PAON) - Body ground | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| FE4-12 (P-AB) - Body ground | Always | 1 MΩ or higher |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |

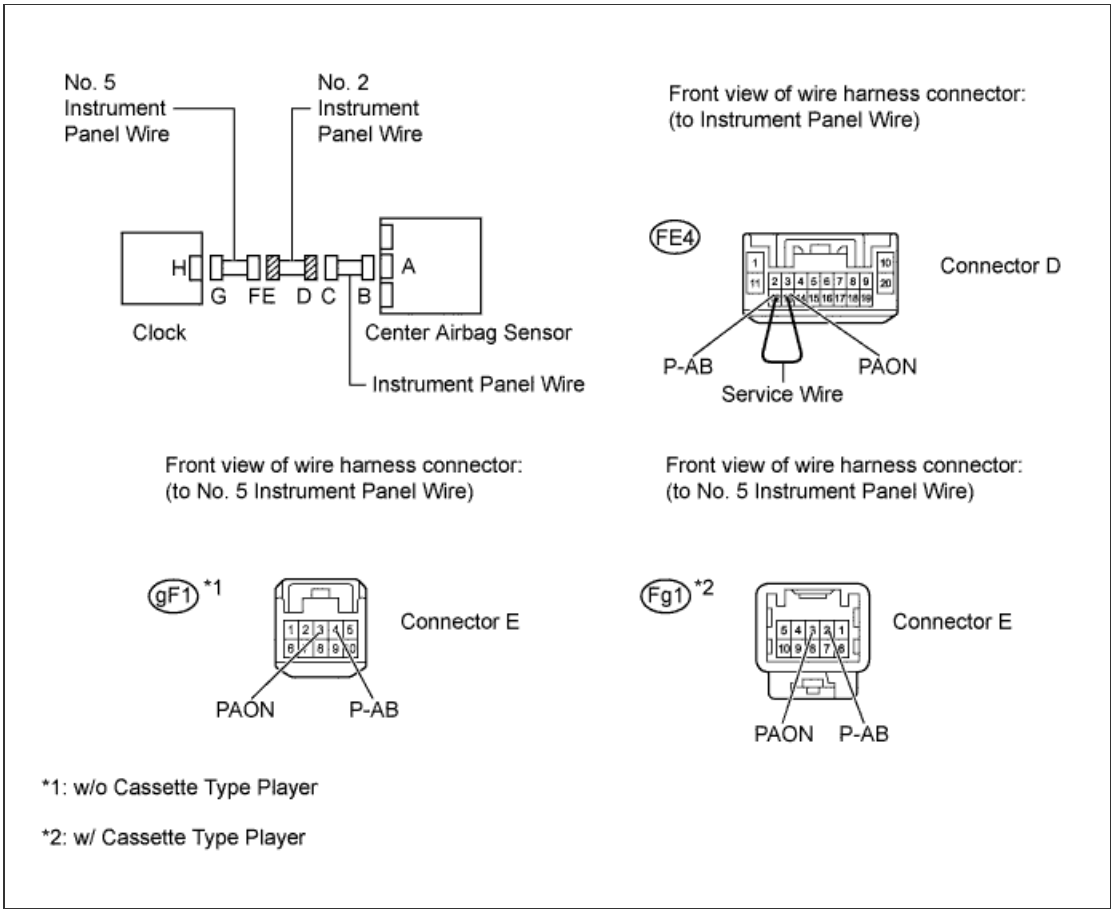
B → Go to step 8

C → REPLACE INSTRUMENT PANEL WIRE

A → REPLACE NO. 2 INSTRUMENT PANEL WIRE

## 8.CHECK NO. 2 INSTRUMENT PANEL WIRE (INSTRUMENT PANEL WIRE - NO. 5 INSTRUMENT PANEL WIRE)

a. Disconnect the No. 2 instrument panel wire connector from the No. 5 instrument panel wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

**w/o Cassette Type Player**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| gF1-3 (PAON) - Body ground | Ignition switch ON | Below 1 V |

| | | |
|---|---|---|
| gF1-4 (P-AB) - Body ground | Ignition switch ON | Below 1 V |

w/ Cassette Type Player

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Fg1-3 (PAON) - Body ground | Ignition switch ON | Below 1 V |
| Fg1-2 (P-AB) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 13 (PAON) and 12 (P-AB) of connector D.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

w/o Cassette Type Player

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| gF1-3 (PAON) - gF1-4 (P-AB) | Always | Below 1 Ω |

w/ Cassette Type Player

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Fg1-3 (PAON) - Fg1-2 (P-AB) | Always | Below 1 Ω |

h. Disconnect the service wire from connector D.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

w/o Cassette Type Player

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| gF1-3 (PAON) - gF1-4 (P-AB) | Always | 1 MΩ or higher |
| gF1-3 (PAON) - Body ground | Always | 1 MΩ or higher |
| gF1-4 (P-AB) - Body ground | Always | 1 MΩ or higher |

w/ Cassette Type Player

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Fg1-3 (PAON) - Fg1-2 (P-AB) | Always | 1 MΩ or higher |
| Fg1-3 (PAON) - Body ground | Always | 1 MΩ or higher |
| Fg1-2 (P-AB) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 INSTRUMENT PANEL WIRE

OK

REPLACE NO. 5 INSTRUMENT PANEL WIRE

9.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the multi-display assembly or clock.

**OK:**

**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK ↓

**10.CHECK CONNECTORS**

a. Disconnect the connectors from the center airbag sensor and the multi-display assembly or clock.

b. Check that the connectors (on the center airbag sensor side and multi-display assembly side or clock side) are not damaged.

**OK:**

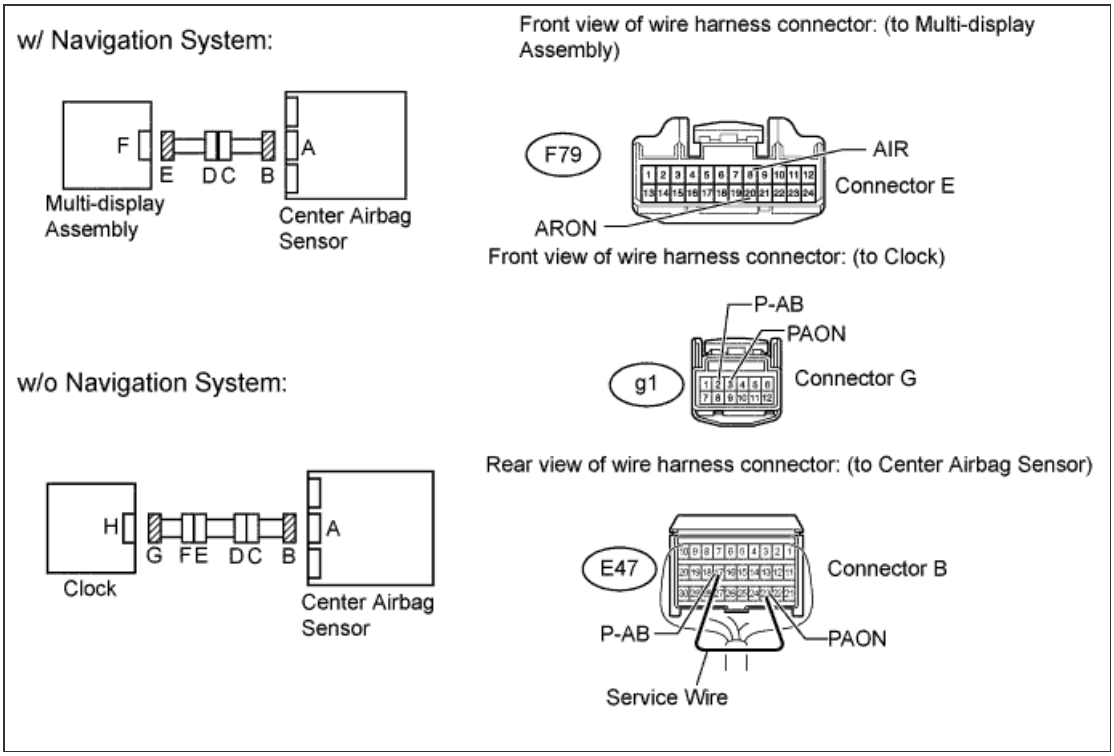
**The connectors are not deformed or damaged.**

NG → REPLACE HARNESS AND CONNECTOR

OK ↓

**11.CHECK PASSENGER AIRBAG ON/OFF INDICATOR CIRCUIT**

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

**w/ Navigation System**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-20 (ARON) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| F79-8 (AIR) - Body ground | Ignition switch ON | Below 1 V |

**w/o Navigation System**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| g1-3 (PAON) - Body ground | Ignition switch ON | Below 1 V |
| g1-2 (P-AB) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 23 (PAON) and 17 (P-AB) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**w/ Navigation System**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F79-20 (ARON) - F79-8 (AIR) | Always | Below 1 Ω |

**w/o Navigation System**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| g1-3 (PAON) - g1-2 (P-AB) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**w/ Navigation System**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F79-20 (ARON) - F79-8 (AIR) | Always | 1 MΩ or higher |
| F79-20 (ARON) - Body ground | Always | 1 MΩ or higher |
| F79-8 (AIR) - Body ground | Always | 1 MΩ or higher |

**w/o Navigation System**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| g1-3 (PAON) - g1-2 (P-AB) | Always | 1 MΩ or higher |
| g1-3 (PAON) - Body ground | Always | 1 MΩ or higher |
| g1-2 (P-AB) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 15

OK

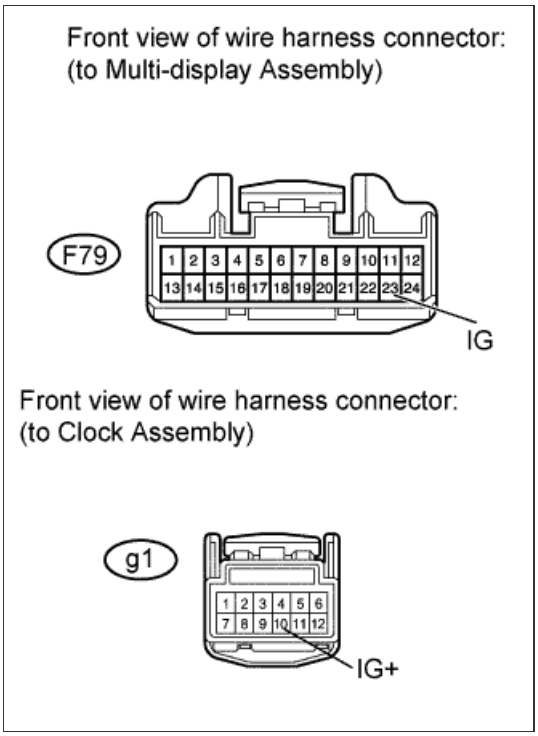
**12.CHECK PASSENGER AIRBAG ON/OFF INDICATOR (SOURCE VOLTAGE)**

a. Turn the ignition switch off.

b. Connect the connectors to the center airbag sensor.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**w/ Navigation System**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F64-3 (IG) - Body ground | Ignition switch ON | 11 to 14 V |

**w/o Navigation System**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| g1-10 (IG+) - Body ground | Ignition switch ON | 11 to 14 V |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Navigation System) | B |
| NG (w/o Navigation System) | C |

B → REPLACE HARNESS AND CONNECTOR (MULTI-DISPLAY - BATTERY) OR BATTERY

C → REPLACE HARNESS AND CONNECTOR (CLOCK - BATTERY) OR BATTERY

A

**13.CHECK PASSENGER AIRBAG ON/OFF INDICATOR**

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Connect the connector to the multi-display assembly or clock.

d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2

seconds.

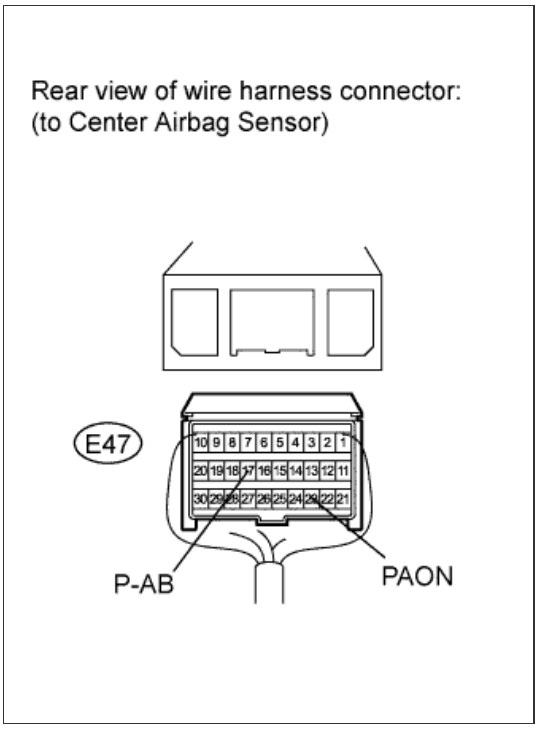
f. Check the indicator according to the table below.

**OK:**

| Tester Connection | Switch Condition | Passenger airbag ON/OFF indicator |
|---|---|---|
| E47-23 (PAON) - Body ground | Ignition switch ON | "ON" comes on |
| E47-17 (P-AB) - Body ground | Ignition switch ON | "OFF" comes on |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Navigation System) | B |
| NG (w/o Navigation System) | C |




B → REPLACE MULTI-DISPLAY ASSEMBLY (Click here)

C → REPLACE CLOCK (Click here)

A

**14.CHECK CENTER AIRBAG SENSOR**

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Connect the connectors to the center airbag sensor.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, and wait for at least 60 seconds.

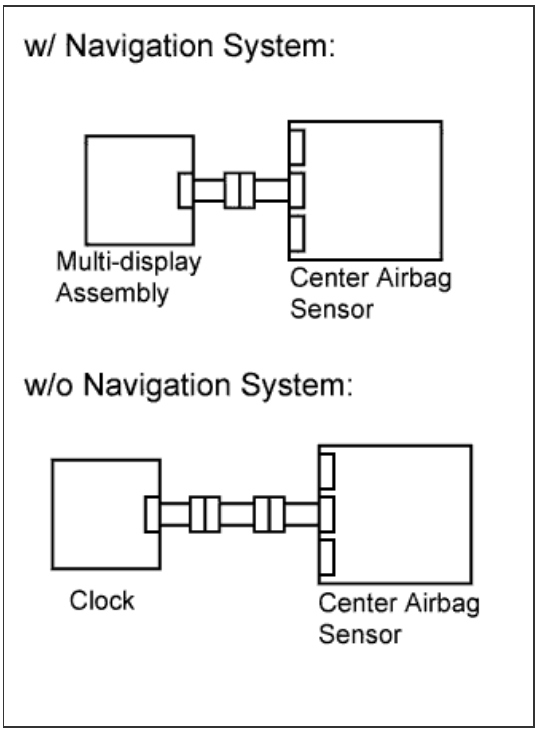
i. Check for DTCs (Click here).

**OK:**

**DTC B1660 is not output.**

**HINT:**

Codes other than DTC B1660 may be output at this time, but they are not related to this check.



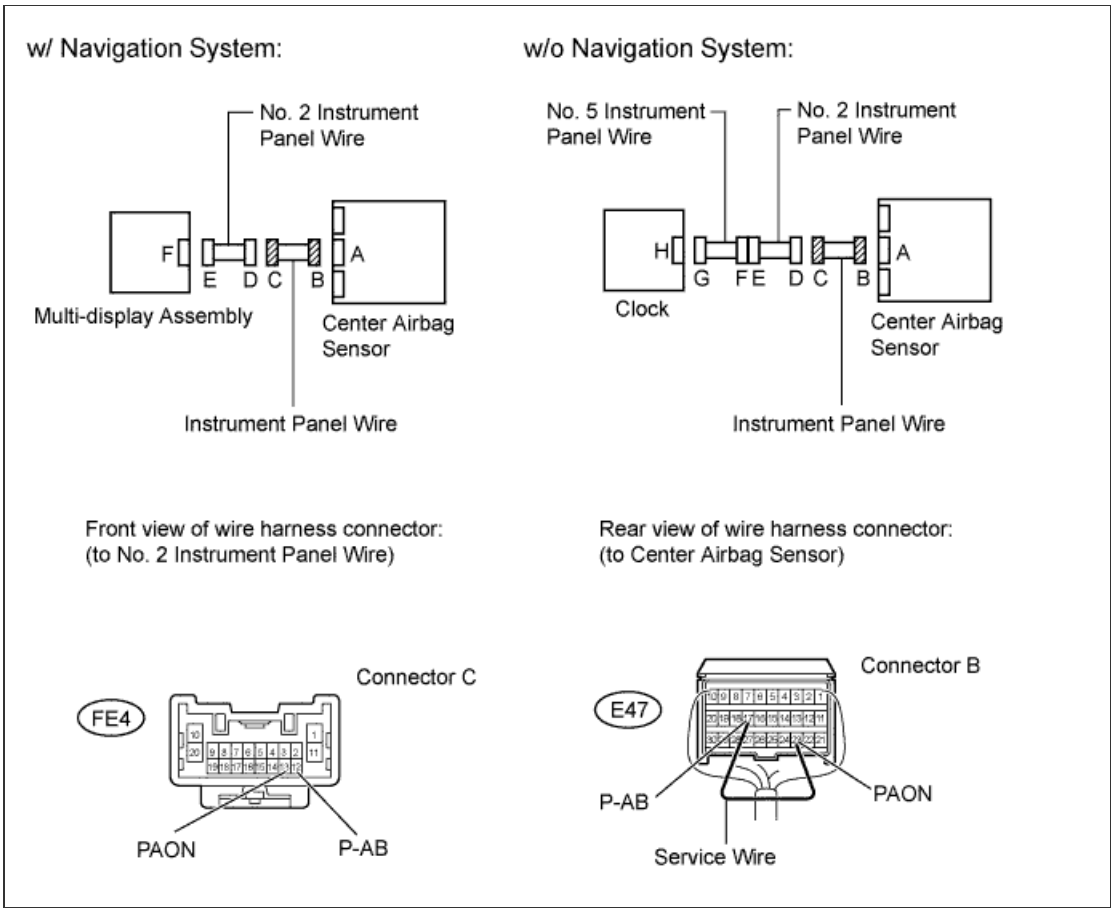

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

**USE SIMULATION METHOD TO CHECK (Click here)**

**15.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - NO. 2 INSTRUMENT PANEL WIRE)**

a. Disconnect the instrument panel wire connector from the No. 2 instrument panel wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| FE4-13 (PAON) - Body ground | Ignition switch ON | Below 1 V |
| FE4-12 (P-AB) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 23 (PAON) and 17 (P-AB) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| FE4-13 (PAON) - FE4-12 (P-AB) | Always | Below 1 Ω |

h. Disconnect the service wire from connector B.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| | | Specified |
|---|---|---|

| Tester Connection | Condition | Condition |
|---|---|---|
| FE4-13 (PAON) - FE4-12 (P-AB) | Always | 1 MΩ or higher |
| FE4-13 (PAON) - Body ground | Always | 1 MΩ or higher |
| FE4-12 (P-AB) - Body ground | Always | 1 MΩ or higher |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |

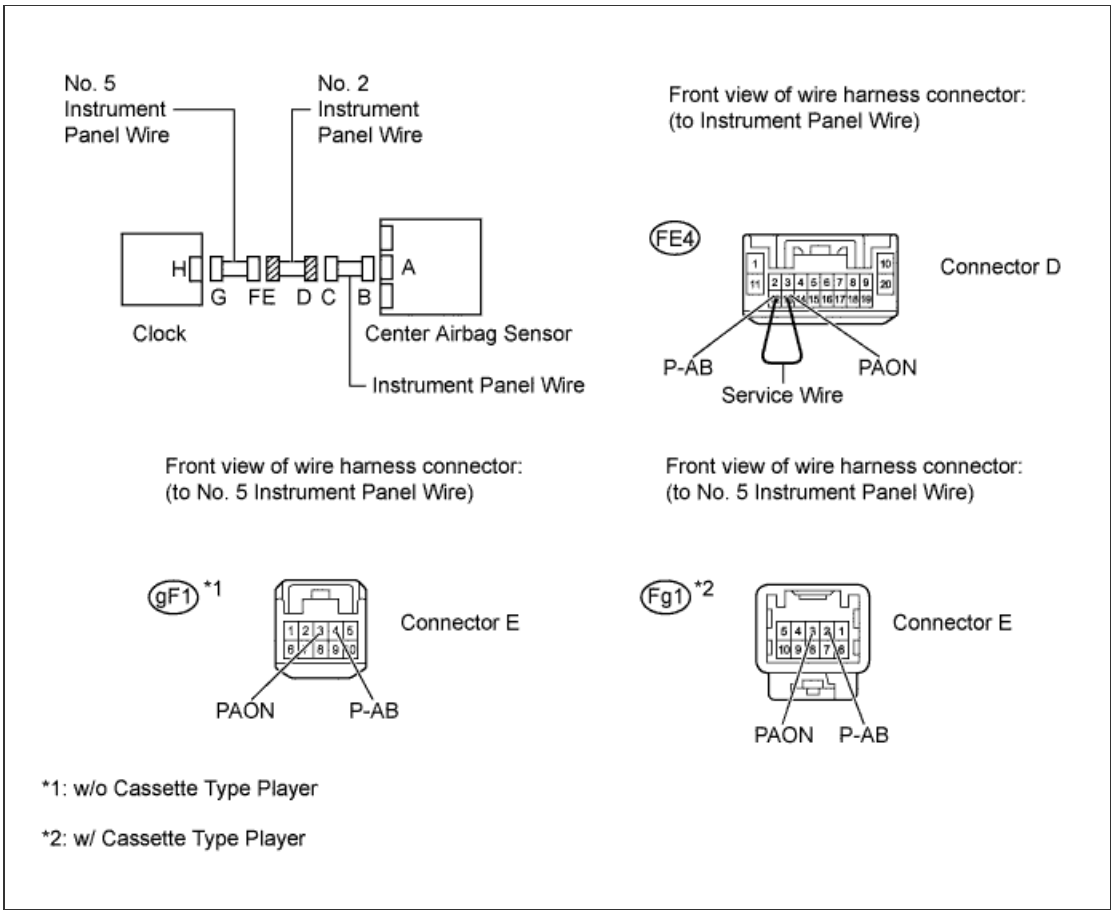
| | |
|---|---|
| B | Go to step 16 |
| C | REPLACE INSTRUMENT PANEL WIRE |

A

REPLACE NO. 2 INSTRUMENT PANEL WIRE

16.CHECK NO. 2 INSTRUMENT PANEL WIRE (INSTRUMENT PANEL WIRE - NO. 5 INSTRUMENT PANEL WIRE)

a. Disconnect the No. 2 instrument panel wire connector from the No. 5 instrument panel wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

w/o Cassette Type Player

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| gF1-3 (PAON) - Body ground | Ignition switch ON | Below 1 V |
| gF1-4 (P-AB) - Body ground | Ignition switch ON | Below 1 V |

w/ Cassette Type Player

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Fg1-3 (PAON) - Body ground | Ignition switch ON | Below 1 V |
| Fg1-2 (P-AB) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Using a service wire, connect terminals 13 (PAON) and 12 (P-AB) of connector D.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

w/o Cassette Type Player

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| gF1-3 (PAON) - gF1-4 (P-AB) | Always | Below 1 Ω |

w/ Cassette Type Player

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Fg1-3 (PAON) - Fg1-2 (P-AB) | Always | Below 1 Ω |

h. Disconnect the service wire from connector D.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

w/o Cassette Type Player

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| gF1-3 (PAON) - gF1-4 (P-AB) | Always | 1 MΩ or higher |
| gF1-3 (PAON) - Body ground | Always | 1 MΩ or higher |
| gF1-4 (P-AB) - Body ground | Always | 1 MΩ or higher |

w/ Cassette Type Player

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Fg1-3 (PAON) - Fg1-2 (P-AB) | Always | 1 MΩ or higher |
| Fg1-3 (PAON) - Body ground | Always | 1 MΩ or higher |
| Fg1-2 (P-AB) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 INSTRUMENT PANEL WIRE

OK → REPLACE NO. 5 INSTRUMENT PANEL WIRE

## DTC B1855/63 Short in Rear Side Squib LH Circuit

## DTC B1856/63 Open in Rear Side Squib LH Circuit

## DTC B1857/63 Short to GND in Rear Side Squib LH Circuit

## DTC B1858/63 Short to B+ in Rear Side Squib LH Circuit

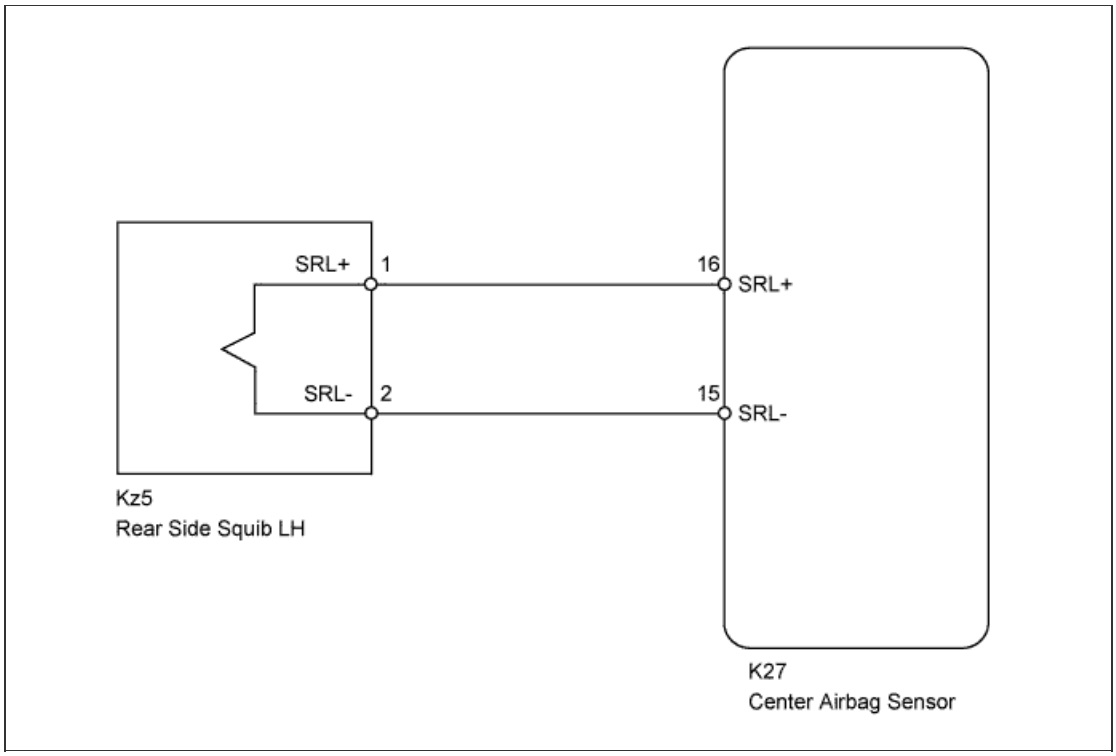
**for Preparation** Click here

### DESCRIPTION

The rear side squib LH circuit consists of the center airbag sensor and the rear seat side airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear side squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1855/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear side squib LH circuit during the primary check.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1856/63 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear side squib LH circuit for 2 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1857/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear side squib LH circuit for 0.5 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1858/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear side squib LH circuit for 0.5 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT SIDE AIRBAG LH (REAR SIDE SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the rear seat side airbag LH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

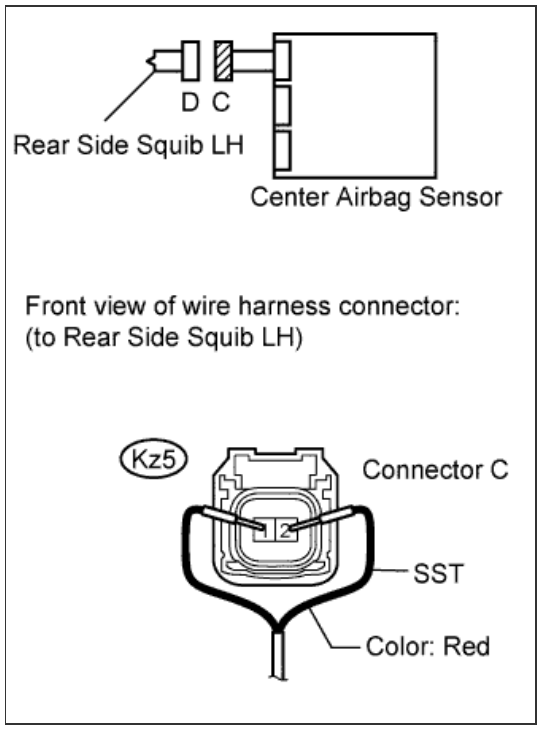
Never connect the tester to the rear seat side airbag LH (rear side squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1855, B1856, B1857 or B1858 is not output.**

**HINT:**

Codes other than DTC B1855, B1856, B1857 and B1858 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE REAR NO. 1 SEAT ASSEMBLY LH (Click here)

C → Go to step 2

A → REPLACE REAR NO. 1 SEAT ASSEMBLY LH (Click here)

## 2.CHECK FLOOR WIRE (REAR SIDE SQUIB LH CIRCUIT)

a. Turn the ignition switch off.

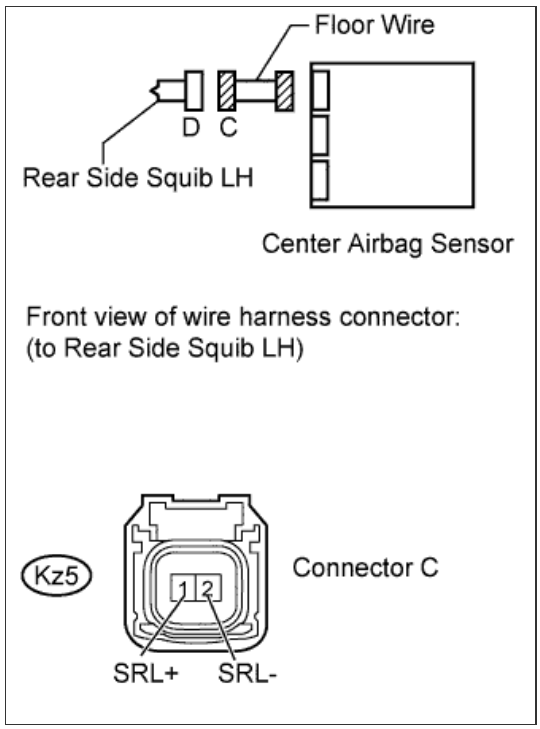
b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Kz5-1 (SRL+) - Body ground | Ignition switch ON | Below 1 V |
| Kz5-2 (SRL-) - Body ground | Ignition switch ON | Below 1 V |

g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz5-1 (SRL+) - Kz5-2 (SRL-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Kz5-1 (SRL+) - Kz5-2 (SRL-) | Always | 1 MΩ or higher |
| Kz5-1 (SRL+) - Body ground | Always | 1 MΩ or higher |
| Kz5-2 (SRL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**3.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat side airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

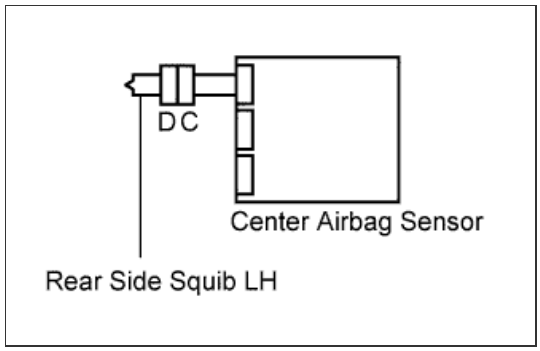
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1855, B1856, B1857 or B1858 is not output.**

**HINT:**

Codes other than DTC B1855, B1856, B1857 and B1858 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1661/44 Roll Over Cut Off Indicator Malfunction

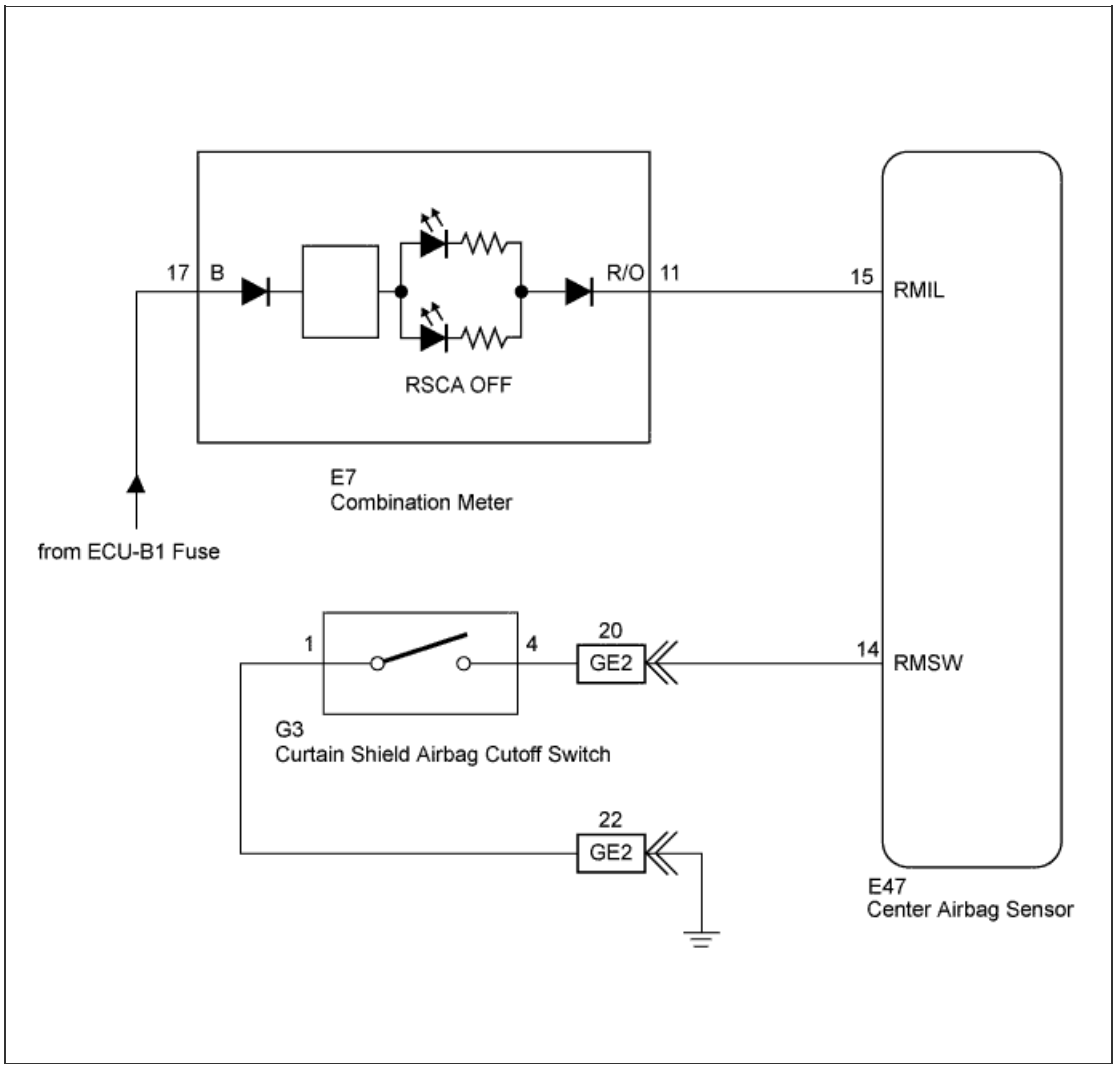
**for Preparation** Click here

### DESCRIPTION

The curtain shield airbag cutoff switch is a mechanism that operates both the right and left sides of the curtain shield airbag and the front seat outer belt when the center airbag sensor detects a roll-over.
The RSCA OFF indicator is installed in the combination meter.
If the curtain shield airbag cutoff switch is operated, the indicator comes on to inform the drive that the roll-over detection system is not working.
The initial setting of the roll-over detection system is on. It automatically operates every time the ignition switch is turned to ON.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1661/44 | When one of the following conditions is met:<br>• The center airbag sensor receives an open signal or short to ground in the RSCA OFF indicator circuit.<br>• An RSCA OFF indicator malfunction.<br>• A center airbag sensor malfunction. | • Combination meter assembly<br>• Curtain shield airbag cutoff switch<br>• Center airbag sensor assembly<br>• Instrument panel wire<br>• No. 3 instrument panel wire |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**

- When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 1.CHECK COMBINATION METER (SOURCE VOLTAGE)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Remove the combination meter with the connector connected.

d. Disconnect the connector from the center airbag sensor.

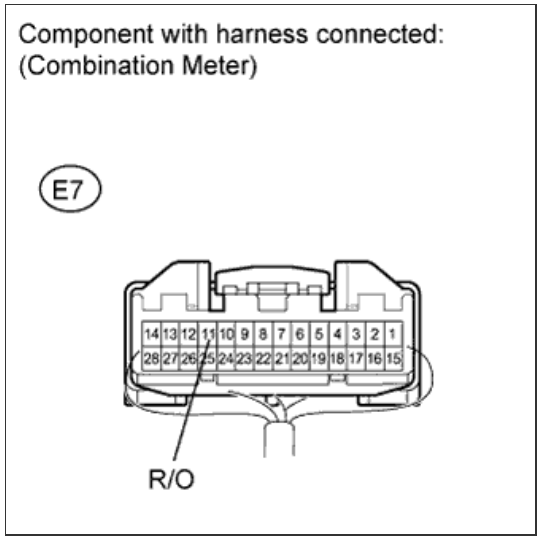
e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON.

g. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E7-11 (R/O) - Body ground | Ignition switch ON | 11 to 14 V |



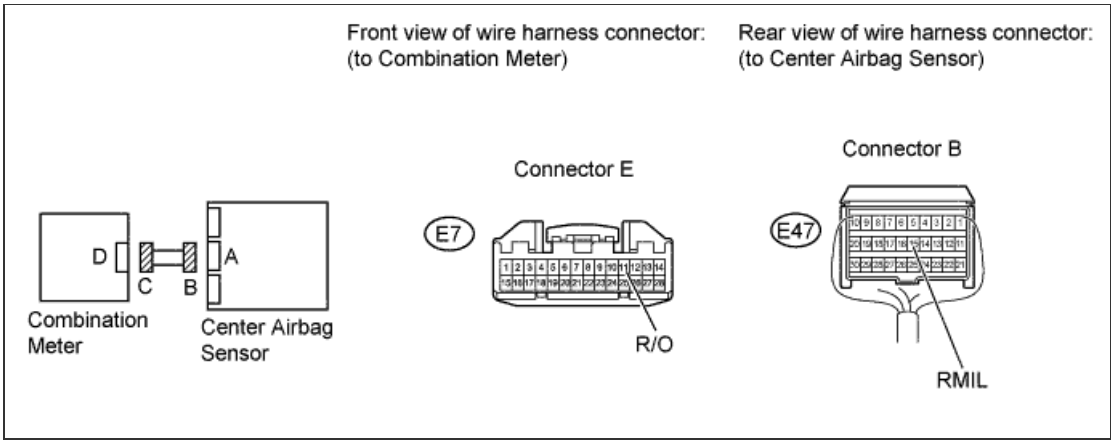

h. Turn the ignition switch off.

NG → GO TO METER / GAUGE SYSTEM (Click here)

OK

## 2.CHECK RSCA OFF INDICATOR CIRCUIT

a. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.




b. Disconnect the connector from the combination meter.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON.

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E7-11 (R/O) - Body ground | Ignition switch ON | Below 1 V |

f. Turn the ignition switch off.

g. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E7-11 (R/O) - E47-15 (RMIL) | Always | Below 1 Ω |
| E7-11 (R/O) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**3.INSPECT CURTAIN SHIELD AIRBAG CUTOFF SWITCH**

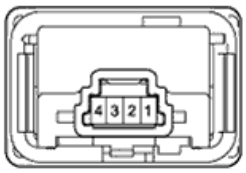
a. Remove the curtain shield airbag cutoff switch (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 4 - 1 | Curtain shield airbag cutoff switch is in on position | Below 1 Ω |
| 4 - 1 | Curtain shield airbag cutoff switch is in off position | 1 MΩ or higher |

Component without harness connected:
(Curtain Shield Airbag Cutoff Switch)

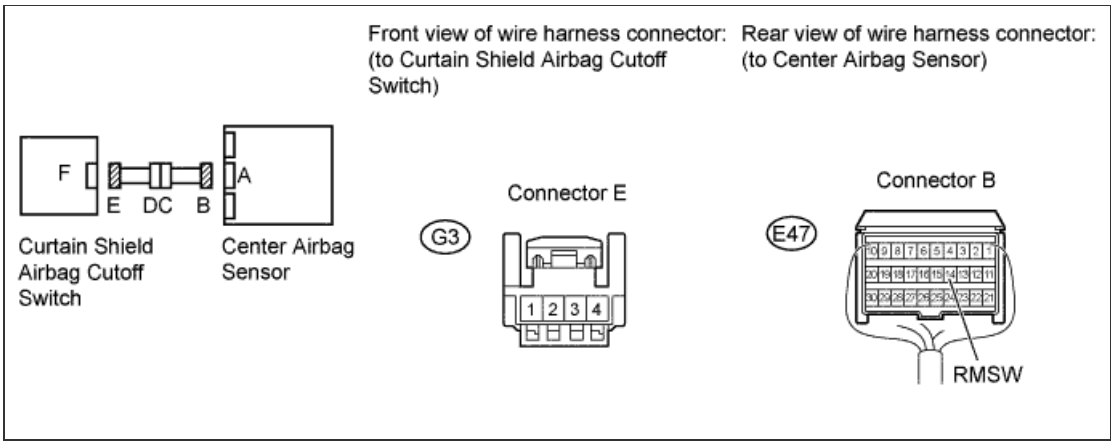



NG → REPLACE CURTAIN SHIELD AIRBAG CUTOFF SWITCH (Click here)

OK

**4.CHECK CURTAIN SHIELD AIRBAG CUTOFF SWITCH CIRCUIT**

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Turn the ignition switch to ON.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| G3-4 - Body ground | Ignition switch ON | Below 1 V |
| G3-1 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E47-14 (RMSW) - G3-4 | Always | Below 1 Ω |
| G3-4 - Body ground | Always | 1 MΩ or higher |
| G3-1 - Body ground | Always | Below 1 Ω |

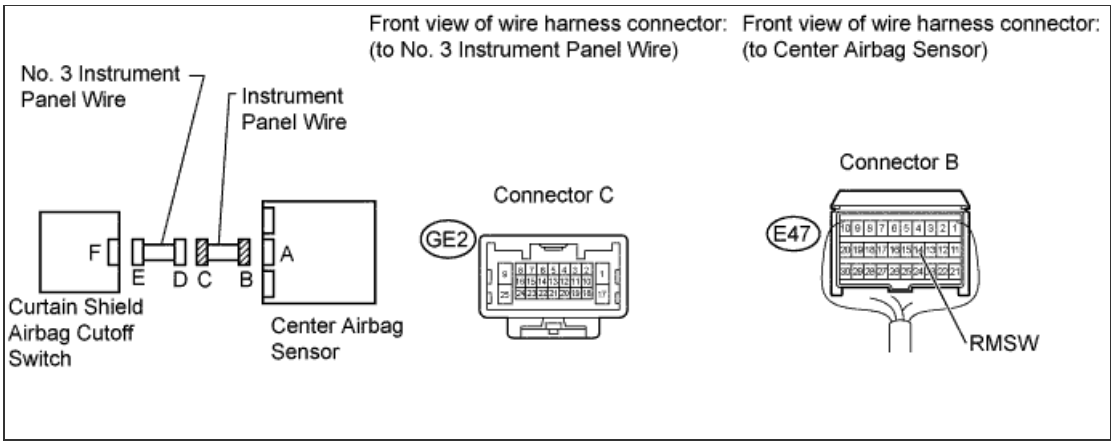
NG → Go to step 5

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

5.CHECK INSTRUMENT PANEL WIRE (INSTRUMENT PANEL WIRE - NO. 3 INSTRUMENT PANEL WIRE AND BODY GROUND)

a. Disconnect the instrument panel wire connector from the No. 3 instrument panel wire.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| GE2-20 - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E47-14 (RMSW) - GE2-20 | Always | Below 1 Ω |
| GE2-20 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE NO. 3 INSTRUMENT PANEL WIRE

## DTC B1855/63 Short in Rear Side Squib LH Circuit

## DTC B1856/63 Open in Rear Side Squib LH Circuit

## DTC B1857/63 Short to GND in Rear Side Squib LH Circuit

## DTC B1858/63 Short to B+ in Rear Side Squib LH Circuit

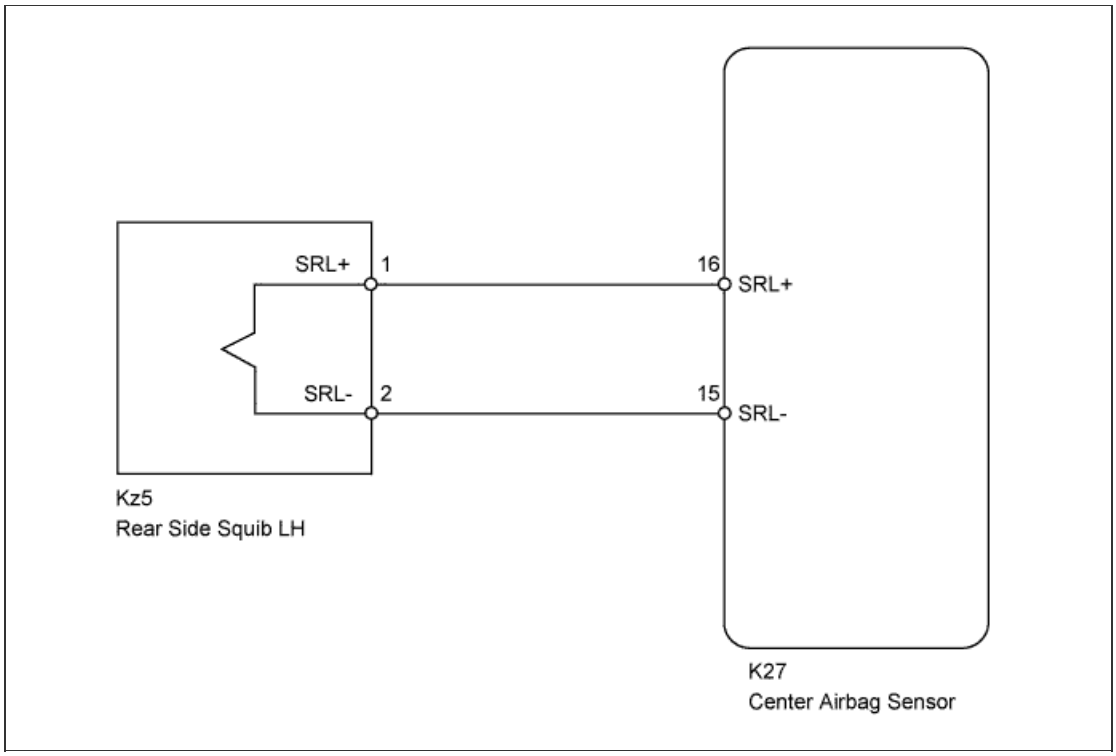
**for Preparation** Click here

### DESCRIPTION

The rear side squib LH circuit consists of the center airbag sensor and the rear seat side airbag LH.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear side squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1855/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear side squib LH circuit during the primary check.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1856/63 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear side squib LH circuit for 2 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1857/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear side squib LH circuit for 0.5 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |
| B1858/63 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear side squib LH circuit for 0.5 seconds.<br>• A rear side squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat side airbag assembly LH (Rear side squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT SIDE AIRBAG LH (REAR SIDE SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the rear seat side airbag LH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

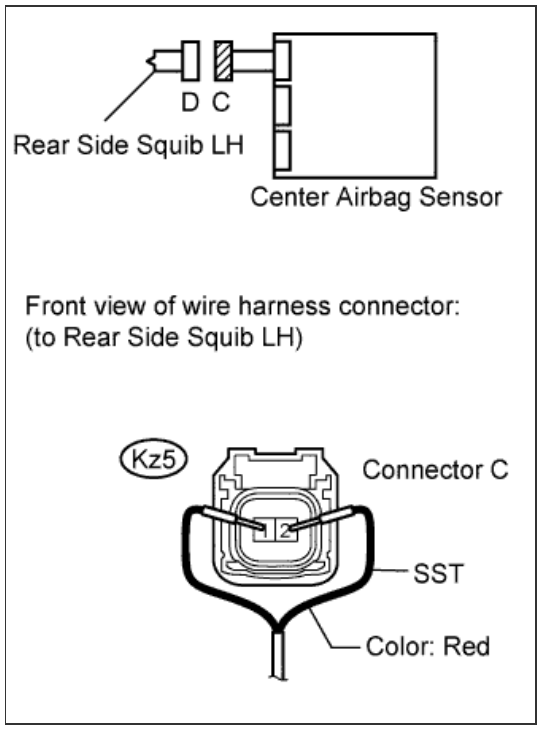
Never connect the tester to the rear seat side airbag LH (rear side squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1855, B1856, B1857 or B1858 is not output.**

**HINT:**

Codes other than DTC B1855, B1856, B1857 and B1858 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE REAR NO. 1 SEAT ASSEMBLY LH (Click here)

C → Go to step 2

A → REPLACE REAR NO. 1 SEAT ASSEMBLY LH (Click here)

## 2.CHECK FLOOR WIRE (REAR SIDE SQUIB LH CIRCUIT)

a. Turn the ignition switch off.

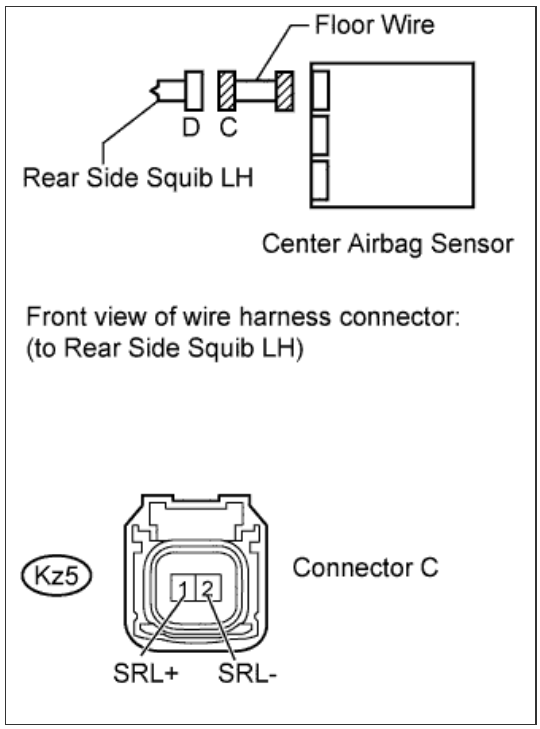
b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Kz5-1 (SRL+) - Body ground | Ignition switch ON | Below 1 V |
| Kz5-2 (SRL-) - Body ground | Ignition switch ON | Below 1 V |

g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Kz5-1 (SRL+) - Kz5-2 (SRL-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Kz5-1 (SRL+) - Kz5-2 (SRL-) | Always | 1 MΩ or higher |
| Kz5-1 (SRL+) - Body ground | Always | 1 MΩ or higher |
| Kz5-2 (SRL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**3.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat side airbag LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

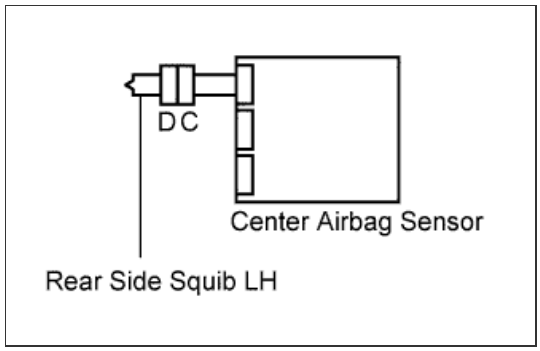
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1855, B1856, B1857 or B1858 is not output.**

**HINT:**

Codes other than DTC B1855, B1856, B1857 and B1858 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1662/45 Indicator Light Circuit Malfunction

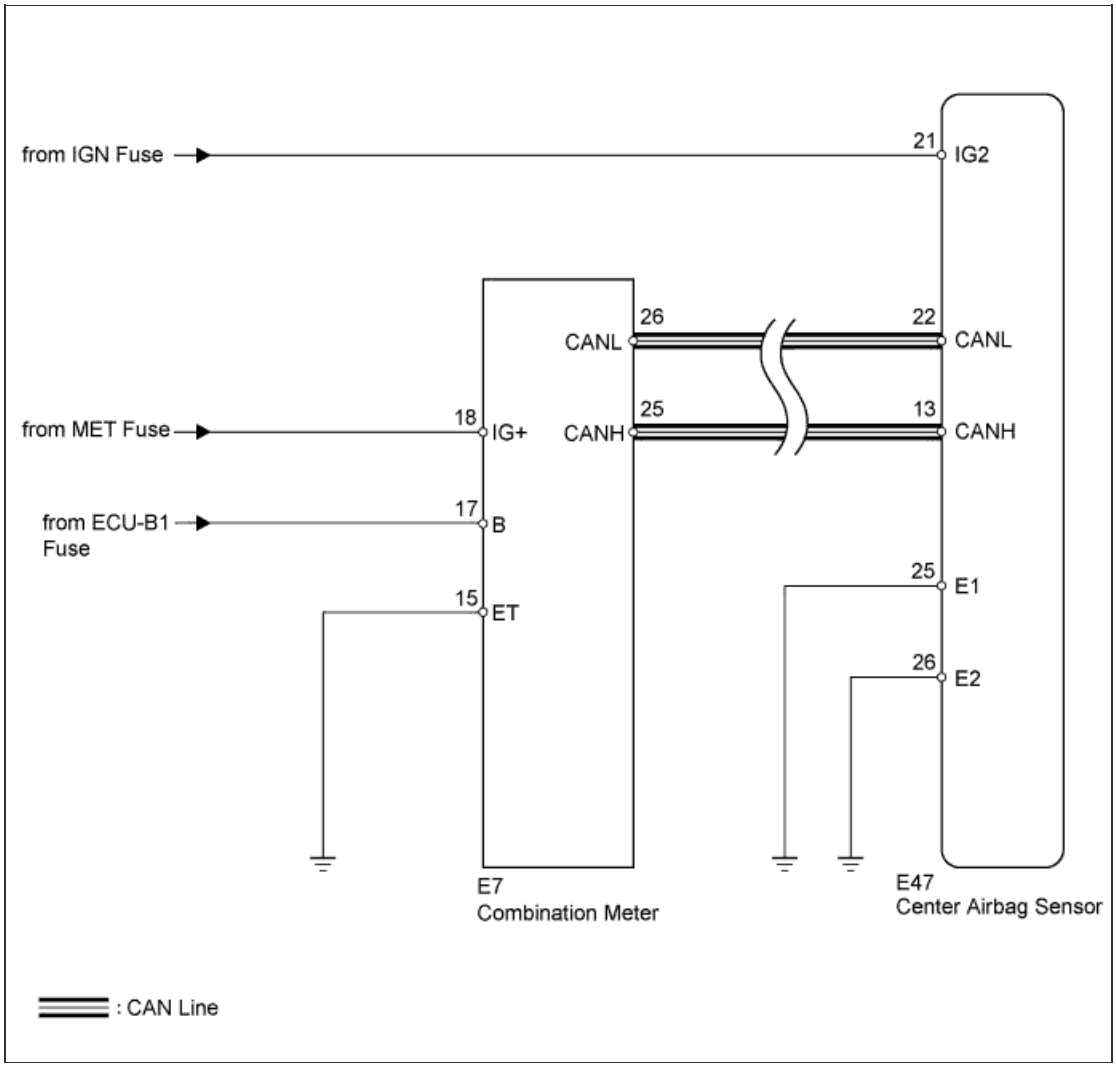
**for Preparation** Click here

### DESCRIPTION

The indicator light circuit consists of the center airbag sensor and the combination meter.
When the center airbag sensor detects a malfunction in the SRS airbag system, the SRS warning light comes on to inform the driver. It also comes on when the source voltage drops, and automatically goes off in approximately 10 seconds after the source voltage returns to normal (DTC is not stored).
The SRS warning light comes on for 6 seconds after the ignition switch is turned to ON and goes off if the system is normal.
When an open circuit is detected, such as when the connector between the combination meter and the center airbag sensor is disconnected, the SRS warning light remains on even when approximately 6 seconds elapsed after the ignition switch is turned to ON.
DTC B1662/45 is stored when a malfunction is detected in the indicator light circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1662/45 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal, a short to ground signal or a short circuit to ground signal or a short circuit to B+ signal in the indicator light circuit for 2 seconds.<br>• A combination meter malfunction.<br>• A center airbag sensor malfunction. | • Combination meter assembly (SRS warning light)<br>• Center airbag sensor assembly<br>• Instrument panel wire |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 1.CHECK CAN COMMUNICATION SYSTEM

a. Check if a CAN communication DTC is output.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output (for LHD) | B |
| DTC is output (for RHD) | C |

B → REPAIR CIRCUITS INDICATED BY OUTPUT DTCS (Click here)

C → REPAIR CIRCUITS INDICATED BY OUTPUT DTCS (Click here)

A

## 2.CHECK BATTERY

a. Measure the voltage of the battery.

**Standard Voltage:**
**11 to 14 V**

NG → CHECK AND REPLACE BATTERY OR CHARGING SYSTEM

OK

## 3.CHECK CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and combination meter.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 4.CHECK HARNESS AND CONNECTOR (SOURCE VOLTAGE OF CENTER AIRBAG SENSOR)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON.

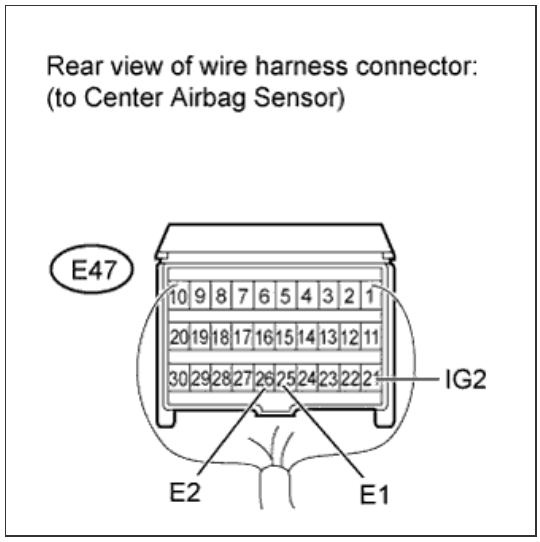
d. Operate all the components of the electrical system (defogger, wipers, headlights, heater blower, etc.).

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| E47-21 (IG2) - E47-25 (E1) | Ignition switch ON | 11 to 14 V |
| E47-21 (IG2) - E47-26 (E2) | Ignition switch ON | 11 to 14 V |




NG → REPLACE HARNESS AND CONNECTOR

OK

## 5.CHECK HARNESS AND CONNECTOR (SOURCE VOLTAGE OF COMBINATION METER)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

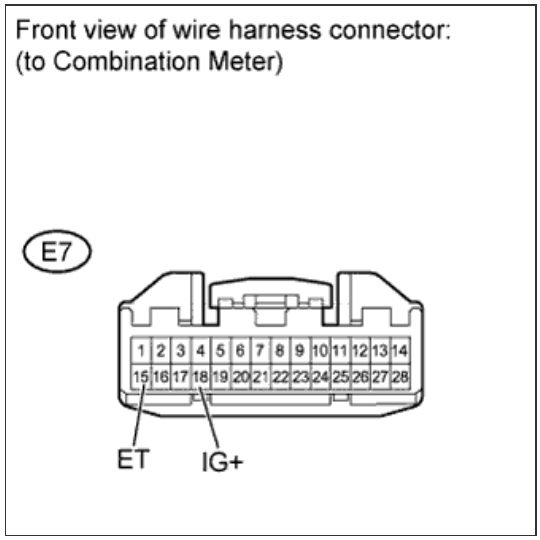
c. Disconnect the E7 connector from the combination meter.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E7-18 (IG+) - E7-15 (ET) | Ignition switch ON | 11 to 14 V |




NG → REPLACE HARNESS AND CONNECTOR

OK

## 6.CHECK SRS WARNING LIGHT (SHORT TO GROUND)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Connect the connector to the combination meter.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON.

f. Check the SRS warning light condition.

**OK:**

**After the primary check period, SRS warning light goes off for approximately 10 seconds and then remains on.**

**HINT:**

The primary check period is approximately 6 seconds after the ignition switch is turned ON.

NG → GO TO METER / GAUGE SYSTEM (Click here)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## DTC B1860/64 Short in Driver Side Knee Airbag Squib Circuit

## DTC B1861/64 Open in Driver Side Knee Airbag Squib Circuit

## DTC B1862/64 Short to GND in Driver Side Knee Airbag Squib Circuit

## DTC B1863/64 Short to B+ in Driver Side Knee Airbag Squib Circuit

**for Preparation** Click here

### DESCRIPTION

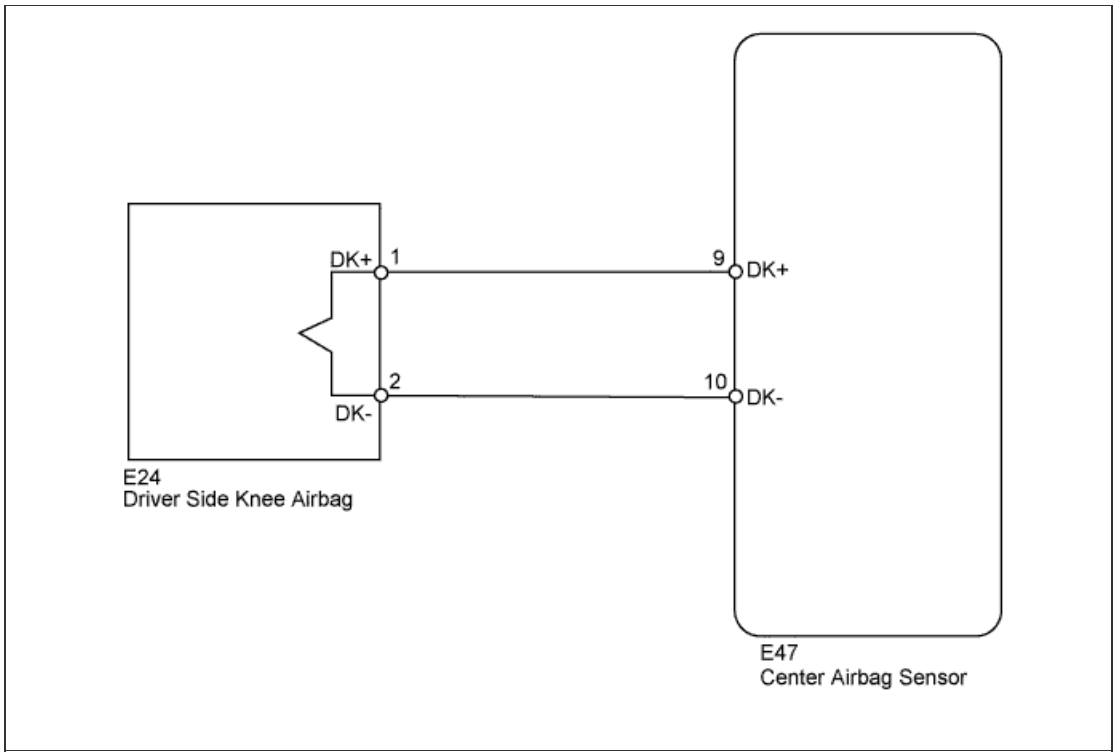
The driver side knee airbag squib circuit consists of the center airbag sensor and the driver side knee airbag.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side knee airbag squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1860/64 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side knee airbag squib circuit during the primary check.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1861/64 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the driver side knee airbag squib circuit for 2 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1862/64 | When one of the following conditions is met:<br>• The airbag sensor center receives a short circuit to ground signal in the knee airbag (Driver side squib) circuit for 0.5 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1863/64 | When one of the following conditions is met:<br>• The airbag sensor center receives a short circuit to B+ signal in the knee airbag (Driver side squib) circuit for 0.5 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |

**HINT:**

Vehicles that are not equipped with knee airbag still contain knee airbag circuits and use substitution parts in replace of the knee airbag. If a malfunction occurs in this knee airbag circuit, DTC B1860/64, B1861/64, B1862/64 or B1863/64 is stored.

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK DRIVER SIDE KNEE AIRBAG (DRIVER SIDE KNEE SQUIB)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the driver side knee airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

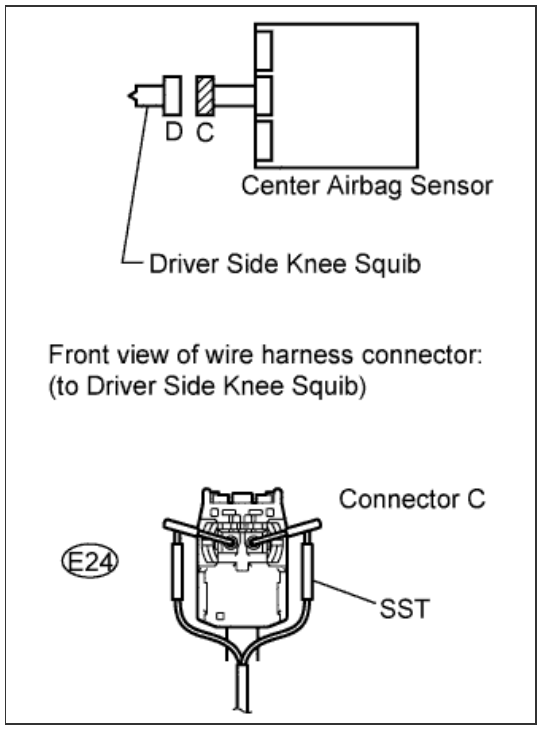
Never connect the tester to the driver side knee airbag (driver side knee squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1860, B1861, B1862 or B1863 is not output.**

**HINT:**

Codes other than DTC B1860, B1861, B1862 and B1863 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE DRIVER SIDE KNEE AIRBAG ASSEMBLY (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the instrument panel wire connector (on the driver side knee airbag side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE

OK →

## 3.CHECK INSTRUMENT PANEL WIRE (DRIVER SIDE KNEE AIRBAG CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - Body ground | Ignition switch ON | Below 1 V |
| E24-2 (DK-) - Body ground | Ignition switch ON | Below 1 V |

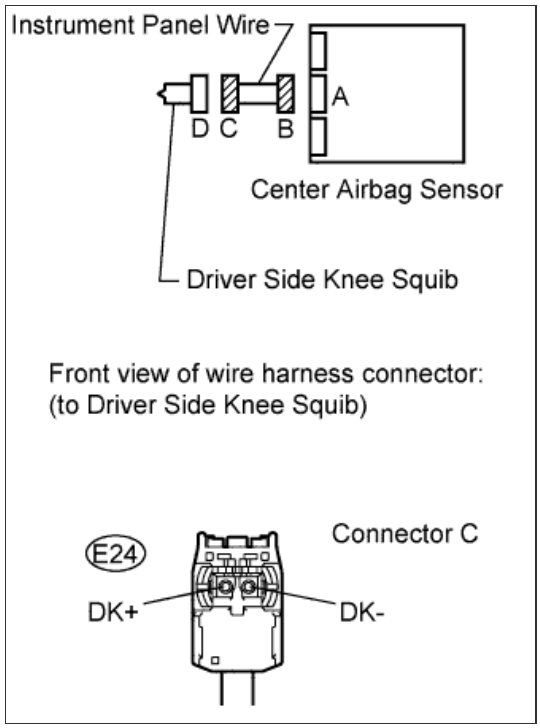
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - E24-2 (DK-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - E24-2 (DK-) | Always | 1 MΩ or higher |
| E24-1 (DK+) - Body ground | Always | 1 MΩ or higher |
| E24-2 (DK-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the driver side knee airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

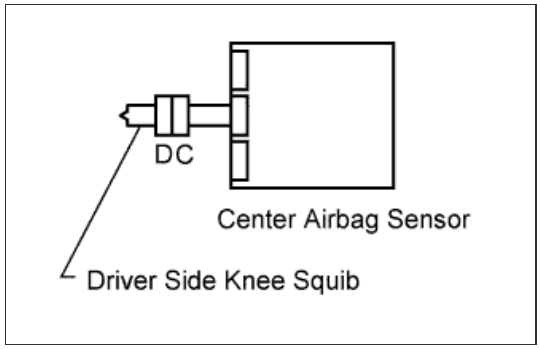
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1860, B1861, B1862 or B1863 is not output.**

**HINT:**

Codes other than DTC B1860, B1861, B1862 and B1863 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1675/18 Rear Floor Airbag Sensor Malfunction

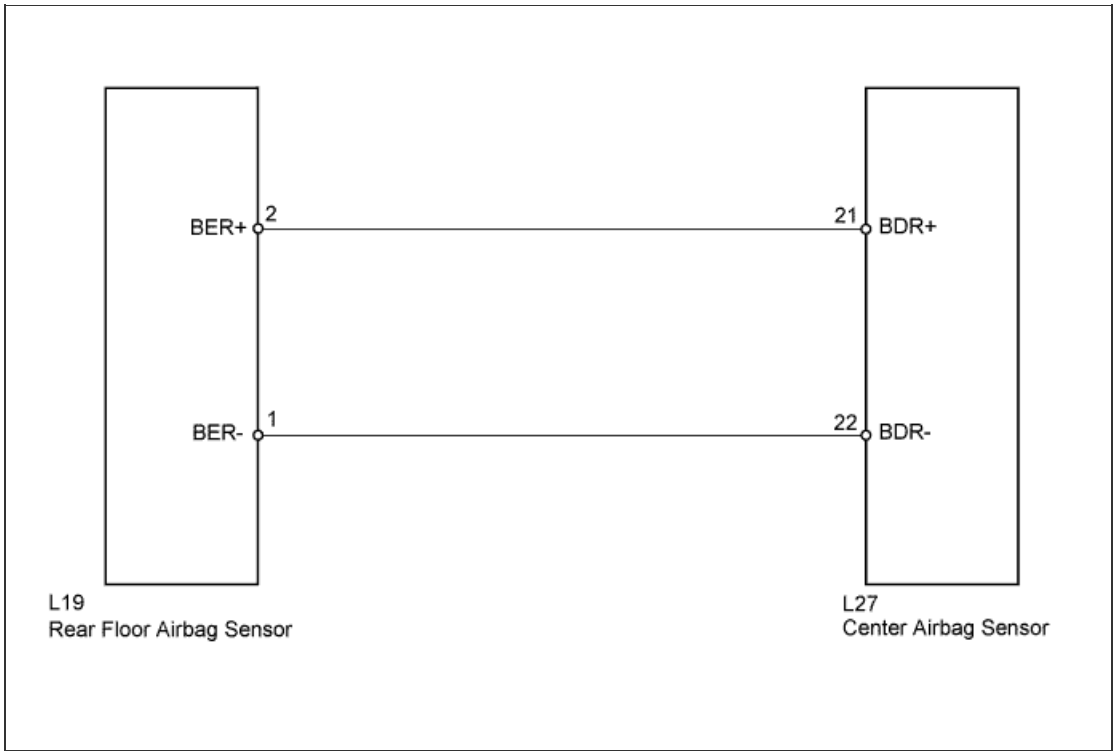
**for Preparation** Click here

### DESCRIPTION

The rear floor airbag sensor consists of the diagnostic circuit, the rear floor deceleration sensor, etc.
If the center airbag sensor receives signals from the rear floor deceleration sensor, it determines whether the SRS should be activated.
DTC B1675/18 is stored when a malfunction is detected in the rear floor airbag sensor circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1675/18 | When one of the following conditions is met:<br>• A rear floor airbag sensor malfunction.<br>• A center airbag sensor malfunction. | • Rear floor airbag sensor<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here ).**

#### 1.CHECK REAR FLOOR AIRBAG SENSOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Temporarily replace the rear floor airbag sensor with a new one.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

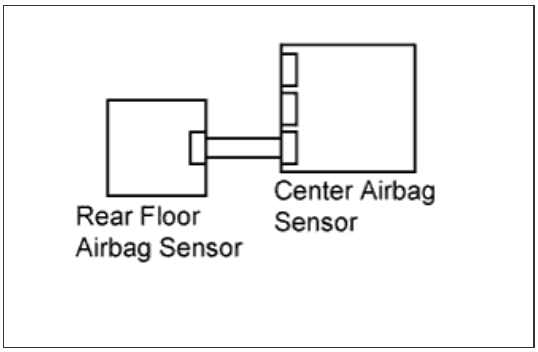
e. Turn the ignition switch to ON, and wait for at least 60 seconds.

f. Clear the DTCs stored in the memory (Click here).

g. Turn the ignition switch off.

h. Turn the ignition switch to ON, and wait for at least 60 seconds.

i. Check for DTCs (Click here).




**OK:**

**DTC B1675 is not output.**

**HINT:**

Codes other than DTC B1675 may be output at this time, but they are not related to this check.

| | |
|---|---|
| A | REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**) |
| B | REPLACE REAR FLOOR AIRBAG SENSOR (**Click here**) |

C

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1860/64 Short in Driver Side Knee Airbag Squib Circuit

## DTC B1861/64 Open in Driver Side Knee Airbag Squib Circuit

## DTC B1862/64 Short to GND in Driver Side Knee Airbag Squib Circuit

## DTC B1863/64 Short to B+ in Driver Side Knee Airbag Squib Circuit

**for Preparation** Click here

### DESCRIPTION

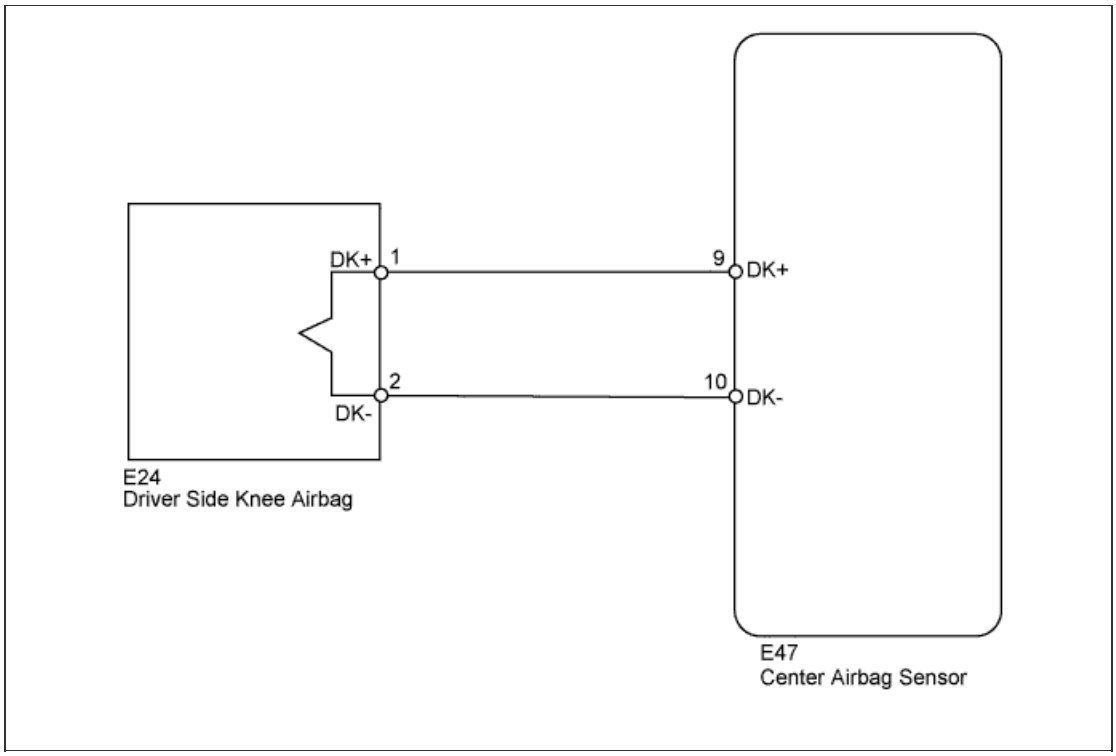
The driver side knee airbag squib circuit consists of the center airbag sensor and the driver side knee airbag.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side knee airbag squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1860/64 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side knee airbag squib circuit during the primary check.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1861/64 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the driver side knee airbag squib circuit for 2 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1862/64 | When one of the following conditions is met:<br>• The airbag sensor center receives a short circuit to ground signal in the knee airbag (Driver side squib) circuit for 0.5 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1863/64 | When one of the following conditions is met:<br>• The airbag sensor center receives a short circuit to B+ signal in the knee airbag (Driver side squib) circuit for 0.5 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |

**HINT:**

Vehicles that are not equipped with knee airbag still contain knee airbag circuits and use substitution parts in replace of the knee airbag. If a malfunction occurs in this knee airbag circuit, DTC B1860/64, B1861/64, B1862/64 or B1863/64 is stored.

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK DRIVER SIDE KNEE AIRBAG (DRIVER SIDE KNEE SQUIB)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the driver side knee airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

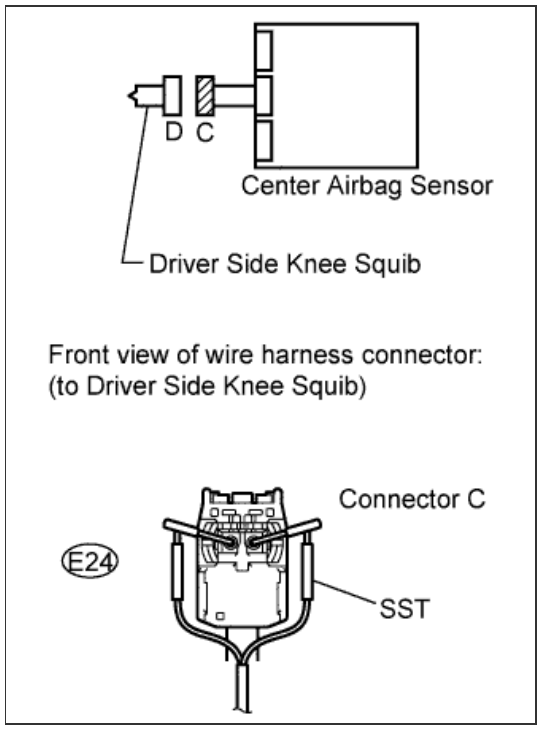
Never connect the tester to the driver side knee airbag (driver side knee squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1860, B1861, B1862 or B1863 is not output.**

**HINT:**

Codes other than DTC B1860, B1861, B1862 and B1863 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE DRIVER SIDE KNEE AIRBAG ASSEMBLY (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the instrument panel wire connector (on the driver side knee airbag side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE

OK →

## 3.CHECK INSTRUMENT PANEL WIRE (DRIVER SIDE KNEE AIRBAG CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - Body ground | Ignition switch ON | Below 1 V |
| E24-2 (DK-) - Body ground | Ignition switch ON | Below 1 V |

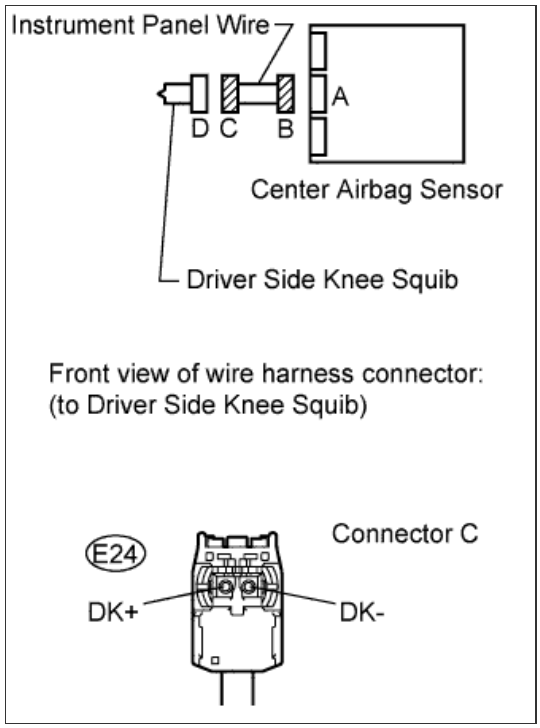
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - E24-2 (DK-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - E24-2 (DK-) | Always | 1 MΩ or higher |
| E24-1 (DK+) - Body ground | Always | 1 MΩ or higher |
| E24-2 (DK-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the driver side knee airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

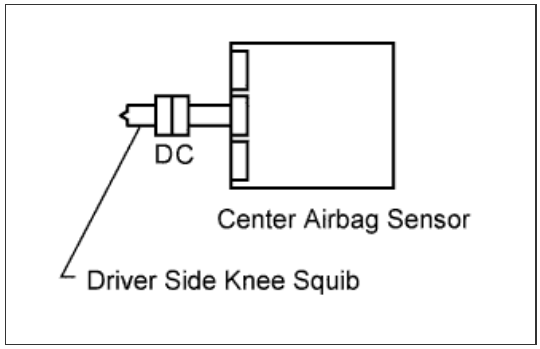
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1860, B1861, B1862 or B1863 is not output.**

**HINT:**

Codes other than DTC B1860, B1861, B1862 and B1863 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1676/85 Lost Communication with Rear Floor Airbag Sensor RH

## DTC B1677/85 Rear Floor Airbag Sensor RH Initialization Incomplete

**for Preparation** Click here

### DESCRIPTION

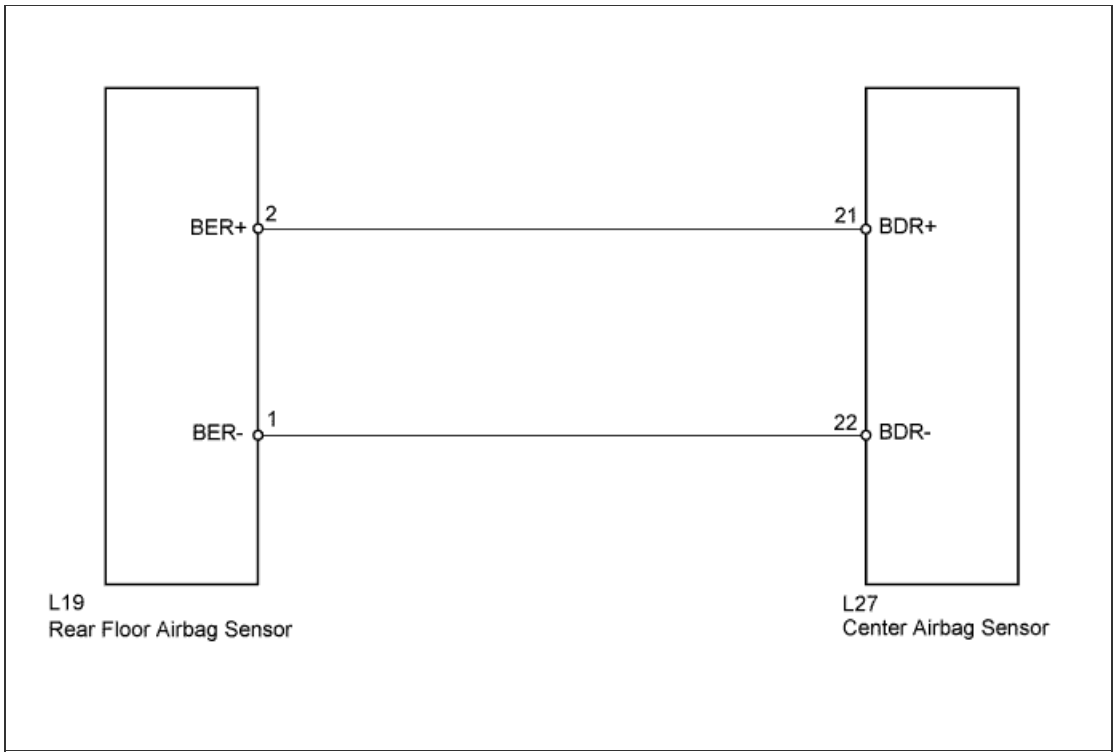
**HINT:**

"Rear floor airbag sensor RH" refer to the rear floor airbag sensor.

- The rear floor airbag sensor circuit consists of the center airbag sensor and rear floor airbag sensor.
  The rear floor airbag sensor detects impacts to the vehicle and sends signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1676/85 or B1677/85 is stored when a malfunction is detected in the rear floor airbag sensor circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1676/85 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the rear floor airbag sensor circuit for 2 seconds.<br>• A rear floor airbag sensor malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear floor airbag sensor<br>• Center airbag sensor assembly |
| B1677/85 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the rear floor airbag sensor circuit for 2 seconds.<br>• A rear floor airbag sensor malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear floor airbag sensor<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the rear floor airbag sensor.

**OK:**
**The connectors are properly connected.**

**NG** → CONNECT CONNECTORS PROPERLY

**OK**

### 2.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and rear floor airbag sensor.

b. Check that the connectors (on the center airbag sensor side and rear floor airbag sensor side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

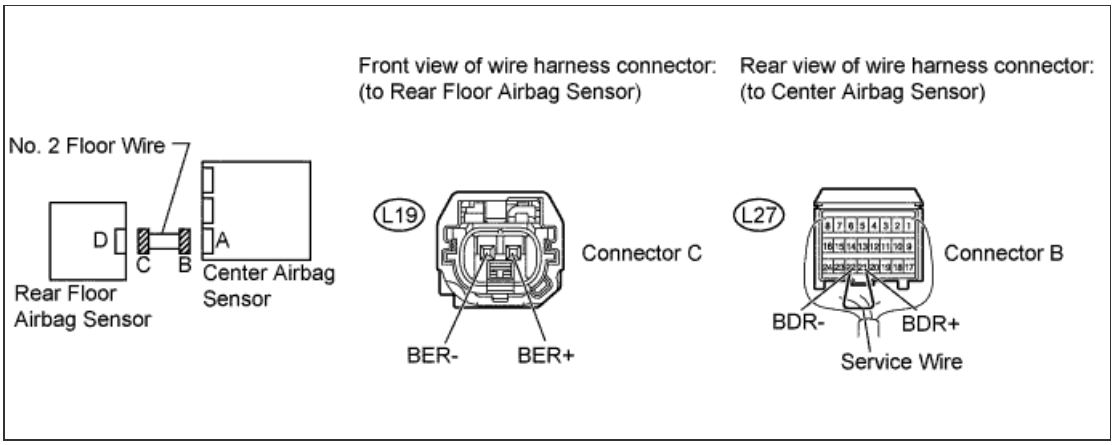
**NG** → REPLACE HARNESS AND CONNECTOR

**OK**

### 3.CHECK REAR FLOOR AIRBAG SENSOR CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L19-2 (BER+) - Body ground | Ignition switch ON | Below 1 V |
| L19-1 (BER-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 21 (BDR+) and 22 (BDR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L19-2 (BER+) - L19-1 (BER-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L19-2 (BER+) - L19-1 (BER-) | Always | 1 MΩ or higher |
| L19-2 (BER+) - Body ground | Always | 1 MΩ or higher |
| L19-1 (BER-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK REAR FLOOR AIRBAG SENSOR**

a. Connect the connectors to the center airbag sensor.

b. Temporarily replace the rear floor airbag sensor with a new one.

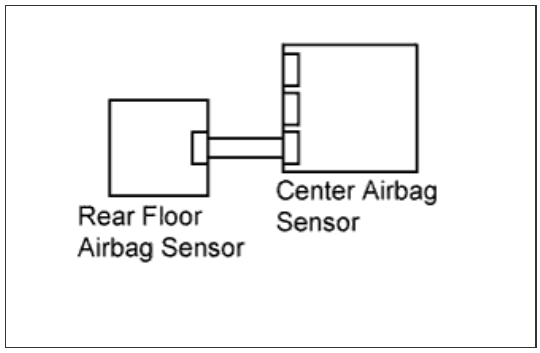
c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.




i. Check for DTCs (Click here).

**OK:**

**DTC B1676 and B1677are not output.**

**HINT:**

Codes other than DTC B1676 and B1677 may be output at this time, but they are not related to this check.

| | |
|---|---|
| A | USE SIMULATION METHOD TO CHECK (**Click here**) |
| B | REPLACE REAR FLOOR AIRBAG SENSOR (**Click here**) |

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

## DTC B1860/64 Short in Driver Side Knee Airbag Squib Circuit

## DTC B1861/64 Open in Driver Side Knee Airbag Squib Circuit

## DTC B1862/64 Short to GND in Driver Side Knee Airbag Squib Circuit

## DTC B1863/64 Short to B+ in Driver Side Knee Airbag Squib Circuit

**for Preparation** Click here

### DESCRIPTION

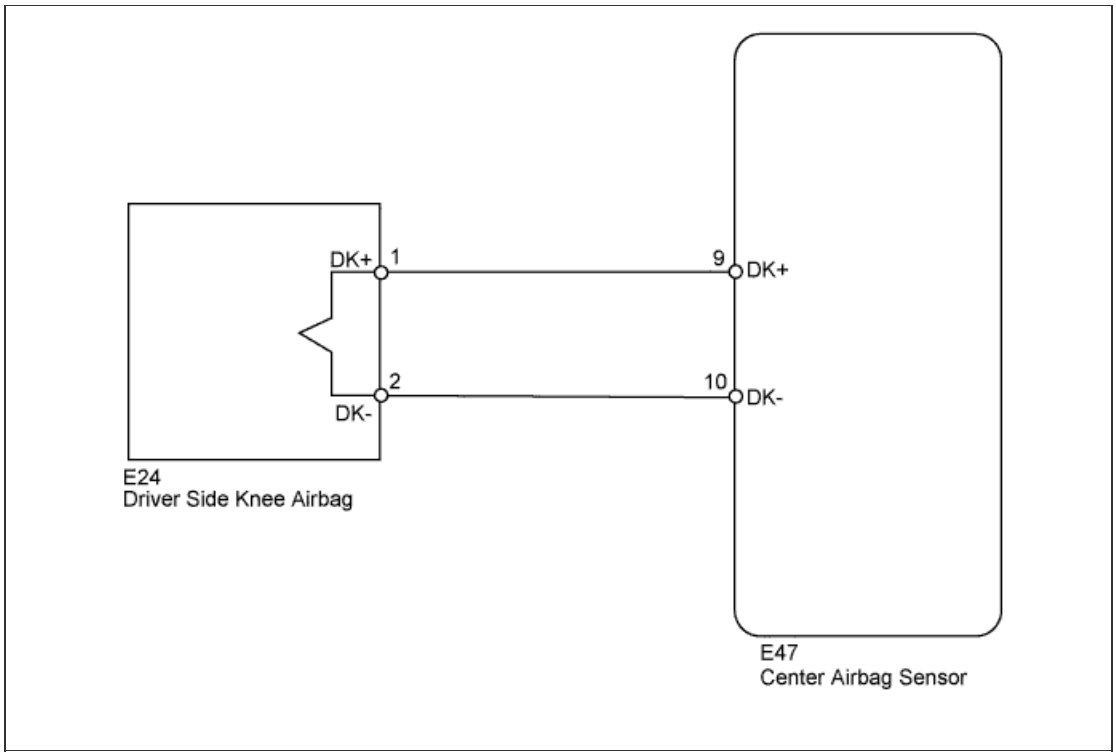
The driver side knee airbag squib circuit consists of the center airbag sensor and the driver side knee airbag.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side knee airbag squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1860/64 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side knee airbag squib circuit during the primary check.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1861/64 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the driver side knee airbag squib circuit for 2 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1862/64 | When one of the following conditions is met:<br>• The airbag sensor center receives a short circuit to ground signal in the knee airbag (Driver side squib) circuit for 0.5 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1863/64 | When one of the following conditions is met:<br>• The airbag sensor center receives a short circuit to B+ signal in the knee airbag (Driver side squib) circuit for 0.5 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |

**HINT:**

Vehicles that are not equipped with knee airbag still contain knee airbag circuits and use substitution parts in replace of the knee airbag. If a malfunction occurs in this knee airbag circuit, DTC B1860/64, B1861/64, B1862/64 or B1863/64 is stored.

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK DRIVER SIDE KNEE AIRBAG (DRIVER SIDE KNEE SQUIB)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the driver side knee airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

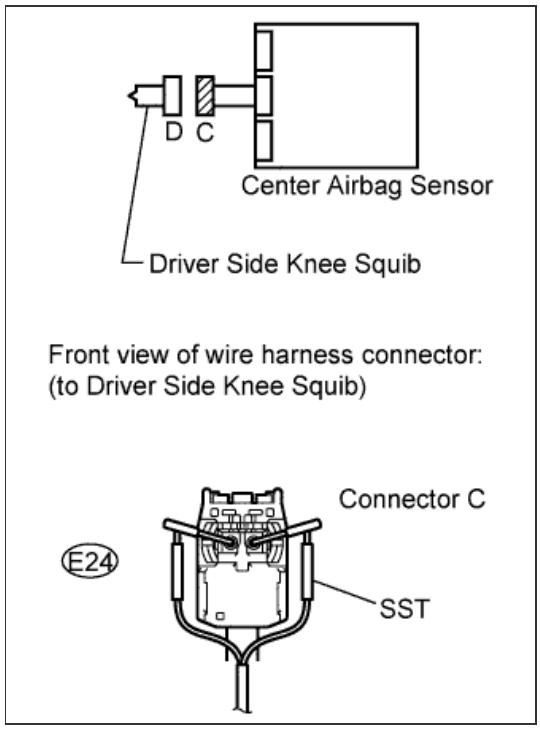
Never connect the tester to the driver side knee airbag (driver side knee squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1860, B1861, B1862 or B1863 is not output.**

**HINT:**

Codes other than DTC B1860, B1861, B1862 and B1863 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE DRIVER SIDE KNEE AIRBAG ASSEMBLY (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the instrument panel wire connector (on the driver side knee airbag side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE

OK →

## 3.CHECK INSTRUMENT PANEL WIRE (DRIVER SIDE KNEE AIRBAG CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - Body ground | Ignition switch ON | Below 1 V |
| E24-2 (DK-) - Body ground | Ignition switch ON | Below 1 V |

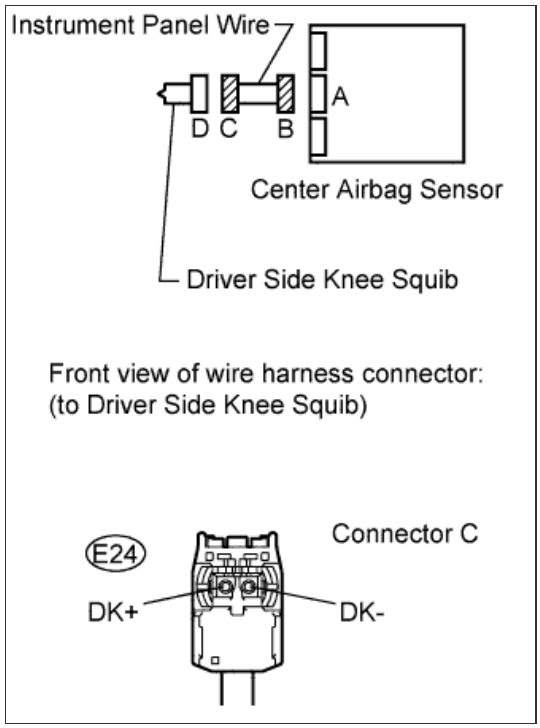
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - E24-2 (DK-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - E24-2 (DK-) | Always | 1 MΩ or higher |
| E24-1 (DK+) - Body ground | Always | 1 MΩ or higher |
| E24-2 (DK-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the driver side knee airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

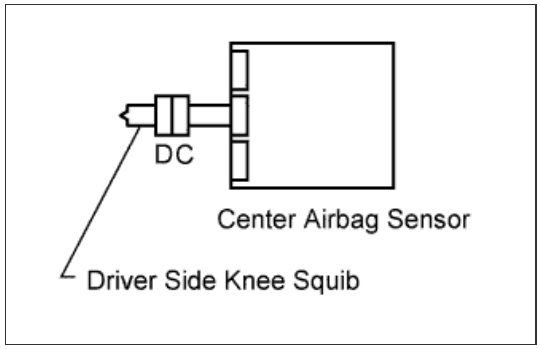
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1860, B1861, B1862 or B1863 is not output.**

**HINT:**

Codes other than DTC B1860, B1861, B1862 and B1863 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1676/85 Lost Communication with Rear Floor Airbag Sensor RH

## DTC B1677/85 Rear Floor Airbag Sensor RH Initialization Incomplete

**for Preparation** Click here

### DESCRIPTION

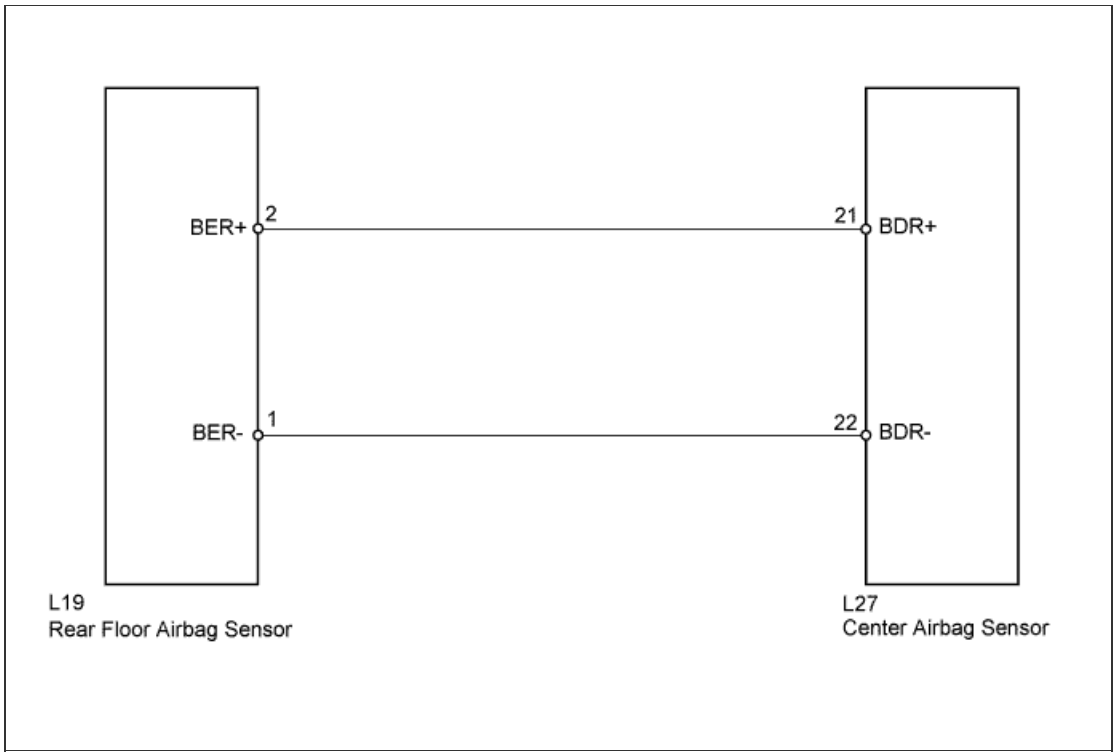
**HINT:**

"Rear floor airbag sensor RH" refer to the rear floor airbag sensor.

- The rear floor airbag sensor circuit consists of the center airbag sensor and rear floor airbag sensor.
  The rear floor airbag sensor detects impacts to the vehicle and sends signals to the center airbag sensor to determine if the airbag should be deployed.
  DTC B1676/85 or B1677/85 is stored when a malfunction is detected in the rear floor airbag sensor circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1676/85 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the rear floor airbag sensor circuit for 2 seconds.<br>• A rear floor airbag sensor malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear floor airbag sensor<br>• Center airbag sensor assembly |
| B1677/85 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the rear floor airbag sensor circuit for 2 seconds.<br>• A rear floor airbag sensor malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear floor airbag sensor<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK CONNECTION OF CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and the rear floor airbag sensor.

**OK:**
**The connectors are properly connected.**

**NG** → CONNECT CONNECTORS PROPERLY

**OK**

### 2.CHECK CONNECTORS

a. Disconnect the connectors from the center airbag sensor and rear floor airbag sensor.

b. Check that the connectors (on the center airbag sensor side and rear floor airbag sensor side) are not damaged.

**OK:**
**The connectors are not deformed or damaged.**

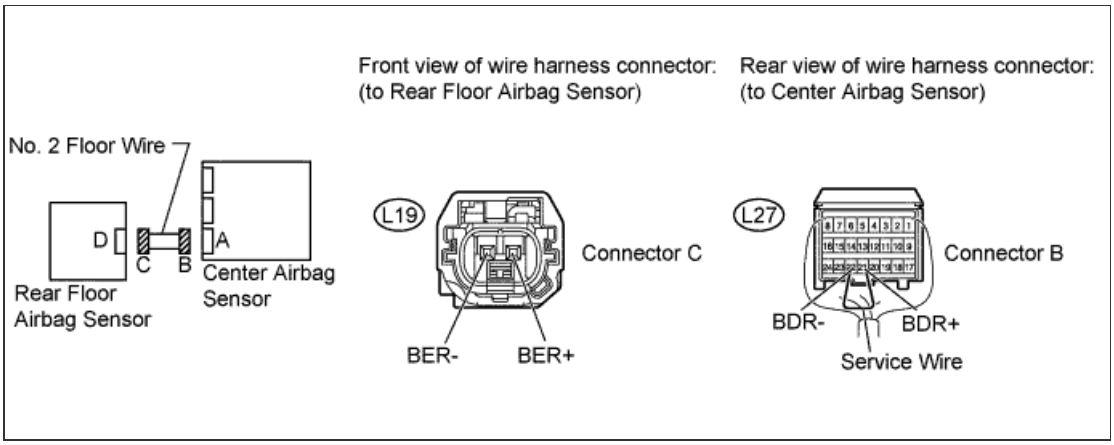
**NG** → REPLACE HARNESS AND CONNECTOR

**OK**

### 3.CHECK REAR FLOOR AIRBAG SENSOR CIRCUIT

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

a. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.




b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L19-2 (BER+) - Body ground | Ignition switch ON | Below 1 V |
| L19-1 (BER-) - Body ground | Ignition switch ON | Below 1 V |

c. Turn the ignition switch off.

d. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

e. Using a service wire, connect terminals 21 (BDR+) and 22 (BDR-) of connector B.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector when connecting a service wire.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L19-2 (BER+) - L19-1 (BER-) | Always | Below 1 Ω |

g. Disconnect the service wire from connector B.

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L19-2 (BER+) - L19-1 (BER-) | Always | 1 MΩ or higher |
| L19-2 (BER+) - Body ground | Always | 1 MΩ or higher |
| L19-1 (BER-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK REAR FLOOR AIRBAG SENSOR**

a. Connect the connectors to the center airbag sensor.

b. Temporarily replace the rear floor airbag sensor with a new one.

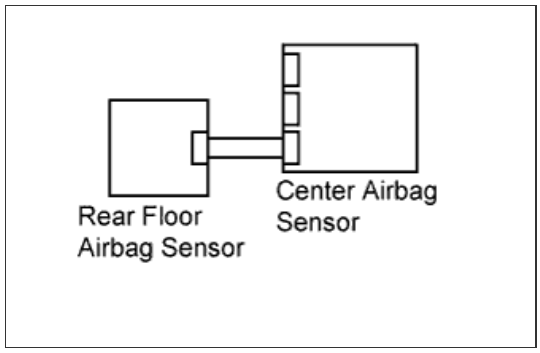
c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Turn the ignition switch to ON, and wait for at least 60 seconds.

e. Clear the DTCs stored in the memory (Click here).

f. Turn the ignition switch off.

g. Turn the ignition switch to ON, and wait for at least 60 seconds.




i. Check for DTCs (Click here).

**OK:**

**DTC B1676 and B1677are not output.**

**HINT:**

Codes other than DTC B1676 and B1677 may be output at this time, but they are not related to this check.

| | |
|---|---|
| A | USE SIMULATION METHOD TO CHECK (**Click here**) |
| B | REPLACE REAR FLOOR AIRBAG SENSOR (**Click here**) |

C

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

## DTC B1860/64 Short in Driver Side Knee Airbag Squib Circuit

## DTC B1861/64 Open in Driver Side Knee Airbag Squib Circuit

## DTC B1862/64 Short to GND in Driver Side Knee Airbag Squib Circuit

## DTC B1863/64 Short to B+ in Driver Side Knee Airbag Squib Circuit

**for Preparation** Click here

### DESCRIPTION

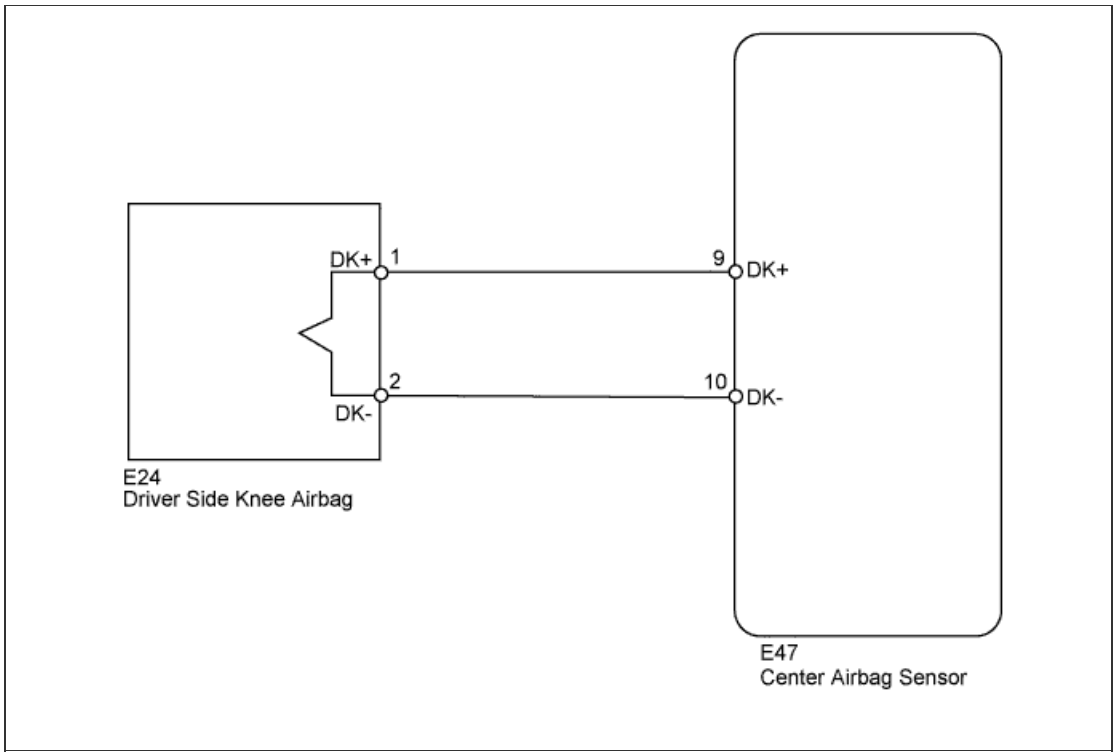
The driver side knee airbag squib circuit consists of the center airbag sensor and the driver side knee airbag.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side knee airbag squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1860/64 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side knee airbag squib circuit during the primary check.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1861/64 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the driver side knee airbag squib circuit for 2 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1862/64 | When one of the following conditions is met:<br>• The airbag sensor center receives a short circuit to ground signal in the knee airbag (Driver side squib) circuit for 0.5 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |
| B1863/64 | When one of the following conditions is met:<br>• The airbag sensor center receives a short circuit to B+ signal in the knee airbag (Driver side squib) circuit for 0.5 seconds.<br>• A driver side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Driver side knee airbag assembly (Driver side knee squib)<br>• Center airbag sensor assembly |

**HINT:**

Vehicles that are not equipped with knee airbag still contain knee airbag circuits and use substitution parts in replace of the knee airbag. If a malfunction occurs in this knee airbag circuit, DTC B1860/64, B1861/64, B1862/64 or B1863/64 is stored.

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK DRIVER SIDE KNEE AIRBAG (DRIVER SIDE KNEE SQUIB)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the driver side knee airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

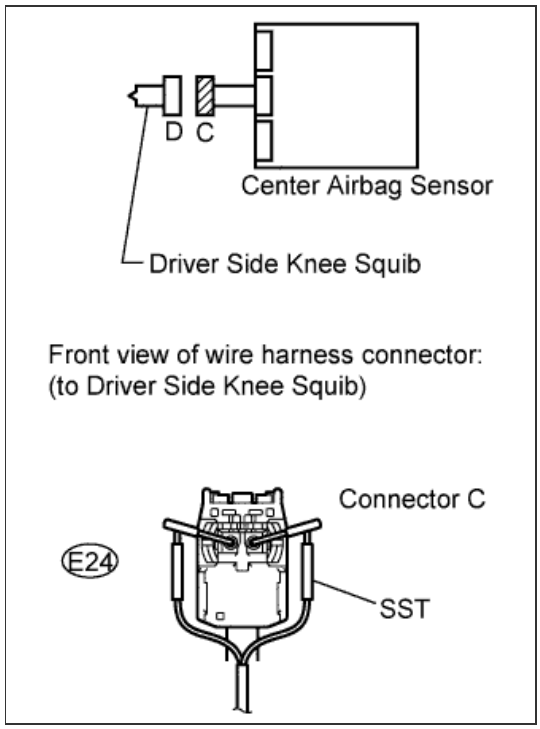
Never connect the tester to the driver side knee airbag (driver side knee squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1860, B1861, B1862 or B1863 is not output.**

**HINT:**

Codes other than DTC B1860, B1861, B1862 and B1863 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE DRIVER SIDE KNEE AIRBAG ASSEMBLY (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the instrument panel wire connector (on the driver side knee airbag side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE

OK →

## 3.CHECK INSTRUMENT PANEL WIRE (DRIVER SIDE KNEE AIRBAG CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - Body ground | Ignition switch ON | Below 1 V |
| E24-2 (DK-) - Body ground | Ignition switch ON | Below 1 V |

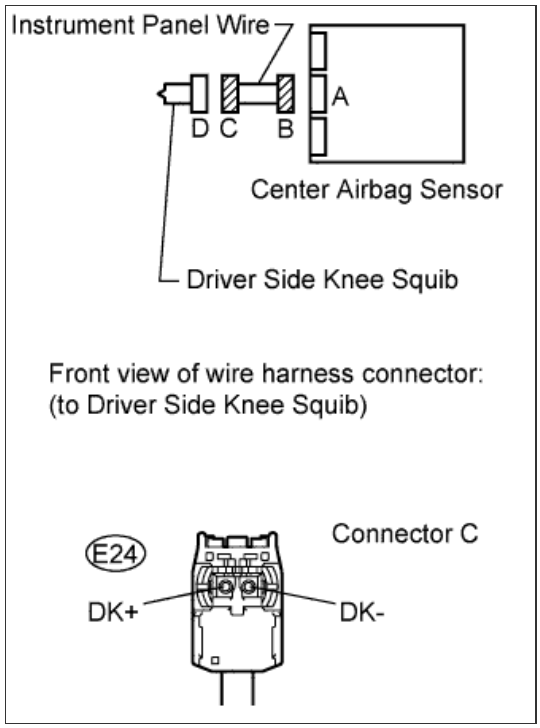
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - E24-2 (DK-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E24-1 (DK+) - E24-2 (DK-) | Always | 1 MΩ or higher |
| E24-1 (DK+) - Body ground | Always | 1 MΩ or higher |
| E24-2 (DK-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the driver side knee airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

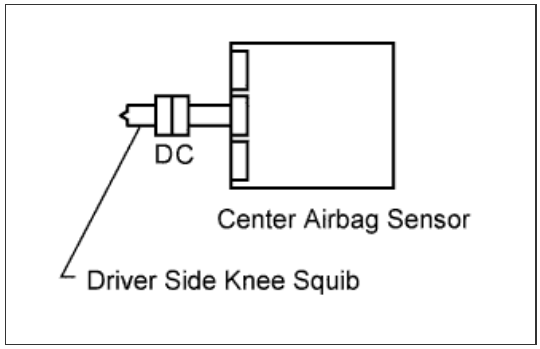
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1860, B1861, B1862 or B1863 is not output.**

**HINT:**

Codes other than DTC B1860, B1861, B1862 and B1863 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1800/51 Short in Driver Side Squib Circuit

## DTC B1801/51 Open in Driver Side Squib Circuit

## DTC B1802/51 Short to GND in Driver Side Squib Circuit

## DTC B1803/51 Short to B+ in Driver Side Squib Circuit

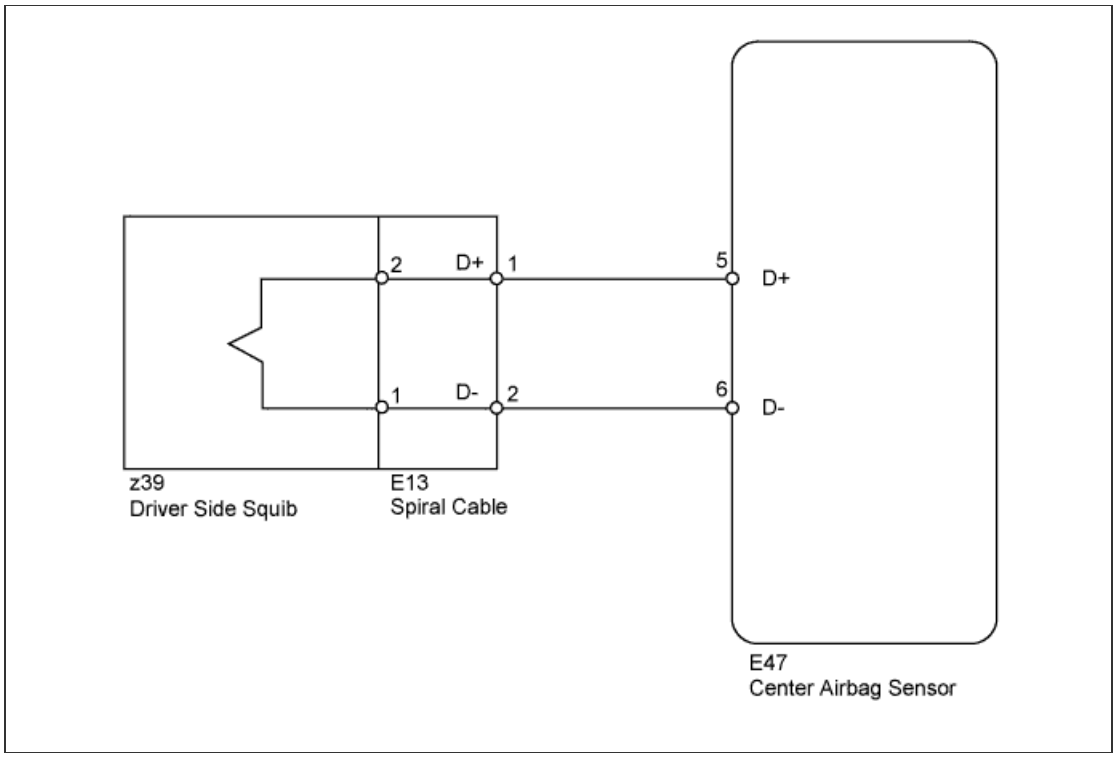
**for Preparation** Click here

### DESCRIPTION

The driver side squib circuit consists of the center airbag sensor, the spiral cable, and the steering pad.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1800/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side squib circuit during the primary check.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1801/51 | When one of the following conditions is met:<br>• The A center airbag sensor receives an open circuit signal in the driver side squib circuit for 2 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1802/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the driver side squib circuit for 0.5 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1803/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the driver side squib circuit for 0.5 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

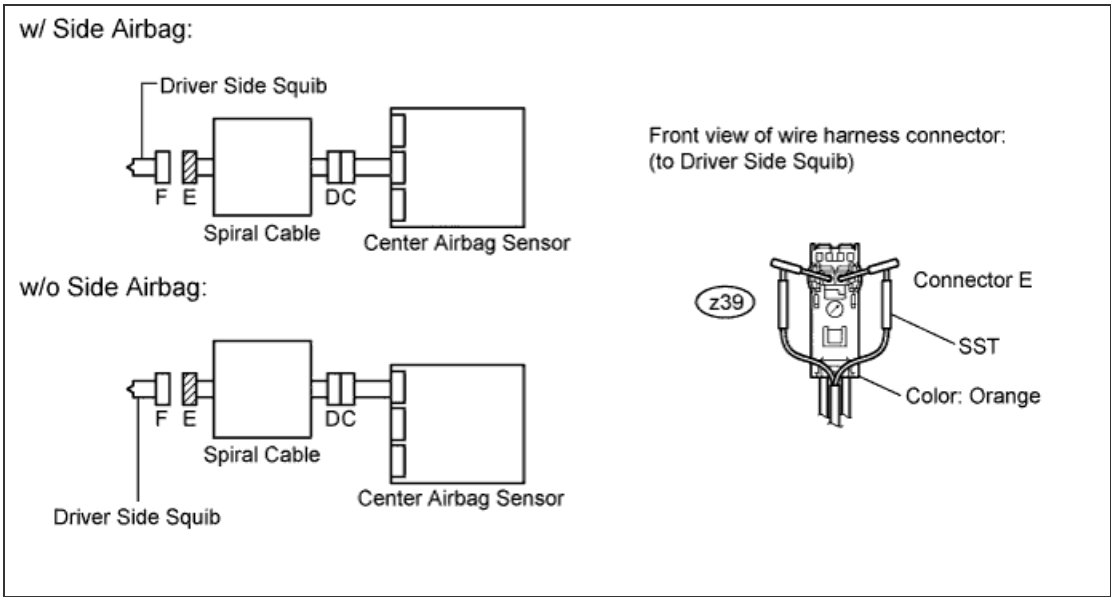
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK STEERING PAD (DRIVER SIDE SQUIB)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the steering pad.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (orange connector).

**CAUTION:**

Never connect the tester to the steering pad (driver side squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1800, B1801, B1802 or B1803 is not output.**

**HINT:**

Codes other than DTC B1800, B1801, B1802 and B1803 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK ↓

REPLACE STEERING PAD (**Click here**)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the spiral cable connectors (on the steering pad side) are not damaged.

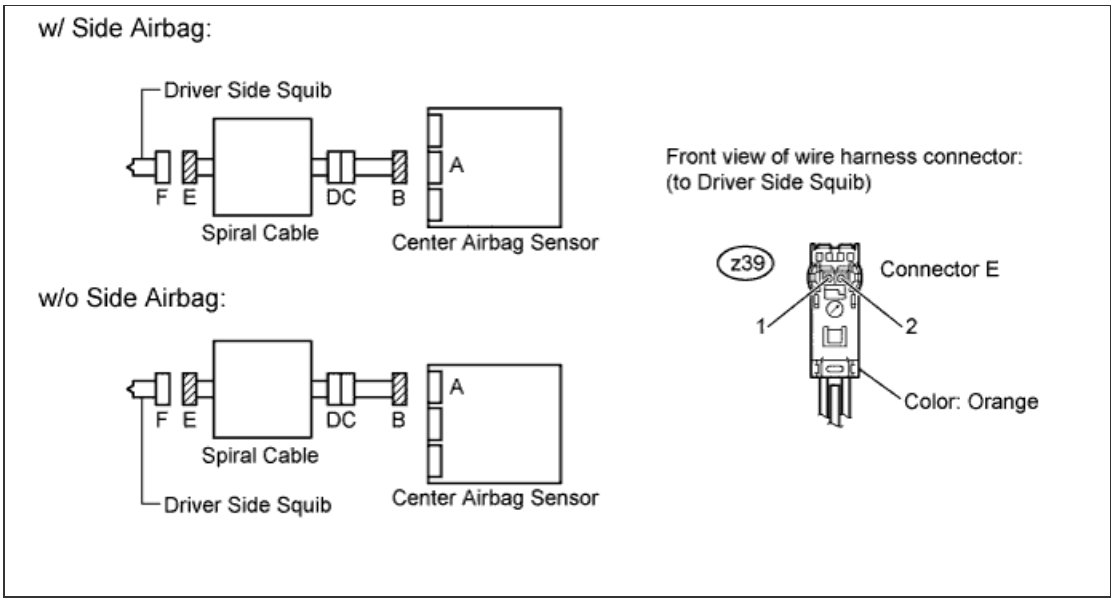
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE SPIRAL CABLE (**Click here**)

OK ↓

## 3.CHECK DRIVER SIDE SQUIB CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z39-1 - Body ground | Ignition switch ON | Below 1 V |
| z39-2 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z39-1 - z39-2 | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z39-1 - z39-2 | Always | 1 MΩ or higher |
| z39-1 - Body ground | Always | 1 MΩ or higher |
| z39-2 - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the steering pad and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

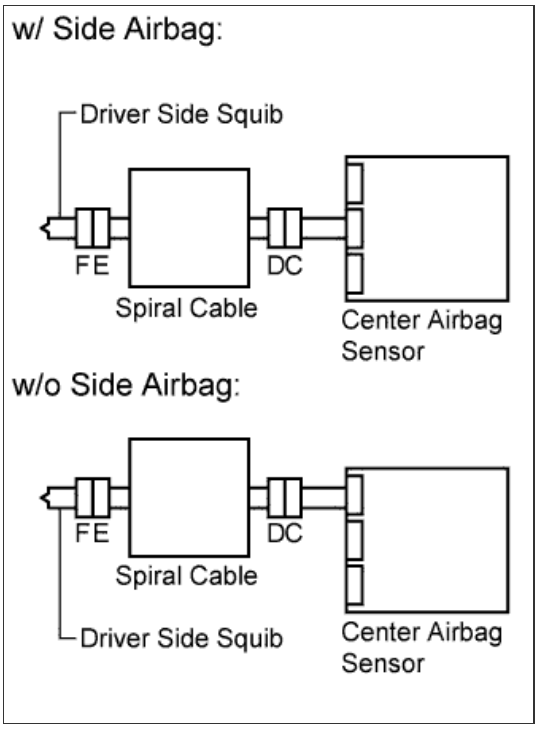
g. Check for DTCs (Click here).

**OK:**

**DTC B1800, B1801, B1802 or B1803 is not output.**

**HINT:**

Codes other than DTC B1800, B1801, B1802 and B1803 may be output at this time, but they are not related to this check.



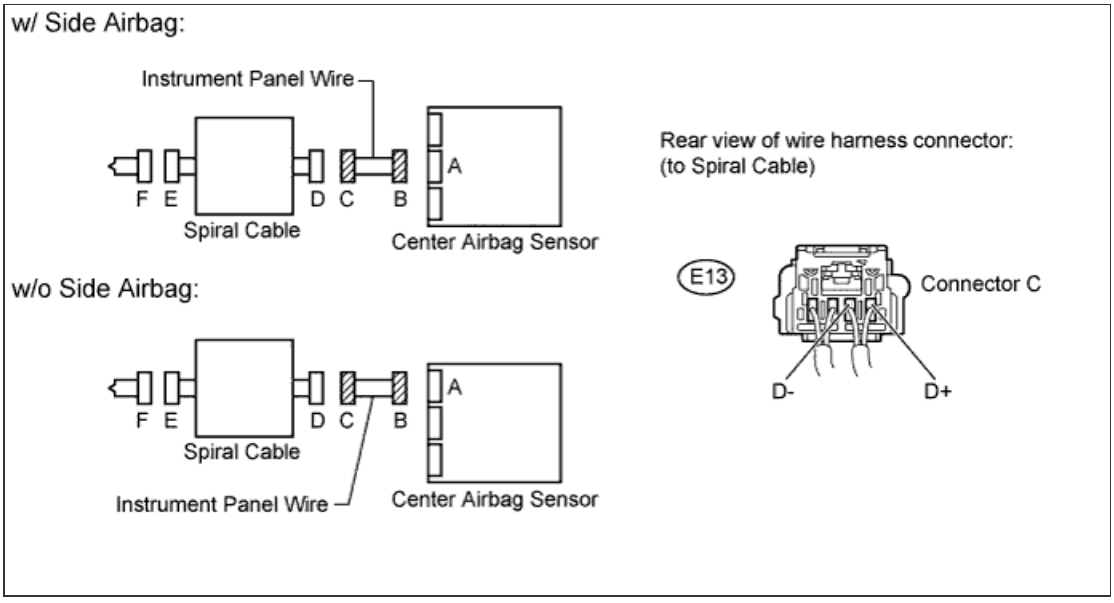

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - SPIRAL CABLE)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the spiral cable.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| E13-2 (D-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - E13-2 (D-) | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - E13-2 (D-) | Always | 1 MΩ or higher |
| E13-1 (D+) - Body ground | Always | 1 MΩ or higher |
| E13-2 (D-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE SPIRAL CABLE (Click here)

## DTC B1865/65 Short in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1866/65 Open in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1867/65 Short to GND in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1868/65 Short to B+ in Front Passenger Side Knee Airbag Squib Circuit

**for Preparation** Click here

### DESCRIPTION

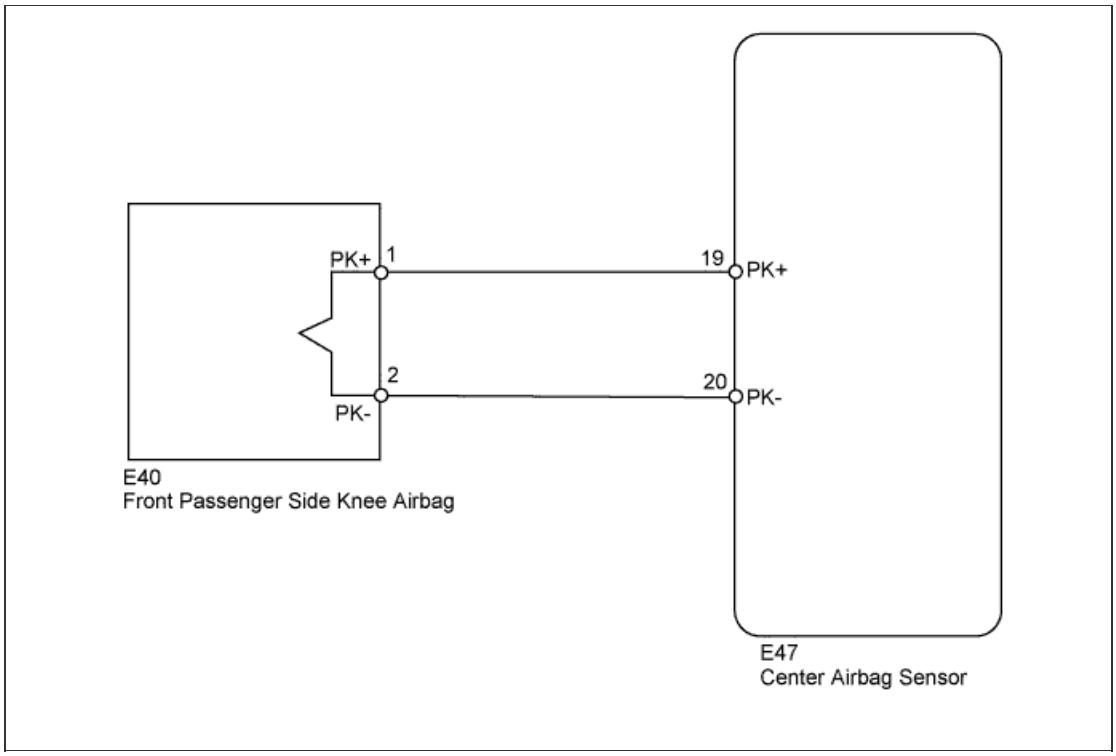
The front passenger side knee airbag squib circuit consists of the center airbag sensor and the front passenger side knee airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side knee airbag squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1865/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side knee airbag squib circuit during the primary check.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1866/65 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side knee airbag squib circuit for 2 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1867/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side knee airbag squib circuit for 0.5 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1868/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side knee airbag squib circuit for 0.5 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |

**HINT:**

Vehicles that are not equipped with knee airbag still contain knee airbag circuits and use substitution parts in replace of the knee airbag. If a malfunction occurs in this knee airbag circuit, DTC B1865/65, B1866/65, B1867/65 or B1868/65 is stored.

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER SIDE KNEE AIRBAG (FRONT PASSENGER SIDE KNEE SQUIB)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front passenger side knee airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

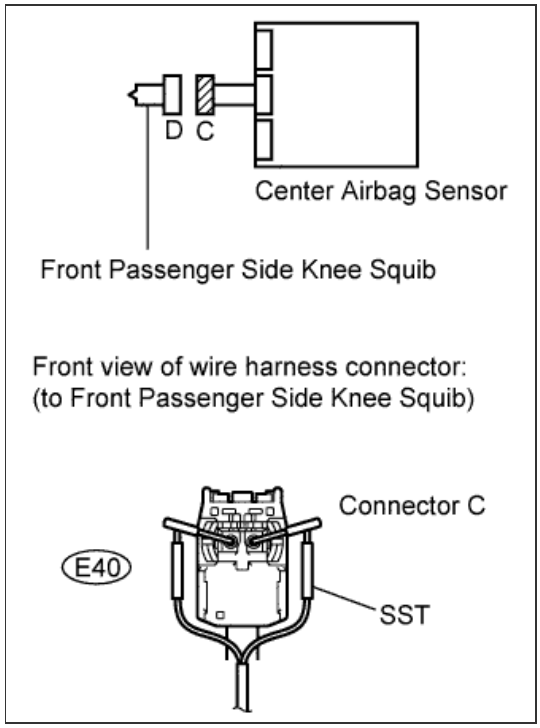
Never connect the tester to the front passenger side knee airbag (front passenger side knee squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1865, B1866, B1867 or B1868 is not output.**

**HINT:**

Codes other than DTC B1865, B1866, B1867 and B1868 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY ( Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the instrument panel wire connector (on the front passenger side knee airbag side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE

OK →

## 3.CHECK INSTRUMENT PANEL WIRE (FRONT PASSENGER KNEE SQUIB CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - Body ground | Ignition switch ON | Below 1 V |
| E40-2 (PK-) - Body ground | Ignition switch ON | Below 1 V |

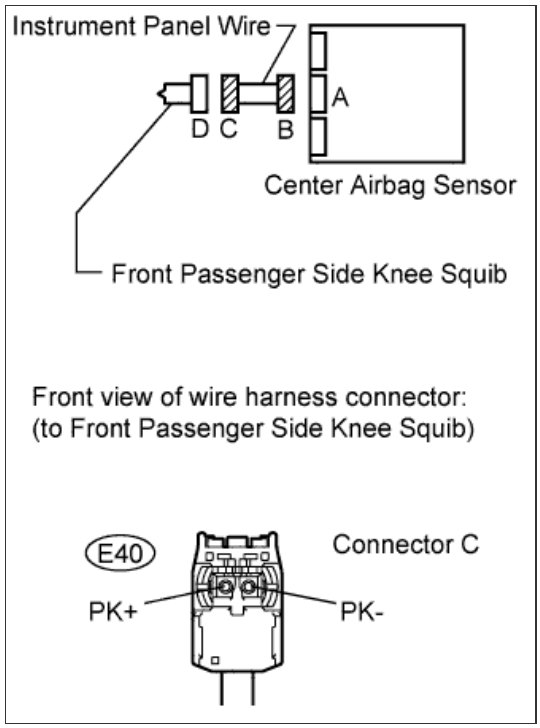
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - E40-2 (PK-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - E40-2 (PK-) | Always | 1 MΩ or higher |
| E40-1 (PK+) - Body ground | Always | 1 MΩ or higher |
| E40-2 (PK-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the front passenger side knee airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

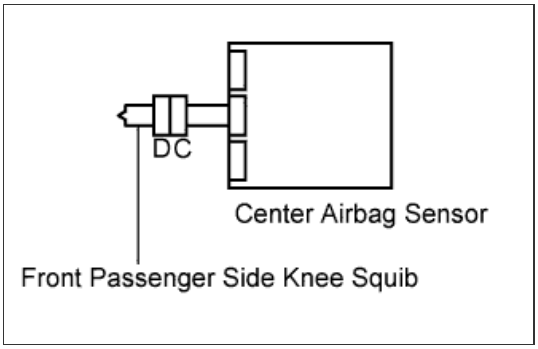
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1865, B1866, B1867 or B1868 is not output.**

**HINT:**

Codes other than DTC B1865, B1866, B1867 and B1868 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1800/51 Short in Driver Side Squib Circuit

## DTC B1801/51 Open in Driver Side Squib Circuit

## DTC B1802/51 Short to GND in Driver Side Squib Circuit

## DTC B1803/51 Short to B+ in Driver Side Squib Circuit

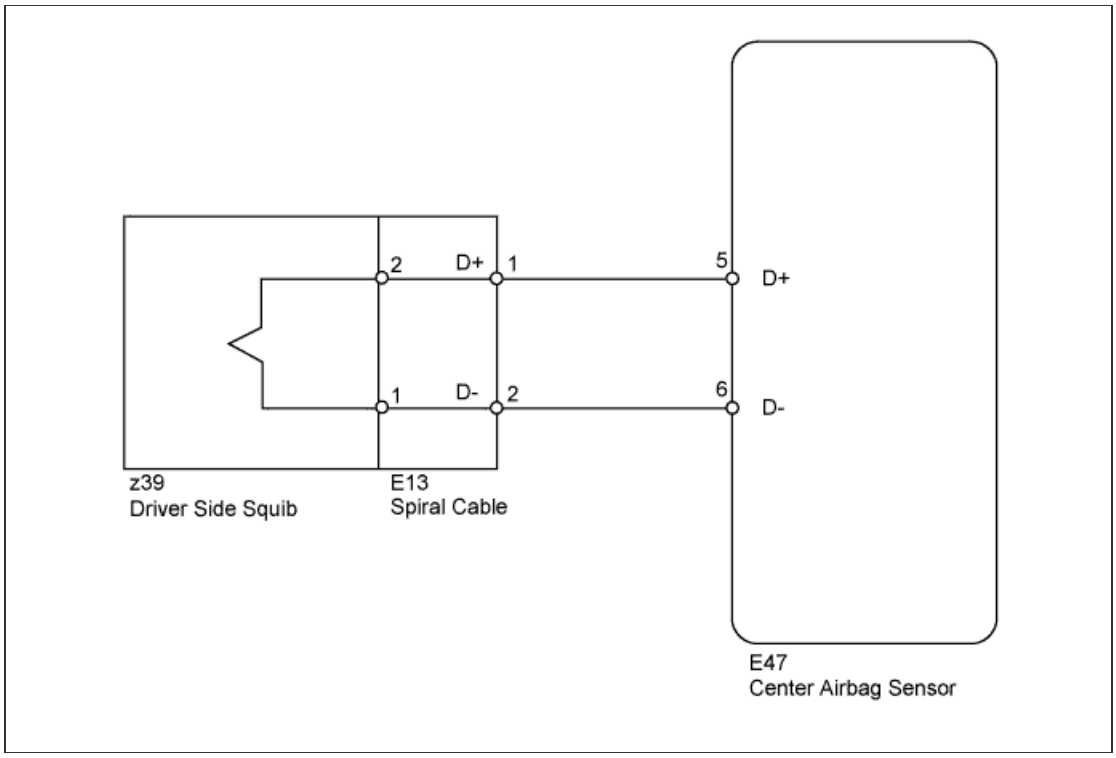
**for Preparation** Click here

### DESCRIPTION

The driver side squib circuit consists of the center airbag sensor, the spiral cable, and the steering pad.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1800/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side squib circuit during the primary check.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1801/51 | When one of the following conditions is met:<br>• The A center airbag sensor receives an open circuit signal in the driver side squib circuit for 2 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1802/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the driver side squib circuit for 0.5 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1803/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the driver side squib circuit for 0.5 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

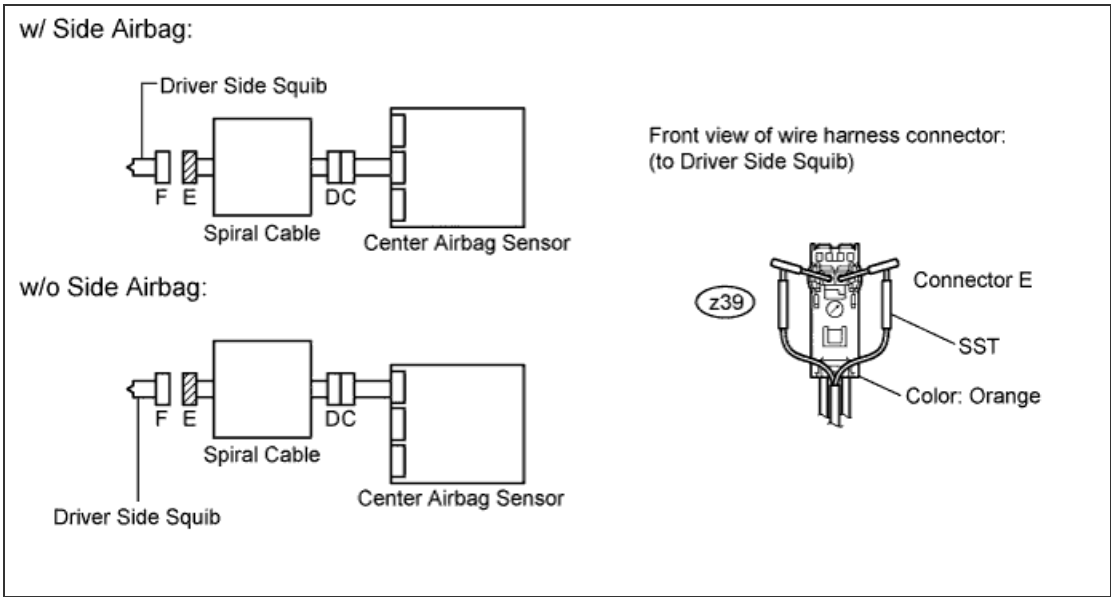
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK STEERING PAD (DRIVER SIDE SQUIB)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the steering pad.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (orange connector).

**CAUTION:**

Never connect the tester to the steering pad (driver side squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1800, B1801, B1802 or B1803 is not output.**

**HINT:**

Codes other than DTC B1800, B1801, B1802 and B1803 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK ↓

REPLACE STEERING PAD (**Click here**)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the spiral cable connectors (on the steering pad side) are not damaged.

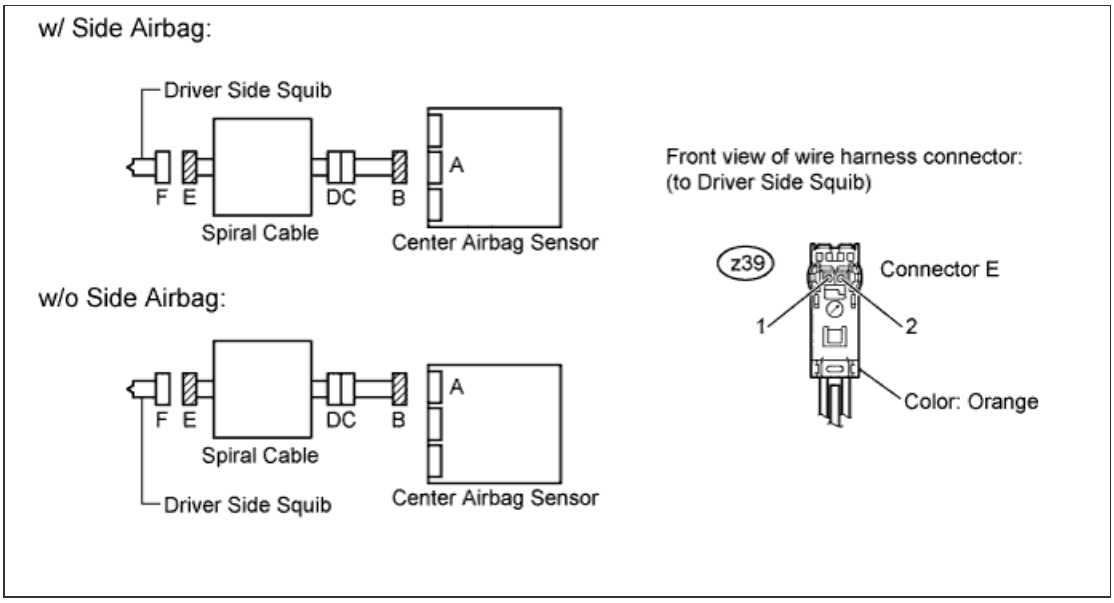
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE SPIRAL CABLE (**Click here**)

OK ↓

## 3.CHECK DRIVER SIDE SQUIB CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z39-1 - Body ground | Ignition switch ON | Below 1 V |
| z39-2 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z39-1 - z39-2 | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z39-1 - z39-2 | Always | 1 MΩ or higher |
| z39-1 - Body ground | Always | 1 MΩ or higher |
| z39-2 - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the steering pad and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

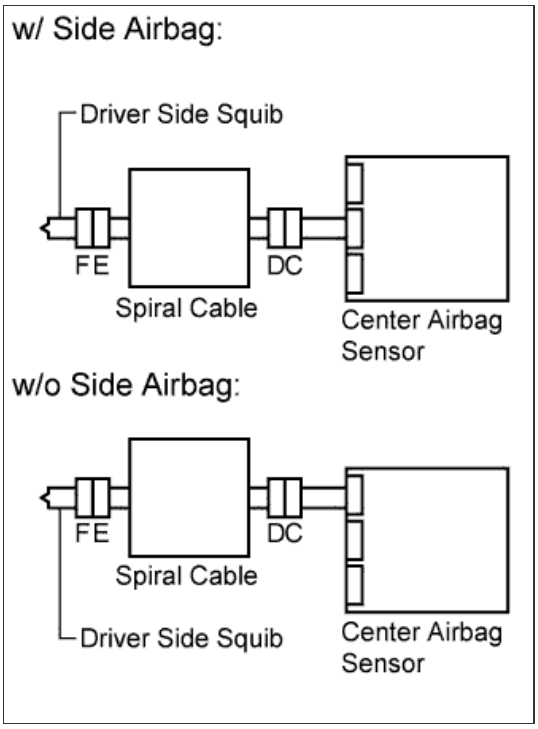
g. Check for DTCs (Click here).

**OK:**

**DTC B1800, B1801, B1802 or B1803 is not output.**

**HINT:**

Codes other than DTC B1800, B1801, B1802 and B1803 may be output at this time, but they are not related to this check.



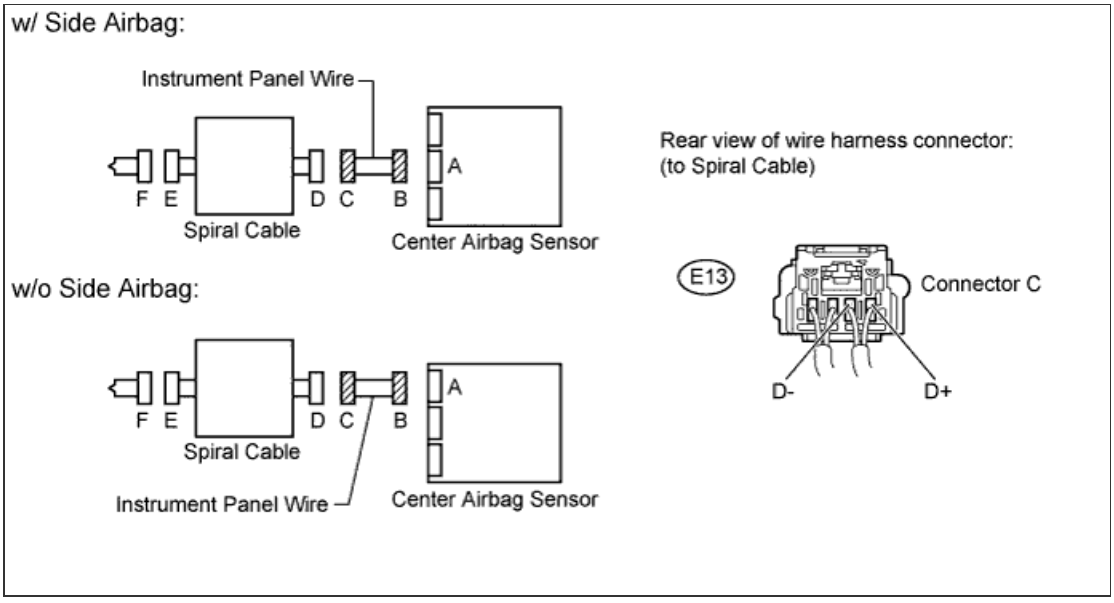

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - SPIRAL CABLE)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the spiral cable.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| E13-2 (D-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - E13-2 (D-) | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - E13-2 (D-) | Always | 1 MΩ or higher |
| E13-1 (D+) - Body ground | Always | 1 MΩ or higher |
| E13-2 (D-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE SPIRAL CABLE (Click here)

## DTC B1865/65 Short in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1866/65 Open in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1867/65 Short to GND in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1868/65 Short to B+ in Front Passenger Side Knee Airbag Squib Circuit

**for Preparation** Click here

### DESCRIPTION

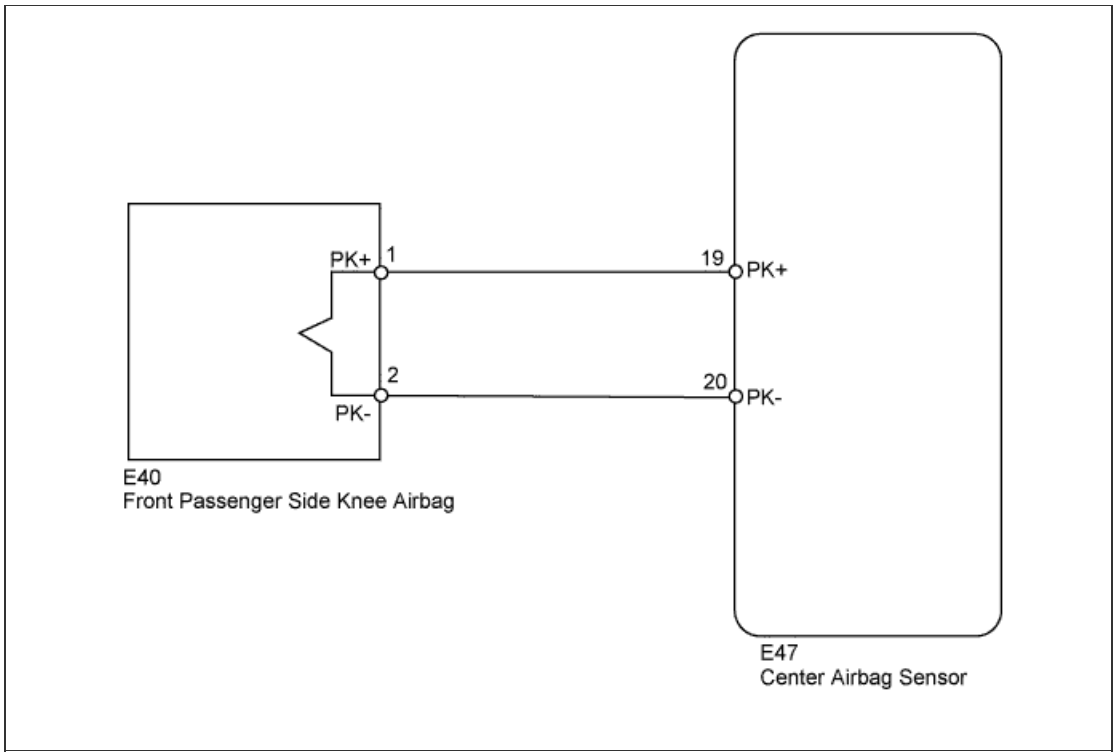
The front passenger side knee airbag squib circuit consists of the center airbag sensor and the front passenger side knee airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side knee airbag squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1865/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side knee airbag squib circuit during the primary check.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1866/65 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side knee airbag squib circuit for 2 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1867/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side knee airbag squib circuit for 0.5 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1868/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side knee airbag squib circuit for 0.5 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |

**HINT:**

Vehicles that are not equipped with knee airbag still contain knee airbag circuits and use substitution parts in replace of the knee airbag. If a malfunction occurs in this knee airbag circuit, DTC B1865/65, B1866/65, B1867/65 or B1868/65 is stored.

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER SIDE KNEE AIRBAG (FRONT PASSENGER SIDE KNEE SQUIB)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front passenger side knee airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

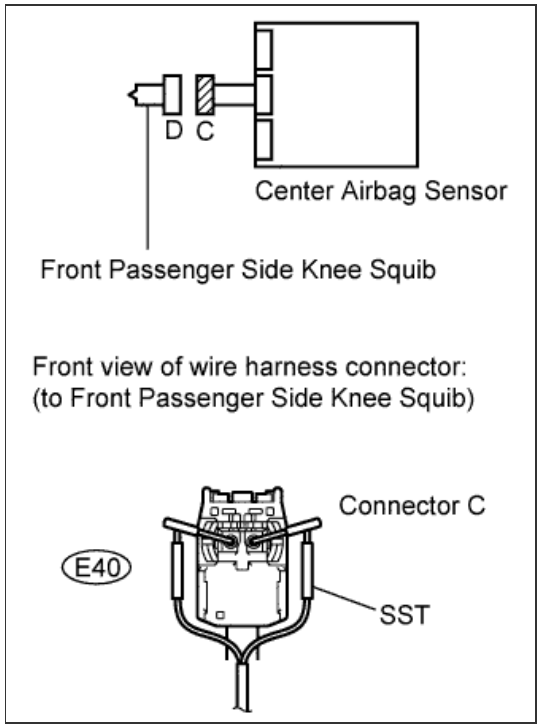
Never connect the tester to the front passenger side knee airbag (front passenger side knee squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1865, B1866, B1867 or B1868 is not output.**

**HINT:**

Codes other than DTC B1865, B1866, B1867 and B1868 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY ( Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the instrument panel wire connector (on the front passenger side knee airbag side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE

OK →

## 3.CHECK INSTRUMENT PANEL WIRE (FRONT PASSENGER KNEE SQUIB CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - Body ground | Ignition switch ON | Below 1 V |
| E40-2 (PK-) - Body ground | Ignition switch ON | Below 1 V |

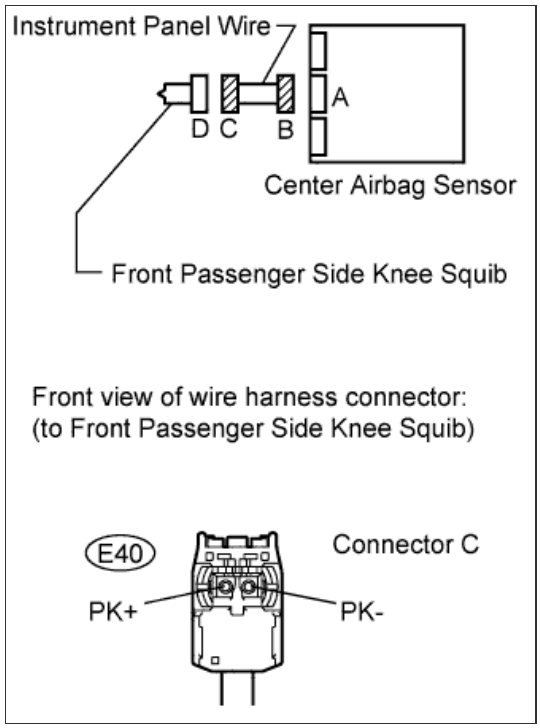
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - E40-2 (PK-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - E40-2 (PK-) | Always | 1 MΩ or higher |
| E40-1 (PK+) - Body ground | Always | 1 MΩ or higher |
| E40-2 (PK-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the front passenger side knee airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

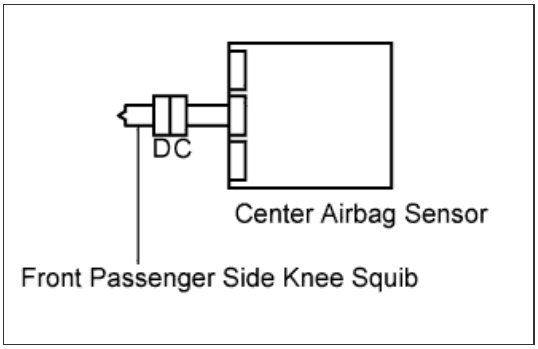
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1865, B1866, B1867 or B1868 is not output.**

**HINT:**

Codes other than DTC B1865, B1866, B1867 and B1868 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1800/51 Short in Driver Side Squib Circuit

## DTC B1801/51 Open in Driver Side Squib Circuit

## DTC B1802/51 Short to GND in Driver Side Squib Circuit

## DTC B1803/51 Short to B+ in Driver Side Squib Circuit

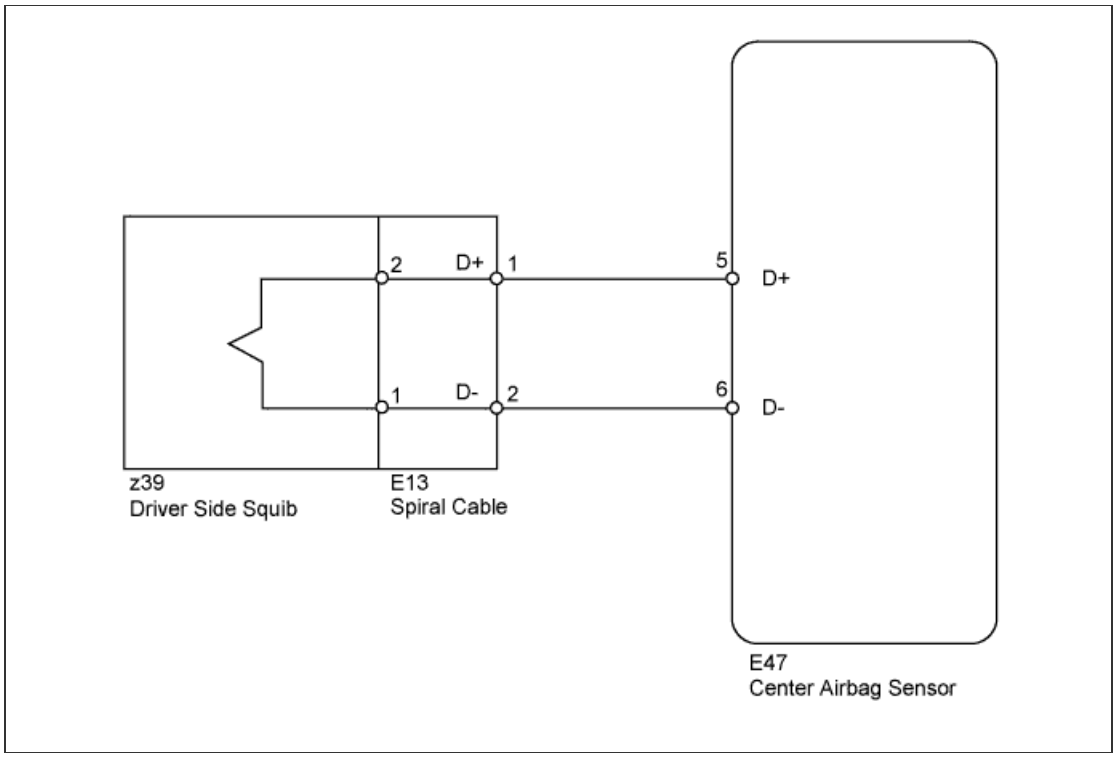
**for Preparation** Click here

### DESCRIPTION

The driver side squib circuit consists of the center airbag sensor, the spiral cable, and the steering pad.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1800/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side squib circuit during the primary check.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1801/51 | When one of the following conditions is met:<br>• The A center airbag sensor receives an open circuit signal in the driver side squib circuit for 2 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1802/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the driver side squib circuit for 0.5 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1803/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the driver side squib circuit for 0.5 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

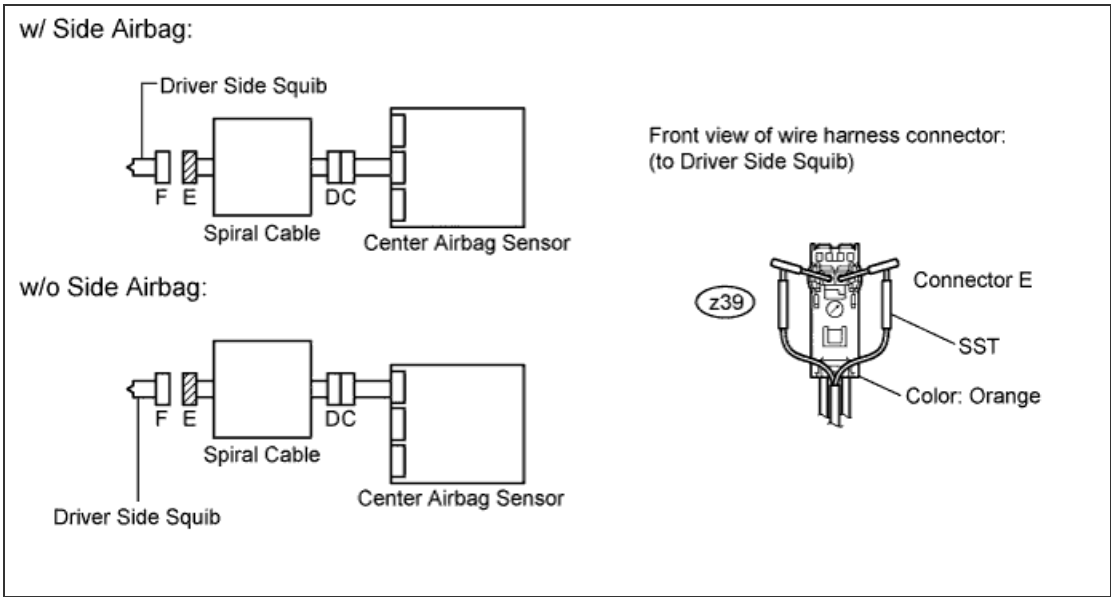
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK STEERING PAD (DRIVER SIDE SQUIB)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the steering pad.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (orange connector).

**CAUTION:**

Never connect the tester to the steering pad (driver side squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1800, B1801, B1802 or B1803 is not output.**

**HINT:**

Codes other than DTC B1800, B1801, B1802 and B1803 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK ↓

REPLACE STEERING PAD (**Click here**)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the spiral cable connectors (on the steering pad side) are not damaged.

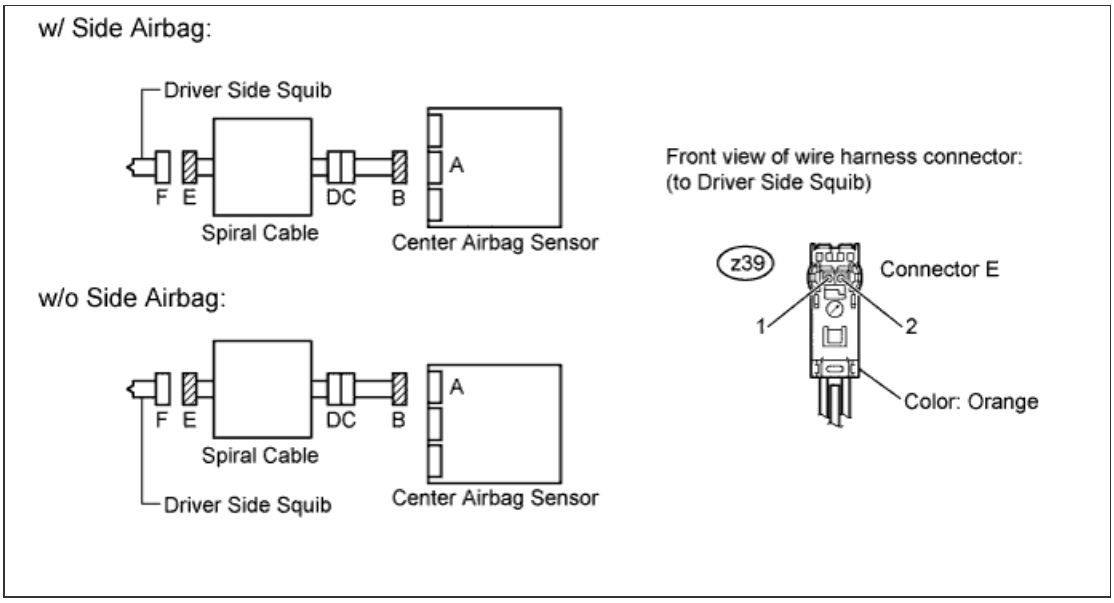
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE SPIRAL CABLE (**Click here**)

OK ↓

## 3.CHECK DRIVER SIDE SQUIB CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z39-1 - Body ground | Ignition switch ON | Below 1 V |
| z39-2 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z39-1 - z39-2 | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z39-1 - z39-2 | Always | 1 MΩ or higher |
| z39-1 - Body ground | Always | 1 MΩ or higher |
| z39-2 - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the steering pad and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

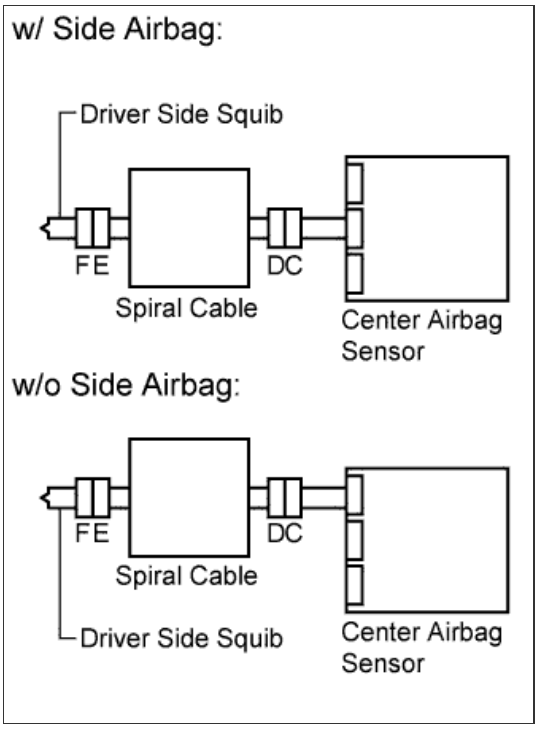
g. Check for DTCs (Click here).

**OK:**

**DTC B1800, B1801, B1802 or B1803 is not output.**

**HINT:**

Codes other than DTC B1800, B1801, B1802 and B1803 may be output at this time, but they are not related to this check.



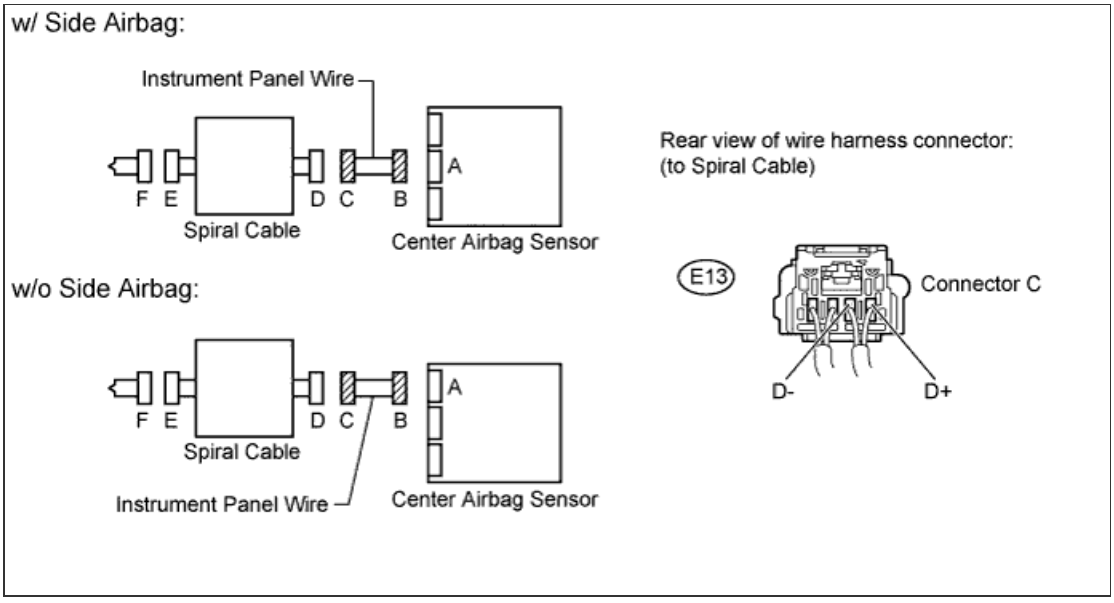

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - SPIRAL CABLE)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the spiral cable.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| E13-2 (D-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - E13-2 (D-) | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - E13-2 (D-) | Always | 1 MΩ or higher |
| E13-1 (D+) - Body ground | Always | 1 MΩ or higher |
| E13-2 (D-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE SPIRAL CABLE (Click here)

## DTC B1865/65 Short in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1866/65 Open in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1867/65 Short to GND in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1868/65 Short to B+ in Front Passenger Side Knee Airbag Squib Circuit

**for Preparation** Click here

### DESCRIPTION

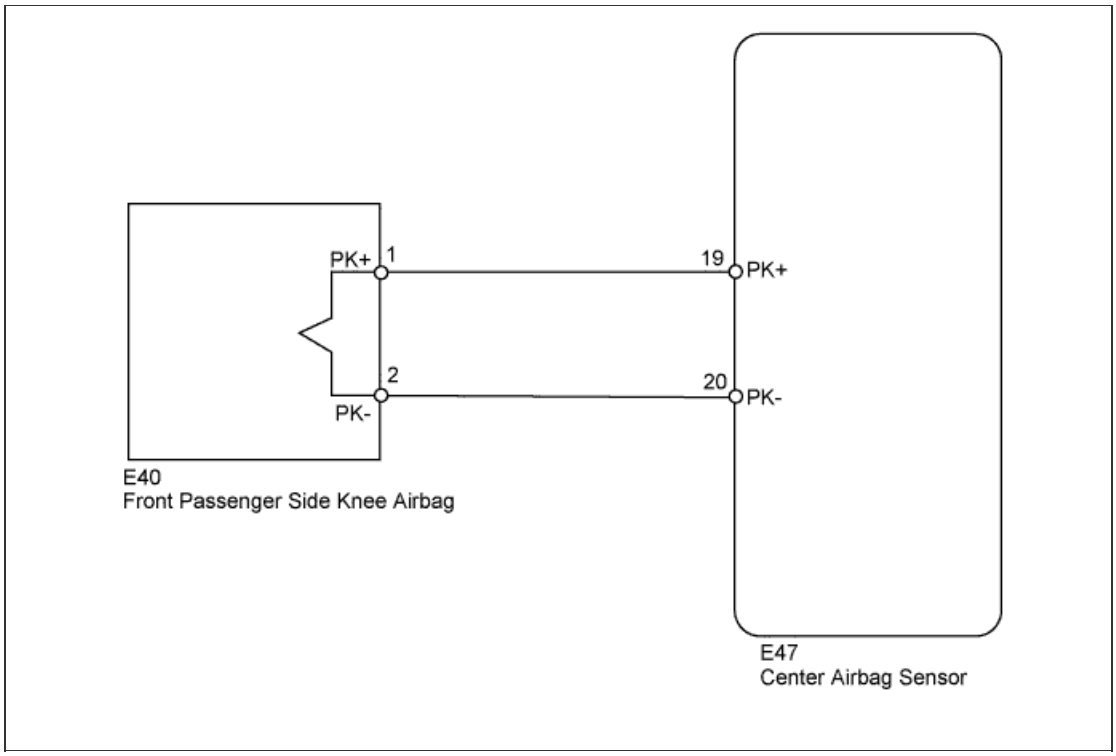
The front passenger side knee airbag squib circuit consists of the center airbag sensor and the front passenger side knee airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side knee airbag squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1865/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side knee airbag squib circuit during the primary check.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1866/65 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side knee airbag squib circuit for 2 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1867/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side knee airbag squib circuit for 0.5 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1868/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side knee airbag squib circuit for 0.5 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |

**HINT:**

Vehicles that are not equipped with knee airbag still contain knee airbag circuits and use substitution parts in replace of the knee airbag. If a malfunction occurs in this knee airbag circuit, DTC B1865/65, B1866/65, B1867/65 or B1868/65 is stored.

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER SIDE KNEE AIRBAG (FRONT PASSENGER SIDE KNEE SQUIB)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front passenger side knee airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

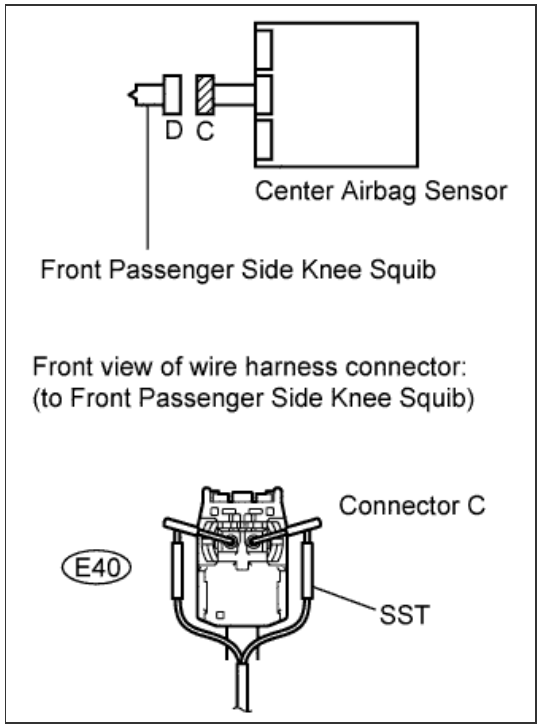
Never connect the tester to the front passenger side knee airbag (front passenger side knee squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1865, B1866, B1867 or B1868 is not output.**

**HINT:**

Codes other than DTC B1865, B1866, B1867 and B1868 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY ( Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the instrument panel wire connector (on the front passenger side knee airbag side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE

OK →

## 3.CHECK INSTRUMENT PANEL WIRE (FRONT PASSENGER KNEE SQUIB CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - Body ground | Ignition switch ON | Below 1 V |
| E40-2 (PK-) - Body ground | Ignition switch ON | Below 1 V |

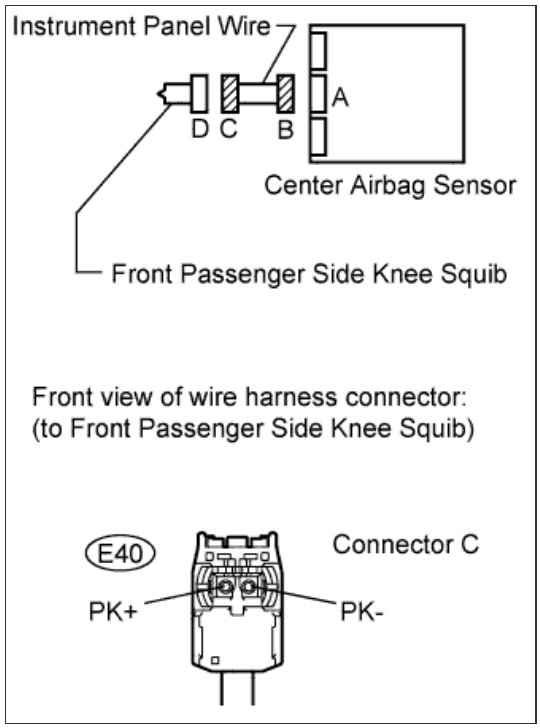
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - E40-2 (PK-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - E40-2 (PK-) | Always | 1 MΩ or higher |
| E40-1 (PK+) - Body ground | Always | 1 MΩ or higher |
| E40-2 (PK-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the front passenger side knee airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

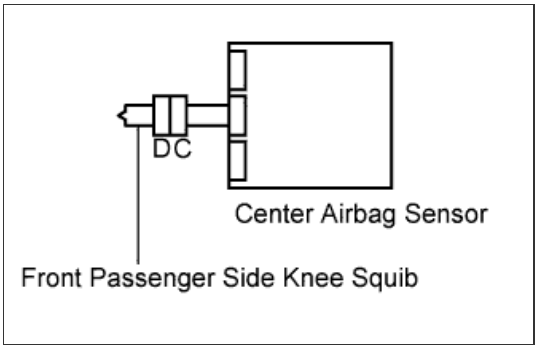
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1865, B1866, B1867 or B1868 is not output.**

**HINT:**

Codes other than DTC B1865, B1866, B1867 and B1868 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1800/51 Short in Driver Side Squib Circuit

## DTC B1801/51 Open in Driver Side Squib Circuit

## DTC B1802/51 Short to GND in Driver Side Squib Circuit

## DTC B1803/51 Short to B+ in Driver Side Squib Circuit

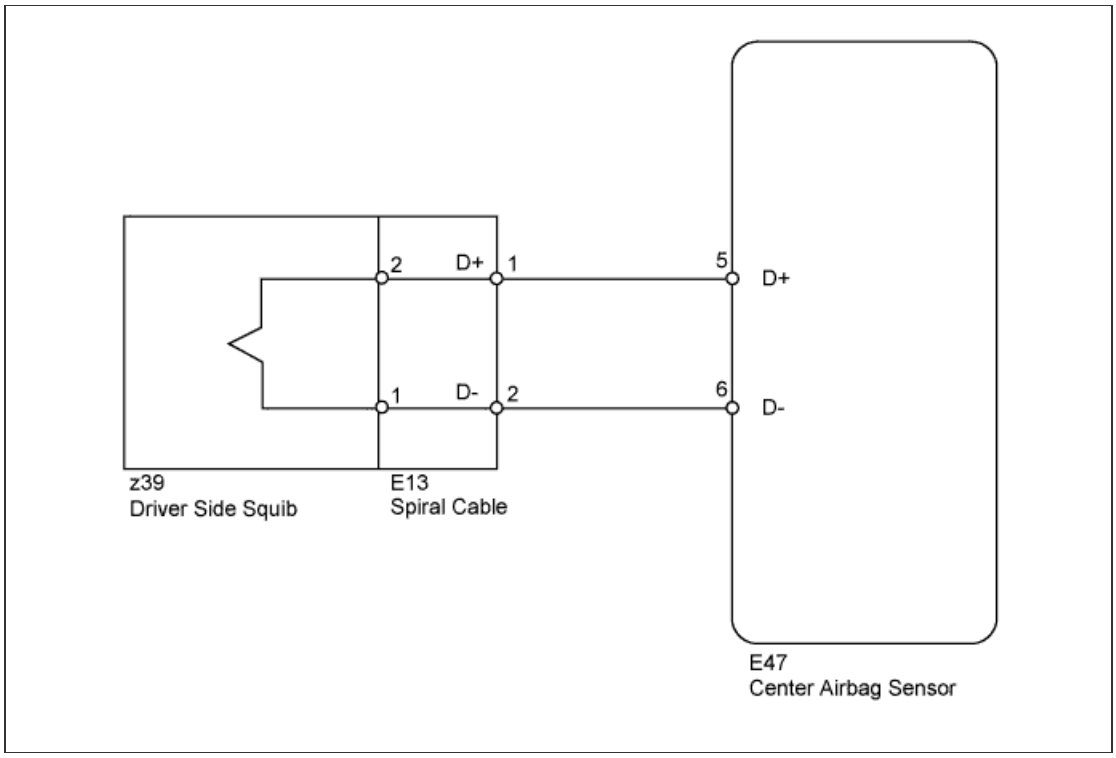
**for Preparation** Click here

### DESCRIPTION

The driver side squib circuit consists of the center airbag sensor, the spiral cable, and the steering pad.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1800/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side squib circuit during the primary check.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1801/51 | When one of the following conditions is met:<br>• The A center airbag sensor receives an open circuit signal in the driver side squib circuit for 2 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1802/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the driver side squib circuit for 0.5 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |
| B1803/51 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the driver side squib circuit for 0.5 seconds.<br>• A driver side squib malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

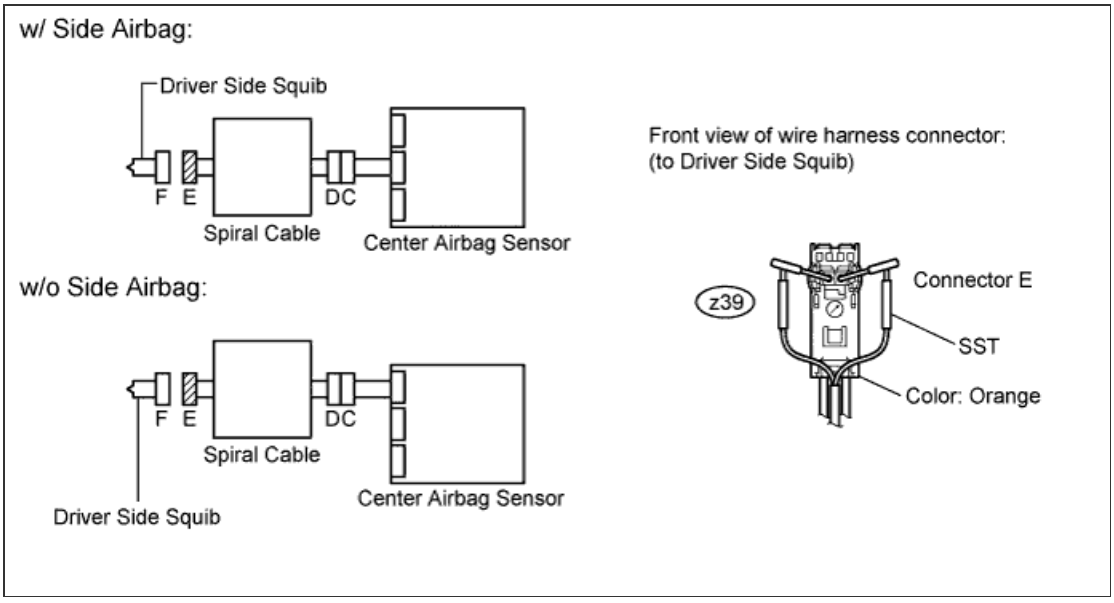
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK STEERING PAD (DRIVER SIDE SQUIB)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the steering pad.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (orange connector).

**CAUTION:**

Never connect the tester to the steering pad (driver side squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1800, B1801, B1802 or B1803 is not output.**

**HINT:**

Codes other than DTC B1800, B1801, B1802 and B1803 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK ↓

REPLACE STEERING PAD (**Click here**)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the spiral cable connectors (on the steering pad side) are not damaged.

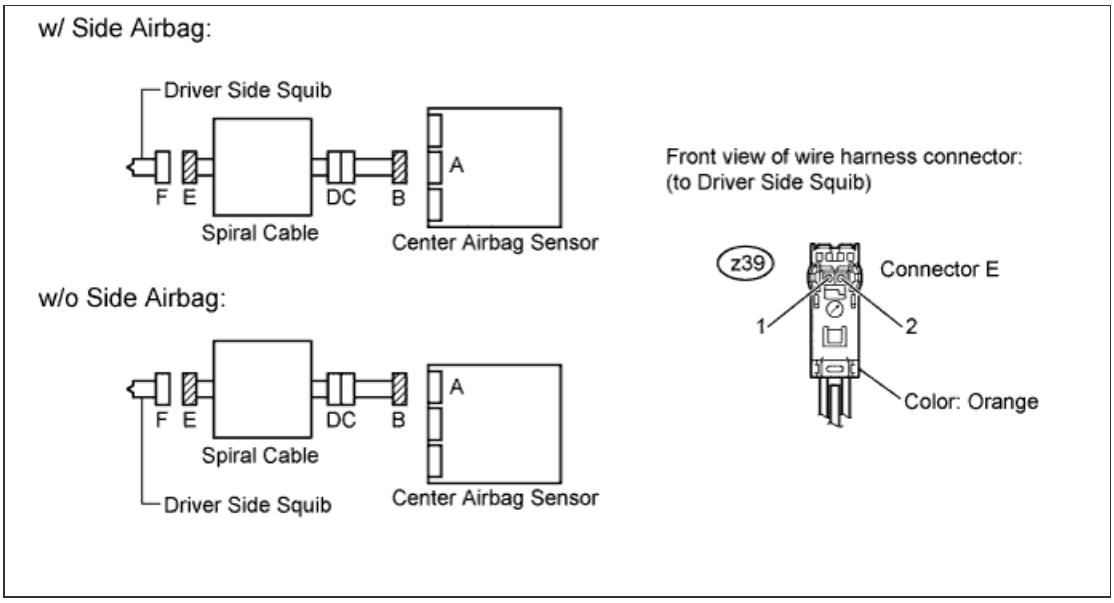
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE SPIRAL CABLE (**Click here**)

OK ↓

## 3.CHECK DRIVER SIDE SQUIB CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z39-1 - Body ground | Ignition switch ON | Below 1 V |
| z39-2 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z39-1 - z39-2 | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z39-1 - z39-2 | Always | 1 MΩ or higher |
| z39-1 - Body ground | Always | 1 MΩ or higher |
| z39-2 - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the steering pad and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

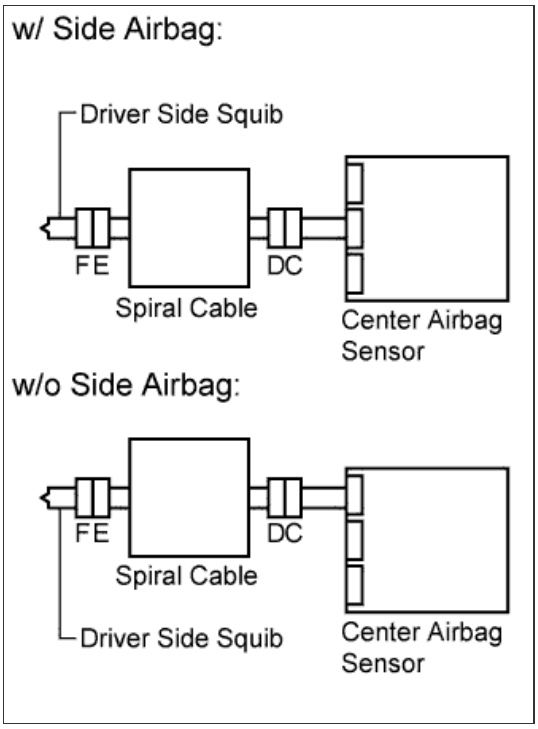
g. Check for DTCs (Click here).

**OK:**

**DTC B1800, B1801, B1802 or B1803 is not output.**

**HINT:**

Codes other than DTC B1800, B1801, B1802 and B1803 may be output at this time, but they are not related to this check.



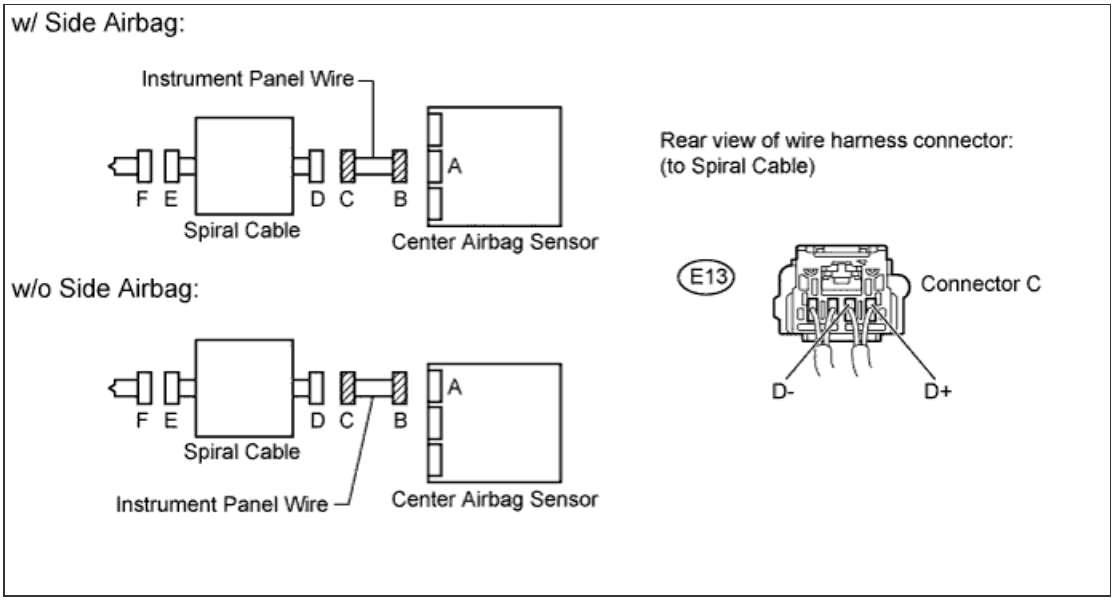

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - SPIRAL CABLE)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the spiral cable.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| E13-2 (D-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - E13-2 (D-) | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 (D+) - E13-2 (D-) | Always | 1 MΩ or higher |
| E13-1 (D+) - Body ground | Always | 1 MΩ or higher |
| E13-2 (D-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE SPIRAL CABLE (Click here)

## DTC B1865/65 Short in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1866/65 Open in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1867/65 Short to GND in Front Passenger Side Knee Airbag Squib Circuit

## DTC B1868/65 Short to B+ in Front Passenger Side Knee Airbag Squib Circuit

**for Preparation** Click here

### DESCRIPTION

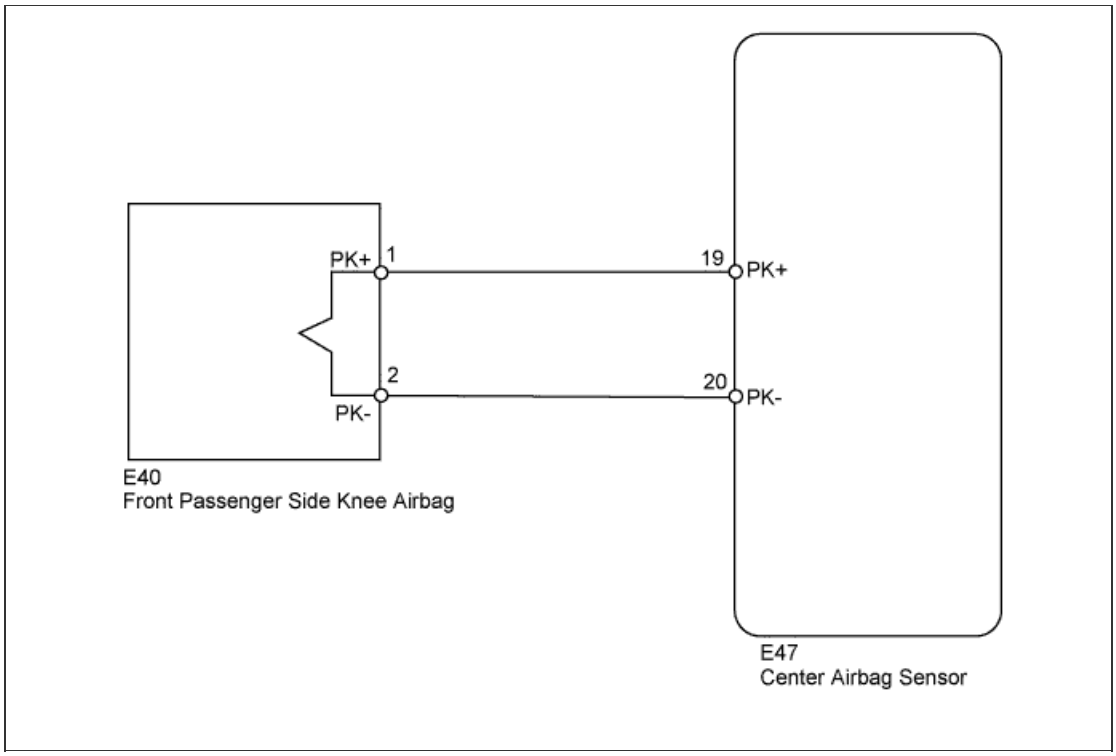
The front passenger side knee airbag squib circuit consists of the center airbag sensor and the front passenger side knee airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side knee airbag squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1865/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side knee airbag squib circuit during the primary check.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1866/65 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side knee airbag squib circuit for 2 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1867/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side knee airbag squib circuit for 0.5 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |
| B1868/65 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side knee airbag squib circuit for 0.5 seconds.<br>• A front passenger side knee airbag squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Front passenger side knee airbag assembly (Front passenger side knee squib)<br>• Center airbag sensor assembly |

**HINT:**

Vehicles that are not equipped with knee airbag still contain knee airbag circuits and use substitution parts in replace of the knee airbag. If a malfunction occurs in this knee airbag circuit, DTC B1865/65, B1866/65, B1867/65 or B1868/65 is stored.

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER SIDE KNEE AIRBAG (FRONT PASSENGER SIDE KNEE SQUIB)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front passenger side knee airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

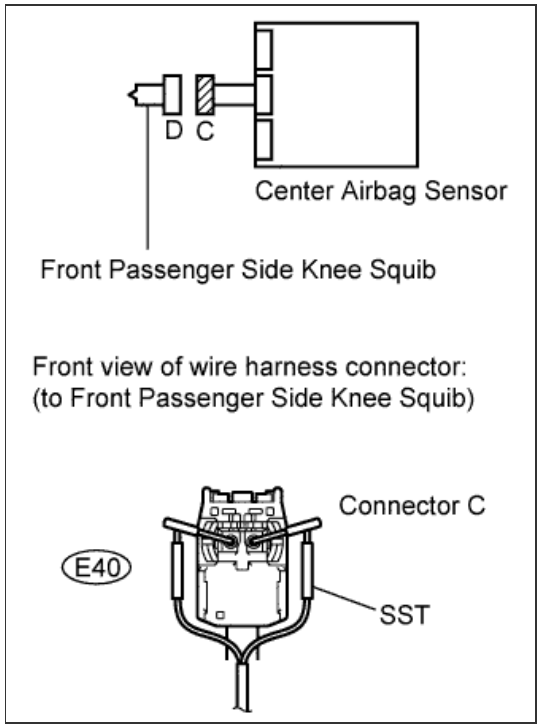
Never connect the tester to the front passenger side knee airbag (front passenger side knee squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1865, B1866, B1867 or B1868 is not output.**

**HINT:**

Codes other than DTC B1865, B1866, B1867 and B1868 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY ( Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the instrument panel wire connector (on the front passenger side knee airbag side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE

OK →

## 3.CHECK INSTRUMENT PANEL WIRE (FRONT PASSENGER KNEE SQUIB CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - Body ground | Ignition switch ON | Below 1 V |
| E40-2 (PK-) - Body ground | Ignition switch ON | Below 1 V |

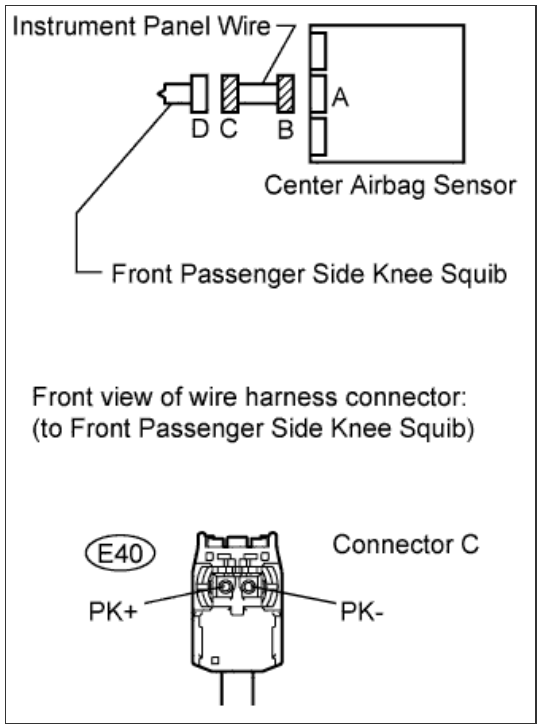
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - E40-2 (PK-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E40-1 (PK+) - E40-2 (PK-) | Always | 1 MΩ or higher |
| E40-1 (PK+) - Body ground | Always | 1 MΩ or higher |
| E40-2 (PK-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the front passenger side knee airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

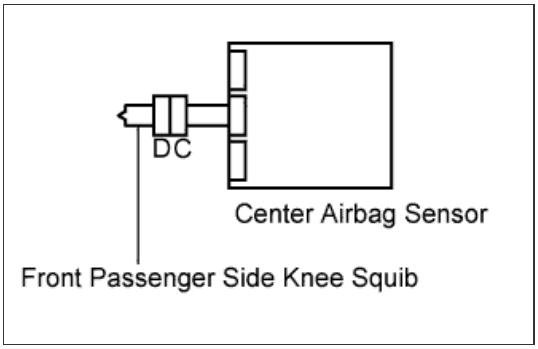
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1865, B1866, B1867 or B1868 is not output.**

**HINT:**

Codes other than DTC B1865, B1866, B1867 and B1868 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1805/52 Short in Front Passenger Side Squib Circuit

## DTC B1806/52 Open in Front Passenger Side Squib Circuit

## DTC B1807/52 Short to GND in Front Passenger Side Squib Circuit

## DTC B1808/52 Short to B+ in Front Passenger Side Squib Circuit

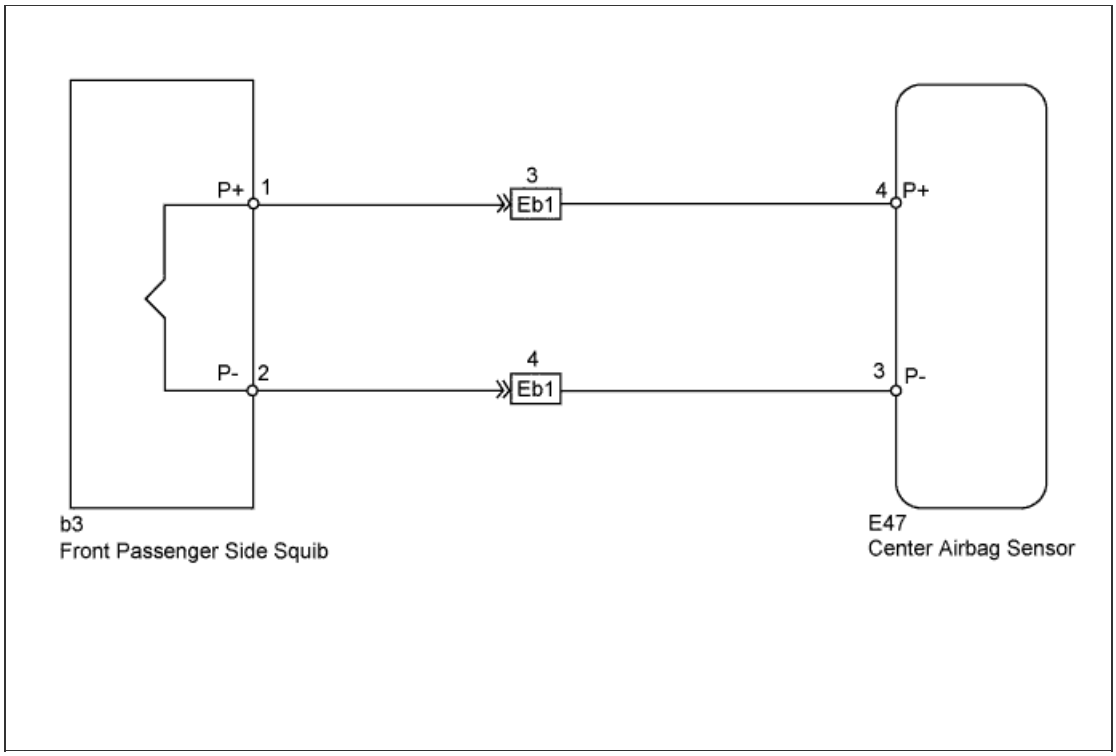
**for Preparation** Click here

### DESCRIPTION

The front passenger side squib circuit consists of the center airbag sensor and the front passenger airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1805/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side squib circuit during the primary check.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1806/52 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side squib circuit for 2 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1807/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side squib circuit for 0.5 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1808/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side squib circuit for 0.5 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

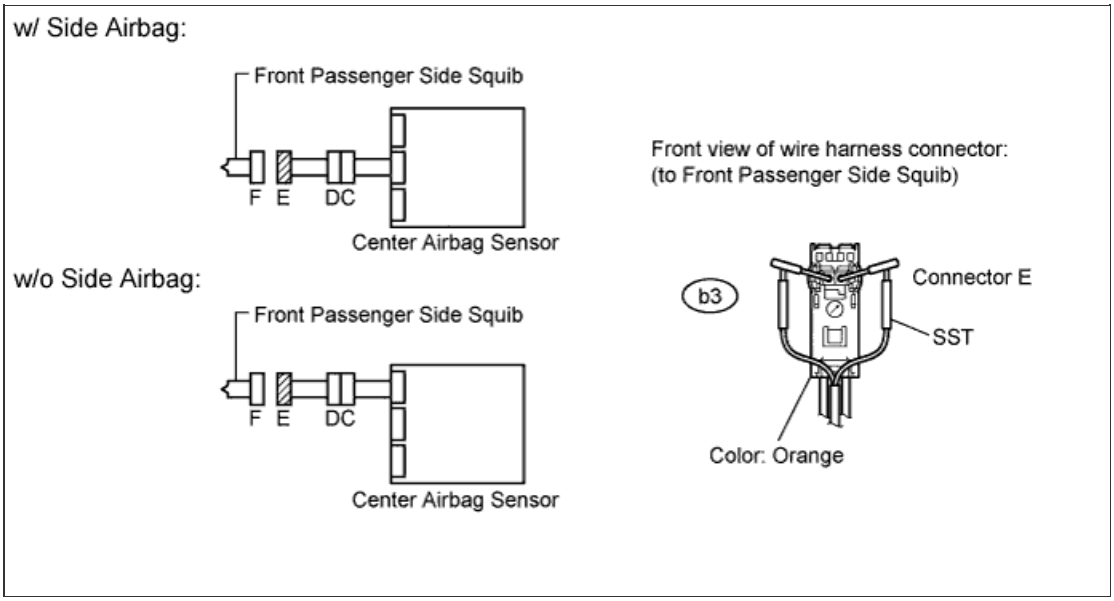
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER AIRBAG (FRONT PASSENGER SIDE SQUIB)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front passenger airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (orange connector).

**CAUTION:**

Never connect the tester to the front passenger airbag (front passenger side squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1805, B1806, B1807 or B1808 is not output.**

**HINT:**

Codes other than DTC B1805, B1806, B1807 and B1808 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK ↓

REPLACE FRONT PASSENGER AIRBAG ASSEMBLY (**Click here**)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the instrument panel wire connectors (on the front passenger airbag side) are not damaged.

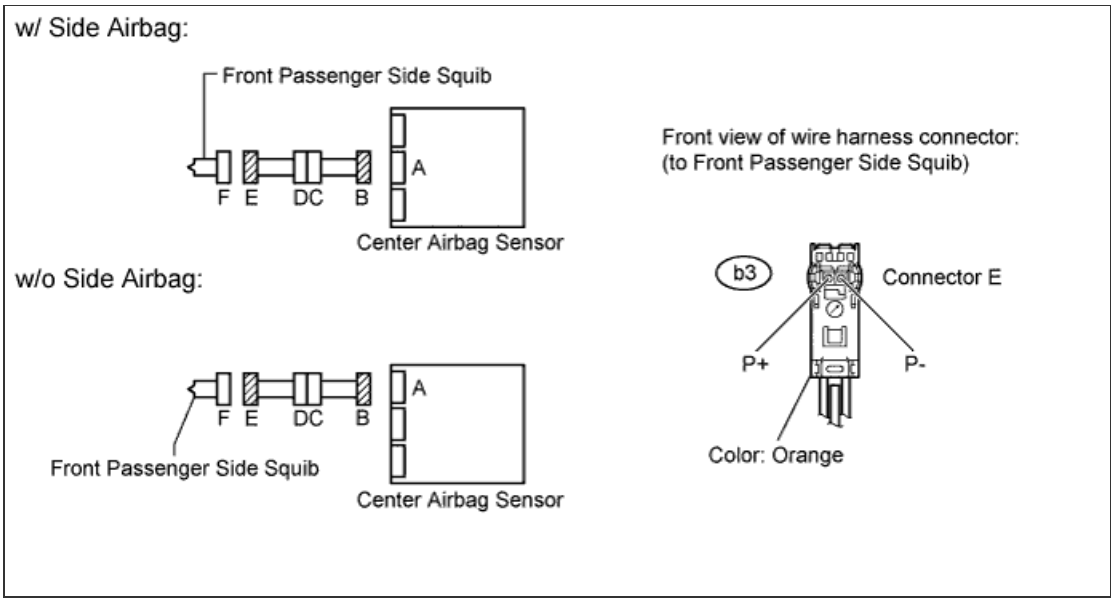
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

OK ↓

## 3.CHECK FRONT PASSENGER SIDE SQUIB CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - Body ground | Ignition switch to ON | Below 1 V |
| b3-2 (P-) - Body ground | Ignition switch to ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - b3-2 (P-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - b3-2 (P-) | Always | 1 MΩ or higher |
| b3-1 (P+) - Body ground | Always | 1 MΩ or higher |
| b3-2 (P-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front passenger airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

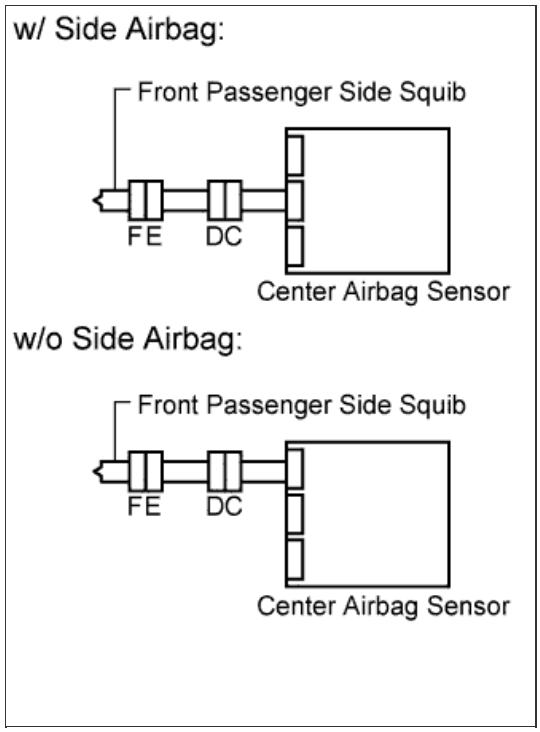
g. Check for DTCs (Click here).

**OK:**

**DTC B1805, B1806, B1807 or B1808 is not output.**

**HINT:**

Codes other than DTC B1805, B1806, B1807 and B1808 may be output at this time, but they are not related to this check.

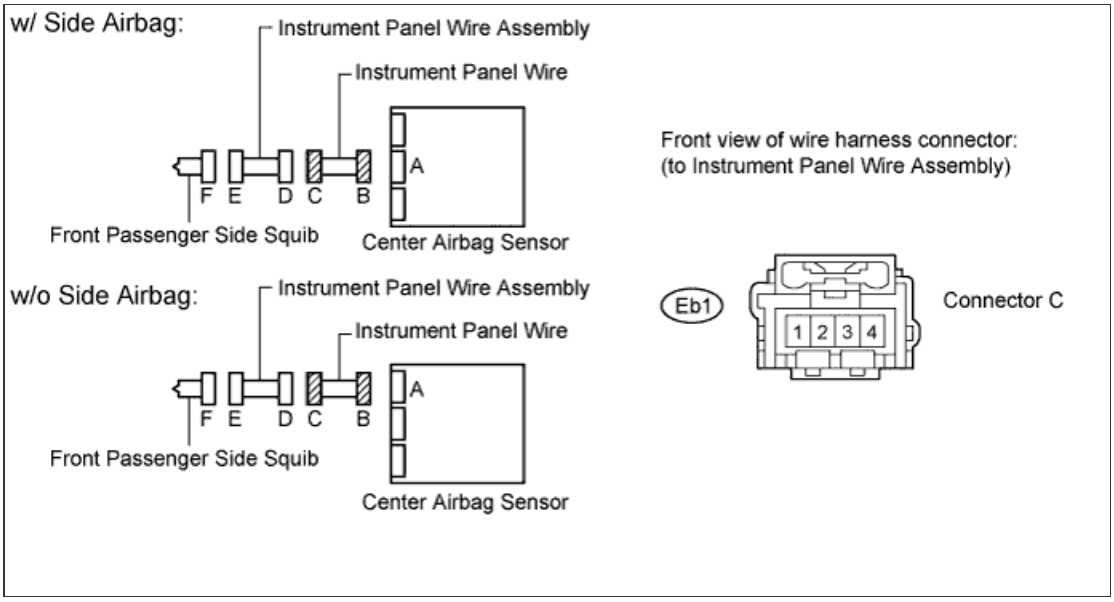



NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK → USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - INSTRUMENT PANEL WIRE ASSEMBLY)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the instrument panel wire assembly.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Body ground | Ignition switch to ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| Eb1-4 - Body ground | Ignition switch to ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Eb1-4 | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Eb1-4 | Always | 1 MΩ or higher |
| Eb1-3 - Body ground | Always | 1 MΩ or higher |
| Eb1-4 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

## DTC B1900/73 Short in Front Pretensioner Squib RH Circuit

## DTC B1901/73 Open in Front Pretensioner Squib RH Circuit

## DTC B1902/73 Short to GND in Front Pretensioner Squib RH Circuit

## DTC B1903/73 Short to B+ in Front Pretensioner Squib RH Circuit

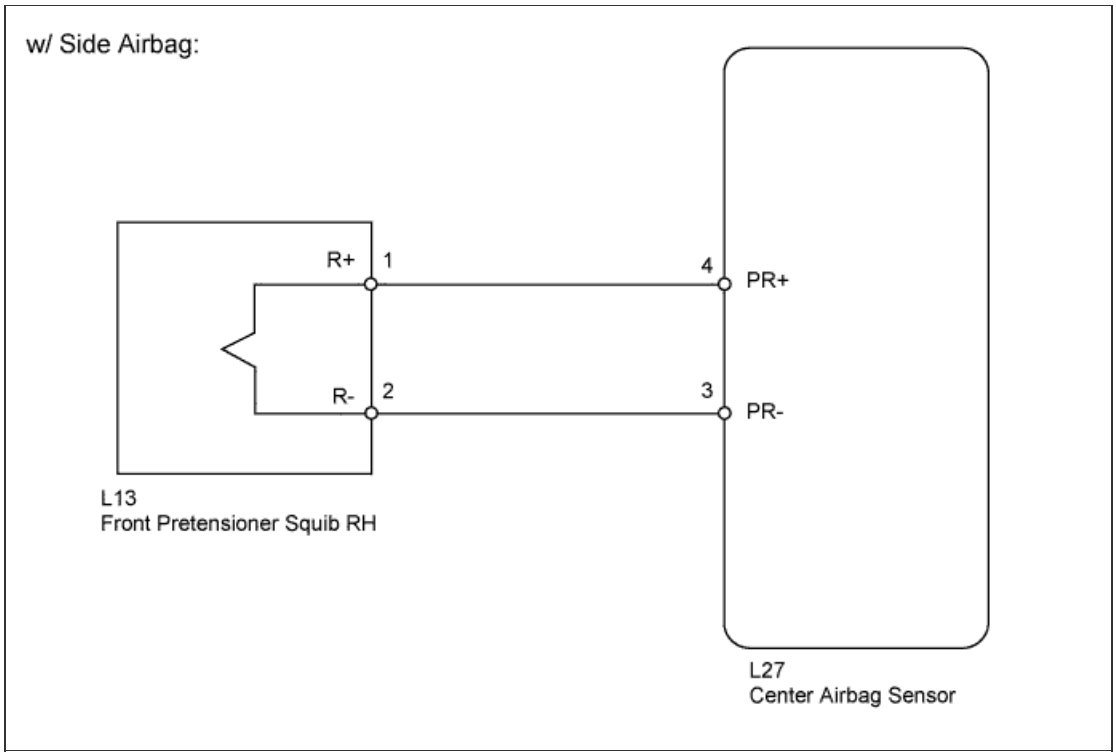
**for Preparation** Click here

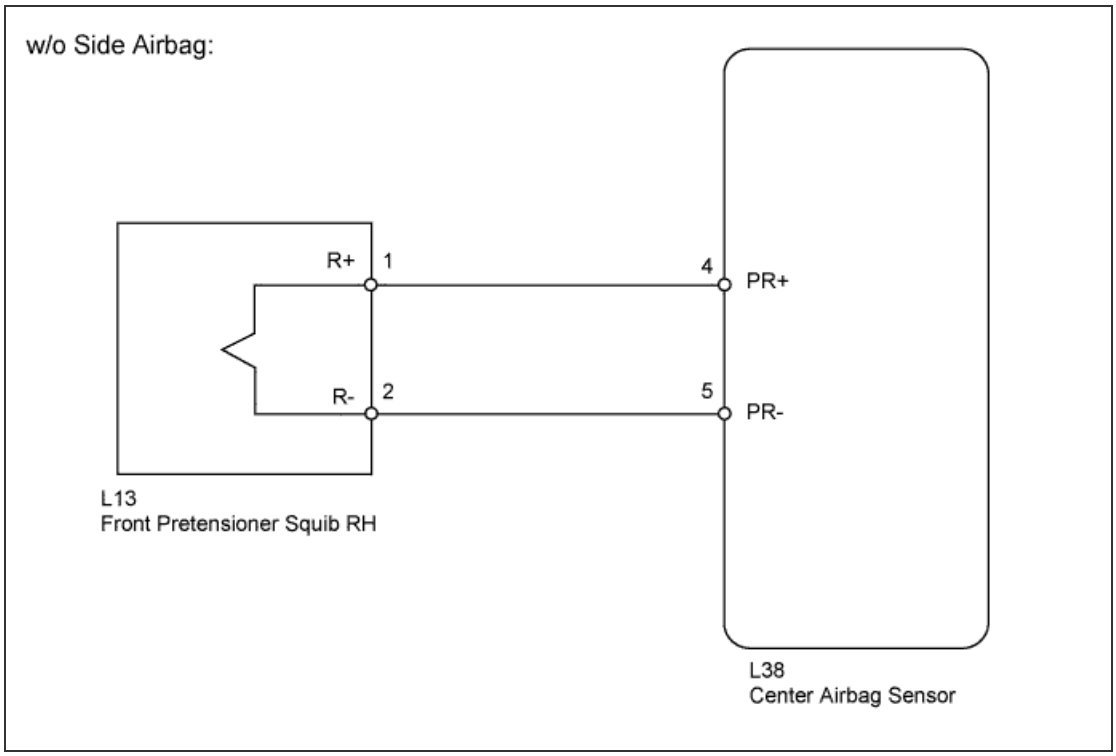
### DESCRIPTION

The front pretensioner squib RH circuit consists of the center airbag sensor and the front seat outer belt RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front pretensioner squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1900/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front pretensioner squib RH circuit during the primary check.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1901/73 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front pretensioner squib RH circuit for 2 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1902/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front pretensioner squib RH circuit for 0.5 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1903/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front pretensioner squib RH circuit for 0.5 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

**1.CHECK FRONT SEAT OUTER BELT RH (FRONT PRETENSIONER SQUIB RH)**

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front seat outer belt RH.

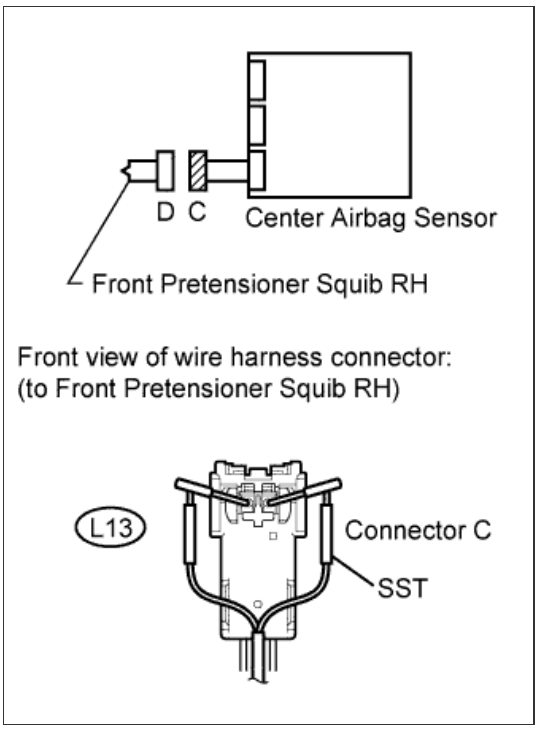
d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the front seat outer belt RH (front pretensioner squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**




*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1900, B1901, B1902 or B1903 is not output.**

**HINT:**

Codes other than DTC B1900, B1901, B1902 and B1903 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK

REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the front seat outer belt RH side) is not damaged.

**OK:**

**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK

## 3.CHECK NO. 2 FLOOR WIRE (FRONT PRETENSIONER SQUIB RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2

seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - Body ground | Ignition switch ON | Below 1 V |
| L13-2 (R-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

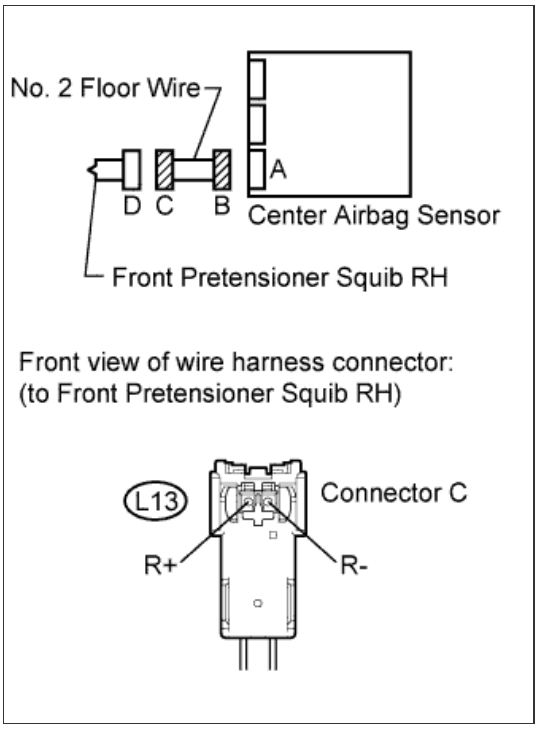
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - L13-2 (R-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - L13-2 (R-) | Always | 1 MΩ or higher |
| L13-1 (R+) - Body ground | Always | 1 MΩ or higher |
| L13-2 (R-) - Body ground | Always | 1 MΩ or higher |




NG → REPLACE NO. 2 FLOOR WIRE

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat outer belt RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

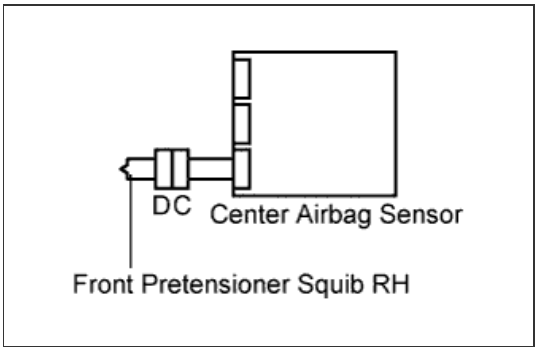
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory ( Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1900, B1901, B1902 or B1903 is not output.**

**HINT:**

Codes other than DTC B1900, B1901, B1902 and B1903 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1805/52 Short in Front Passenger Side Squib Circuit

## DTC B1806/52 Open in Front Passenger Side Squib Circuit

## DTC B1807/52 Short to GND in Front Passenger Side Squib Circuit

## DTC B1808/52 Short to B+ in Front Passenger Side Squib Circuit

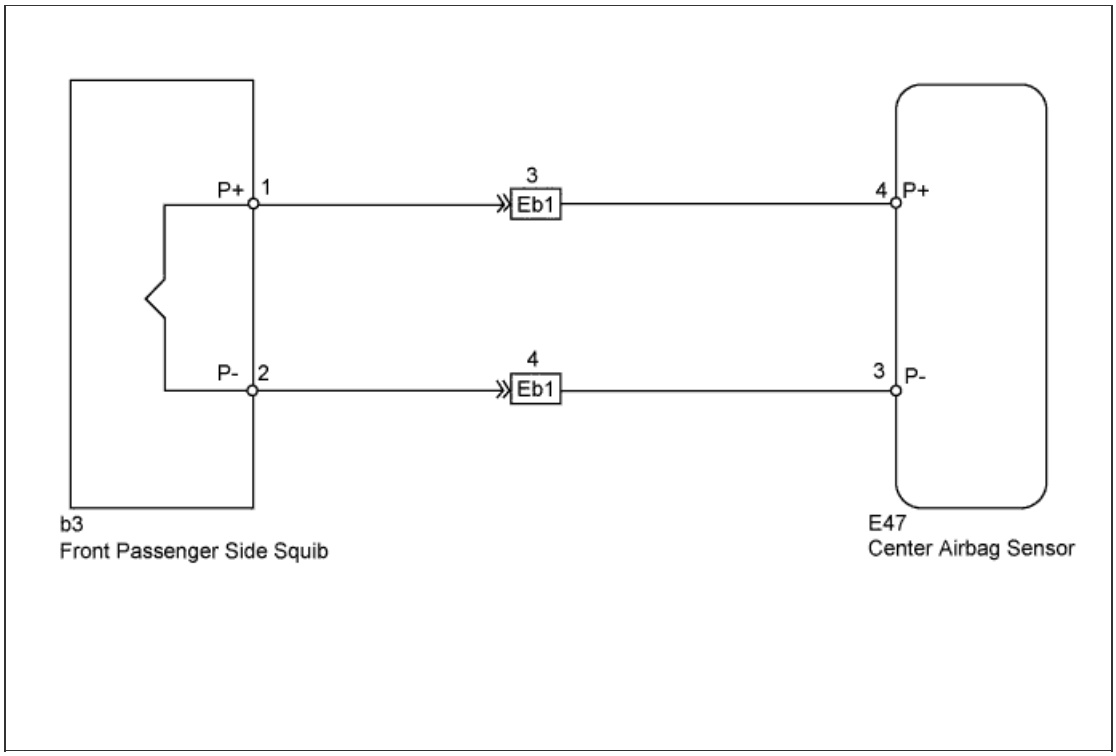
**for Preparation** Click here

### DESCRIPTION

The front passenger side squib circuit consists of the center airbag sensor and the front passenger airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1805/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side squib circuit during the primary check.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1806/52 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side squib circuit for 2 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1807/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side squib circuit for 0.5 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1808/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side squib circuit for 0.5 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

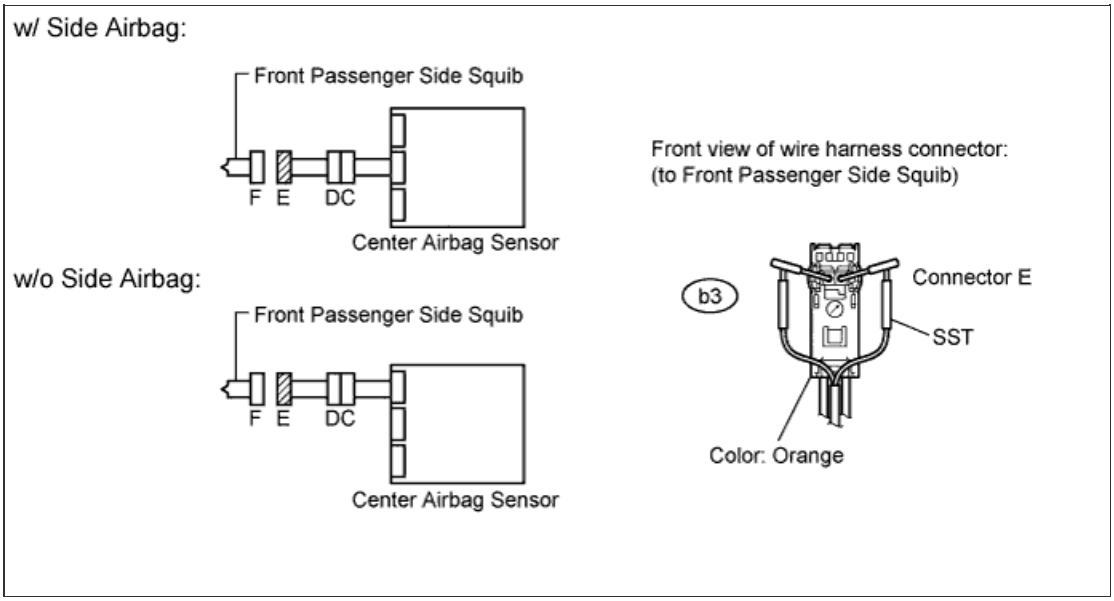
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER AIRBAG (FRONT PASSENGER SIDE SQUIB)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front passenger airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (orange connector).

**CAUTION:**

Never connect the tester to the front passenger airbag (front passenger side squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1805, B1806, B1807 or B1808 is not output.**

**HINT:**

Codes other than DTC B1805, B1806, B1807 and B1808 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK ↓

REPLACE FRONT PASSENGER AIRBAG ASSEMBLY (**Click here**)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the instrument panel wire connectors (on the front passenger airbag side) are not damaged.

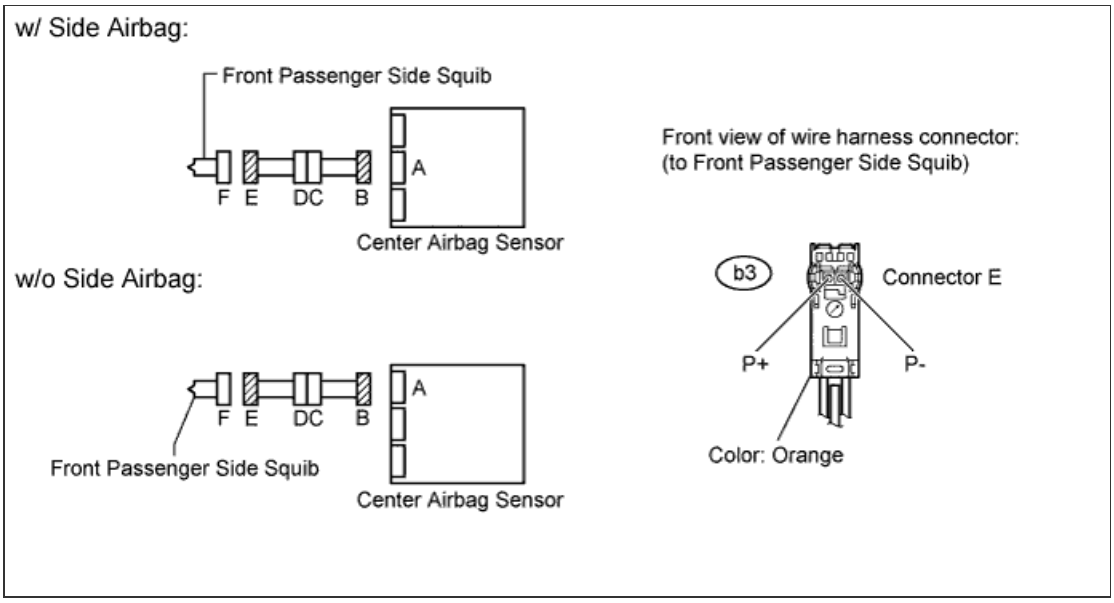
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

OK ↓

## 3.CHECK FRONT PASSENGER SIDE SQUIB CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - Body ground | Ignition switch to ON | Below 1 V |
| b3-2 (P-) - Body ground | Ignition switch to ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - b3-2 (P-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - b3-2 (P-) | Always | 1 MΩ or higher |
| b3-1 (P+) - Body ground | Always | 1 MΩ or higher |
| b3-2 (P-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front passenger airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

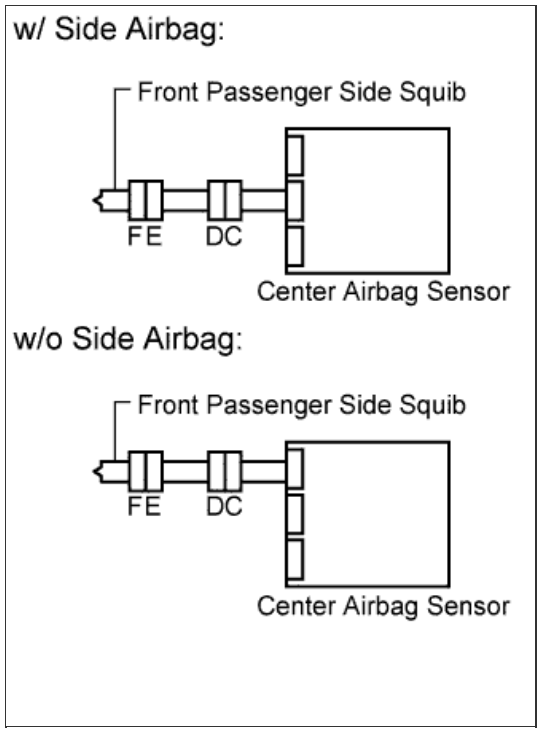
g. Check for DTCs (Click here).

**OK:**

**DTC B1805, B1806, B1807 or B1808 is not output.**

**HINT:**

Codes other than DTC B1805, B1806, B1807 and B1808 may be output at this time, but they are not related to this check.

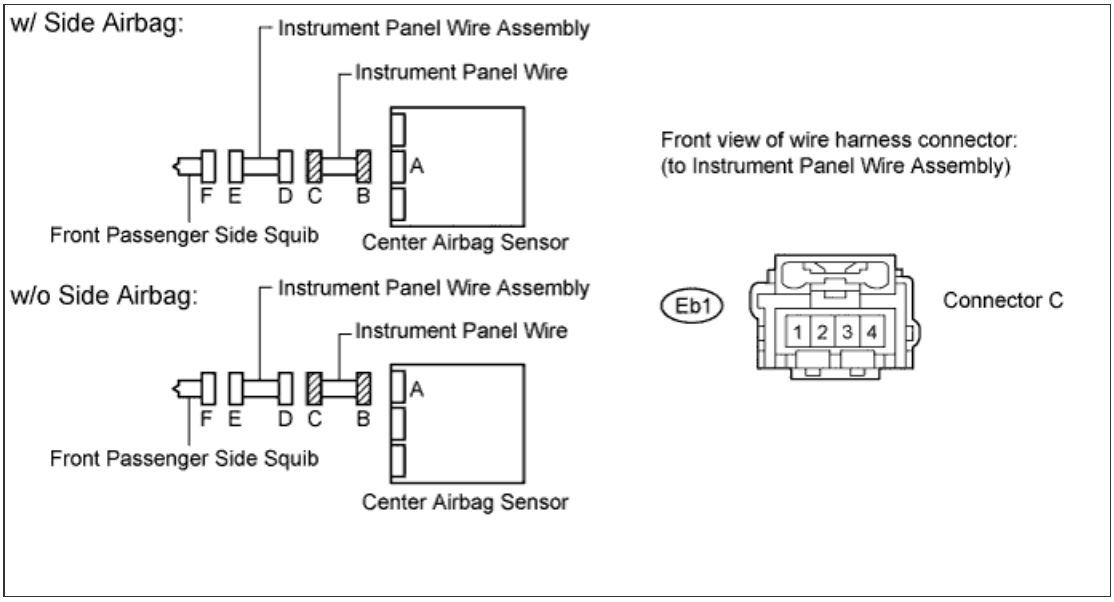



NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK → USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - INSTRUMENT PANEL WIRE ASSEMBLY)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the instrument panel wire assembly.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Body ground | Ignition switch to ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| Eb1-4 - Body ground | Ignition switch to ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Eb1-4 | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Eb1-4 | Always | 1 MΩ or higher |
| Eb1-3 - Body ground | Always | 1 MΩ or higher |
| Eb1-4 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

## DTC B1900/73 Short in Front Pretensioner Squib RH Circuit

## DTC B1901/73 Open in Front Pretensioner Squib RH Circuit

## DTC B1902/73 Short to GND in Front Pretensioner Squib RH Circuit

## DTC B1903/73 Short to B+ in Front Pretensioner Squib RH Circuit

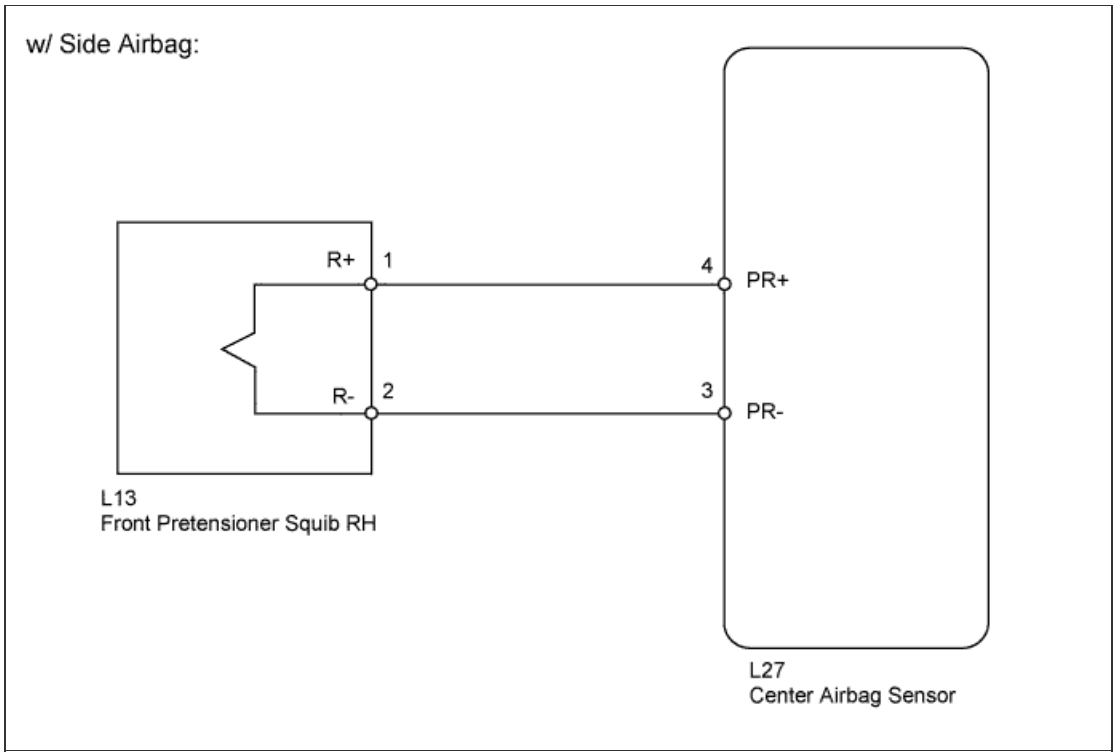
**for Preparation** Click here

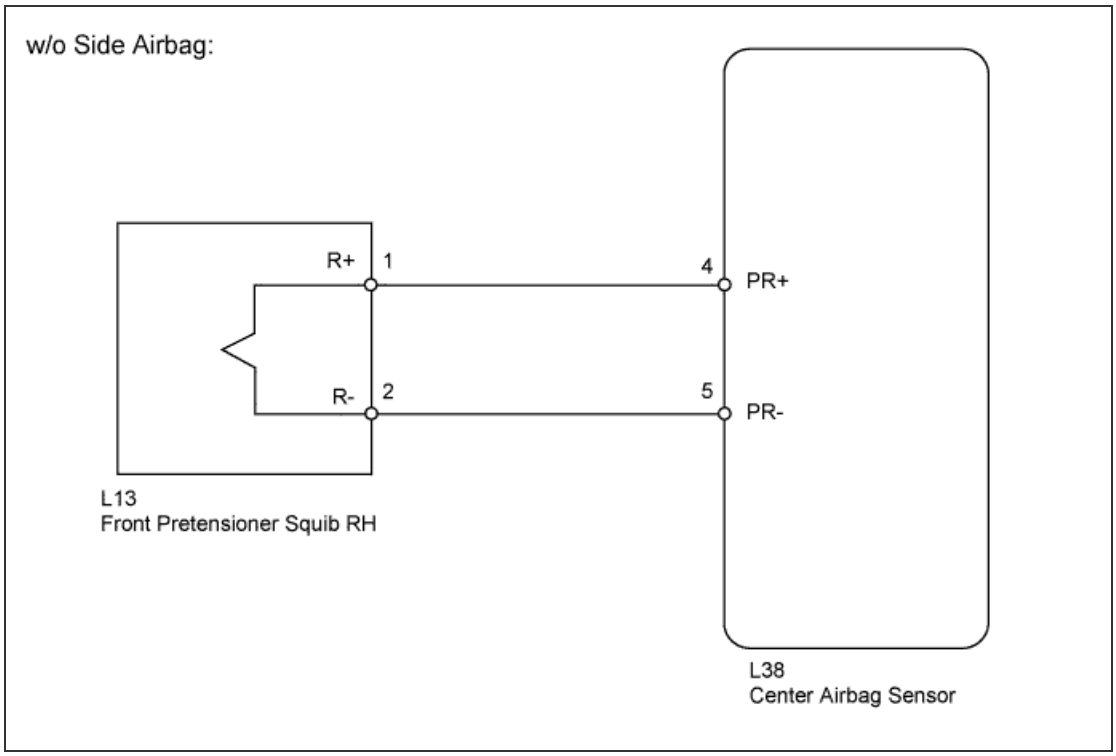
### DESCRIPTION

The front pretensioner squib RH circuit consists of the center airbag sensor and the front seat outer belt RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front pretensioner squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1900/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front pretensioner squib RH circuit during the primary check.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1901/73 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front pretensioner squib RH circuit for 2 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1902/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front pretensioner squib RH circuit for 0.5 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1903/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front pretensioner squib RH circuit for 0.5 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

**1.CHECK FRONT SEAT OUTER BELT RH (FRONT PRETENSIONER SQUIB RH)**

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front seat outer belt RH.

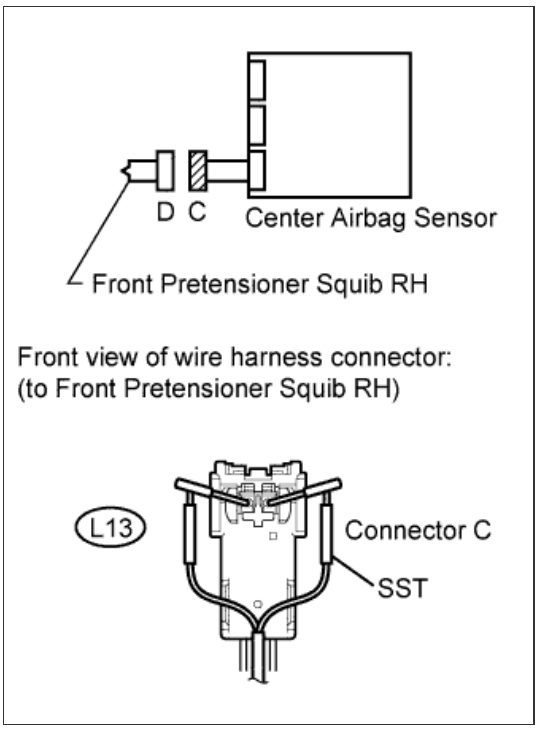
d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the front seat outer belt RH (front pretensioner squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**




*SST*

09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1900, B1901, B1902 or B1903 is not output.**

**HINT:**

Codes other than DTC B1900, B1901, B1902 and B1903 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK

REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the front seat outer belt RH side) is not damaged.

**OK:**

**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK

## 3.CHECK NO. 2 FLOOR WIRE (FRONT PRETENSIONER SQUIB RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2

seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - Body ground | Ignition switch ON | Below 1 V |
| L13-2 (R-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

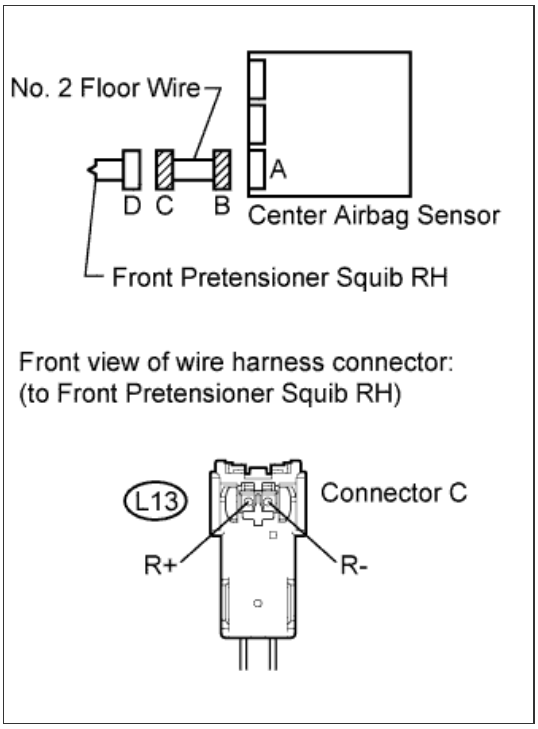
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - L13-2 (R-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - L13-2 (R-) | Always | 1 MΩ or higher |
| L13-1 (R+) - Body ground | Always | 1 MΩ or higher |
| L13-2 (R-) - Body ground | Always | 1 MΩ or higher |




NG → REPLACE NO. 2 FLOOR WIRE

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat outer belt RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

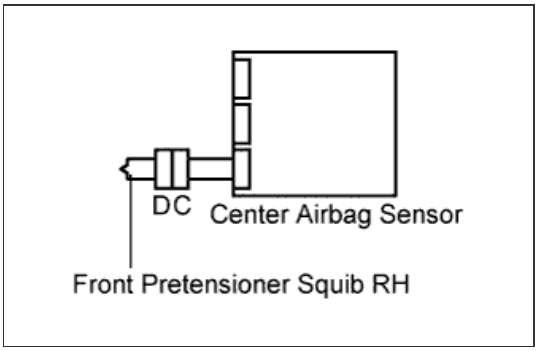
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory ( Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1900, B1901, B1902 or B1903 is not output.**

**HINT:**

Codes other than DTC B1900, B1901, B1902 and B1903 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1805/52 Short in Front Passenger Side Squib Circuit

## DTC B1806/52 Open in Front Passenger Side Squib Circuit

## DTC B1807/52 Short to GND in Front Passenger Side Squib Circuit

## DTC B1808/52 Short to B+ in Front Passenger Side Squib Circuit

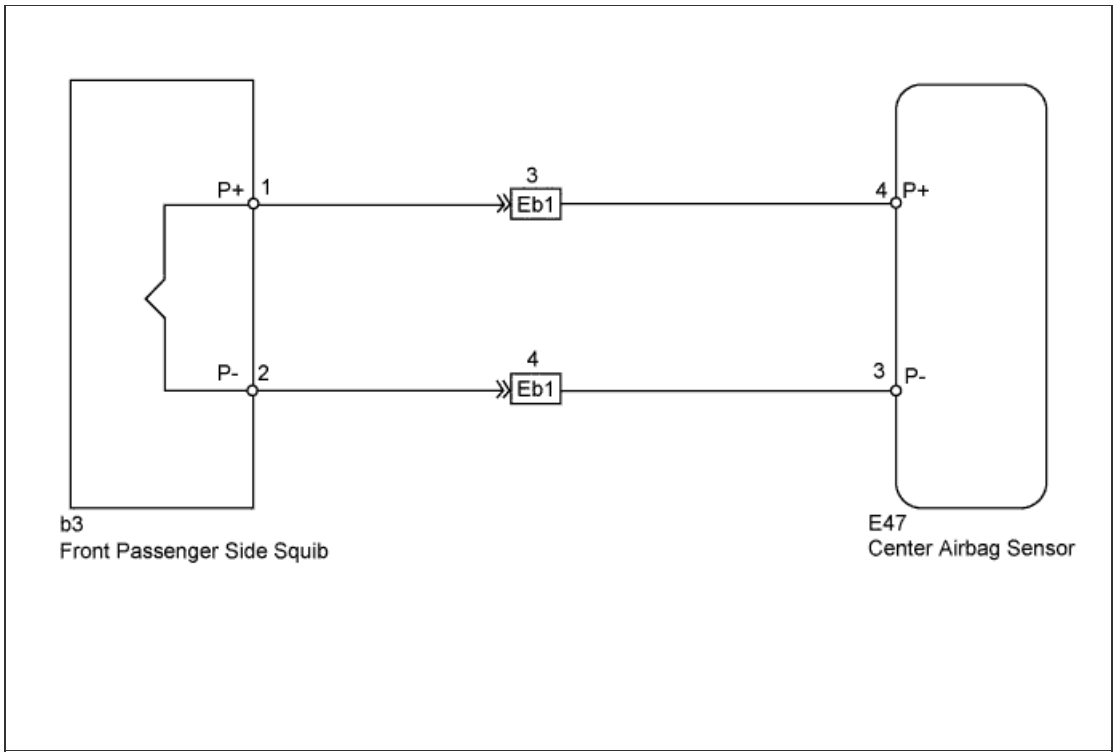
**for Preparation** Click here

### DESCRIPTION

The front passenger side squib circuit consists of the center airbag sensor and the front passenger airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1805/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side squib circuit during the primary check.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1806/52 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side squib circuit for 2 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1807/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side squib circuit for 0.5 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1808/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side squib circuit for 0.5 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

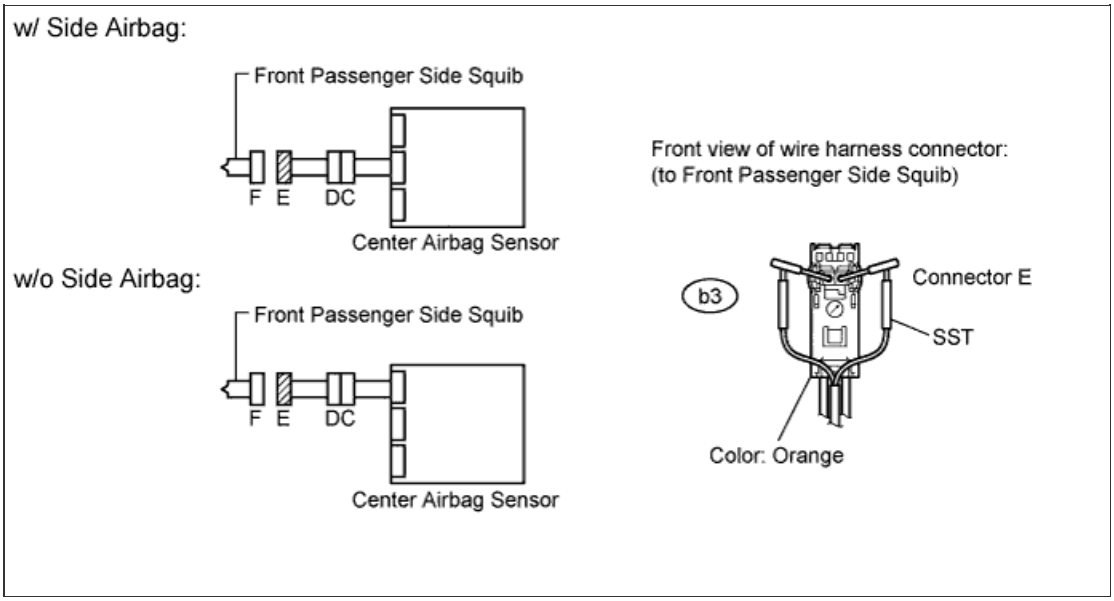
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER AIRBAG (FRONT PASSENGER SIDE SQUIB)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front passenger airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (orange connector).

**CAUTION:**

Never connect the tester to the front passenger airbag (front passenger side squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1805, B1806, B1807 or B1808 is not output.**

**HINT:**

Codes other than DTC B1805, B1806, B1807 and B1808 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK ↓

REPLACE FRONT PASSENGER AIRBAG ASSEMBLY (**Click here**)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the instrument panel wire connectors (on the front passenger airbag side) are not damaged.

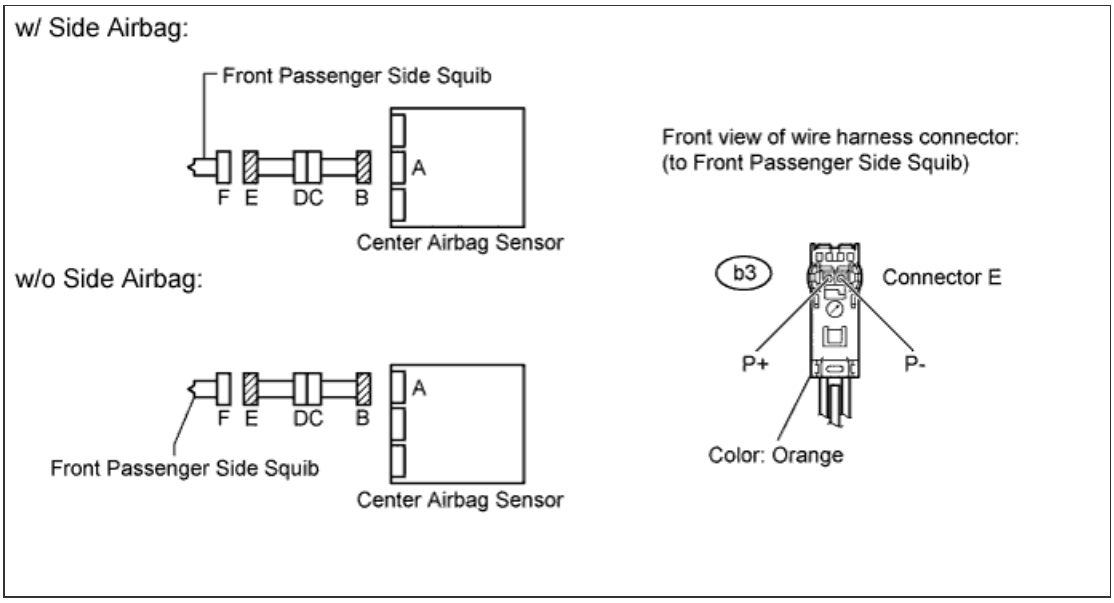
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

OK ↓

## 3.CHECK FRONT PASSENGER SIDE SQUIB CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - Body ground | Ignition switch to ON | Below 1 V |
| b3-2 (P-) - Body ground | Ignition switch to ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - b3-2 (P-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - b3-2 (P-) | Always | 1 MΩ or higher |
| b3-1 (P+) - Body ground | Always | 1 MΩ or higher |
| b3-2 (P-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front passenger airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

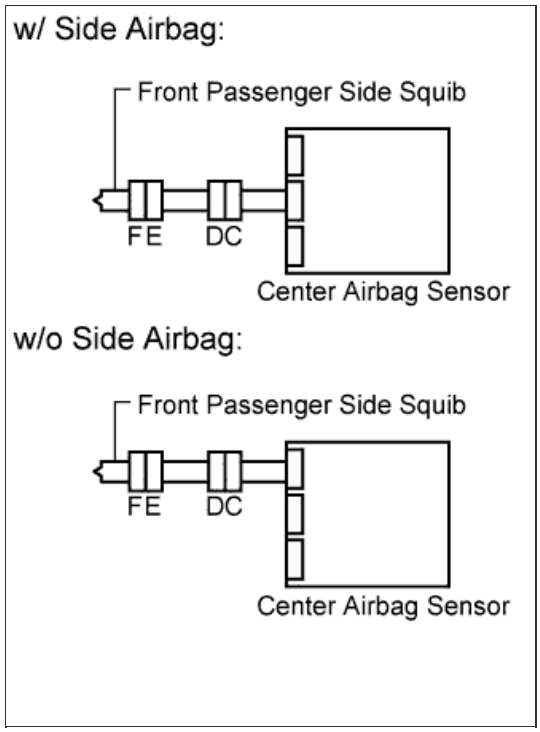
g. Check for DTCs (Click here).

**OK:**

**DTC B1805, B1806, B1807 or B1808 is not output.**

**HINT:**

Codes other than DTC B1805, B1806, B1807 and B1808 may be output at this time, but they are not related to this check.

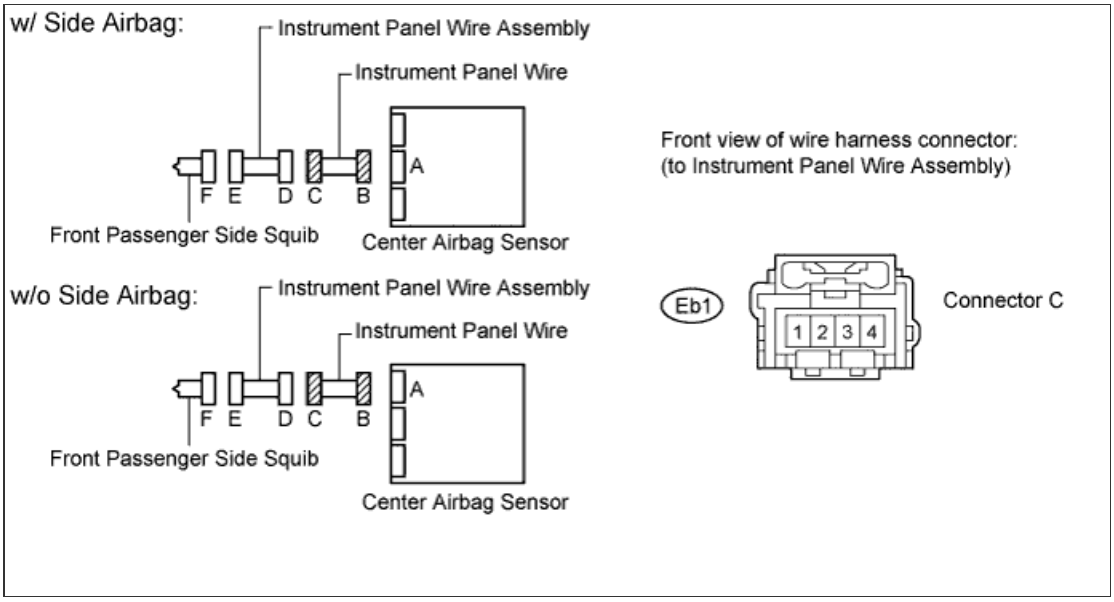



NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK → USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - INSTRUMENT PANEL WIRE ASSEMBLY)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the instrument panel wire assembly.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Body ground | Ignition switch to ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| Eb1-4 - Body ground | Ignition switch to ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Eb1-4 | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Eb1-4 | Always | 1 MΩ or higher |
| Eb1-3 - Body ground | Always | 1 MΩ or higher |
| Eb1-4 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

## DTC B1900/73 Short in Front Pretensioner Squib RH Circuit

## DTC B1901/73 Open in Front Pretensioner Squib RH Circuit

## DTC B1902/73 Short to GND in Front Pretensioner Squib RH Circuit

## DTC B1903/73 Short to B+ in Front Pretensioner Squib RH Circuit

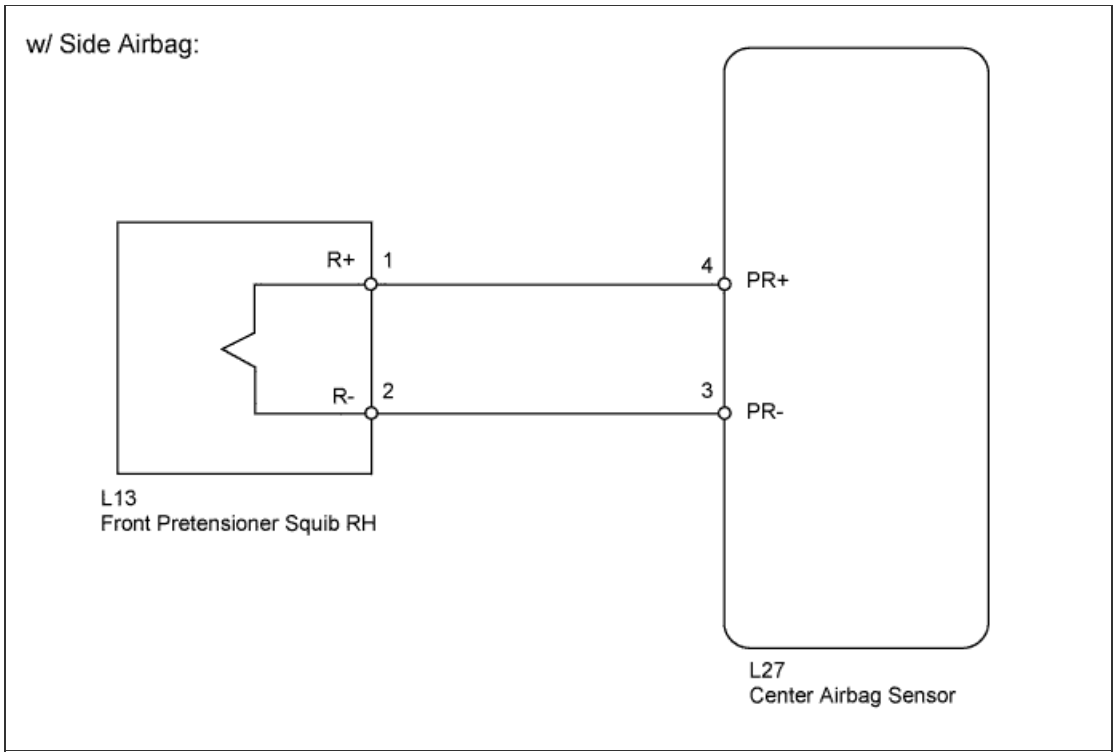
**for Preparation** Click here

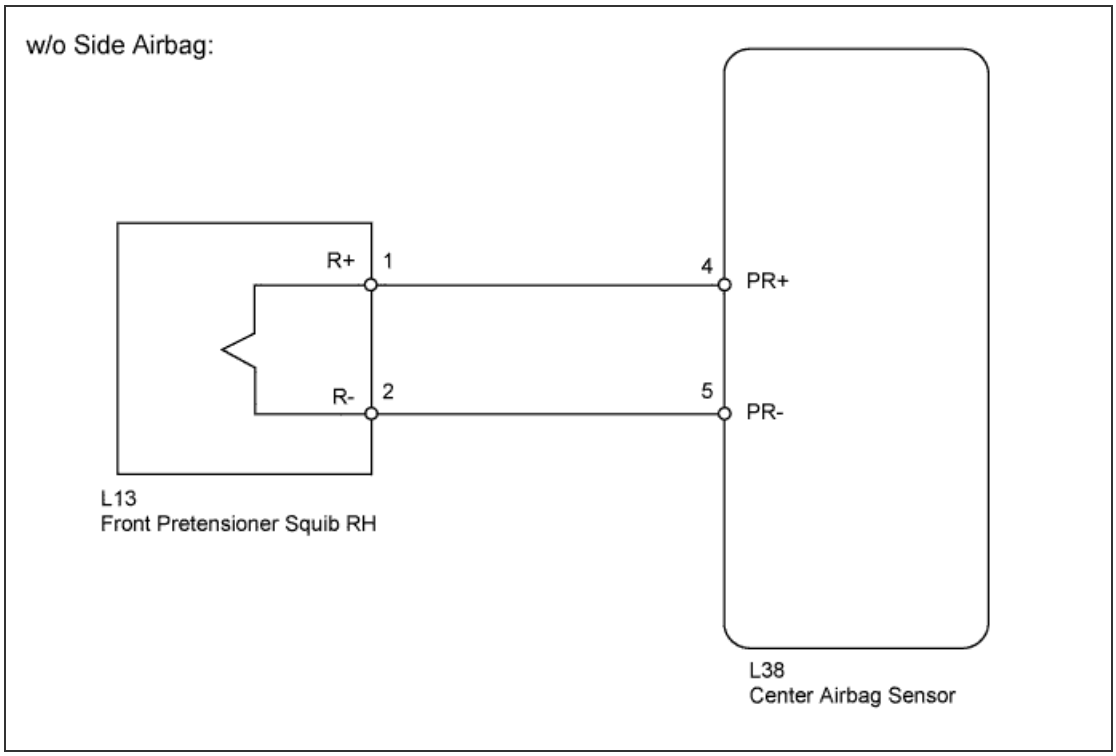
### DESCRIPTION

The front pretensioner squib RH circuit consists of the center airbag sensor and the front seat outer belt RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front pretensioner squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1900/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front pretensioner squib RH circuit during the primary check.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1901/73 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front pretensioner squib RH circuit for 2 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1902/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front pretensioner squib RH circuit for 0.5 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1903/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front pretensioner squib RH circuit for 0.5 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

**1.CHECK FRONT SEAT OUTER BELT RH (FRONT PRETENSIONER SQUIB RH)**

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front seat outer belt RH.

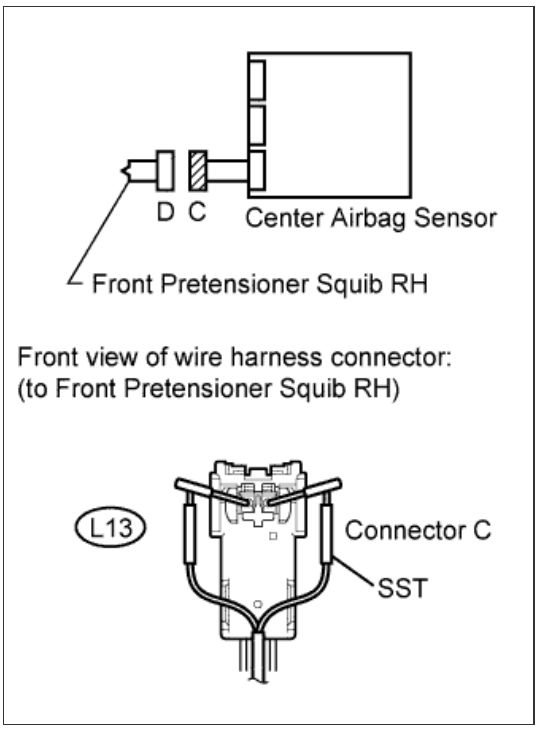
d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the front seat outer belt RH (front pretensioner squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**




*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1900, B1901, B1902 or B1903 is not output.**

**HINT:**

Codes other than DTC B1900, B1901, B1902 and B1903 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK

REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the front seat outer belt RH side) is not damaged.

**OK:**

**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK

## 3.CHECK NO. 2 FLOOR WIRE (FRONT PRETENSIONER SQUIB RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2

seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - Body ground | Ignition switch ON | Below 1 V |
| L13-2 (R-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

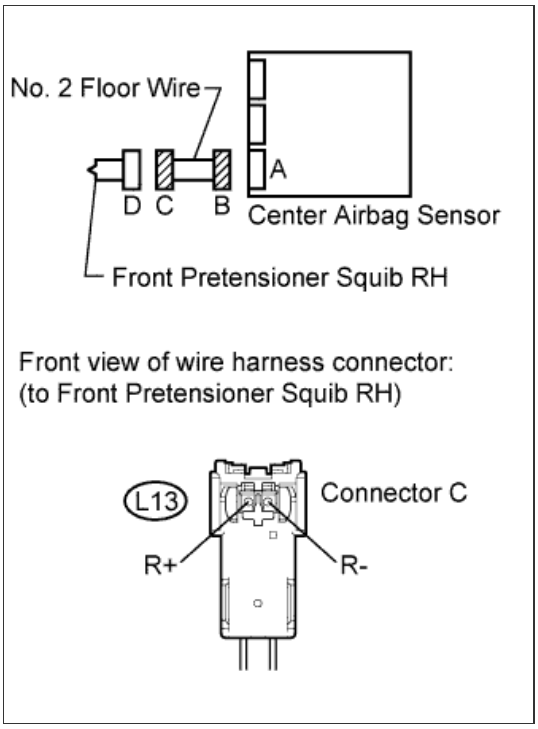
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - L13-2 (R-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - L13-2 (R-) | Always | 1 MΩ or higher |
| L13-1 (R+) - Body ground | Always | 1 MΩ or higher |
| L13-2 (R-) - Body ground | Always | 1 MΩ or higher |




NG → REPLACE NO. 2 FLOOR WIRE

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat outer belt RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

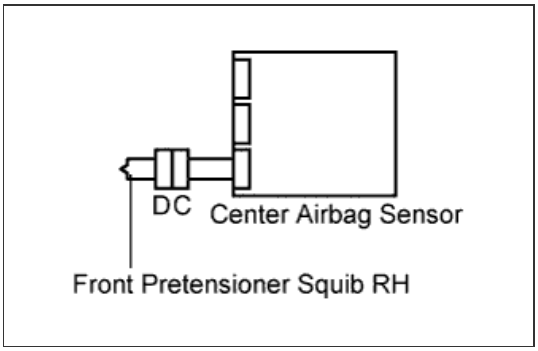
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory ( Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1900, B1901, B1902 or B1903 is not output.**

**HINT:**

Codes other than DTC B1900, B1901, B1902 and B1903 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1805/52 Short in Front Passenger Side Squib Circuit

## DTC B1806/52 Open in Front Passenger Side Squib Circuit

## DTC B1807/52 Short to GND in Front Passenger Side Squib Circuit

## DTC B1808/52 Short to B+ in Front Passenger Side Squib Circuit

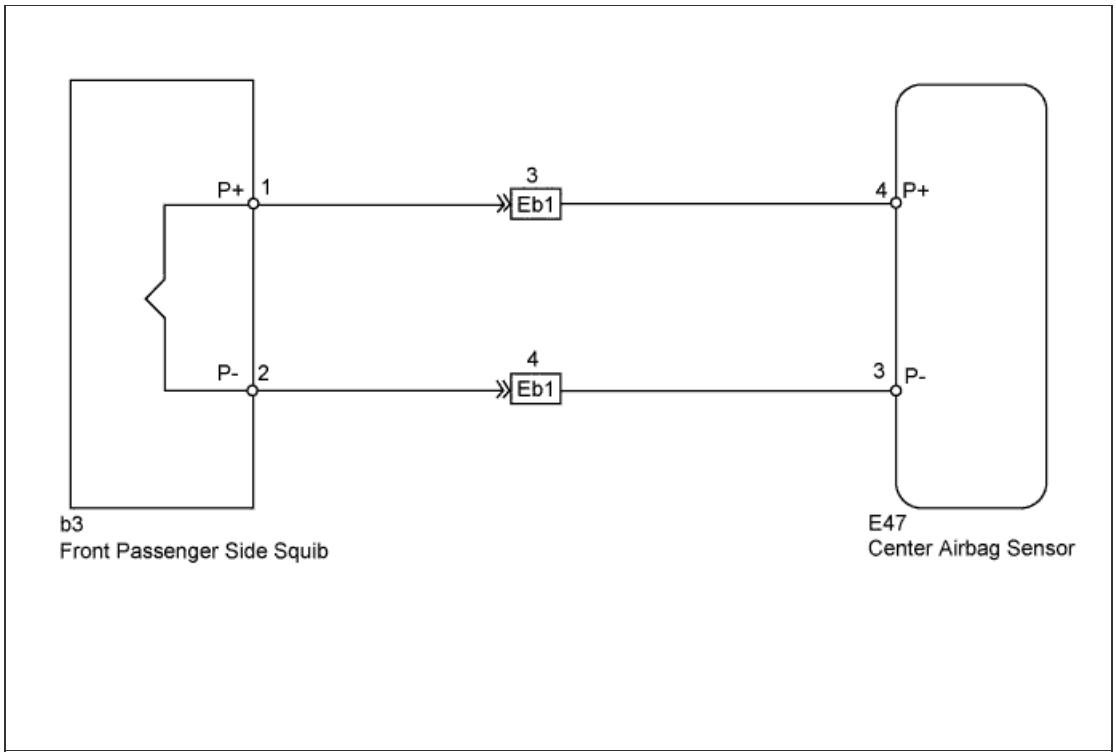
**for Preparation** Click here

### DESCRIPTION

The front passenger side squib circuit consists of the center airbag sensor and the front passenger airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side squib circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1805/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side squib circuit during the primary check.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1806/52 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side squib circuit for 2 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1807/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side squib circuit for 0.5 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |
| B1808/52 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side squib circuit for 0.5 seconds.<br>• A front passenger side squib malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

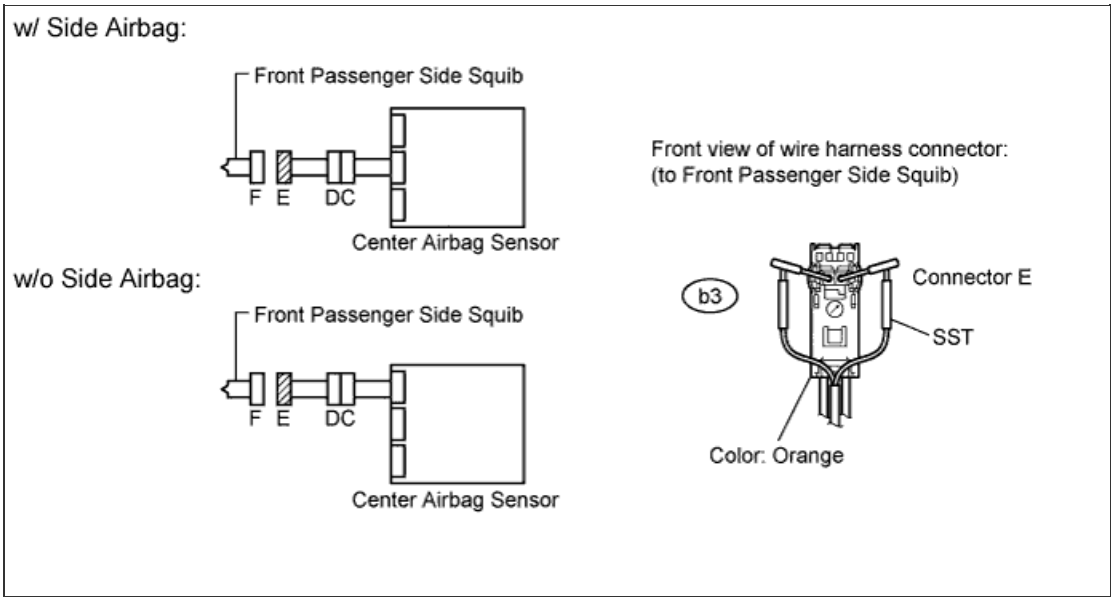
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER AIRBAG (FRONT PASSENGER SIDE SQUIB)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front passenger airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (orange connector).

**CAUTION:**

Never connect the tester to the front passenger airbag (front passenger side squib) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1805, B1806, B1807 or B1808 is not output.**

**HINT:**

Codes other than DTC B1805, B1806, B1807 and B1808 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK ↓

REPLACE FRONT PASSENGER AIRBAG ASSEMBLY (**Click here**)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the instrument panel wire connectors (on the front passenger airbag side) are not damaged.

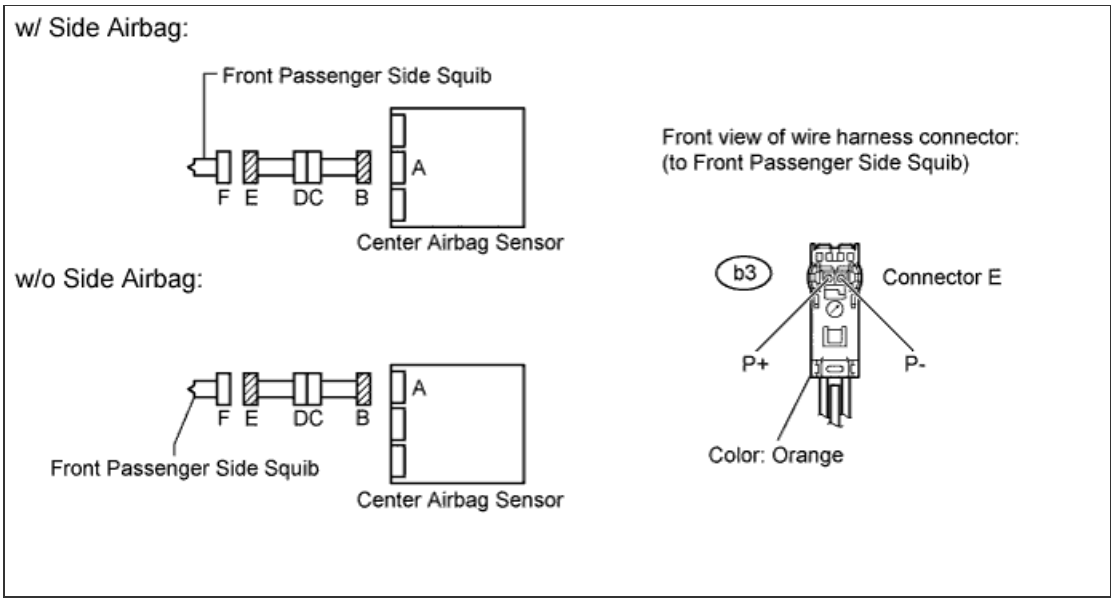
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

OK ↓

## 3.CHECK FRONT PASSENGER SIDE SQUIB CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - Body ground | Ignition switch to ON | Below 1 V |
| b3-2 (P-) - Body ground | Ignition switch to ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - b3-2 (P-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b3-1 (P+) - b3-2 (P-) | Always | 1 MΩ or higher |
| b3-1 (P+) - Body ground | Always | 1 MΩ or higher |
| b3-2 (P-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front passenger airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

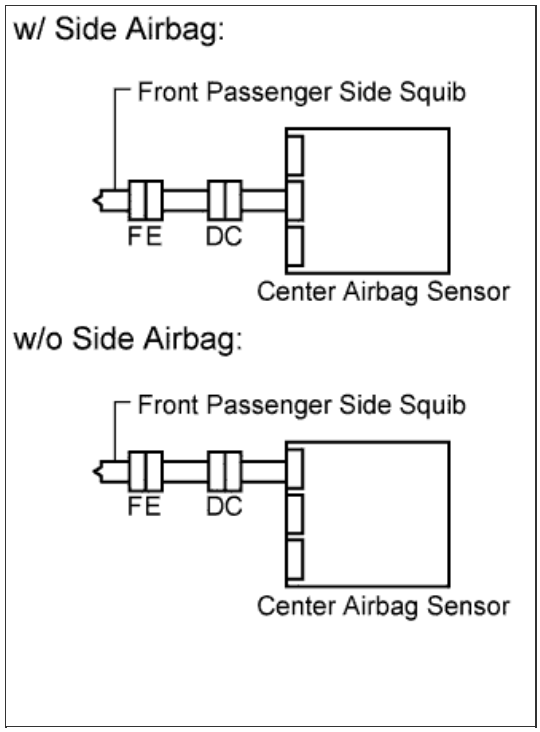
g. Check for DTCs (Click here).

**OK:**

**DTC B1805, B1806, B1807 or B1808 is not output.**

**HINT:**

Codes other than DTC B1805, B1806, B1807 and B1808 may be output at this time, but they are not related to this check.

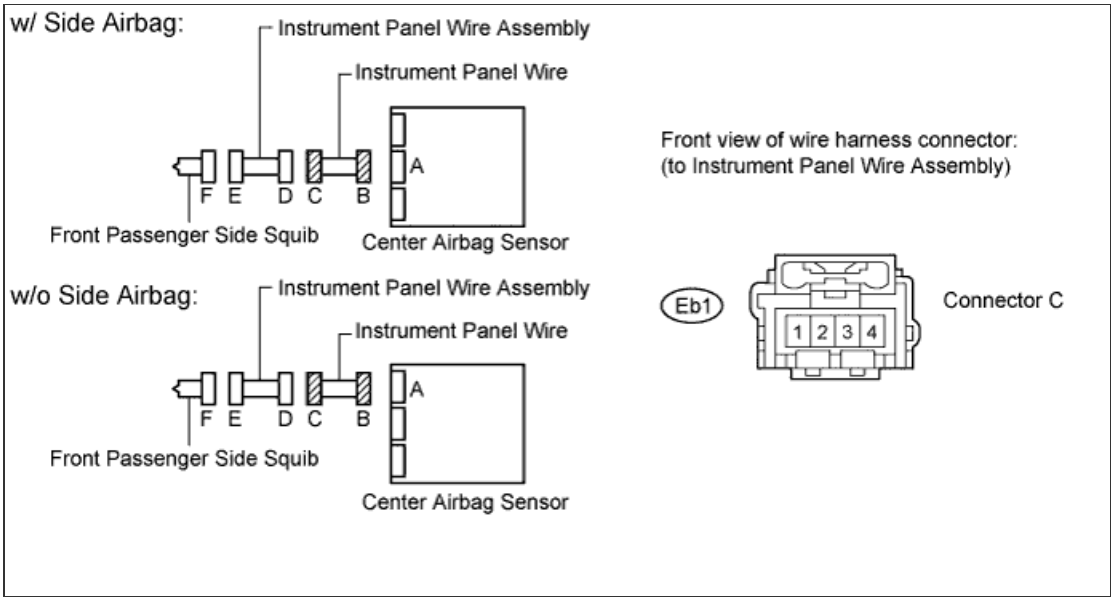



NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK → USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - INSTRUMENT PANEL WIRE ASSEMBLY)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the instrument panel wire assembly.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Body ground | Ignition switch to ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| Eb1-4 - Body ground | Ignition switch to ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Eb1-4 | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-3 - Eb1-4 | Always | 1 MΩ or higher |
| Eb1-3 - Body ground | Always | 1 MΩ or higher |
| Eb1-4 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

## DTC B1900/73 Short in Front Pretensioner Squib RH Circuit

## DTC B1901/73 Open in Front Pretensioner Squib RH Circuit

## DTC B1902/73 Short to GND in Front Pretensioner Squib RH Circuit

## DTC B1903/73 Short to B+ in Front Pretensioner Squib RH Circuit

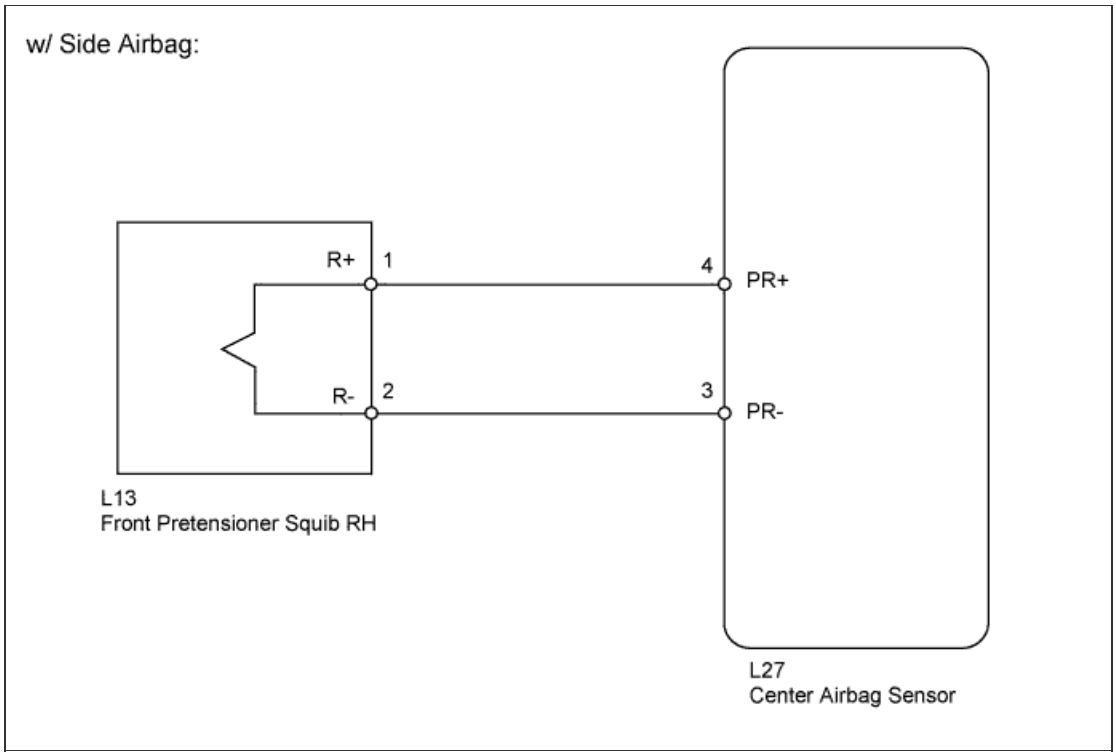
**for Preparation** Click here

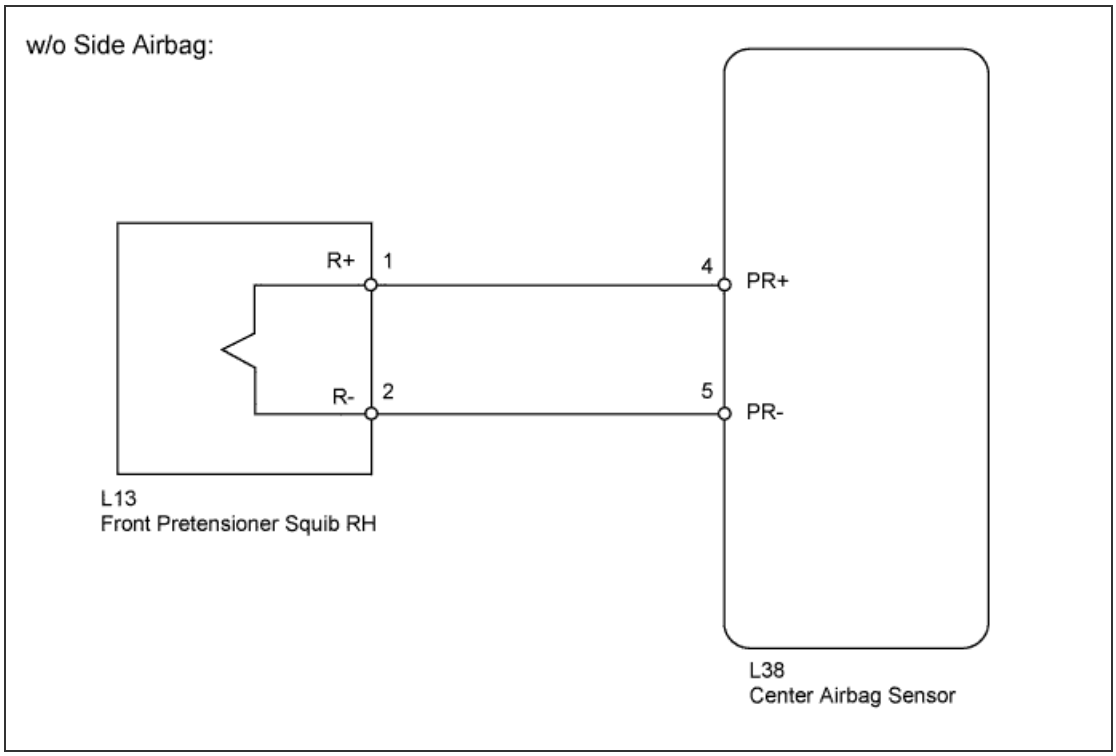
### DESCRIPTION

The front pretensioner squib RH circuit consists of the center airbag sensor and the front seat outer belt RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front pretensioner squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1900/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front pretensioner squib RH circuit during the primary check.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1901/73 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front pretensioner squib RH circuit for 2 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1902/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front pretensioner squib RH circuit for 0.5 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1903/73 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front pretensioner squib RH circuit for 0.5 seconds.<br>• A front pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat outer belt assembly RH (Front pretensioner squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

**1.CHECK FRONT SEAT OUTER BELT RH (FRONT PRETENSIONER SQUIB RH)**

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front seat outer belt RH.

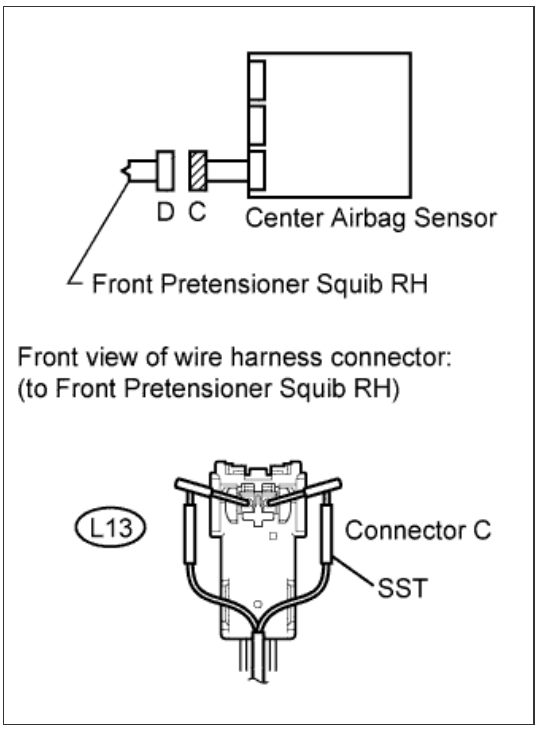
d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the front seat outer belt RH (front pretensioner squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**




*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1900, B1901, B1902 or B1903 is not output.**

**HINT:**

Codes other than DTC B1900, B1901, B1902 and B1903 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK

REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the front seat outer belt RH side) is not damaged.

**OK:**

**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK

## 3.CHECK NO. 2 FLOOR WIRE (FRONT PRETENSIONER SQUIB RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2

seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - Body ground | Ignition switch ON | Below 1 V |
| L13-2 (R-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

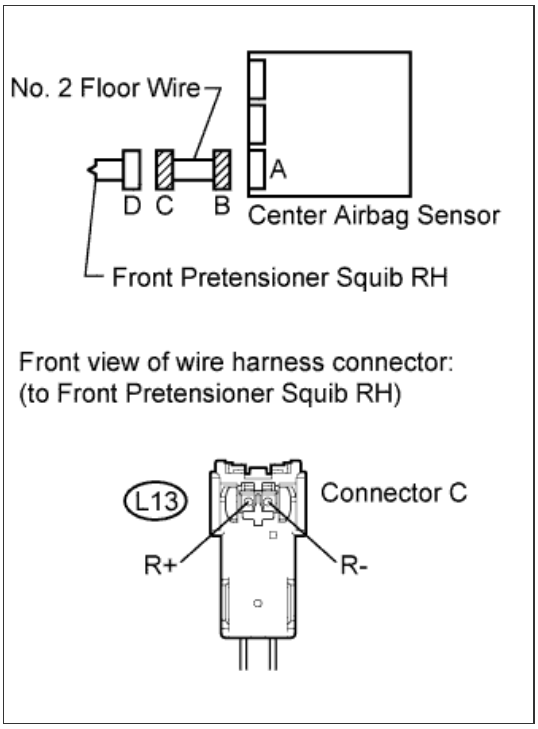
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - L13-2 (R-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L13-1 (R+) - L13-2 (R-) | Always | 1 MΩ or higher |
| L13-1 (R+) - Body ground | Always | 1 MΩ or higher |
| L13-2 (R-) - Body ground | Always | 1 MΩ or higher |




NG → REPLACE NO. 2 FLOOR WIRE

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat outer belt RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

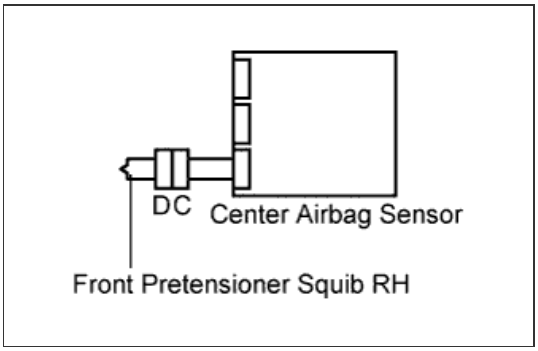
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory ( Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1900, B1901, B1902 or B1903 is not output.**

**HINT:**

Codes other than DTC B1900, B1901, B1902 and B1903 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1810/53 Short in Driver Side Squib 2nd Step Circuit

## DTC B1811/53 Open in Driver Side Squib 2nd Step Circuit

## DTC B1812/53 Short to GND in Driver Side Squib 2nd Step Circuit

## DTC B1813/53 Short to B+ in Driver Side Squib 2nd Step Circuit

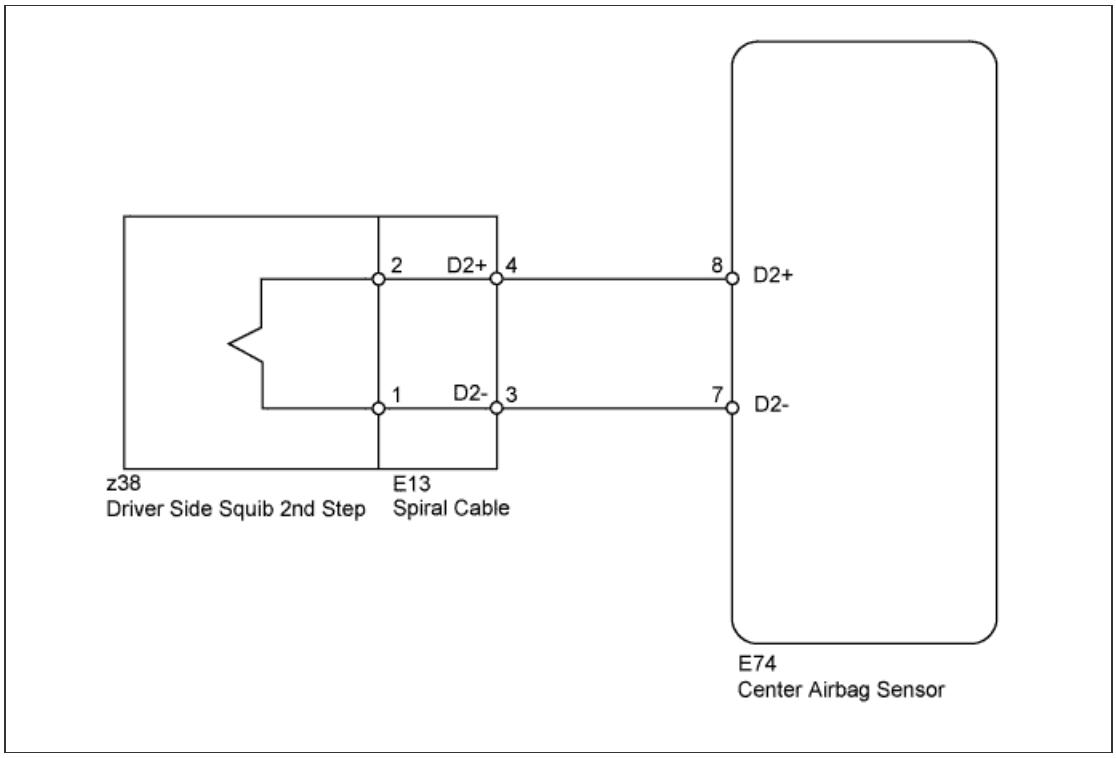
**for Preparation** Click here

### DESCRIPTION

The driver side squib 2nd step circuit consists of the center airbag sensor, the spiral cable, and the steering pad.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side squib 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1810/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side squib 2nd step circuit during the primary check.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1811/53 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the driver side squib 2nd step circuit for 2 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1812/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the driver side 2nd step circuit for 0.5 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1813/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the driver side squib 2nd step circuit for 0.5 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

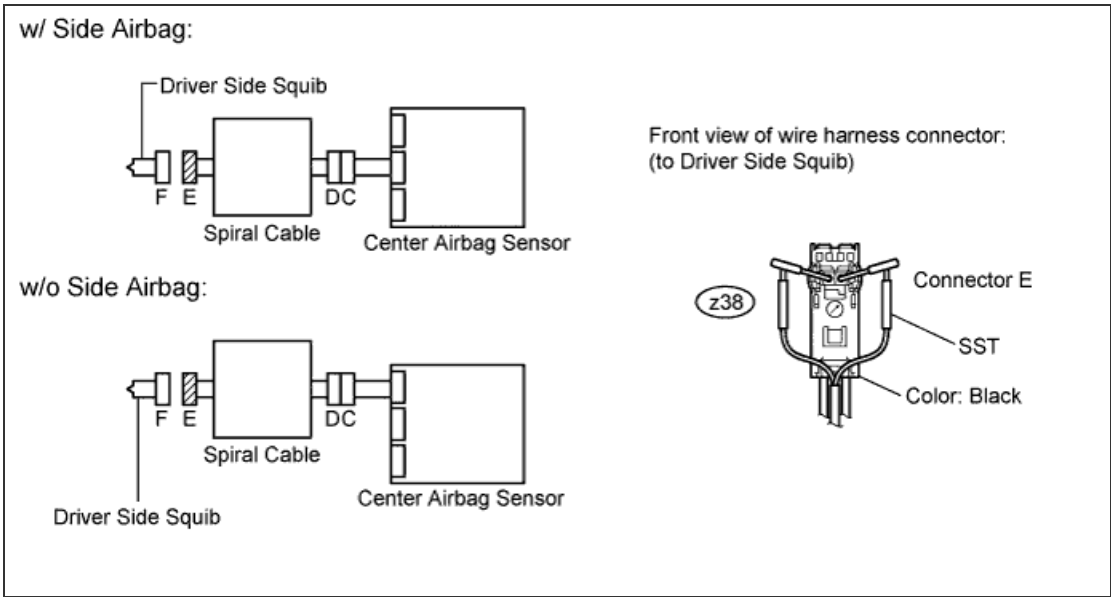
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK STEERING PAD (DRIVER SIDE SQUIB 2ND STEP)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the steering pad.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (black connector).

**CAUTION:**

Never connect the tester to the steering pad (driver side squib 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than DTC B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK ↓

REPLACE STEERING PAD (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the spiral cable connectors (on the steering pad side) are not damaged.

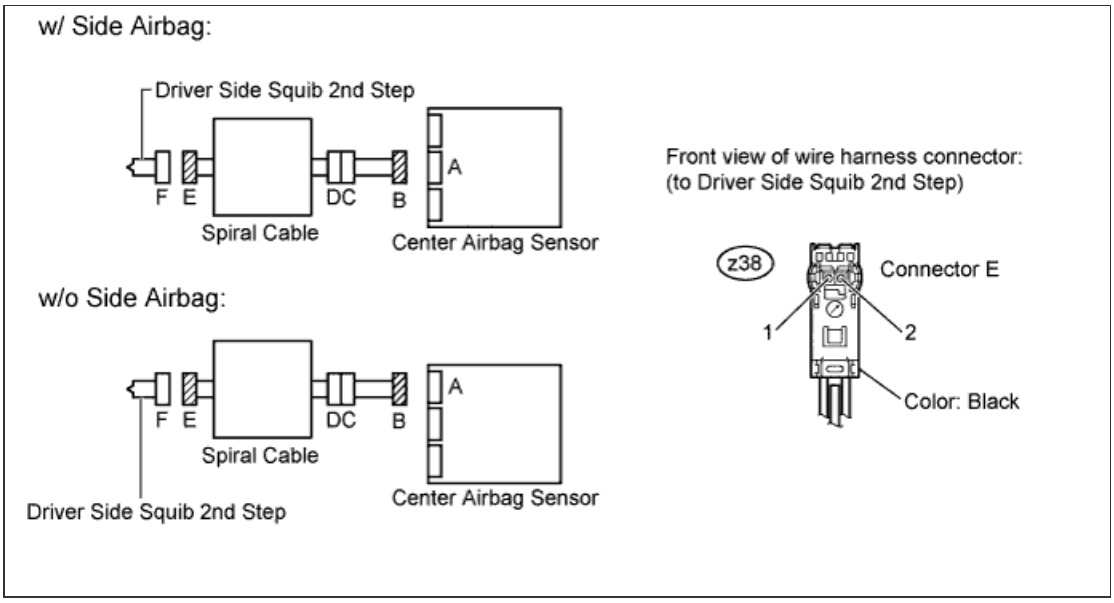
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE SPIRAL CABLE (Click here)

OK ↓

## 3.CHECK DRIVER SIDE SQUIB 2ND STEP CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z38-1 - Body ground | Ignition switch ON | Below 1 V |
| z38-2 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z38-1 - z38-2 | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z38-1 - z38-2 | Always | 1 MΩ or higher |
| z38-1 - Body ground | Always | 1 MΩ or higher |
| z38-2 - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the steering pad and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

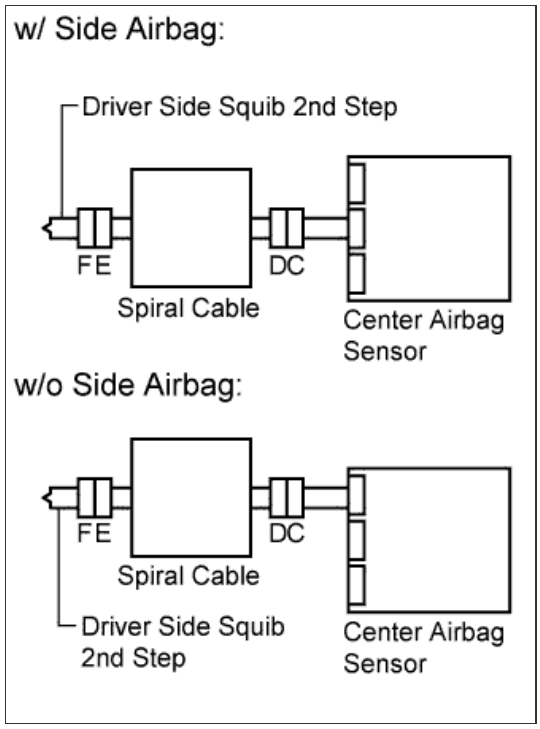
g. Check for DTCs (Click here).

**OK:**

**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than DTC B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.



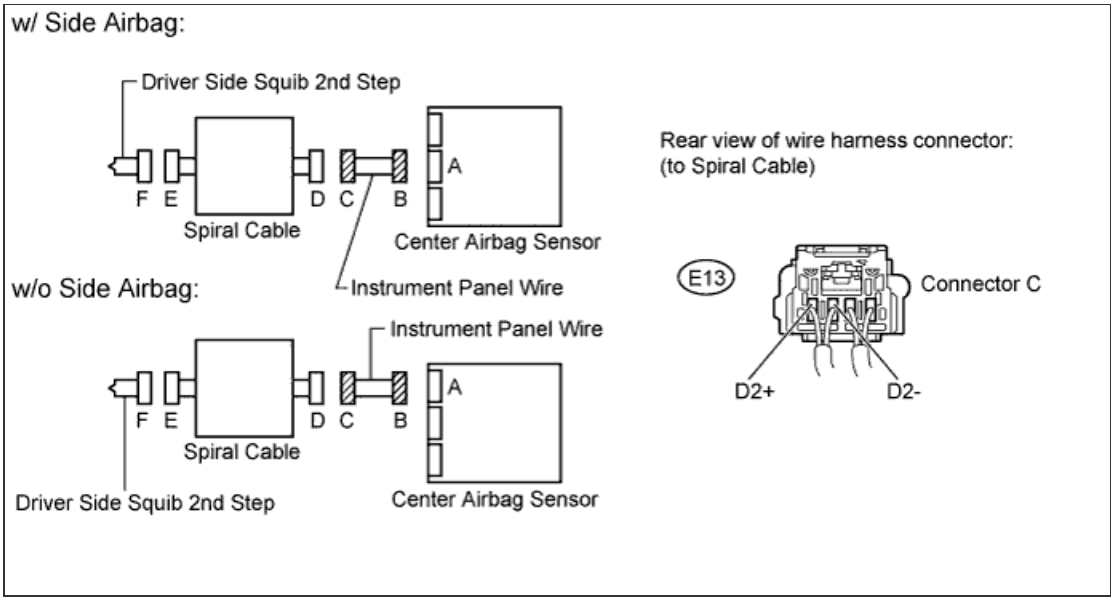

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - SPIRAL CABLE)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the spiral cable.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| E13-3 (D2-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - E13-3 (D2-) | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - E13-3 (D2-) | Always | 1 MΩ or higher |
| E13-4 (D2+) - Body ground | Always | 1 MΩ or higher |
| E13-3 (D2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE SPIRAL CABLE (Click here)

## DTC B1905/74 Short in Front Pretensioner Squib LH Circuit

## DTC B1906/74 Open in Front Pretensioner Squib LH Circuit

## DTC B1907/74 Short to GND in Front Pretensioner Squib LH Circuit

## DTC B1908/74 Short to B+ in Front Pretensioner Squib LH Circuit

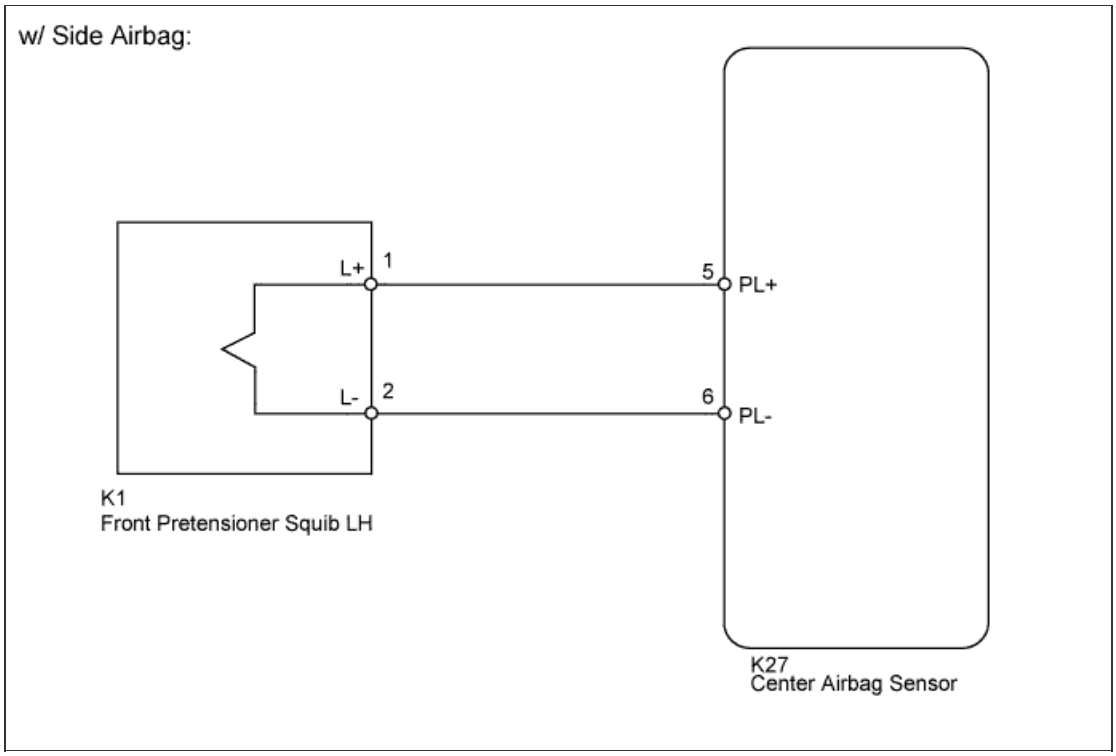
**for Preparation** Click here

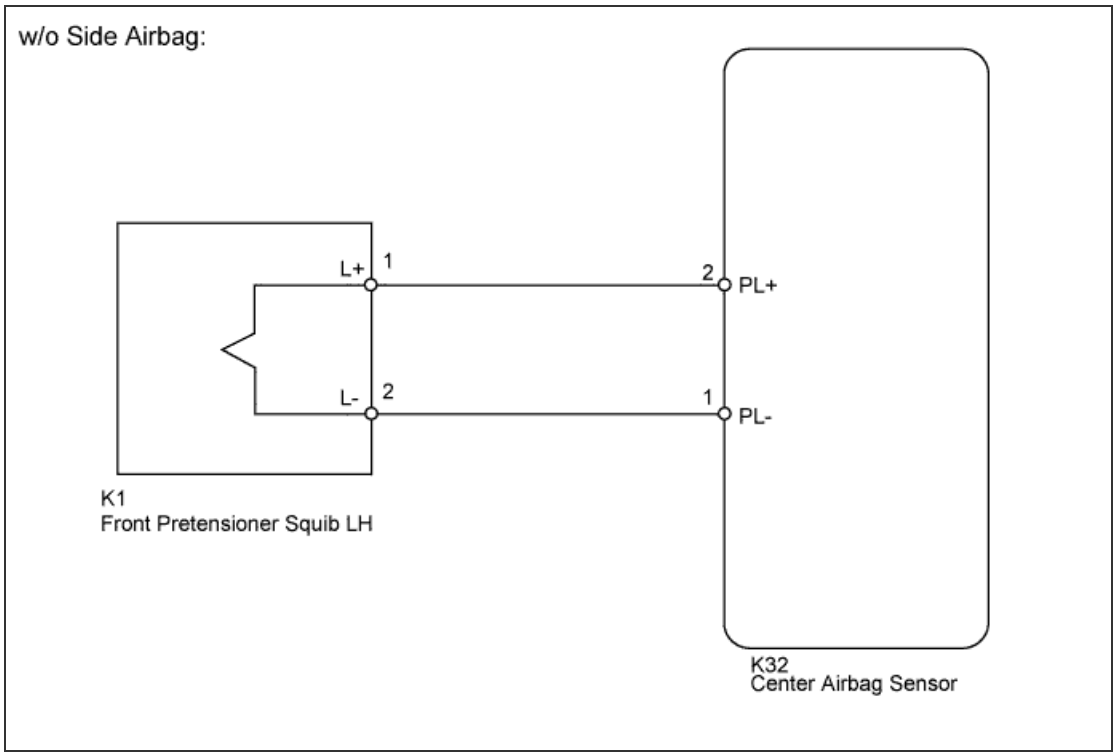
### DESCRIPTION

The front pretensioner squib LH circuit consists of the center airbag sensor and the front seat outer belt LH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front pretensioner squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1905/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front pretensioner squib LH circuit during the primary check.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1906/74 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front pretensioner squib LH circuit for 2 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1907/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front pretensioner squib LH circuit for 0.5 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1908/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front pretensioner squib LH circuit for 0.5 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

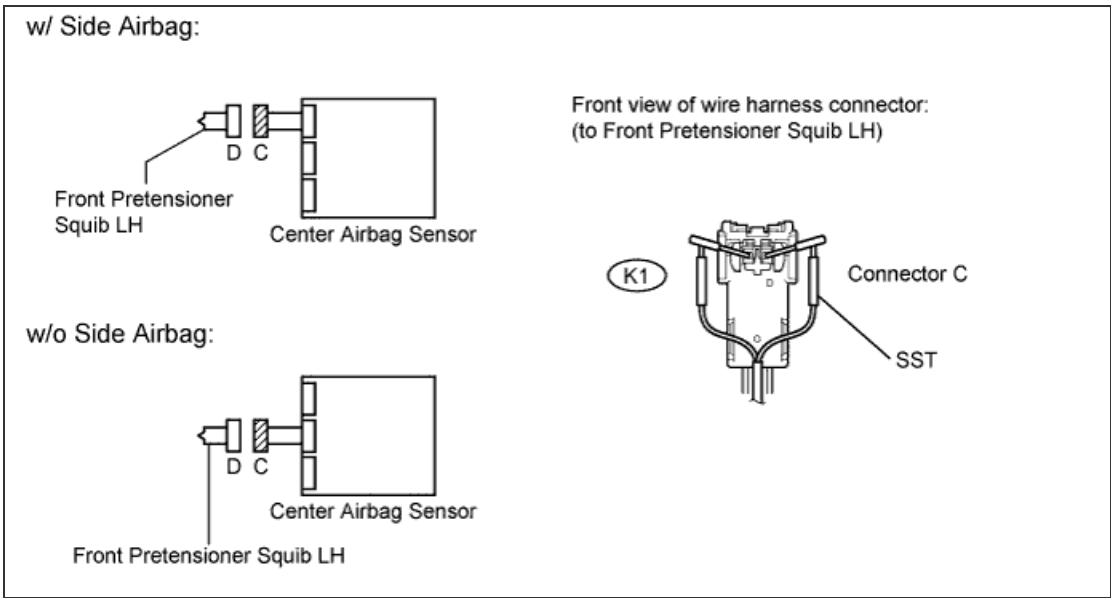
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

**1.CHECK FRONT SEAT OUTER BELT LH (FRONT PRETENSIONER SQUIB LH)**

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front seat outer belt LH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the front seat outer belt LH (front pretensioner squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1905, B1906, B1907 or B1908 is not output.**

**HINT:**

Codes other than DTC B1905, B1906, B1907 and B1908 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK

REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connector (on the front seat outer belt LH side) is not damaged.

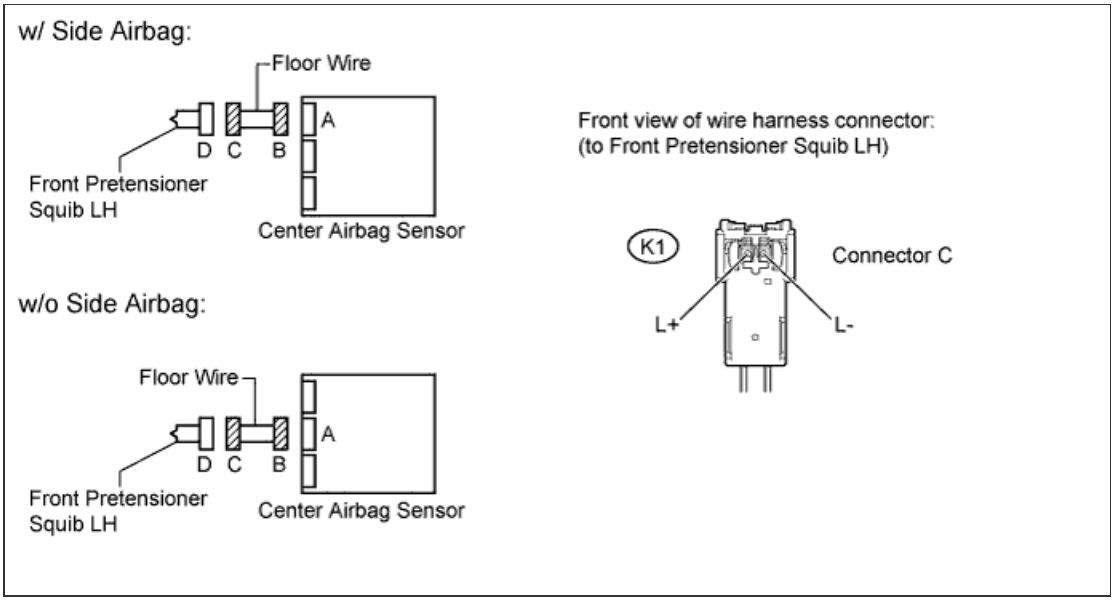
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

## 3.CHECK FLOOR WIRE (FRONT PRETENSIONER SQUIB LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - Body ground | Ignition switch ON | Below 1 V |
| K1-2 (L-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - K1-2 (L-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - K1-2 (L-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K1-1 (L+) - Body ground | Always | 1 MΩ or higher |
| K1-2 (L-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat outer belt LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

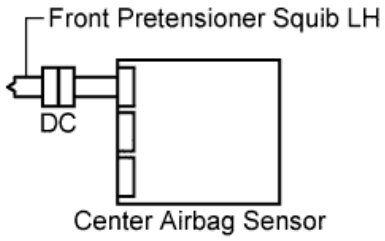
g. Check for DTCs (Click here).

**OK:**
**DTC B1905, B1906, B1907 or B1908 is not output.**

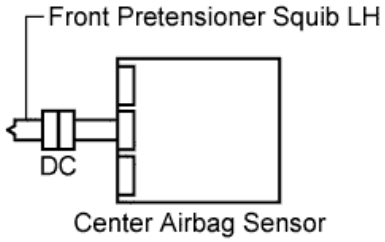
**HINT:**

Codes other than DTC B1905, B1906, B1907 and B1908 may be output at this time, but they are not related to this check.

w/ Side Airbag:




w/o Side Airbag:




NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1810/53 Short in Driver Side Squib 2nd Step Circuit

## DTC B1811/53 Open in Driver Side Squib 2nd Step Circuit

## DTC B1812/53 Short to GND in Driver Side Squib 2nd Step Circuit

## DTC B1813/53 Short to B+ in Driver Side Squib 2nd Step Circuit

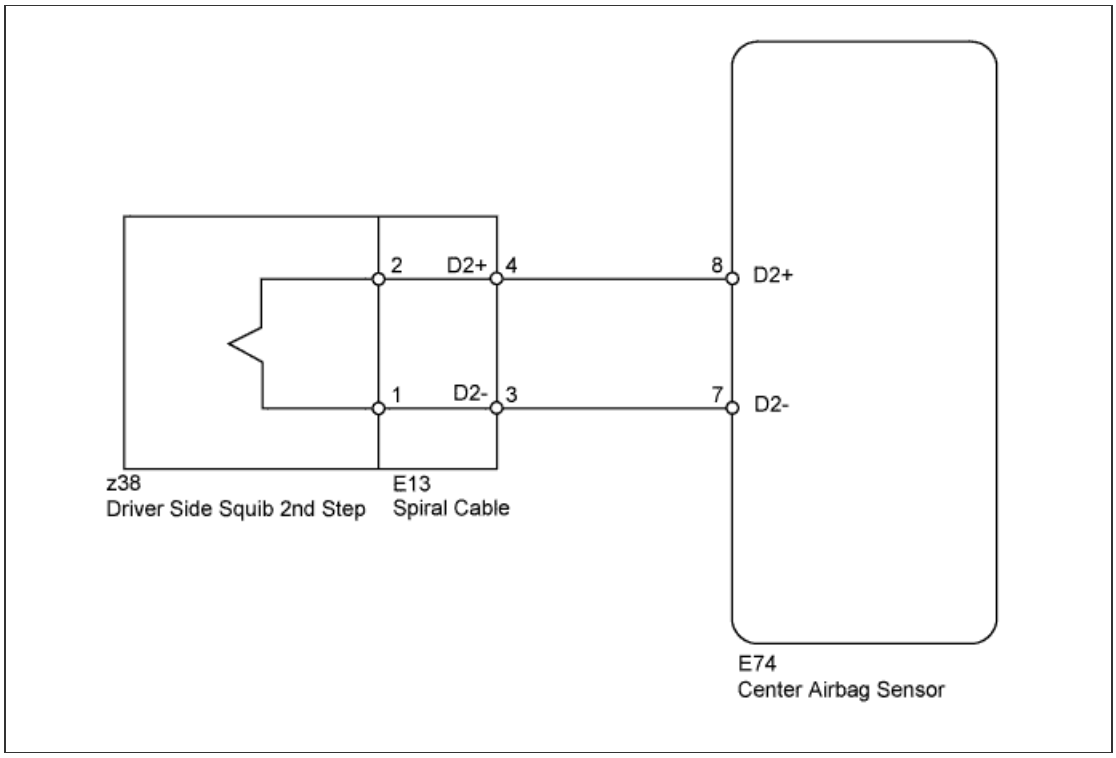
**for Preparation** Click here

### DESCRIPTION

The driver side squib 2nd step circuit consists of the center airbag sensor, the spiral cable, and the steering pad.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side squib 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1810/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side squib 2nd step circuit during the primary check.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1811/53 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the driver side squib 2nd step circuit for 2 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1812/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the driver side 2nd step circuit for 0.5 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1813/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the driver side squib 2nd step circuit for 0.5 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

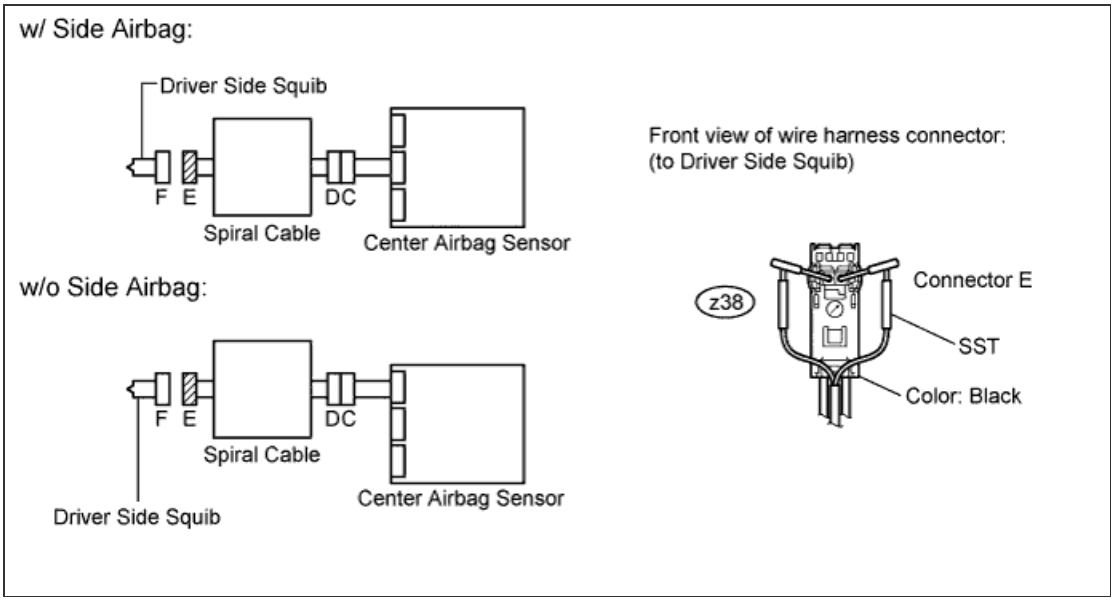
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK STEERING PAD (DRIVER SIDE SQUIB 2ND STEP)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the steering pad.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (black connector).

**CAUTION:**

Never connect the tester to the steering pad (driver side squib 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than DTC B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK ↓

REPLACE STEERING PAD (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the spiral cable connectors (on the steering pad side) are not damaged.

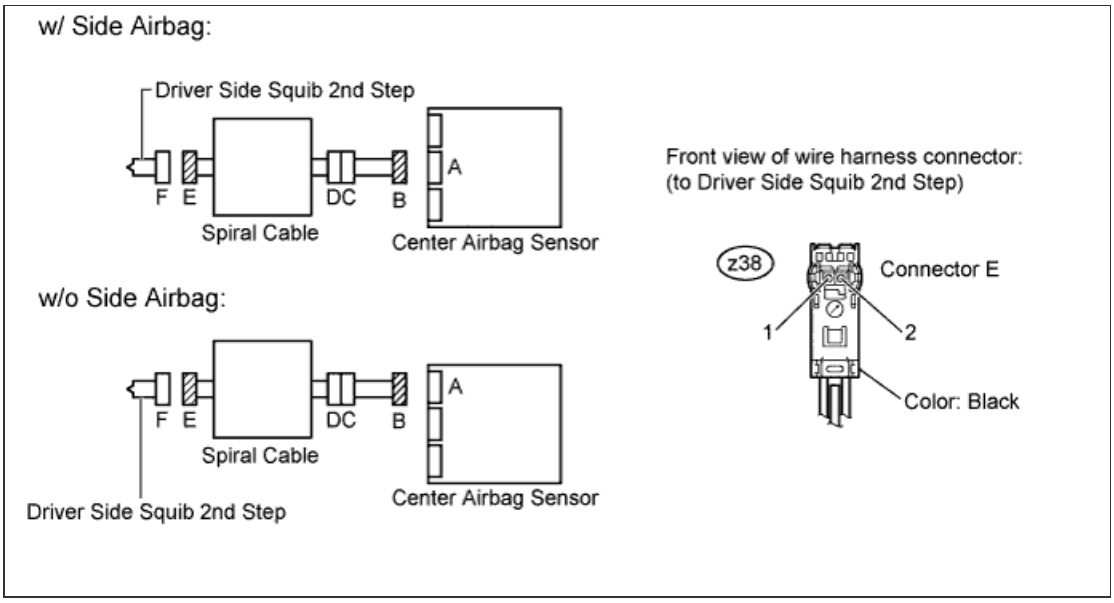
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE SPIRAL CABLE (Click here)

OK ↓

## 3.CHECK DRIVER SIDE SQUIB 2ND STEP CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z38-1 - Body ground | Ignition switch ON | Below 1 V |
| z38-2 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z38-1 - z38-2 | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z38-1 - z38-2 | Always | 1 MΩ or higher |
| z38-1 - Body ground | Always | 1 MΩ or higher |
| z38-2 - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the steering pad and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

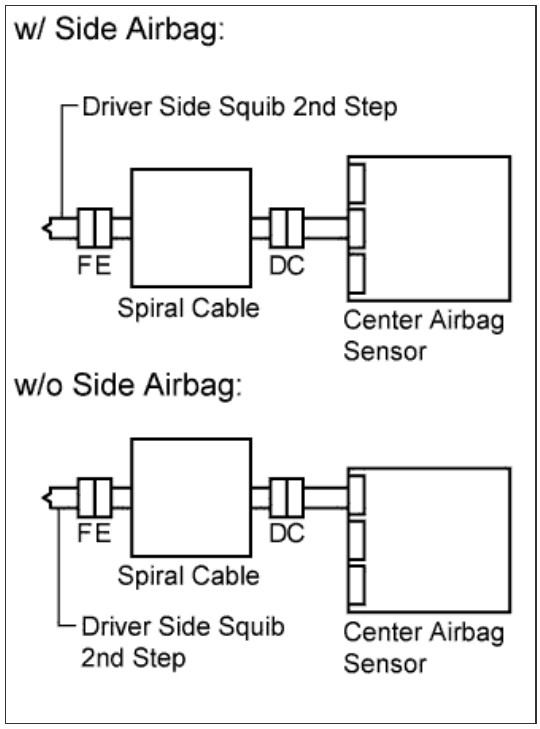
g. Check for DTCs (Click here).

**OK:**

**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than DTC B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.



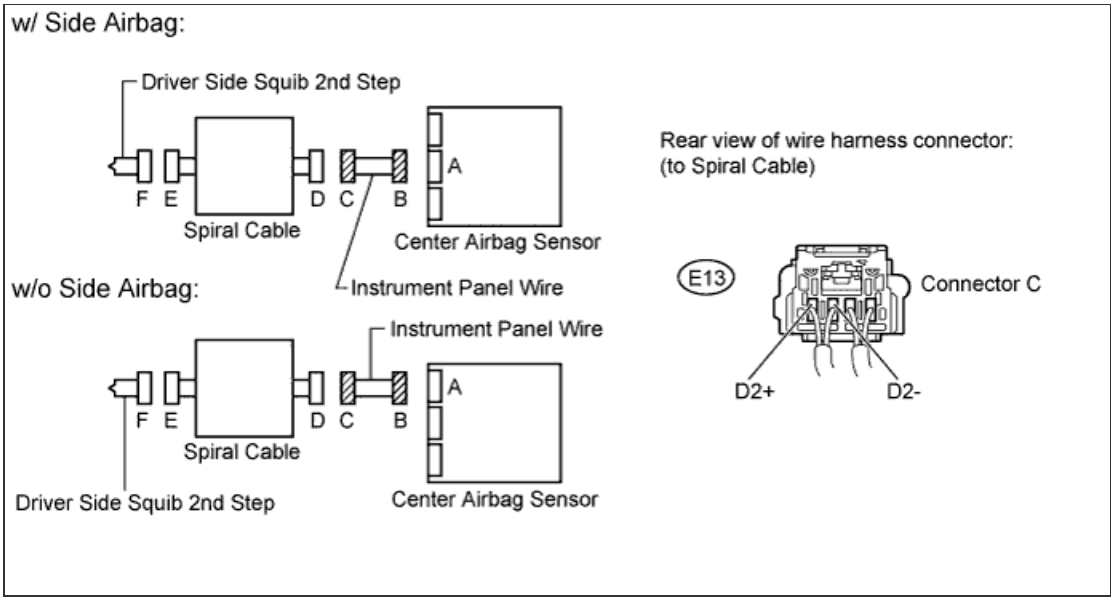

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - SPIRAL CABLE)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the spiral cable.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| E13-3 (D2-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - E13-3 (D2-) | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - E13-3 (D2-) | Always | 1 MΩ or higher |
| E13-4 (D2+) - Body ground | Always | 1 MΩ or higher |
| E13-3 (D2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE SPIRAL CABLE (Click here)

## DTC B1905/74 Short in Front Pretensioner Squib LH Circuit

## DTC B1906/74 Open in Front Pretensioner Squib LH Circuit

## DTC B1907/74 Short to GND in Front Pretensioner Squib LH Circuit

## DTC B1908/74 Short to B+ in Front Pretensioner Squib LH Circuit

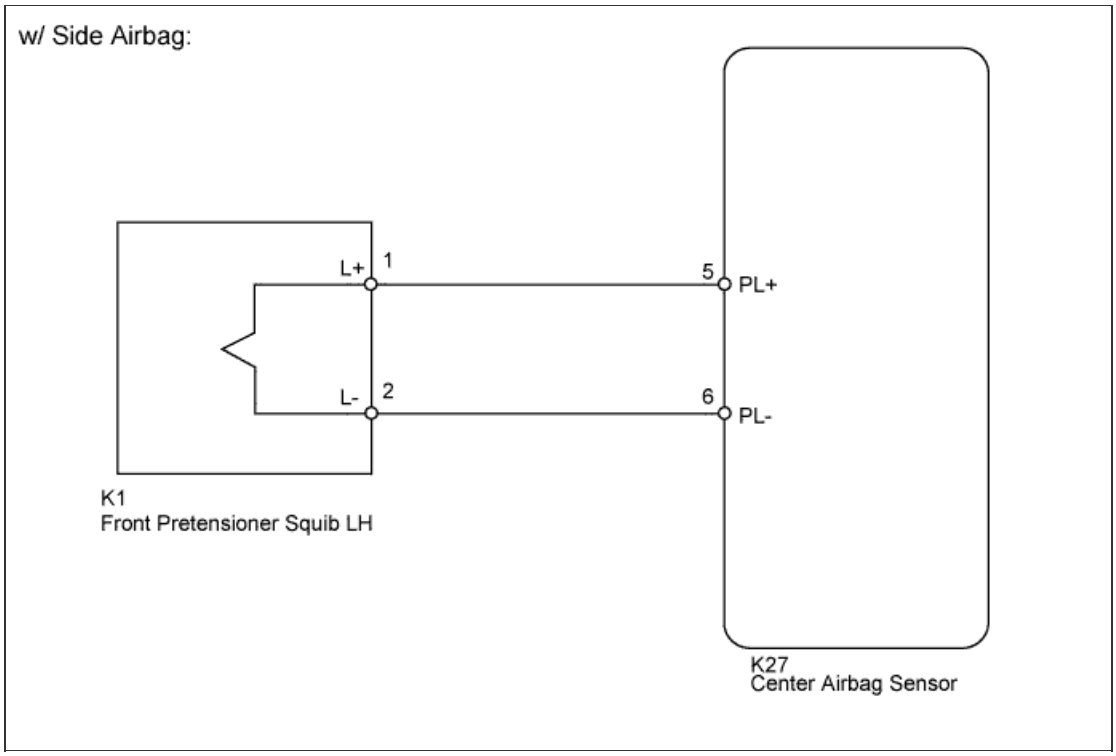
**for Preparation** Click here

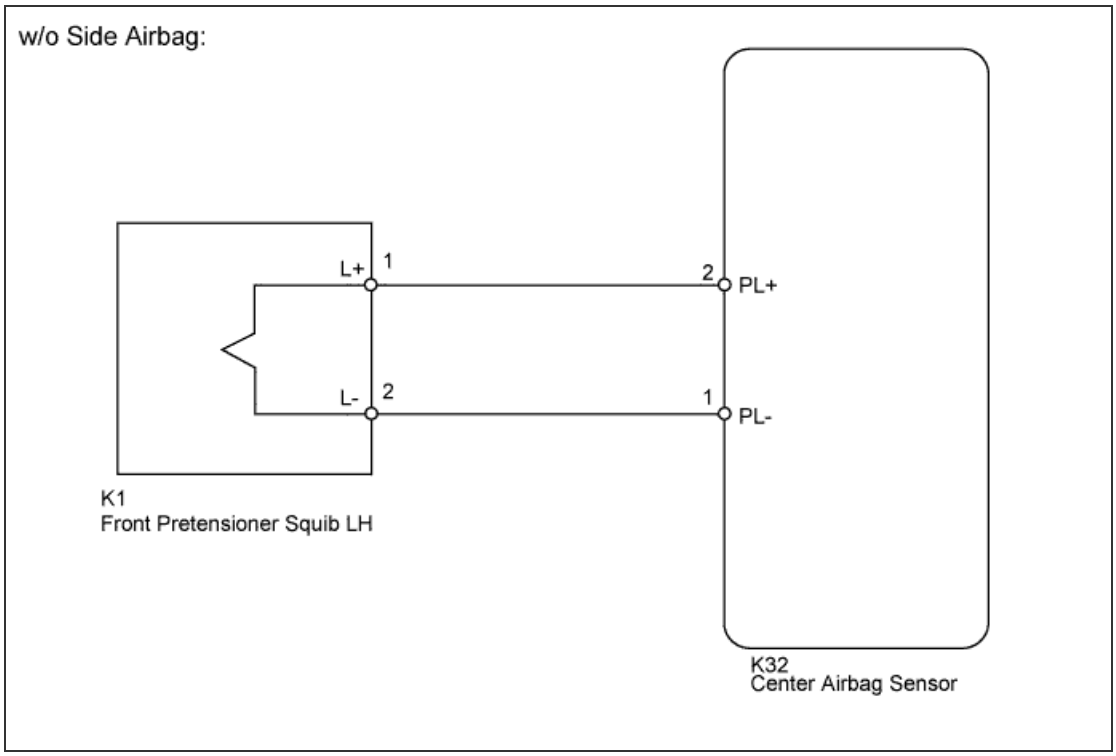
### DESCRIPTION

The front pretensioner squib LH circuit consists of the center airbag sensor and the front seat outer belt LH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front pretensioner squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1905/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front pretensioner squib LH circuit during the primary check.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1906/74 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front pretensioner squib LH circuit for 2 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1907/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front pretensioner squib LH circuit for 0.5 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1908/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front pretensioner squib LH circuit for 0.5 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

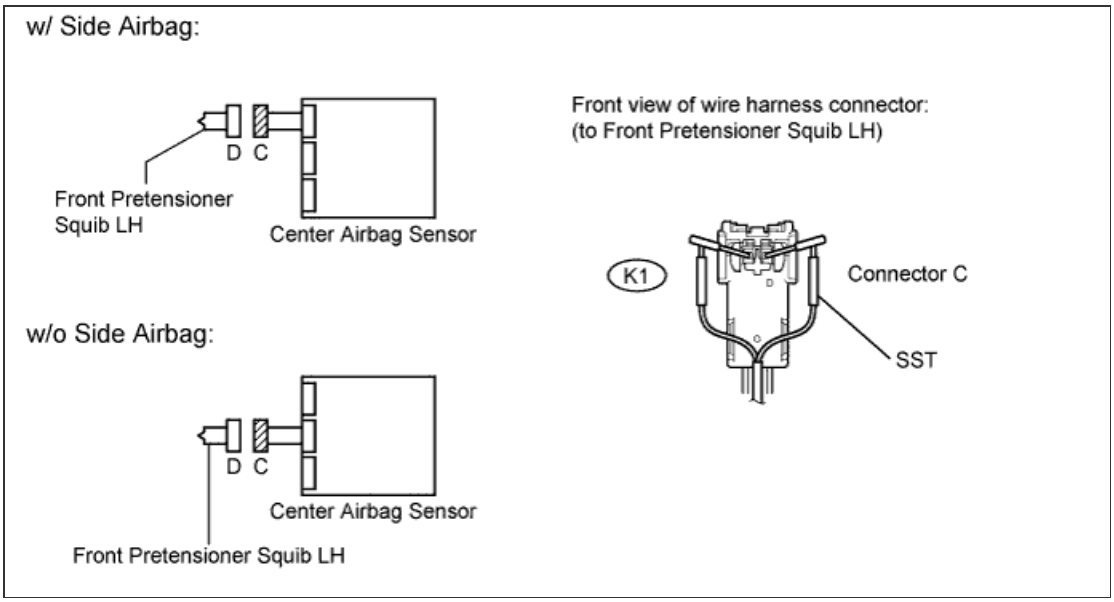
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

**1.CHECK FRONT SEAT OUTER BELT LH (FRONT PRETENSIONER SQUIB LH)**

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front seat outer belt LH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the front seat outer belt LH (front pretensioner squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1905, B1906, B1907 or B1908 is not output.**

**HINT:**

Codes other than DTC B1905, B1906, B1907 and B1908 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK

REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connector (on the front seat outer belt LH side) is not damaged.

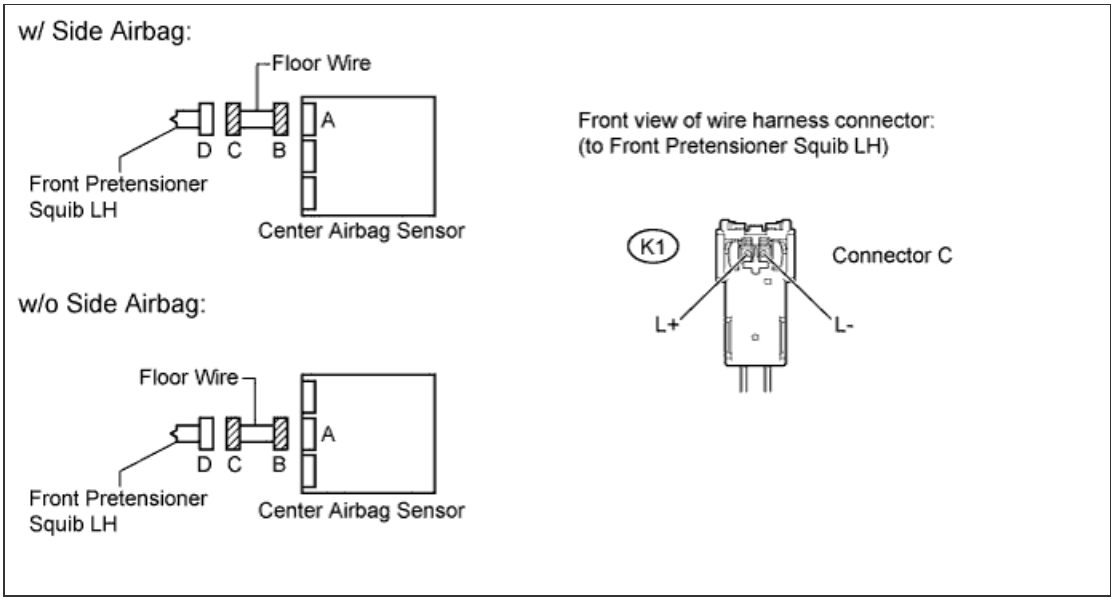
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

## 3.CHECK FLOOR WIRE (FRONT PRETENSIONER SQUIB LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - Body ground | Ignition switch ON | Below 1 V |
| K1-2 (L-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - K1-2 (L-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - K1-2 (L-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K1-1 (L+) - Body ground | Always | 1 MΩ or higher |
| K1-2 (L-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat outer belt LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

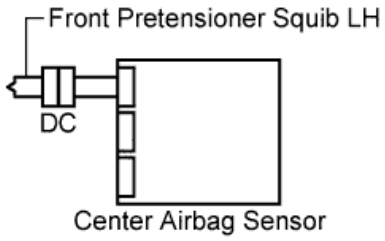
g. Check for DTCs (Click here).

**OK:**
**DTC B1905, B1906, B1907 or B1908 is not output.**

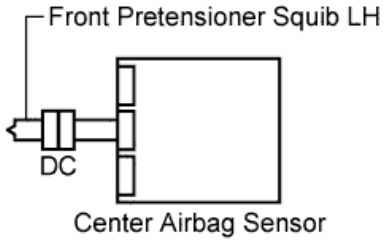
**HINT:**

Codes other than DTC B1905, B1906, B1907 and B1908 may be output at this time, but they are not related to this check.

w/ Side Airbag:




w/o Side Airbag:




NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1810/53 Short in Driver Side Squib 2nd Step Circuit

## DTC B1811/53 Open in Driver Side Squib 2nd Step Circuit

## DTC B1812/53 Short to GND in Driver Side Squib 2nd Step Circuit

## DTC B1813/53 Short to B+ in Driver Side Squib 2nd Step Circuit

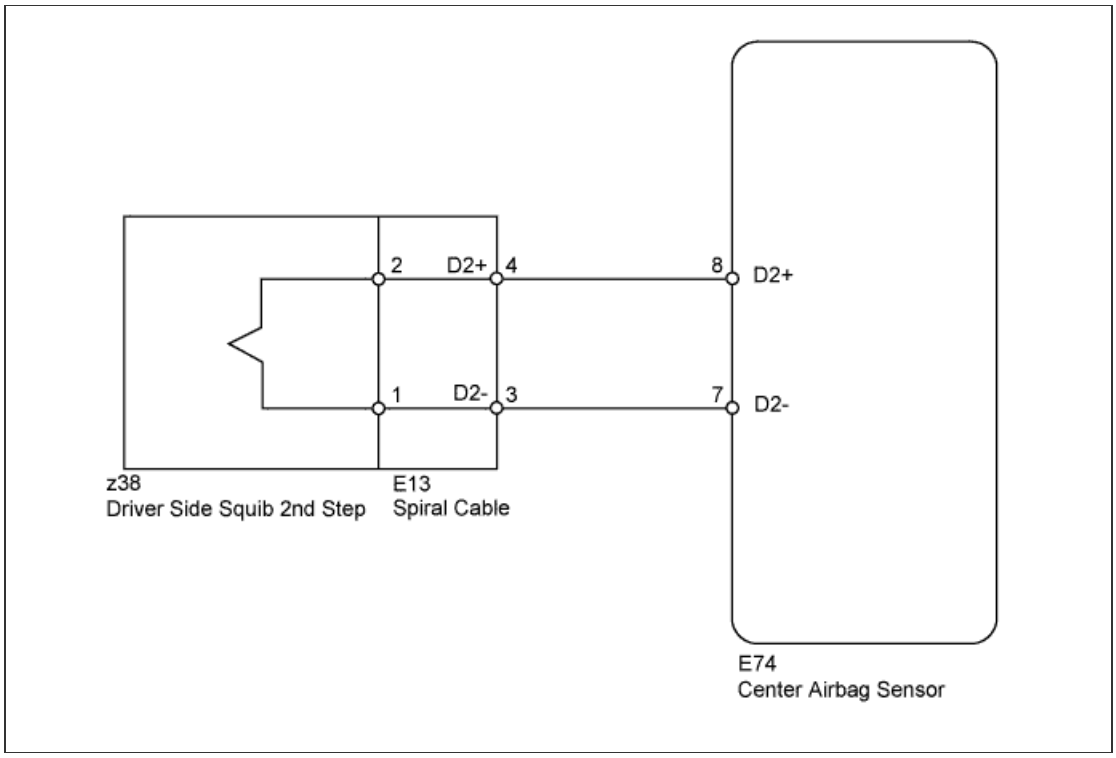
**for Preparation** Click here

### DESCRIPTION

The driver side squib 2nd step circuit consists of the center airbag sensor, the spiral cable, and the steering pad.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side squib 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1810/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side squib 2nd step circuit during the primary check.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1811/53 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the driver side squib 2nd step circuit for 2 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1812/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the driver side 2nd step circuit for 0.5 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1813/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the driver side squib 2nd step circuit for 0.5 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

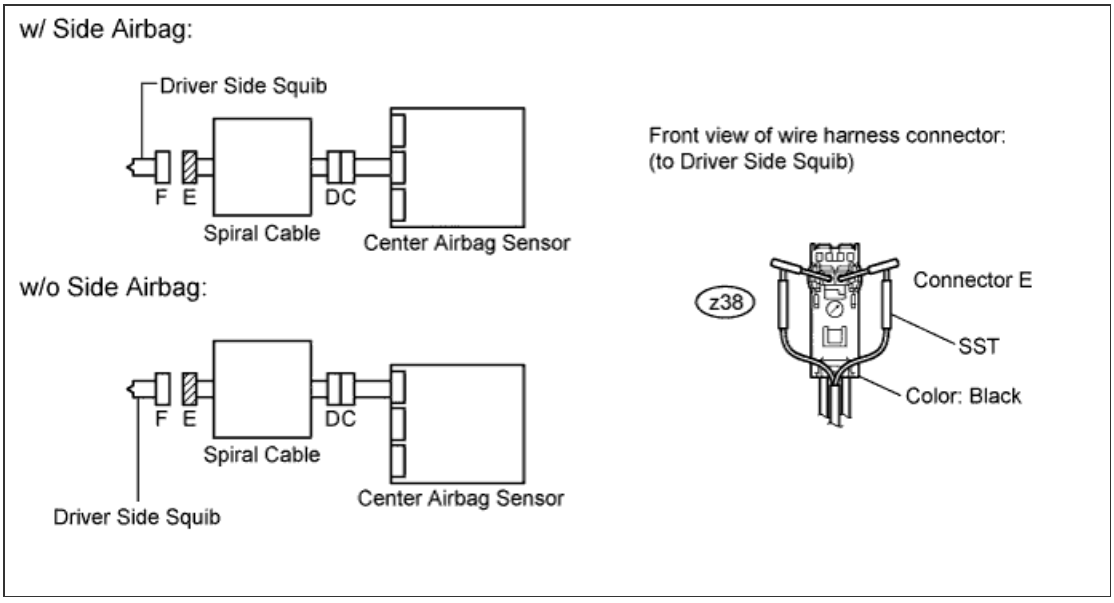
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK STEERING PAD (DRIVER SIDE SQUIB 2ND STEP)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the steering pad.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (black connector).

**CAUTION:**

Never connect the tester to the steering pad (driver side squib 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than DTC B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK ↓

REPLACE STEERING PAD (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the spiral cable connectors (on the steering pad side) are not damaged.

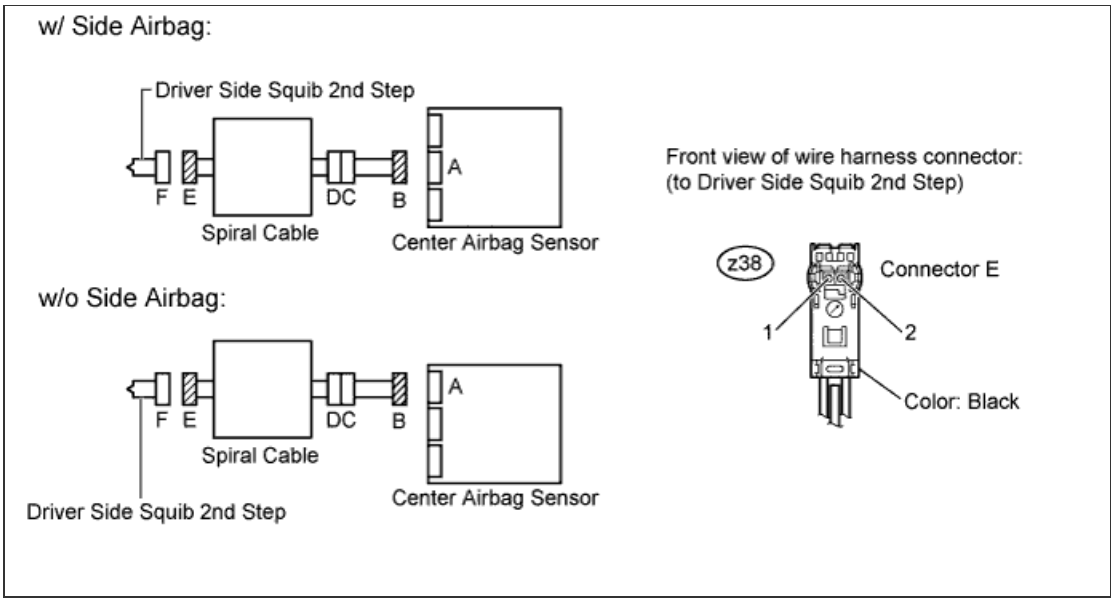
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE SPIRAL CABLE (Click here)

OK ↓

## 3.CHECK DRIVER SIDE SQUIB 2ND STEP CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z38-1 - Body ground | Ignition switch ON | Below 1 V |
| z38-2 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z38-1 - z38-2 | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z38-1 - z38-2 | Always | 1 MΩ or higher |
| z38-1 - Body ground | Always | 1 MΩ or higher |
| z38-2 - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the steering pad and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

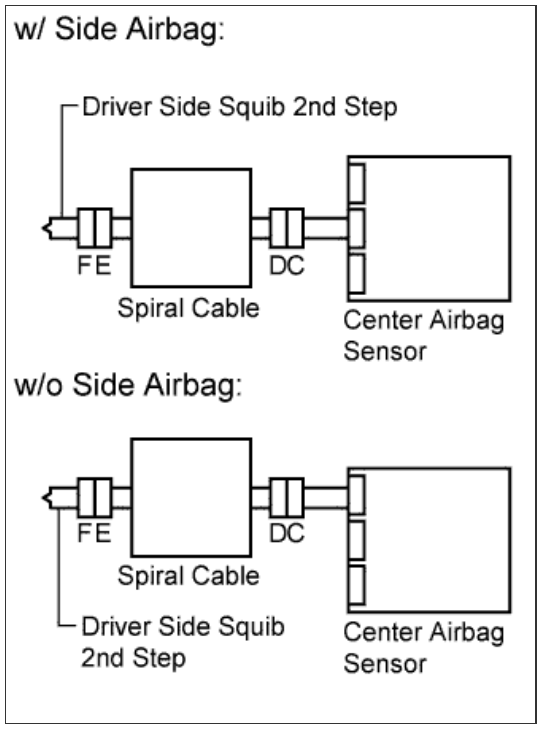
g. Check for DTCs (Click here).

**OK:**

**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than DTC B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.



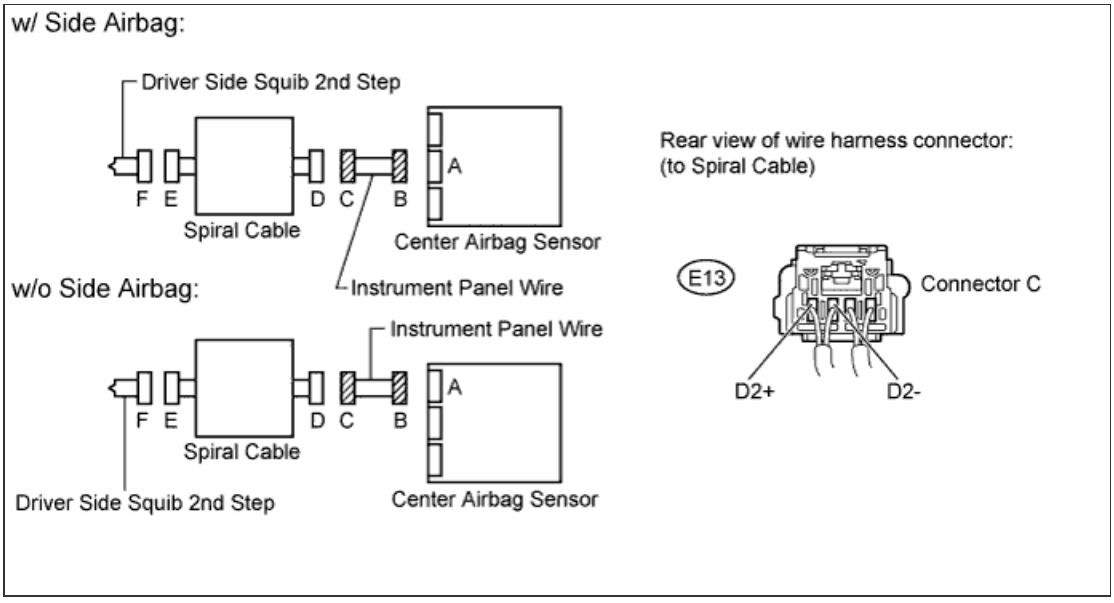

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - SPIRAL CABLE)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the spiral cable.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| E13-3 (D2-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - E13-3 (D2-) | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - E13-3 (D2-) | Always | 1 MΩ or higher |
| E13-4 (D2+) - Body ground | Always | 1 MΩ or higher |
| E13-3 (D2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE SPIRAL CABLE (Click here)

## DTC B1905/74 Short in Front Pretensioner Squib LH Circuit

## DTC B1906/74 Open in Front Pretensioner Squib LH Circuit

## DTC B1907/74 Short to GND in Front Pretensioner Squib LH Circuit

## DTC B1908/74 Short to B+ in Front Pretensioner Squib LH Circuit

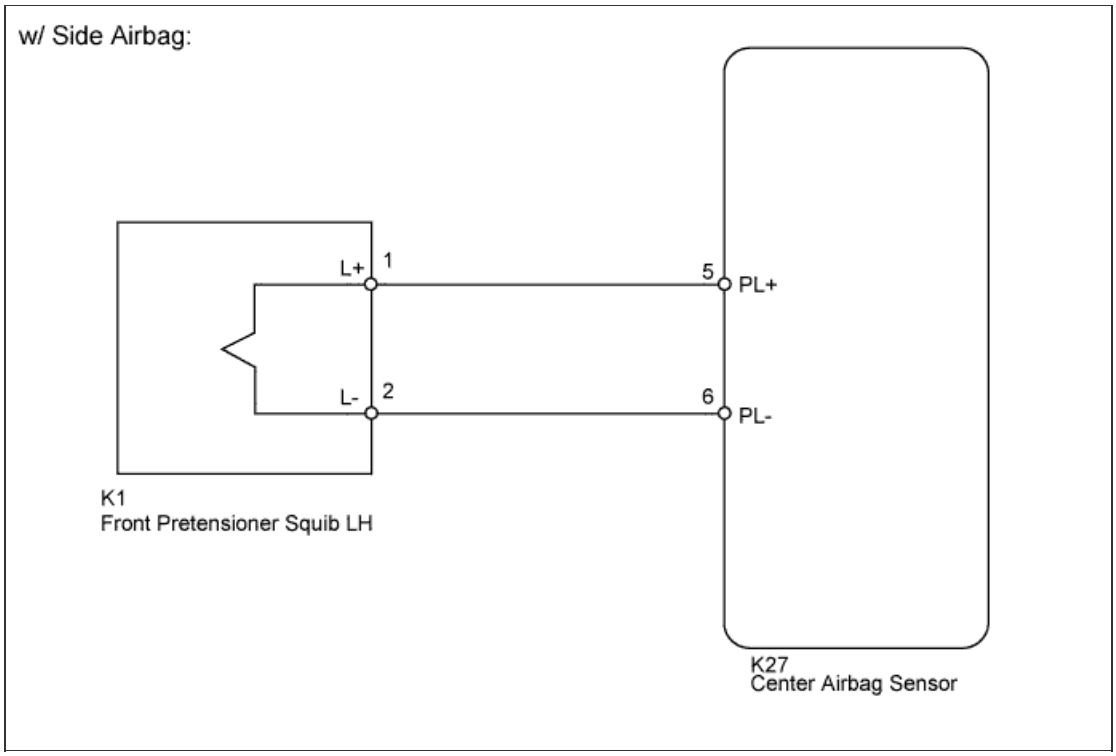
**for Preparation** Click here

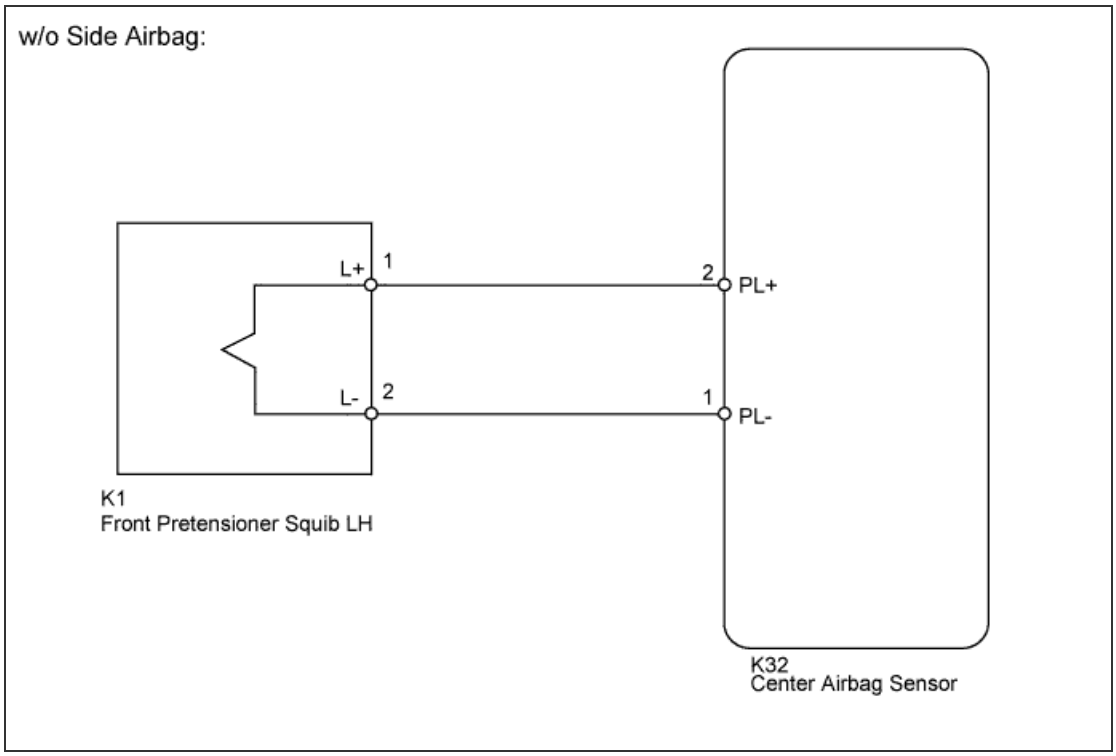
### DESCRIPTION

The front pretensioner squib LH circuit consists of the center airbag sensor and the front seat outer belt LH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front pretensioner squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1905/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front pretensioner squib LH circuit during the primary check.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1906/74 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front pretensioner squib LH circuit for 2 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1907/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front pretensioner squib LH circuit for 0.5 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1908/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front pretensioner squib LH circuit for 0.5 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

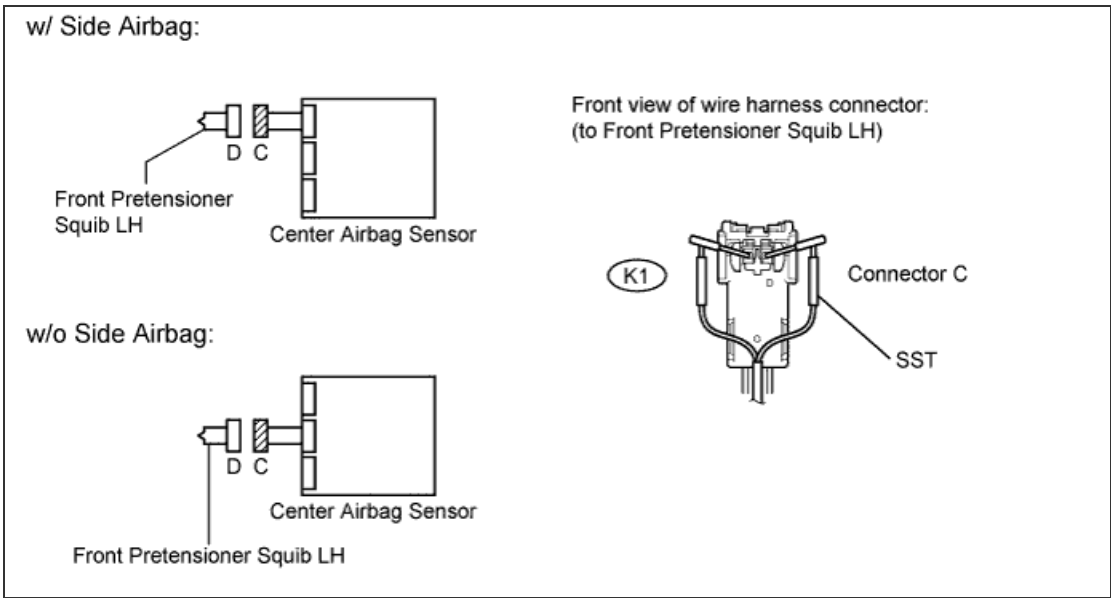
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

**1.CHECK FRONT SEAT OUTER BELT LH (FRONT PRETENSIONER SQUIB LH)**

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front seat outer belt LH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the front seat outer belt LH (front pretensioner squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1905, B1906, B1907 or B1908 is not output.**

**HINT:**

Codes other than DTC B1905, B1906, B1907 and B1908 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK

REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connector (on the front seat outer belt LH side) is not damaged.

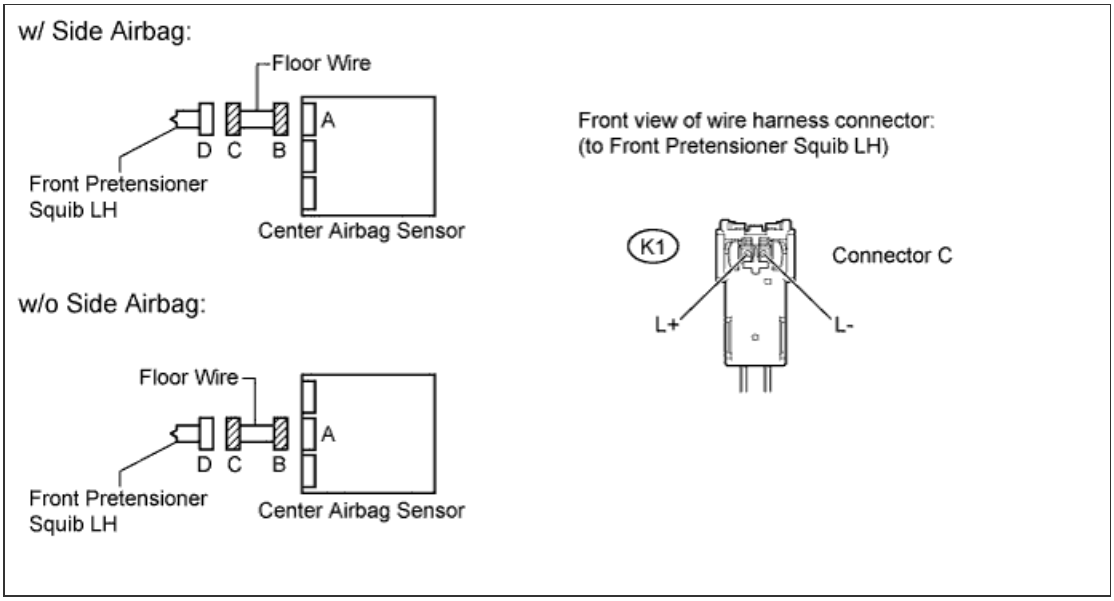
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

## 3.CHECK FLOOR WIRE (FRONT PRETENSIONER SQUIB LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - Body ground | Ignition switch ON | Below 1 V |
| K1-2 (L-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - K1-2 (L-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - K1-2 (L-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K1-1 (L+) - Body ground | Always | 1 MΩ or higher |
| K1-2 (L-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat outer belt LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

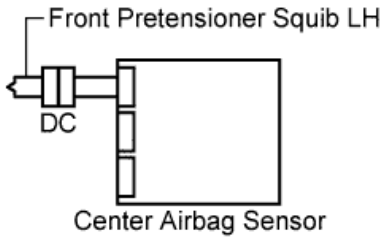
g. Check for DTCs (Click here).

**OK:**
**DTC B1905, B1906, B1907 or B1908 is not output.**

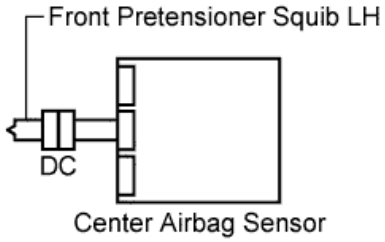
**HINT:**

Codes other than DTC B1905, B1906, B1907 and B1908 may be output at this time, but they are not related to this check.

w/ Side Airbag:




w/o Side Airbag:




NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1810/53 Short in Driver Side Squib 2nd Step Circuit

## DTC B1811/53 Open in Driver Side Squib 2nd Step Circuit

## DTC B1812/53 Short to GND in Driver Side Squib 2nd Step Circuit

## DTC B1813/53 Short to B+ in Driver Side Squib 2nd Step Circuit

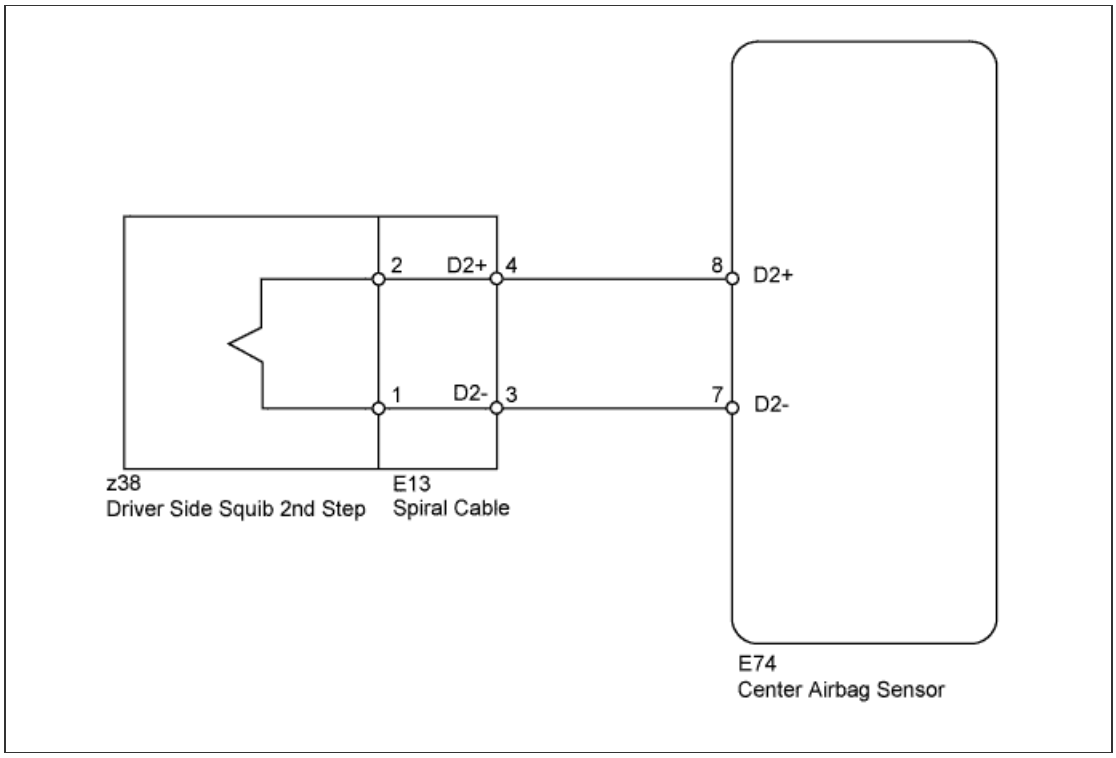
**for Preparation** Click here

### DESCRIPTION

The driver side squib 2nd step circuit consists of the center airbag sensor, the spiral cable, and the steering pad.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the driver side squib 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1810/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the driver side squib 2nd step circuit during the primary check.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1811/53 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the driver side squib 2nd step circuit for 2 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1812/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the driver side 2nd step circuit for 0.5 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |
| B1813/53 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the driver side squib 2nd step circuit for 0.5 seconds.<br>• A driver side squib 2nd step malfunction.<br>• A spiral cable malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Spiral cable<br>• Steering pad (Driver side squib 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

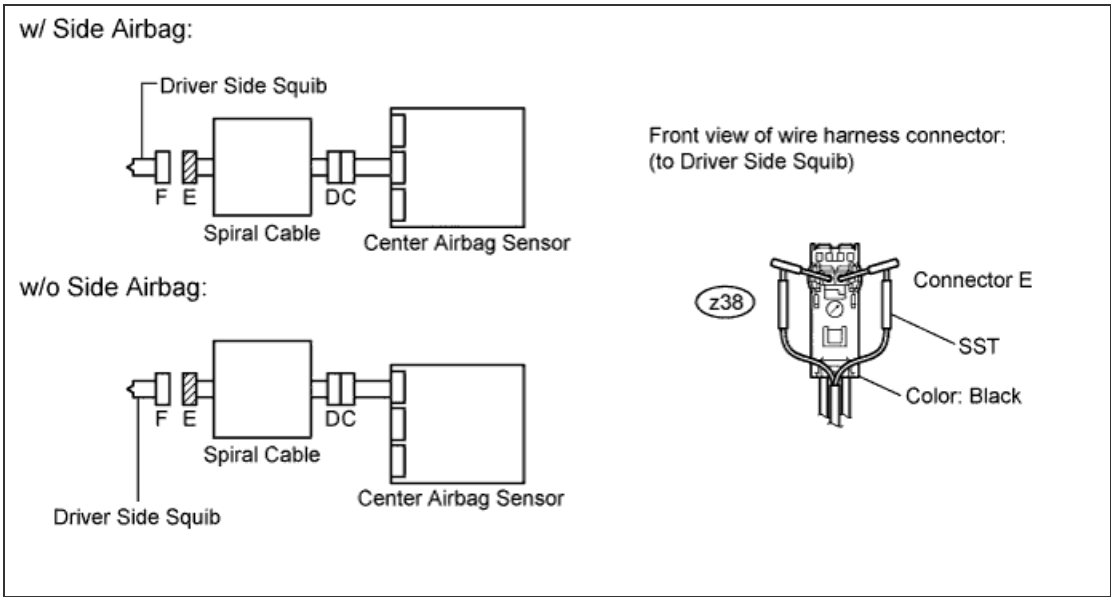
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK STEERING PAD (DRIVER SIDE SQUIB 2ND STEP)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the steering pad.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (black connector).

**CAUTION:**

Never connect the tester to the steering pad (driver side squib 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than DTC B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK ↓

REPLACE STEERING PAD (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the spiral cable connectors (on the steering pad side) are not damaged.

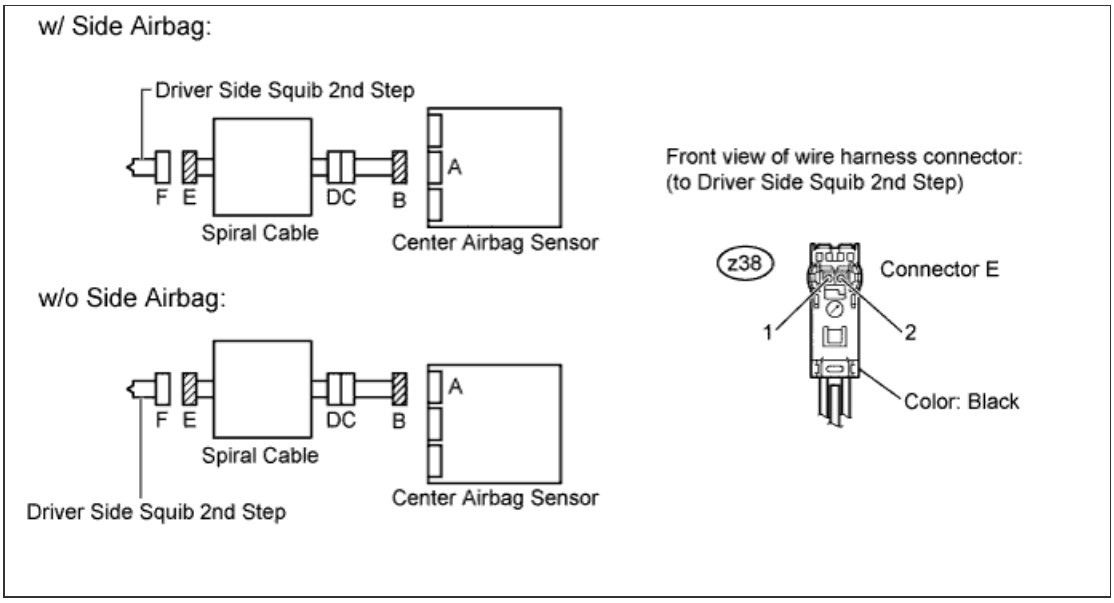
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE SPIRAL CABLE (Click here)

OK ↓

## 3.CHECK DRIVER SIDE SQUIB 2ND STEP CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z38-1 - Body ground | Ignition switch ON | Below 1 V |
| z38-2 - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z38-1 - z38-2 | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z38-1 - z38-2 | Always | 1 MΩ or higher |
| z38-1 - Body ground | Always | 1 MΩ or higher |
| z38-2 - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the steering pad and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

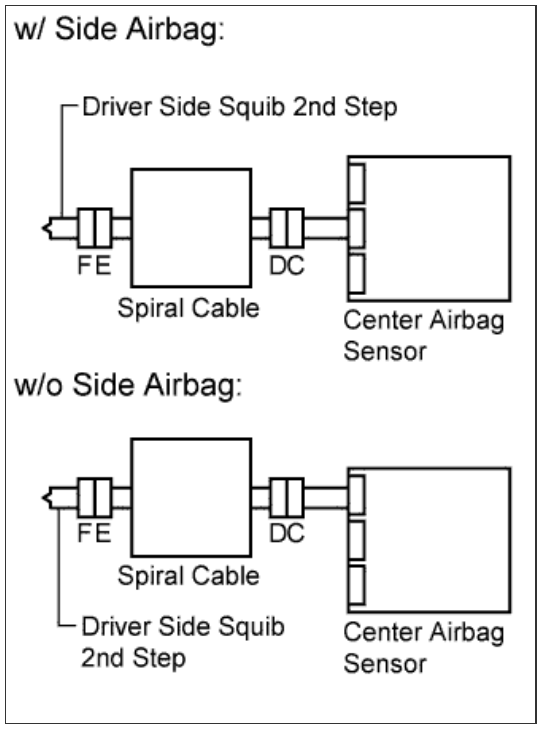
g. Check for DTCs (Click here).

**OK:**

**DTC B1810, B1811, B1812 or B1813 is not output.**

**HINT:**

Codes other than DTC B1810, B1811, B1812 and B1813 may be output at this time, but they are not related to this check.



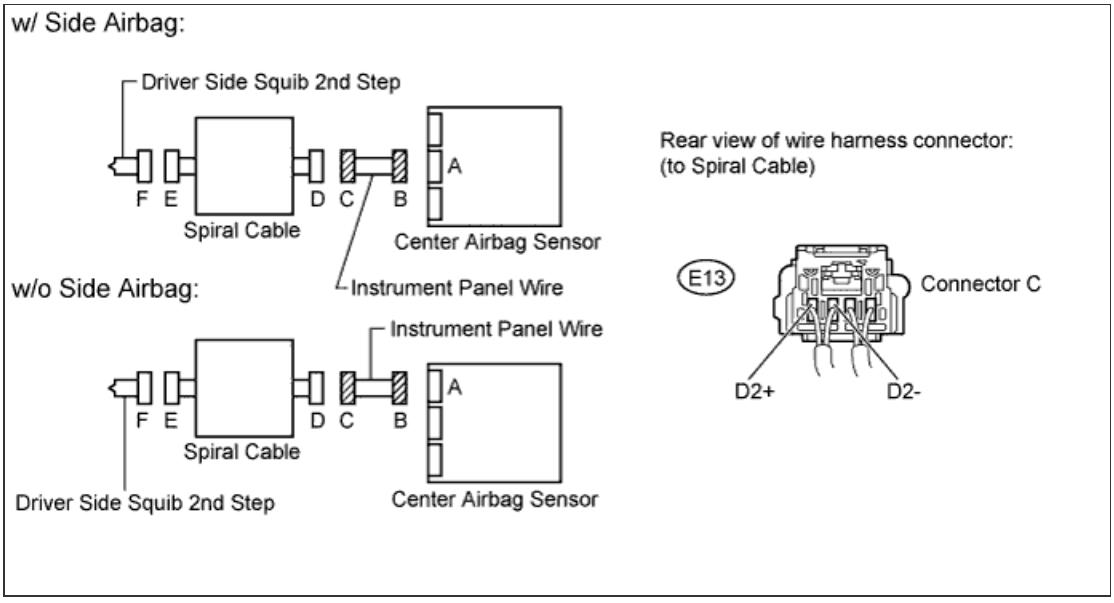

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - SPIRAL CABLE)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the spiral cable.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| E13-3 (D2-) - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - E13-3 (D2-) | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-4 (D2+) - E13-3 (D2-) | Always | 1 MΩ or higher |
| E13-4 (D2+) - Body ground | Always | 1 MΩ or higher |
| E13-3 (D2-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK

REPLACE SPIRAL CABLE (Click here)

## DTC B1905/74 Short in Front Pretensioner Squib LH Circuit

## DTC B1906/74 Open in Front Pretensioner Squib LH Circuit

## DTC B1907/74 Short to GND in Front Pretensioner Squib LH Circuit

## DTC B1908/74 Short to B+ in Front Pretensioner Squib LH Circuit

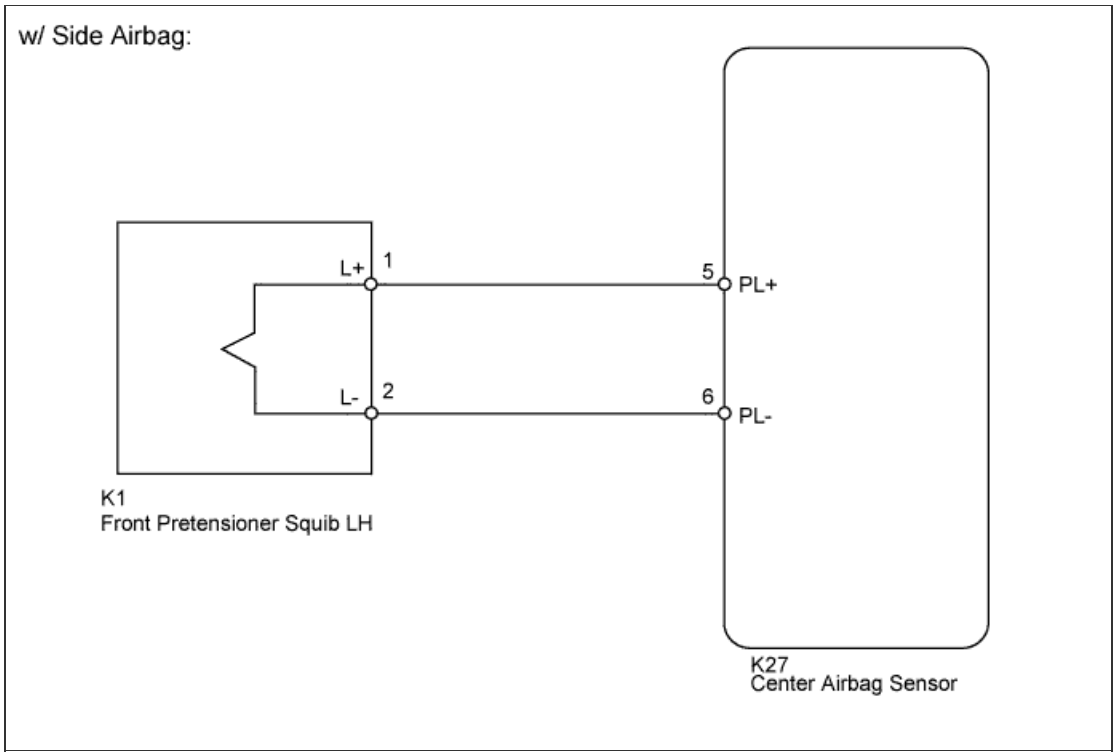
**for Preparation** Click here

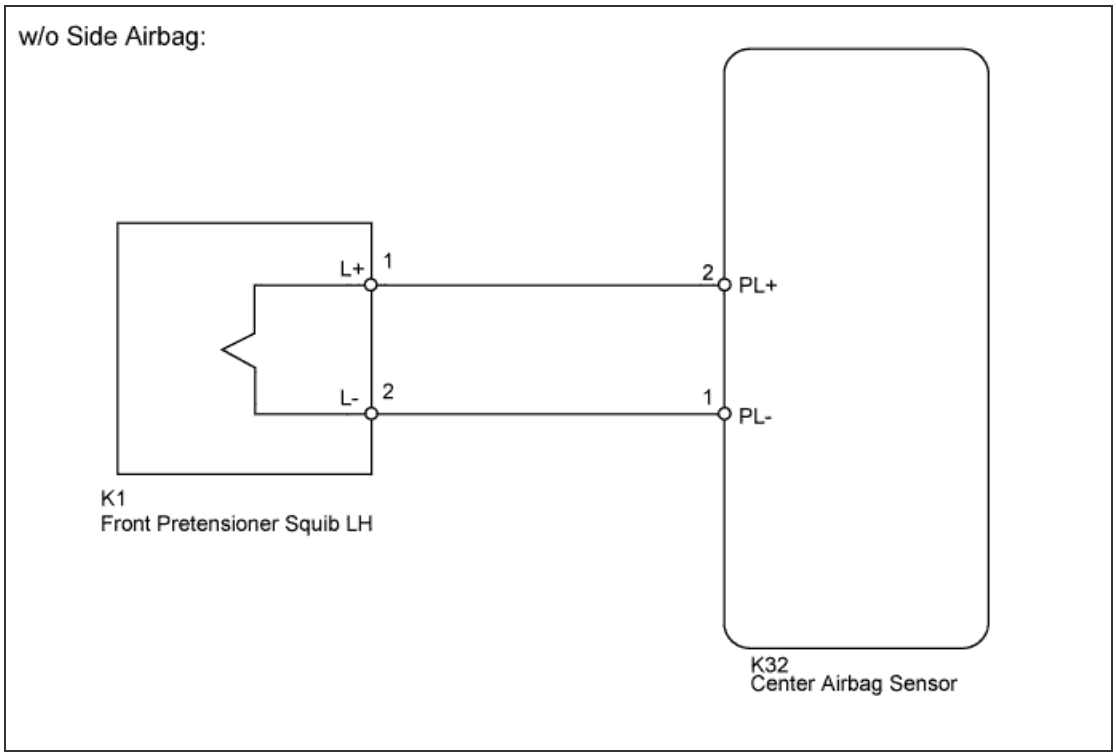
### DESCRIPTION

The front pretensioner squib LH circuit consists of the center airbag sensor and the front seat outer belt LH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front pretensioner squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1905/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front pretensioner squib LH circuit during the primary check.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1906/74 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front pretensioner squib LH circuit for 2 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1907/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front pretensioner squib LH circuit for 0.5 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1908/74 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front pretensioner squib LH circuit for 0.5 seconds.<br>• A front pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Front seat outer belt assembly LH (Front pretensioner squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

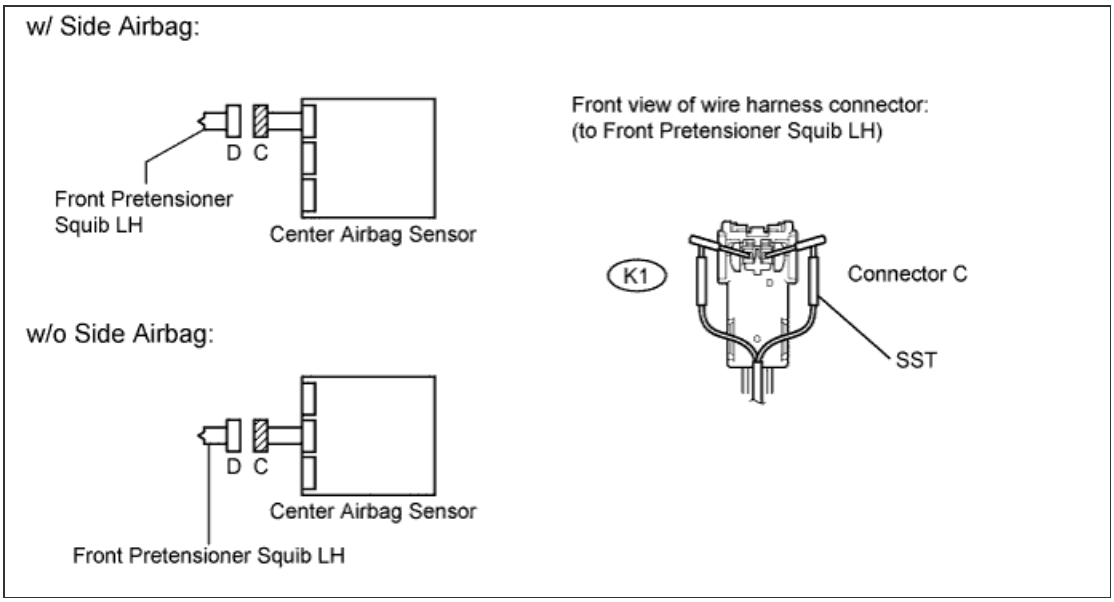
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

**1.CHECK FRONT SEAT OUTER BELT LH (FRONT PRETENSIONER SQUIB LH)**

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front seat outer belt LH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

Never connect the tester to the front seat outer belt LH (front pretensioner squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1905, B1906, B1907 or B1908 is not output.**

**HINT:**

Codes other than DTC B1905, B1906, B1907 and B1908 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK

REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connector (on the front seat outer belt LH side) is not damaged.

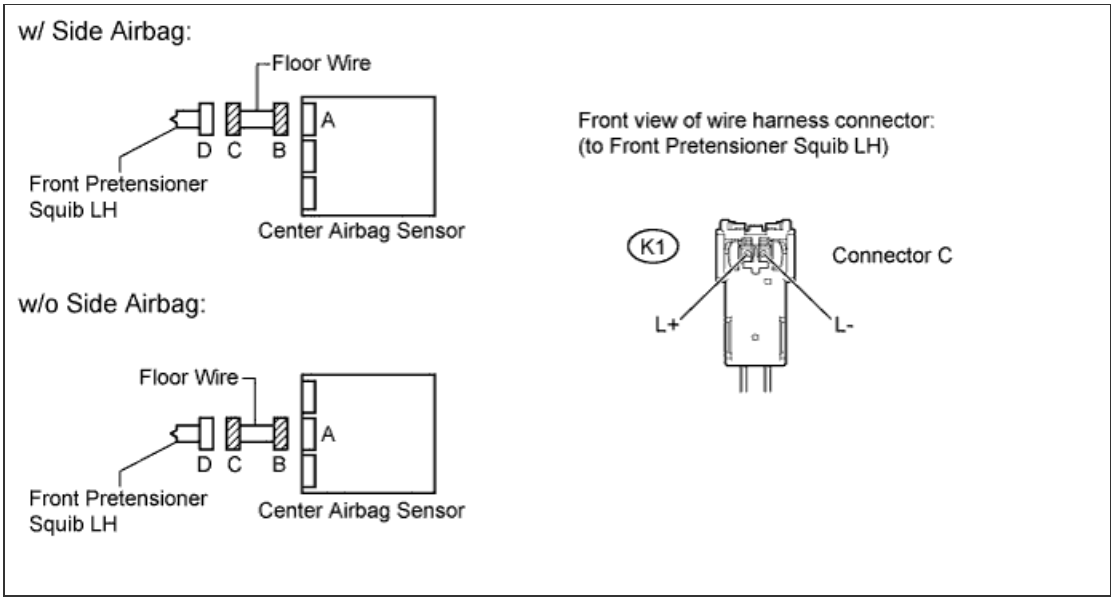
**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE FLOOR WIRE

OK

## 3.CHECK FLOOR WIRE (FRONT PRETENSIONER SQUIB LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - Body ground | Ignition switch ON | Below 1 V |
| K1-2 (L-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - K1-2 (L-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K1-1 (L+) - K1-2 (L-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| K1-1 (L+) - Body ground | Always | 1 MΩ or higher |
| K1-2 (L-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat outer belt LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

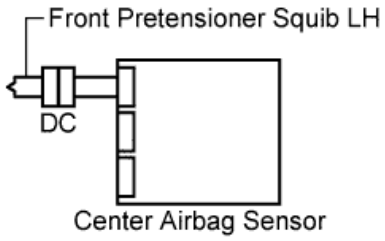
g. Check for DTCs (Click here).

**OK:**
**DTC B1905, B1906, B1907 or B1908 is not output.**

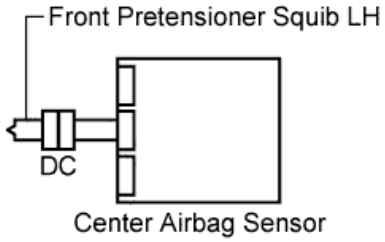
**HINT:**

Codes other than DTC B1905, B1906, B1907 and B1908 may be output at this time, but they are not related to this check.

w/ Side Airbag:




w/o Side Airbag:




NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1815/54 Short in Front Passenger Side Squib 2nd Step Circuit

## DTC B1816/54 Open in Front Passenger Side Squib 2nd Step Circuit

## DTC B1817/54 Short to GND in Front Passenger Side Squib 2nd Step Circuit

## DTC B1818/54 Short to B+ in Front Passenger Side Squib 2nd Step Circuit

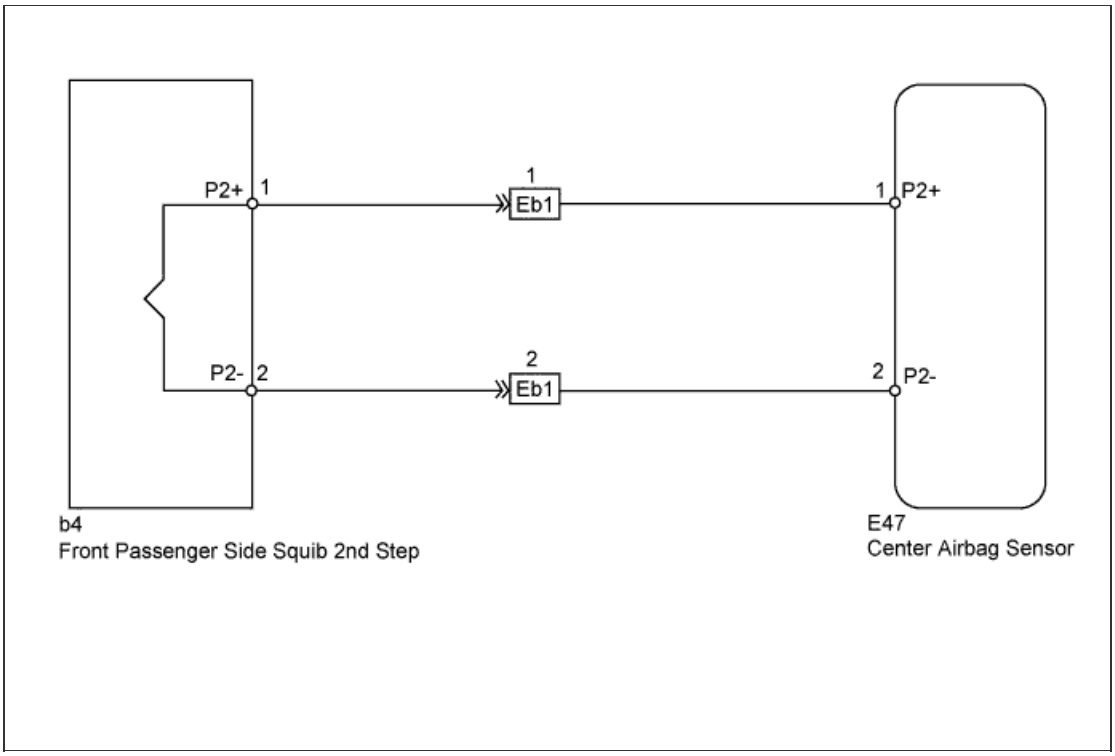
**for Preparation** Click here

### DESCRIPTION

The front passenger side squib 2nd step circuit consists of the center airbag sensor and the front passenger airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side squib 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1815/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side squib 2nd step circuit during the primary check.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1816/54 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side squib 2nd step circuit for 2 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1817/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side squib 2nd step circuit for 0.5 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1818/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side squib 2nd step circuit for 0.5 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

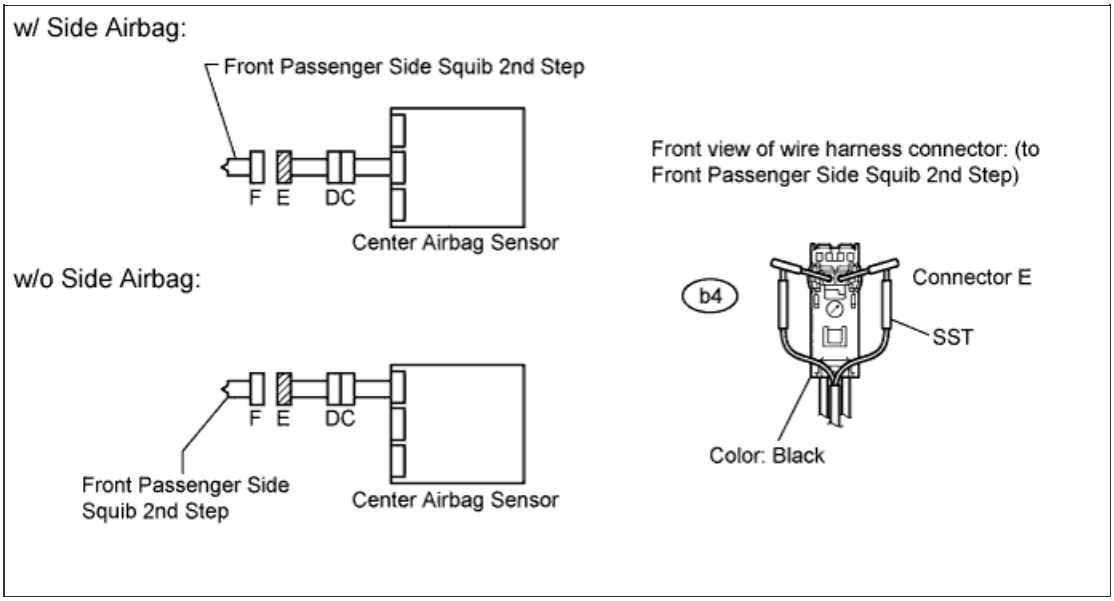
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER AIRBAG (FRONT PASSENGER SIDE SQUIB 2ND STEP)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front passenger airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (black connector).

**CAUTION:**

Never connect the tester to the front passenger airbag (front passenger side squib 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1815, B1816, B1817 or B1818 is not output.**

**HINT:**

Codes other than DTC B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK ↓

REPLACE FRONT PASSENGER AIRBAG ASSEMBLY (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the instrument panel wire connectors (on the front passenger airbag side) are not damaged.

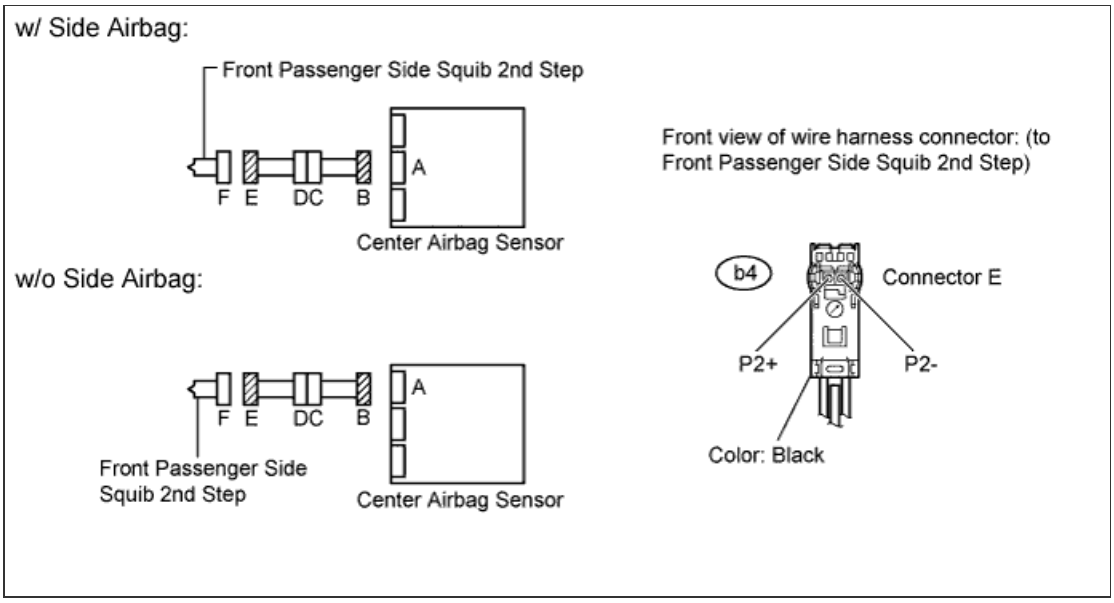
**OK:**
**The lock button is not disengaged, and the claw of the lock is not damaged or deformed.**

NG → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

OK ↓

## 3.CHECK FRONT PASSENGER SIDE SQUIB 2ND STEP CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - Body ground | Ignition switch ON | Below 1 V |
| b4-2 (P2-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - b4-2 (P2-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - b4-2 (P2-) | Always | 1 MΩ or higher |
| b4-1 (P2+) - Body ground | Always | 1 MΩ or higher |
| b4-2 (P2-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front passenger airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

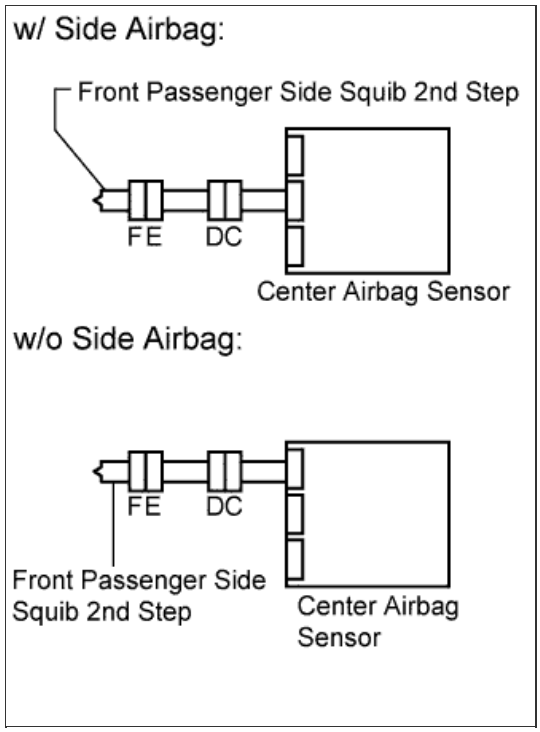
g. Check for DTCs (Click here).

**OK:**

**DTC B1815, B1816, B1817 or B1818 is not output.**

**HINT:**

Codes other than DTC B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

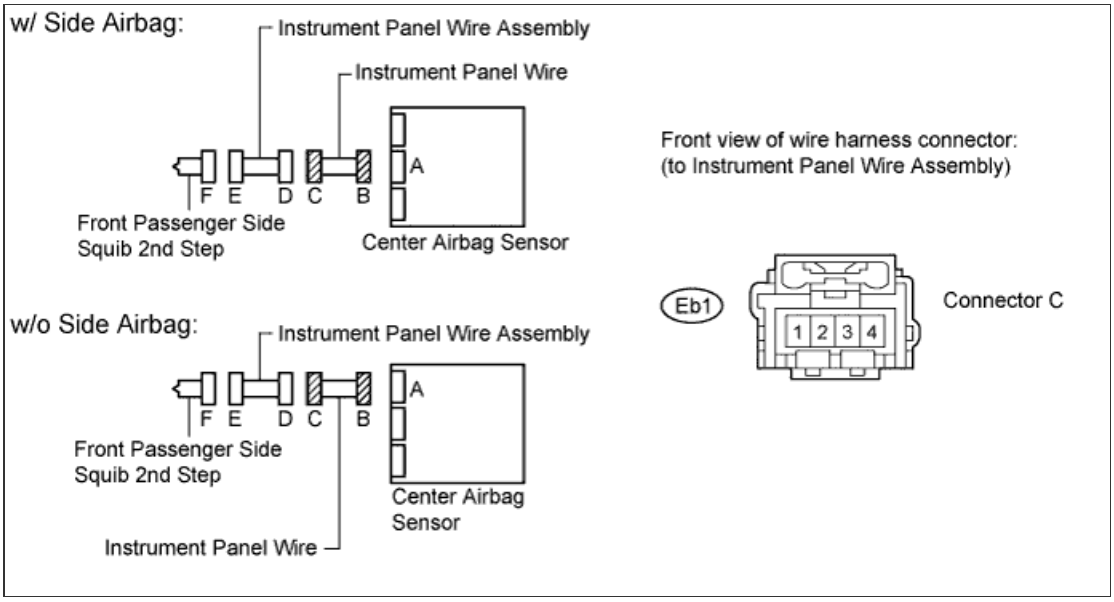



NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK → USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - INSTRUMENT PANEL WIRE ASSEMBLY)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the instrument panel wire assembly.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| Eb1-2 - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Eb1-2 | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Eb1-2 | Always | 1 MΩ or higher |
| Eb1-1 - Body ground | Always | 1 MΩ or higher |
| Eb1-2 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

## DTC B1920/77 Short in Rear Pretensioner Squib RH Circuit

## DTC B1921/77 Open in Rear Pretensioner Squib RH Circuit

## DTC B1922/77 Short to GND in Rear Pretensioner Squib RH Circuit

## DTC B1923/77 Short to B+ in Rear Pretensioner Squib RH Circuit

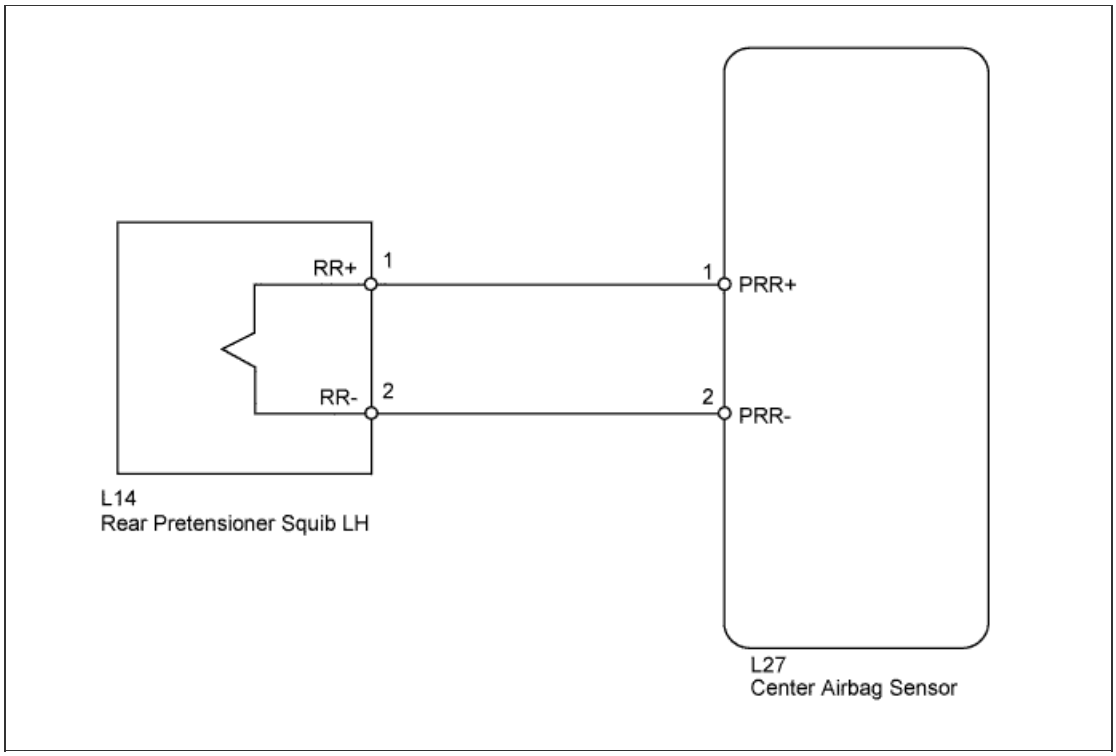
**for Preparation** Click here

### DESCRIPTION

The rear pretensioner squib RH circuit consists of the center airbag sensor and the rear seat outer belt RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
Theses DTCs are stored when a malfunction is detected in the rear pretensioner squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1920/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear pretensioner squib RH circuit during the primary check.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1921/77 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear pretensioner squib RH circuit for 2 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1922/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear pretensioner squib RH circuit for 0.5 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1923/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear pretensioner squib RH circuit for 0.5 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here ).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT OUTER BELT RH (REAR PRETENSIONER SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the rear seat outer belt RH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

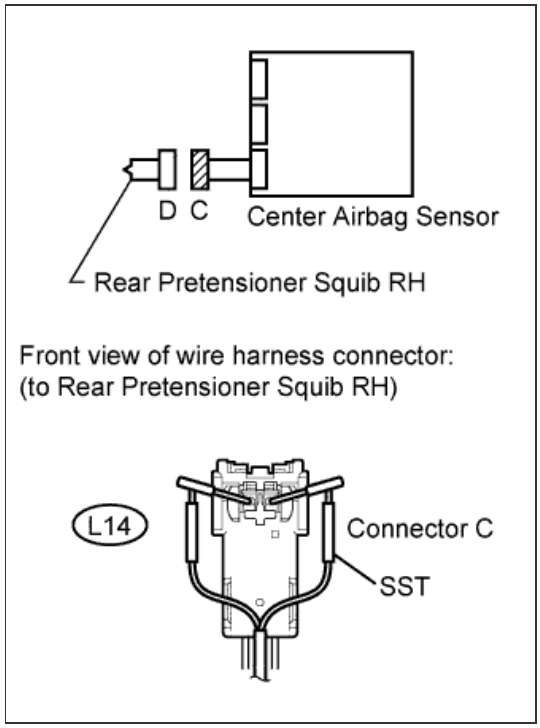
Never connect the tester to the rear seat outer belt RH (rear pretensioner squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs stored in the memory ( Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1920, B1921, B1922 or B1923 is not output.**

**HINT:**

Codes other than DTC B1920, B1921, B1922 and B1923 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE REAR SEAT OUTER BELT ASSEMBLY RH ( Click here)

## 2.CHECK CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the rear seat outer belt RH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (REAR PRETENSIONER SQUIB RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 90 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - Body ground | Ignition switch ON | Below 1 V |
| L14-2 (RR-) - Body ground | Ignition switch ON | Below 1 V |

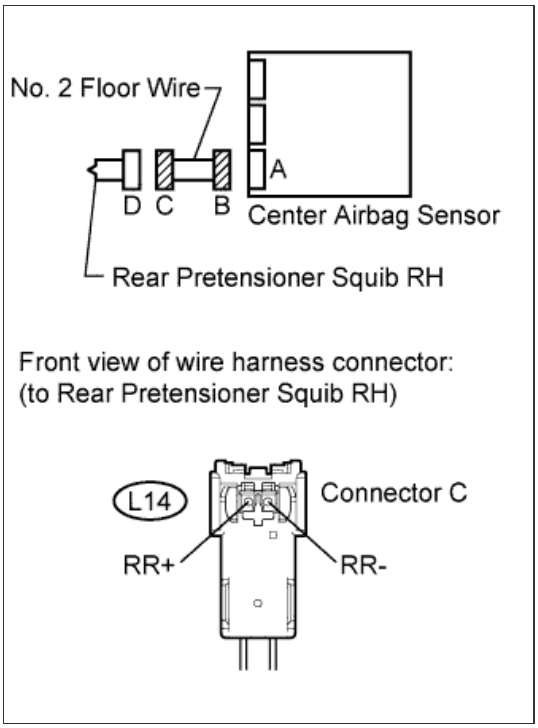
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - L14-2 (RR-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - L14-2 (RR-) | Always | 1 MΩ or higher |
| L14-1 (RR+) - Body ground | Always | 1 MΩ or higher |
| L14-2 (RR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat outer belt RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 90 seconds.

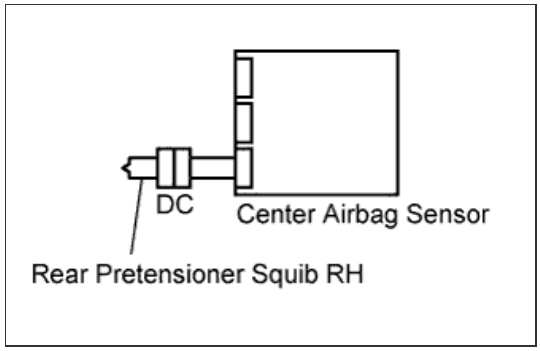
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1920, B1921, B1922 or B1923 is not output.**

**HINT:**

Codes other than DTC B1920, B1921, B1922 and B1923 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1815/54 Short in Front Passenger Side Squib 2nd Step Circuit

## DTC B1816/54 Open in Front Passenger Side Squib 2nd Step Circuit

## DTC B1817/54 Short to GND in Front Passenger Side Squib 2nd Step Circuit

## DTC B1818/54 Short to B+ in Front Passenger Side Squib 2nd Step Circuit

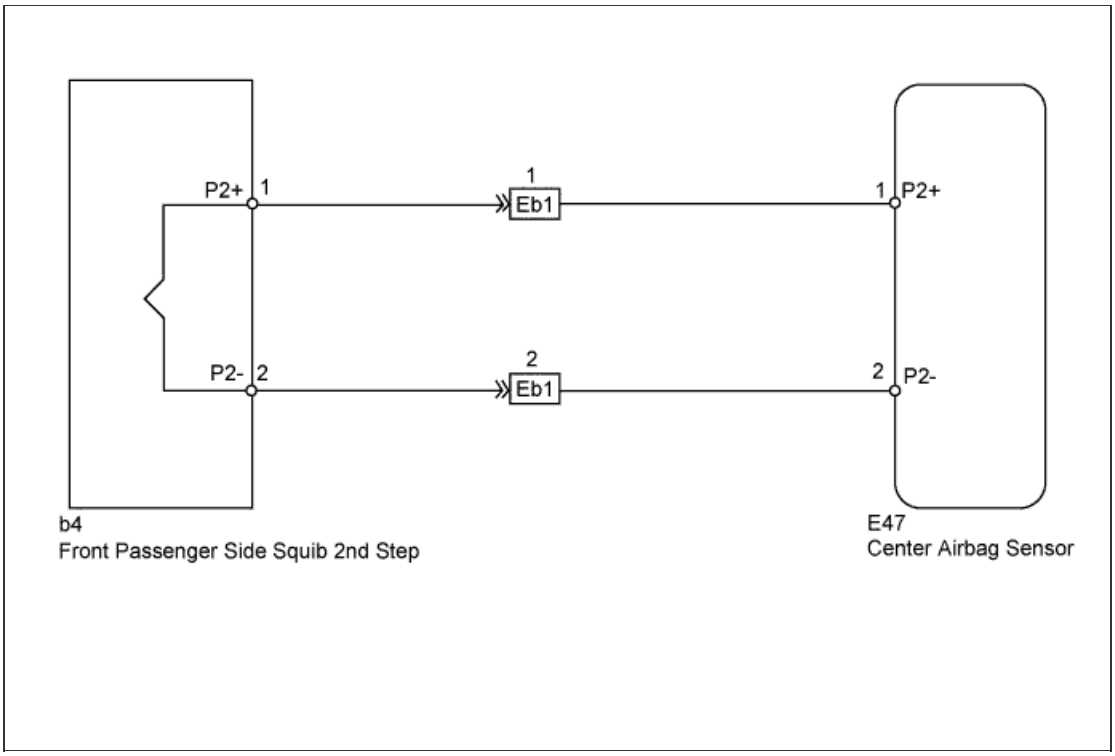
**for Preparation** Click here

### DESCRIPTION

The front passenger side squib 2nd step circuit consists of the center airbag sensor and the front passenger airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side squib 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1815/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side squib 2nd step circuit during the primary check.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1816/54 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side squib 2nd step circuit for 2 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1817/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side squib 2nd step circuit for 0.5 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1818/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side squib 2nd step circuit for 0.5 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

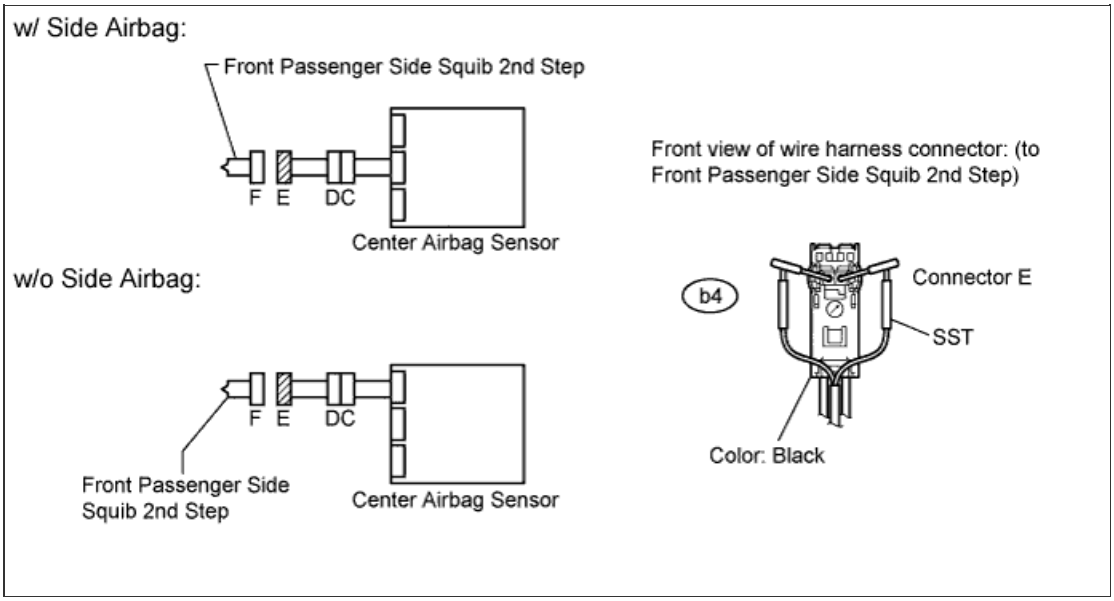
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER AIRBAG (FRONT PASSENGER SIDE SQUIB 2ND STEP)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front passenger airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (black connector).

**CAUTION:**

Never connect the tester to the front passenger airbag (front passenger side squib 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1815, B1816, B1817 or B1818 is not output.**

**HINT:**

Codes other than DTC B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK ↓

REPLACE FRONT PASSENGER AIRBAG ASSEMBLY (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the instrument panel wire connectors (on the front passenger airbag side) are not damaged.

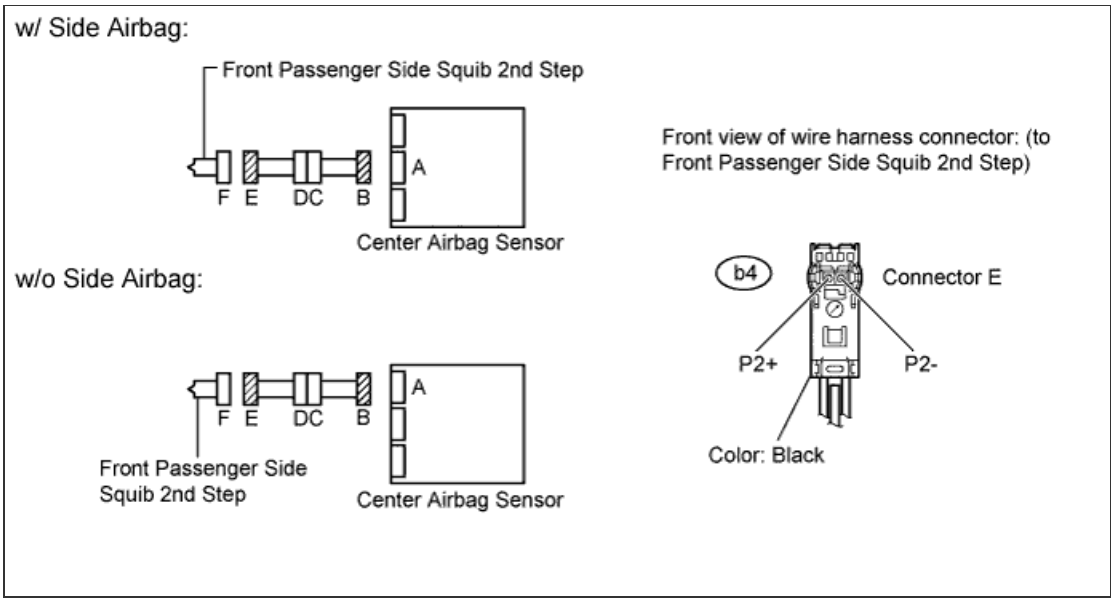
**OK:**
**The lock button is not disengaged, and the claw of the lock is not damaged or deformed.**

NG → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

OK ↓

## 3.CHECK FRONT PASSENGER SIDE SQUIB 2ND STEP CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - Body ground | Ignition switch ON | Below 1 V |
| b4-2 (P2-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - b4-2 (P2-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - b4-2 (P2-) | Always | 1 MΩ or higher |
| b4-1 (P2+) - Body ground | Always | 1 MΩ or higher |
| b4-2 (P2-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front passenger airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

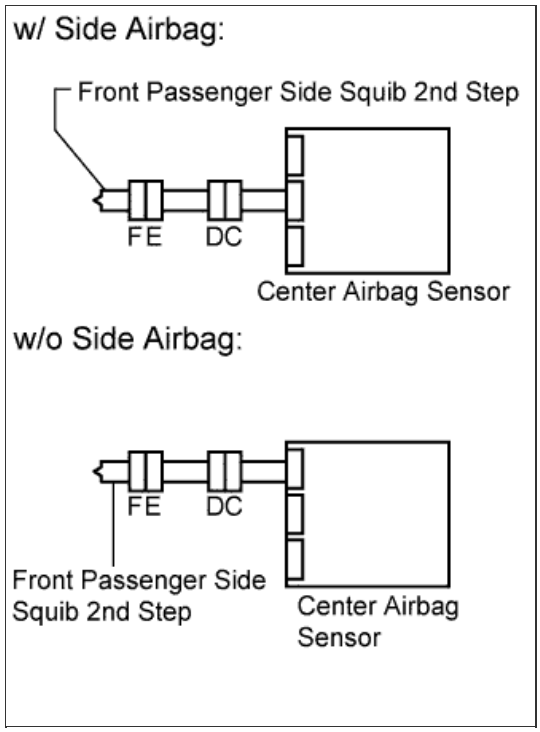
g. Check for DTCs (Click here).

**OK:**

**DTC B1815, B1816, B1817 or B1818 is not output.**

**HINT:**

Codes other than DTC B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

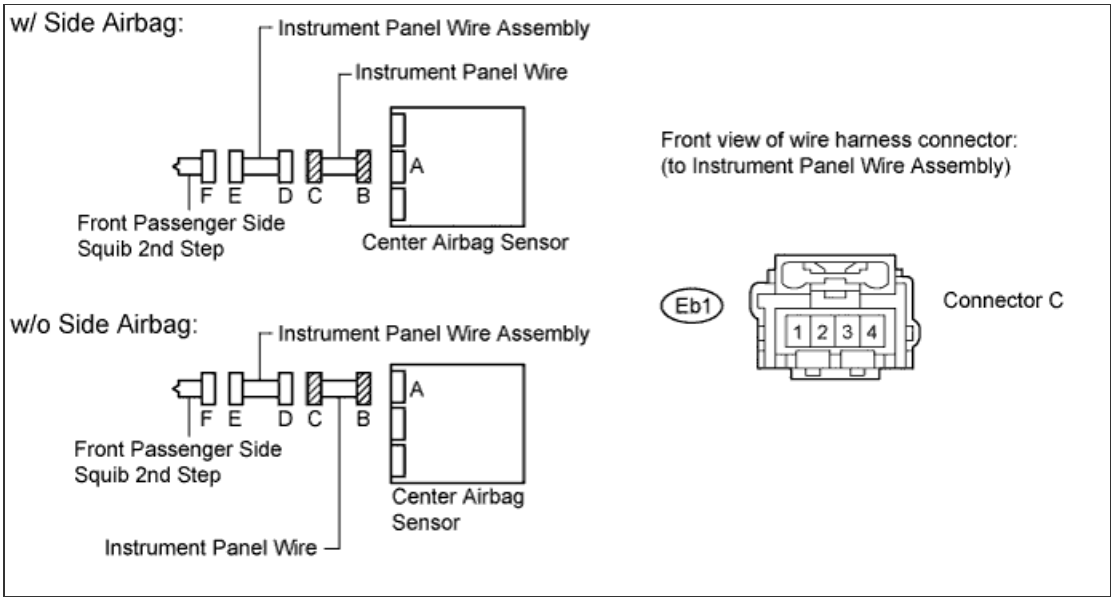



NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK → USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - INSTRUMENT PANEL WIRE ASSEMBLY)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the instrument panel wire assembly.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| Eb1-2 - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Eb1-2 | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Eb1-2 | Always | 1 MΩ or higher |
| Eb1-1 - Body ground | Always | 1 MΩ or higher |
| Eb1-2 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

## DTC B1920/77 Short in Rear Pretensioner Squib RH Circuit

## DTC B1921/77 Open in Rear Pretensioner Squib RH Circuit

## DTC B1922/77 Short to GND in Rear Pretensioner Squib RH Circuit

## DTC B1923/77 Short to B+ in Rear Pretensioner Squib RH Circuit

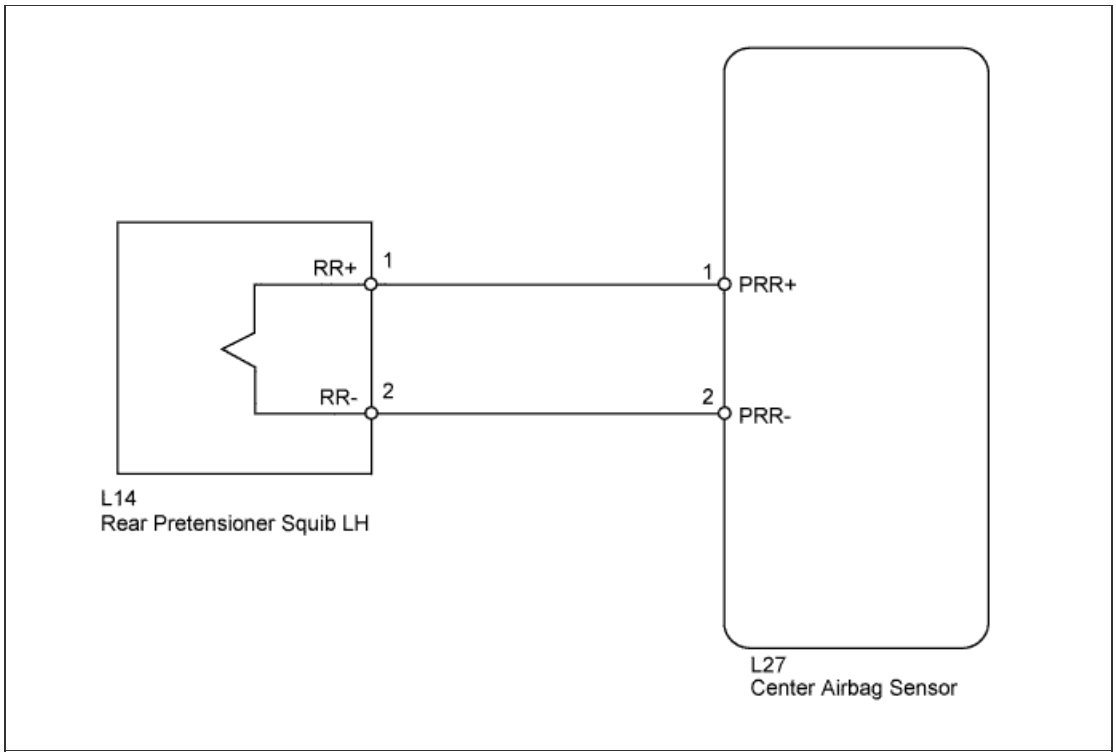
**for Preparation** Click here

### DESCRIPTION

The rear pretensioner squib RH circuit consists of the center airbag sensor and the rear seat outer belt RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
Theses DTCs are stored when a malfunction is detected in the rear pretensioner squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1920/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear pretensioner squib RH circuit during the primary check.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1921/77 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear pretensioner squib RH circuit for 2 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1922/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear pretensioner squib RH circuit for 0.5 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1923/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear pretensioner squib RH circuit for 0.5 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here ).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT OUTER BELT RH (REAR PRETENSIONER SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the rear seat outer belt RH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

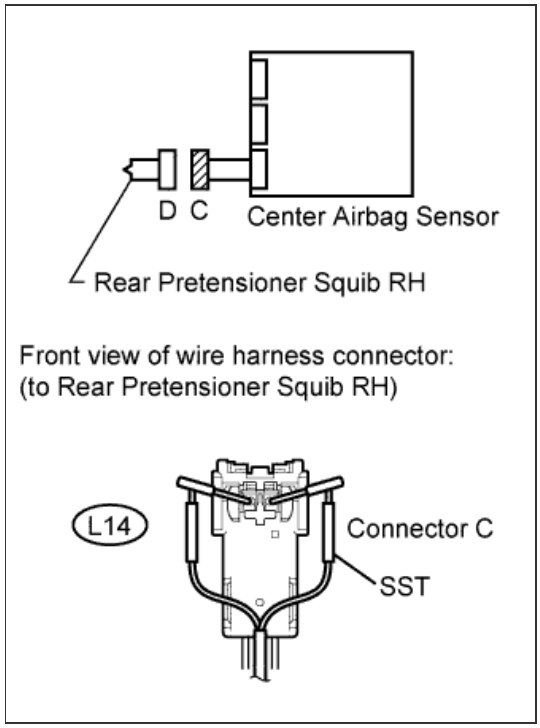
Never connect the tester to the rear seat outer belt RH (rear pretensioner squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs stored in the memory ( Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1920, B1921, B1922 or B1923 is not output.**

**HINT:**

Codes other than DTC B1920, B1921, B1922 and B1923 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE REAR SEAT OUTER BELT ASSEMBLY RH ( Click here)

## 2.CHECK CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the rear seat outer belt RH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (REAR PRETENSIONER SQUIB RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 90 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - Body ground | Ignition switch ON | Below 1 V |
| L14-2 (RR-) - Body ground | Ignition switch ON | Below 1 V |

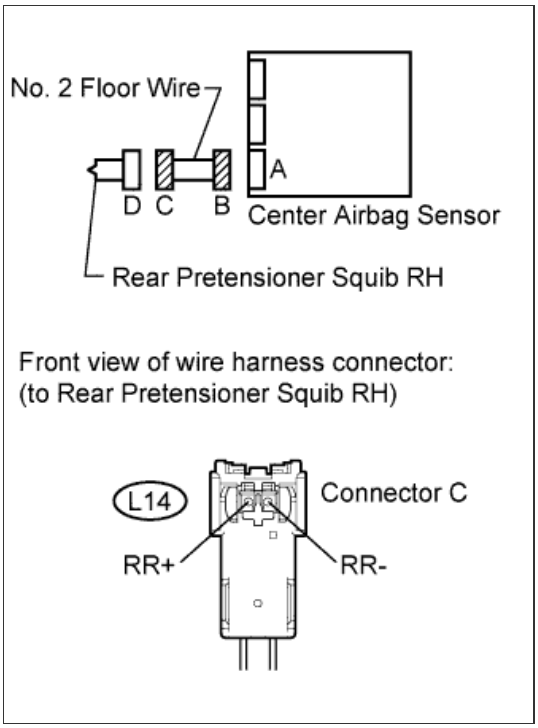
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - L14-2 (RR-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - L14-2 (RR-) | Always | 1 MΩ or higher |
| L14-1 (RR+) - Body ground | Always | 1 MΩ or higher |
| L14-2 (RR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat outer belt RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 90 seconds.

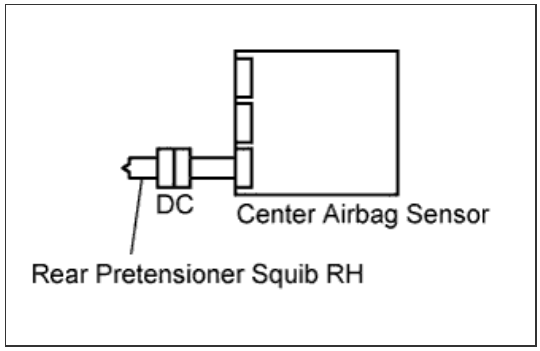
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1920, B1921, B1922 or B1923 is not output.**

**HINT:**

Codes other than DTC B1920, B1921, B1922 and B1923 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1815/54 Short in Front Passenger Side Squib 2nd Step Circuit

## DTC B1816/54 Open in Front Passenger Side Squib 2nd Step Circuit

## DTC B1817/54 Short to GND in Front Passenger Side Squib 2nd Step Circuit

## DTC B1818/54 Short to B+ in Front Passenger Side Squib 2nd Step Circuit

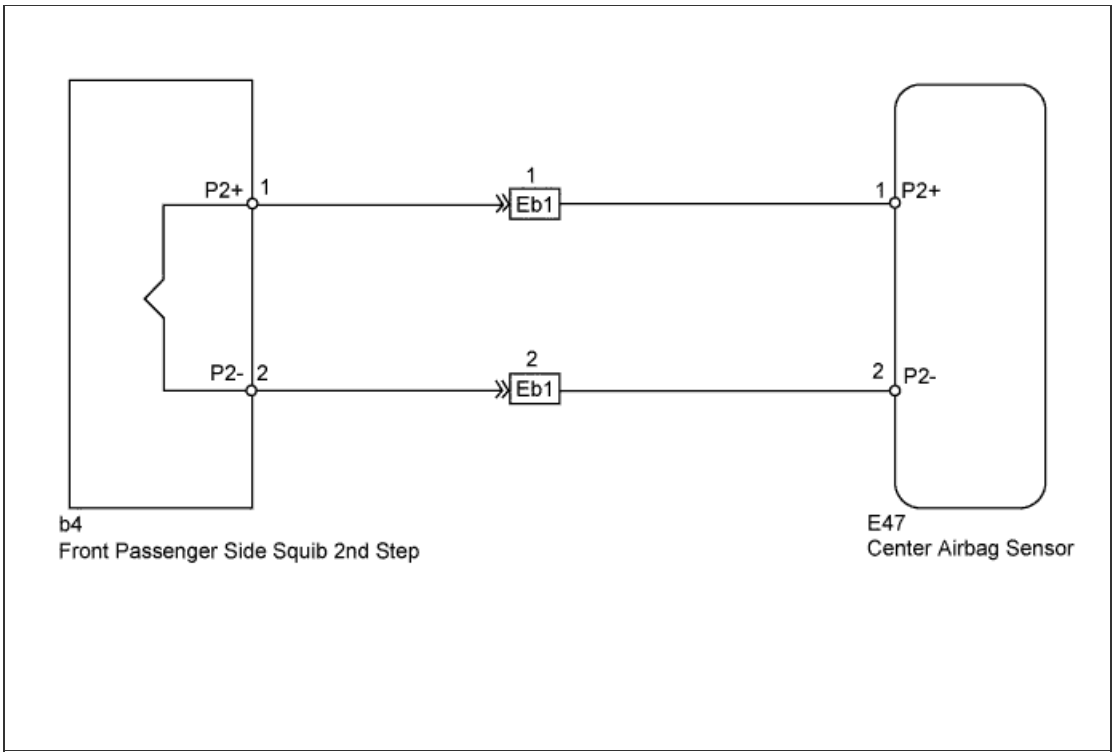
**for Preparation** Click here

### DESCRIPTION

The front passenger side squib 2nd step circuit consists of the center airbag sensor and the front passenger airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side squib 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1815/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side squib 2nd step circuit during the primary check.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1816/54 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side squib 2nd step circuit for 2 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1817/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side squib 2nd step circuit for 0.5 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1818/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side squib 2nd step circuit for 0.5 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

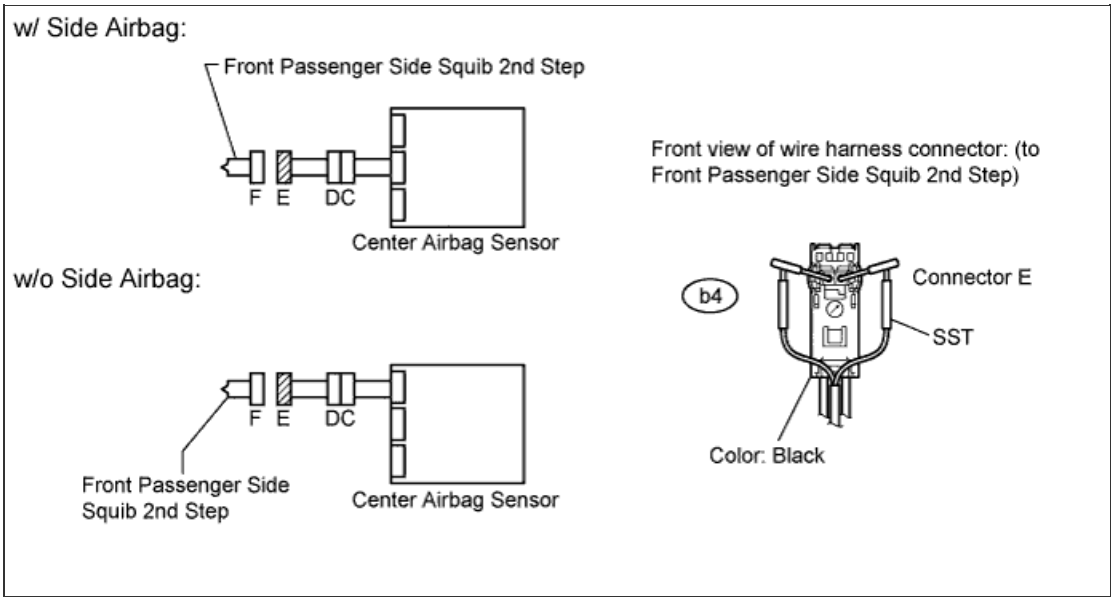
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER AIRBAG (FRONT PASSENGER SIDE SQUIB 2ND STEP)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front passenger airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (black connector).

**CAUTION:**

Never connect the tester to the front passenger airbag (front passenger side squib 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
09843-18061

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1815, B1816, B1817 or B1818 is not output.**

**HINT:**

Codes other than DTC B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK ↓

REPLACE FRONT PASSENGER AIRBAG ASSEMBLY (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the instrument panel wire connectors (on the front passenger airbag side) are not damaged.

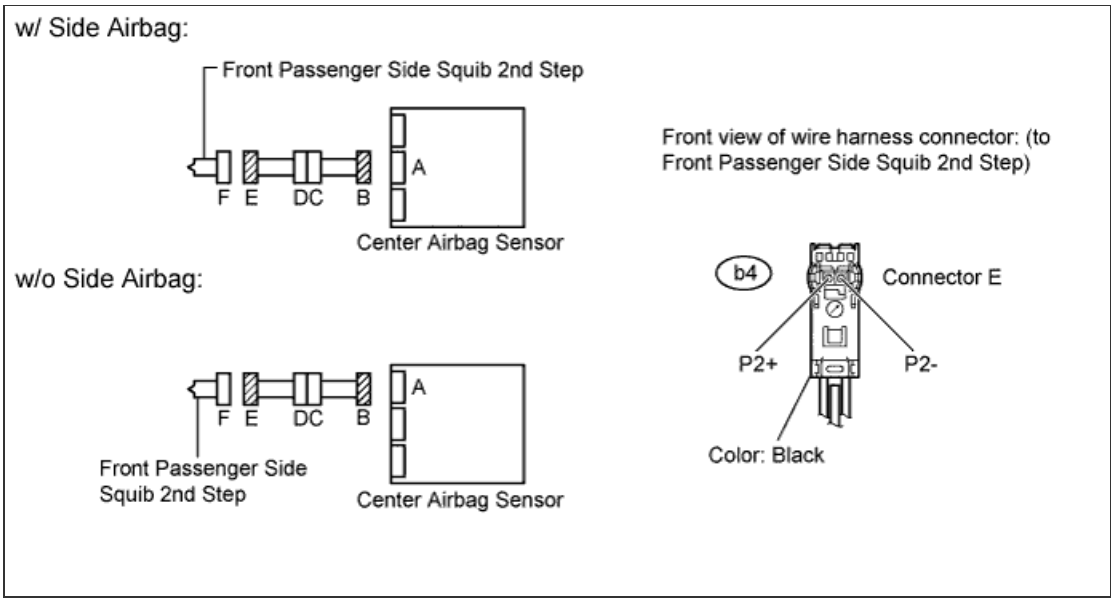
**OK:**
**The lock button is not disengaged, and the claw of the lock is not damaged or deformed.**

NG → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

OK ↓

## 3.CHECK FRONT PASSENGER SIDE SQUIB 2ND STEP CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - Body ground | Ignition switch ON | Below 1 V |
| b4-2 (P2-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - b4-2 (P2-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - b4-2 (P2-) | Always | 1 MΩ or higher |
| b4-1 (P2+) - Body ground | Always | 1 MΩ or higher |
| b4-2 (P2-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front passenger airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

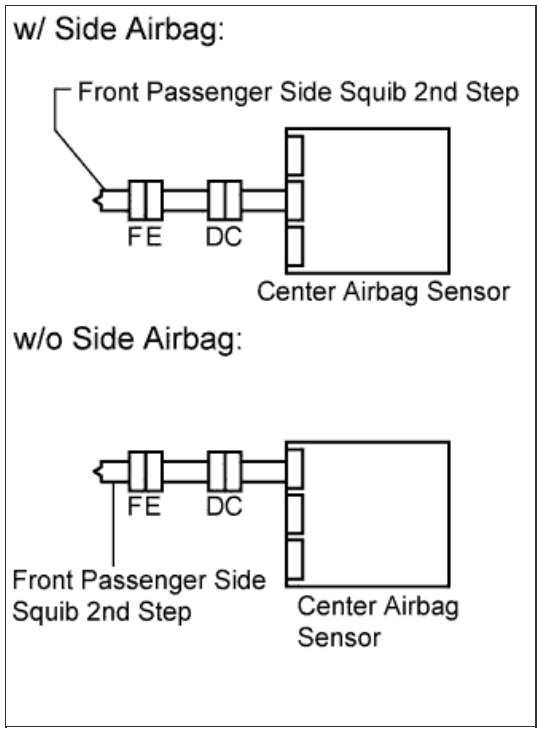
g. Check for DTCs (Click here).

**OK:**

**DTC B1815, B1816, B1817 or B1818 is not output.**

**HINT:**

Codes other than DTC B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

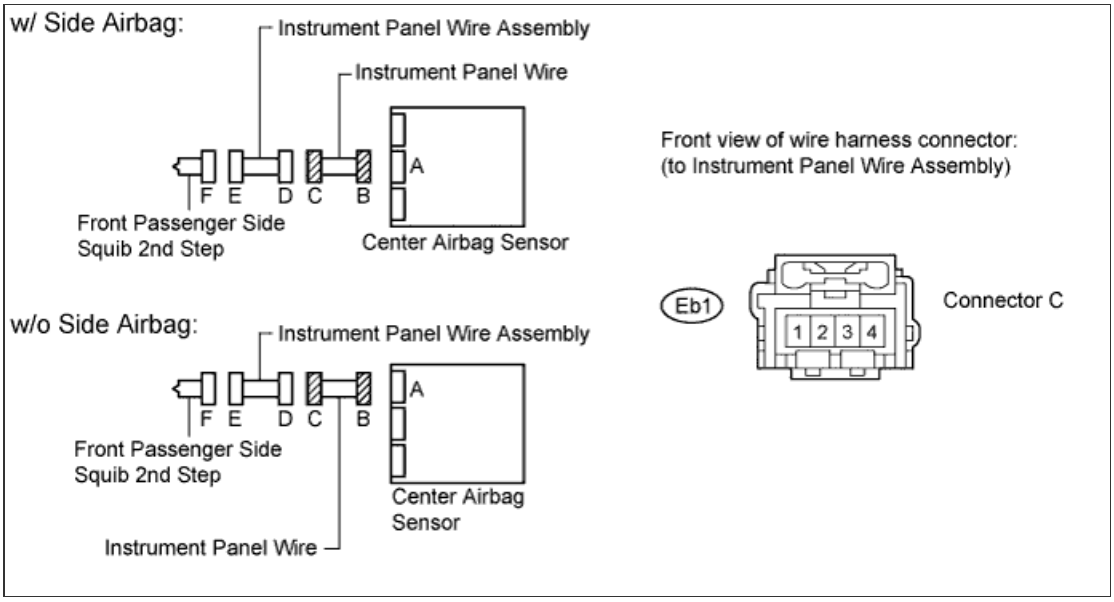



NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK → USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - INSTRUMENT PANEL WIRE ASSEMBLY)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the instrument panel wire assembly.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| Eb1-2 - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Eb1-2 | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Eb1-2 | Always | 1 MΩ or higher |
| Eb1-1 - Body ground | Always | 1 MΩ or higher |
| Eb1-2 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

## DTC B1920/77 Short in Rear Pretensioner Squib RH Circuit

## DTC B1921/77 Open in Rear Pretensioner Squib RH Circuit

## DTC B1922/77 Short to GND in Rear Pretensioner Squib RH Circuit

## DTC B1923/77 Short to B+ in Rear Pretensioner Squib RH Circuit

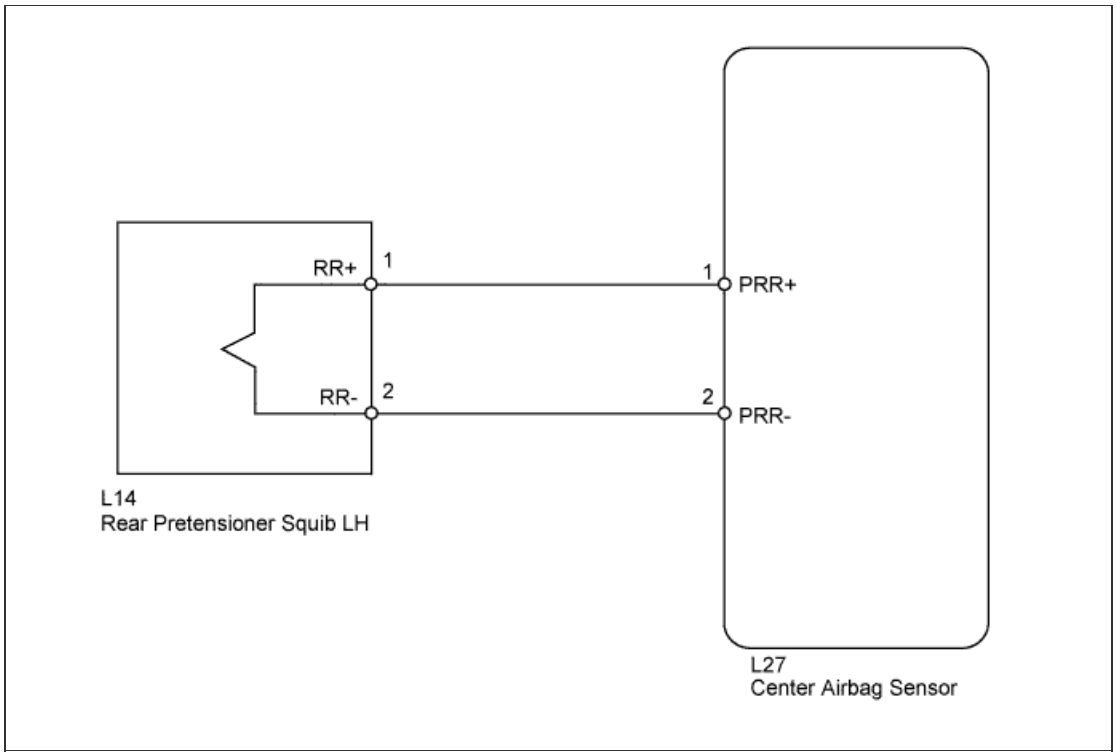
**for Preparation** Click here

### DESCRIPTION

The rear pretensioner squib RH circuit consists of the center airbag sensor and the rear seat outer belt RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
Theses DTCs are stored when a malfunction is detected in the rear pretensioner squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1920/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear pretensioner squib RH circuit during the primary check.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1921/77 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear pretensioner squib RH circuit for 2 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1922/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear pretensioner squib RH circuit for 0.5 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1923/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear pretensioner squib RH circuit for 0.5 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here ).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT OUTER BELT RH (REAR PRETENSIONER SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the rear seat outer belt RH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

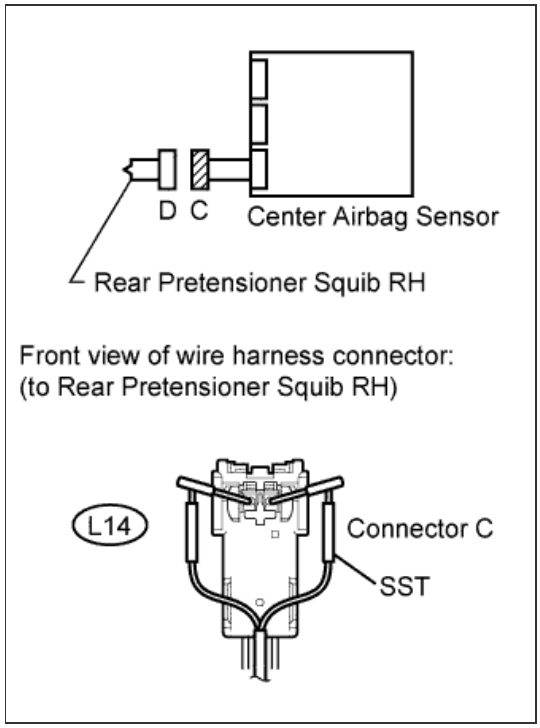
Never connect the tester to the rear seat outer belt RH (rear pretensioner squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs stored in the memory ( Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1920, B1921, B1922 or B1923 is not output.**

**HINT:**

Codes other than DTC B1920, B1921, B1922 and B1923 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE REAR SEAT OUTER BELT ASSEMBLY RH ( Click here)

## 2.CHECK CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the rear seat outer belt RH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (REAR PRETENSIONER SQUIB RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 90 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - Body ground | Ignition switch ON | Below 1 V |
| L14-2 (RR-) - Body ground | Ignition switch ON | Below 1 V |

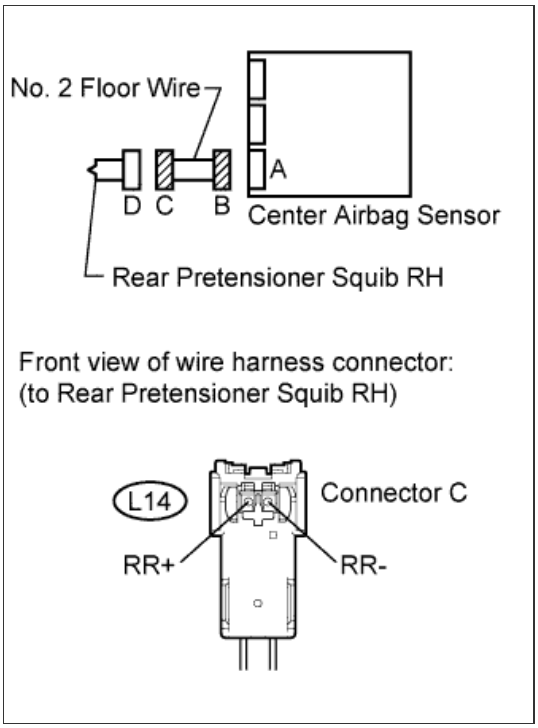
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - L14-2 (RR-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - L14-2 (RR-) | Always | 1 MΩ or higher |
| L14-1 (RR+) - Body ground | Always | 1 MΩ or higher |
| L14-2 (RR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat outer belt RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 90 seconds.

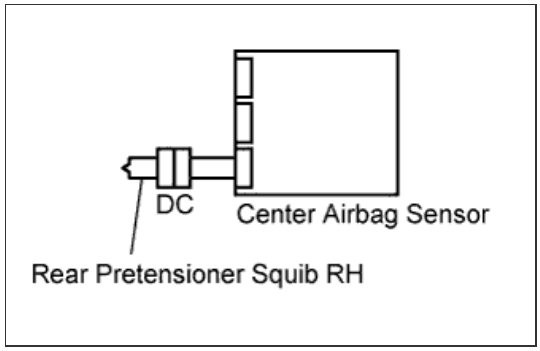
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1920, B1921, B1922 or B1923 is not output.**

**HINT:**

Codes other than DTC B1920, B1921, B1922 and B1923 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1815/54 Short in Front Passenger Side Squib 2nd Step Circuit

## DTC B1816/54 Open in Front Passenger Side Squib 2nd Step Circuit

## DTC B1817/54 Short to GND in Front Passenger Side Squib 2nd Step Circuit

## DTC B1818/54 Short to B+ in Front Passenger Side Squib 2nd Step Circuit

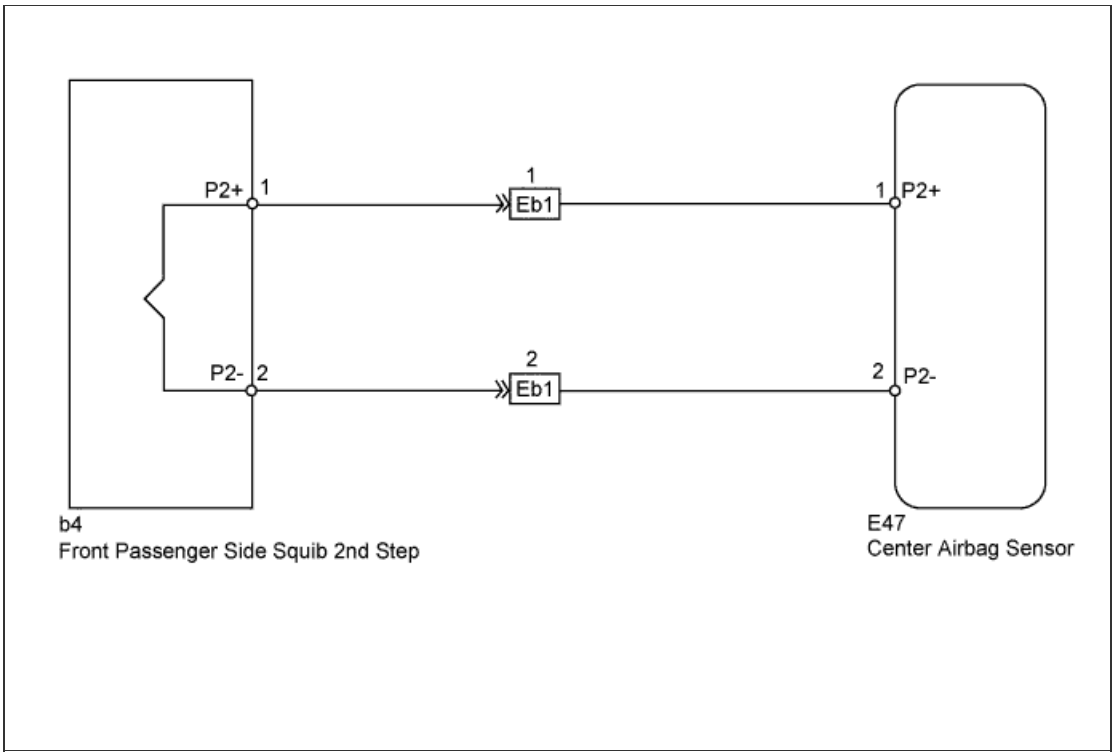
**for Preparation** Click here

### DESCRIPTION

The front passenger side squib 2nd step circuit consists of the center airbag sensor and the front passenger airbag.
The circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the front passenger side squib 2nd step circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1815/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the front passenger side squib 2nd step circuit during the primary check.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1816/54 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the front passenger side squib 2nd step circuit for 2 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1817/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the front passenger side squib 2nd step circuit for 0.5 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |
| B1818/54 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the front passenger side squib 2nd step circuit for 0.5 seconds.<br>• A front passenger side squib 2nd step malfunction.<br>• A center airbag sensor malfunction. | • Instrument panel wire<br>• Instrument panel wire assembly<br>• Front passenger airbag assembly (Front passenger side squib 2nd step)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

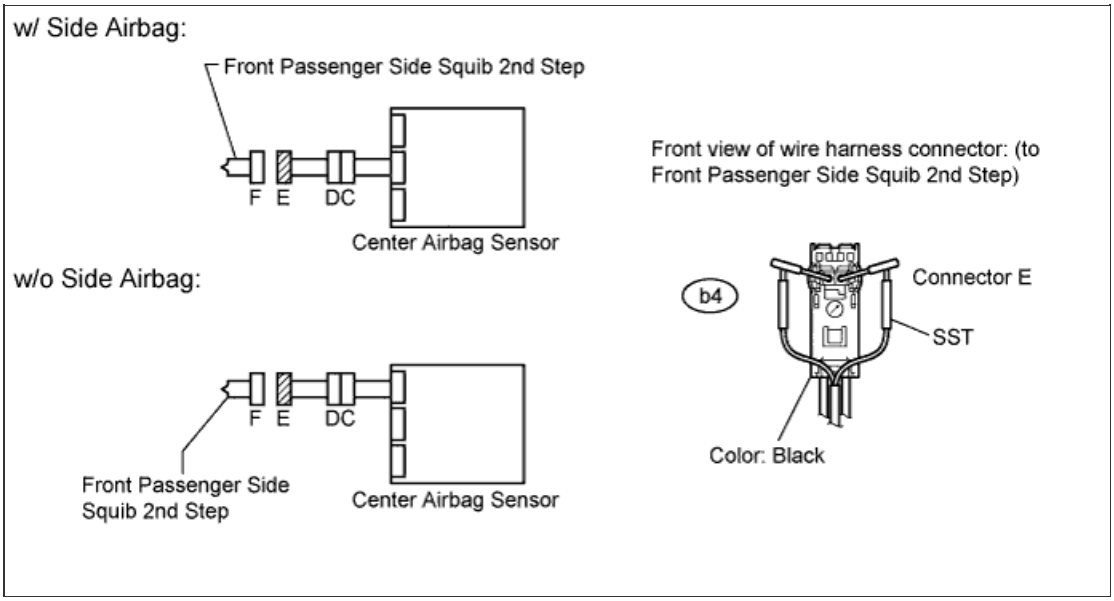
- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT PASSENGER AIRBAG (FRONT PASSENGER SIDE SQUIB 2ND STEP)

a. Turn the ignition switch off.




b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the front passenger airbag.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector E (black connector).

**CAUTION:**

Never connect the tester to the front passenger airbag (front passenger side squib 2nd step) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*
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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1815, B1816, B1817 or B1818 is not output.**

**HINT:**

Codes other than DTC B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK ↓

REPLACE FRONT PASSENGER AIRBAG ASSEMBLY (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector E.

d. Check that the instrument panel wire connectors (on the front passenger airbag side) are not damaged.

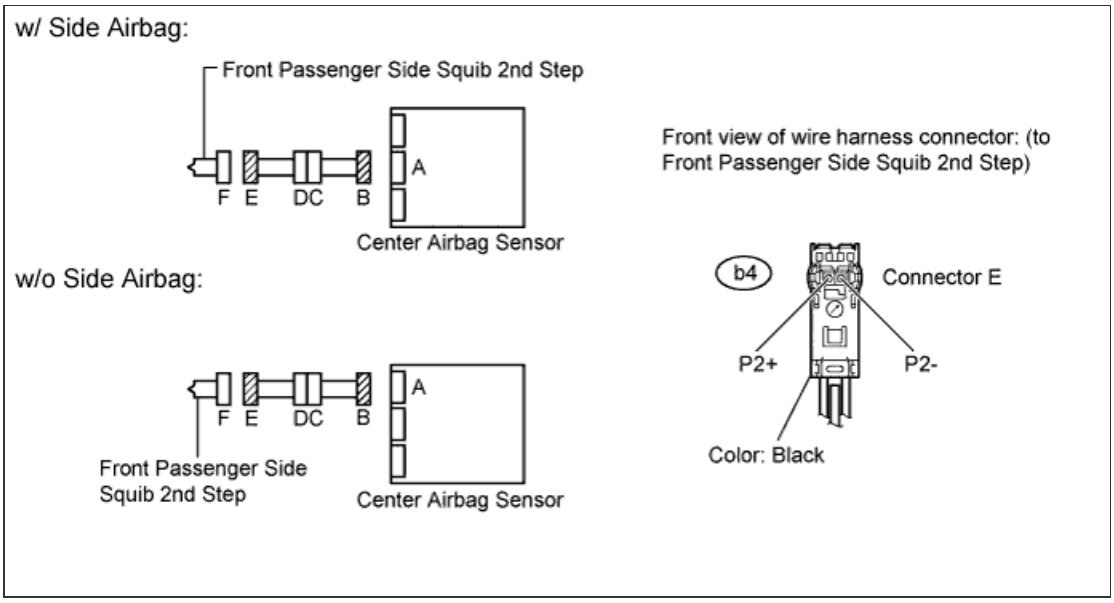
**OK:**
**The lock button is not disengaged, and the claw of the lock is not damaged or deformed.**

NG → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

OK ↓

## 3.CHECK FRONT PASSENGER SIDE SQUIB 2ND STEP CIRCUIT

a. Disconnect the connectors from the center airbag sensor.




b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - Body ground | Ignition switch ON | Below 1 V |
| b4-2 (P2-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - b4-2 (P2-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| b4-1 (P2+) - b4-2 (P2-) | Always | 1 MΩ or higher |
| b4-1 (P2+) - Body ground | Always | 1 MΩ or higher |
| b4-2 (P2-) - Body ground | Always | 1 MΩ or higher |

NG → Go to step 5

OK

## 4.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front passenger airbag and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

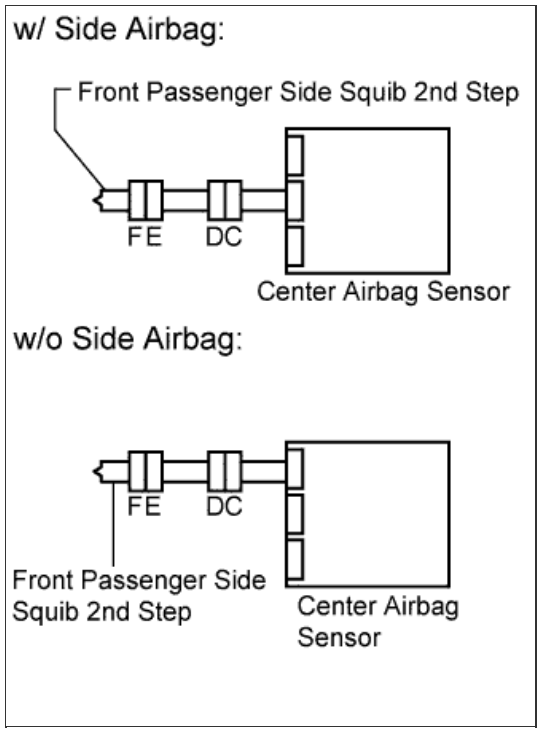
g. Check for DTCs (Click here).

**OK:**

**DTC B1815, B1816, B1817 or B1818 is not output.**

**HINT:**

Codes other than DTC B1815, B1816, B1817 and B1818 may be output at this time, but they are not related to this check.

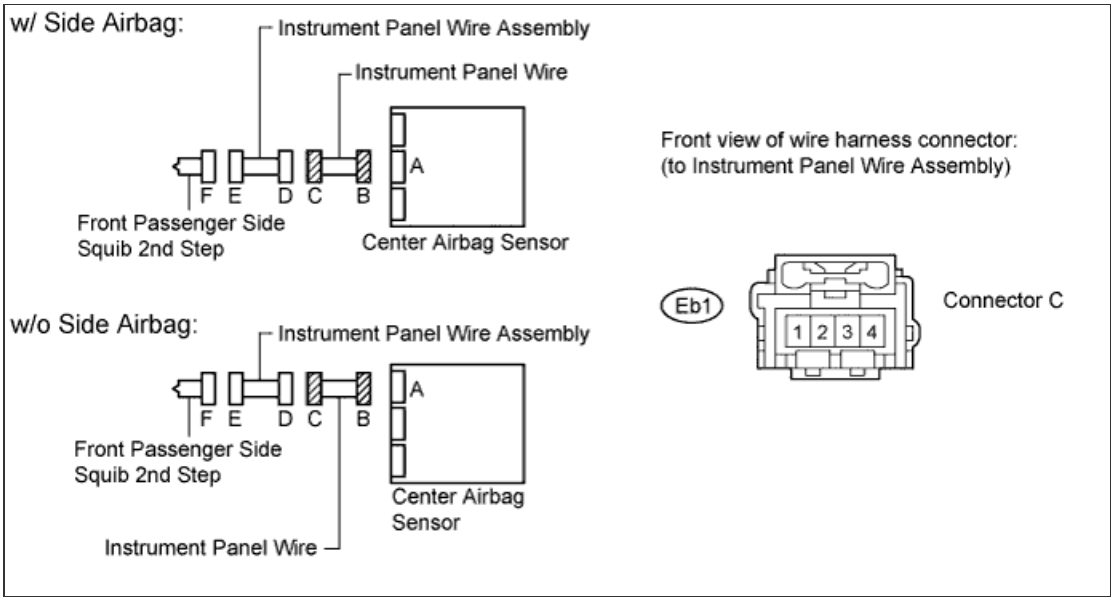



NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK → USE SIMULATION METHOD TO CHECK (Click here)

## 5.CHECK INSTRUMENT PANEL WIRE (CENTER AIRBAG SENSOR - INSTRUMENT PANEL WIRE ASSEMBLY)

a. Restore the released activation prevention mechanism of connector B to its original condition.




b. Disconnect the instrument panel wire connector from the instrument panel wire assembly.

c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Body ground | Ignition switch ON | Below 1 V |
| | | |

| | | |
|---|---|---|
| Eb1-2 - Body ground | Ignition switch ON | Below 1 V |

e. Turn the ignition switch off.

f. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

g. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Eb1-2 | Always | Below 1 Ω |

h. Release the activation prevention mechanism built into connector B ( Click here).

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Eb1-1 - Eb1-2 | Always | 1 MΩ or higher |
| Eb1-1 - Body ground | Always | 1 MΩ or higher |
| Eb1-2 - Body ground | Always | 1 MΩ or higher |

NG → REPLACE INSTRUMENT PANEL WIRE

OK → REPLACE INSTRUMENT PANEL WIRE ASSEMBLY

## DTC B1920/77 Short in Rear Pretensioner Squib RH Circuit

## DTC B1921/77 Open in Rear Pretensioner Squib RH Circuit

## DTC B1922/77 Short to GND in Rear Pretensioner Squib RH Circuit

## DTC B1923/77 Short to B+ in Rear Pretensioner Squib RH Circuit

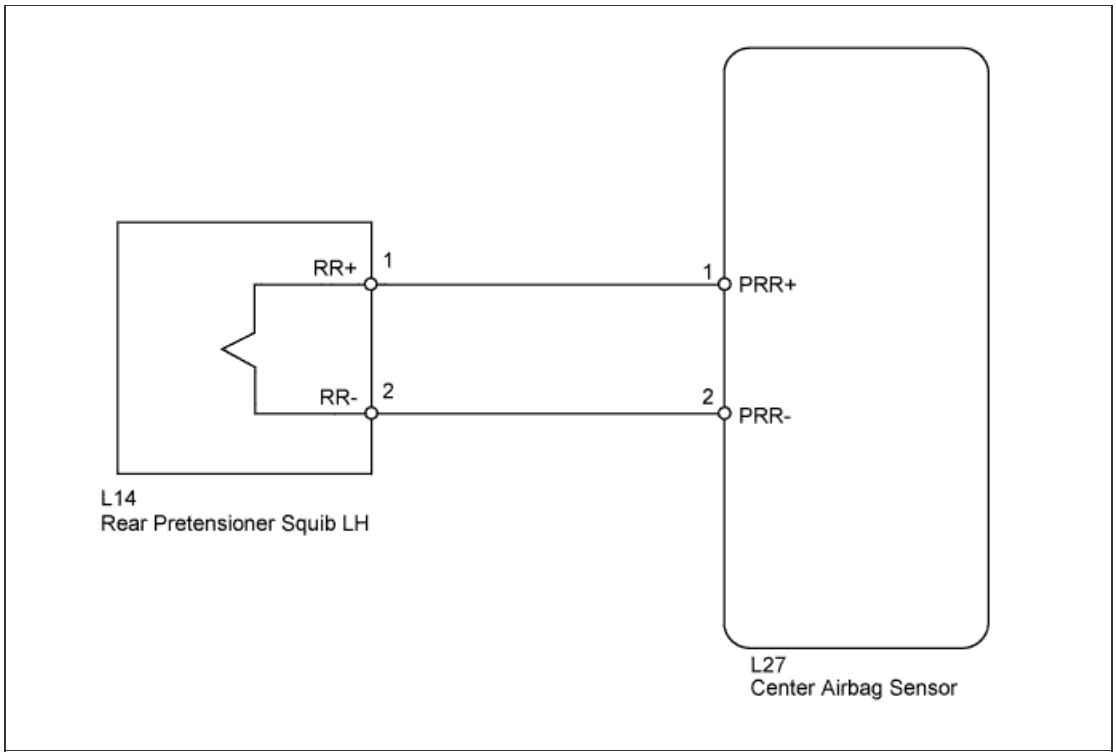
**for Preparation** Click here

### DESCRIPTION

The rear pretensioner squib RH circuit consists of the center airbag sensor and the rear seat outer belt RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
Theses DTCs are stored when a malfunction is detected in the rear pretensioner squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1920/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear pretensioner squib RH circuit during the primary check.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1921/77 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear pretensioner squib RH circuit for 2 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1922/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear pretensioner squib RH circuit for 0.5 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |
| B1923/77 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear pretensioner squib RH circuit for 0.5 seconds.<br>• A rear pretensioner squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Rear seat outer belt assembly RH (Rear pretensioner squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here ).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT OUTER BELT RH (REAR PRETENSIONER SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the rear seat outer belt RH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

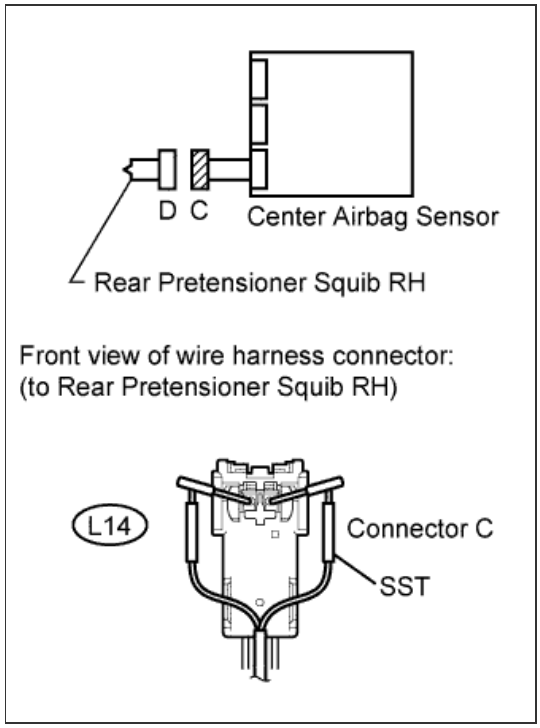
Never connect the tester to the rear seat outer belt RH (rear pretensioner squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs stored in the memory ( Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1920, B1921, B1922 or B1923 is not output.**

**HINT:**

Codes other than DTC B1920, B1921, B1922 and B1923 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE REAR SEAT OUTER BELT ASSEMBLY RH ( Click here)

## 2.CHECK CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the No. 2 floor wire connector (on the rear seat outer belt RH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not deformed or damaged.**

NG → REPLACE NO. 2 FLOOR WIRE

OK →

## 3.CHECK NO. 2 FLOOR WIRE (REAR PRETENSIONER SQUIB RH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 90 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - Body ground | Ignition switch ON | Below 1 V |
| L14-2 (RR-) - Body ground | Ignition switch ON | Below 1 V |

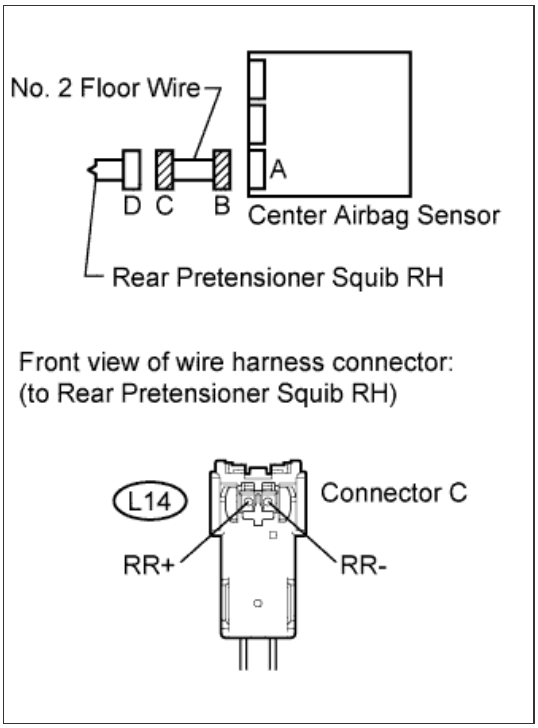
d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - L14-2 (RR-) | Always | Below 1 Ω |




g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L14-1 (RR+) - L14-2 (RR-) | Always | 1 MΩ or higher |
| L14-1 (RR+) - Body ground | Always | 1 MΩ or higher |
| L14-2 (RR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat outer belt RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 90 seconds.

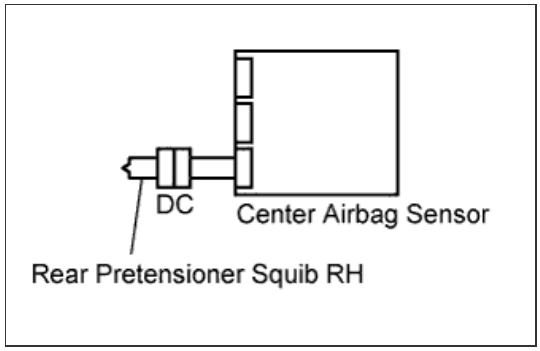
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs stored in the memory (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1920, B1921, B1922 or B1923 is not output.**

**HINT:**

Codes other than DTC B1920, B1921, B1922 and B1923 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1820/55 Short in Side Squib RH Circuit

## DTC B1821/55 Open in Side Squib RH Circuit

## DTC B1822/55 Short to GND in Side Squib RH Circuit

## DTC B1823/55 Short to B+ in Side Squib RH Circuit

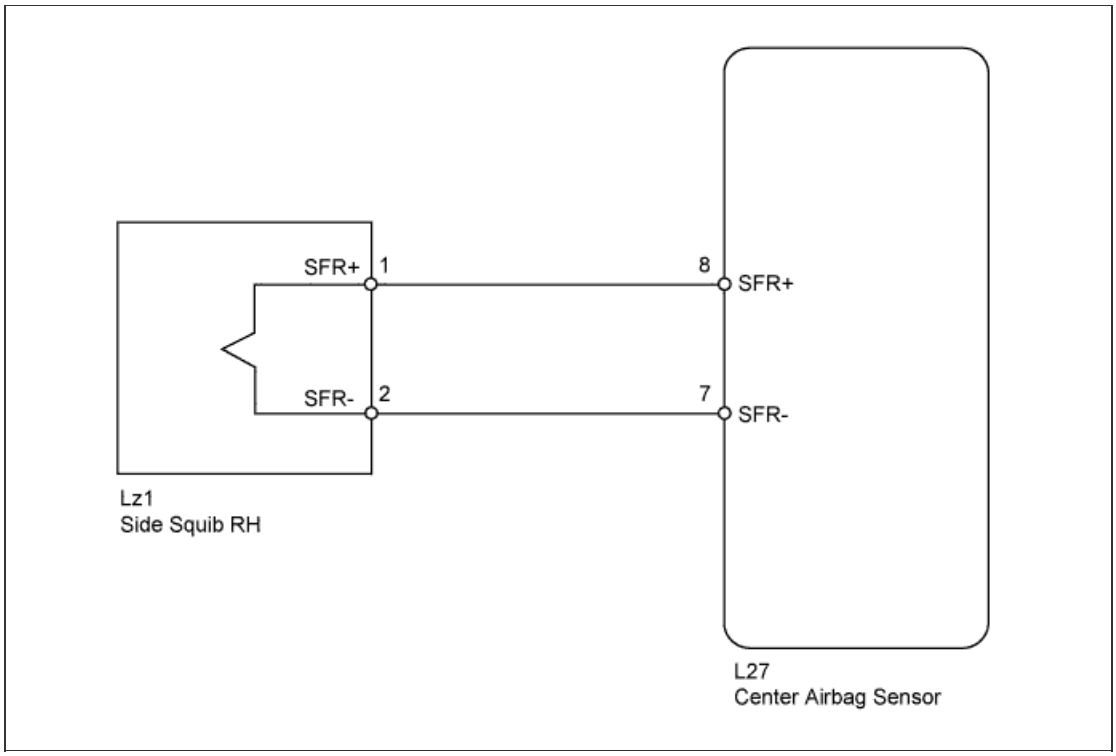
**for Preparation** Click here

### DESCRIPTION

The side squib RH circuit consists of the center airbag sensor and the front seat airbag RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the side squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1820/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the side squib RH circuit during the primary check.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1821/55 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the side squib RH circuit for 2 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1822/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the side squib RH circuit for 0.5 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1823/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the side squib RH circuit for 0.5 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT SEAT AIRBAG RH (SIDE SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front seat airbag RH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

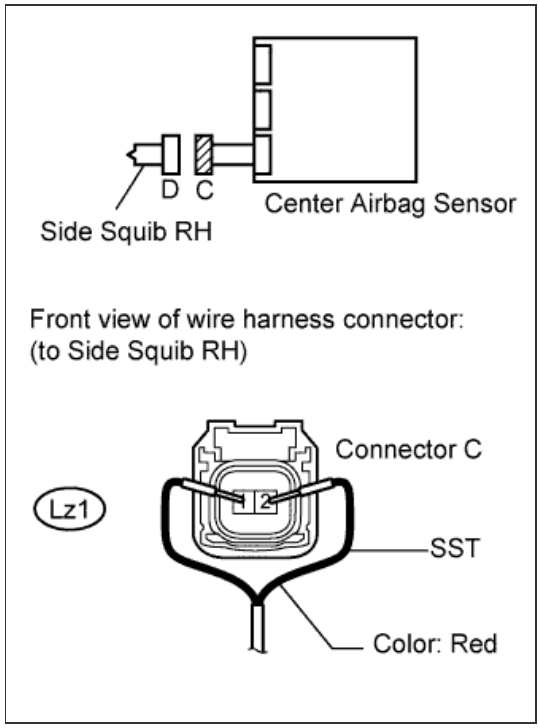
Never connect the tester to the front seat airbag RH (side squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1820, B1821, B1822 or B1823 is not output.**

**HINT:**

Codes other than DTC B1820, B1821, B1822 and B1823 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for Manual Seat) | A |
| OK (for Power Seat) | B |
| NG | C |

B → REPLACE FRONT SEAT AIRBAG ASSEMBLY RH ( Click here)

C → Go to step 2

A → REPLACE FRONT SEAT AIRBAG ASSEMBLY RH ( Click here)

## 2.CHECK NO. 2 FLOOR WIRE (SIDE SQUIB RH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

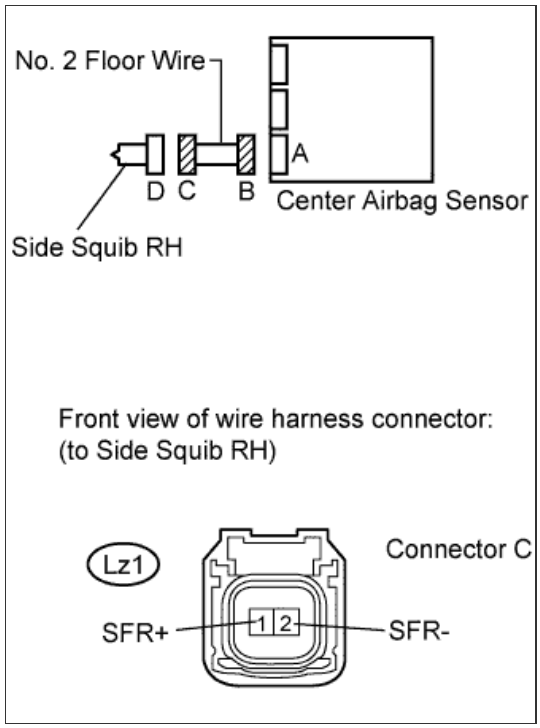
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Body ground | Ignition switch ON | Below 1 V |
| Lz1-2 (SFR-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Lz1-2 (SFR-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Lz1-2 (SFR-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| Lz1-1 (SFR+) - Body ground | Always | 1 MΩ or higher |
| Lz1-2 (SFR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

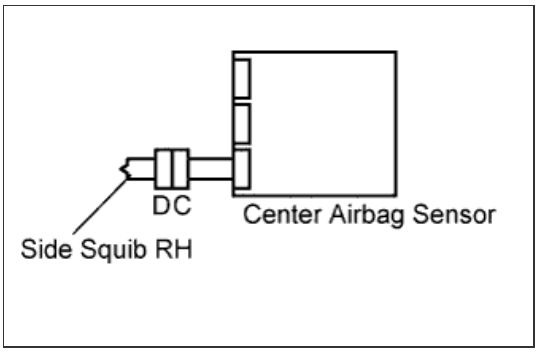
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1820, B1821, B1822 or B1823 is not output.**

**HINT:**

Codes other than DTC B1820, B1821, B1822 and B1823 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1925/78 Short in Rear Pretensioner Squib LH Circuit

## DTC B1926/78 Open in Rear Pretensioner Squib LH Circuit

## DTC B1927/78 Short to GND in Rear Pretensioner Squib LH Circuit

## DTC B1928/78 Short to B+ in Rear Pretensioner Squib LH Circuit

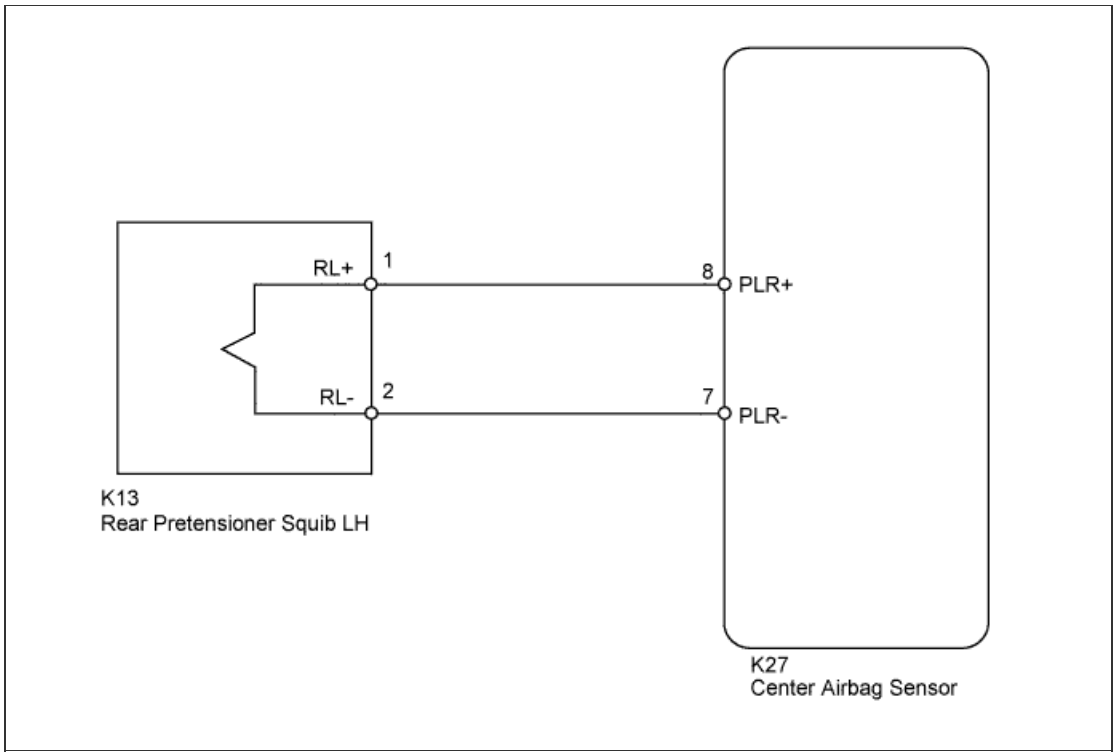
**for Preparation** Click here

### DESCRIPTION

The rear pretensioner squib LH circuit consists of the center airbag sensor and the rear seat outer belt LH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear pretensioner squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1925/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear pretensioner squib LH circuit during the primary check.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1926/78 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear pretensioner squib LH circuit for 2 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1927/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear pretensioner squib LH circuit for 0.5 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1928/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear pretensioner squib LH circuit for 0.5 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (rear pretensioner squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT OUTER BELT LH (REAR PRETENSIONER SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the rear seat outer belt LH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

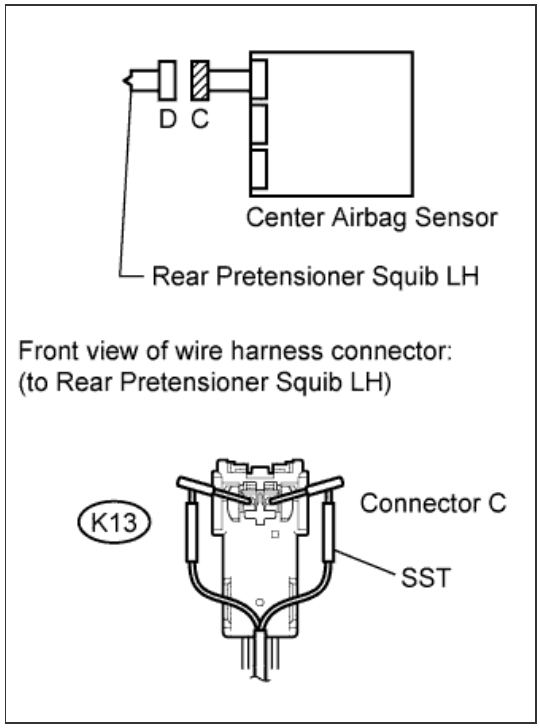
Never connect the tester to the rear seat outer belt LH (rear pretensioner squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1925, B1926, B1927 or B1928 is not output.**

**HINT:**

Codes other than DTC B1925, B1926, B1927 and B1928 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE REAR SEAT OUTER BELT ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connector (on the rear seat outer belt LH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not damaged or deformed.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (REAR PRETENSIONER SQUIB LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - Body ground | Ignition switch ON | Below 1 V |
| K13-2 (RL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

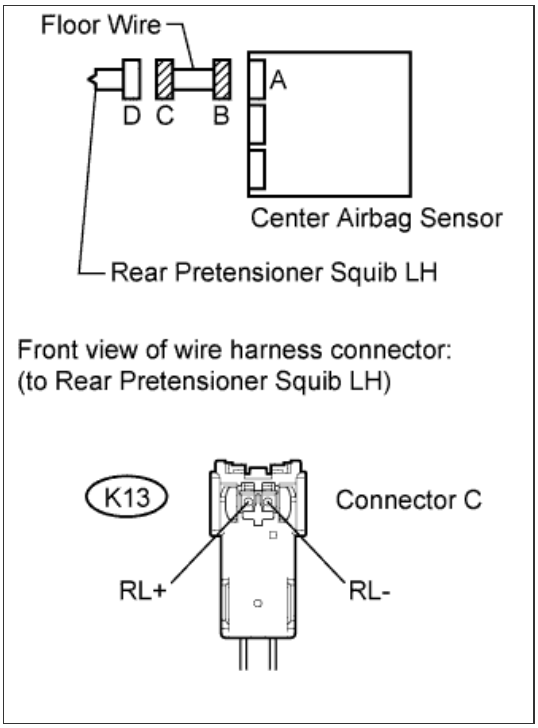
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - K13-2 (RL-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**



| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - K13-2 (RL-) | Always | 1 MΩ or higher |
| K13-1 (RL+) - Body ground | Always | 1 MΩ or higher |
| K13-2 (RL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat outer belt LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

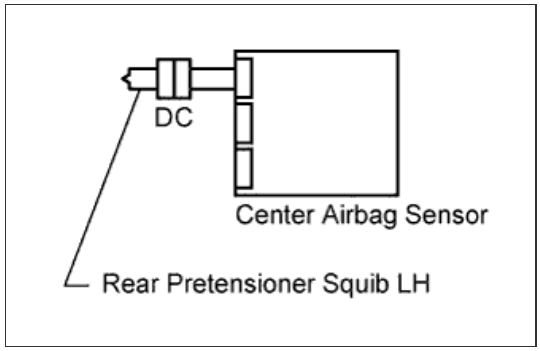
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1925, B1926, B1927 or B1928 is not output.**

**HINT:**

Codes other than DTC B1925, B1926, B1927 or B1928 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1820/55 Short in Side Squib RH Circuit

## DTC B1821/55 Open in Side Squib RH Circuit

## DTC B1822/55 Short to GND in Side Squib RH Circuit

## DTC B1823/55 Short to B+ in Side Squib RH Circuit

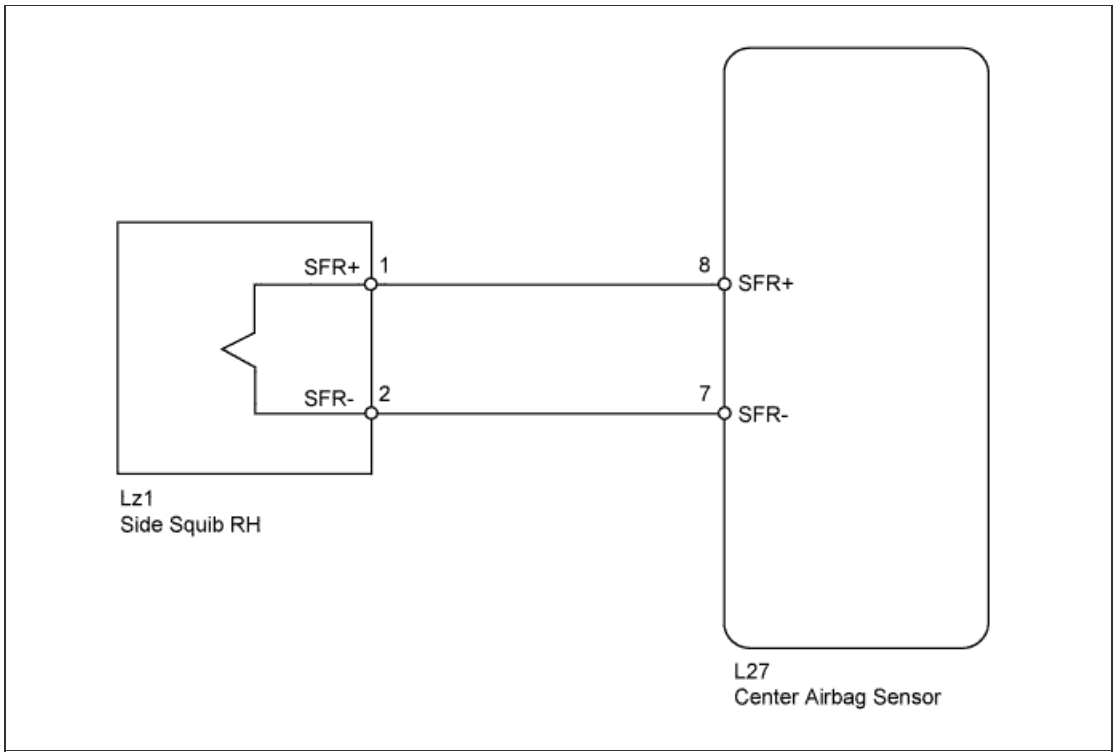
**for Preparation** Click here

### DESCRIPTION

The side squib RH circuit consists of the center airbag sensor and the front seat airbag RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the side squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1820/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the side squib RH circuit during the primary check.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1821/55 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the side squib RH circuit for 2 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1822/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the side squib RH circuit for 0.5 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1823/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the side squib RH circuit for 0.5 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT SEAT AIRBAG RH (SIDE SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front seat airbag RH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

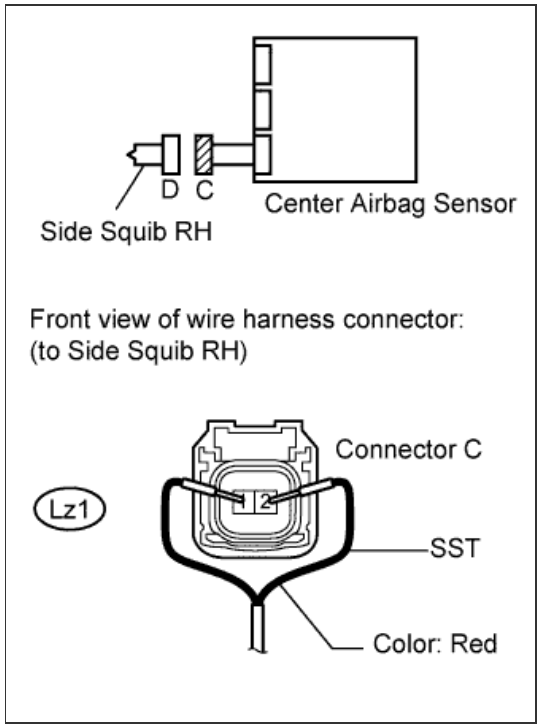
Never connect the tester to the front seat airbag RH (side squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1820, B1821, B1822 or B1823 is not output.**

**HINT:**

Codes other than DTC B1820, B1821, B1822 and B1823 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for Manual Seat) | A |
| OK (for Power Seat) | B |
| NG | C |

B → REPLACE FRONT SEAT AIRBAG ASSEMBLY RH ( Click here)

C → Go to step 2

A → REPLACE FRONT SEAT AIRBAG ASSEMBLY RH ( Click here)

## 2.CHECK NO. 2 FLOOR WIRE (SIDE SQUIB RH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

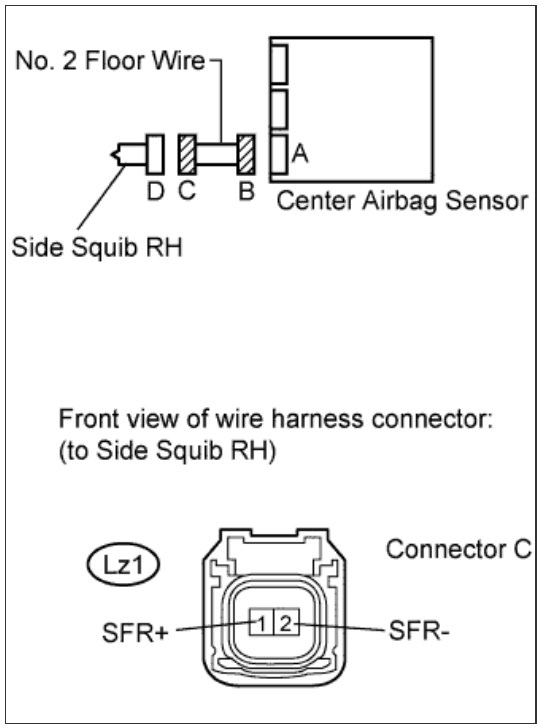
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Body ground | Ignition switch ON | Below 1 V |
| Lz1-2 (SFR-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Lz1-2 (SFR-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Lz1-2 (SFR-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| Lz1-1 (SFR+) - Body ground | Always | 1 MΩ or higher |
| Lz1-2 (SFR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

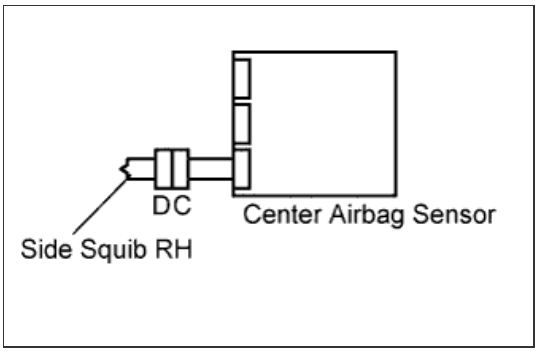
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1820, B1821, B1822 or B1823 is not output.**

**HINT:**

Codes other than DTC B1820, B1821, B1822 and B1823 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1925/78 Short in Rear Pretensioner Squib LH Circuit

## DTC B1926/78 Open in Rear Pretensioner Squib LH Circuit

## DTC B1927/78 Short to GND in Rear Pretensioner Squib LH Circuit

## DTC B1928/78 Short to B+ in Rear Pretensioner Squib LH Circuit

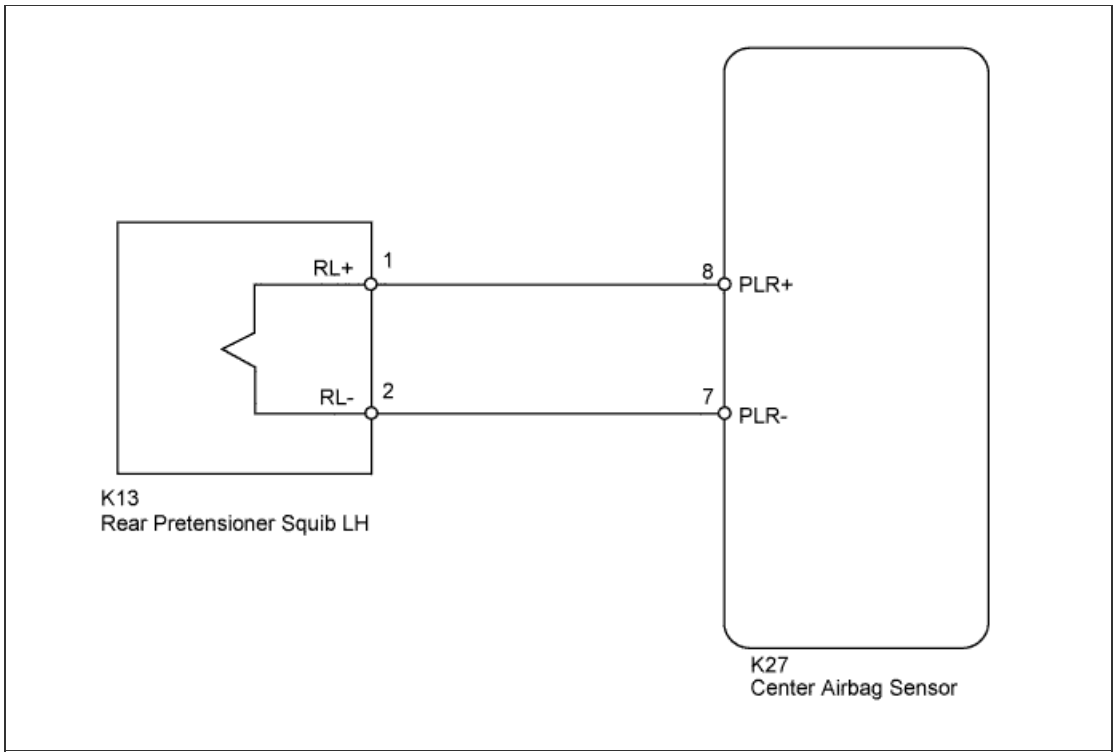
**for Preparation** Click here

### DESCRIPTION

The rear pretensioner squib LH circuit consists of the center airbag sensor and the rear seat outer belt LH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear pretensioner squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1925/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear pretensioner squib LH circuit during the primary check.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1926/78 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear pretensioner squib LH circuit for 2 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1927/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear pretensioner squib LH circuit for 0.5 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1928/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear pretensioner squib LH circuit for 0.5 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (rear pretensioner squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT OUTER BELT LH (REAR PRETENSIONER SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the rear seat outer belt LH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

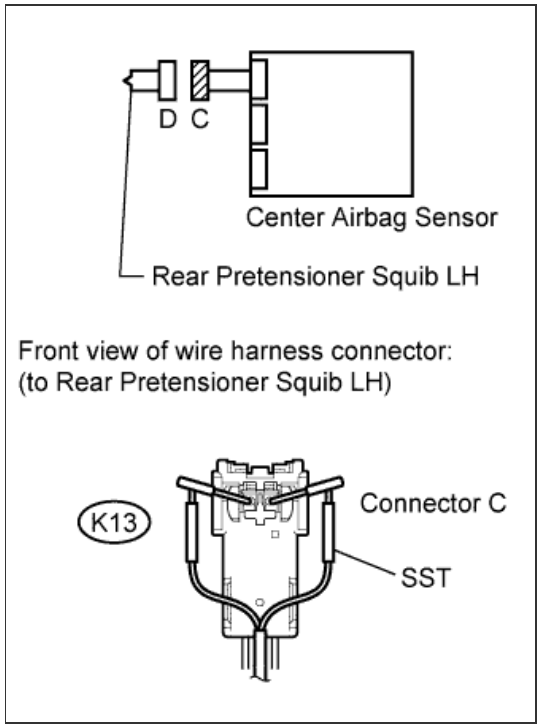
Never connect the tester to the rear seat outer belt LH (rear pretensioner squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1925, B1926, B1927 or B1928 is not output.**

**HINT:**

Codes other than DTC B1925, B1926, B1927 and B1928 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE REAR SEAT OUTER BELT ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connector (on the rear seat outer belt LH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not damaged or deformed.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (REAR PRETENSIONER SQUIB LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - Body ground | Ignition switch ON | Below 1 V |
| K13-2 (RL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

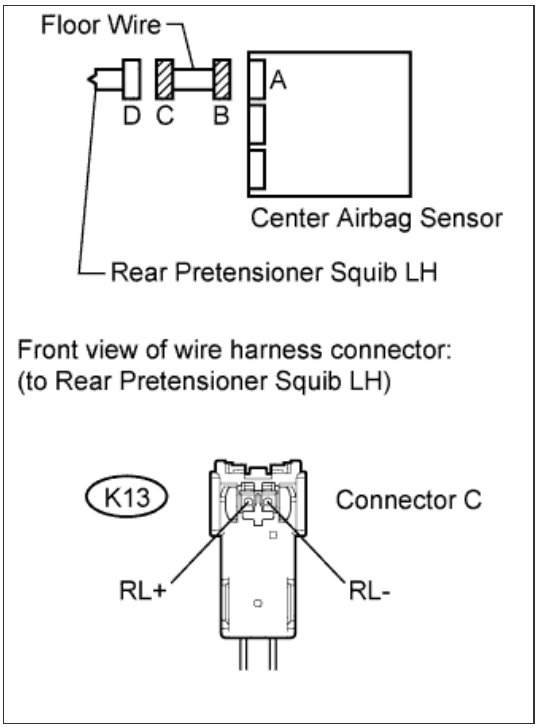
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - K13-2 (RL-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**



| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - K13-2 (RL-) | Always | 1 MΩ or higher |
| K13-1 (RL+) - Body ground | Always | 1 MΩ or higher |
| K13-2 (RL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat outer belt LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

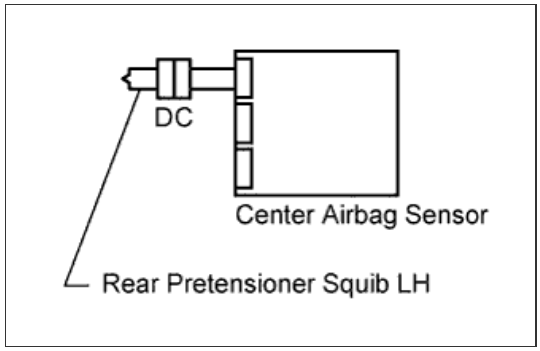
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1925, B1926, B1927 or B1928 is not output.**

**HINT:**

Codes other than DTC B1925, B1926, B1927 or B1928 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1820/55 Short in Side Squib RH Circuit

## DTC B1821/55 Open in Side Squib RH Circuit

## DTC B1822/55 Short to GND in Side Squib RH Circuit

## DTC B1823/55 Short to B+ in Side Squib RH Circuit

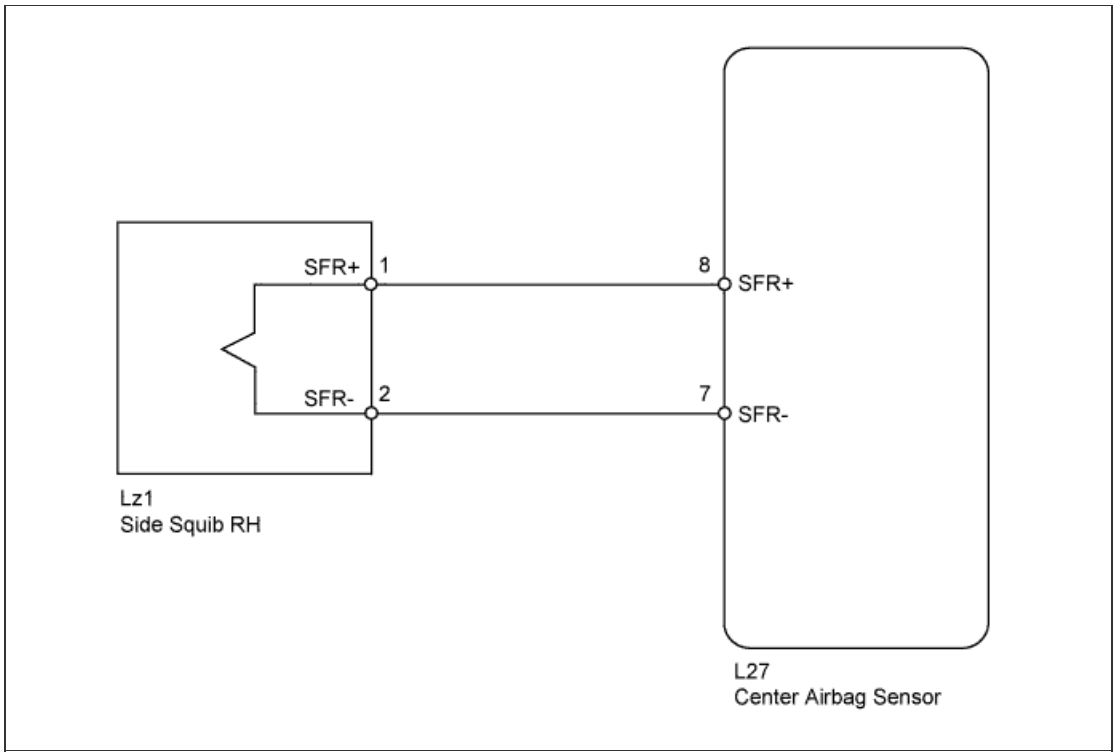
**for Preparation** Click here

### DESCRIPTION

The side squib RH circuit consists of the center airbag sensor and the front seat airbag RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the side squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1820/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the side squib RH circuit during the primary check.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1821/55 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the side squib RH circuit for 2 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1822/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the side squib RH circuit for 0.5 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1823/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the side squib RH circuit for 0.5 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT SEAT AIRBAG RH (SIDE SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front seat airbag RH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

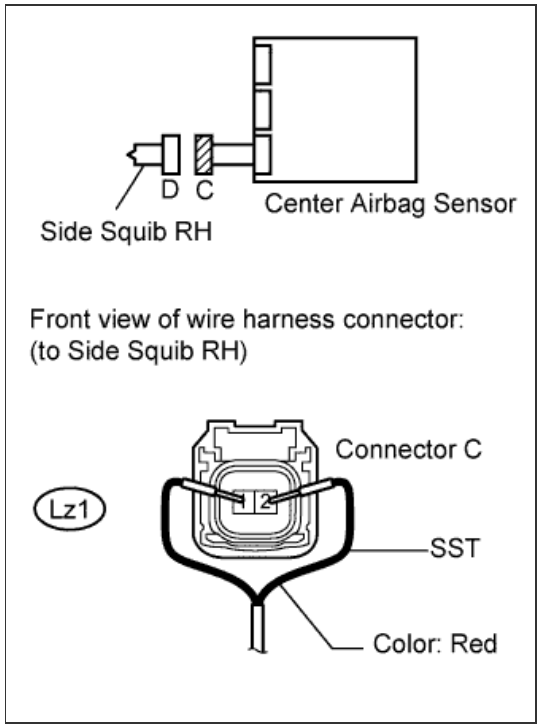
Never connect the tester to the front seat airbag RH (side squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1820, B1821, B1822 or B1823 is not output.**

**HINT:**

Codes other than DTC B1820, B1821, B1822 and B1823 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for Manual Seat) | A |
| OK (for Power Seat) | B |
| NG | C |

B → REPLACE FRONT SEAT AIRBAG ASSEMBLY RH ( Click here)

C → Go to step 2

A → REPLACE FRONT SEAT AIRBAG ASSEMBLY RH ( Click here)

## 2.CHECK NO. 2 FLOOR WIRE (SIDE SQUIB RH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

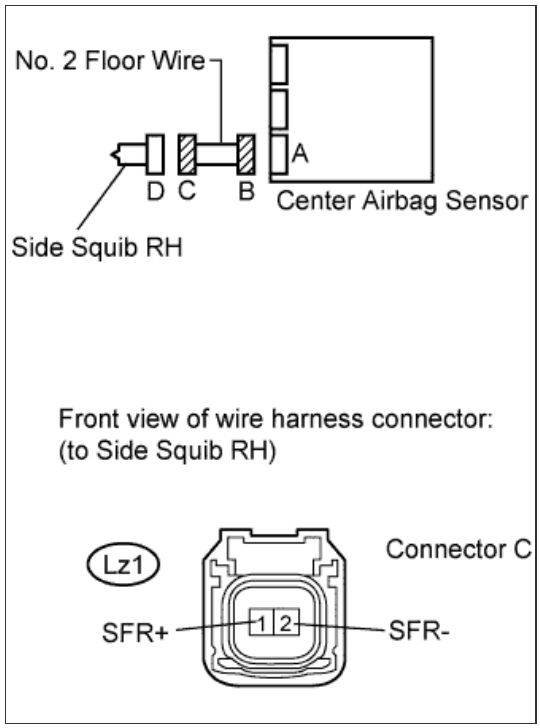
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Body ground | Ignition switch ON | Below 1 V |
| Lz1-2 (SFR-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Lz1-2 (SFR-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Lz1-2 (SFR-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| Lz1-1 (SFR+) - Body ground | Always | 1 MΩ or higher |
| Lz1-2 (SFR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

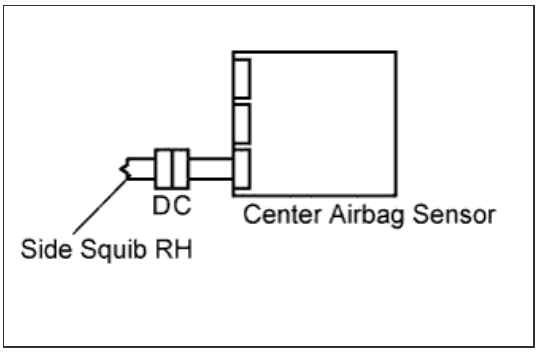
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1820, B1821, B1822 or B1823 is not output.**

**HINT:**

Codes other than DTC B1820, B1821, B1822 and B1823 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1925/78 Short in Rear Pretensioner Squib LH Circuit

## DTC B1926/78 Open in Rear Pretensioner Squib LH Circuit

## DTC B1927/78 Short to GND in Rear Pretensioner Squib LH Circuit

## DTC B1928/78 Short to B+ in Rear Pretensioner Squib LH Circuit

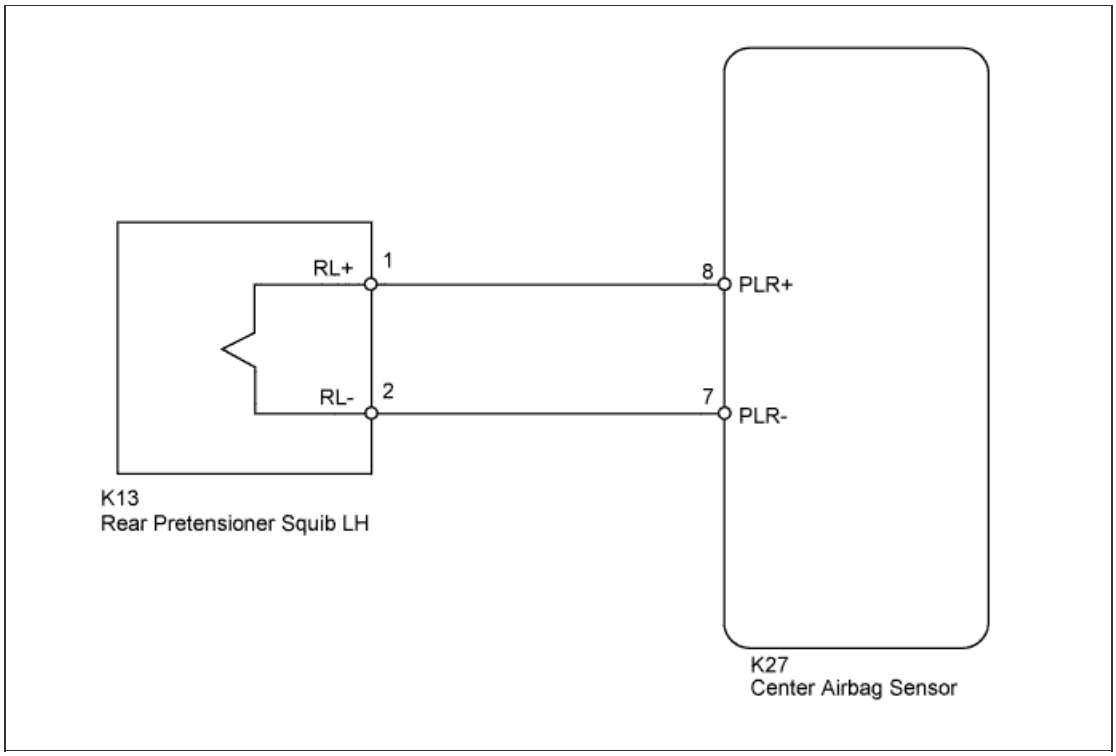
**for Preparation** Click here

### DESCRIPTION

The rear pretensioner squib LH circuit consists of the center airbag sensor and the rear seat outer belt LH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear pretensioner squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1925/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear pretensioner squib LH circuit during the primary check.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1926/78 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear pretensioner squib LH circuit for 2 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1927/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear pretensioner squib LH circuit for 0.5 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1928/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear pretensioner squib LH circuit for 0.5 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (rear pretensioner squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT OUTER BELT LH (REAR PRETENSIONER SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the rear seat outer belt LH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

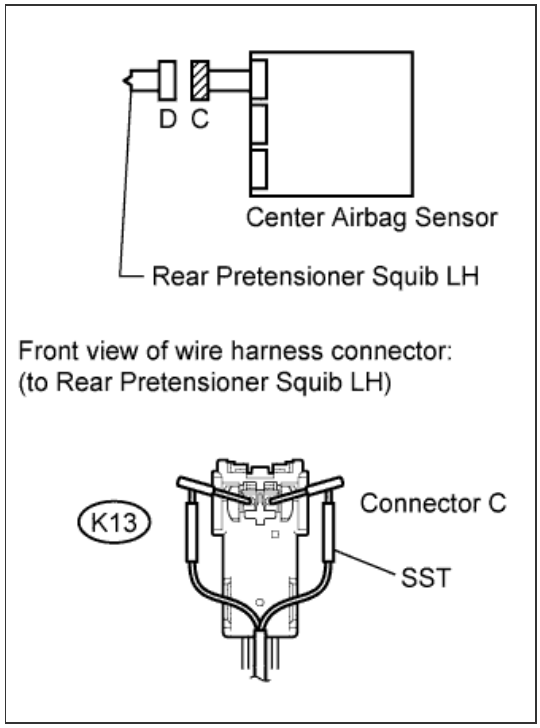
Never connect the tester to the rear seat outer belt LH (rear pretensioner squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1925, B1926, B1927 or B1928 is not output.**

**HINT:**

Codes other than DTC B1925, B1926, B1927 and B1928 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE REAR SEAT OUTER BELT ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connector (on the rear seat outer belt LH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not damaged or deformed.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (REAR PRETENSIONER SQUIB LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - Body ground | Ignition switch ON | Below 1 V |
| K13-2 (RL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

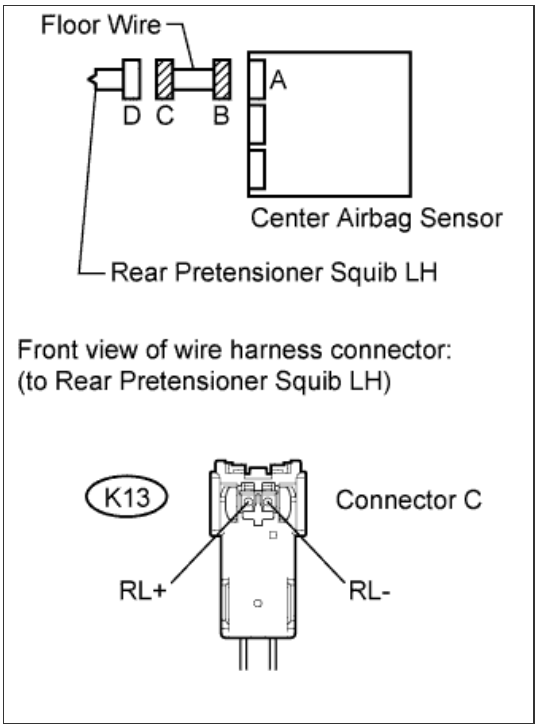
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - K13-2 (RL-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**



| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - K13-2 (RL-) | Always | 1 MΩ or higher |
| K13-1 (RL+) - Body ground | Always | 1 MΩ or higher |
| K13-2 (RL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat outer belt LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

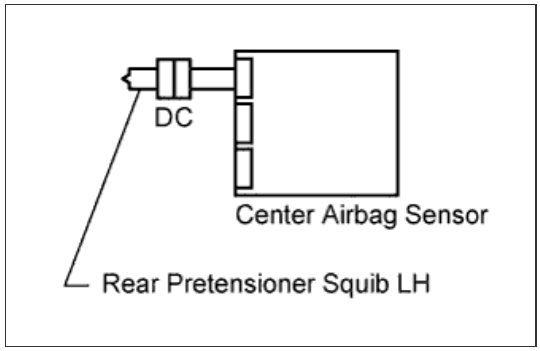
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1925, B1926, B1927 or B1928 is not output.**

**HINT:**

Codes other than DTC B1925, B1926, B1927 or B1928 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B1820/55 Short in Side Squib RH Circuit

## DTC B1821/55 Open in Side Squib RH Circuit

## DTC B1822/55 Short to GND in Side Squib RH Circuit

## DTC B1823/55 Short to B+ in Side Squib RH Circuit

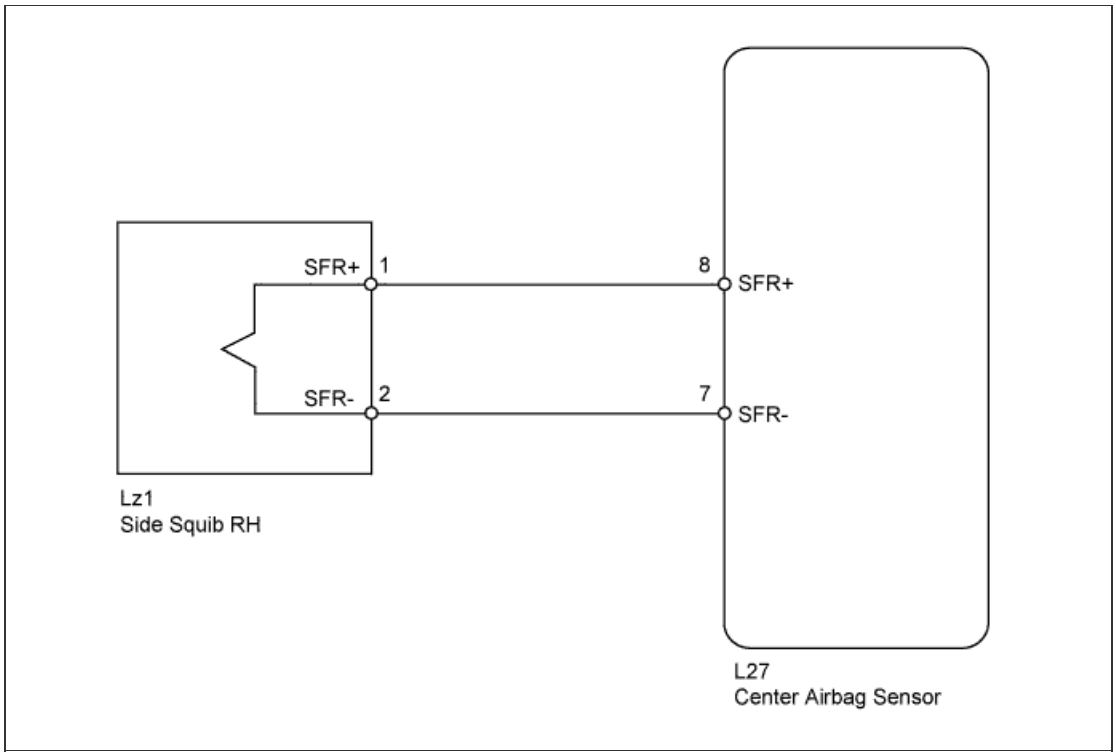
**for Preparation** Click here

### DESCRIPTION

The side squib RH circuit consists of the center airbag sensor and the front seat airbag RH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the side squib RH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1820/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the side squib RH circuit during the primary check.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1821/55 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the side squib RH circuit for 2 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1822/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the side squib RH circuit for 0.5 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |
| B1823/55 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the side squib RH circuit for 0.5 seconds.<br>• A side squib RH malfunction.<br>• A center airbag sensor malfunction. | • No. 2 floor wire<br>• Front seat airbag assembly RH (Side squib RH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK FRONT SEAT AIRBAG RH (SIDE SQUIB RH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connector from the front seat airbag RH.

d. Connect the red wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

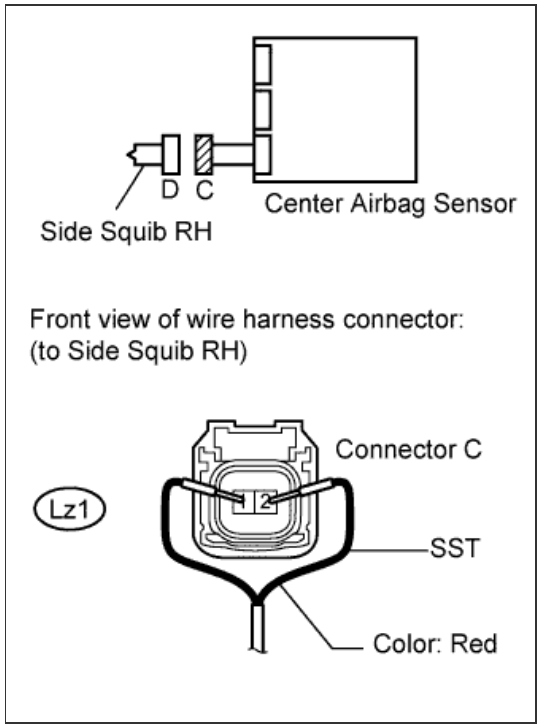
Never connect the tester to the front seat airbag RH (side squib RH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

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e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**

**DTC B1820, B1821, B1822 or B1823 is not output.**

**HINT:**

Codes other than DTC B1820, B1821, B1822 and B1823 may be output at this time, but they are not related to this check.

**Result**

| Result | Proceed to |
|---|---|
| OK (for Manual Seat) | A |
| OK (for Power Seat) | B |
| NG | C |

B → REPLACE FRONT SEAT AIRBAG ASSEMBLY RH ( Click here)

C → Go to step 2

A → REPLACE FRONT SEAT AIRBAG ASSEMBLY RH ( Click here)

## 2.CHECK NO. 2 FLOOR WIRE (SIDE SQUIB RH CIRCUIT)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

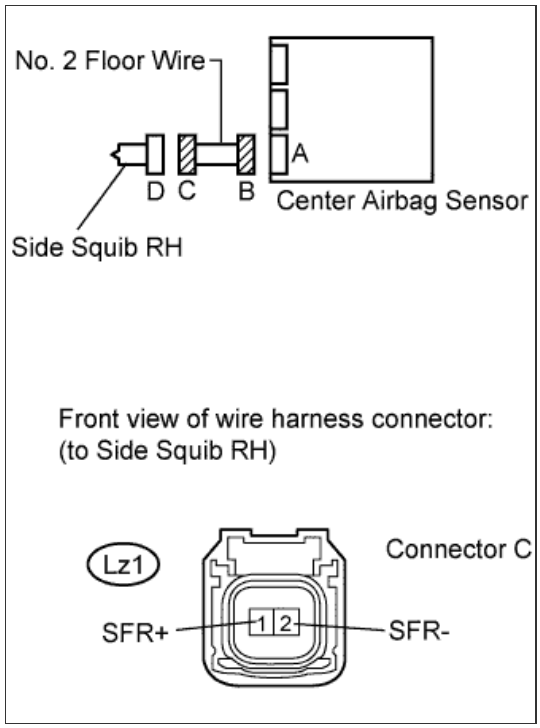
d. Disconnect the connectors from the center airbag sensor.

e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Body ground | Ignition switch ON | Below 1 V |
| Lz1-2 (SFR-) - Body ground | Ignition switch ON | Below 1 V |




g. Turn the ignition switch off.

h. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Lz1-2 (SFR-) | Always | Below 1 Ω |

j. Release the activation prevention mechanism built into connector B ( Click here).

k. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Lz1-1 (SFR+) - Lz1-2 (SFR-) | Always | 1 MΩ or higher |

| | | |
|---|---|---|
| Lz1-1 (SFR+) - Body ground | Always | 1 MΩ or higher |
| Lz1-2 (SFR-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE NO. 2 FLOOR WIRE

OK

3.CHECK CENTER AIRBAG SENSOR

a. Connect the connectors to the front seat airbag RH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

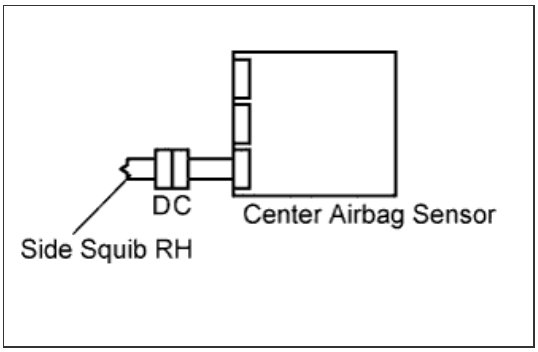
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**

**DTC B1820, B1821, B1822 or B1823 is not output.**

**HINT:**

Codes other than DTC B1820, B1821, B1822 and B1823 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (**Click here**)

OK

USE SIMULATION METHOD TO CHECK (**Click here**)

## DTC B1925/78 Short in Rear Pretensioner Squib LH Circuit

## DTC B1926/78 Open in Rear Pretensioner Squib LH Circuit

## DTC B1927/78 Short to GND in Rear Pretensioner Squib LH Circuit

## DTC B1928/78 Short to B+ in Rear Pretensioner Squib LH Circuit

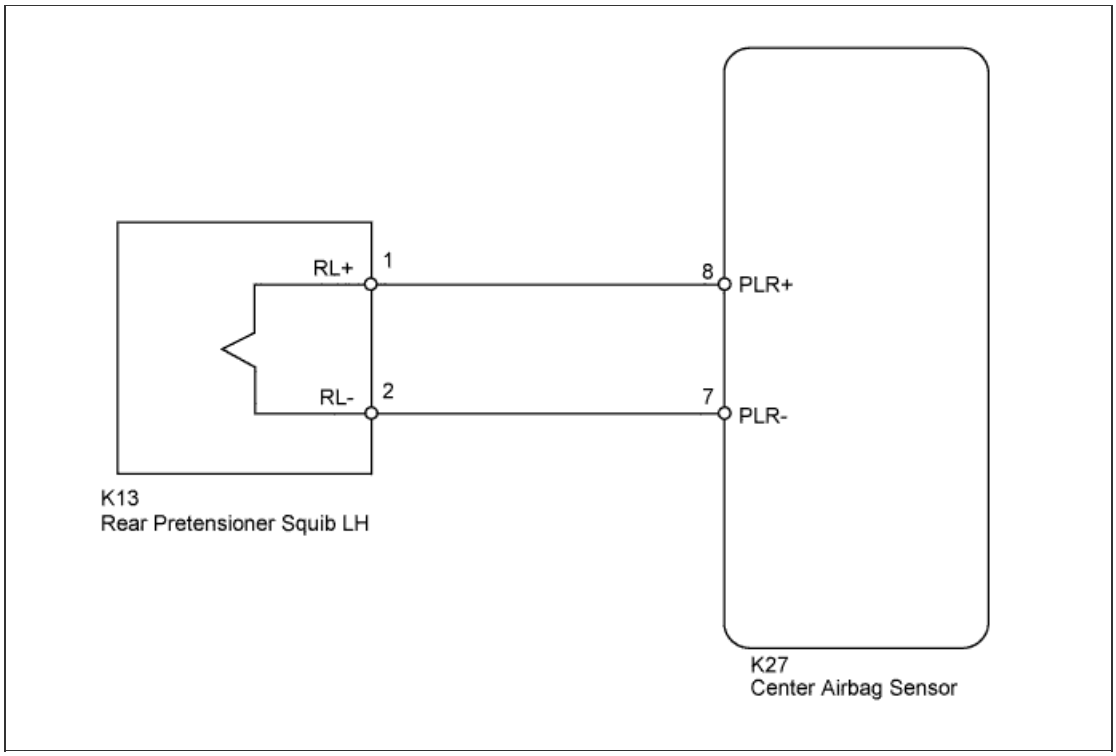
**for Preparation** Click here

### DESCRIPTION

The rear pretensioner squib LH circuit consists of the center airbag sensor and the rear seat outer belt LH.
This circuit instructs the SRS to deploy when deployment conditions are met.
These DTCs are stored when a malfunction is detected in the rear pretensioner squib LH circuit.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1925/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a line short circuit signal 5 times in the rear pretensioner squib LH circuit during the primary check.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1926/78 | When one of the following conditions is met:<br>• The center airbag sensor receives an open circuit signal in the rear pretensioner squib LH circuit for 2 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1927/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to ground signal in the rear pretensioner squib LH circuit for 0.5 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (Rear pretensioner squib LH)<br>• Center airbag sensor assembly |
| B1928/78 | When one of the following conditions is met:<br>• The center airbag sensor receives a short circuit to B+ signal in the rear pretensioner squib LH circuit for 0.5 seconds.<br>• A rear pretensioner squib LH malfunction.<br>• A center airbag sensor malfunction. | • Floor wire<br>• Rear seat outer belt assembly LH (rear pretensioner squib LH)<br>• Center airbag sensor assembly |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

To perform the simulation method, enter the check mode (signal check) with the intelligent tester ( Click here), and then wiggle each connector of the airbag system or drive the vehicle on various type of road (Click here).

### 1.CHECK REAR SEAT OUTER BELT LH (REAR PRETENSIONER SQUIB LH)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the connectors from the rear seat outer belt LH.

d. Connect the white wire side of SST (resistance: 2.1 Ω) to connector C.

**CAUTION:**

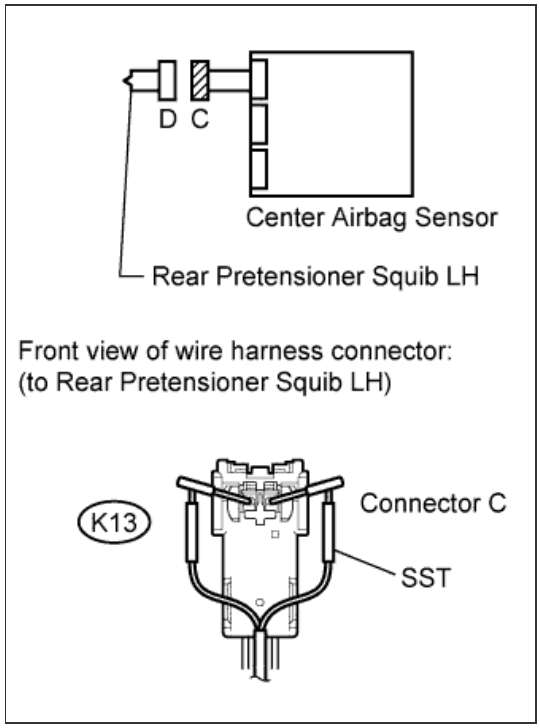
Never connect the tester to the rear seat outer belt LH (rear pretensioner squib LH) for measurement, as this may lead to a serious injury due to airbag deployment.

**NOTICE:**

- **Do not forcibly insert SST into the terminals of the connector when connecting SST.**
- **Insert SST straight into the terminals of the connector.**

*SST*

09843-18061




e. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Clear the DTCs (Click here).

h. Turn the ignition switch off.

i. Turn the ignition switch to ON, and wait for at least 60 seconds.

j. Check for DTCs (Click here).

**OK:**
**DTC B1925, B1926, B1927 or B1928 is not output.**

**HINT:**

Codes other than DTC B1925, B1926, B1927 and B1928 may be output at this time, but they are not related to this check.

NG → Go to step 2

OK →

REPLACE REAR SEAT OUTER BELT ASSEMBLY LH (Click here)

## 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect SST from connector C.

d. Check that the floor wire connector (on the rear seat outer belt LH side) is not damaged.

**OK:**
**The lock button is not disengaged, and the claw of the lock is not damaged or deformed.**

NG → REPLACE FLOOR WIRE

OK →

## 3.CHECK FLOOR WIRE (REAR PRETENSIONER SQUIB LH CIRCUIT)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - Body ground | Ignition switch ON | Below 1 V |
| K13-2 (RL-) - Body ground | Ignition switch ON | Below 1 V |

d. Turn the ignition switch off.

e. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

f. Measure the resistance according to the value(s) in the table below.

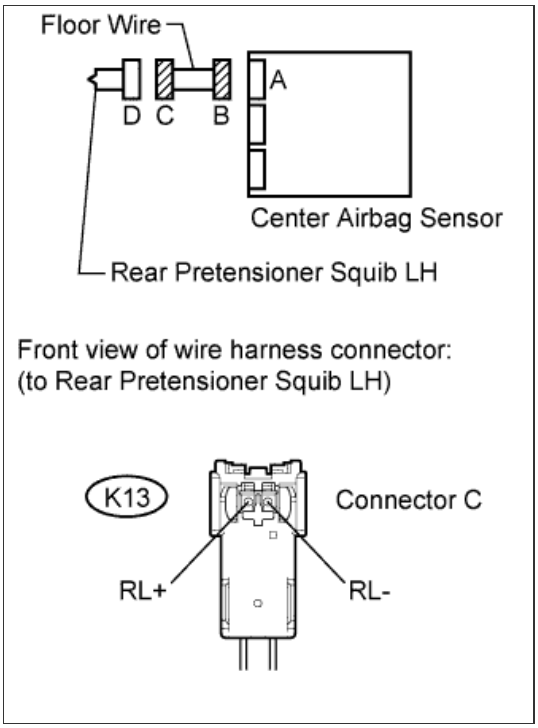
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - K13-2 (RL-) | Always | Below 1 Ω |

g. Release the activation prevention mechanism built into connector B ( Click here).

h. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**



| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K13-1 (RL+) - K13-2 (RL-) | Always | 1 MΩ or higher |
| K13-1 (RL+) - Body ground | Always | 1 MΩ or higher |
| K13-2 (RL-) - Body ground | Always | 1 MΩ or higher |

NG → REPLACE FLOOR WIRE

OK

**4.CHECK CENTER AIRBAG SENSOR**

a. Connect the connectors to the rear seat outer belt LH and the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

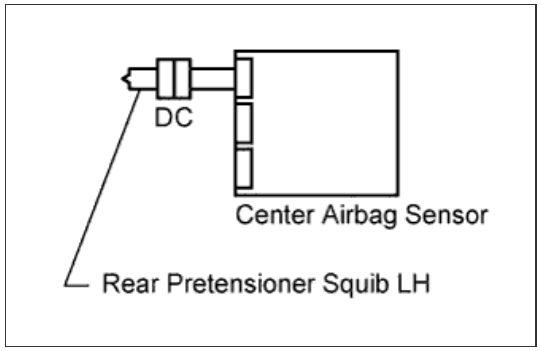
c. Turn the ignition switch to ON, and wait for at least 60 seconds.

d. Clear the DTCs (Click here).

e. Turn the ignition switch off.

f. Turn the ignition switch to ON, and wait for at least 60 seconds.

g. Check for DTCs (Click here).




**OK:**
**DTC B1925, B1926, B1927 or B1928 is not output.**

**HINT:**

Codes other than DTC B1925, B1926, B1927 or B1928 may be output at this time, but they are not related to this check.

NG → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

OK

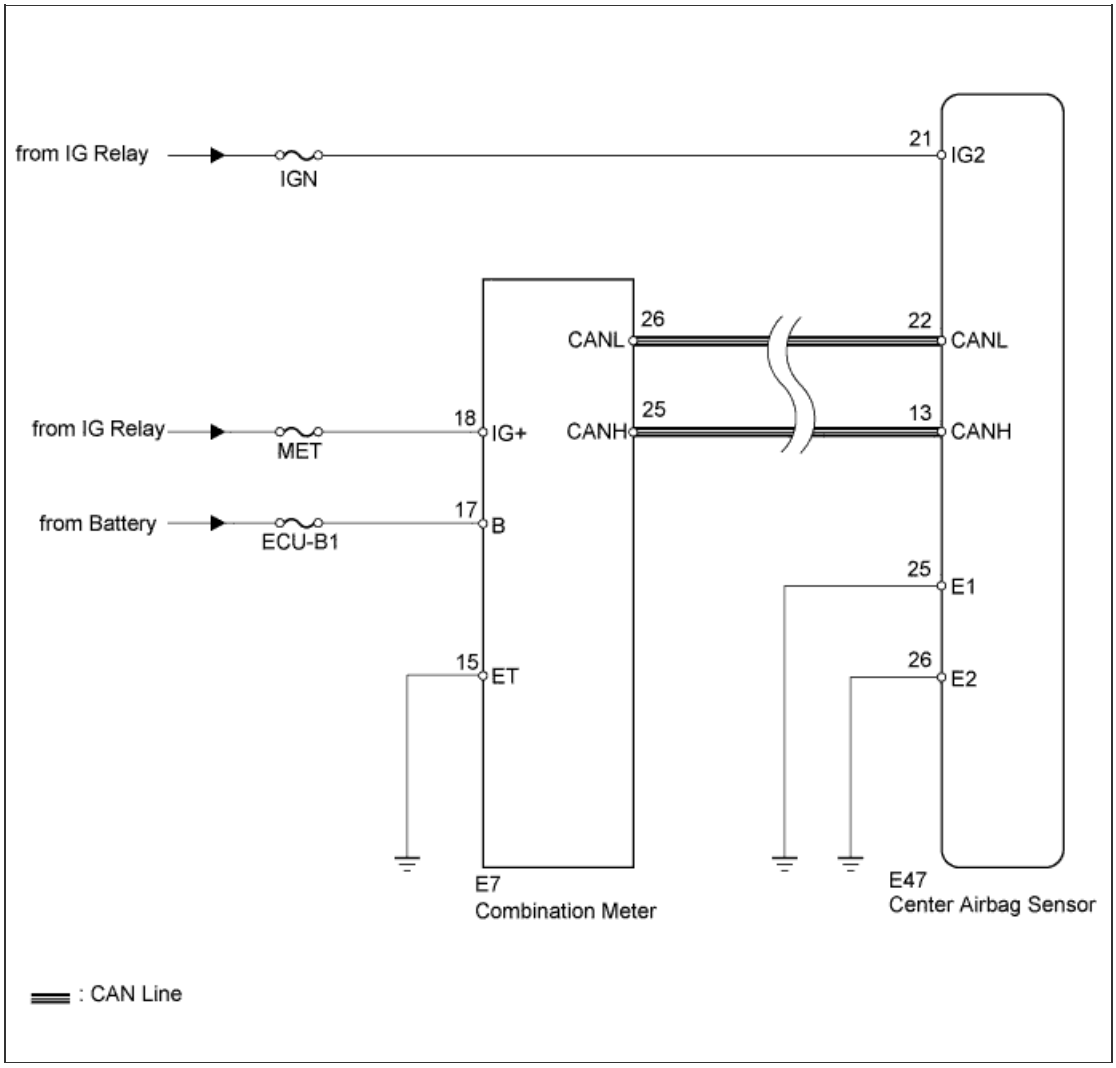
USE SIMULATION METHOD TO CHECK (Click here)

**for Preparation** Click here

## DESCRIPTION

The SRS warning light is located on the combination meter.
When the SRS is normal, the SRS warning light comes on for approximately 6 seconds after the ignition switch is turned from off to ON, and then goes off automatically.
If there is a malfunction in the SRS, the SRS warning light comes on to inform the driver of a problem.
When terminals TC and CG of the DLC3 are connected, DTCs are output by the blinking of the SRS warning light.
The SRS is equipped with a voltage-increase circuit (DC-DC converter) in the center airbag sensor in case the source voltage drops.
When the battery voltage drops, the voltage-increase circuit (DC-DC converter) functions to increase the voltage of the SRS to normal voltage.
A malfunction in this circuit is not recorded in the center airbag sensor. The SRS warning light automatically goes off when the source voltage returns to normal.
The signal to illuminate the SRS warning light is transmitted from the center airbag sensor to the combination meter through the CAN communication system.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check if a CAN communication DTC is output.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTCs are output (for LHD) | B |
| DTCs are output (for RHD) | C |

B → REPAIR CIRCUITS INDICATED BY OUTPUT DTCS (Click here)

C → REPAIR CIRCUITS INDICATED BY OUTPUT DTCS (Click here)

A

## 2.CHECK BATTERY

a. Measure the voltage of the battery.

**Standard Voltage:**
**11 to 14 V**

NG → REPLACE OR RECHARGE BATTERY (Click here)

OK

## 3.CHECK CONNECTORS

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the center airbag sensor and combination meter.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTORS PROPERLY

OK

## 4.CHECK HARNESS AND CONNECTOR (SOURCE VOLTAGE OF CENTER AIRBAG SENSOR)

a. Disconnect the connectors from the center airbag sensor.

b. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

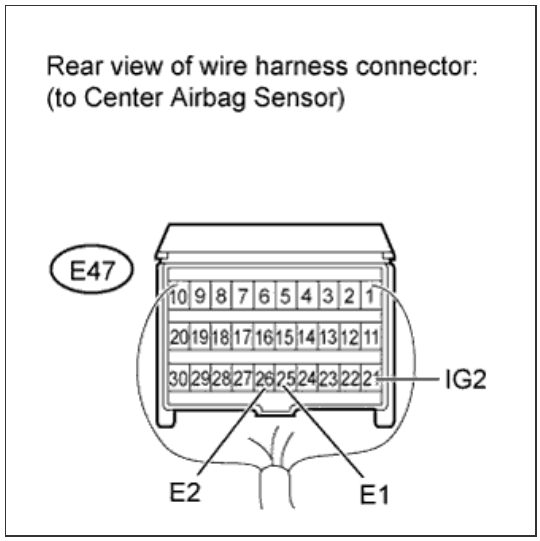
c. Turn the ignition switch to ON.

d. Operate all the components of the electrical system (defogger, wipers, headlights, heater blower, etc.).

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-21 (IG2) - E47-25 (E1) | Ignition switch ON | 11 to 14 V |
| E47-21 (IG2) - E47-26 (E2) | Ignition switch ON | 11 to 14 V |




NG → REPLACE INSTRUMENT PANEL WIRE

OK

5.CHECK HARNESS AND CONNECTOR (SOURCE VOLTAGE OF COMBINATION METER)

a. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

b. Disconnect the E7 connector from the combination meter.

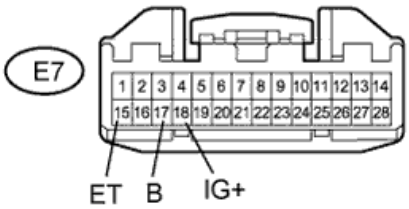
c. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E7-17 (B) - E7-15 (ET) | Always | 11 to 14 V |
| E7-18 (IG+) - E7-17 (B) | Ignition switch ON | 11 to 14 V |

Front view of wire harness connector:
(to Combination Meter)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6.CHECK SRS WARNING LIGHT (SHORT TO GROUND)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Connect the connector to the combination meter.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON.

f. Check the SRS warning light condition.

**NOTICE:**

Make sure that nobody is in the vehicle.

**OK:**

**After the primary check period, the SRS warning light goes off for approximately 10 seconds and then remains on.**

**HINT:**

The primary check period is approximately 6 seconds after the ignition switch is turned to ON.

NG → GO TO METER / GAUGE SYSTEM (Click here)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

Refer to "SRS Warning Light Remains ON" (Click here).

## WIRING DIAGRAM

Refer to "SRS Warning Light Remains ON" (Click here).

## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK BATTERY

a. Measure the voltage of the battery.

**Standard Voltage:**
**11 to 14 V**

NG → REPLACE OR RECHARGE BATTERY

OK

### 2.CHECK CONNECTOR

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Check that the connectors are properly connected to the combination meter.

**OK:**
**The connectors are properly connected.**

NG → CONNECT CONNECTOR PROPERLY

OK

### 3.CHECK HARNESS AND CONNECTOR (SOURCE VOLTAGE OF COMBINATION METER)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Disconnect the E7 connector from the combination meter.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

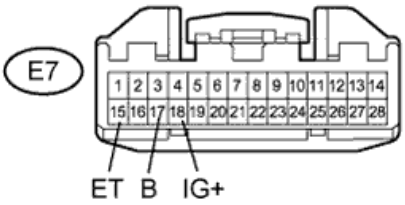
e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E7-18 (IG+) - E7-17 (B) | Ignition switch ON | 11 to 14 V |
| E7-17 (B) - E7-15 | | |

| | | |
|---|---|---|
| (ET) | Always | 11 to 14 V |

Front view of wire harness connector:
(to Combination Meter)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK SRS WARNING LIGHT (SHORT TO GROUND)

a. Turn the ignition switch off.

b. Disconnect the cable from the negative (-) battery terminal, and wait for at least 90 seconds.

c. Connect the connector to the combination meter.

d. Connect the cable to the negative (-) battery terminal, and wait for at least 2 seconds.

e. Turn the ignition switch to ON.

f. Check the SRS warning light condition.

**NOTICE:**

Make sure that nobody is in the vehicle.

**OK:**

**After the primary check period, the SRS warning light goes off for approximately 10 seconds and then remains on.**

**HINT:**

The primary check period is approximately 6 seconds after the ignition switch is turned to ON.

NG → GO TO METER / GAUGE SYSTEM (Click here)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**for Preparation** [Click here]

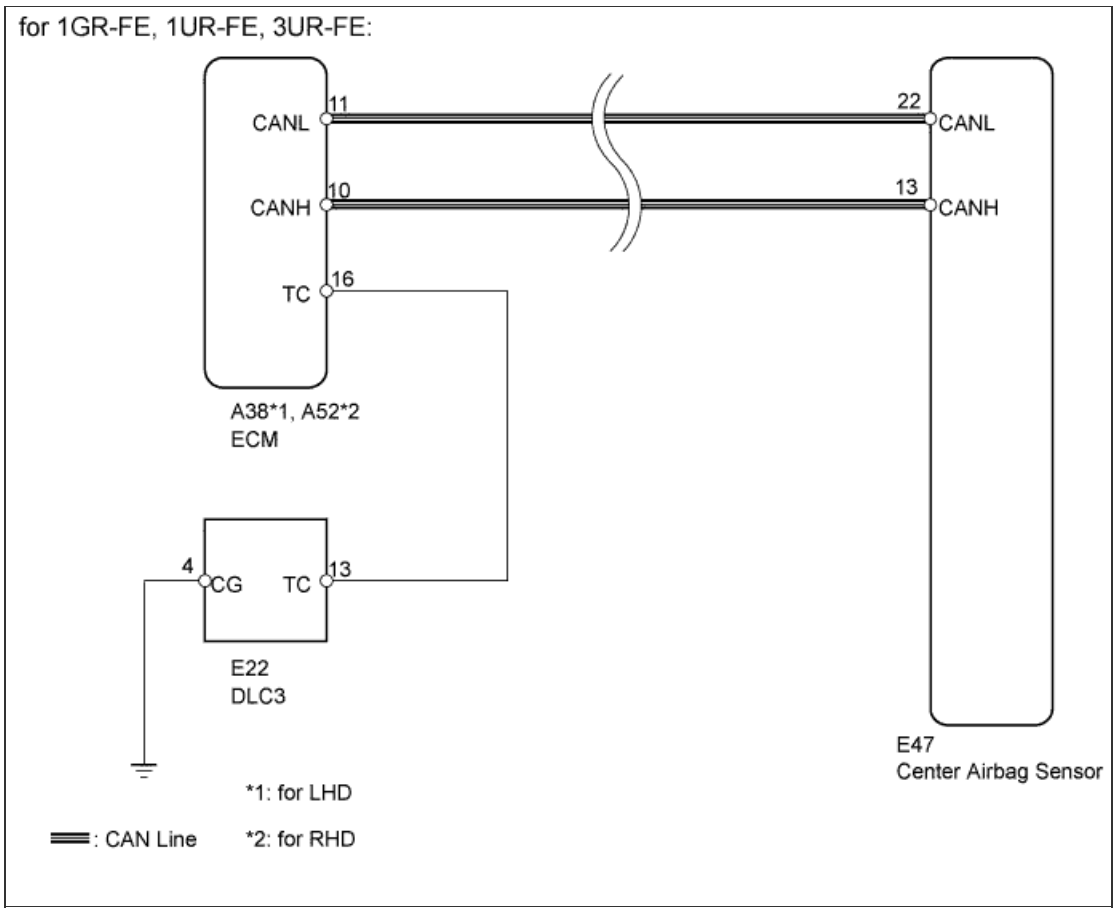
## DESCRIPTION

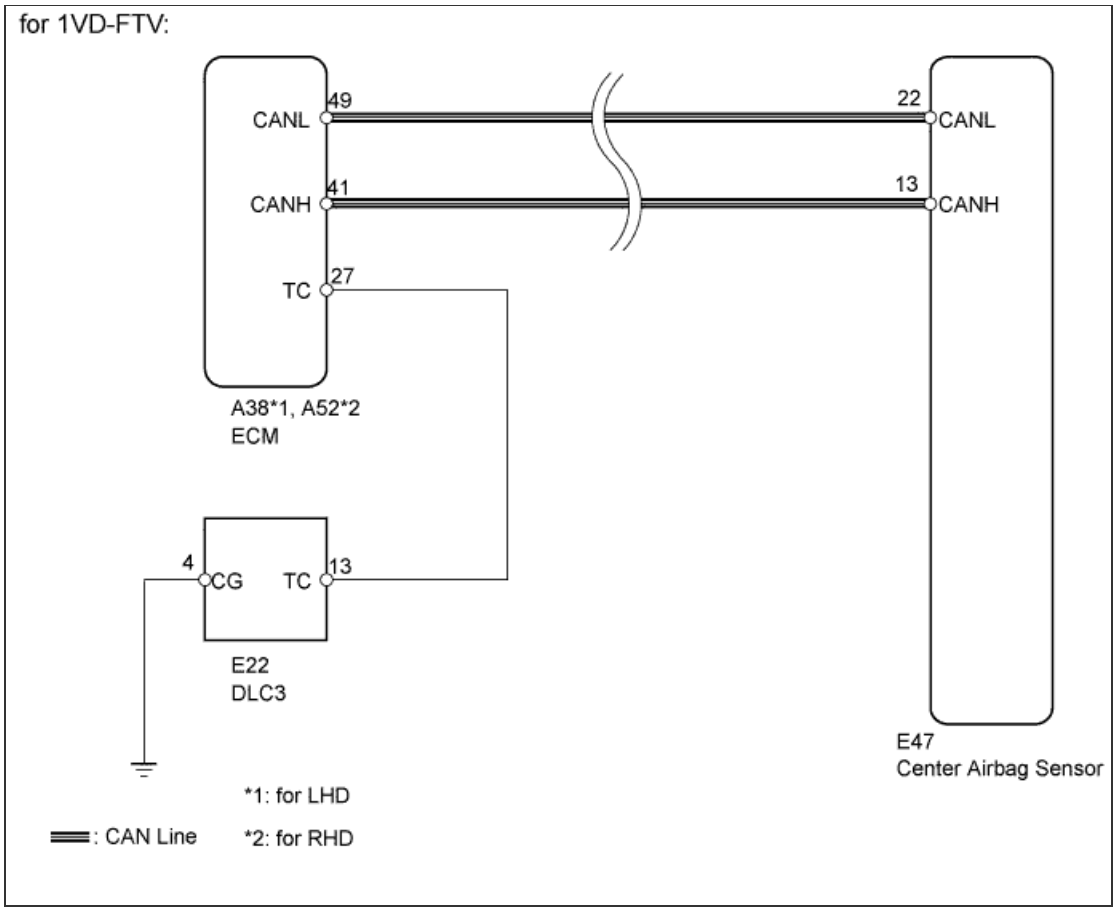
DTC output mode is set by connecting terminals TC and CG of the DLC3.
DTCs are output by the blinking of the SRS warning light.

**HINT:**

- **When each warning light stays blinking, a ground short in the wiring of terminal TC of the DLC3 or an internal ground short in each ECU is suspected.**
- **A DTC output mode signal is transmitted through the CAN communication system to each ECU including the center airbag sensor. Thus, when all systems do not enter DTC output mode, there may be an ECM malfunction.**

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check if a CAN communication system DTC is output.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output (for LHD) | B |
| DTC is output (for RHD) | C |

B → REPAIR CIRCUITS INDICATED BY OUTPUT DTCS (Click here)

C → REPAIR CIRCUITS INDICATED BY OUTPUT DTCS (Click here)

A

### 2.CHECK HARNESS AND CONNECTOR (DLC3 - ECM)

a. Turn the ignition switch off.

b. Disconnect the A38 connector from the ECM.

c. for LHD:

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

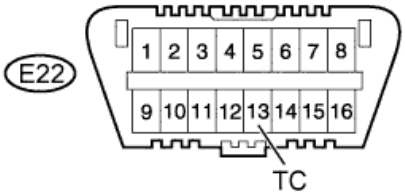
**for 1GR-FE, 1UR-FE, 3UR-FE:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E22-13 (TC) - A38-16 (TC) | Always | Below 1 Ω |

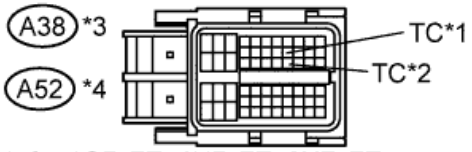
**for 1VD-FTV:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E22-13 (TC) - A38-27 (TC) | Always | Below 1 Ω |

Front view of DLC3:




Front view of wire harness connector: (to ECM)




*1: for 1GR-FE, 1UR-FE, 3UR-FE

*2: for 1VD-FTV *3: for LHD *4: for RHD

d. for RHD:

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for 1GR-FE, 1UR-FE, 3UR-FE:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E22-13 (TC) - A52-16 (TC) | Always | Below 1 Ω |

**for 1VD-FTV:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E22-13 (TC) - A52-27 (TC) | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

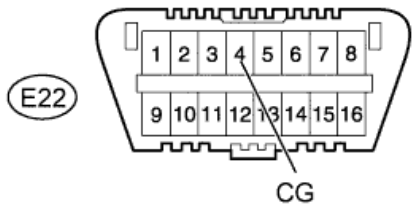
## 3.CHECK HARNESS AND CONNECTOR (DLC3 - BODY GROUND)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E22-4 (CG) - Body ground | Always | Below 1 Ω |

Front view of DLC3:




T

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (TC OF ECM - BODY GROUND)

a. for LHD:

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for 1GR-FE, 1UR-FE, 3UR-FE:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A38-16 (TC) - Body ground | Always | 1 MΩ or higher |

**for 1VD-FTV:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| A38-27 (TC) - Body ground | Always | 1 MΩ or higher |

b. for RHD:

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

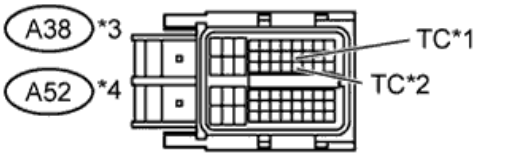
**for 2UZ-FE, 3UR-FE:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A52-16 (TC) - Body ground | Always | 1 MΩ or higher |

**for 1GR-FE, 1VD-FTV:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A52-27 (TC) - Body ground | Always | 1 MΩ or higher |

Front view of wire harness connector: (to ECM)




*1: for 1GR-FE, 1UR-FE, 3UR-FE

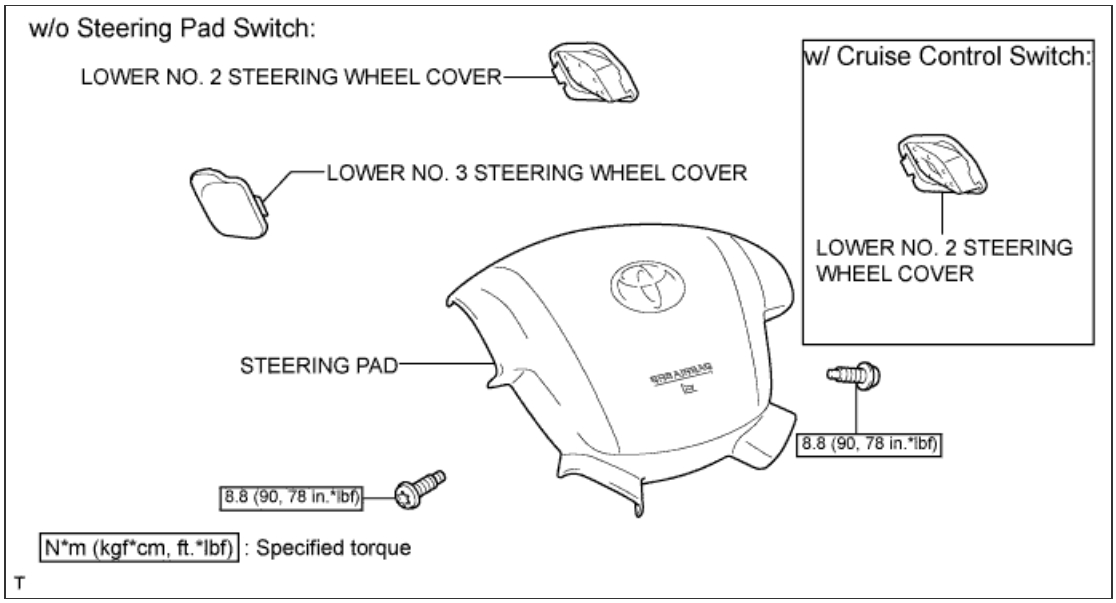
*2: for 1VD-FTV *3: for LHD *4: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR OR EACH ECU

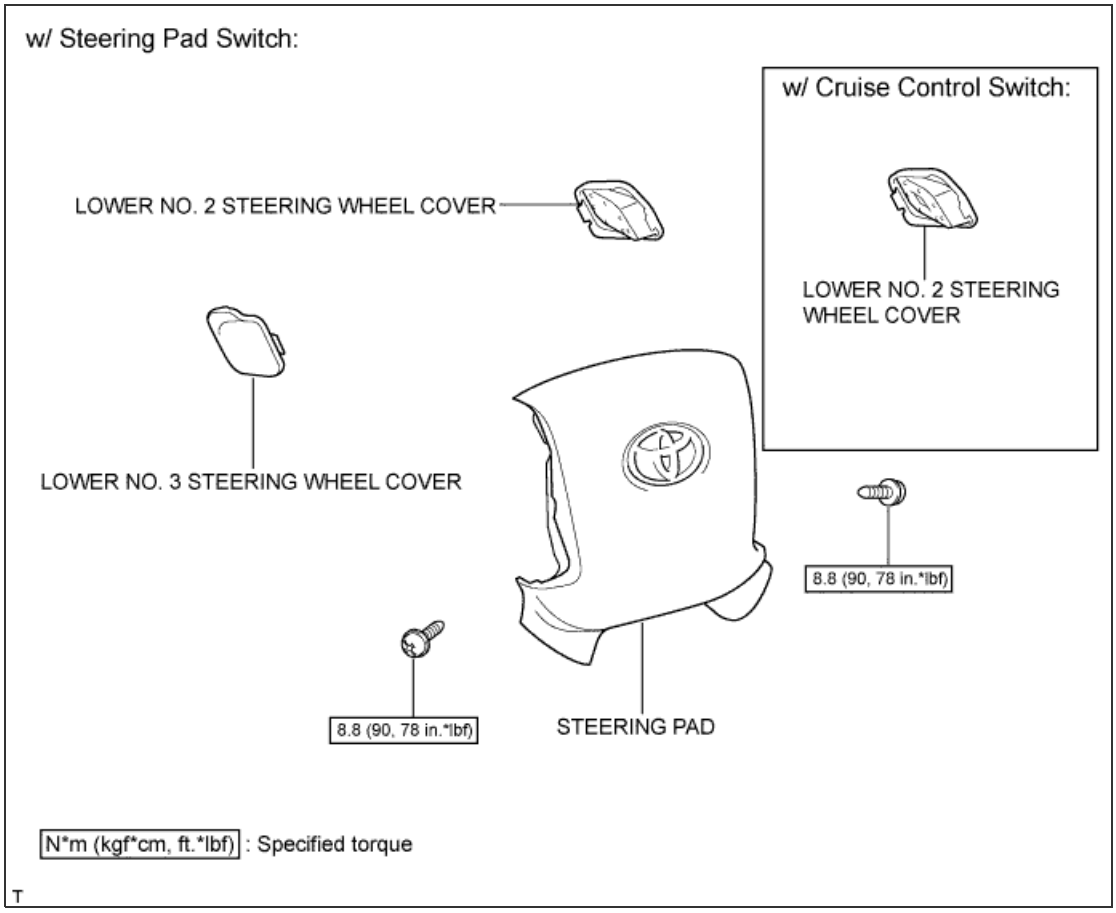
OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**for Preparation** Click here





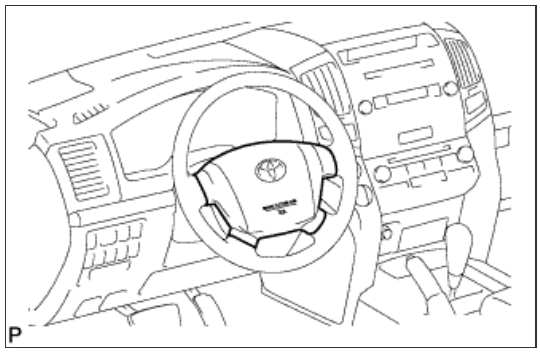



**for Preparation** Click here

## 1. CHECK STEERING PAD (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

b. With the steering pad installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the steering pad with a new one:
Cuts, minute cracks or marked discoloration on the steering pad top surface or in the grooved portion.




## 2. CHECK STEERING PAD (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

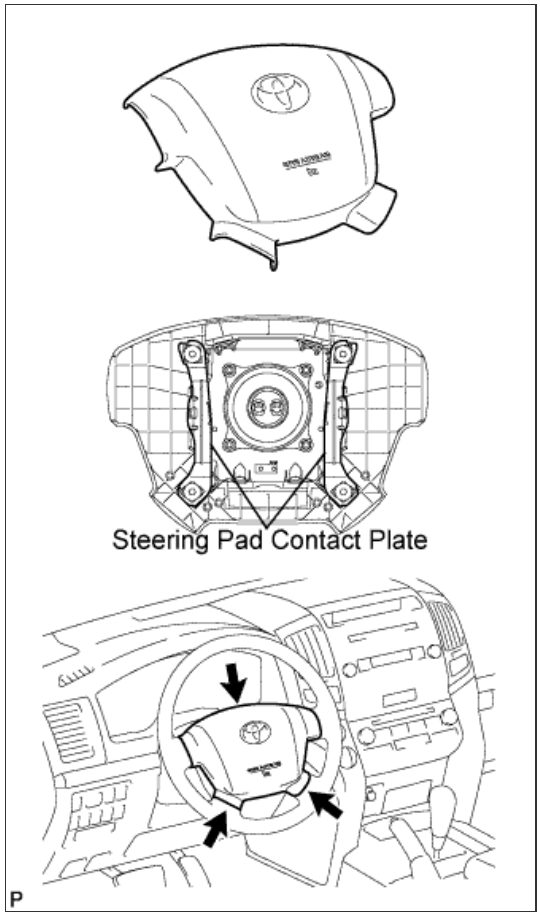
a. Perform a diagnostic system check (Click here).

b. With the steering pad removed from the vehicle, perform a visual check. If there are any defects as mentioned below, replace the steering pad or steering wheel with a new one:

- Cuts, minute cracks or marked discoloration on the steering pad top surface or in the grooved portion.
- Cracks or other damage to the connectors.
- Deformation of the steering pad contact plate.
- Deformation of the steering wheel.
- There should be no interference between the steering pad and steering wheel, and the clearance should be uniform all the way around when the new steering pad is installed on the steering wheel.

**CAUTION:**

For removal and installation procedures of the steering pad, be sure to follow the correct procedure.



**for Preparation** Click here

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

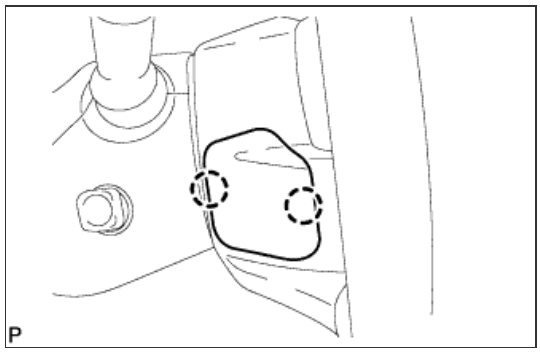
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

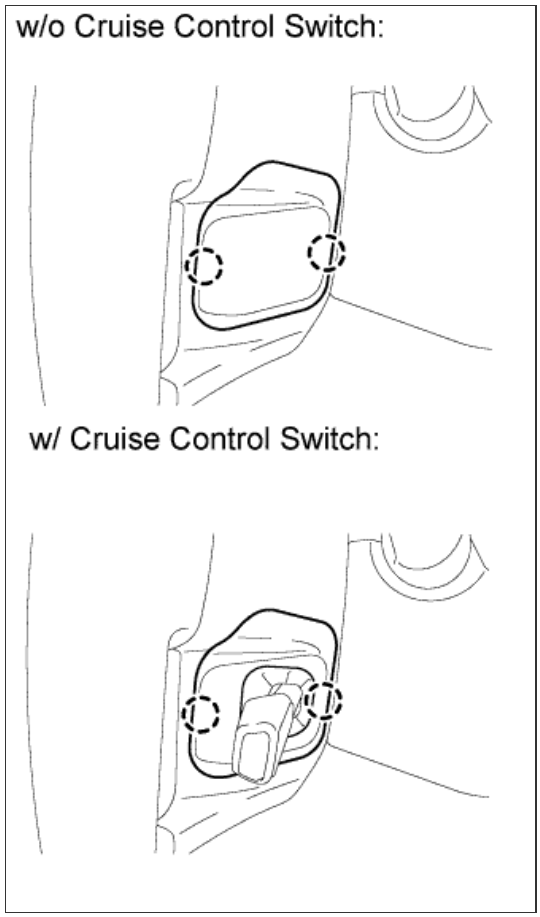
## 2. REMOVE LOWER NO. 3 STEERING WHEEL COVER

a. Detach the 2 claws and remove the steering wheel cover.



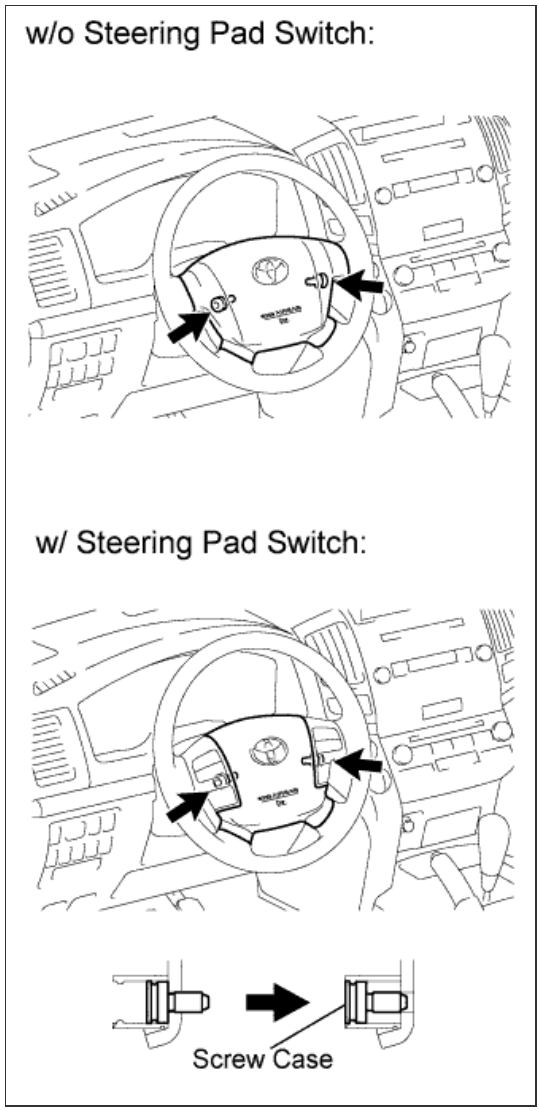

## 3. REMOVE LOWER NO. 2 STEERING WHEEL COVER

a. Detach the 2 claws and remove the steering wheel cover.




**4. REMOVE STEERING PAD**

a. Using a T30 "TORX" socket wrench, loosen the 2 screws until the groove along the screw circumference catches on the screw case.




b. Pull out the steering pad from the steering wheel, as shown in the illustration. Then support the steering pad with one hand.

**NOTICE:**

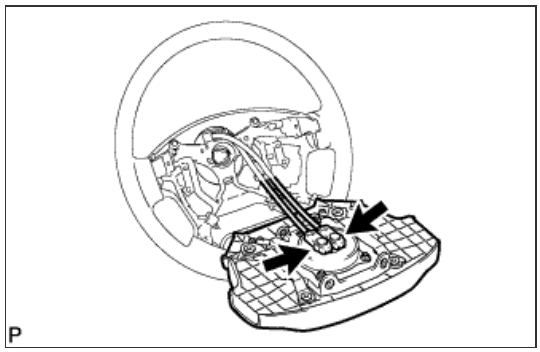
When removing the steering pad, do not pull the airbag wire harness.

c. Disconnect the horn connector.

d. Disconnect the 2 connectors and remove the steering pad.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.



**for Preparation** Click here

## 1. INSTALL STEERING PAD

a. Support the steering pad with one hand.

b. Connect the 2 connectors to the steering pad.

**NOTICE:**

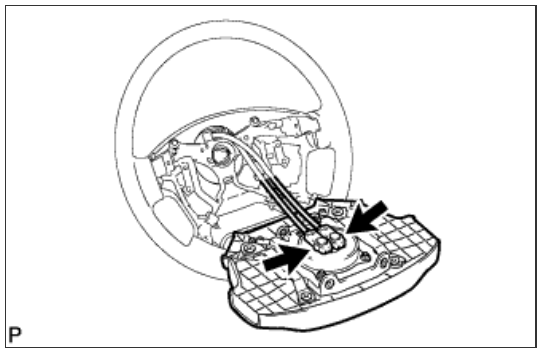
When handling the airbag connector, take care not to damage the airbag wire harness.

c. Connect the horn connector.

d. Confirm that the circumference groove of the "TORX" screw fits in the screw case, and place the steering pad onto the steering wheel.

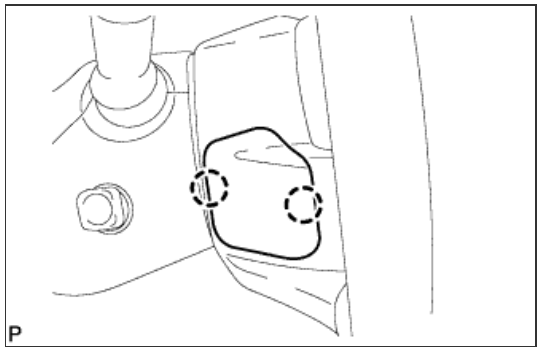
e. Using a T30 "TORX" socket wrench, tighten the 2 screws.

**Torque:**
**8.8 N*m{ 90 kgf*cm , 78 in.*lbf }**



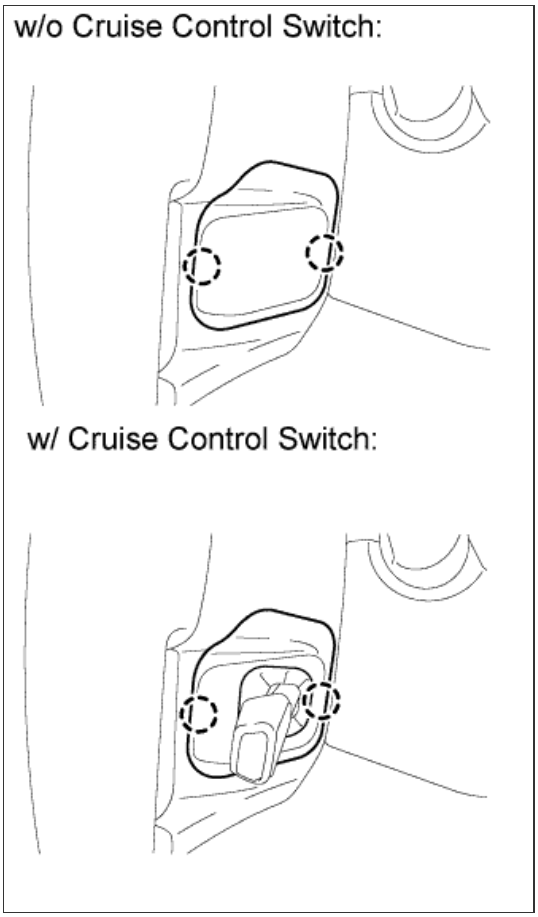

## 2. INSTALL LOWER NO. 3 STEERING WHEEL COVER

a. Attach the 2 claws to install the cover.




## 3. INSTALL LOWER NO. 2 STEERING WHEEL COVER

a. Attach the 2 claws to install the cover.




## 4. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 5. INSPECT STEERING PAD

a. With the steering pad installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the steering pad with a new one:
Cuts, minute cracks or marked discoloration on the steering pad top surface or in the grooved portion.

b. Make sure that the horn sounds.

**HINT:**

If the horn does not sound, inspect the horn system.

## 6. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here

**HINT:**

When scrapping a vehicle equipped with the SRS or disposing of the steering pad, be sure to deploy the airbag first in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of the DISTRIBUTOR..

**CAUTION:**

- **Never dispose of a steering pad that has an unactivated airbag.**
- **The airbag produces an exploding sound when it is deployed, so perform the operation outdoors and where it will not create a nuisance to nearby residents.**
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool). Perform the operation in a place away from electrical noise.**
- **When deploying the airbag, perform the operation at least 10 m (32.8 ft.) away from the steering pad.**
- **The steering pad becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a steering pad with a deployed airbag.**
- **Do not apply water, etc. to a steering pad with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **An airbag or pretensioner may be activated by static electricity. To prevent this, be sure to touch a metal surface with bare hands to discharge static electricity before performing this procedure.**

## 1. DISPOSE OF STEERING PAD (WHEN INSTALLED IN VEHICLE)

**HINT:**

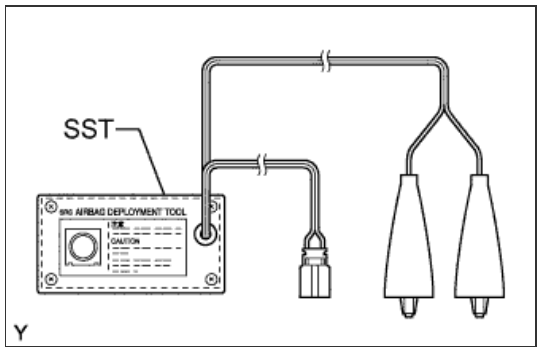
Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST.

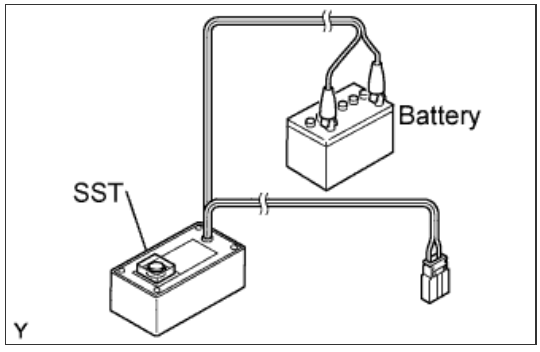
*SST*
09082-00700

**CAUTION:**

When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool).




i. Connect SST to the battery. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.



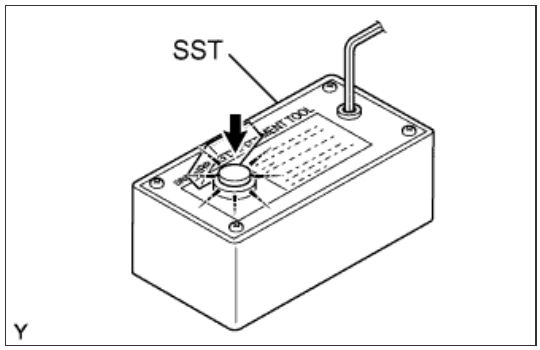

ii. Check the function of SST. Press SST activation switch, and check that the LED of SST activation switch comes on.

**CAUTION:**

- **Do not connect SST connector (yellow colored) to the airbag.**
- **If the LED comes on when the activation switch is not being pressed, SST malfunction is possible, so**

**replace SST with a new one.**

iii. Disconnect SST from the battery.




b. Read the precaution (Click here).

c. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

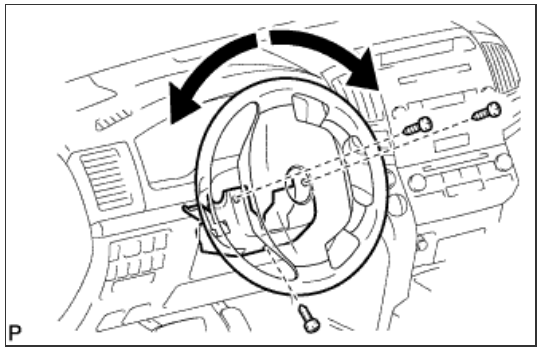
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

d. Remove the steering column cover lower.

i. While turning the steering wheel to the right and left, remove the 3 screws and steering column cover lower.




e. Install SST.

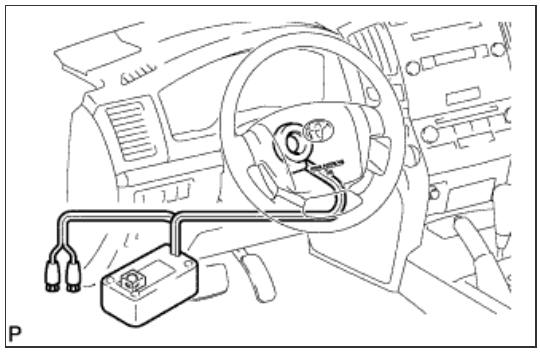
**CAUTION:**

Check that there is no looseness in the steering wheel assembly and steering pad.

i. Disconnect the airbag connector (yellow colored) from the spiral cable with steering sensor.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.




ii. Connect SST connector to the airbag connector of the spiral cable with steering sensor.

*SST*
09082-00780

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.

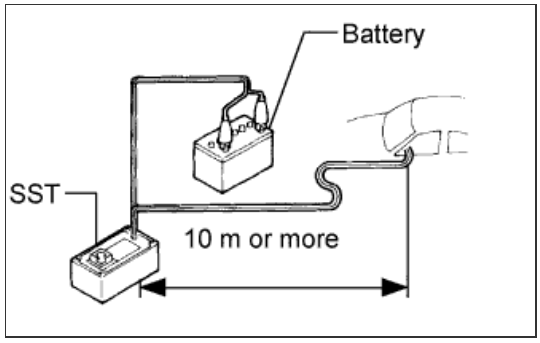
iii. Move SST at least 10 m (32.8 ft.) away from the vehicle front side window.

iv. Maintaining enough clearance for SST wire harness in the front side window, close all doors and windows of the vehicle.

**NOTICE:**

Take care not to damage SST wire harness.

v. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the negative (-) terminal.




f. Deploy the airbag.

i. Check that no one is inside the vehicle or within a 10 m (32.8 ft.) radius of the vehicle.

ii. Press SST activation switch to deploy the airbag.

**CAUTION:**

- **When deploying the airbag, make sure that no one is near the vehicle.**
- **The steering pad becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a steering pad with a deployed airbag.**
- **Do not apply water to a steering pad with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

## 2. DISPOSE OF STEERING PAD (WHEN NOT INSTALLED IN VEHICLE)

**CAUTION:**

Be sure to follow the procedure detailed below when deploying the airbag.

**HINT:**

Prepare a battery as the power source to deploy the airbag.

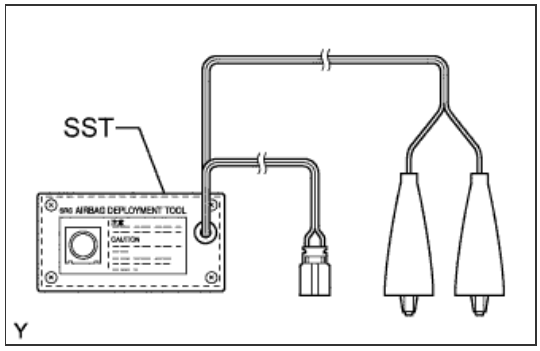
a. Check the function of SST.

*SST*
09082-00700

b. Remove the steering pad (Click here).

**CAUTION:**

- **When removing the steering pad, wait at least 90 seconds after the ignition switch is turned off and the cable is disconnected from the negative (-) battery terminal before starting work.**
- **When storing the steering pad, keep the airbag deployment side facing upward.**

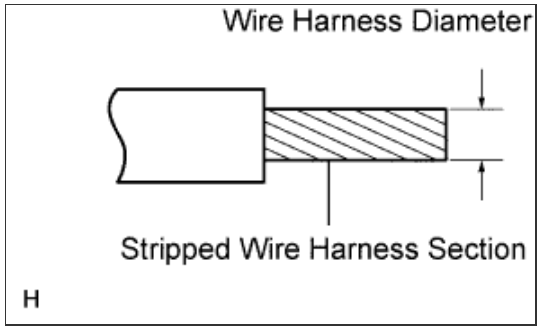



c. Using a service-purpose wire harness for the vehicle, tie down the steering pad to a disc wheel.

**Cross-sectional area of stripped wire harness section:**
**1.25 mm$^2$ (0.00192 in.$^2$)**

**CAUTION:**

If the wire harness is too thin or an alternative object is used to tie down the steering pad, it may be snapped by the shock when the airbag is deployed. Always use a wire harness for vehicle use with a cross-sectional area of at least 1.25 mm$^2$ (0.00192 in.$^2$).




**HINT:**

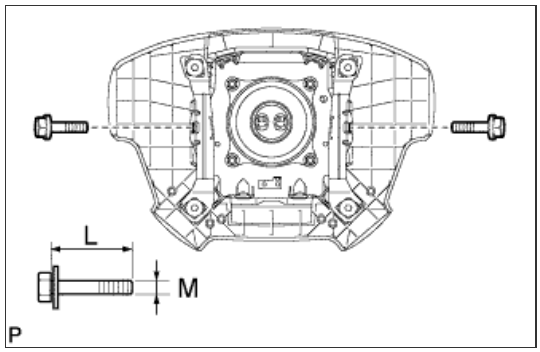
To calculate the cross-sectional area of the stripped wire harness section: Area = 3.14 x (Diameter) $^2$ divided by 4

i. Install 2 bolts with washers into the 2 bolt holes on the steering pad.

**Bolt:**
**L: 35.0 mm (1.38 in.)**
**M: 6.0 mm (0.236 in.)**
**Pitch: 1.0 mm (0.0393 in.)**

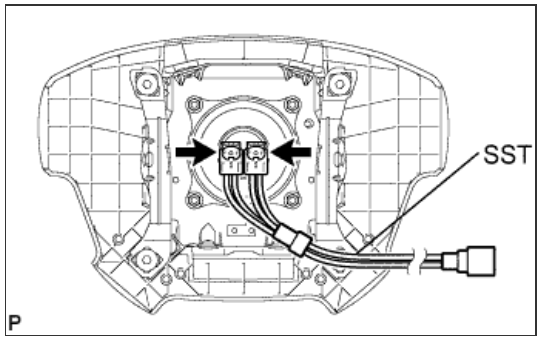
**NOTICE:**

- **Tighten the bolts by hand until they become difficult to turn.**
- **Do not tighten the bolts excessively.**




ii. After connecting SST to each other, connect them to the steering pad.

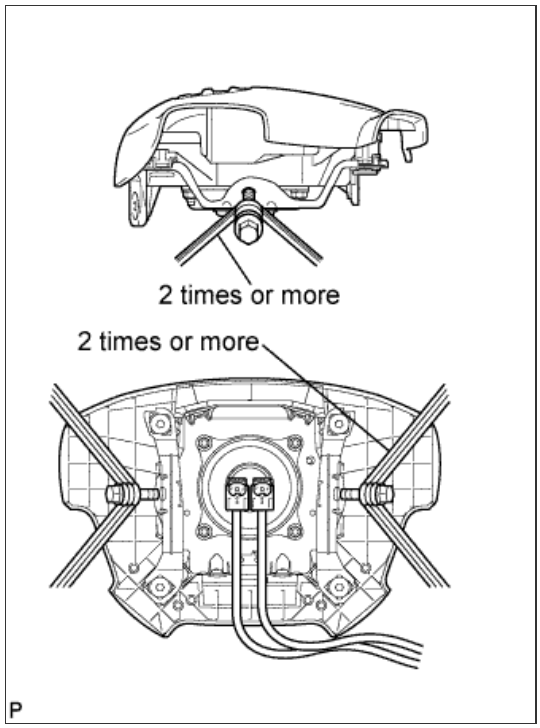
*SST*
09082-00820




iii. Wind 3 wire harnesses at least 2 times each around the bolts installed on the left and right sides of the steering pad.

**CAUTION:**

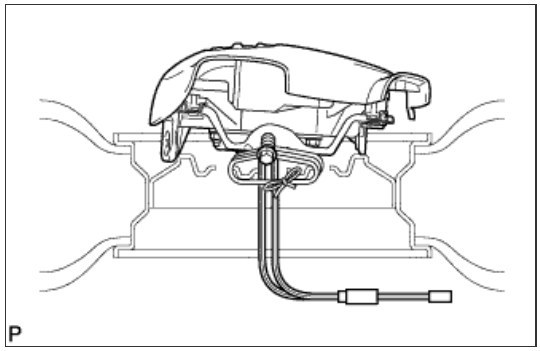
- **Tightly wind the wire harnesses around the bolts so that there is no slack.**
- **Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the steering pad may become loose due to the shock when the airbag is deployed.**




iv. Face the airbag deployment side of the steering pad upward. Separately tie the left and right sides of the steering pad to a disc wheel through the hub nut holes. Position SST connector so that it hangs downward through the hub hole of the disc wheel.

**CAUTION:**

- **Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the steering pad may become loose due to the shock when the airbag is deployed.**
- **Always tie down the steering pad with the airbag deployment side facing upward.**



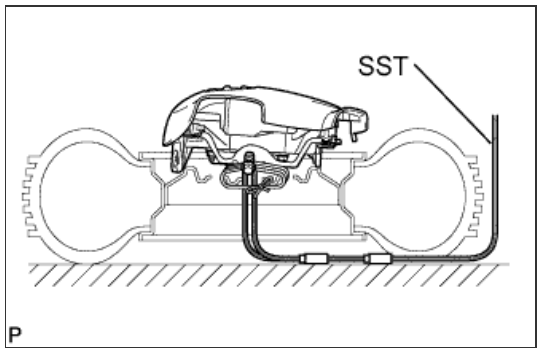

**NOTICE:**

As the disc wheel may be damaged by the airbag deployment, use a disc wheel that you are planning to throw away.

d. Install SST.

**CAUTION:**

Place the disc wheel on level ground.



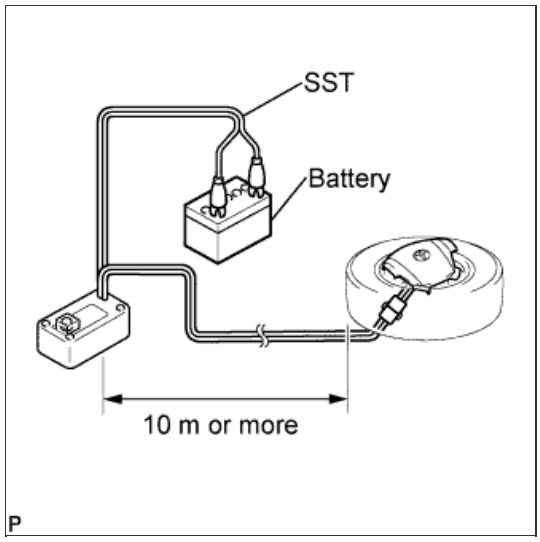

i. Connect SST connector.

*SST*
09082-00700

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, secure some slack for SST wire harness inside the disc wheel.

ii. Move SST at least 10 m (32.8 ft.) away from the steering pad tied down to the disc wheel.



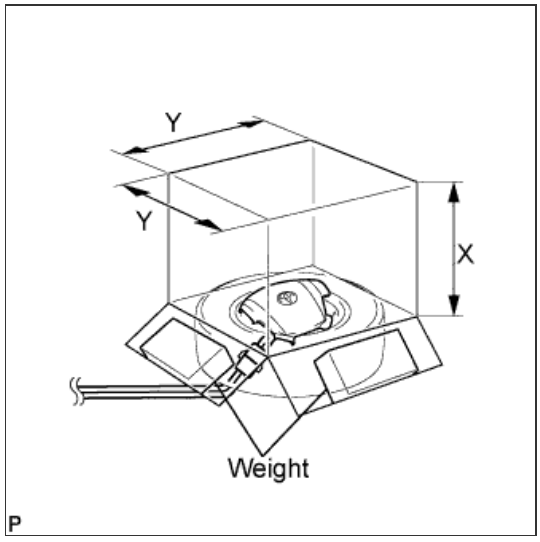

e. Cover the steering pad with a cardboard box or tires.

i. Covering method using a cardboard box: Cover the steering pad with the cardboard box and place weights on the cardboard box in 4 places with a total of at least 190 N (19 kgf, 41.8 lbf).

**Cardboard box size:**
**Must exceed the following dimensions**
**X: 460 mm (18.1 in.)**
**Y: 650 mm (25.6 in.)**

**NOTICE:**

- **When dimension Y of the cardboard box exceeds the diameter of the tire with disc wheel which the steering pad is tied to, X should be the following size. X = 460 mm (18.1 in.) + width of tire**
- **If a cardboard box which is smaller than the specified size is used, the cardboard box will be damaged by the shock from the airbag deployment.**




ii. Covering method using tires: Place at least 3 tires without disc wheels on the tire with disc wheel which the steering pad is tied to. Place another tire with disc wheel on them.

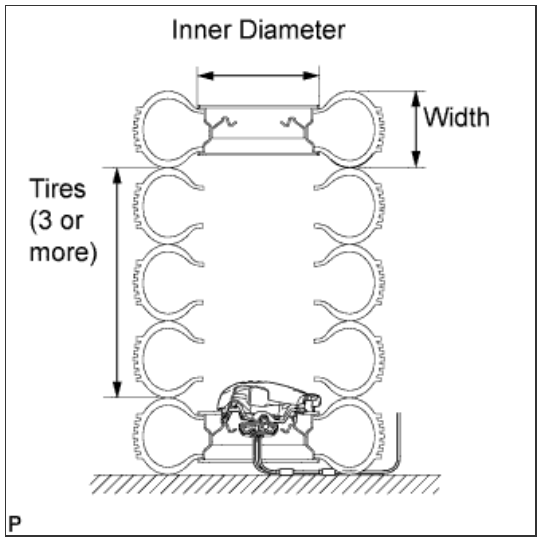
**Tire size:**
**Must exceed the following dimensions**
**Width: 185 mm (7.28 in.)**
**Inner diameter: 360 mm (14.2 in.)**

**CAUTION:**

Do not use tires with disc wheels except on the top and bottom.

**NOTICE:**

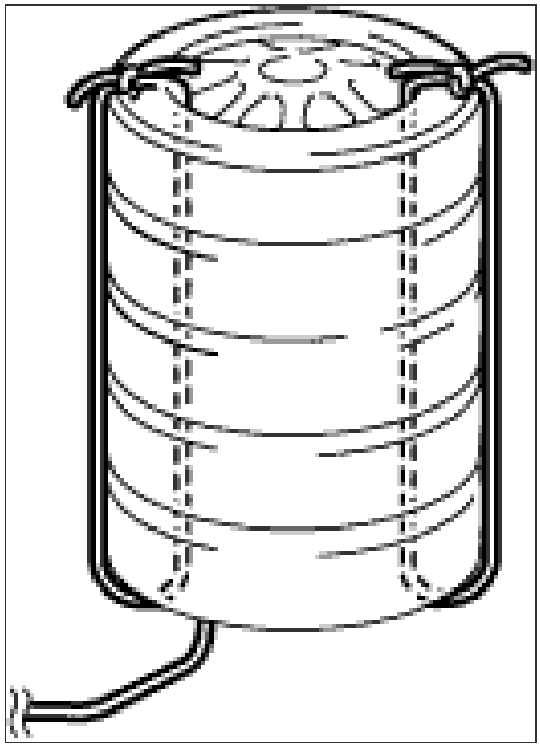
- **As the tires may be damaged by the airbag deployment, use tires that you are planning to throw away.**
- **Do not place SST connector under the tire because it could be damaged.**




iii. Tie the tires together with 2 wire harnesses.

**CAUTION:**

Make sure that the wire harnesses are tight. Looseness in the wire harnesses results in the tires coming free due to the shock when the airbag is deployed.



f. Deploy the airbag.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.

ii. Check that no one is within a 10 m (32.8 ft.) radius of the disc wheel which the steering pad is tied to.

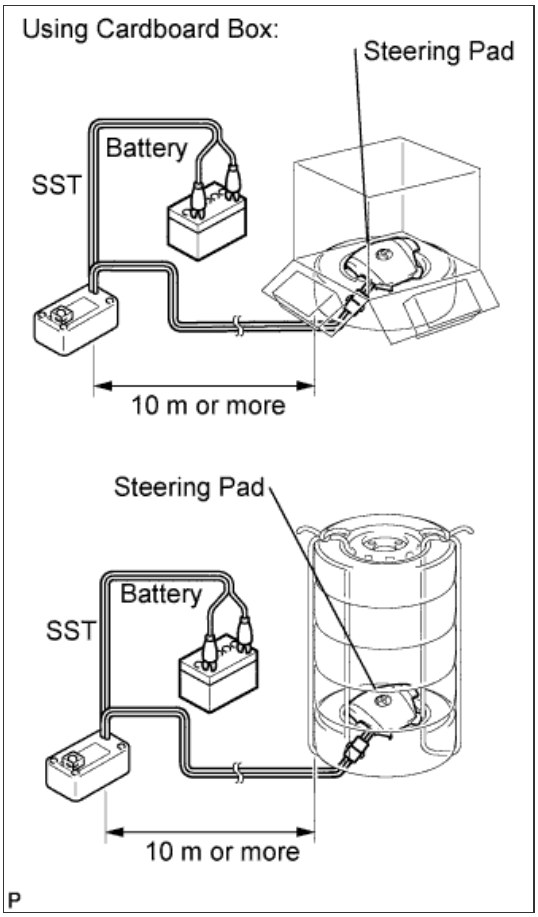
iii. Press SST activation switch to deploy the airbag.

**CAUTION:**

When deploying the airbag, make sure that no one is near the tire.

**HINT:**

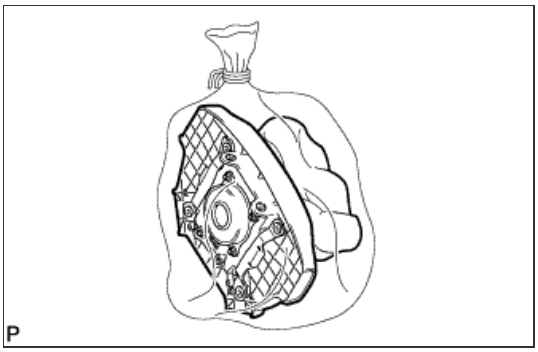
The airbag is deployed as the LED of SST activation switch comes on.




g. Dispose of the steering pad.

**CAUTION:**

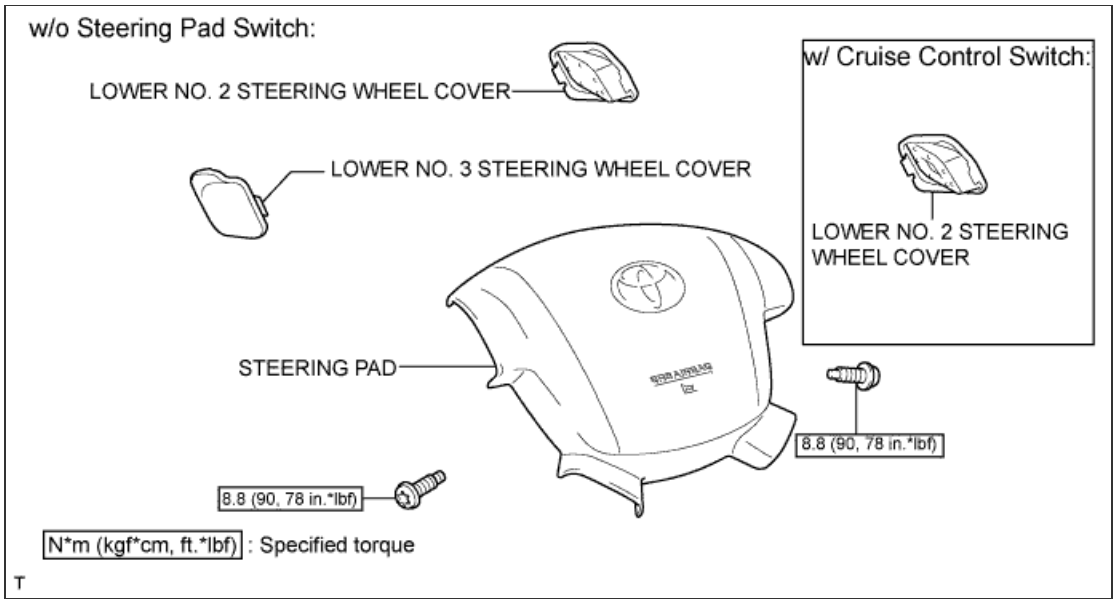
- **The steering pad becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a steering pad with a deployed airbag.**
- **Do not apply water to a steering pad with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**



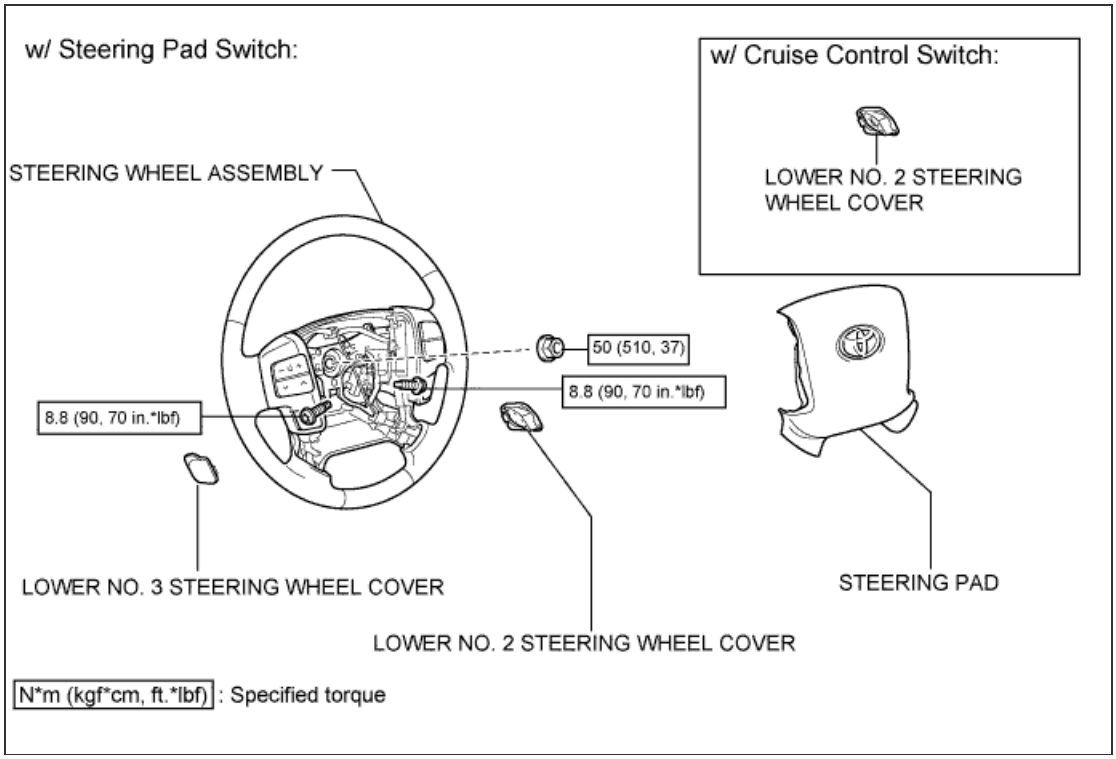

i. Remove the steering pad from the disc wheel.

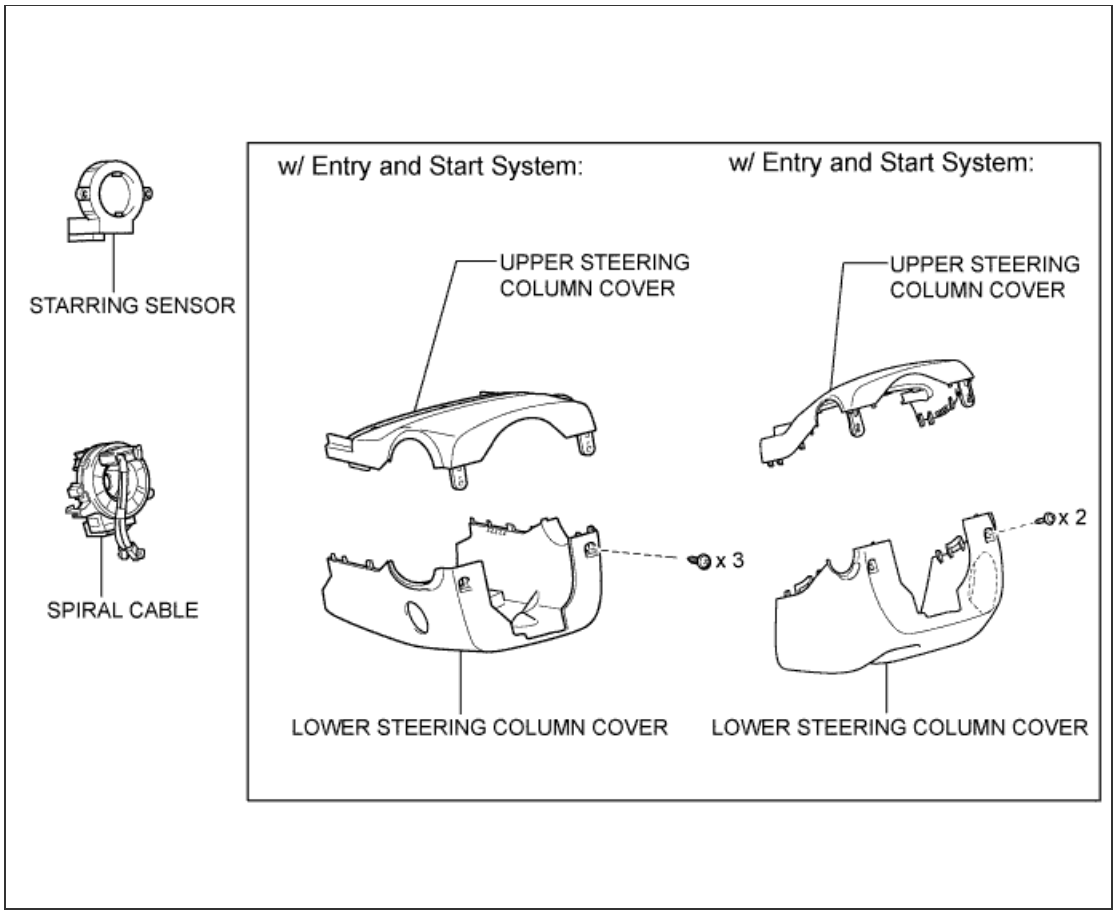
ii. Place the steering pad in a plastic bag, tie it tightly and dispose of it in the same way as other general parts.

**for Preparation** Click here






STARRING SENSOR
SPIRAL CABLE
w/ Entry and Start System:
UPPER STEERING COLUMN COVER
x 3
LOWER STEERING COLUMN COVER
w/ Entry and Start System:
UPPER STEERING COLUMN COVER
x 2
LOWER STEERING COLUMN COVER

**for Preparation** Click here

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

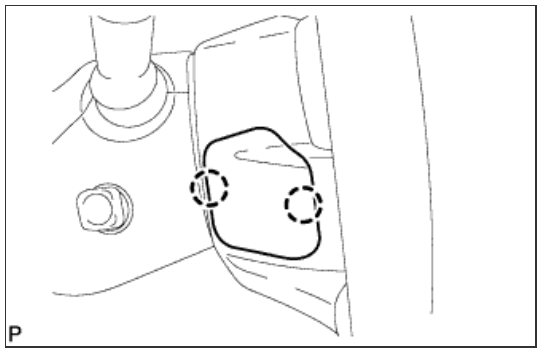
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 2. PLACE FRONT WHEELS FACING STRAIGHT AHEAD

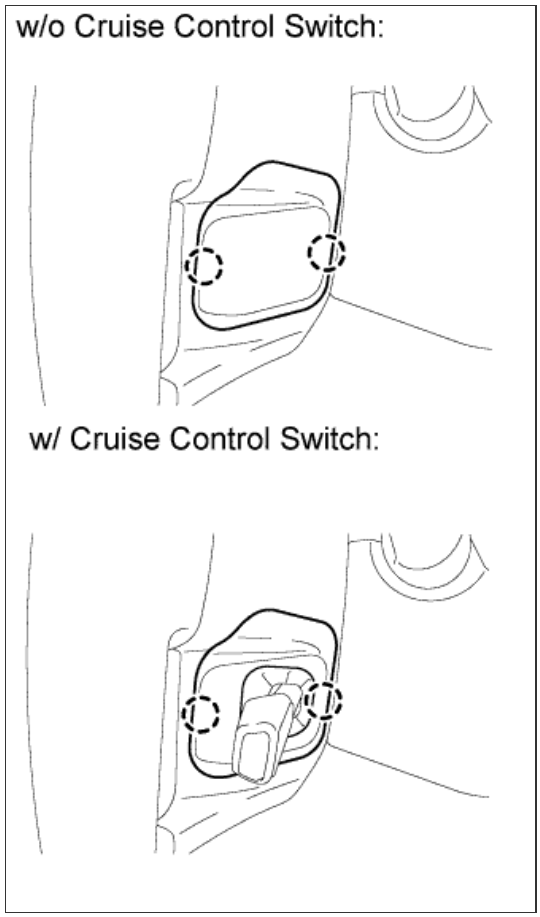
## 3. REMOVE LOWER NO. 3 STEERING WHEEL COVER

a. Detach the 2 claws and remove the steering wheel cover.



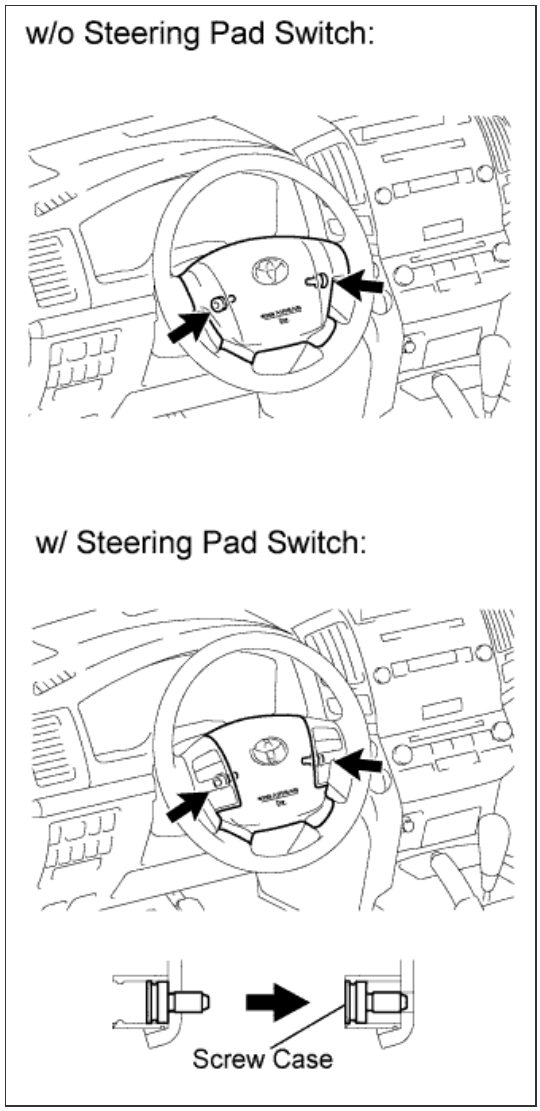

## 4. REMOVE LOWER NO. 2 STEERING WHEEL COVER

a. Detach the 2 claws and remove the steering wheel cover.




**5. REMOVE STEERING PAD**

a. Using a T30 "TORX" socket wrench, loosen the 2 screws until the groove along the screw circumference catches on the screw case.




b. Pull out the steering pad from the steering wheel, as shown in the illustration. Then support the steering pad with one hand.

**NOTICE:**

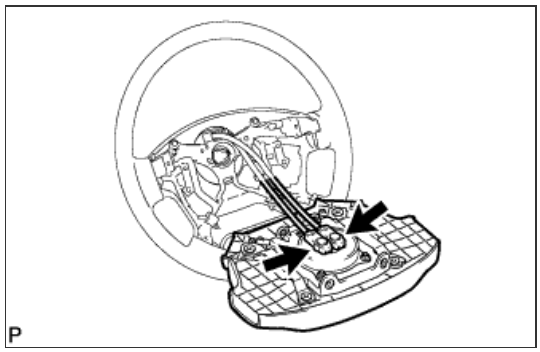
When removing the steering pad, do not pull the airbag wire harness.

c. Disconnect the horn connector.

d. Disconnect the 2 connectors and remove the steering pad.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.




## 6. REMOVE STEERING WHEEL ASSEMBLY

a. Remove the steering wheel set nut.

b. Put matchmarks on the steering wheel and main shaft.

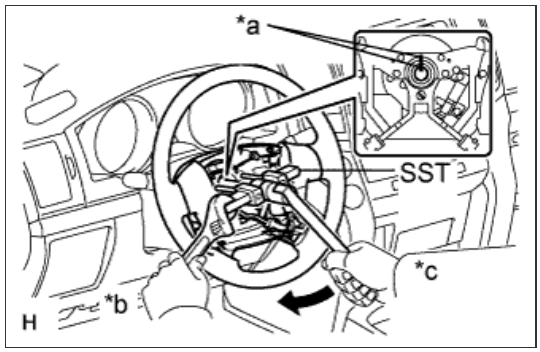
**Text in Illustration**

| | |
|---|---|
| *a | Matchmark |
| *b | Hold |
| *c | Turn |

c. Using SST, remove the steering wheel assembly.

*SST*

09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05011)



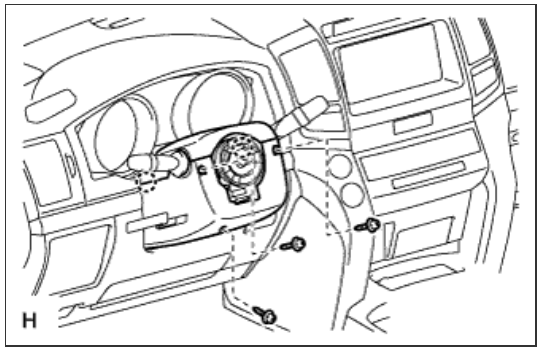

## 7. REMOVE LOWER STEERING COLUMN COVER

a. Remove the 3 screws.

b. Detach the 2 claws to remove the lower steering column cover.

**NOTICE:**

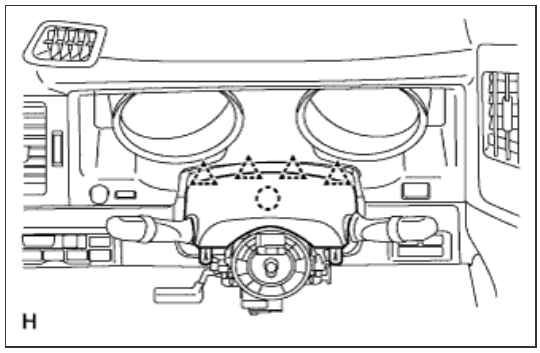
Do not damage the tilt and telescopic switch.




## 8. REMOVE UPPER STEERING COLUMN COVER

a. Detach the 4 clips.

b. Detach the claw to remove the upper steering column cover.



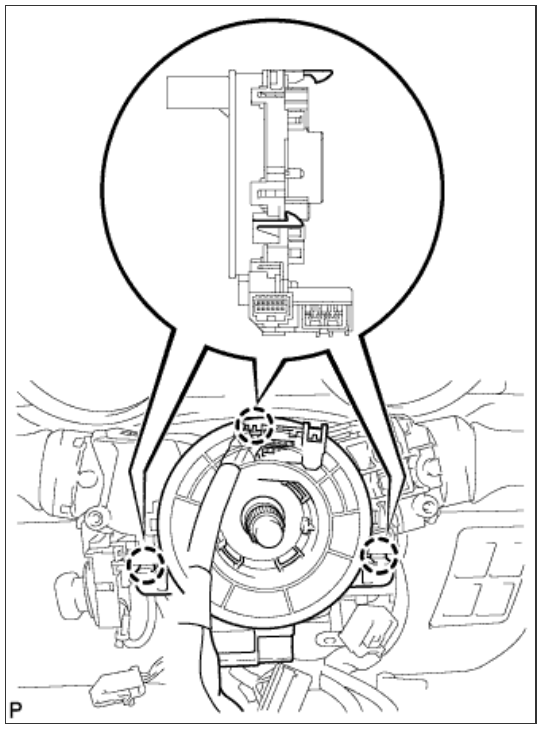

## 9. REMOVE SPIRAL CABLE

a. Disconnect the connectors from the spiral cable with steering sensor.

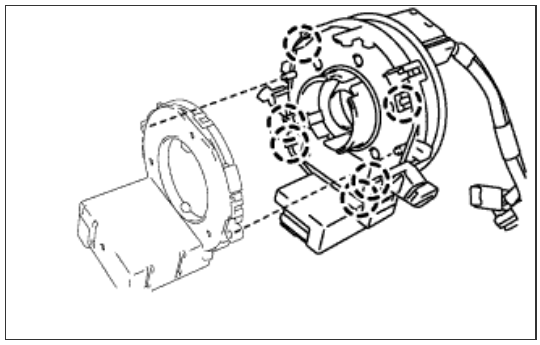
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Detach the 3 claws and remove the spiral cable with steering sensor.




c. Detach the 6 claws and remove the spiral cable from the steering sensor.

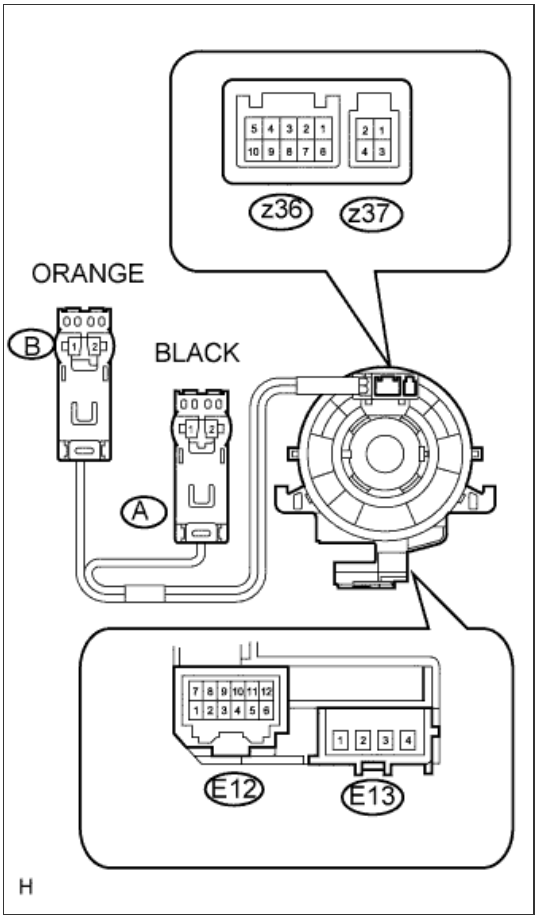


**for Preparation** Click here

## 1. INSPECT SPIRAL CABLE

a. If there are any defects as mentioned below, replace the spiral cable with a new one:
Scratches, cracks, dents or chips on the connector or the spiral cable.

b. Check the spiral cable.




i. Set the spiral cable to the center position ( Click here).

ii. Measure the resistance between each terminal of the spiral cable according to the table below.

iii. After setting the spiral cable to the center position, rotate the spiral cable 2.5 times clockwise, and measure the resistance as shown. Then rotate the spiral cable 5 times counterclockwise, and measure the resistance as shown.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 - B2 | Always | Below 1 Ω |
| E13-2 - B1 | Always | Below 1 Ω |
| E13-3 - A1 | Always | Below 1 Ω |
| E13-4 - A2 | Always | Below 1 Ω |
| E12-6 - z36-10 | Always | Below 1 Ω |
| E12-5 - z36-9 | Always | Below 1 Ω |
| E12-4 - z36-8 | Always | Below 1 Ω |
| E12-3 - z36-7 | Always | Below 1 Ω |
| E12-2 - z36-6 | Always | Below 1 Ω |
| E12-2 - z37-4 | Always | Below 1 Ω |
| E12-1 - z37-3 | Always | Below 1 Ω |
| E12-12 - z36-5 | Always | Below 1 Ω |
| E12-11 - z36-4 | Always | Below 1 Ω |
| E12-10 - z36-3 | Always | Below 1 Ω |
| E12-9 - z36-2 | Always | Below 1 Ω |
| E12-8 - z36-1 | Always | Below 1 Ω |
| E12-8 - z37-2 | Always | Below 1 Ω |
| E12-7 - z37-1 | Always | Below 1 Ω |

iv. After setting the spiral cable to the center position, rotate the spiral cable 2.5 times clockwise. Then while rotating the spiral cable 5 times counterclockwise, measure the resistance as shown.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E13-1 - B2 | Always | Below 1 Ω |
| E13-2 - B1 | Always | Below 1 Ω |
| E13-3 - A1 | Always | Below 1 Ω |
| E13-4 - A2 | Always | Below 1 Ω |
| E12-6 - z36-10 | Always | Below 1 Ω |
| E12-5 - z36-9 | Always | Below 1 Ω |
| E12-4 - z36-8 | Always | Below 1 Ω |
| E12-3 - z36-7 | Always | Below 1 Ω |
| E12-2 - z36-6 | Always | Below 1 Ω |
| E12-2 - z37-4 | Always | Below 1 Ω |

| | | |
|---|---|---|
| E12-1 - z37-3 | Always | Below 1 Ω |
| E12-12 - z36-5 | Always | Below 1 Ω |
| E12-11 - z36-4 | Always | Below 1 Ω |
| E12-10 - z36-3 | Always | Below 1 Ω |
| E12-9 - z36-2 | Always | Below 1 Ω |
| E12-8 - z36-1 | Always | Below 1 Ω |
| E12-8 - z37-2 | Always | Below 1 Ω |
| E12-7 - z37-1 | Always | Below 1 Ω |

**NOTICE:**

As the spiral cable may break, do not rotate the spiral cable more than the specified amount.

**for Preparation** Click here

## 1. INSTALL SPIRAL CABLE

a. Align the pins on the spiral cable with the installation holes on the steering sensor.

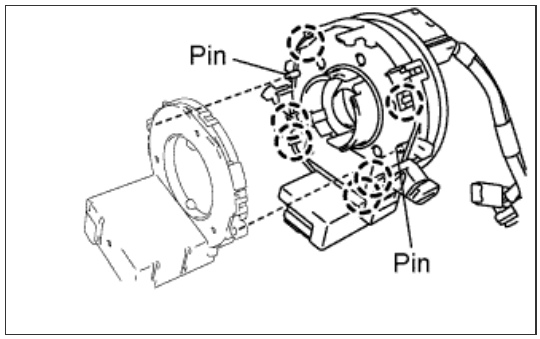
b. Attach the 6 claws and install the spiral cable to the steering sensor.

c. Check that the front wheels are facing straight ahead.

d. Set the turn signal switch to the neutral position.

**CAUTION:**

If it is not in the neutral position, the pin of the turn signal switch may be snapped.




e. Attach the 3 claws to install the spiral cable with steering sensor.

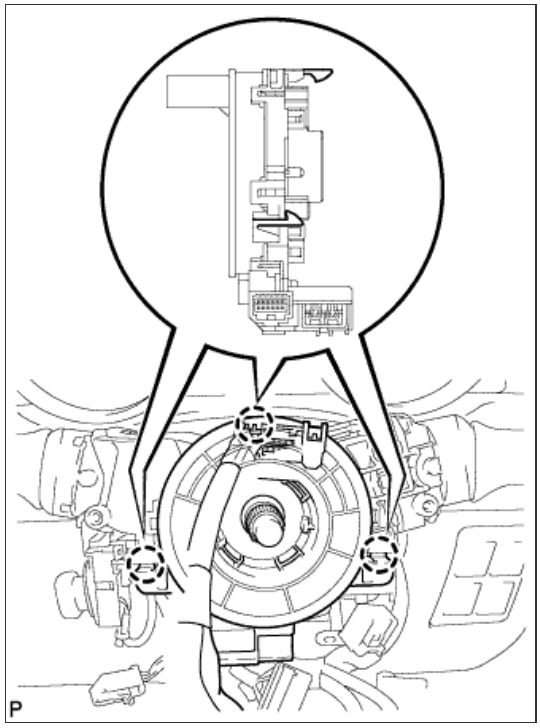
**CAUTION:**

When replacing the spiral cable with a new one, remove the lock pin before installing the steering wheel assembly.

f. Connect the connectors to the spiral cable with steering sensor.

**NOTICE:**

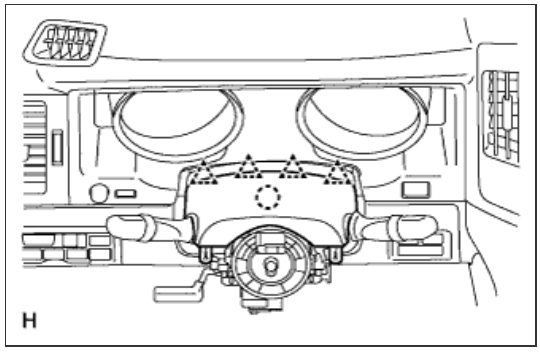
When handling the airbag connector, take care not to damage the airbag wire harness.




## 2. INSTALL UPPER STEERING COLUMN COVER

a. Attach the claw to install the upper steering column cover.

b. Attach the 4 clips to install the upper steering column cover onto the instrument cluster finish panel.



## 3. INSTALL LOWER STEERING COLUMN COVER

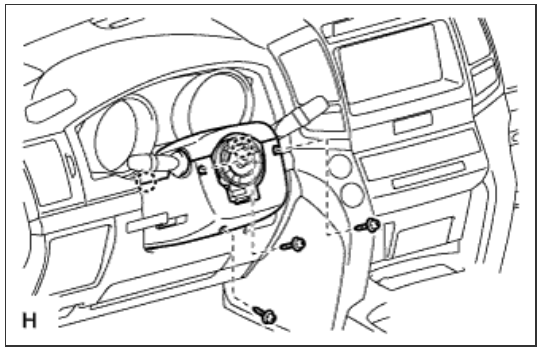
a. Attach the 2 claws to install the lower steering column cover.

**NOTICE:**

Do not damage the tilt and telescopic switch.

b. Install the 3 screws.

**Torque:**
**2.0 N*m{ 20 kgf*cm , 18 in.*lbf }**




## 4. ADJUST SPIRAL CABLE

a. Check that the ignition switch is off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

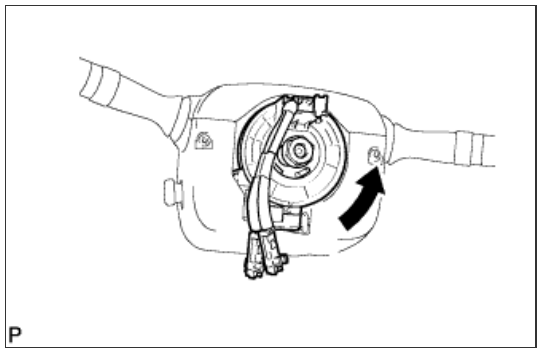
**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Rotate the spiral cable with steering sensor counterclockwise slowly by hand until it feels firm.

**CAUTION:**

Do not turn the spiral cable with steering sensor by the airbag wire harness.



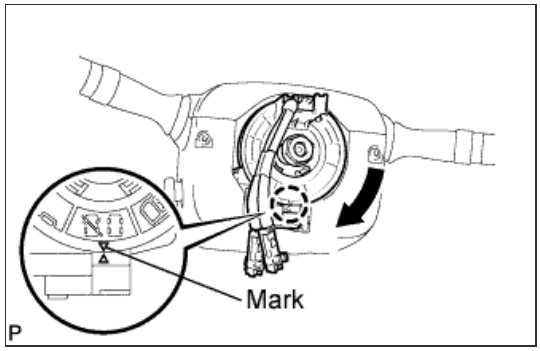

d. Rotate the spiral cable with steering sensor clockwise approximately 2.5 turns to align the marks.

**CAUTION:**

Do not turn the spiral cable with spiral sensor by the airbag wire harness.

**HINT:**

The spiral cable with steering sensor will rotate approximately 2.5 turns to both the left and right from the center.




## 5. INSTALL STEERING WHEEL ASSEMBLY

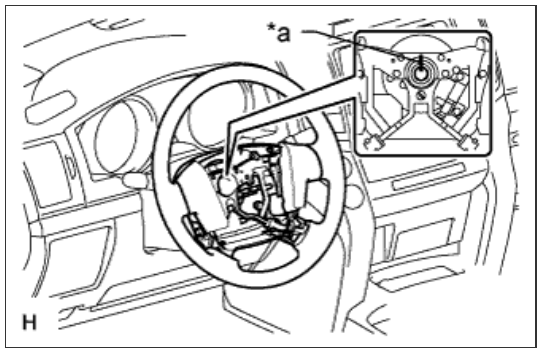
a. Align the matchmarks on the steering wheel assembly and steering main shaft assembly.

**Text in Illustration**

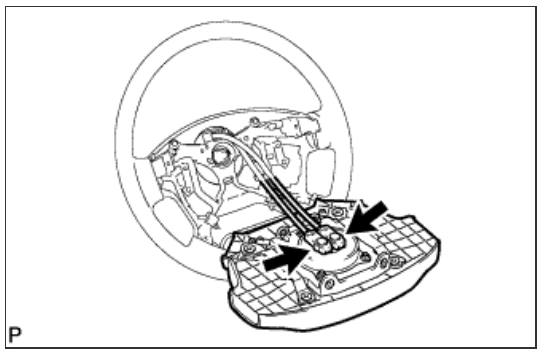
| | |
|---|---|
| *a | Matchmark |

b. Install the steering wheel assembly set nut.

**Torque:**
**50 N*m{ 510 kgf*cm , 37 ft.*lbf }**




## 6. INSTALL STEERING PAD




a. Support the steering pad with one hand.

b. Connect the 2 connectors to the steering pad.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

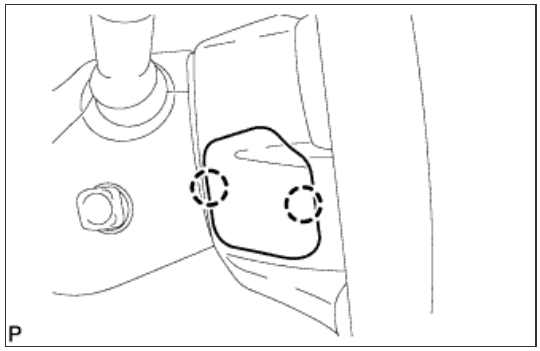
c. Connect the horn connector.

d. Confirm that the circumference groove of the "TORX" screw fits in the screw case, and place the steering pad onto the steering wheel.

e. Using a T30 "TORX" socket wrench, tighten the 2 screws.

**Torque:**
**8.8 N*m{ 90 kgf*cm , 78 in.*lbf }**

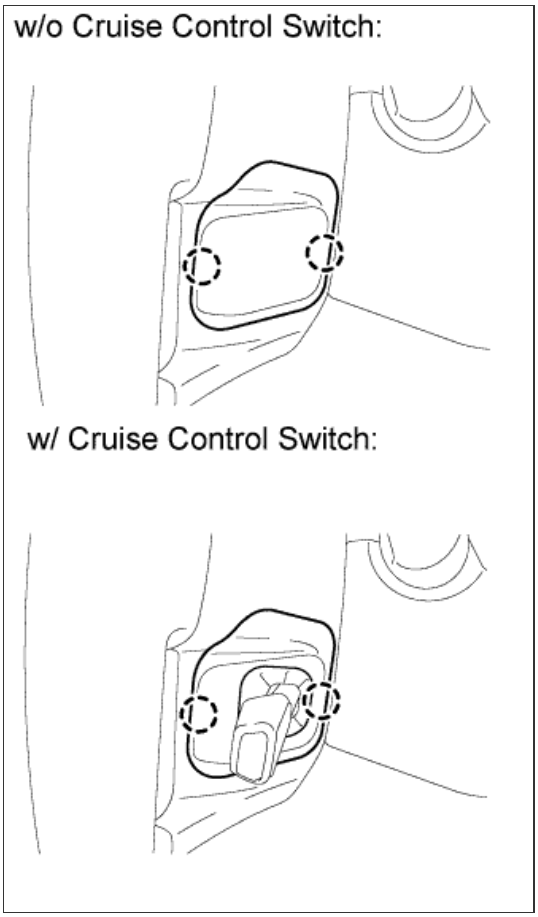
## 7. INSTALL LOWER NO. 3 STEERING WHEEL COVER




a. Attach the 2 claws to install the cover.

## 8. INSTALL LOWER NO. 2 STEERING WHEEL COVER

a. Attach the 2 claws to install the cover.




## 9. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 10. INSPECT STEERING PAD

a. With the steering pad installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the steering pad with a new one:
Cuts, minute cracks or marked discoloration on the steering pad top surface or in the grooved portion.

b. Make sure that the horn sounds.

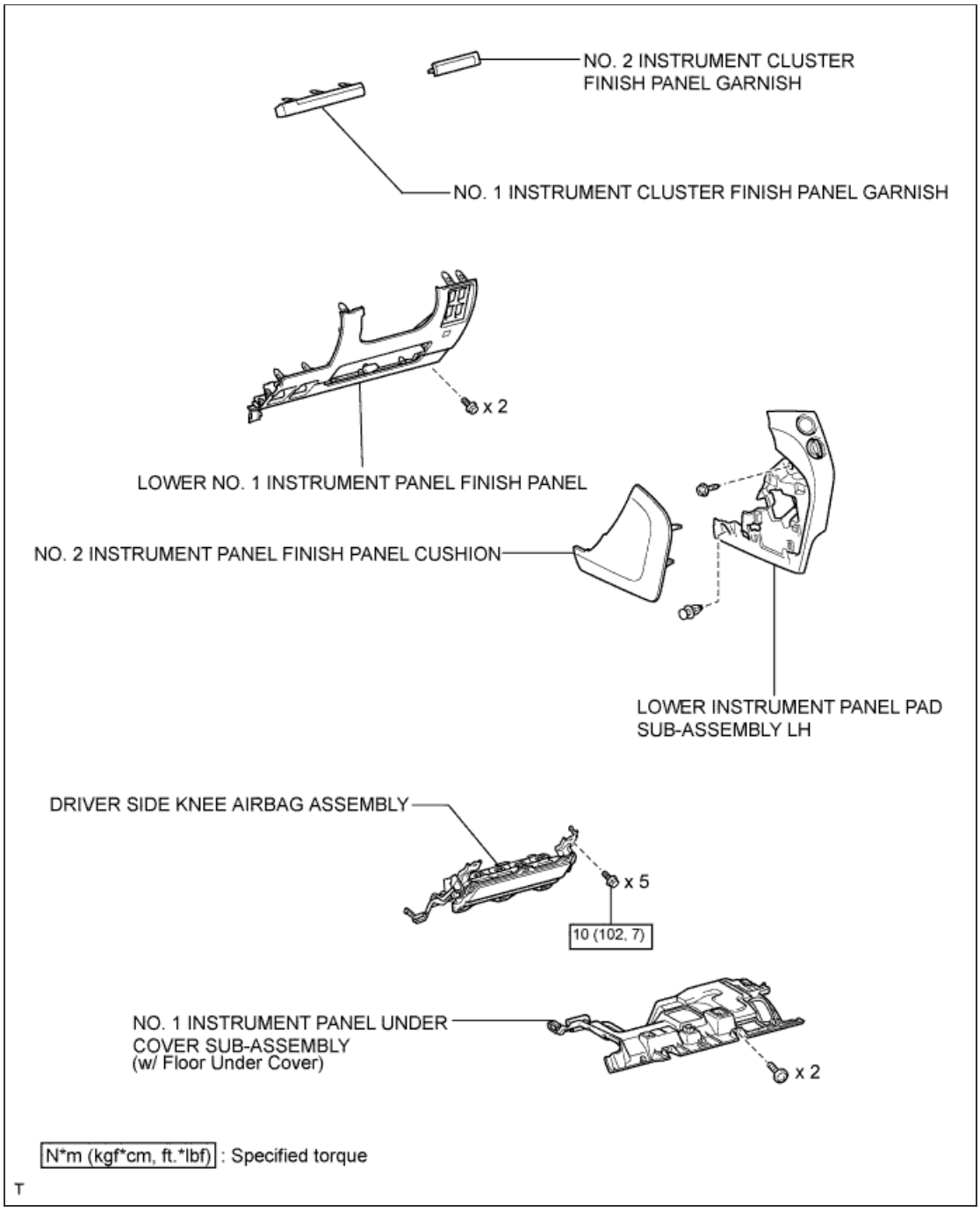
**HINT:**

If the horn does not sound, inspect the horn system.

## 11. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here

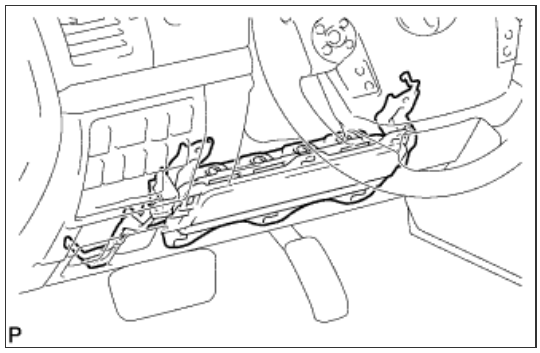


**for Preparation** Click here

## 1. CHECK DRIVER SIDE KNEE AIRBAG ASSEMBLY (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

b. With the driver side knee airbag installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the driver side knee airbag with a new one:
Cuts, minute cracks or marked discoloration on the driver side knee airbag.




## 2. CHECK DRIVER SIDE KNEE AIRBAG ASSEMBLY (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

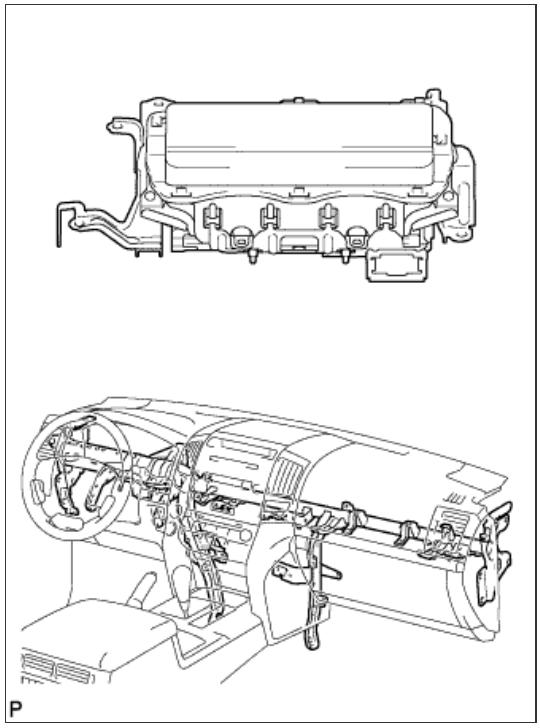
a. Perform a diagnostic system check (Click here).

b. With the driver side knee airbag removed from the vehicle, perform a visual check. If there are any defects as mentioned below, replace the driver side knee airbag with a new one:

- Cuts, minute cracks or marked discoloration on the driver side knee airbag.
- Cracks or other damage to the connector.
- Deformation or cracks on the instrument panel reinforcement.

**NOTICE:**

For removal and installation procedures of the driver side knee airbag, be sure to follow the correct procedure.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RHD and LHD.**
- **The procedures listed below are the LHD side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

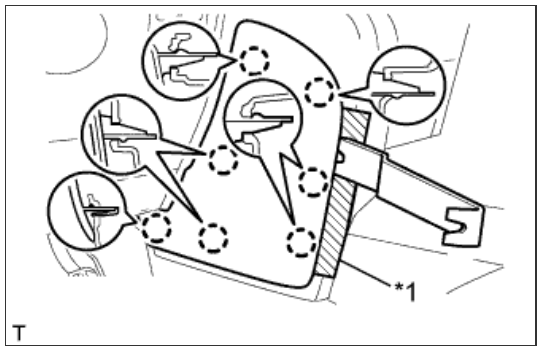
## 2. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 2 instrument panel finish panel cushion.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 2 instrument panel finish panel cushion.

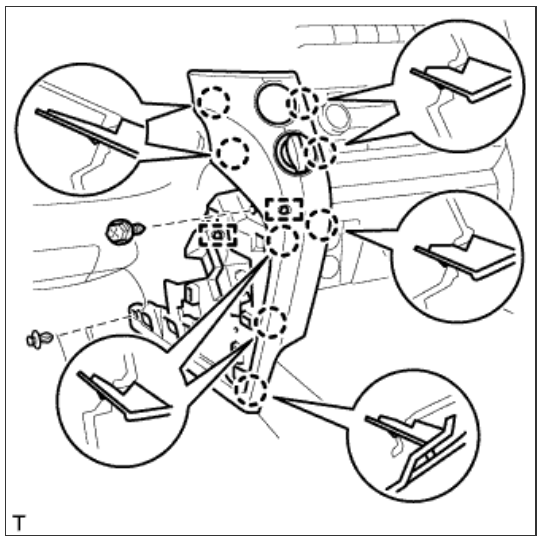



## 3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.



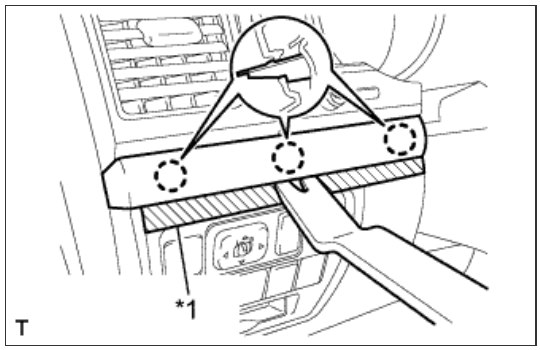

## 4. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

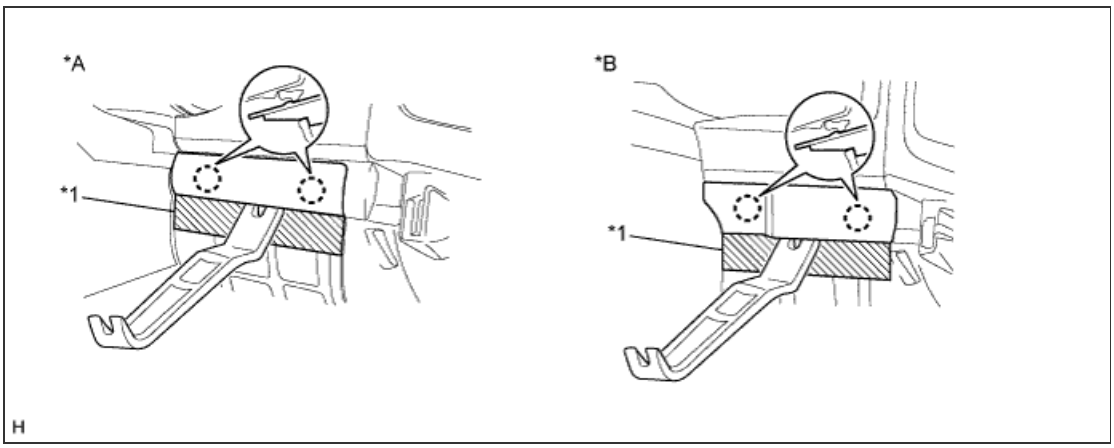
b. Using a moulding remover, detach the 3 claws and remove the No. 1 instrument cluster finish panel garnish.




## 5. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 2 claws and remove the No. 2 instrument cluster finish panel garnish.




**Text in Illustration**

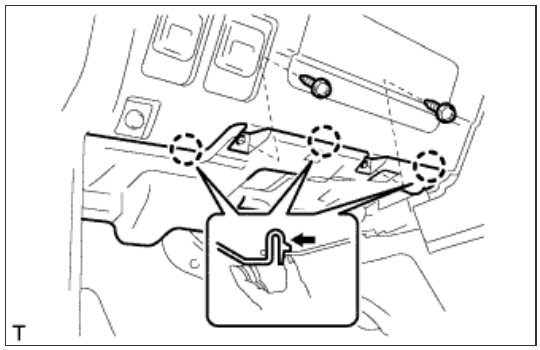
| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |
| *1 | Protective Tape | - | - |

## 6. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Remove the 2 screws.

b. Detach the 3 claws.

c. Disconnect the connectors and remove the No. 1 instrument panel under cover.




## 7. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

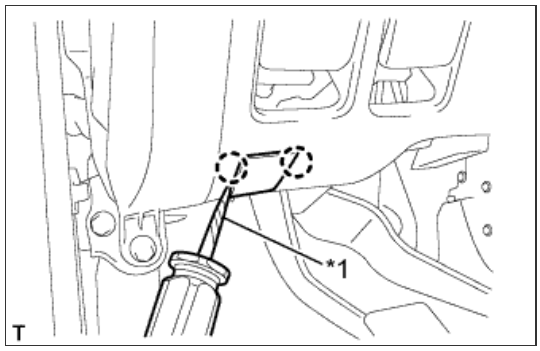
a. Using a screwdriver, detach the 2 claws and open the hole cover.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

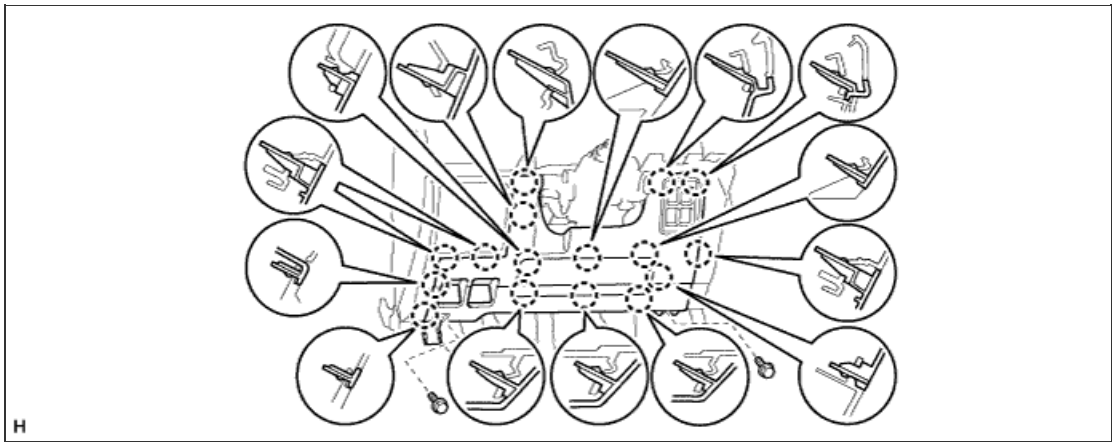
| | |
|---|---|
| *1 | Protective Tape |




b. w/ Driver Side Knee Airbag:

i. Remove the 2 bolts.

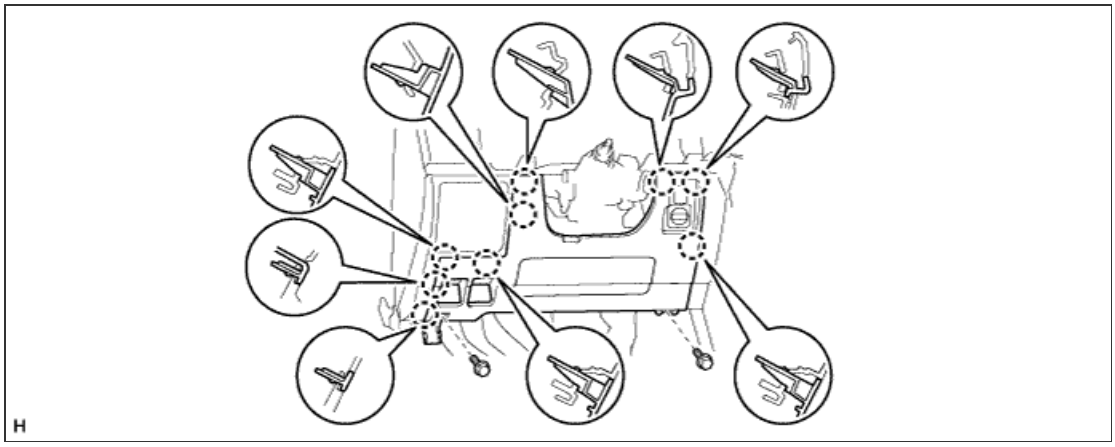
ii. Detach the 16 claws.




c. w/o Driver Side Knee Airbag:

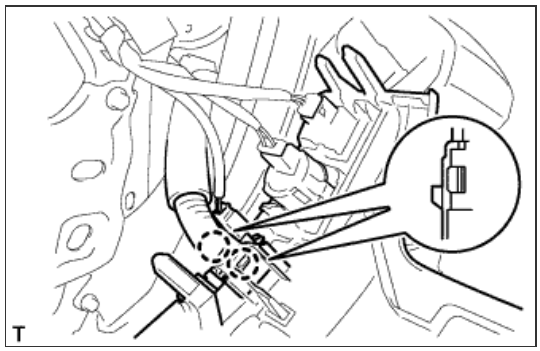
i. Remove the 2 bolts.

ii. Detach the 9 claws.



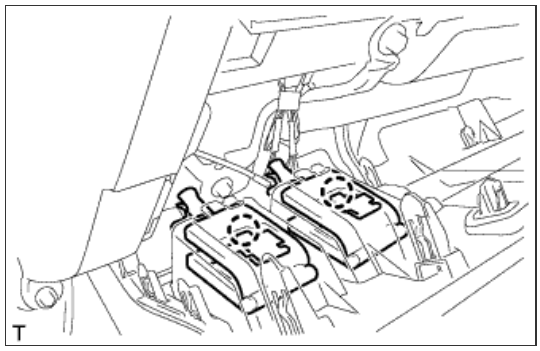
d. for Automatic Air Conditioning System:

i. Detach the 2 claws and remove the room temperature sensor.




e. Detach the 2 claws and disconnect the 2 control cables.

f. Disconnect the connectors and remove the lower No. 1 instrument panel finish panel.




## 8. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY

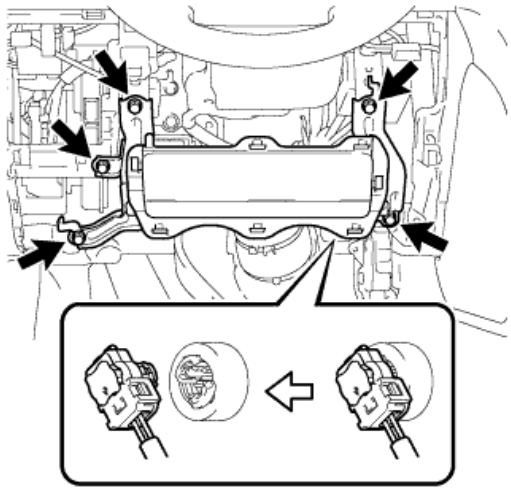
a. Remove the 5 bolts and driver side knee airbag.

b. Disconnect the connector.

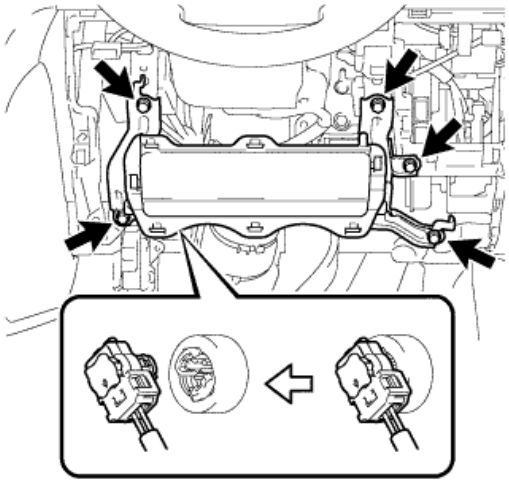
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

for LHD:



for RHD:



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RHD and LHD.**
- **The procedures listed below are the LHD side.**

## 1. INSTALL DRIVER SIDE KNEE AIRBAG ASSEMBLY

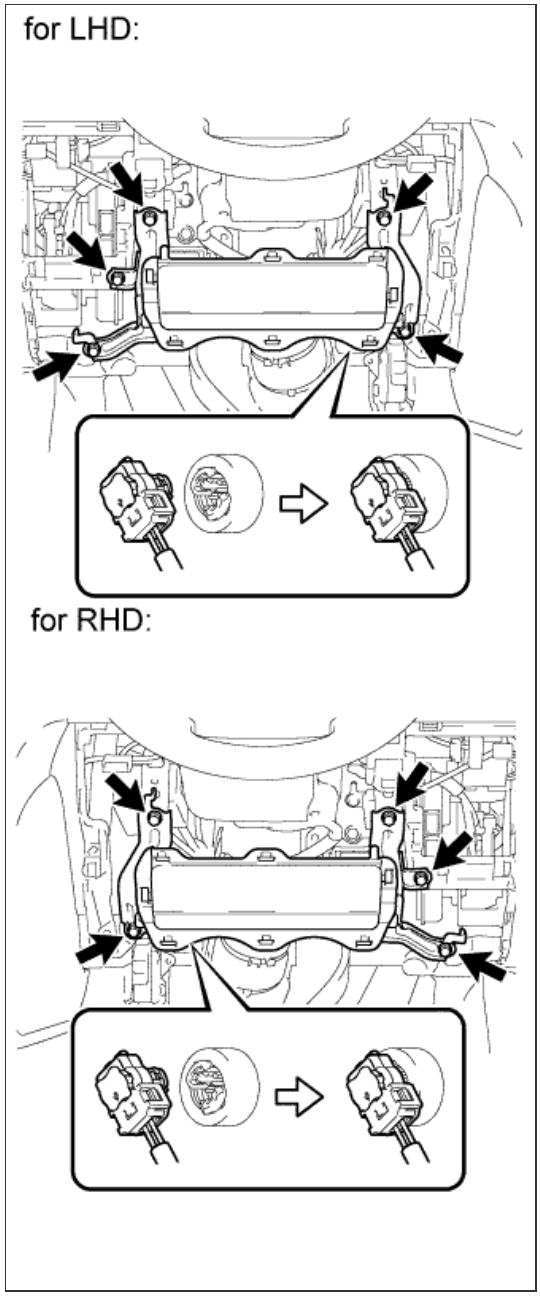
a. Connect the connector.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Install the driver side knee airbag with the 5 bolts.

**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**

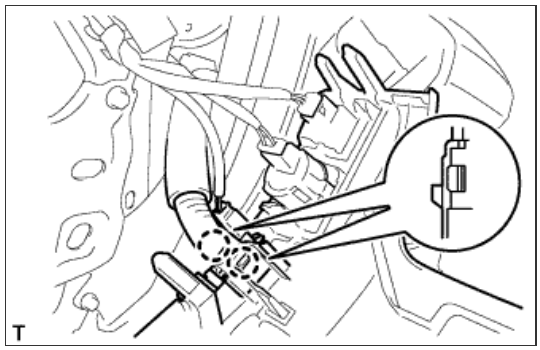



## 2. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

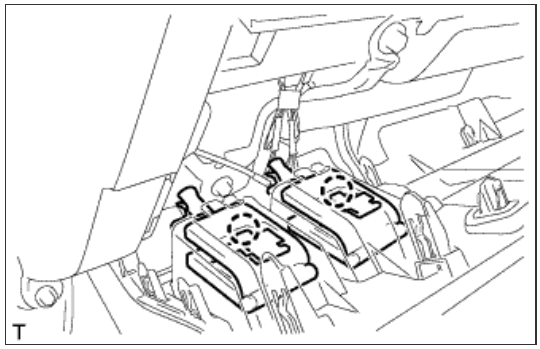
a. Connect the connectors.

b. for Automatic Air Conditioning System:

i. Attach the 2 claws to install the room temperature sensor.



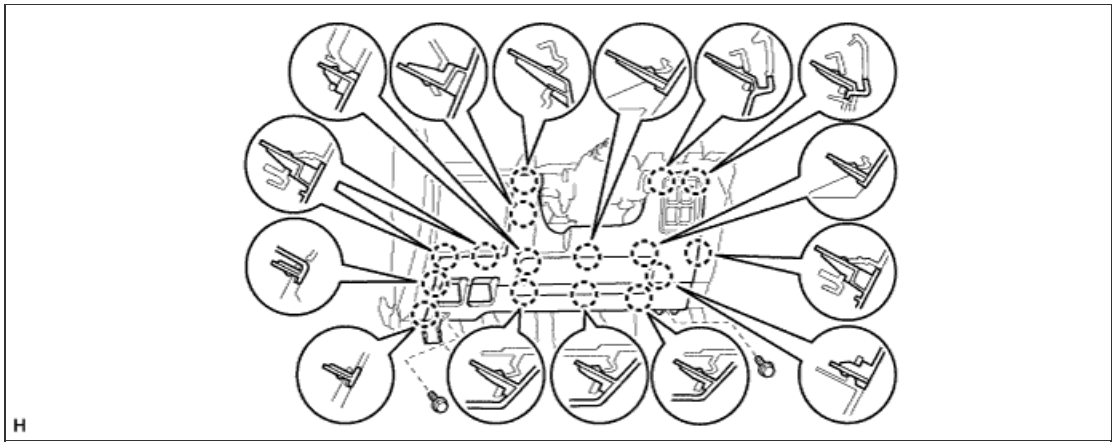

c. Attach the 2 claws to connect the 2 control cables.




d. w/ Driver Side Knee Airbag:

i. Attach the 16 claws to install the lower No. 1 instrument panel finish panel.

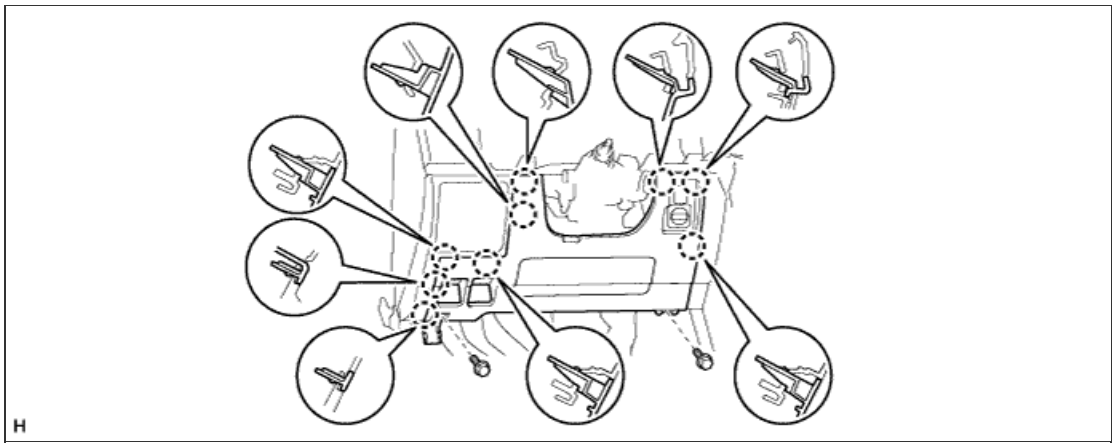
ii. Install the 2 bolts.



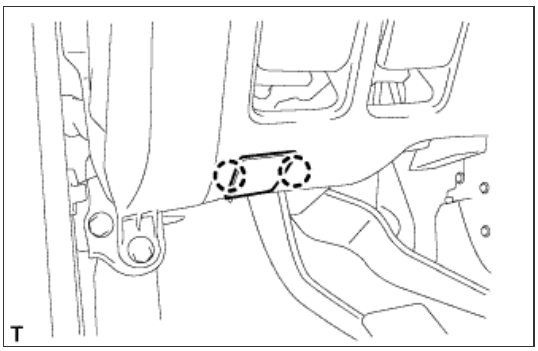

e. w/o Driver Side Knee Airbag:

i. Attach the 9 claws to install the lower No. 1 instrument panel finish panel.

ii. Install the 2 bolts.




f. Attach the 2 claws to close the hole cover.

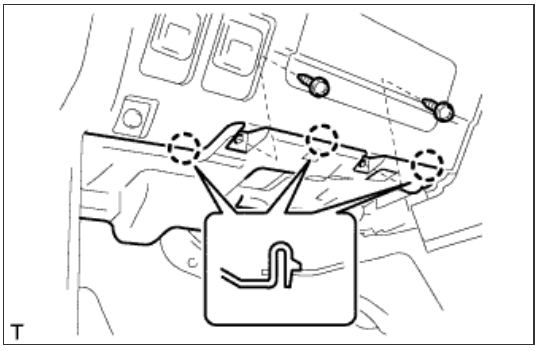



### 3. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Connect the connectors.

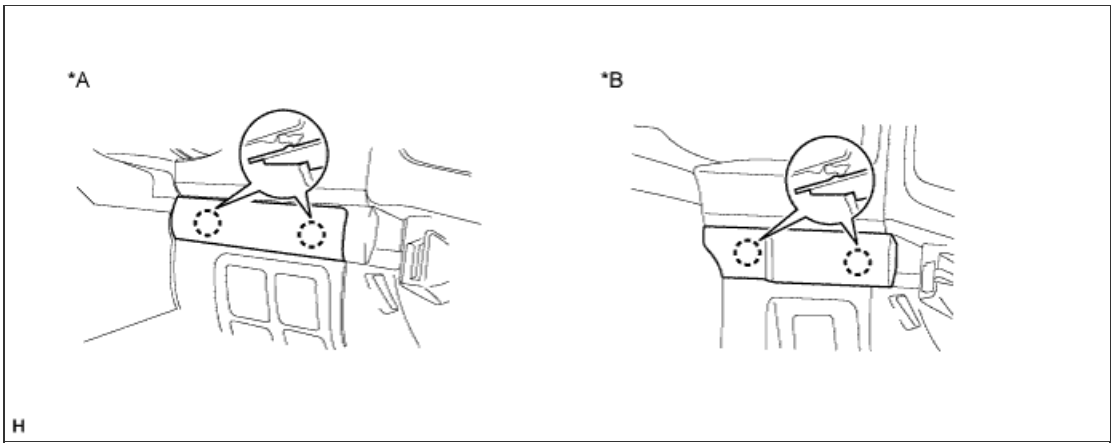
b. Attach the 3 claws to install the No. 1 instrument panel under cover.

c. Install the 2 screws.




### 4. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 2 claws to install the No. 2 instrument cluster finish panel garnish.

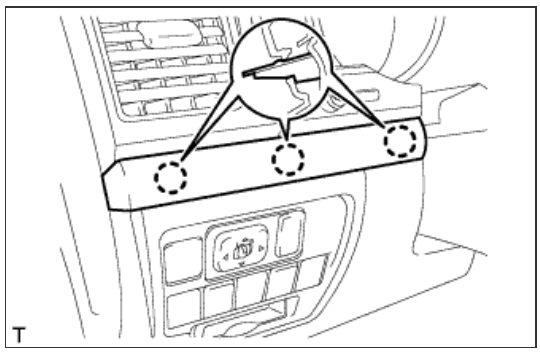



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |

## 5. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 3 claws to install the No. 1 instrument cluster finish panel garnish.

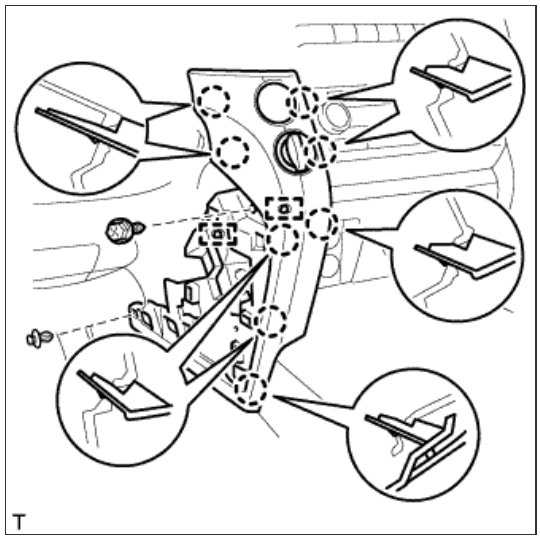



## 6. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

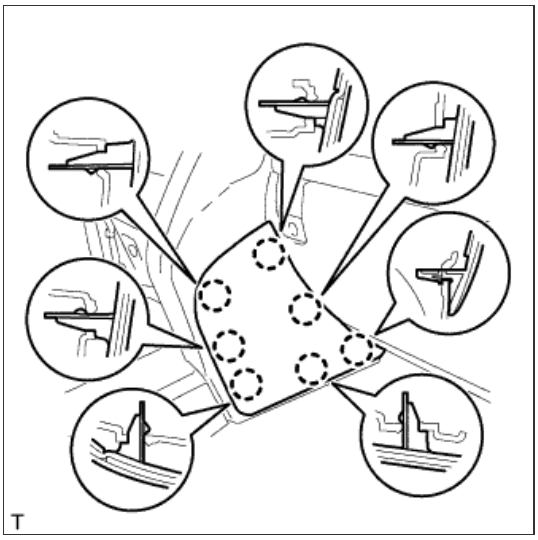
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.




## 7. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 1 instrument panel finish panel cushion.




### 8. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 9. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here

**HINT:**

When scrapping a vehicle equipped with the SRS or disposing of the steering pad, be sure to deploy the airbag first in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of the DISTRIBUTOR..

**CAUTION:**

- **Never dispose of a driver side knee airbag assembly that has an unactivated airbag.**
- **The airbag produces an exploding sound when it is deployed, so perform the operation outdoors and where it will not create a nuisance to nearby residents.**
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool). Perform the operation in a place away from electrical noise.**
- **When deploying the airbag, perform the operation at least 10 m (32.8 ft.) away from the driver side knee airbag.**
- **The driver side knee airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a driver side knee airbag with a deployed airbag.**
- **Do not apply water to a driver side knee airbag assembly with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **An airbag or pretensioner may be activated by static electricity. To prevent this, be sure to touch a metal surface with bare hands to discharge static electricity before performing this procedure.**

## 1. DISPOSE OF DRIVER SIDE KNEE AIRBAG ASSEMBLY (WHEN INSTALLED IN VEHICLE)

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Read the precaution (Click here).

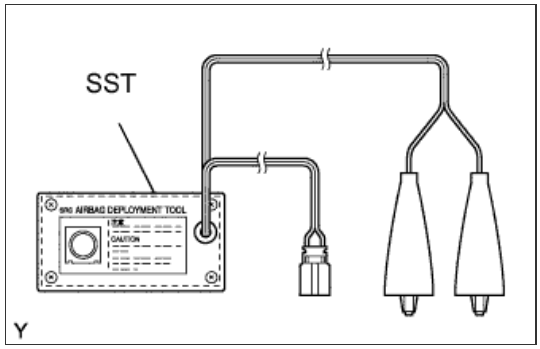
c. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).




d. Remove the driver side knee airbag (Click here).

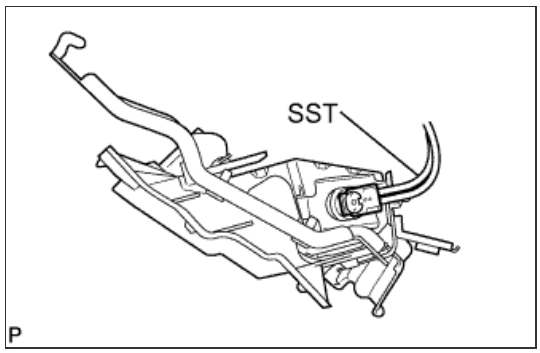
e. Install SST.

i. Connect SST connector to the driver side knee airbag.

*SST*
09082-00700
09082-00780

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.




ii. Install the driver side knee airbag (Click here).

**NOTICE:**

Take care not to damage SST wire harness.

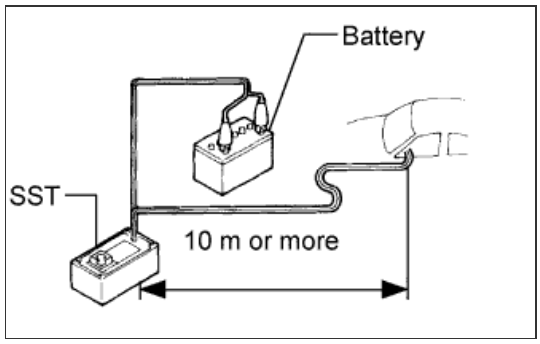
iii. Move SST at least 10 m (32.8 ft.) away from the vehicle front side window.

iv. Maintaining enough clearance for SST wire harness in the front side window, close all doors and windows of the vehicle.

**NOTICE:**

Take care not to damage SST wire harness.

v. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.




f. Deploy the airbag.

i. Check that no one is inside the vehicle or within a 10 m (32.8 ft.) radius of the vehicle.

ii. Press SST activation switch to deploy the airbag.

**CAUTION:**

- **When deploying the airbag, make sure that no one is near the vehicle.**
- **The driver side knee airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a driver side knee airbag with a deployed airbag.**
- **Do not apply water to a driver side knee airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

## 2. DISPOSE OF DRIVER SIDE KNEE AIRBAG ASSEMBLY (WHEN NOT INSTALLED IN VEHICLE)

**NOTICE:**

Be sure to follow the procedure detailed below when deploying the airbag.

**HINT:**

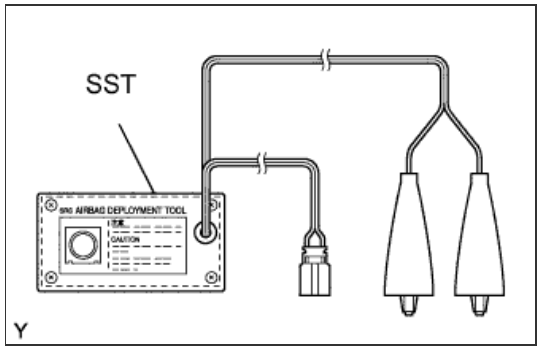
Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Remove the driver side knee airbag (Click here).

**CAUTION:**

- **When removing the driver side knee airbag, wait at least 90 seconds after the ignition switch is turned off and the cable is disconnected from the negative (-) battery terminal before starting work.**
- **When storing the driver side knee airbag, keep the airbag deployment side facing upward.**

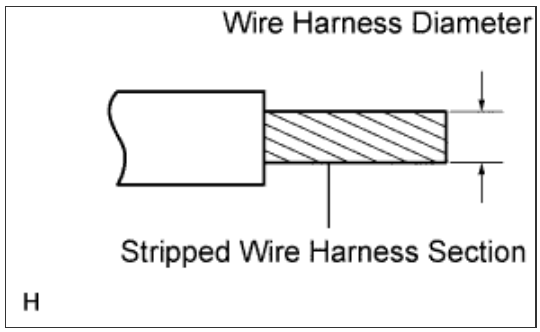



c. Using a service-purpose wire harness for the vehicle, tie down the driver side knee airbag to a tire.

**Cross-sectional area of stripped wire harness section:**
**1.25 $mm^2$ or more (0.00192 $in.^2$ or more)**

**CAUTION:**

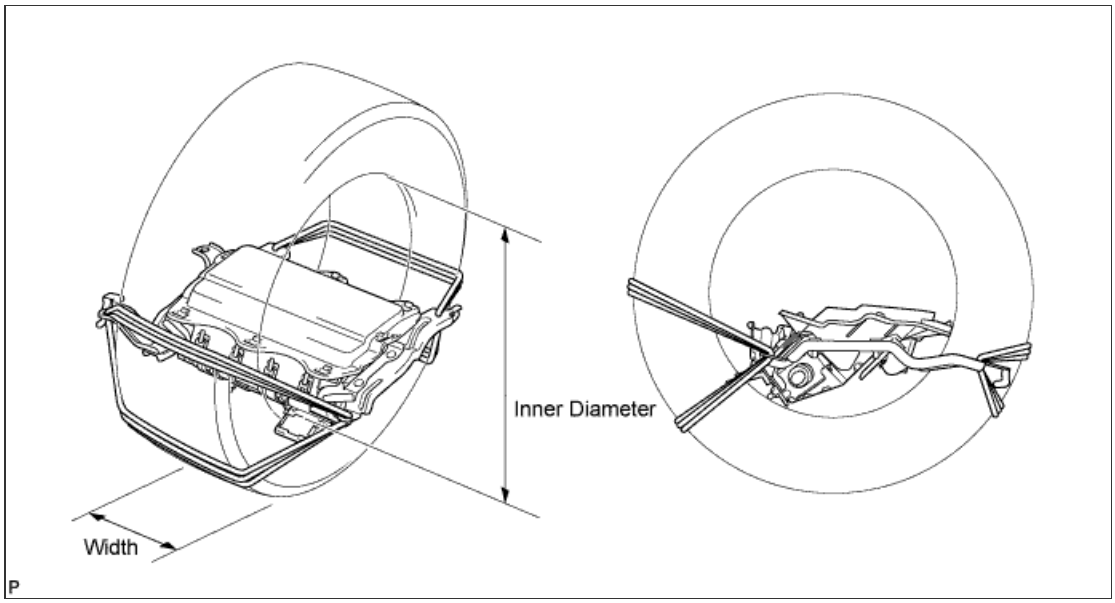
If the wire harness is too thin or an alternative object is used to tie down the driver side knee airbag, it may be snapped by the shock when the airbag is deployed. Always use a wire harness for vehicle use with a cross-sectional area of at least 1.25 $mm^2$ (0.00192 $in.^2$).



**HINT:**

To calculate the cross-sectional area of the stripped wire harness section: Cross-sectional area = 3.14 x (Diameter) $^{2}$ divided by 4

i. Position the driver side knee airbag inside a tire with the airbag deployment side facing inside.




**Tire size:**
**Must exceed the following dimensions**
**Width:**
**185 mm (7.28 in.)**
**Inner diameter:**
**360 mm (14.2 in.)**

ii. Tie the driver side knee airbag to the tire with several wire harnesses.

**CAUTION:**

- **Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the driver side knee airbag may become loose due to the shock when the airbag is deployed.**
- **Always tie down the driver side knee airbag with the airbag deployment side facing inside the tire.**

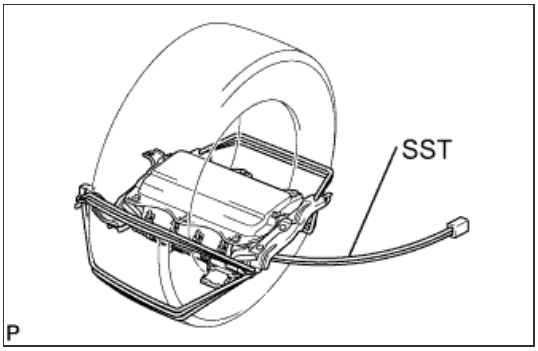
**NOTICE:**

As the tire may be damaged by the airbag deployment, use a tire that you are planning to throw away.

d. Install SST.

i. Connect SST connector to the driver side knee airbag.

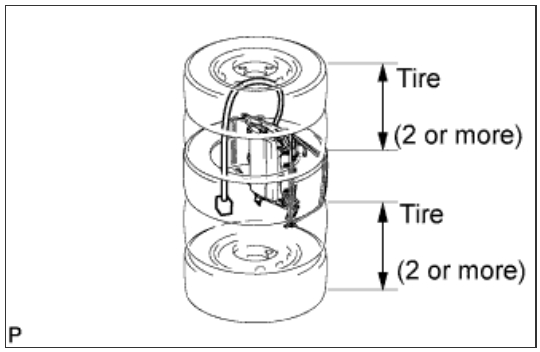
***SST***
09082-00780




e. Place tires.

i. Place at least 2 tires under the tire which the driver side knee airbag is tied to.

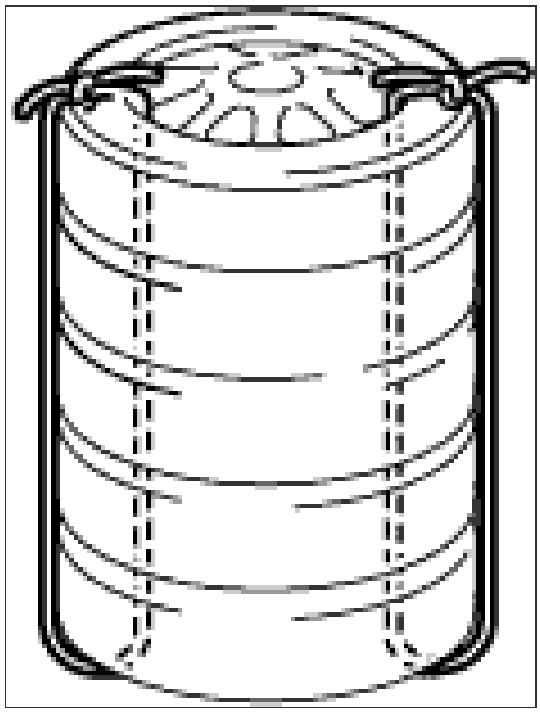
ii. Place at least 2 tires over the tire which the driver side knee airbag is tied to. The top tire should have a disc wheel installed.




**NOTICE:**

- **Do not place SST connector under the tire because it could be damaged.**
- **As the disc wheel may be damaged by the airbag deployment, use a disc wheel that you are planning to throw away.**
- **As the tires may be damaged by the airbag deployment, use tires that you are planning to throw away.**

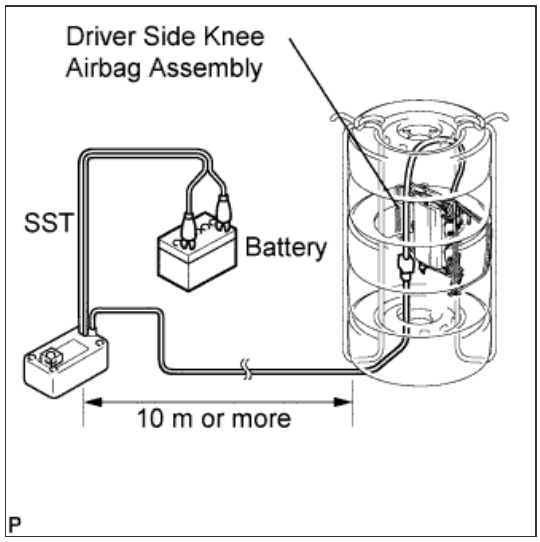
iii. Tie the tires together with 2 wire harnesses.



**CAUTION:**

Make sure that the wire harnesses are tight. Looseness in the wire harnesses results in the tires coming free due to the shock when the airbag is deployed.

f. Install SST.




i. Connect SST connector.

*SST*
09082-00700

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, secure some slack for SST wire harness inside the tire.

g. Deploy the airbag.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.

ii. Check that no one is within a 10 m (32.8 ft.) radius of the tire which the driver side knee airbag is tied to.

iii. Press SST activation switch to deploy the airbag.

**CAUTION:**

When deploying the airbag, make sure that no one is near the tire.

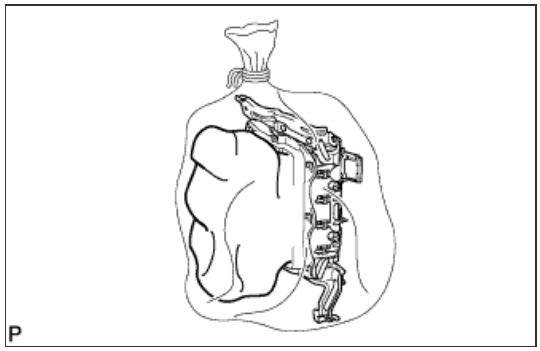
**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

h. Dispose of the driver side knee airbag.

**CAUTION:**

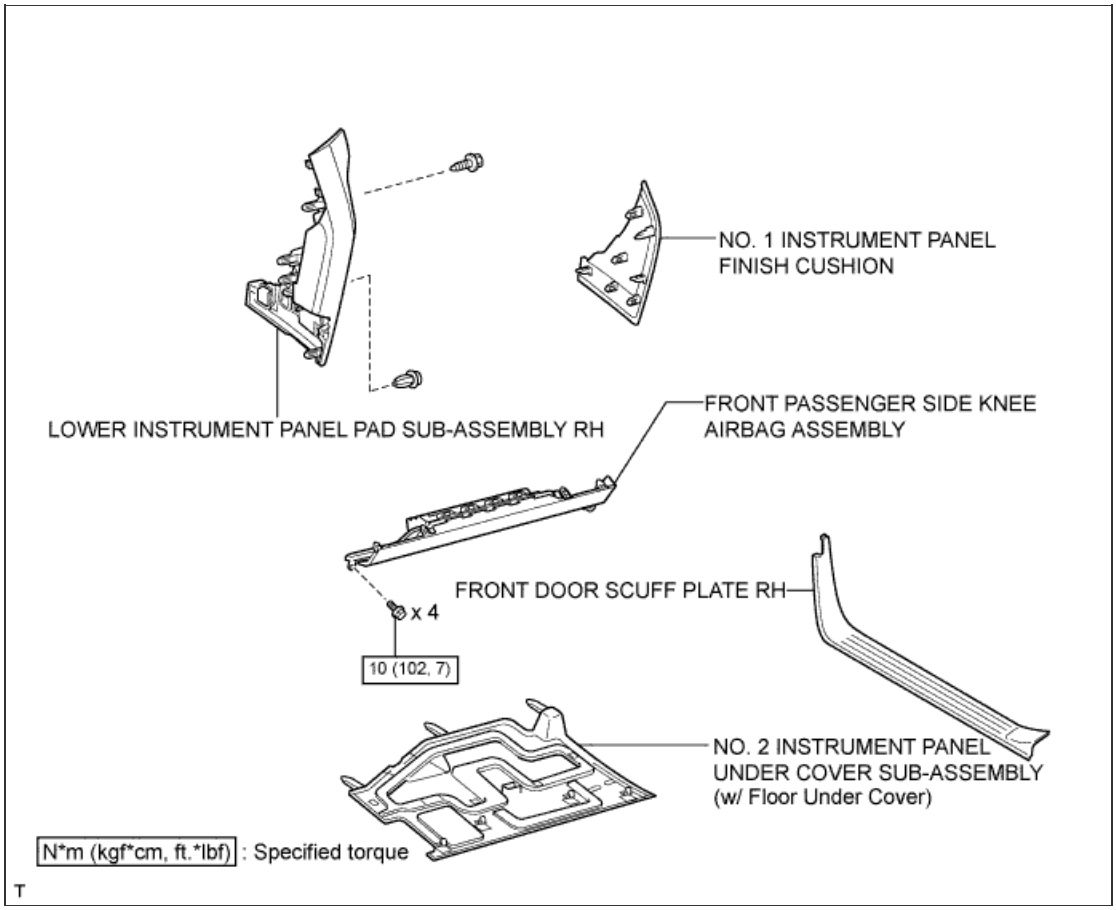
- **The driver side knee airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a driver side knee airbag with a deployed airbag.**
- **Do not apply water to a driver side knee airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**




i. Remove the driver side knee airbag from the tire.

ii. Place the driver side knee airbag in a plastic bag, tie it tightly and dispose of it in the same way as other general parts.

**for Preparation** Click here

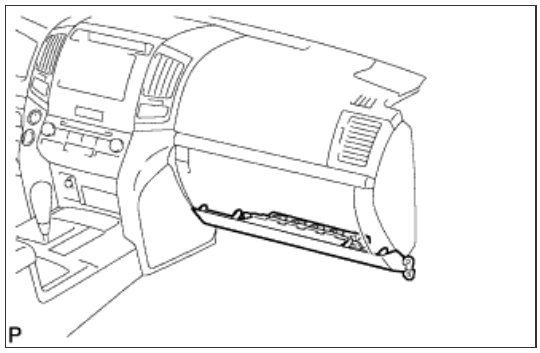


**for Preparation** Click here

## 1. CHECK FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

b. With the front passenger side knee airbag installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the front passenger side knee airbag with a new one:
Cuts, minute cracks or marked discoloration on the front passenger side knee airbag.




## 2. CHECK FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

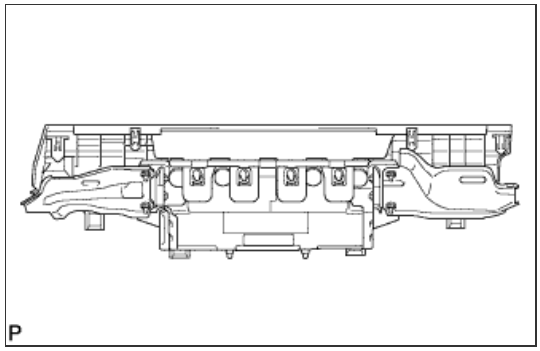
a. Perform a diagnostic system check (Click here).

b. With the front passenger side knee airbag removed from the vehicle, perform a visual check. If there are any defects as mentioned below, replace the front passenger side knee airbag with a new one:

- Cuts, minute cracks or marked discoloration on the front passenger side knee airbag.
- Cracks or other damage to the connector.
- Deformation or cracks on the instrument panel reinforcement.

**NOTICE:**

For removal and installation procedures of the front passenger side knee airbag, be sure to follow the correct procedure.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RHD and LHD.**
- **The procedures listed below are the LHD side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 2. REMOVE FRONT DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

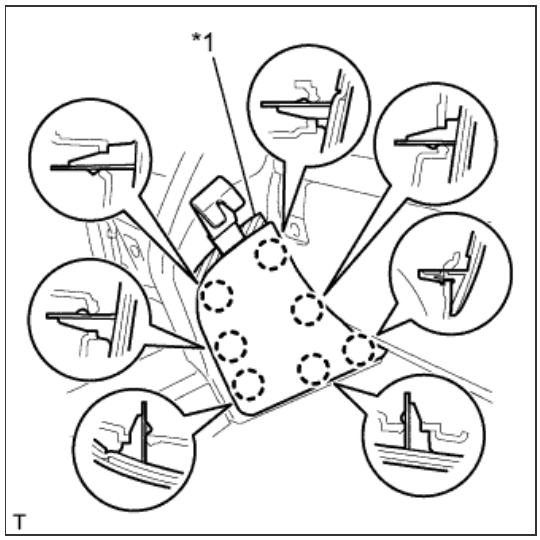
## 3. REMOVE NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Put protective tape around the No. 1 instrument panel finish panel cushion.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

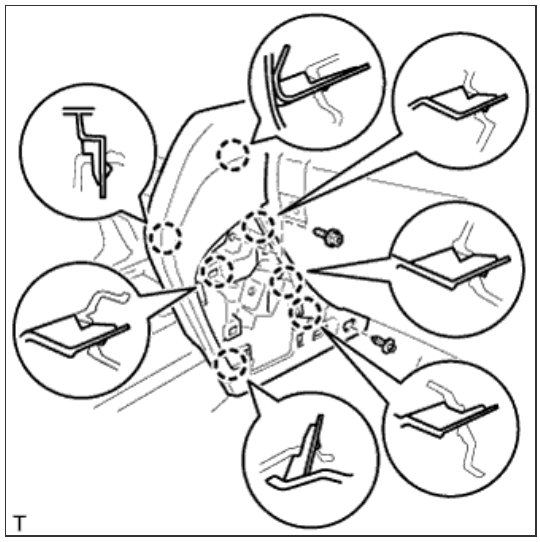
b. Using a moulding remover, detach the 7 claws and remove the No. 1 instrument panel finish panel cushion.




## 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

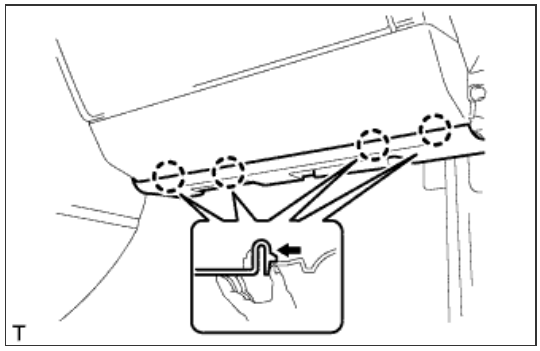
a. Remove the clip and screw.

b. Detach the 7 claws and remove the lower instrument panel pad sub-assembly.




### 5. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Detach the 4 claws and remove the No. 2 instrument panel under cover.




### 6. REMOVE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the 4 bolts.

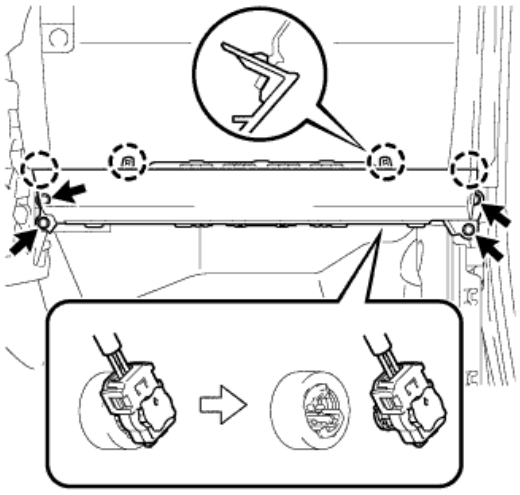
b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

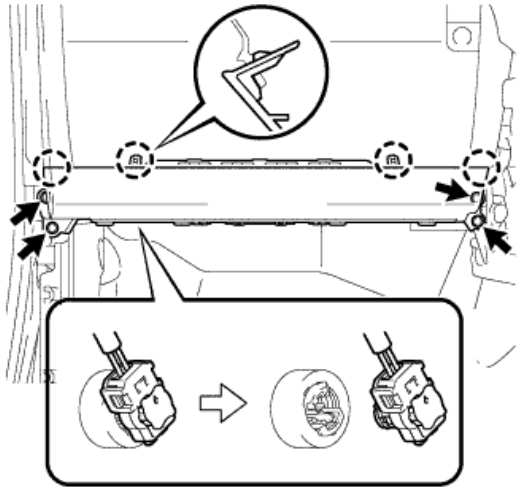
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

for LHD:



for RHD:



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RHD and LHD.**
- **The procedures listed below are the LHD side.**

## 1. INSTALL FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY

a. Connect the connector.

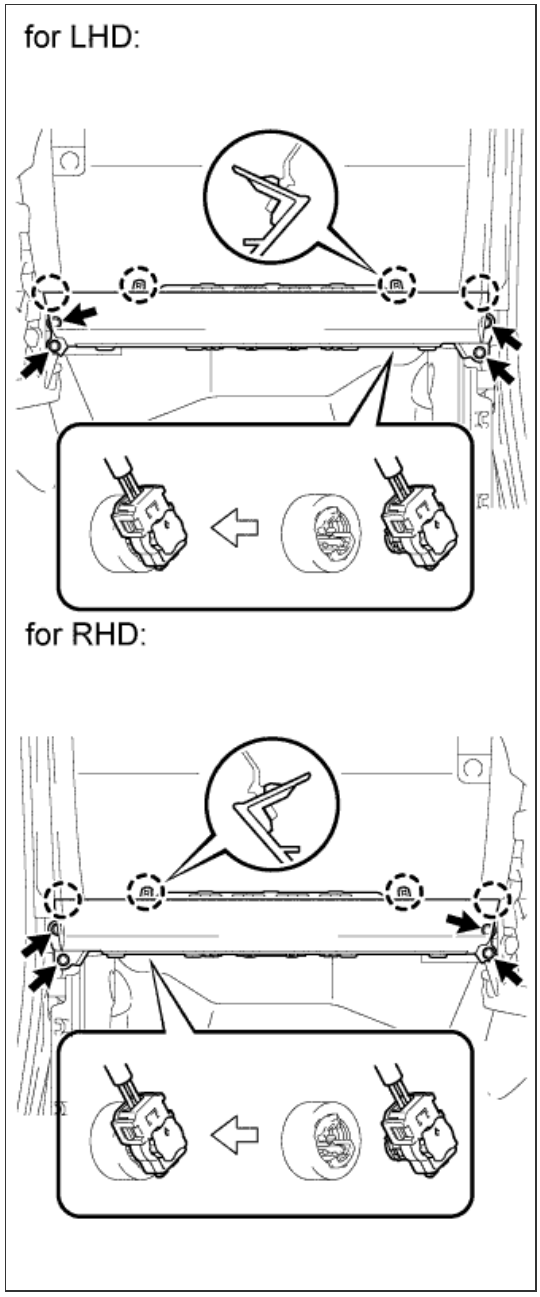
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Attach the 4 claws to install the front passenger side knee airbag.

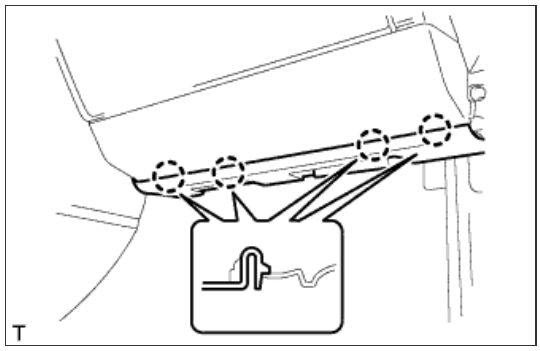
c. Install the 4 bolts.

**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




## 2. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

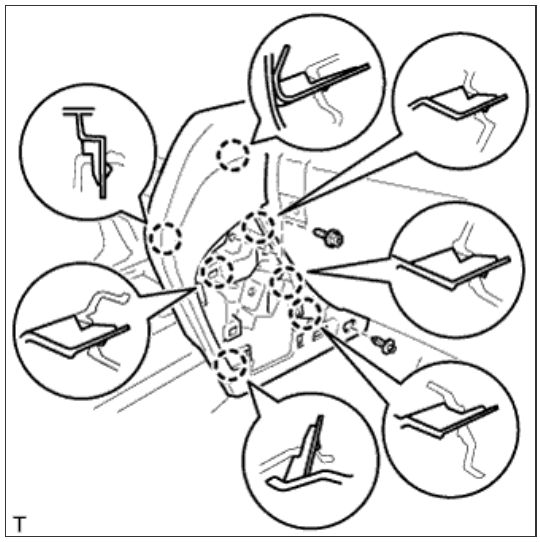
a. Attach the 4 claws to install the No. 2 instrument panel under cover.




### 3. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

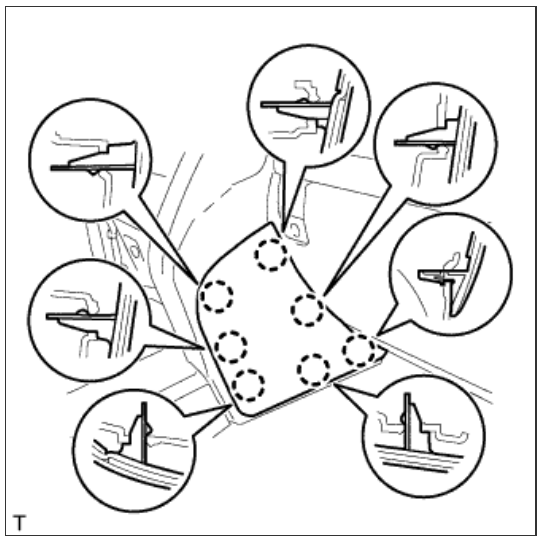
a. Attach the 7 claws to install the lower instrument panel pad sub-assembly.

b. Install the clip and screw.




### 4. INSTALL NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Attach the 7 claws to install the No. 1 instrument panel finish panel cushion.




### 5. INSTALL FRONT DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

### 6. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 7. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here

**HINT:**

When scrapping a vehicle equipped with the SRS or disposing of the steering pad, be sure to deploy the airbag first in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of the DISTRIBUTOR..

**CAUTION:**

- **Never dispose of a front passenger side knee airbag that has an unactivated airbag.**
- **The airbag produces an exploding sound when it is deployed, so perform the operation outdoors and where it will not create a nuisance to nearby residents.**
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool). Perform the operation in a place away from electrical noise.**
- **When deploying the airbag, perform the operation at least 10 m (32.8 ft.) away from the front passenger side knee airbag.**
- **The front passenger side knee airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front passenger side knee airbag with a deployed airbag.**
- **Do not apply water to a front passenger side knee airbag assembly with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **An airbag or pretensioner may be activated by static electricity. To prevent this, be sure to touch a metal surface with bare hands to discharge static electricity before performing this procedure.**

## 1. DISPOSE OF FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (WHEN INSTALLED IN VEHICLE)

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Read the precaution (Click here).

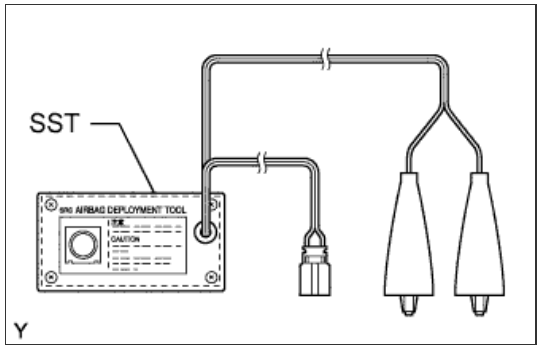
c. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).




d. Remove the front passenger side knee airbag ( Click here).

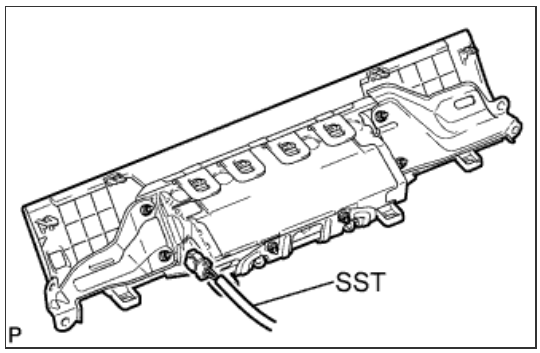
e. Install SST.

i. Connect SST connector to the front passenger side knee airbag.

*SST*
09082-00700
09082-00770

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.




ii. Install the front passenger side knee airbag ( Click here).

**NOTICE:**

Take care not to damage SST wire harness.

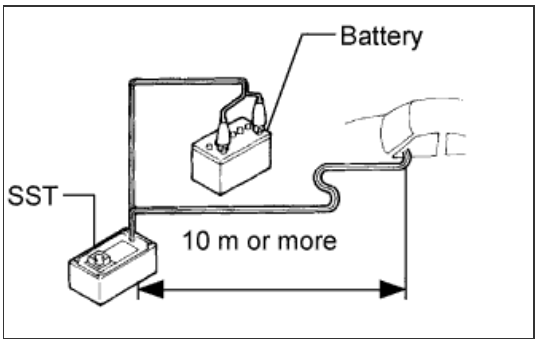
iii. Move SST at least 10 m (32.8 ft.) away from the vehicle front side window.

iv. Maintaining enough clearance for SST wire harness in the front side window, close all doors and windows of the vehicle.

**NOTICE:**

Take care not to damage SST wire harness.

v. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.




f. Deploy the airbag.

i. Check that no one is inside the vehicle or within a 10 m (32.8 ft.) radius of the vehicle.

ii. Press SST activation switch to deploy the airbag.

**CAUTION:**

- **When deploying the airbag, make sure that no one is near the vehicle.**
- **The front passenger side knee airbag assembly becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front passenger side knee airbag assembly with a deployed airbag.**
- **Do not apply water to a front passenger side knee airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

## 2. DISPOSE OF FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (WHEN NOT INSTALLED IN VEHICLE)

**NOTICE:**

Be sure to follow the procedure detailed below when deploying the airbag.

**HINT:**

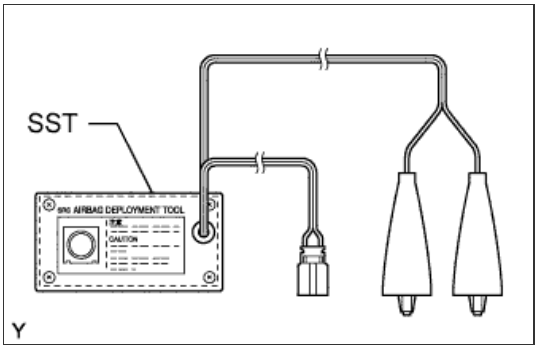
Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Remove the front passenger side knee airbag (Click here).

**CAUTION:**

- **When removing the front passenger side knee airbag, wait at least 90 seconds after the ignition switch is turned off and the cable is disconnected from the negative (-) battery terminal before starting work.**
- **When storing the front passenger side knee airbag, keep the airbag deployment side facing upward.**




c. Using a service-purpose wire harness for the vehicle, tie down the front passenger side knee airbag to a tire.

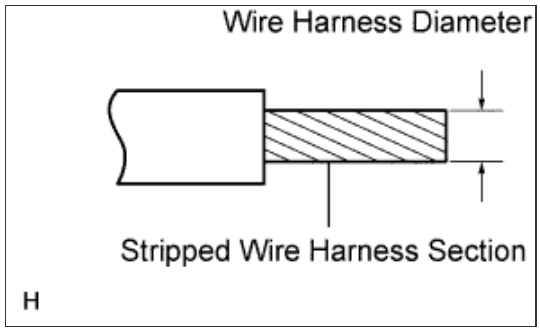
**Cross-sectional area of stripped wire harness section:**
**1.25 $mm^2$ or more (0.00192 $in.^2$ or more)**

**CAUTION:**

If the wire harness is too thin or an alternative object is used to tie down the front passenger side knee airbag, it may be snapped by the shock when the airbag is deployed. Always use a wire harness for vehicle use with a cross-sectional area of at least 1.25 $mm^2$ (0.00192 $in.^2$).

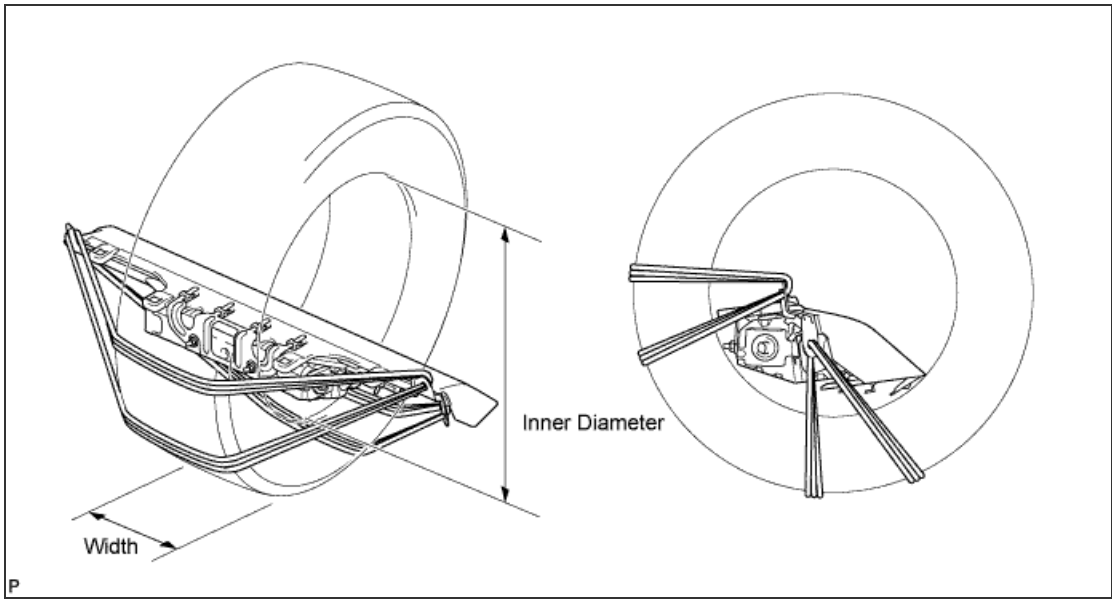
**HINT:**

To calculate the cross-sectional area of the stripped wire harness section:
Cross-sectional area = 3.14 x (Diameter)$^2$ divided by 4




i. Position the front passenger side knee airbag inside a tire with the airbag deployment side facing inside.

**Tire size:**
**Must exceed the following dimensions**
**Width:**
**185 mm (7.28 in.)**
**Inner diameter:**
**360 mm (14.2 in.)**




ii. Tie the front passenger side knee airbag to the tire with several wire harnesses.

**CAUTION:**

- **Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the front passenger side knee airbag may become loose due to the shock when the airbag is deployed.**
- **Always tie down the front passenger side knee airbag with the airbag deployment side facing inside the tire.**

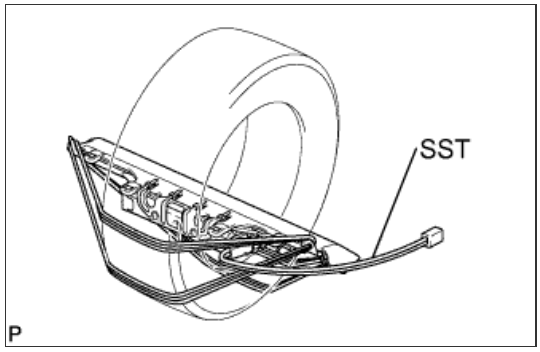
**NOTICE:**

As the tire may be damaged by the airbag deployment, use a tire that you are planning to throw away.

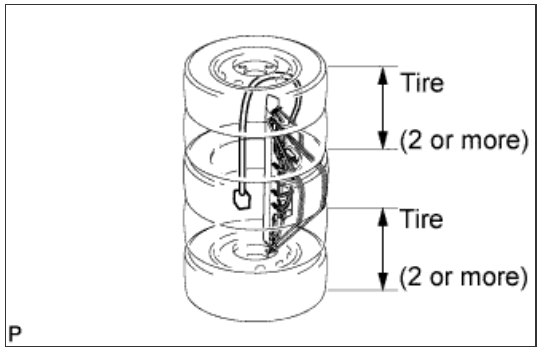
d. Install SST.

i. Connect SST connector to the front passenger side knee airbag.

***SST***
09082-00770



e. Place tires.



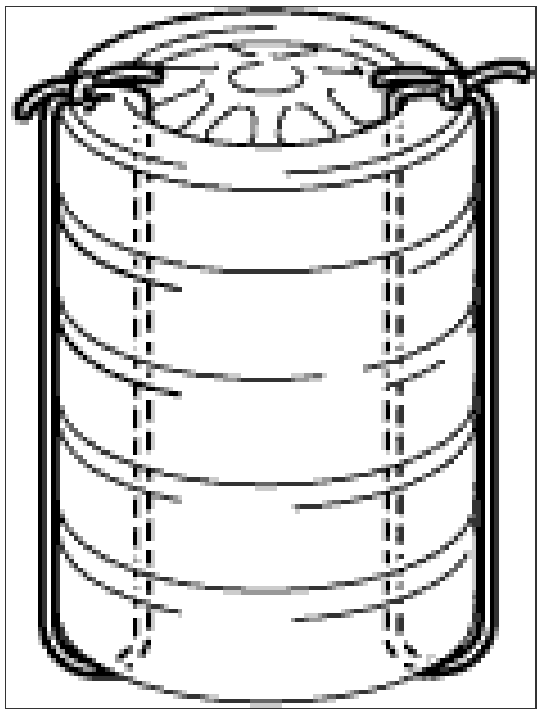

i. Place at least 2 tires under the tire which the front passenger side knee airbag is tied to.

ii. Place at least 2 tires over the tire which the front passenger side knee airbag is tied to. The top tire should have a disc wheel installed.

**NOTICE:**

- **Do not place SST connector under the tire because it could be damaged.**
- **As the disc wheel may be damaged by the airbag deployment, use a disc wheel that you are planning to throw away.**
- **As the tires may be damaged by the airbag deployment, use tires that you are planning to throw away.**

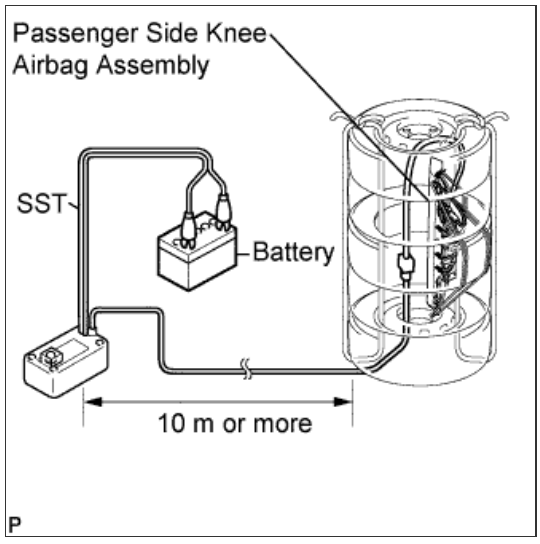
iii. Tie the tires together with 2 wire harnesses.



**CAUTION:**

Make sure that the wire harnesses are tight. Looseness in the wire harnesses results in the tires coming free due to the shock when the airbag is deployed.

f. Install SST.




i. Connect SST connector.

***SST***

09082-00700

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, secure some slack for SST wire harness inside the tire.

g. Deploy the airbag.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.

ii. Check that no one is within a 10 m (32.8 ft.) radius of the tire which the front passenger side knee airbag is tied to.

iii. Press SST activation switch to deploy the airbag.

**CAUTION:**

When deploying the airbag, make sure that no one is near the tire.

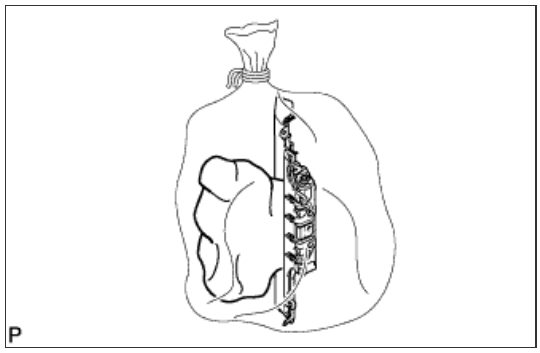
**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

h. Dispose of the front passenger side knee airbag.

**CAUTION:**

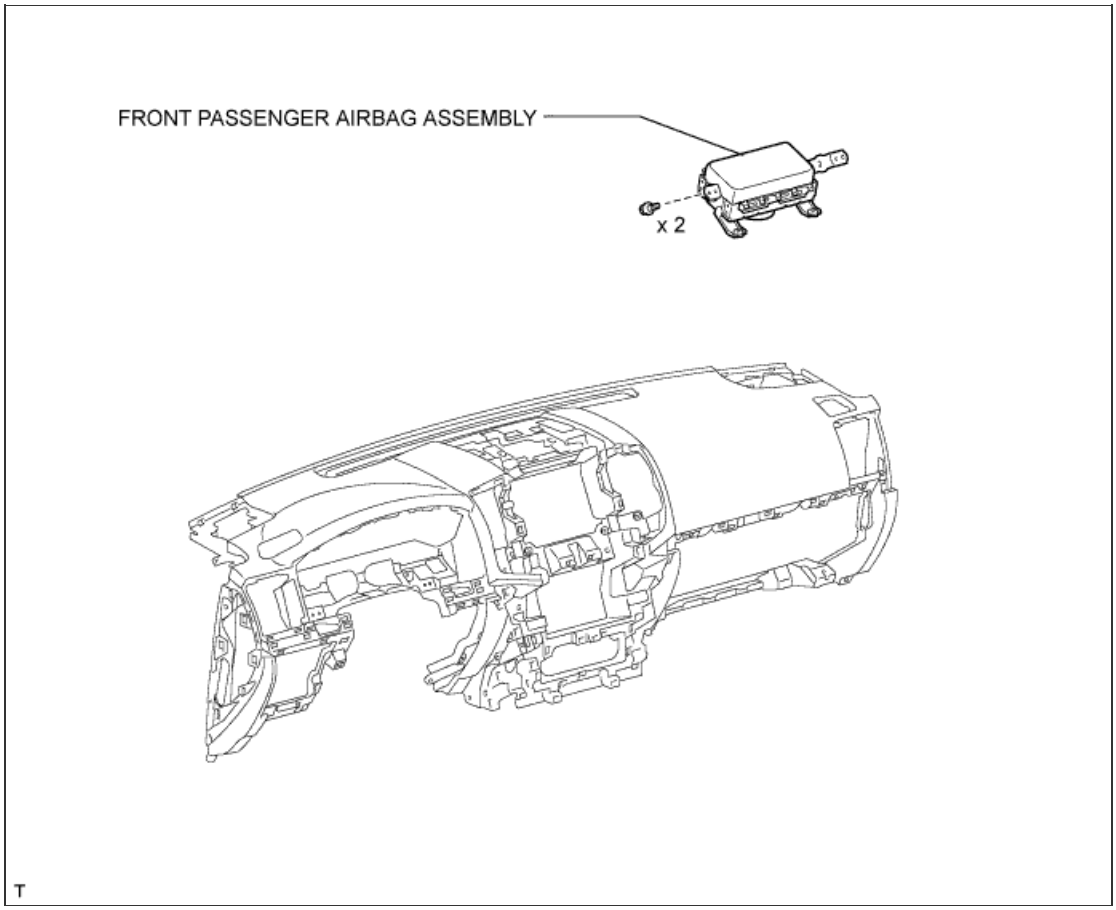
- **The front passenger side knee airbag assembly becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front passenger side knee airbag with a deployed airbag.**
- **Do not apply water to a front passenger side knee airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**




i. Remove the front passenger side knee airbag from the tire.

ii. Place the front passenger side knee airbag in a plastic bag, tie it tightly and dispose of it in the same way as other general parts.

**for Preparation** [Click here]

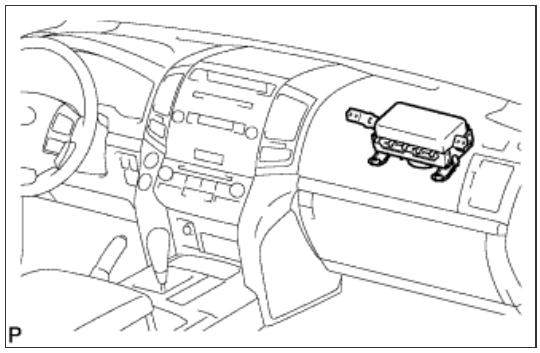


**for Preparation** Click here

## 1. CHECK FRONT PASSENGER AIRBAG ASSEMBLY (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

b. With the front passenger airbag installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the instrument panel with a new one:
Cuts, minute cracks or marked discoloration on the instrument panel around the front passenger airbag.




## 2. CHECK FRONT PASSENGER AIRBAG ASSEMBLY (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

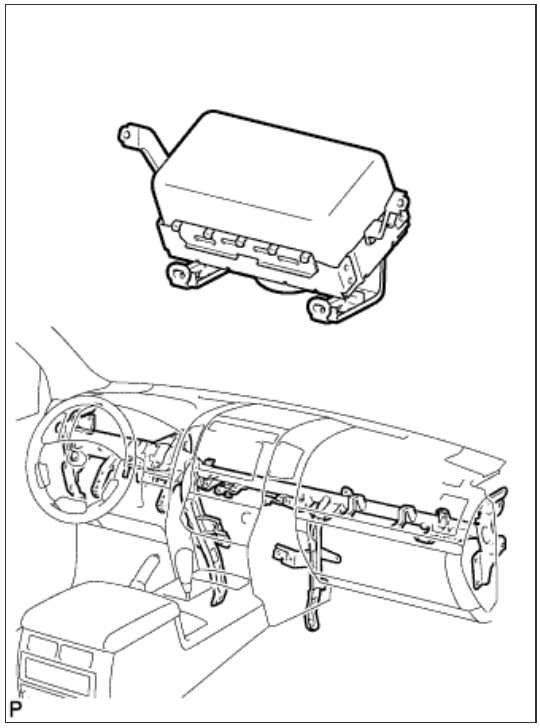
a. Perform a diagnostic system check (Click here).

b. With the front passenger airbag removed from the vehicle, perform a visual check. If there are any defects as mentioned below, replace the front passenger airbag, instrument panel or instrument panel reinforcement with a new one:

- Cuts, minute cracks or marked discoloration on the front passenger airbag.
- Cracks or other damage to the connectors.
- Deformation or cracks on the instrument panel or instrument panel reinforcement.

**NOTICE:**

For removal and installation procedures of the front passenger airbag, be sure to follow the correct procedure.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RHD and LHD.**
- **The procedures listed below are the LHD side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **After the ignition switch is turned off, the navigation system requires approximately 90 seconds to record various types of memory and settings. As a result, after turning the ignition switch off, wait 90 seconds or more before disconnecting the cable from the negative (-) battery terminal.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 2. REMOVE INSTRUMENT PANEL SAFETY PAD

a. Remove the instrument panel safety pad ( Click here).

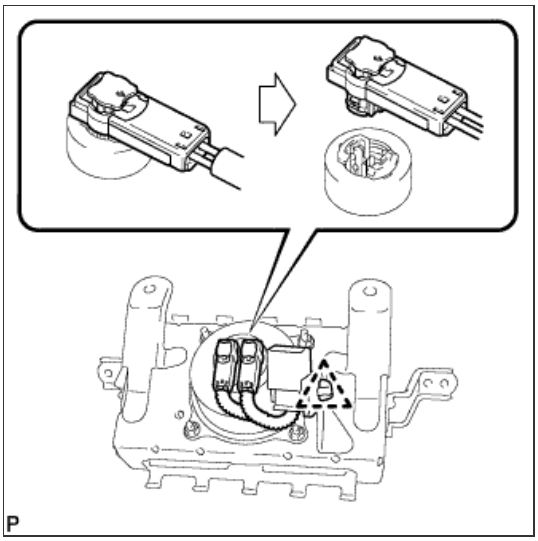
## 3. REMOVE FRONT PASSENGER AIRBAG ASSEMBLY

a. Detach the claw and remove the wire.

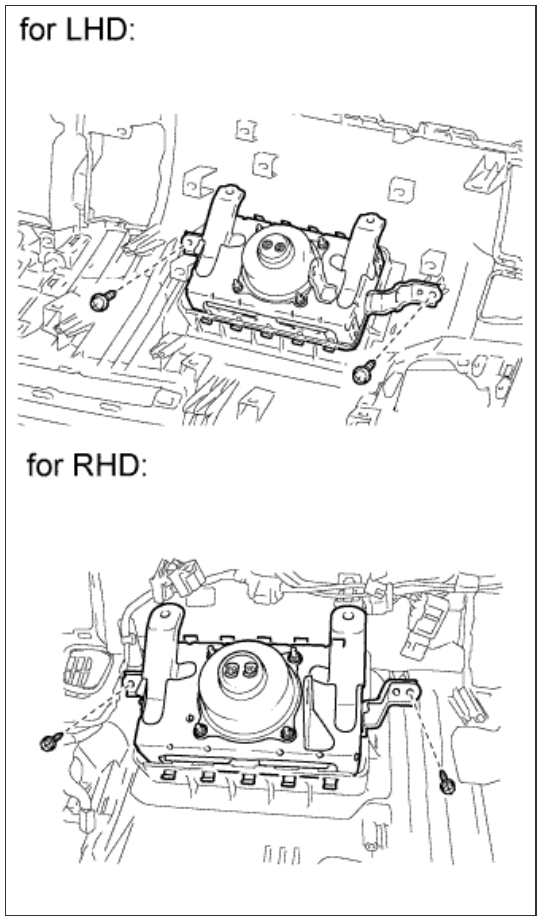
b. Disconnect the 2 connectors and remove the instrument panel wire from the front passenger airbag.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

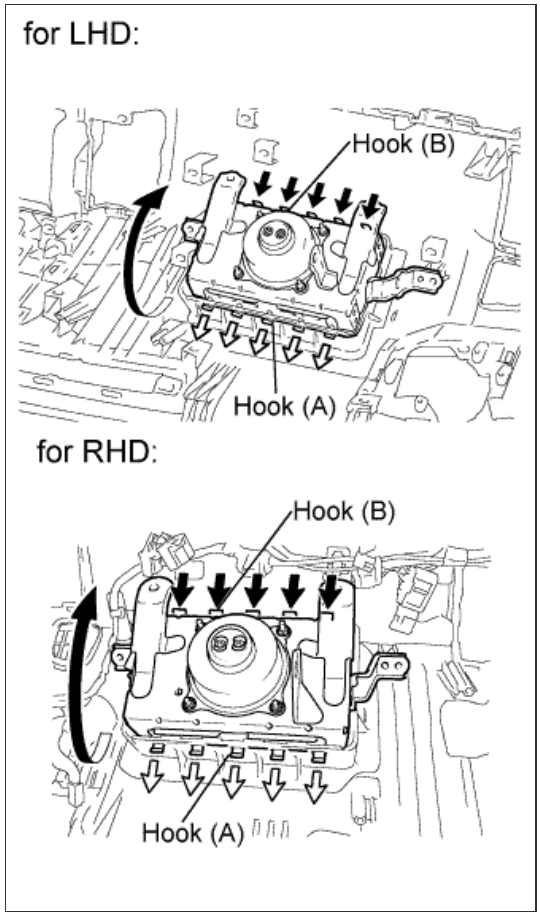



c. Remove the 2 screws.




d. Detach the 5 hooks (A).

e. Detach the 5 hooks (B) and remove the front passenger airbag from the instrument panel.



**for Preparation** Click here

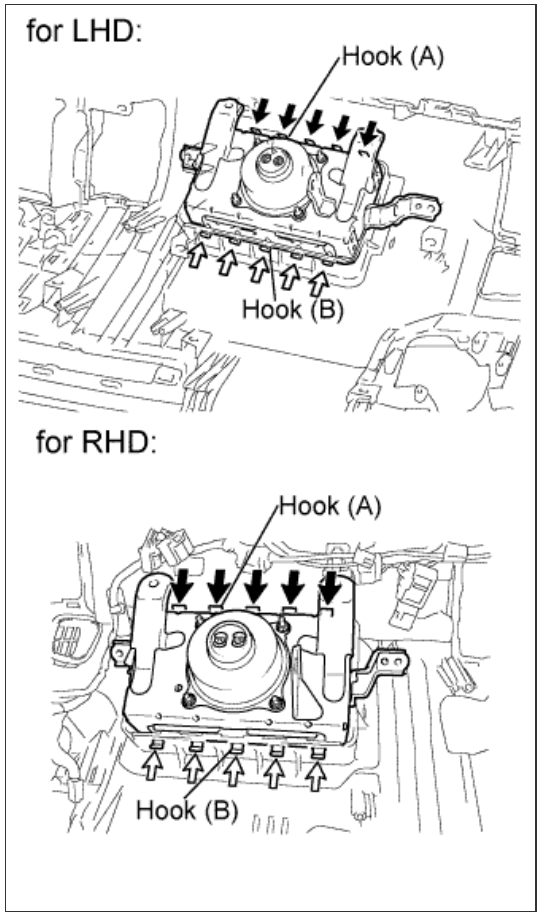
**HINT:**

- **Use the same procedures for the RHD and LHD.**
- **The procedures listed below are the LHD side.**

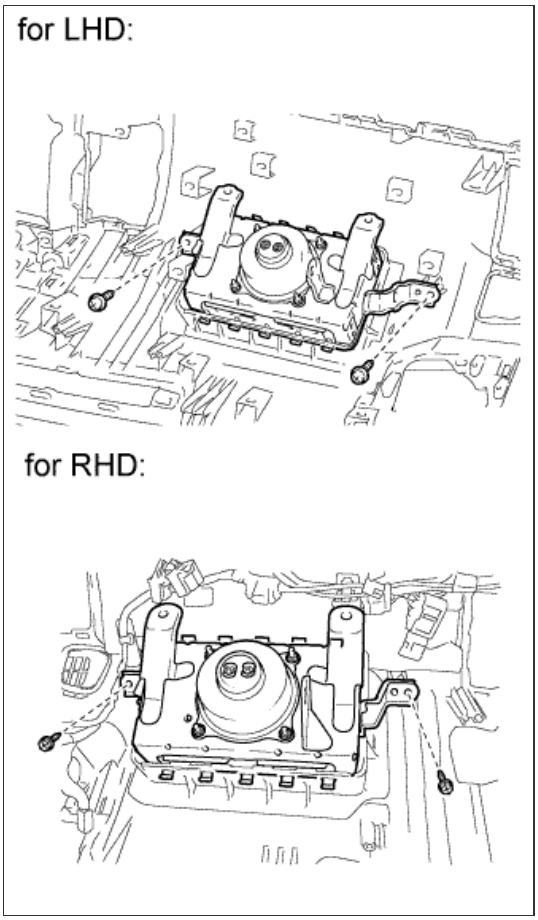
## 1. INSTALL FRONT PASSENGER AIRBAG ASSEMBLY

a. Attach the 5 hooks (A).

b. Attach the 5 hooks (B) to install the front passenger airbag on the instrument panel.




c. Install the 2 screws.

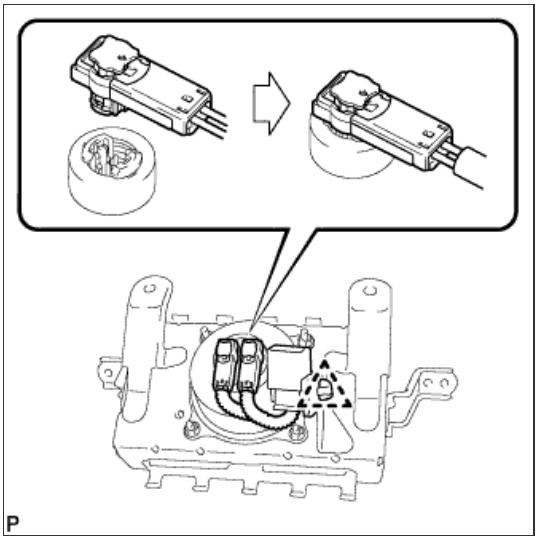



d. Connect the 2 connectors and install the instrument panel wire assembly to the front passenger airbag.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

e. Attach the claw and install the wire.




## 2. INSTALL INSTRUMENT PANEL SAFETY PAD

a. Install the instrument panel safety pad ( Click here).

## 3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 4. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here

**HINT:**

When scrapping a vehicle equipped with the SRS or disposing of the steering pad, be sure to deploy the airbag first in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of DISTRIBUTOR.

**CAUTION:**

- **Never dispose of a front passenger airbag that has an unactivated airbag.**
- **The airbag produces an exploding sound when it is deployed, so perform the operation outdoors and where it will not create a nuisance to nearby residents.**
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool). Perform the operation in a place away from electrical noise.**
- **When deploying the airbag, perform the operation at least 10 m (32.8 ft.) away from the front passenger airbag.**
- **The front passenger airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front passenger airbag with a deployed airbag.**
- **Do not apply water to a front passenger airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **An airbag or pretensioner may be activated by static electricity. To prevent this, be sure to touch a metal surface with bare hands to discharge static electricity before performing this procedure.**

## 1. DISPOSE OF FRONT PASSENGER AIRBAG ASSEMBLY (WHEN INSTALLED IN VEHICLE)

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Read the precaution (Click here).

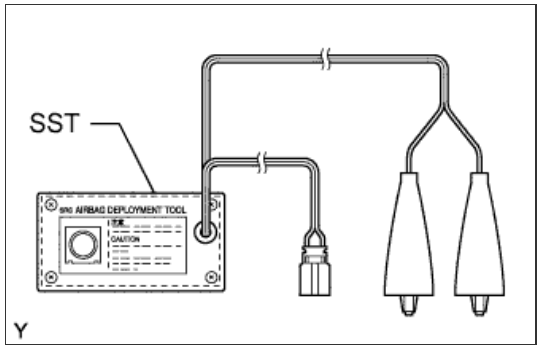
c. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).




d. Remove the front passenger airbag (Click here).

e. Install SST.

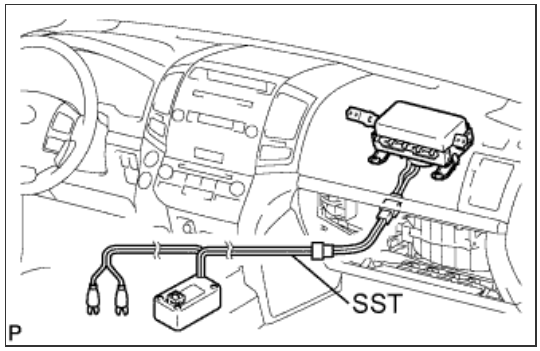
i. Disconnect the connector.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

ii. Connect SST connector to the instrument panel wire.

*SST*
09082-00700
09082-00780




**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.

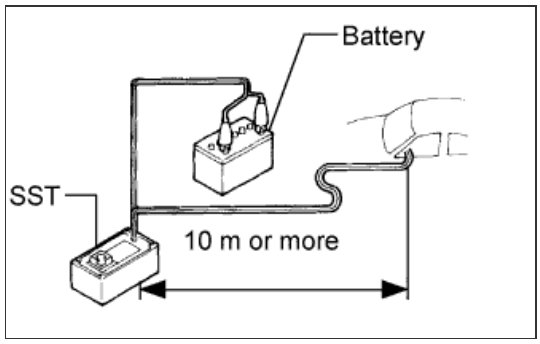
iii. Move SST at least 10 m (32.8 ft.) away from the vehicle front side window.

iv. Maintaining enough clearance for SST wire harness in the front side window, close all doors and windows of the vehicle.

**NOTICE:**

Take care not to damage SST wire harness.

v. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the negative (-) terminal.




f. Deploy the airbag.

i. Check that no one is inside the vehicle or within a 10 m (32.8 ft.) radius of the vehicle.

ii. Press SST activation switch to deploy the airbag.

**CAUTION:**

- **When deploying the airbag, make sure that no one is near the vehicle.**
- **The front passenger airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front passenger airbag with a deployed airbag.**
- **Do not apply water to a front passenger airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

## 2. DISPOSE OF FRONT PASSENGER AIRBAG ASSEMBLY (WHEN NOT INSTALLED IN VEHICLE)

**NOTICE:**

Be sure to follow the procedure detailed below when deploying the airbag.

**HINT:**

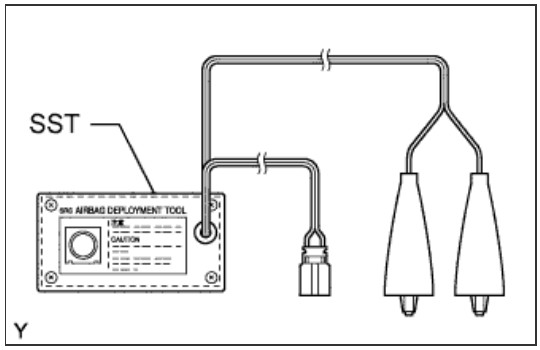
Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Remove the front passenger airbag (Click here).

**CAUTION:**

- **When removing the front passenger airbag, wait at least 90 seconds after the ignition switch is turned off and the cable is disconnected from the negative (-) battery terminal before starting work.**
- **When storing the front passenger airbag, keep the airbag deployment side facing upward.**

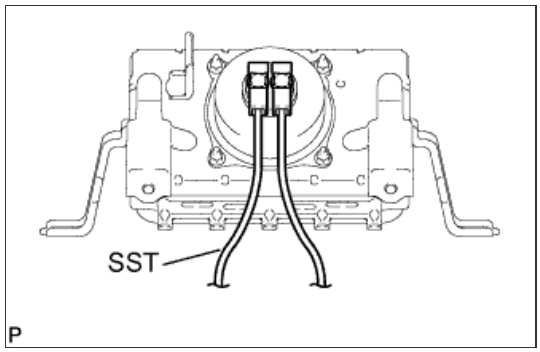



c. Install SST.

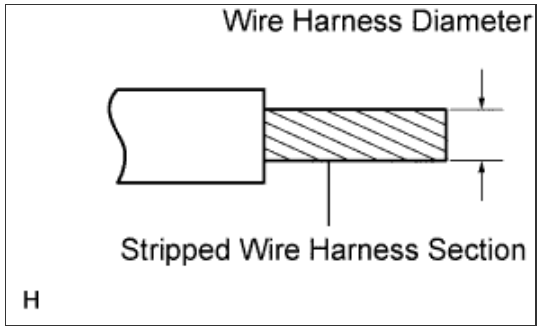
i. After connecting SST to each other, connect them to the front passenger airbag.

*SST*

09082-00802 (09082-10801, 09082-30801)




d. Using a service-purpose wire harness for the vehicle, tie down the front passenger airbag to a tire.




**Cross-sectional area of stripped wire harness section:**
**1.25 mm$^2$ (0.00192 in.$^2$) or more**

**CAUTION:**

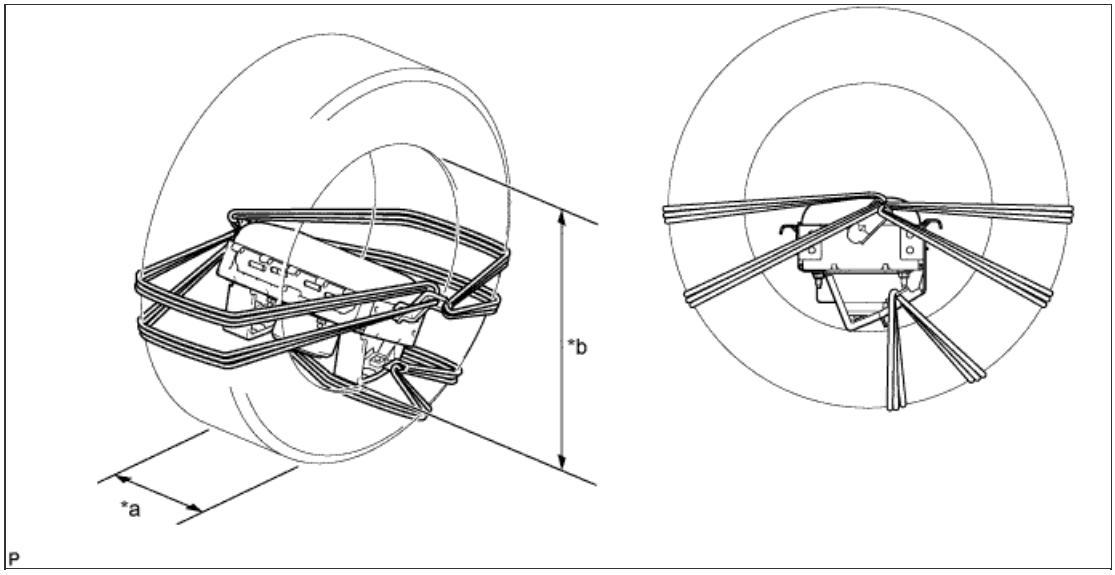
If the wire harness is too thin or an alternative object is used to tie down the front passenger airbag, it may be snapped by the shock when the airbag is deployed. Always use a wire harness for vehicle use with a cross-sectional area of at least 1.25 mm$^2$ (0.0019 in.$^2$).

**HINT:**

To calculate the cross-sectional area of the stripped wire harness section: Cross-sectional area:

Area = 3.14 x (Diameter)$^2$ divided by 4

i. Position the front passenger airbag inside a tire with the airbag deployment side facing inside.




**Tire size:**
**Must exceed the following dimensions**
**Width:**
**185 mm (7.28 in.)**
**Inner diameter:**
**360 mm (14.2 in.)**

ii. Tie the front passenger airbag to the tire with several wire harnesses.

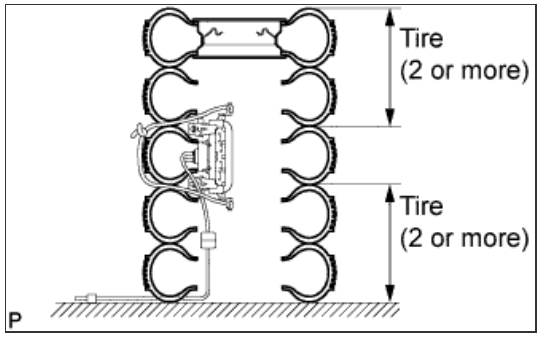
**CAUTION:**

- **Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the front passenger airbag may become loose due to the shock when the airbag is deployed.**
- **Always tie down the front passenger airbag with the airbag deployment side facing inside the tire.**

**NOTICE:**

As the tire may be damaged by the airbag deployment, use a tire that you are planning to throw away.

e. Place tires.



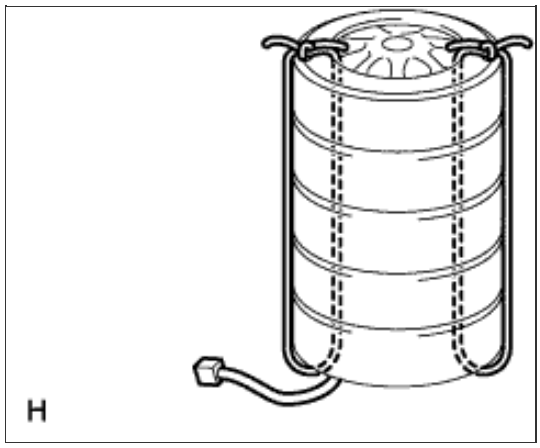

i. Place at least 2 tires under the tire which the front passenger airbag is tied to.

ii. Place at least 2 tires over the tire which the front passenger airbag is tied to. The top tire should have a disc wheel installed.

**NOTICE:**

- **Do not place SST connector under the tire because it could be damaged.**
- **As the disc wheel may be damaged by the airbag deployment, use a disc wheel that you are planning to throw away.**
- **As the tires may be damaged by the airbag deployment, use tires that you are planning to throw away.**

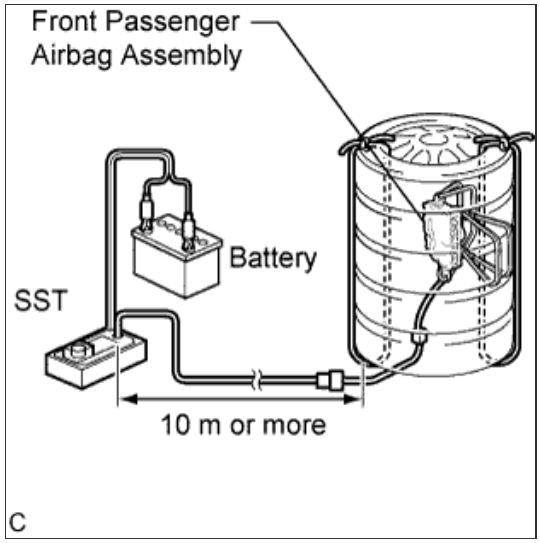
iii. Tie the tires together with 2 wire harnesses.




**CAUTION:**

Make sure that the wire harnesses are tight. Looseness in the wire harnesses results in the tires coming free due to the shock when the airbag is deployed.

f. Install SST.




i. Connect SST connector.

*SST*
09082-00700

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, secure some slack for SST wire harness inside the tire.

g. Deploy the airbag.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.

ii. Check that no one is within a 10 m (32.8 ft.) radius of the tire which the front passenger airbag is tied to.

iii. Press SST activation switch to deploy the airbag.

**CAUTION:**

When deploying the airbag, make sure that no one is near the tire.

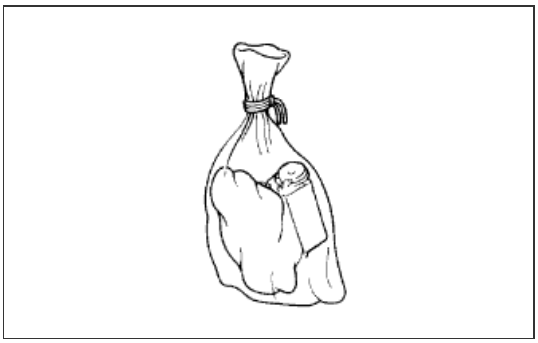
**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

h. Dispose of the front passenger airbag assembly.

**CAUTION:**

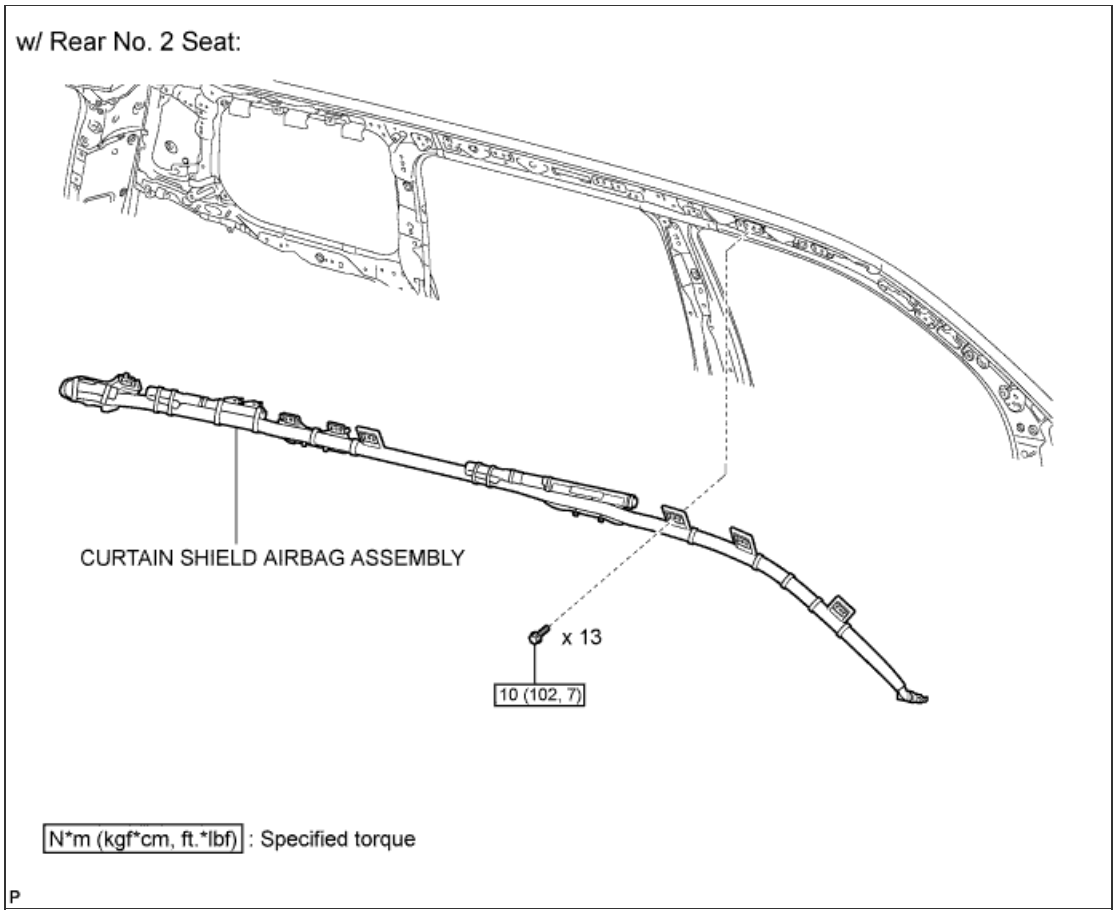
- **The front passenger airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front passenger airbag with a deployed airbag.**
- **Do not apply water to a front passenger airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

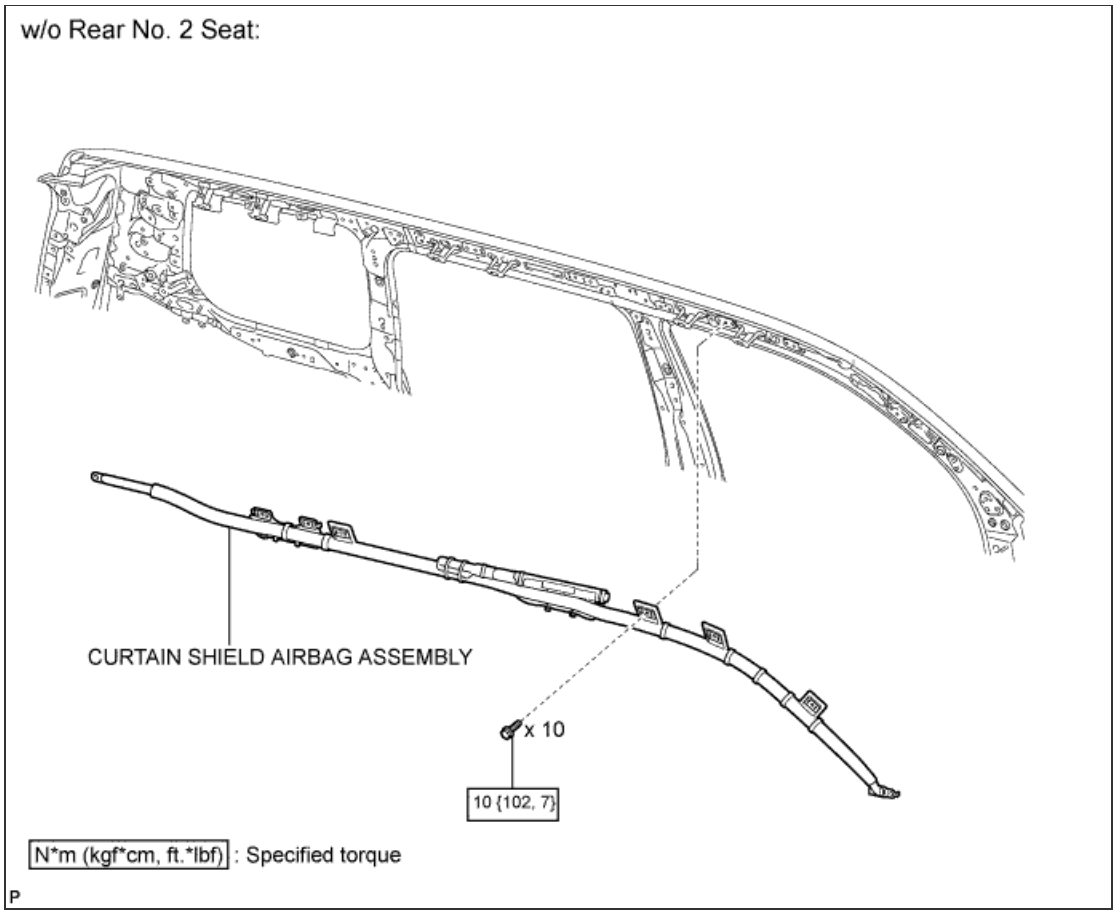


i. Remove the front passenger airbag from the tire.

ii. Place the front passenger airbag in a plastic bag, tie it tightly and dispose of it in the same way as other general parts.

**for Preparation** Click here



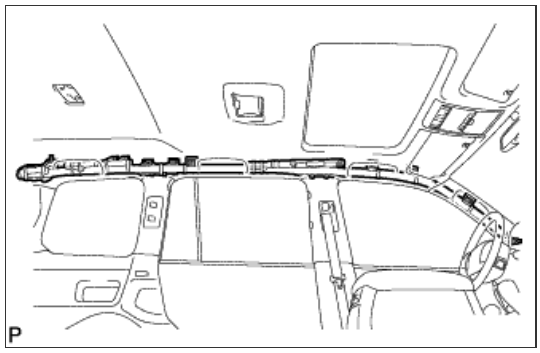

w/o Rear No. 2 Seat:
CURTAIN SHIELD AIRBAG ASSEMBLY
x 10
10 {102, 7}
N*m (kgf*cm, ft.*lbf) : Specified torque
P

**for Preparation** Click here

## 1. CHECK VEHICLE NOT INVOLVED IN COLLISION

a. Perform a diagnostic system check (Click here).

b. With the curtain shield airbag installed on the vehicle, perform a visual check. If any of the defects mentioned below are present, replace the curtain shield airbag with a new one:
Cuts, minute cracks or marked discoloration on the curtain shield airbag.




## 2. CHECK VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED

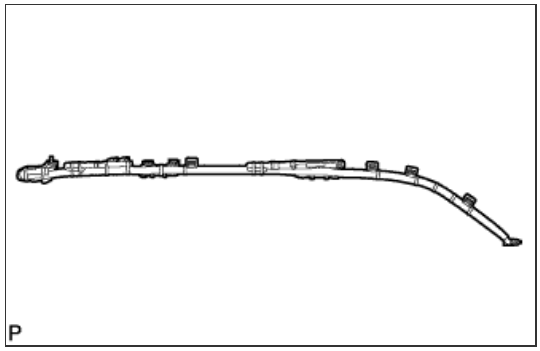
a. Perform a diagnostic system check (Click here).

b. With the curtain shield airbag removed from the vehicle, perform a visual check. If there are any defects as mentioned below, replace the curtain shield airbag with a new one:

- Cuts, minute cracks or marked discoloration on the curtain shield airbag.
- Cracks or other damage to the connectors.

**NOTICE:**

For removal and installation procedures of the curtain shield airbag, be sure to follow the correct procedure.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. REMOVE ROOF HEADLINING ASSEMBLY (w/ Sliding Roof)

a. Remove the roof headlining (Click here).

## 2. REMOVE ROOF HEADLINING ASSEMBLY (w/o Sliding Roof)

a. Remove the roof headlining (Click here).

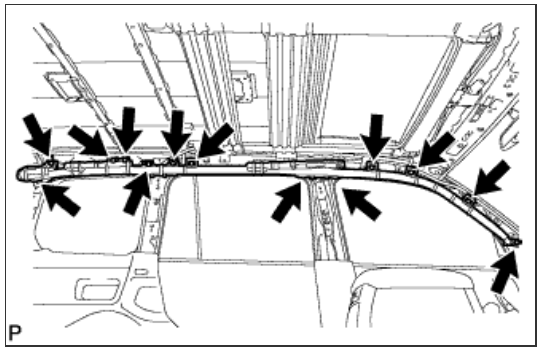
## 3. REMOVE CURTAIN SHIELD AIRBAG ASSEMBLY (w/ Rear No. 2 Seat)

a. Disconnect the connector.

**NOTICE:**

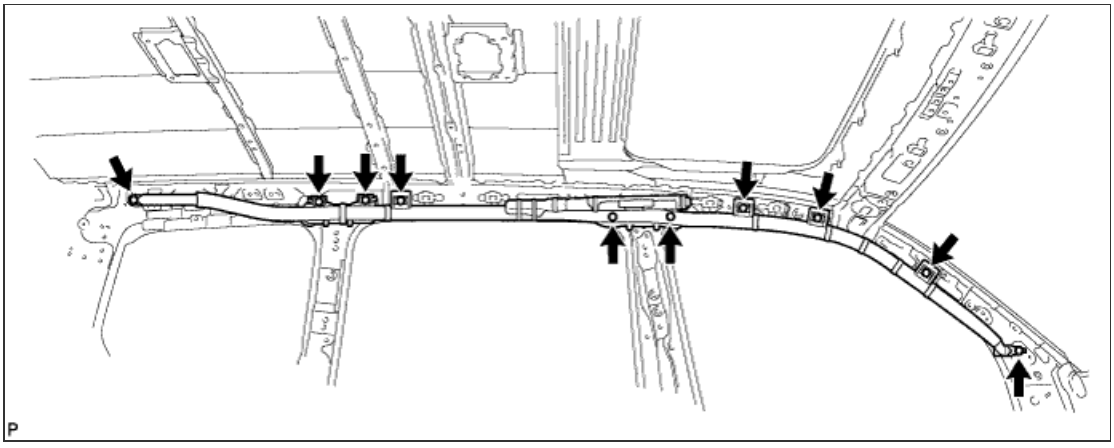
When handling the airbag connector, take care not to damage the airbag wire harness.

b. Remove the 13 bolts and curtain shield airbag.




## 4. REMOVE CURTAIN SHIELD AIRBAG ASSEMBLY (w/o Rear No. 2 Seat)

a. Disconnect the connector.




**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Remove the 10 bolts and curtain shield airbag.

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

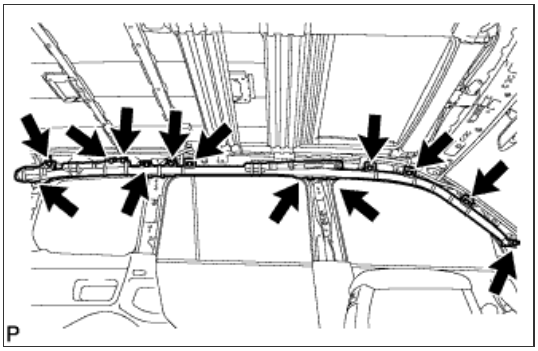
## 1. INSTALL CURTAIN SHIELD AIRBAG ASSEMBLY (w/ Rear No. 2 Seat)

a. Install the curtain shield airbag with the 13 bolts.

**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**

**NOTICE:**

Do not twist the curtain shield airbag when installing it.

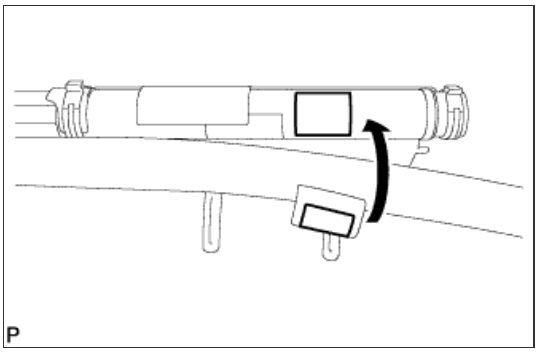



b. After installing the bolts, put the curtain shield airbag onto the bracket and close the dual lock fastener.

c. Connect the connector.

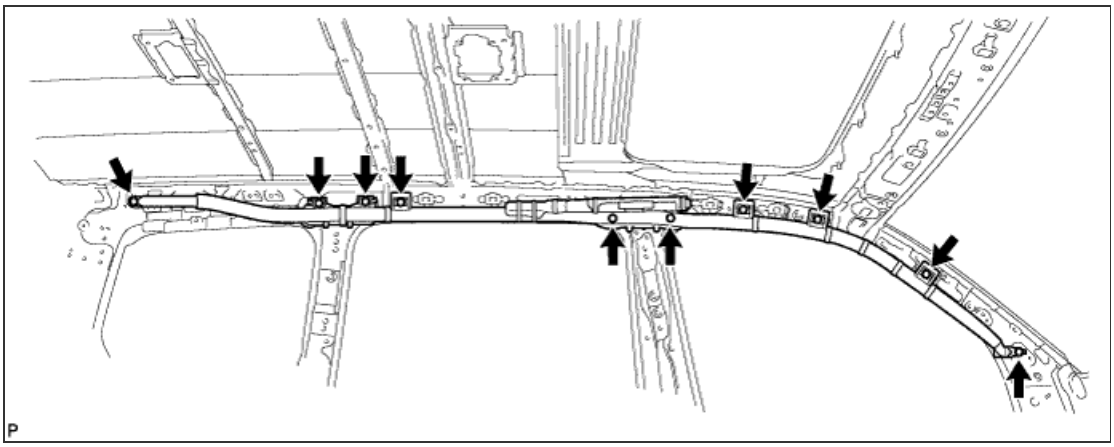
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.




## 2. INSTALL CURTAIN SHIELD AIRBAG ASSEMBLY (w/o Rear No. 2 Seat)

a. Install the curtain shield airbag with the 10 bolts.



**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**

**NOTICE:**

Do not twist the curtain shield airbag when installing it.

b. Connect the connector.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

### 3. INSTALL ROOF HEADLINING ASSEMBLY (w/ Sliding Roof)

a. Install the roof headlining (Click here).

### 4. INSTALL ROOF HEADLINING ASSEMBLY (w/o Sliding Roof)

a. Install the roof headlining (Click here).

### 5. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 6. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here

**HINT:**

When scrapping a vehicle equipped with the SRS or disposing of the steering pad, be sure to deploy the airbag first in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of the DISTRIBUTOR..

**CAUTION:**

- **Never dispose of a curtain shield airbag that has an unactivated airbag.**
- **The airbag produces an exploding sound when it is deployed, so perform the operation outdoors and where it will not create a nuisance to nearby residents.**
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool). Perform the operation in a place away from electrical noise.**
- **When deploying the airbag, perform the operation at least 10 m (32.8 ft.) away from the curtain shield airbag.**
- **The curtain shield airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a curtain shield airbag with a deployed airbag.**
- **Do not apply water to a curtain shield airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **An airbag or pretensioner may be activated by static electricity. To prevent this, be sure to touch a metal surface with bare hands to discharge static electricity before performing this procedure.**

## 1. DISPOSE OF CURTAIN SHIELD AIRBAG ASSEMBLY (WHEN INSTALLED IN VEHICLE)

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Read the precaution (Click here).

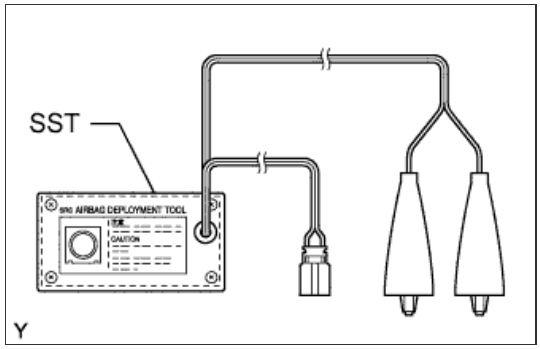
c. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).




d. Remove the roof headlining (w/ Sliding Roof) (Click here).

e. Remove the roof headlining (w/o Sliding Roof) (Click here).

f. Install SST.

i. Disconnect the connector from the curtain shield airbag.

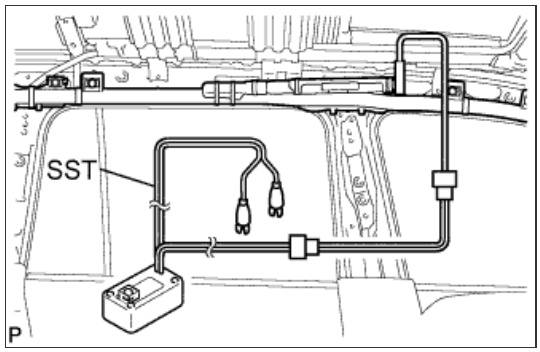
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

ii. After connecting SST to each other, connect them to the curtain shield airbag.

***SST***

09082-00700
09082-00802 (09082-10801, 09082-40800)



**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.

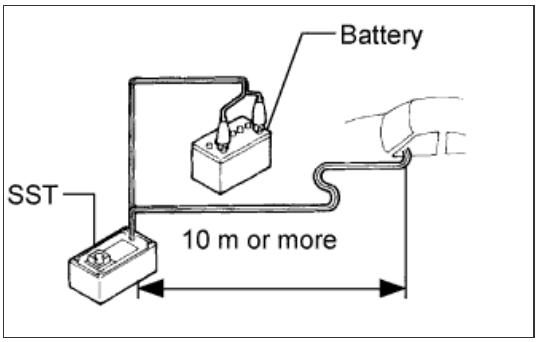
iii. Move SST at least 10 m (32.8 ft.) away from the vehicle rear side window.

iv. Maintaining enough clearance for SST wire harness in the rear side window, close all doors and windows of the vehicle.

**NOTICE:**

Take care not to damage SST wire harness.

v. Connect the red clip of SST to the battery positive (+) terminal and black clip of SST to the battery negative (-) terminal.




g. Deploy the airbag.

i. Check that no one is inside the vehicle or within a 10 m (32.8 ft.) radius of the vehicle.

ii. Press SST activation switch to deploy the airbag.

**CAUTION:**

- **When deploying the airbag, make sure that no one is near the vehicle.**
- **The curtain shield airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a curtain shield airbag with a deployed airbag.**
- **Do not apply water to a curtain shield airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

## 2. DISPOSE OF CURTAIN SHIELD AIRBAG ASSEMBLY (WHEN NOT INSTALLED IN VEHICLE)

**CAUTION:**

Be sure to follow the procedure detailed below when deploying the airbag.

**HINT:**

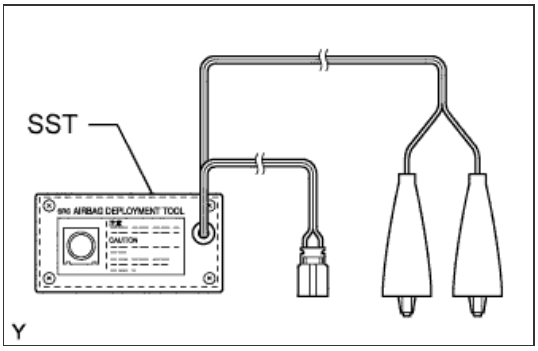
Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

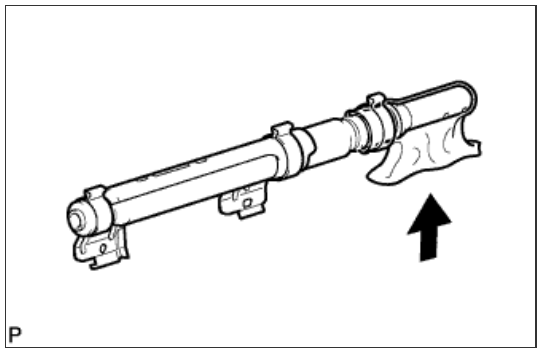
b. Remove the curtain shield airbag (Click here).

**CAUTION:**

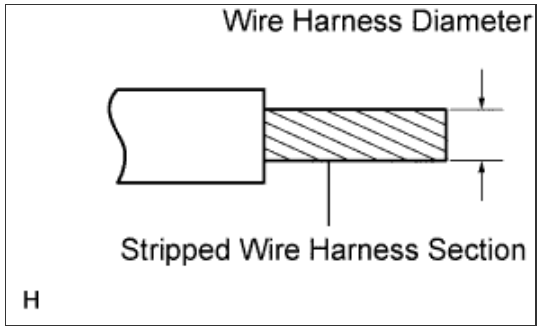
When removing the curtain shield airbag, wait at least 90 seconds after the ignition switch is turned off and the cable is disconnected from the negative (-) battery terminal before starting work.




c. Cut off the deployment section of the curtain shield airbag.




d. Using a service-purpose wire harness for the vehicle, tie down the curtain shield airbag to a tire.




**Cross-sectional area of stripped wire harness section:**
**1.25 mm$^2$ (0.00192 in.$^2$) or more**

**CAUTION:**

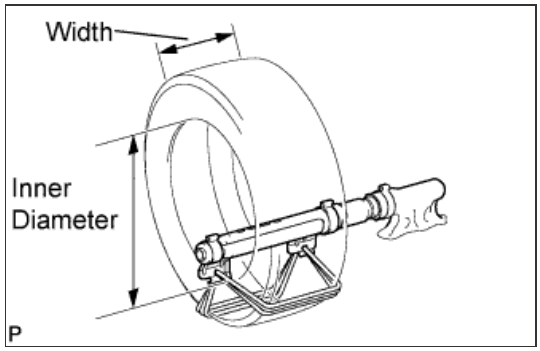
If the wire harness is too thin or an alternative object is used to tie down the curtain shield airbag, it may be snapped by the shock when the airbag is deployed. Always use a wire harness for vehicle use with a cross-sectional area of at least 1.25 mm$^2$ (0.00192 in.$^2$).

**HINT:**

To calculate the cross-sectional area of the stripped wire harness section:

Cross-sectional area = 3.14 x (Diameter)$^2$ divided by 4

i. Position the curtain shield airbag inside a tire as shown in the illustration.




**Tire size:**
**Must exceed the following dimensions**
**Width:**
**185 mm (7.28 in.)**
**Inner diameter:**
**360 mm (14.2 in.)**

ii. Tie the curtain shield airbag to the tire with several wire harnesses.

**CAUTION:**

Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the curtain shield airbag may become loose due to the shock when the airbag is deployed.

**NOTICE:**

As the tire may be damaged by the airbag deployment, use a tire that you are planning to throw away.

e. Install SST.

i. After connecting SST to each other, connect them to the curtain shield airbag.

***SST***
**09082-00802 (09082-10801, 09082-40800)**

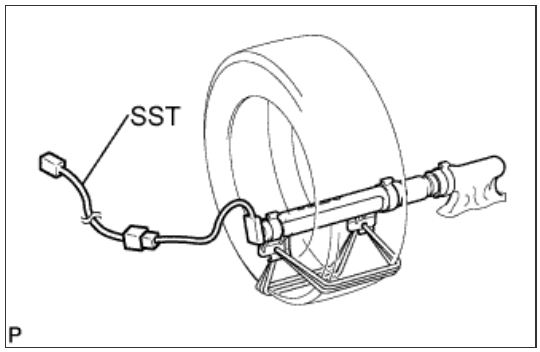
f. Place tires.

**NOTICE:**

Do not place the curtain shield airbag with the deployment direction facing the ground.

i. Place at least 2 tires under the tire which the curtain shield airbag is

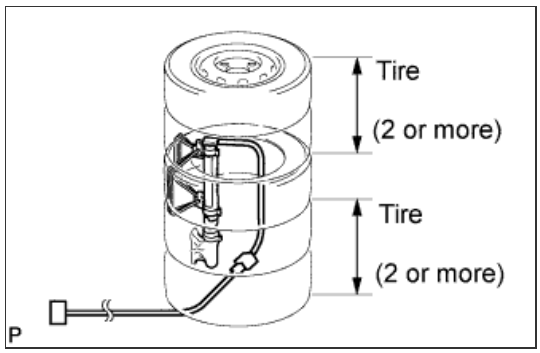
tied to.




ii. Place at least 2 tires over the tire which the curtain shield airbag is tied to. The top tire should have a disc wheel installed.

**NOTICE:**

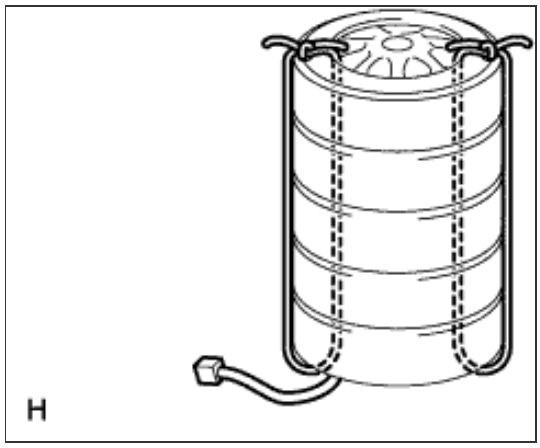
- **Do not place SST connector under the tire because it could be damaged.**
- **As the disc wheel may be damaged by the airbag deployment, use a disc wheel that you are planning to throw away.**
- **As the tires may be damaged by the airbag deployment, use tires that you are planning to throw away.**




iii. Tie the tires together with 2 wire harnesses.

**NOTICE:**

Make sure that the wire harnesses are tight. Looseness in the wire harnesses results in the tires coming free due to the shock when the airbag is deployed.



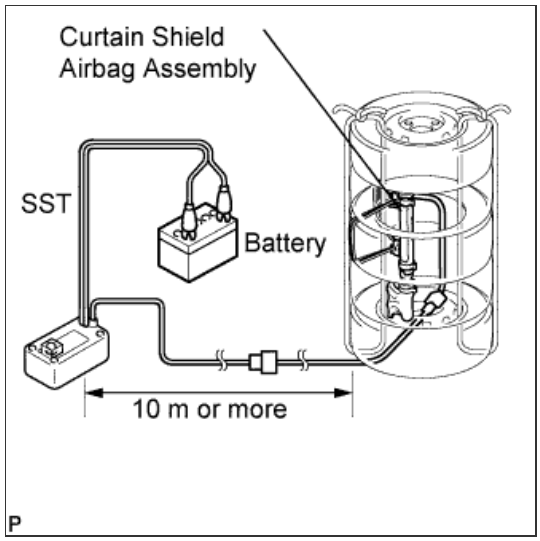

g. Install SST.

i. Connect SST connector.

*SST*
09082-00700

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, secure some slack for SST wire harness inside the tire.




h. Deploy the airbag.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.

ii. Check that no one is within a 10 m (32.8 ft.) radius of the tire which the curtain shield airbag is tied to.

iii. Press SST activation switch to deploy the airbag.

**CAUTION:**

When deploying the airbag, make sure that no one is near the tire.

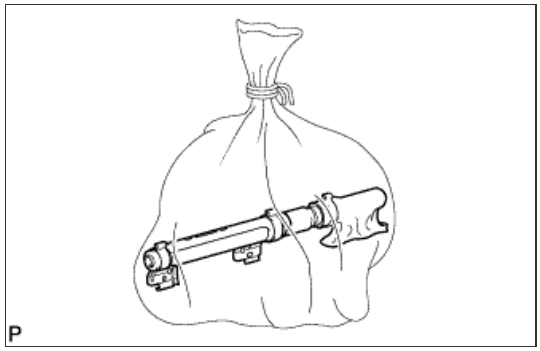
**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

i. Dispose of the curtain shield airbag.

**CAUTION:**

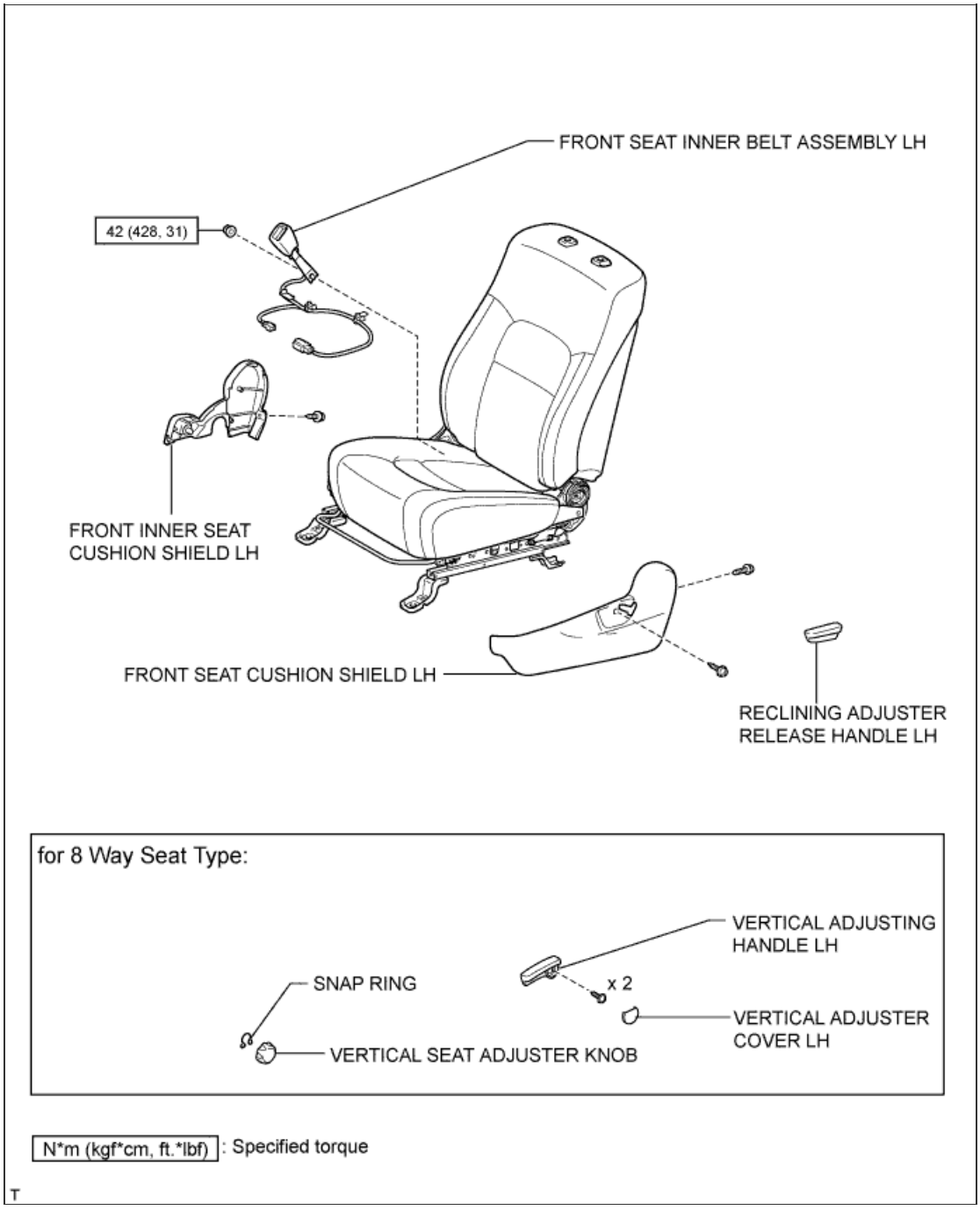
- **The curtain shield airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a curtain shield airbag with a deployed airbag.**
- **Do not apply water to a curtain shield airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

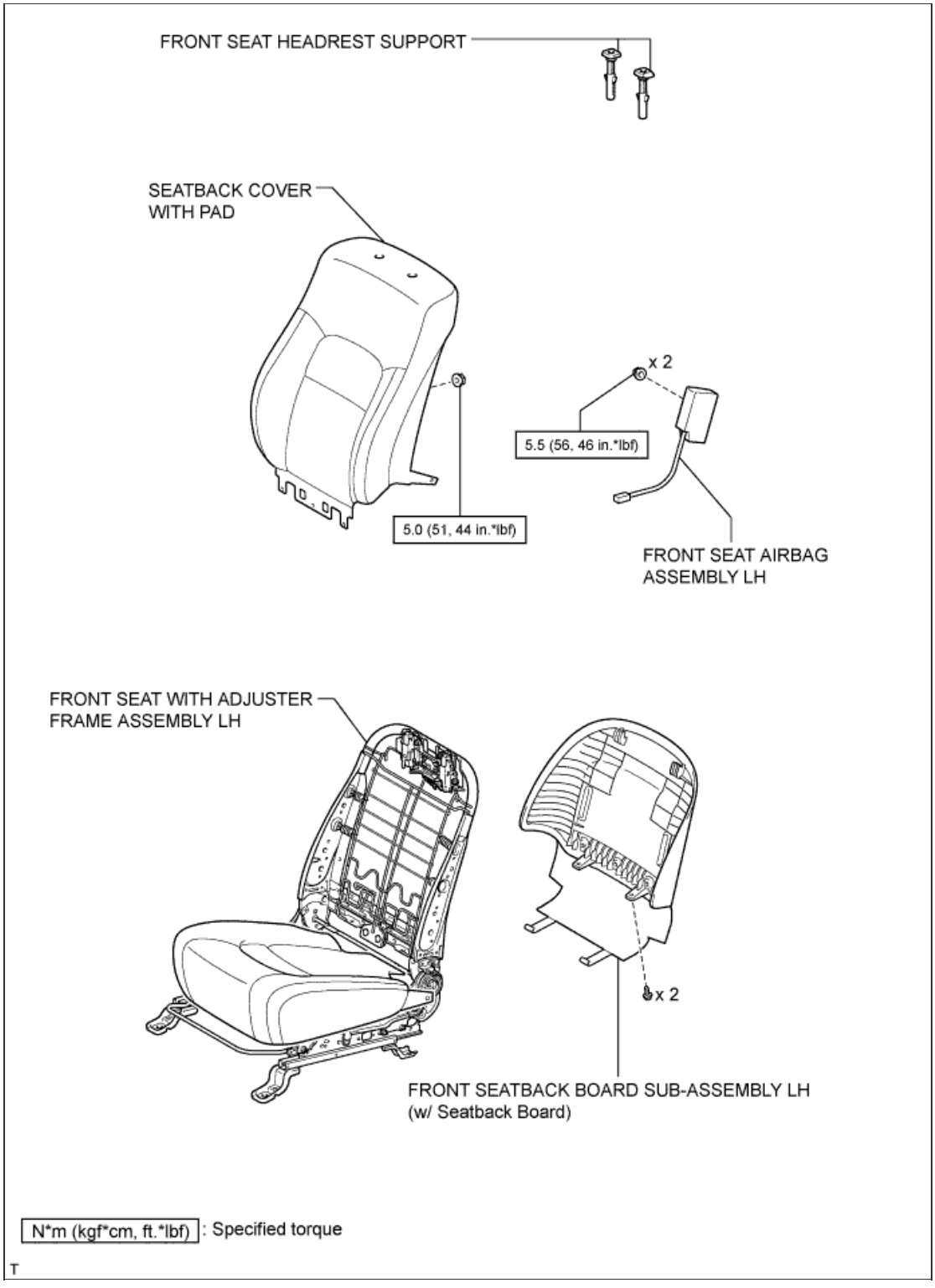



i. Remove the curtain shield airbag from the tire.

ii. Place the curtain shield airbag in a plastic bag, tie it tightly and dispose of it in the same way as other general parts.

**for Preparation** Click here






N*m (kgf*cm, ft.*lbf) : Specified torque

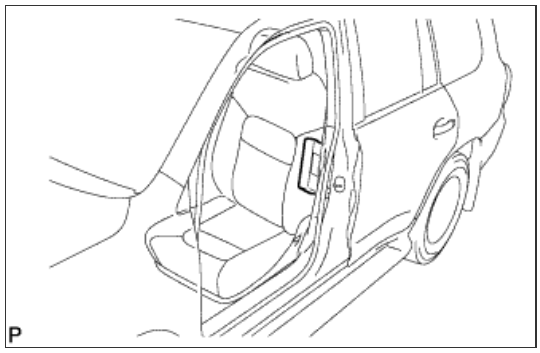
T

**for Preparation** Click here

## 1. CHECK FRONT SEAT AIRBAG ASSEMBLY LH (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

b. With the front seat airbag installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the front seat with a new one: Cuts, minute cracks or marked discoloration on the front seatback around the front seat airbag.




## 2. CHECK FRONT SEAT AIRBAG ASSEMBLY LH (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

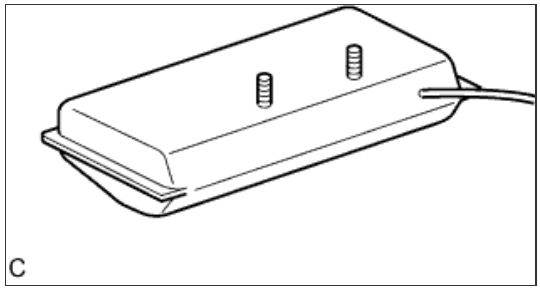
a. Perform a diagnostic system check (Click here).

b. With the front seat airbag removed from the vehicle, perform a visual check. If there are any defects as mentioned below, replace the front seat airbag with a new one:

- Cuts, minute cracks or marked discoloration on the front seat airbag.
- Cracks or other damage to the wire harness or connector.

**NOTICE:**

For removal and installation procedures of the front seat airbag, be sure to follow the correct procedure.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

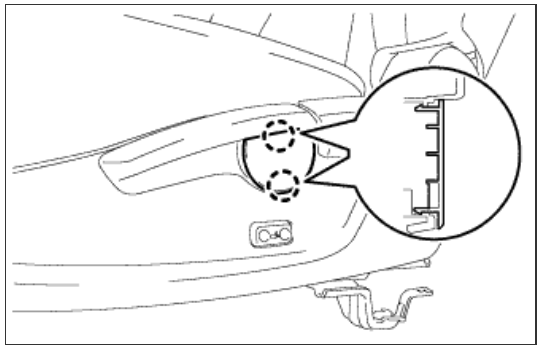
a. Remove the front seat assembly LH ( Click here).

## 2. REMOVE VERTICAL ADJUSTER COVER LH (for 8 Way Seat Type)

a. Using a screwdriver, detach the 2 claws and remove the vertical adjuster cover LH.

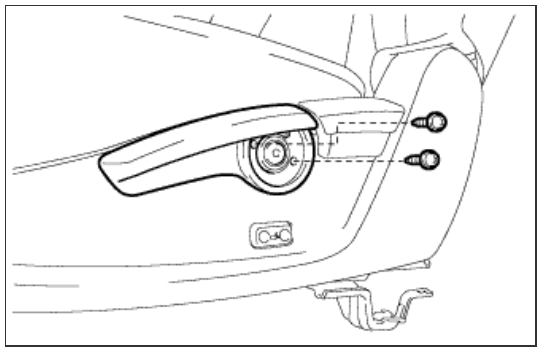
**HINT:**

Tape the screwdriver tip before use.



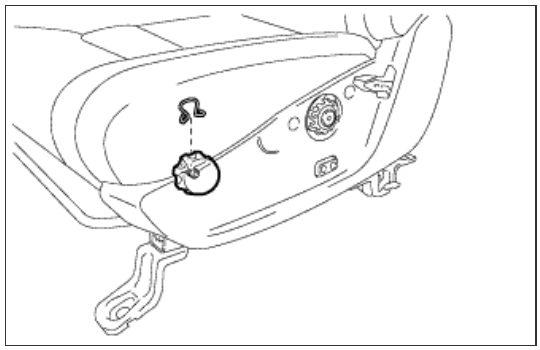
## 3. REMOVE VERTICAL ADJUSTING HANDLE LH (for 8 Way Seat Type)

a. Remove the 2 screws and vertical adjusting handle LH.



## 4. REMOVE VERTICAL SEAT ADJUSTER KNOB (for 8 Way Seat Type)

a. Remove the snap ring and vertical seat adjuster knob.



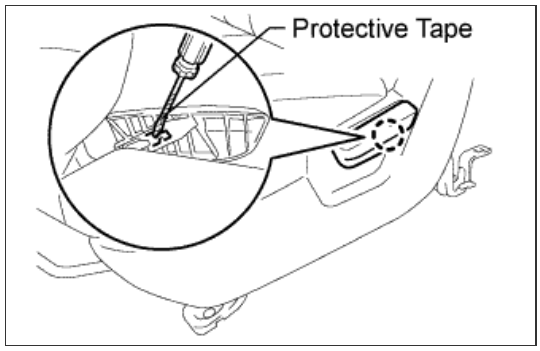
## 5. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

a. Lift the reclining adjuster release handle LH.

b. Using a screwdriver, detach the claw and remove the reclining adjuster release handle LH.

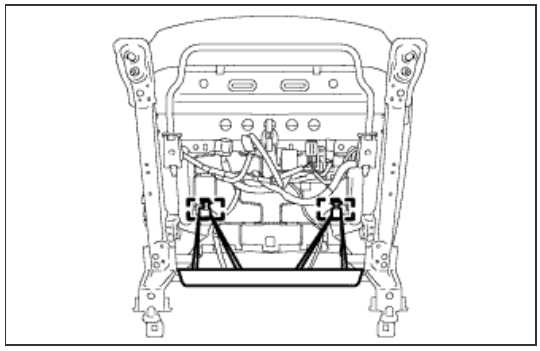
**HINT:**

Tape the screwdriver tip before use.

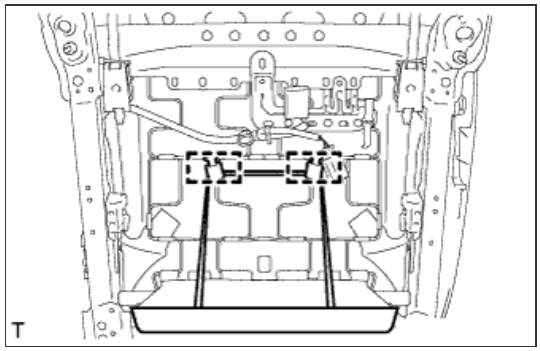



## 6. REMOVE FRONT SEAT CUSHION SHIELD LH

a. w/ Seatback Board:
Disconnect the 2 rubber bands from the 2 hooks.



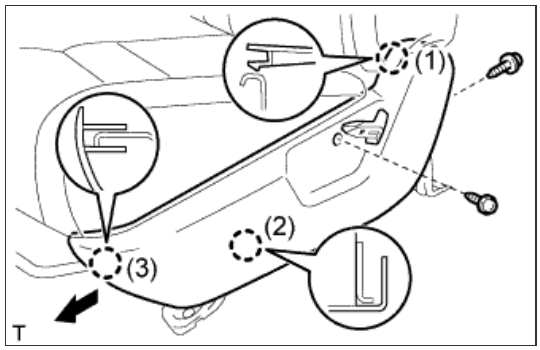
b. w/o Seatback Board:
Disconnect the rubber band from the 2 hooks.




c. for 4 Way Seat Type:

i. Remove the 2 screws.

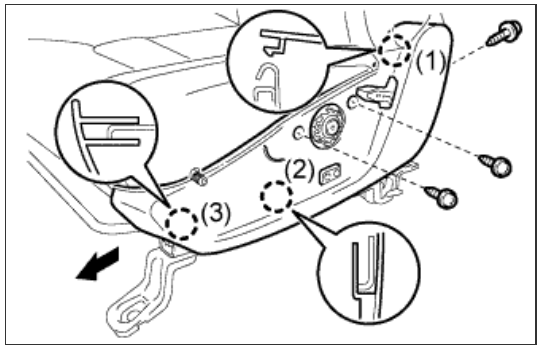
ii. Detach the 3 claws in the order shown in the illustration, and then remove the front seat cushion shield LH.




d. for 8 Way Seat Type:

i. Remove the 3 screws.

ii. Detach the 3 claws in the order shown in the illustration, and then remove the front seat cushion shield LH.



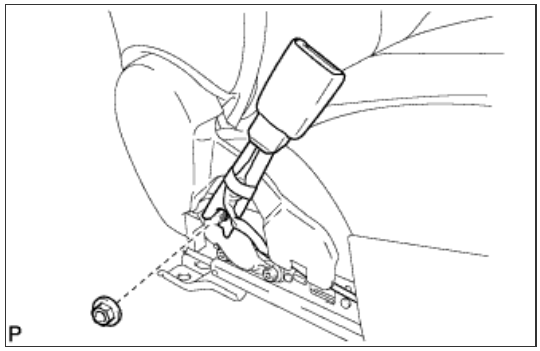

e. w/ Lumbar Support:
Disconnect the lumbar switch connector.

## 7. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

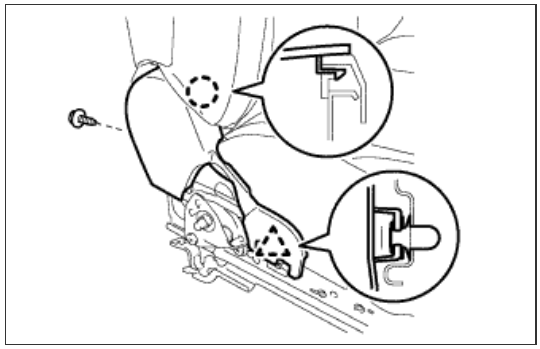
c. Remove the front seat belt anchor plate.




## 8. REMOVE FRONT INNER SEAT CUSHION SHIELD LH

a. Remove the screw.

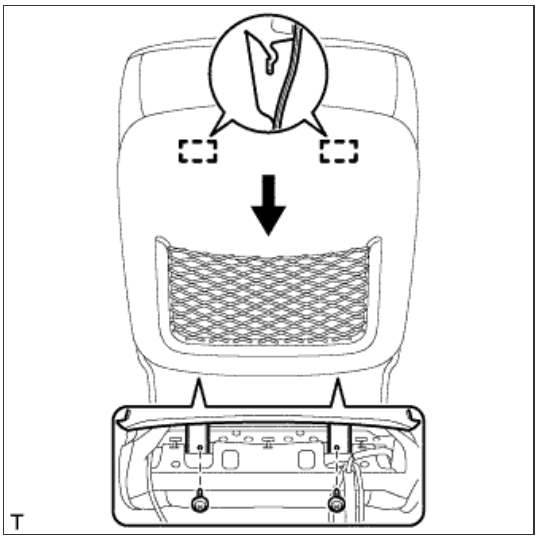
b. Detach the claw and clip, and then remove the front inner seat cushion shield LH.



## 9. REMOVE FRONT SEATBACK BOARD SUB-ASSEMBLY LH (w/ Seatback Board)

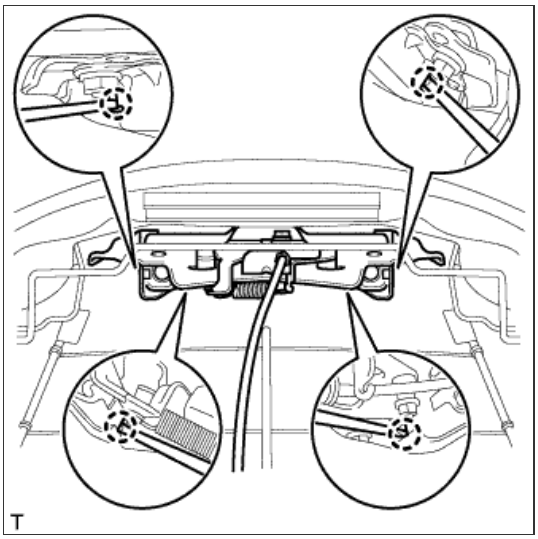
a. Remove the 2 screws.

b. Move the front seatback board sub-assembly LH in the direction of the arrow to detach the 2 hooks and remove it.




## 10. REMOVE FRONT SEAT HEADREST SUPPORT (w/ Active Headrest)

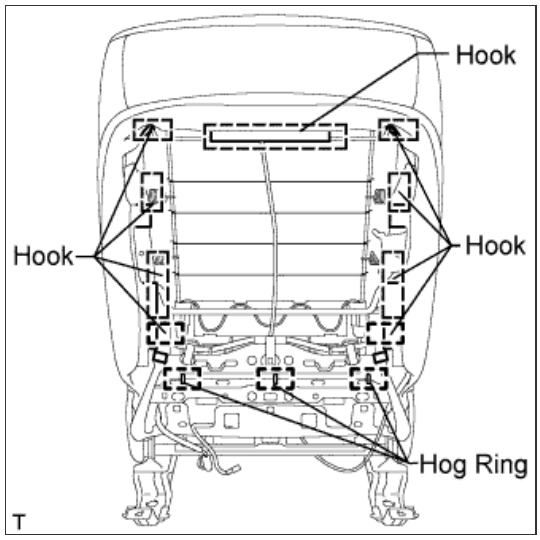
a. Detach the 4 claws and remove the 2 front seat headrest supports.



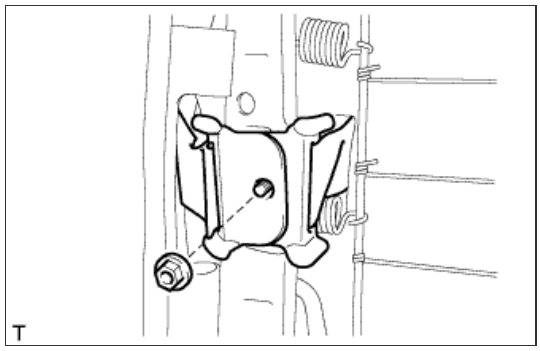

## 11. REMOVE SEATBACK COVER WITH PAD

a. w/ Seatback Board:

i. Remove the 3 hog rings and detach the 9 hooks.

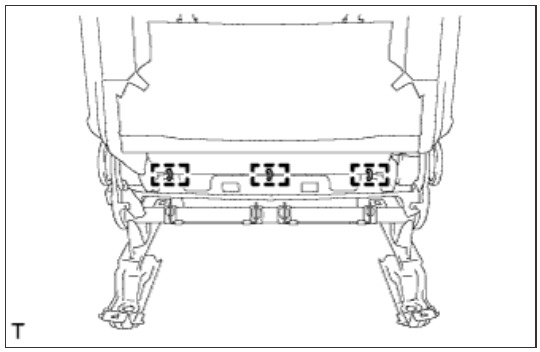



ii. w/ Front Seat Side Airbag:
Remove the nut and seatback cover bracket from the seat frame.

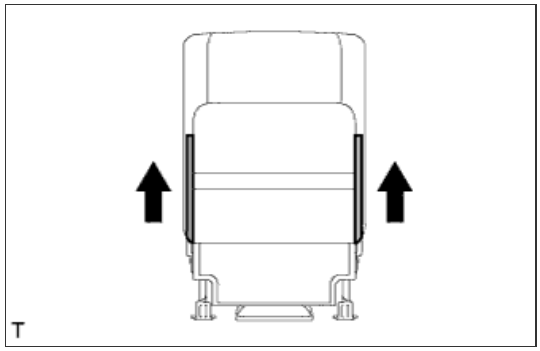



b. w/o Seatback Board:

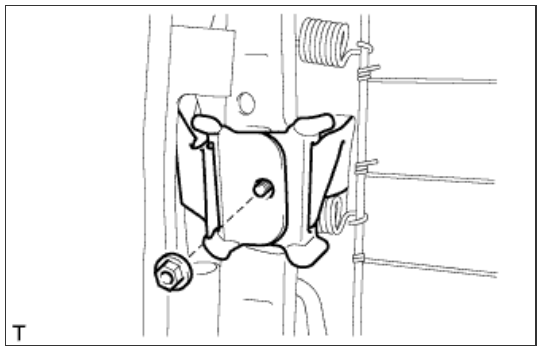
i. Remove the 3 hog rings.



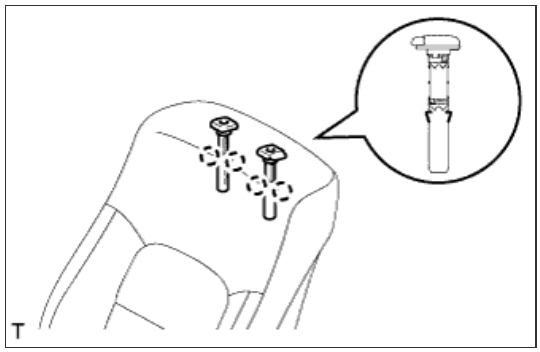

ii. Open the 2 fasteners, and then open the front separate type seatback cover.




iii. w/ Front Seat Side Airbag:
Remove the nut and seatback cover bracket from the seat frame.



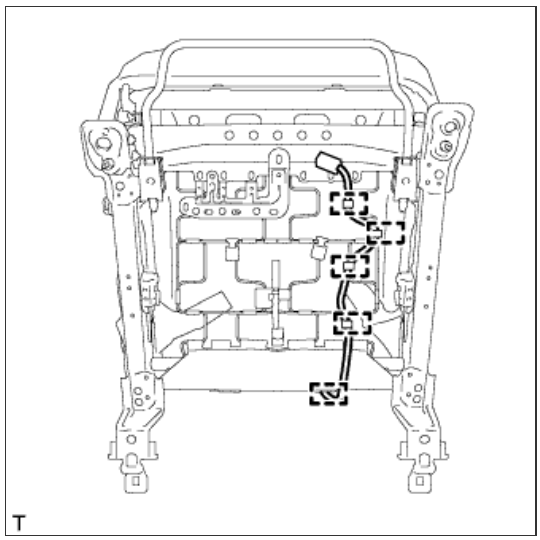

iv. Detach the 4 claws and remove the 2 front seat headrest supports.




c. Remove the seatback cover with pad from the seatback frame.

## 12. REMOVE FRONT SEAT AIRBAG ASSEMBLY LH

a. Detach the 5 clamps and disconnect the wire harness.

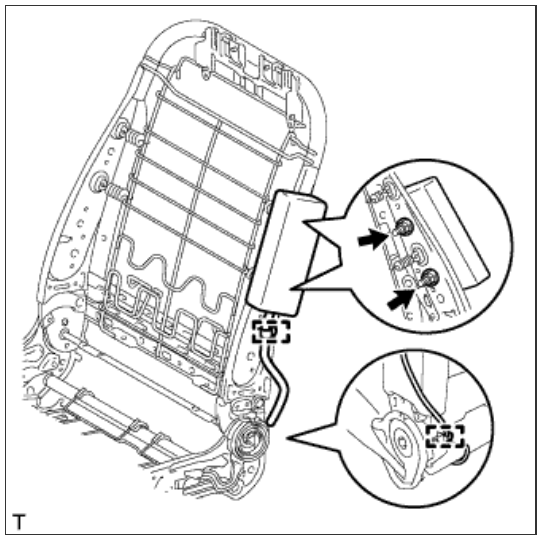



b. Detach the 2 clamps and disconnect the wire harness.

c. Remove the 2 nuts and front seat airbag assembly LH.

**CAUTION:**

Make sure that the seat frame assembly is not deformed. If it is, replace it with a new one.


T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. INSTALL FRONT SEAT AIRBAG ASSEMBLY LH

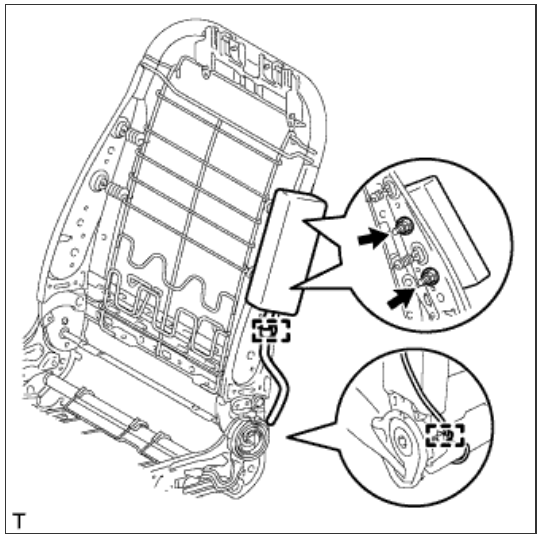
**CAUTION:**

Make sure that the seat frame assembly is not deformed. If it is, replace it with a new one.

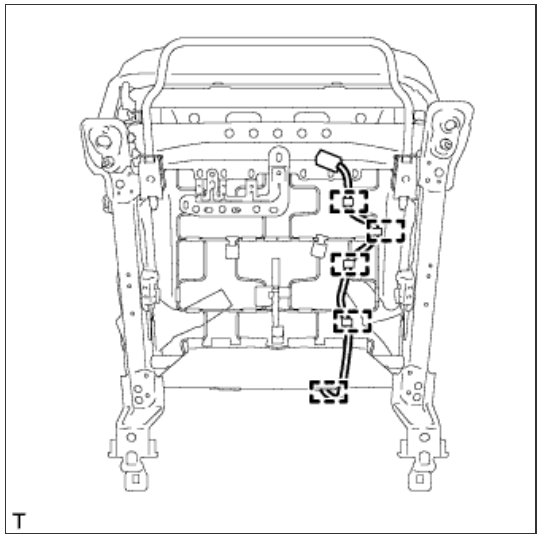
a. Install the front seat airbag assembly with 2 nuts.

**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

b. Attach the 2 clamps to connect the wire harness.




c. Attach the 5 clamps to connect the wire harness.




## 2. INSTALL SEATBACK COVER WITH PAD

a. Set the seatback cover with pad in place.

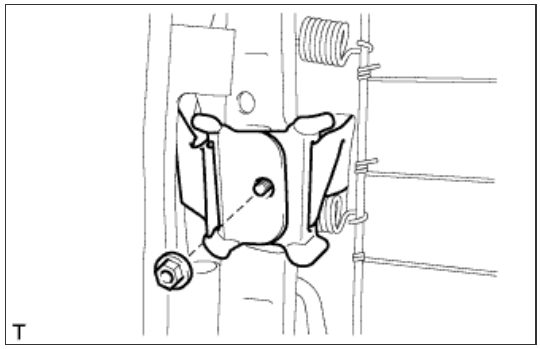
b. w/ Seatback Board:

i. w/ Front Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the nut.

**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.

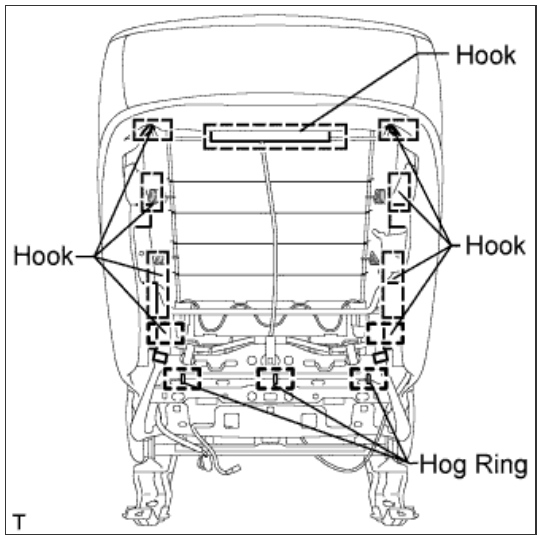



ii. Attach the 9 hooks.

iii. Using hog ring pliers, install new hog rings.

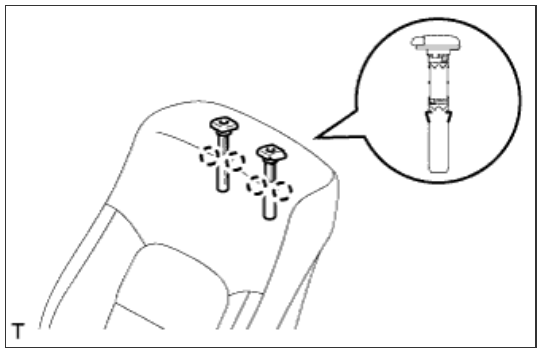
**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




c. w/o Seatback Board:

i. Attach the 4 claws to install the 2 headrest supports.

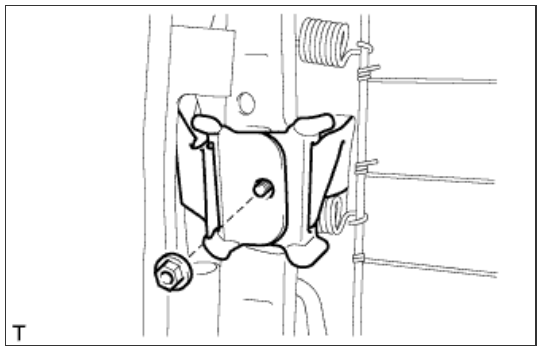



ii. w/ Front Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the nut.

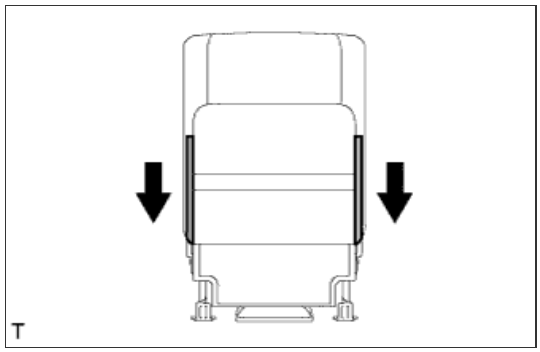
**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.



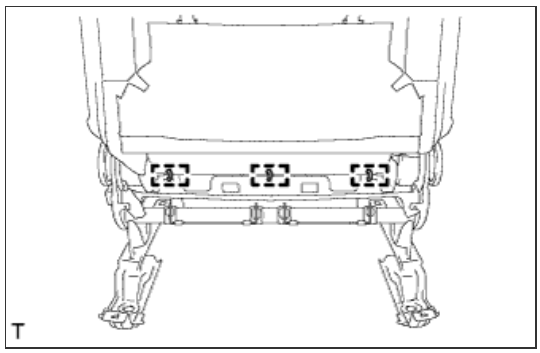

iii. Close the 2 fasteners.




iv. Using hog ring pliers, install new hog rings.

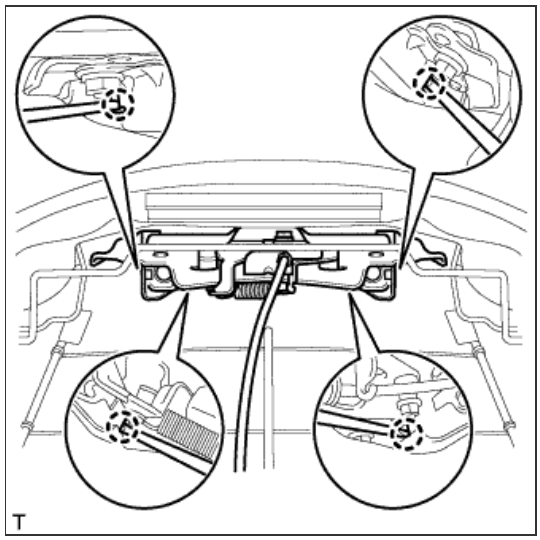
**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




## 3. INSTALL FRONT SEAT HEADREST SUPPORT

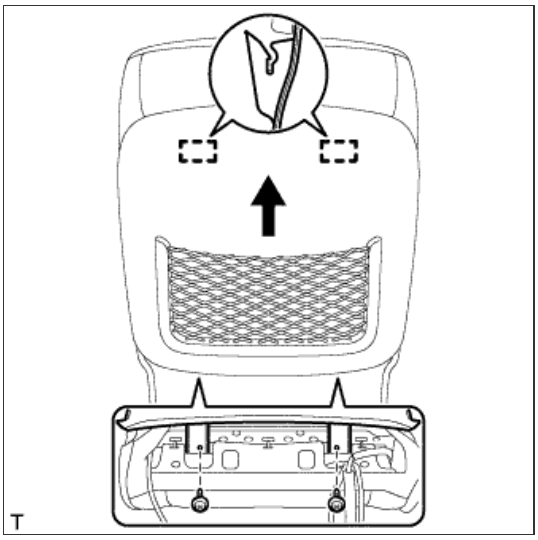
a. Attach the 4 claws to install the 2 front seat headrest supports.




## 4. INSTALL FRONT SEATBACK BOARD SUB-ASSEMBLY LH (w/ Seatback Board)

a. Move the front seatback board sub-assembly in the direction of the arrow to attach the 2 hooks and install it.

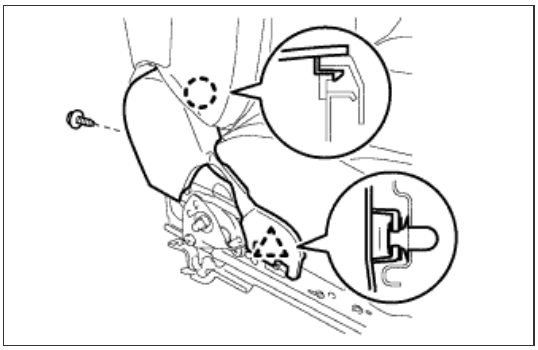
b. Install the 2 screws.




## 5. INSTALL FRONT INNER SEAT CUSHION SHIELD LH

a. Attach the claw and clip to install the front inner seat cushion shield LH.

b. Install the screw.



## 6. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH

a. Install the front seat belt anchor plate.

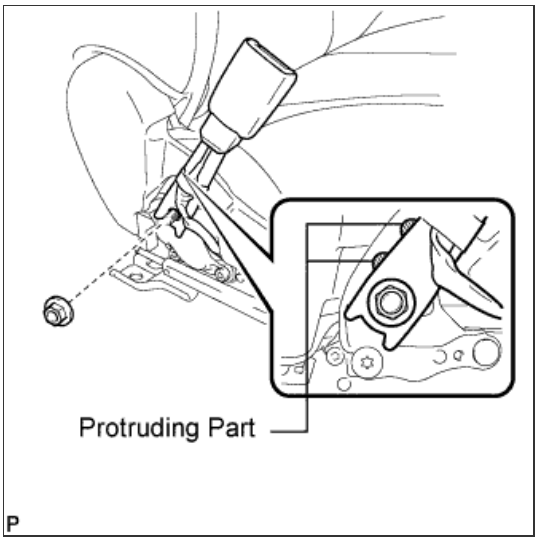
b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding part of the front seat adjuster.

c. Connect the connectors and attach the clamps.



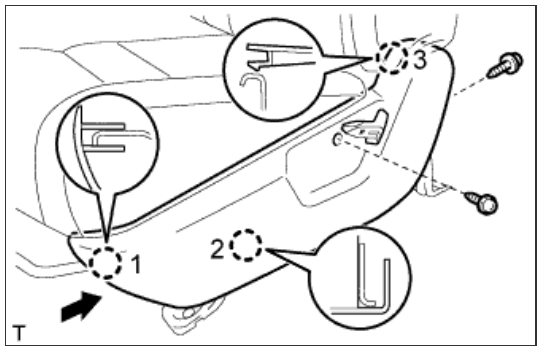

## 7. INSTALL FRONT SEAT CUSHION SHIELD LH

a. w/ Lumbar Support:
Connect the lumbar switch connector.

**b.** for 4 Way Seat Type:

i. Attach the 3 claws in the order shown in the illustration to install the front seat cushion shield LH.

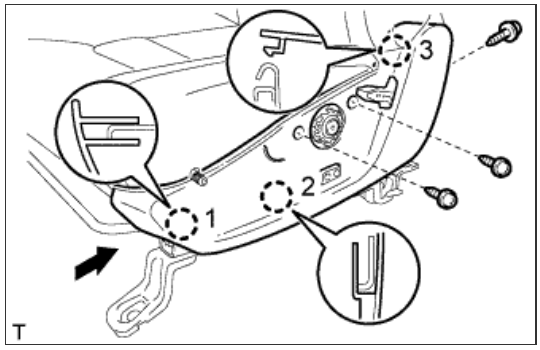
ii. Install the 2 screws.



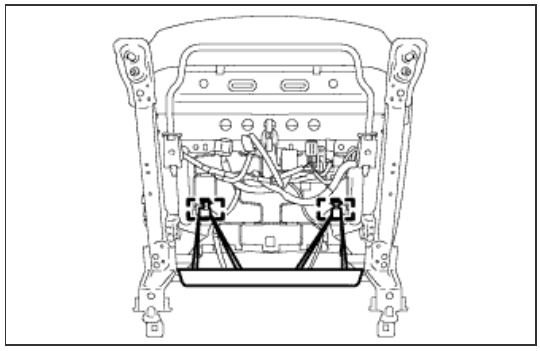

**c.** for 8 Way Seat Type:

i. Attach the 3 claws in the order shown in the illustration to install the front seat cushion shield LH.

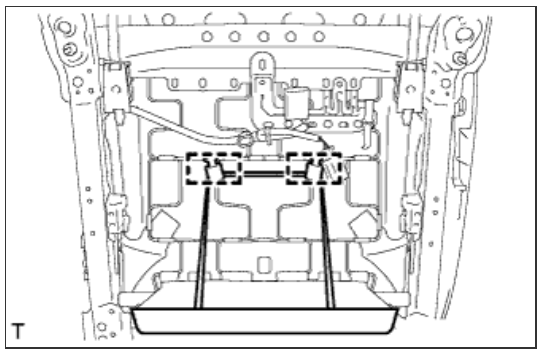
ii. Install the 3 screws.




**d.** w/ Seatback Board:
Connect the 2 rubber bands to the 2 hooks.

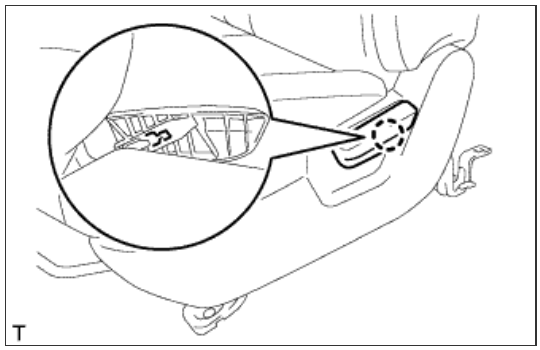


**e.** w/o Seatback Board:
Connect the rubber band to the 2 hooks.




## 8. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

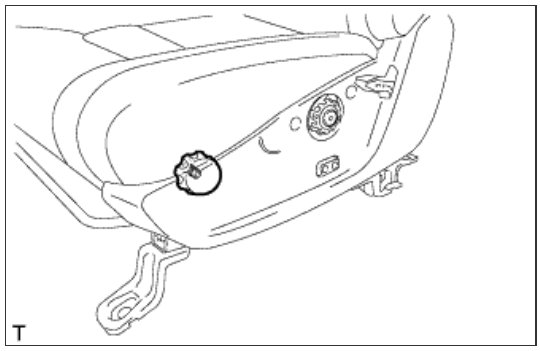
a. Attach the claw to install the reclining adjuster release handle LH.




## 9. INSTALL VERTICAL SEAT ADJUSTER KNOB (for 8 Way Seat Type)

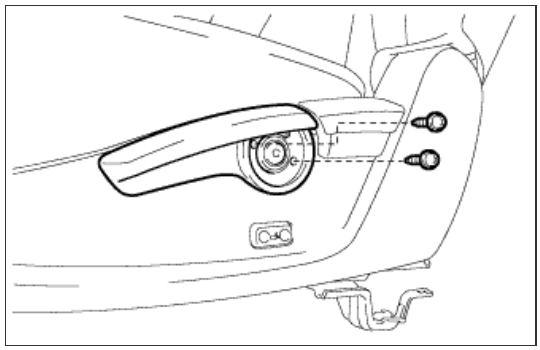
a. Install the snap ring to the vertical seat adjuster knob.

b. Install the vertical seat adjuster knob.



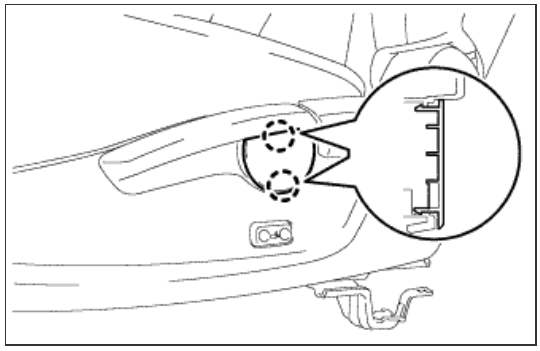

## 10. INSTALL VERTICAL ADJUSTING HANDLE LH (for 8 Way Seat Type)

a. Install the vertical adjusting handle with the 2 screws.



## 11. INSTALL VERTICAL ADJUSTER COVER LH (for 8 Way Seat Type)

a. Attach the 2 claws to install the vertical adjuster cover LH.



## 12. INSTALL FRONT SEAT ASSEMBLY LH

a. Install the front seat assembly LH ( Click here).

**for Preparation** Click here

**HINT:**

When scrapping a vehicle equipped with the SRS or disposing of the steering pad, be sure to deploy the airbag first in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of the DISTRIBUTOR..

**CAUTION:**

- **Never dispose of a front seat airbag that has an unactivated airbag.**
- **The airbag produces an exploding sound when it is deployed, so perform the operation outdoors and where it will not create a nuisance to nearby residents.**
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool). Perform the operation in a place away from electrical noise.**
- **When deploying the airbag, perform the operation at least 10 m (32.8 ft.) away from the airbag.**
- **The front seat airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front seat airbag with a deployed airbag.**
- **Do not apply water to a front seat airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **An airbag or pretensioner may be activated by static electricity. To prevent this, be sure to touch a metal surface with bare hands to discharge static electricity before performing this procedure.**

## 1. DISPOSE OF FRONT SEAT AIRBAG ASSEMBLY LH (WHEN INSTALLED IN VEHICLE)

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Read the precaution (Click here).

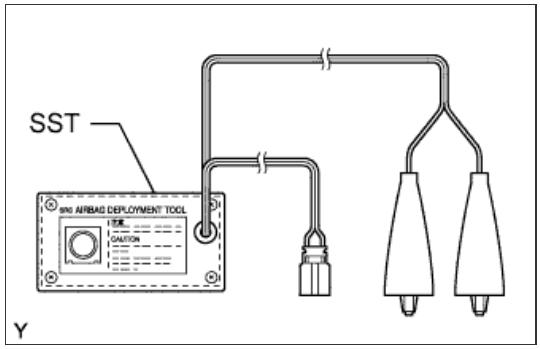
c. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).




d. Remove the front seat (Click here).

**HINT:**

Keep the front seat in the cabin.

e. Install SST.

i. Disconnect the connector (yellow colored) from the front seat airbag.

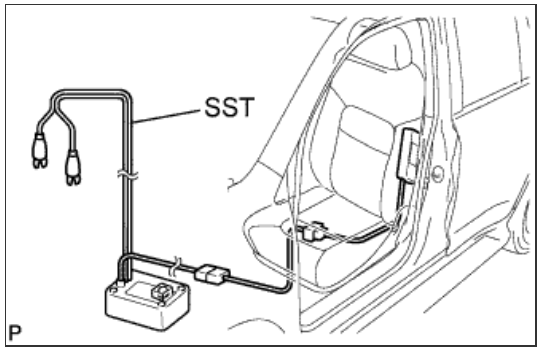
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

ii. Connect SST connector to the front seat airbag connector.

***SST***

09082-00700
09082-00820



**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.

iii. Install the front seat (Click here).

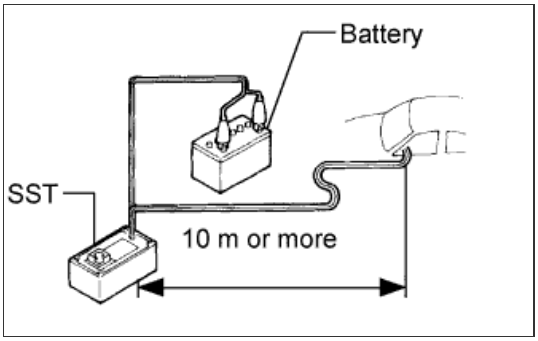
iv. Move SST at least 10 m (32.8 ft.) away from the vehicle front side window.

v. Maintaining enough clearance for SST wire harness in the front side window, close all doors and windows of the vehicle.

**NOTICE:**

Take care not to damage SST wire harness.

vi. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.




f. Deploy the airbag.

i. Check that no one is inside the vehicle or within a 10 m (32.8 ft.) radius of the vehicle.

ii. Press SST activation switch to deploy the airbag.

**CAUTION:**

- **When deploying the airbag, make sure that no one is near the vehicle.**
- **The front seat airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front seat airbag with a deployed airbag.**
- **Do not apply water to a front seat airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

## 2. DISPOSE OF FRONT SEAT AIRBAG ASSEMBLY LH (WHEN NOT INSTALLED IN VEHICLE)

**NOTICE:**

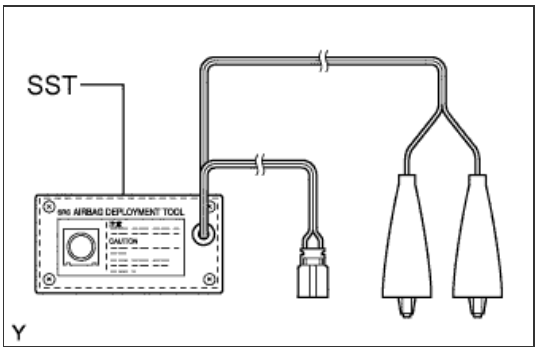
Be sure to follow the procedure detailed below when deploying the airbag.

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Remove the front seat airbag (Click here).



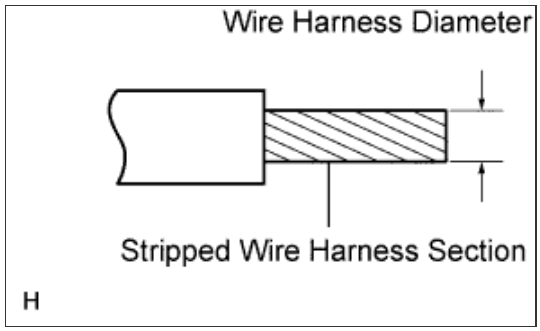

c. Using a service-purpose wire harness for the vehicle, tie down the front seat airbag to a tire.

**Cross-sectional area of stripped wire harness section:**
**1.25 mm$^2$ (0.00192 in.$^2$) or more**

**HINT:**

To calculate the cross-sectional area of the stripped wire harness section:

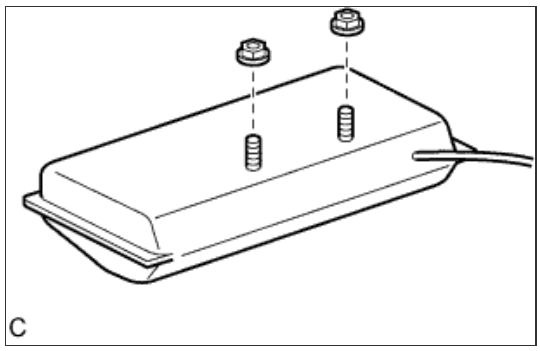
Cross-sectional area = 3.14 x (Diameter)$^2$ divided by 4



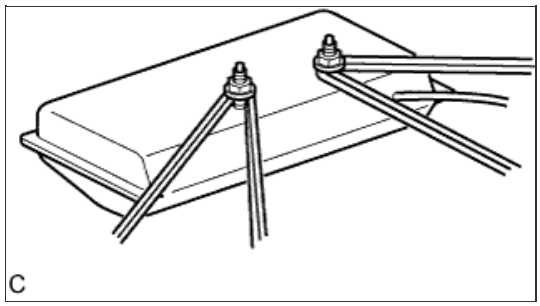

**CAUTION:**

If the wire harness is too thin or an alternative object is used to tie down the front seat airbag, it may be snapped by the shock when the airbag is deployed. Always use a wire harness for vehicle use with a cross-sectional area of at least 1.25 mm$^2$ (0.00192 in.$^2$).

i. Install the 2 nuts to the front seat airbag.

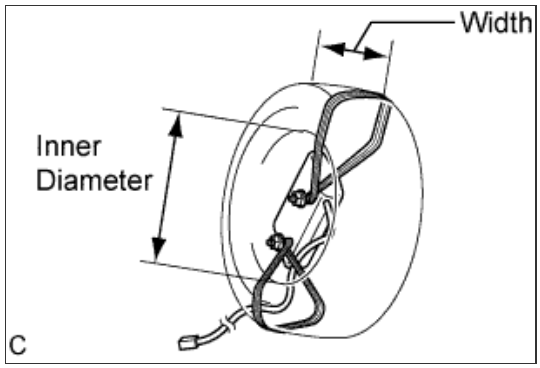



ii. Wind the wire harness around the stud bolts of the front seat airbag as shown in the illustration.




iii. Position the front seat airbag inside a tire.

**Tire size:**
**Must exceed the following dimensions**
**Width:**
**185 mm (7.28 in.)**
**Inner diameter:**
**360 mm (14.2 in.)**




**CAUTION:**

- **Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the front seat airbag may become loose due to the shock when the airbag is deployed.**
- **Always tie down the front seat airbag with the airbag deployment direction facing inside the tire.**

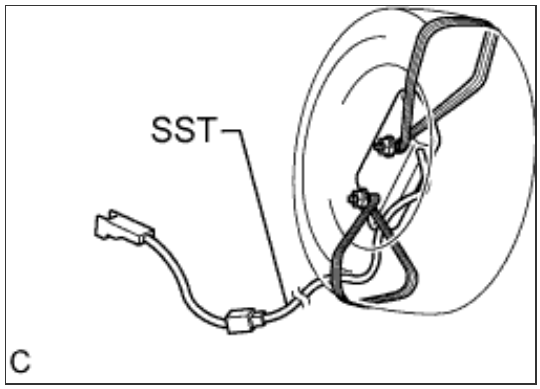
**NOTICE:**

As the tire may be damaged by the airbag deployment, use a tire that you are planning to throw away.

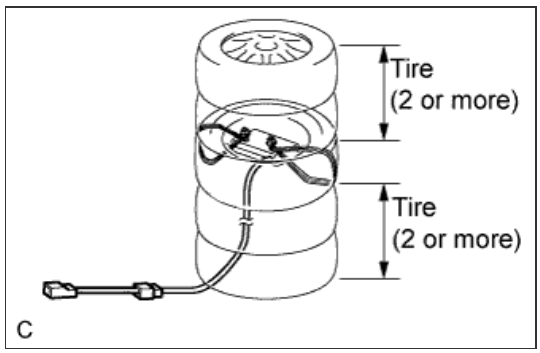
d. Install SST.

i. Connect SST connector to the front seat airbag connector.

*SST*
09082-00820




e. Place tires.




i. Place at least 2 tires under the tire which the front seat airbag is tied to.

ii. Place at least 2 tires over the tire which the front seat airbag is tied to. The top tire should have a disc wheel installed.

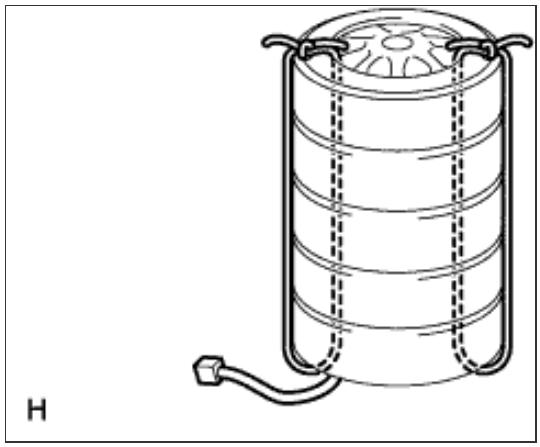
**NOTICE:**

- **Do not place SST connector under the tire because it could be damaged.**
- **As the disc wheel may be damaged by the airbag deployment, use a disc wheel that you are planning to throw away.**
- **As the tires may be damaged by the airbag deployment, use tires that you are planning to throw away.**

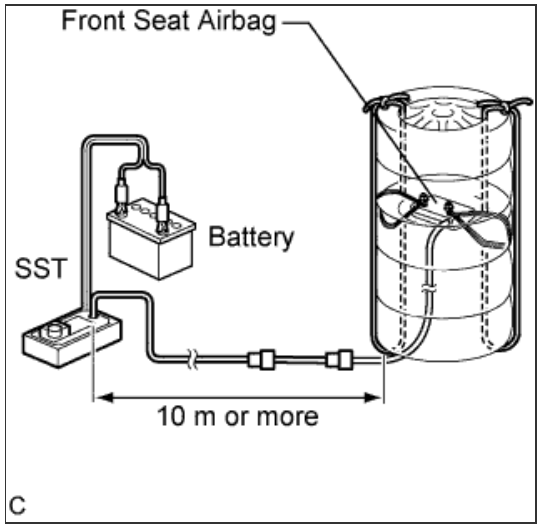
iii. Tie the tires together with 2 wire harnesses.

**CAUTION:**

Make sure that the wire harnesses are tight. Looseness in the wire harnesses results in the tires coming free due to the shock when the airbag is deployed.




f. Install SST.




i. Connect SST connector.

***SST***
**09082-00700**

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, secure some slack for SST wire harness inside the tire.

g. Deploy the airbag.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.

ii. Check that no one is within a 10 m (32.8 ft.) radius of the tire which the front seat airbag is tied to.

iii. Press SST activation switch to deploy the airbag.

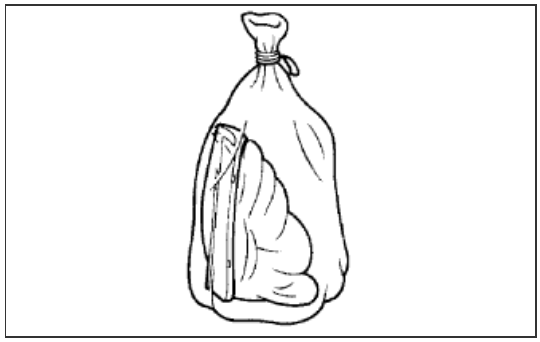
**CAUTION:**

When deploying the airbag, make sure that no one is near the tire.

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

h. Dispose of the front seat airbag.



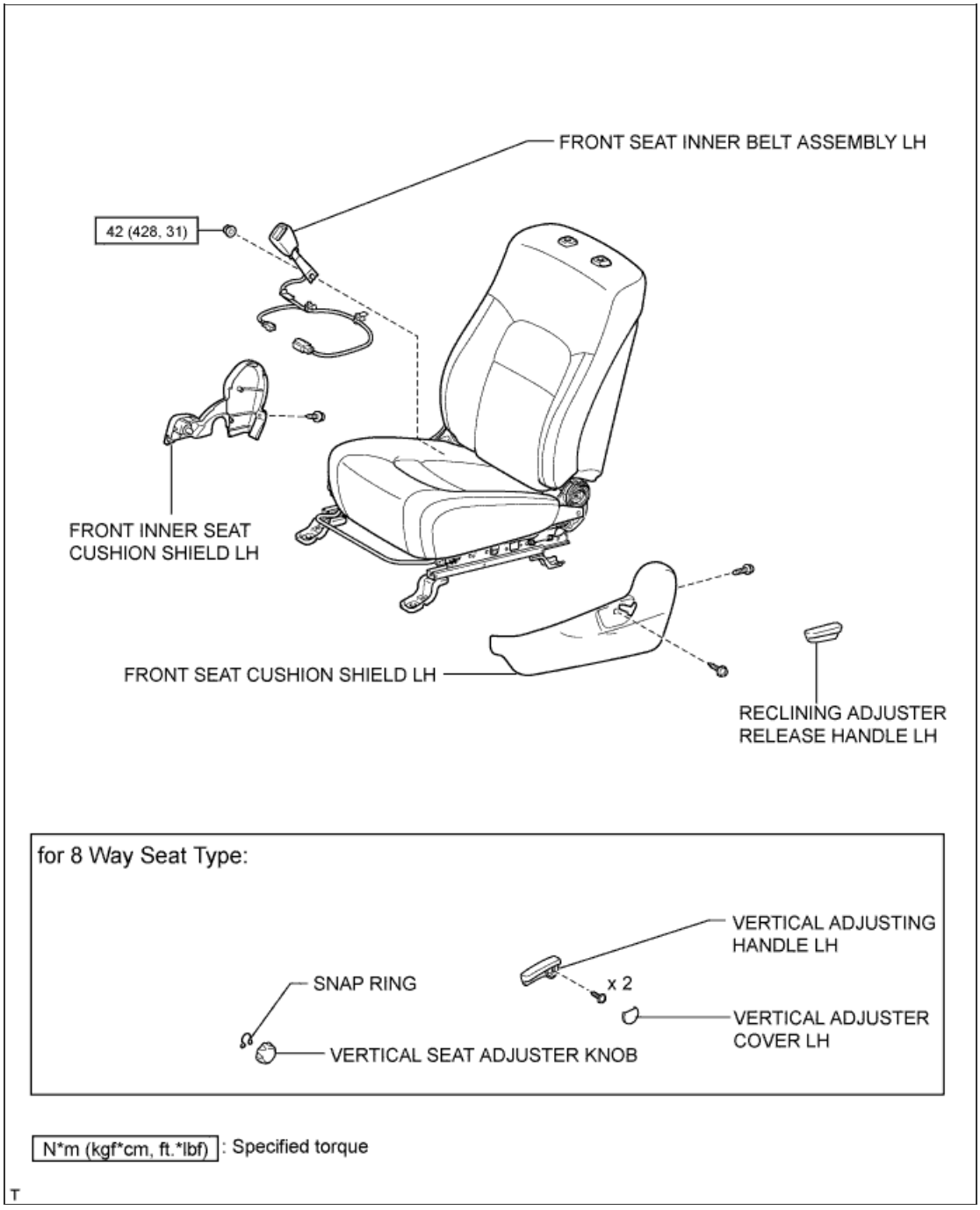
**CAUTION:**

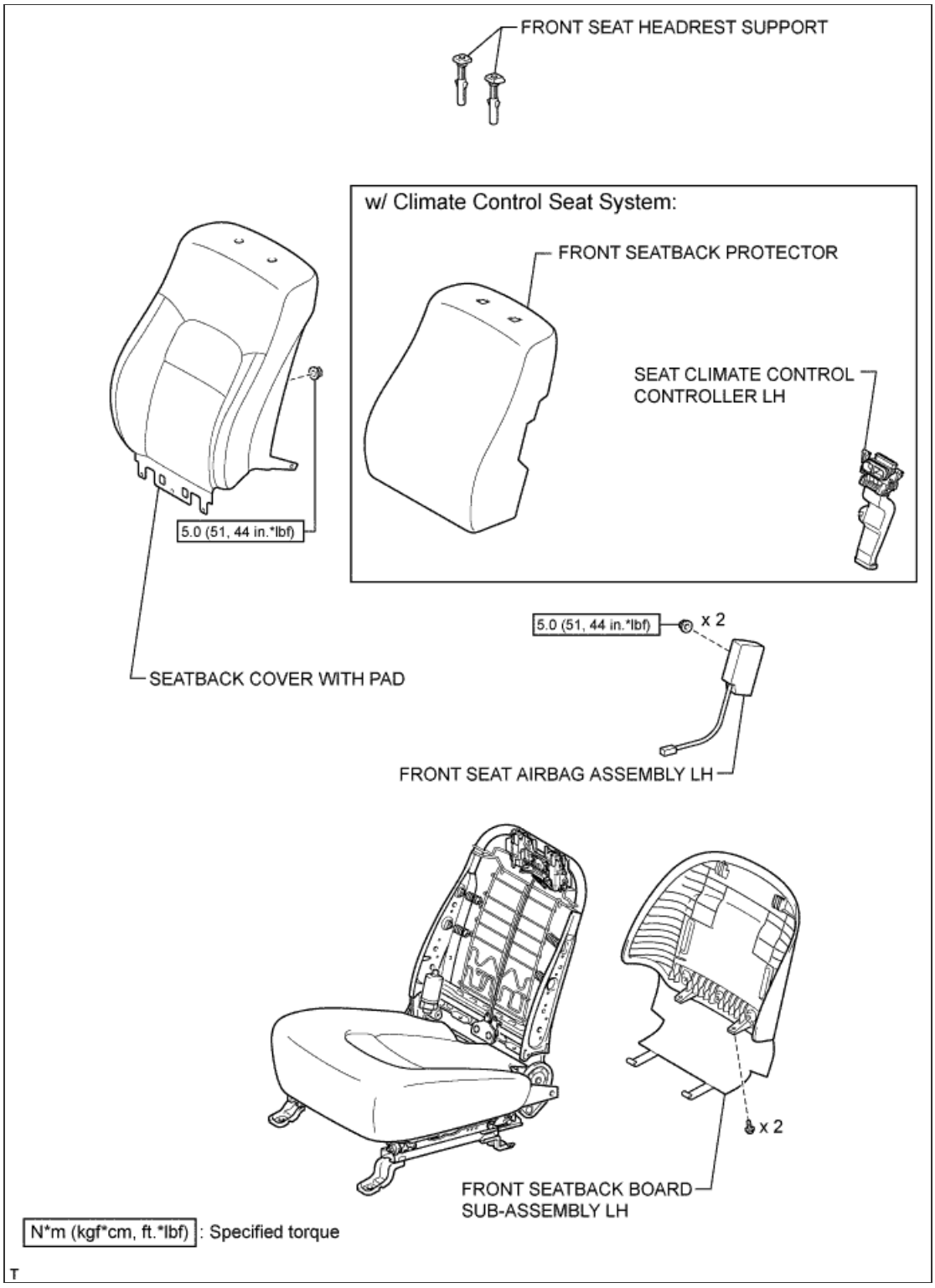
- **The front seat airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front seat airbag with a deployed airbag.**
- **Do not apply water to a front seat airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

i. Remove the front seat airbag from the tire.

ii. Place the front seat airbag in a plastic bag, tie it tightly and dispose of it in the same way as other general parts.

**for Preparation** Click here



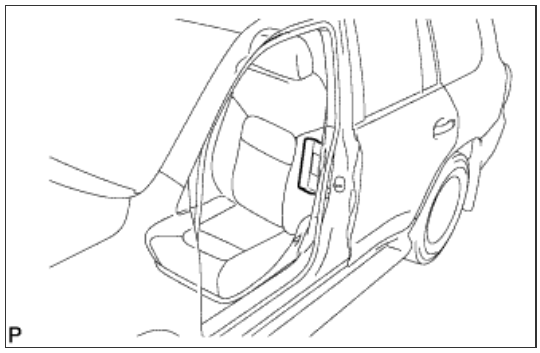

FRONT SEAT HEADREST SUPPORT
w/ Climate Control Seat System:
FRONT SEATBACK PROTECTOR
SEAT CLIMATE CONTROL CONTROLLER LH
5.0 (51, 44 in.*lbf)
SEATBACK COVER WITH PAD
5.0 (51, 44 in.*lbf)
x 2
FRONT SEAT AIRBAG ASSEMBLY LH
x 2
FRONT SEATBACK BOARD SUB-ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T

**for Preparation** Click here

## 1. CHECK FRONT SEAT AIRBAG ASSEMBLY LH (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

b. With the front seat airbag installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the front seat with a new one: Cuts, minute cracks or marked discoloration on the front seatback around the front seat airbag.




## 2. CHECK FRONT SEAT AIRBAG ASSEMBLY LH (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

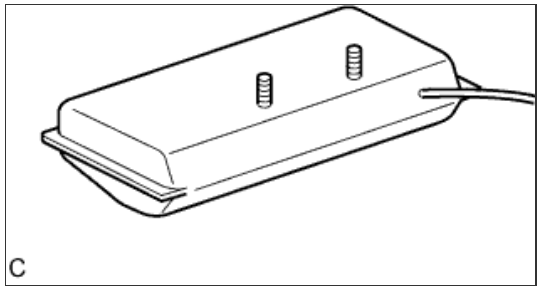
a. Perform a diagnostic system check (Click here).

b. With the front seat airbag removed from the vehicle, perform a visual check. If there are any defects as mentioned below, replace the front seat airbag with a new one:

- Cuts, minute cracks or marked discoloration on the front seat airbag.
- Cracks or other damage to the wire harness or connector.

**NOTICE:**

For removal and installation procedures of the front seat airbag, be sure to follow the correct procedure.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

a. Remove the front seat assembly LH ( Click here).

## 2. REMOVE SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Apply protective tape as shown in the illustration.

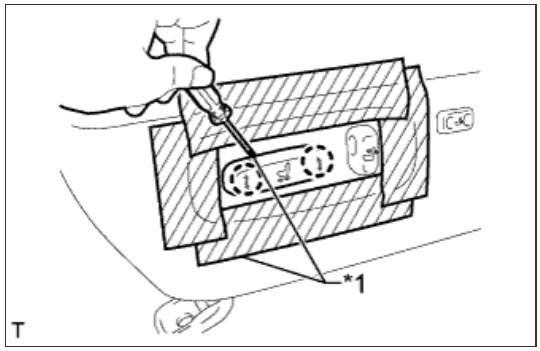
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a screwdriver, detach the 2 claws and remove the slide and vertical power seat switch knob.

**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING POWER SEAT SWITCH KNOB

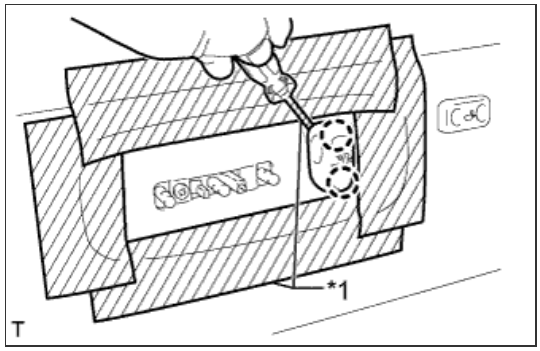
a. Using a screwdriver, detach the 2 claws and remove the reclining power seat switch knob.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

**HINT:**

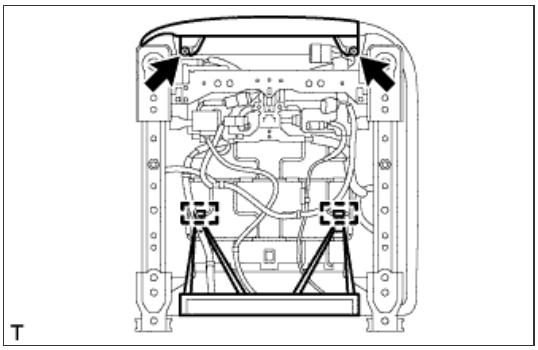
Tape the screwdriver tip before use.




## 4. REMOVE FRONT SEAT CUSHION SHIELD LH

a. Remove the 2 screws.

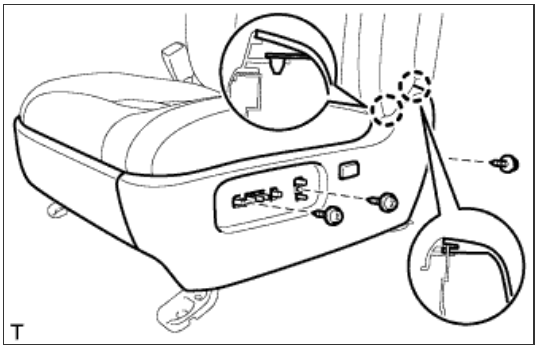
b. Disconnect the 2 rubber bands.




c. Remove the 3 screws.

d. Detach the 2 claws and remove the front seat cushion shield LH together with the front inner No. 1 seat cushion shield LH.

e. for Driver Side:
Disconnect the connector.

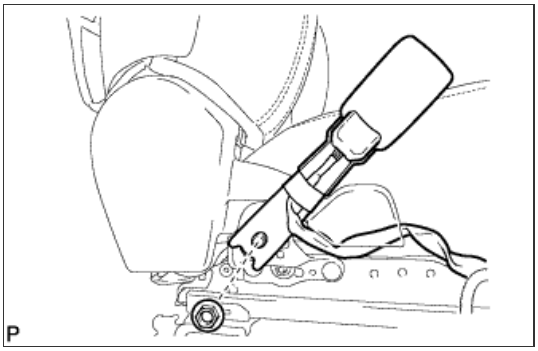



## 5. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

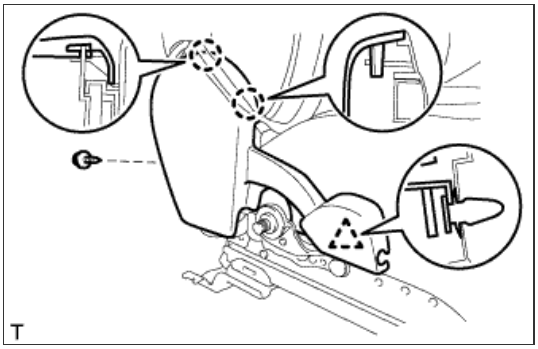
c. Remove the front seat belt anchor plate.




## 6. REMOVE FRONT INNER SEAT CUSHION SHIELD LH

a. Remove the screw.

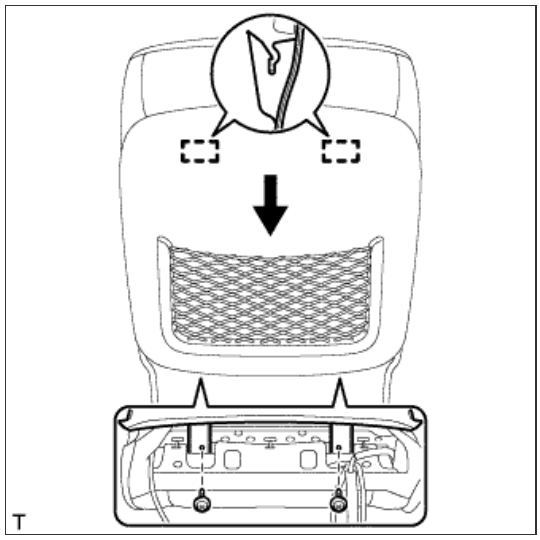
b. Detach the 2 claws and clip, and then remove the front inner seat cushion shield LH.




## 7. REMOVE FRONT SEATBACK BOARD SUB-ASSEMBLY LH

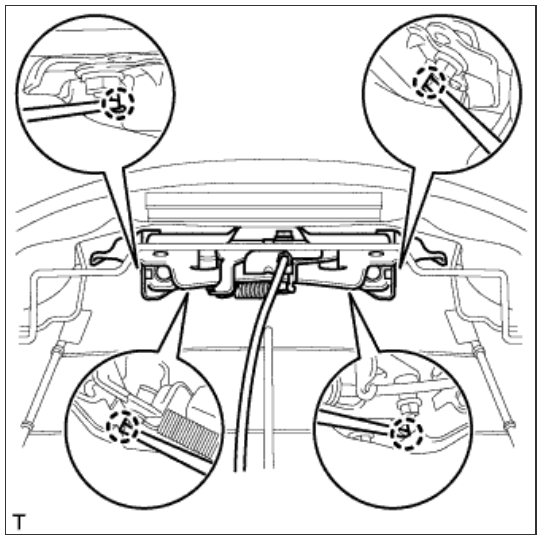
a. Remove the 2 screws.

b. Move the front seatback board sub-assembly LH in the direction of the arrow to detach the 2 hooks and remove it.




## 8. REMOVE FRONT SEAT HEADREST SUPPORT

a. Detach the 4 claws and remove the 2 front seat headrest supports.

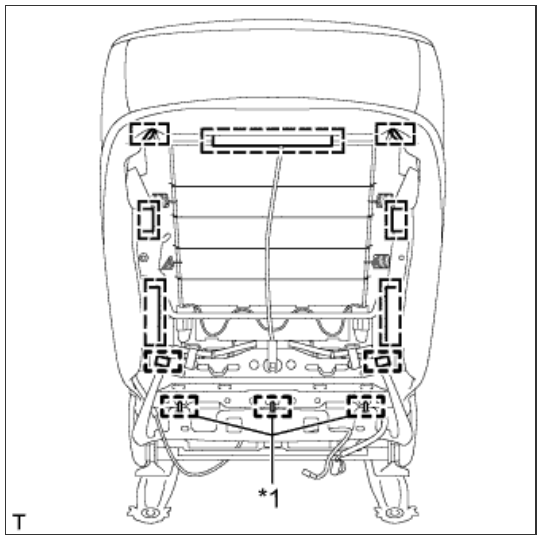



## 9. REMOVE SEATBACK COVER WITH PAD

a. Remove the hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |

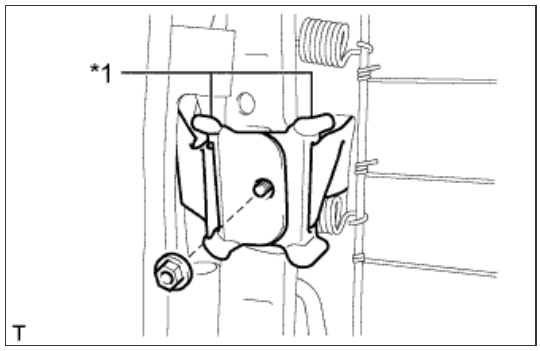



b. Remove the nut and detach the seatback cover bracket.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

c. Detach the hooks and remove the seatback cover with pad.



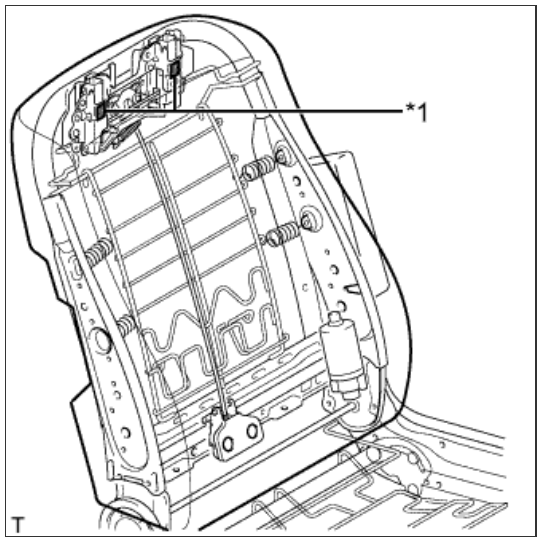

## 10. REMOVE FRONT SEATBACK PROTECTOR (w/ Climate Control Seat System)

a. Remove the front seatback protector.

b. Remove any remaining double-sided tape.

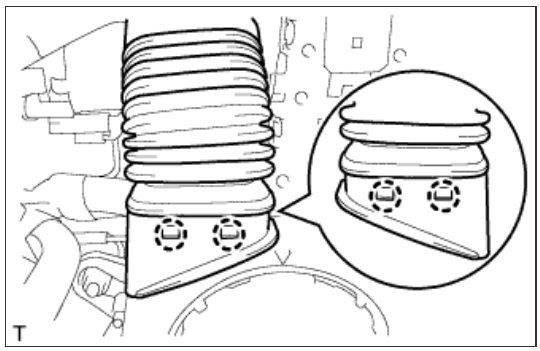
**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided Tape |



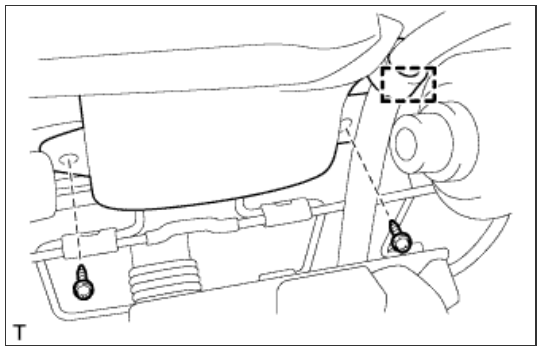

## 11. REMOVE SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System)

a. Detach the 4 claws and disconnect the seat climate control blower LH.



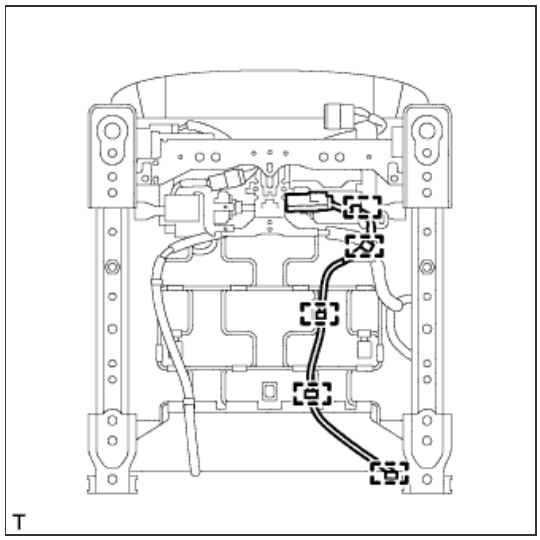

b. Detach the wire harness clamp.

c. Remove the 2 screws and seat climate control controller LH.




## 12. REMOVE FRONT SEAT AIRBAG ASSEMBLY LH

a. Detach the 5 clamps and disconnect the wire harness.

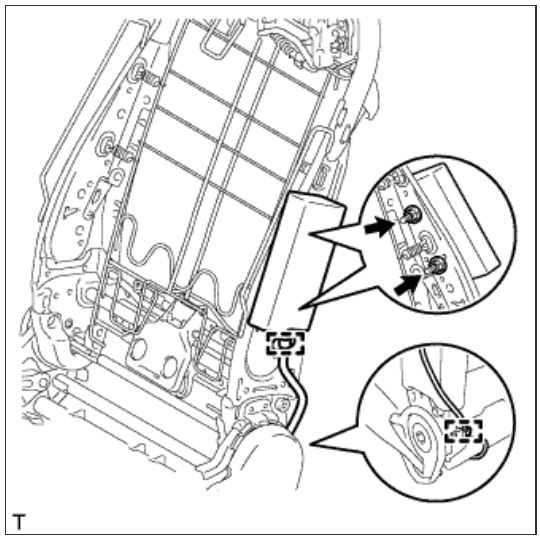



b. Detach the 2 clamps and disconnect the wire harness.

c. Remove the 2 nuts and front seat airbag assembly LH.

**CAUTION:**

Make sure that the seat frame assembly is not deformed. If it is, replace it with a new one.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. INSTALL FRONT SEAT AIRBAG ASSEMBLY LH

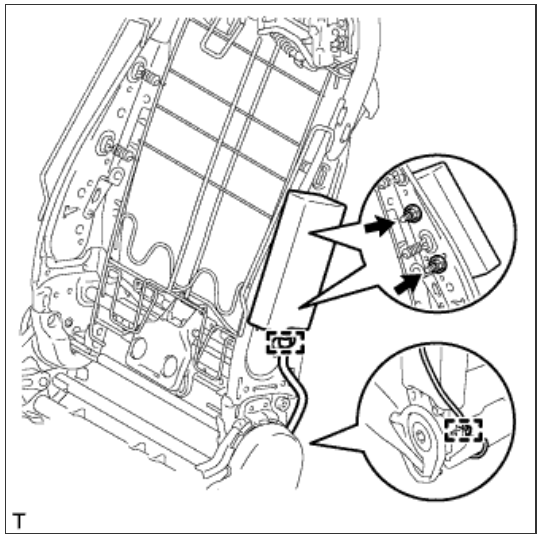
**CAUTION:**

Make sure that the seat frame assembly is not deformed. If it is, replace it with a new one.

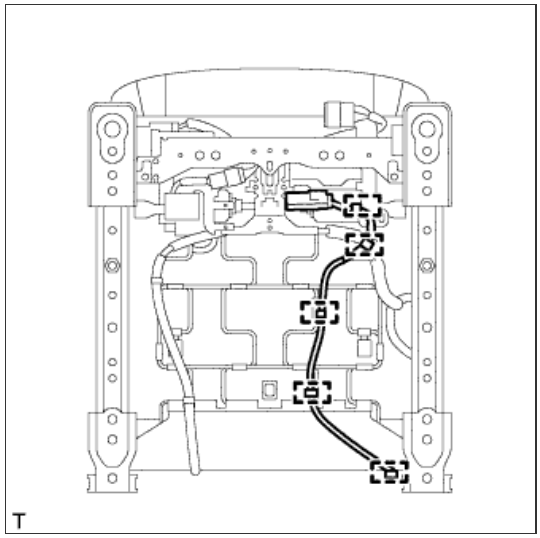
a. Install the front seat airbag assembly with 2 nuts.

**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

b. Attach the 2 clamps to connect the wire harness.



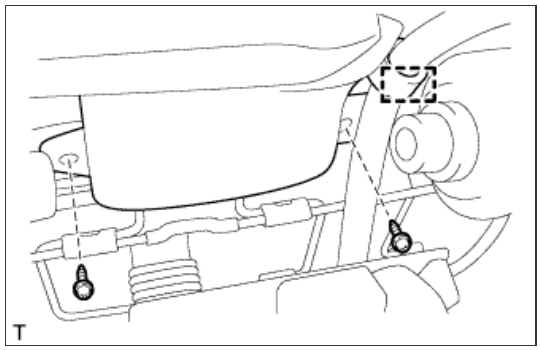

c. Attach the 5 clamps to connect the wire harness.



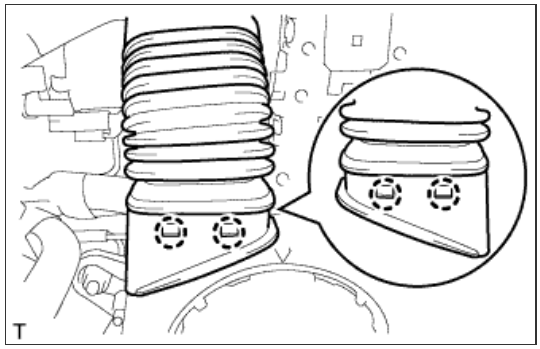

## 2. INSTALL SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System)

a. Install the seat climate control controller LH with the 2 screws.

b. Attach the wire harness clamp.




c. Attach the 4 claws to connect the seat climate control blower LH.



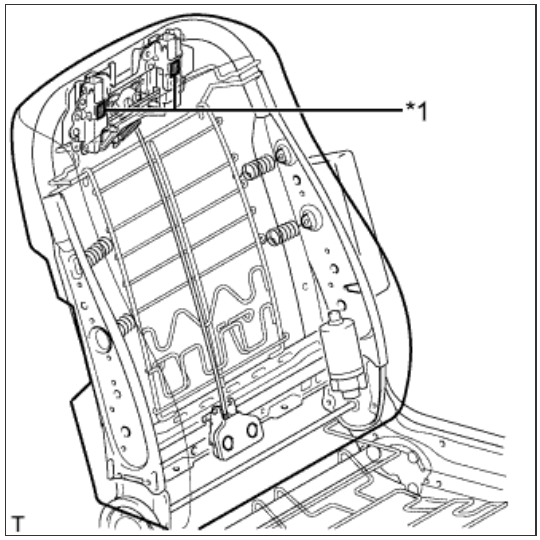

### 3. INSTALL FRONT SEATBACK PROTECTOR (w/ Climate Control Seat System)

a. Apply double-sided tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided tape |

b. Install the front seatback protector.

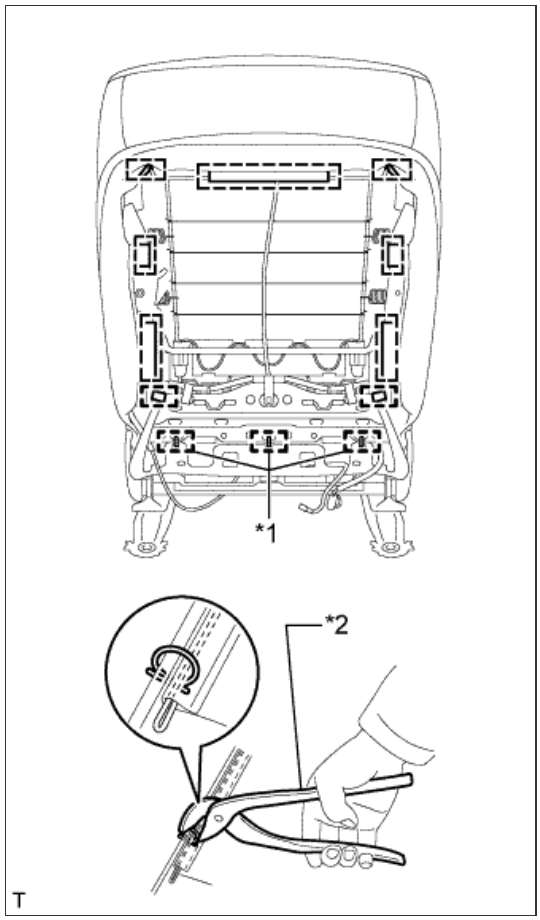



### 4. INSTALL SEATBACK COVER WITH PAD

a. Attach the hooks to install the seatback cover with pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |
| *2 | Hog Ring Pliers |




b. Attach the seatback cover bracket with the nut.

**Text in Illustration**

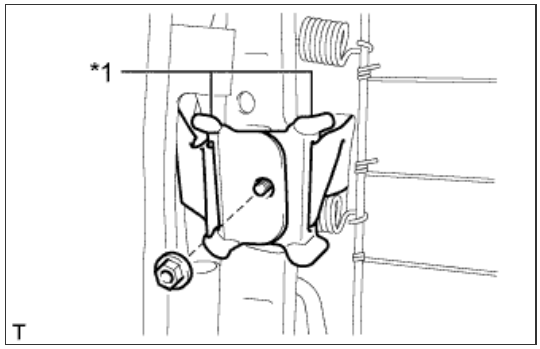
| | |
|---|---|
| *1 | Seatback Cover Bracket |

**Torque:**

**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.



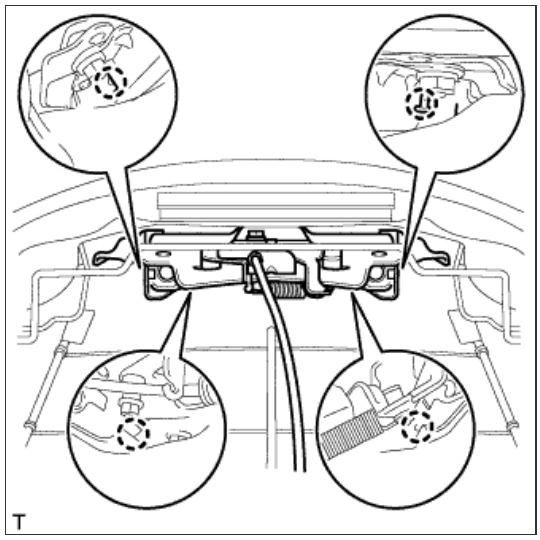

c. Using hog ring pliers, install new hog rings.

**NOTICE:**

Be careful not to damage the cover.

## 5. INSTALL FRONT SEAT HEADREST SUPPORT

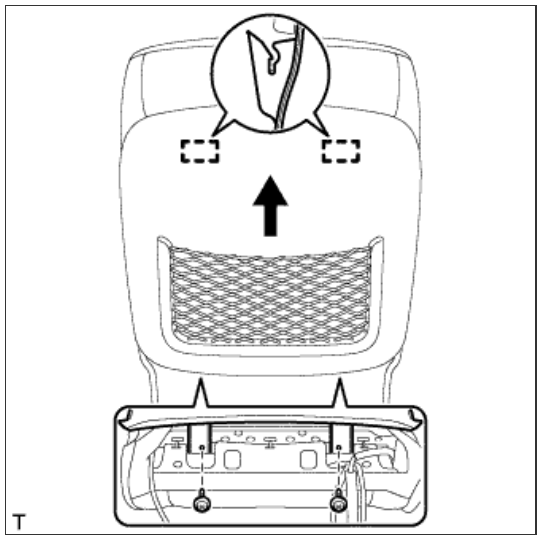
a. Attach the 4 claws to install the 2 front seat headrest supports.




## 6. INSTALL FRONT SEATBACK BOARD SUB-ASSEMBLY LH

a. Move the front seatback board sub-assembly in the direction of the arrow to attach the 2 hooks and install it.

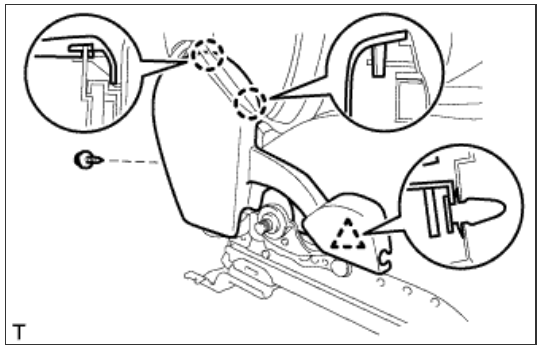
b. Install the 2 screws.




## 7. INSTALL FRONT INNER SEAT CUSHION SHIELD LH

a. Attach the 2 claws and clip to install the front inner seat cushion shield LH.

b. Install the screw.




## 8. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH

a. Install the front seat belt anchor plate.

b. Install the front seat inner belt assembly with the nut.

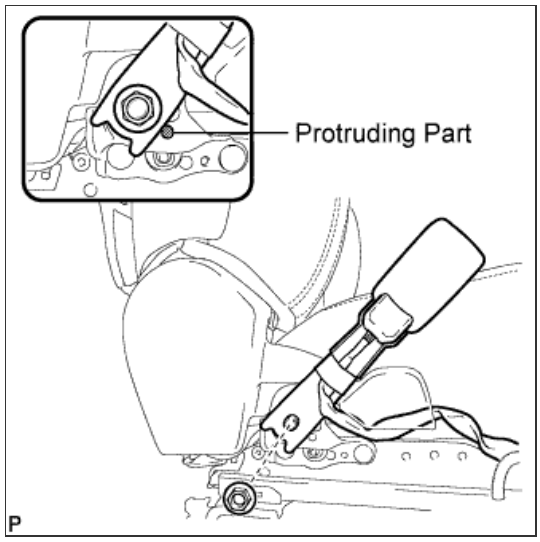
**Torque:**

42 N*m{ 428 kgf*cm , 31 ft.*lbf }

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding parts of the front seat adjuster.

c. Connect the connectors and attach the clamps.

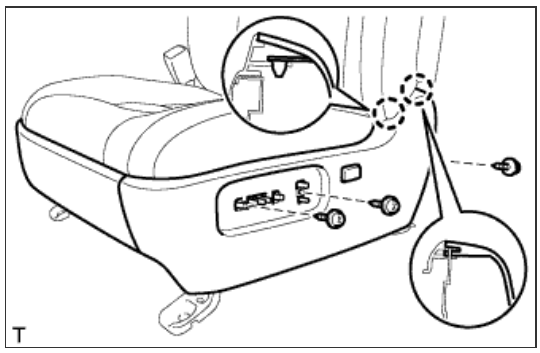



## 9. INSTALL FRONT SEAT CUSHION SHIELD LH

a. for Driver Side:
Connect the connector.

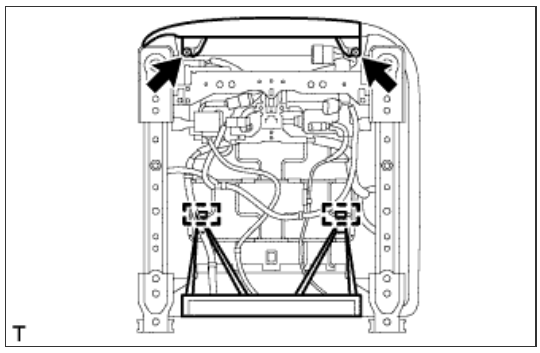
b. Attach the 2 claws to install the front seat cushion shield LH together with the front inner No. 1 cushion shield LH.

c. Install the 3 screws.



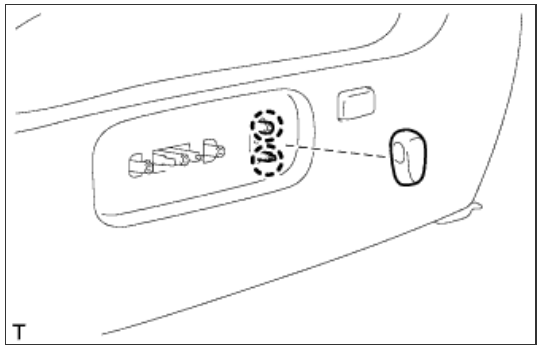

d. Connect the 2 rubber bands.

e. Install the 2 screws.



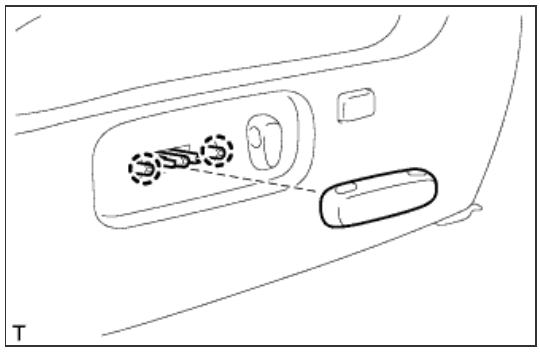

## 10. INSTALL RECLINING POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the reclining power seat switch knob.



## 11. INSTALL SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the slide and vertical power seat switch knob.




## 12. INSTALL FRONT SEAT ASSEMBLY LH

a. Install the front seat assembly LH ( Click here).

**for Preparation** Click here

**HINT:**

When scrapping a vehicle equipped with the SRS or disposing of the steering pad, be sure to deploy the airbag first in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of the DISTRIBUTOR..

**CAUTION:**

- **Never dispose of a front seat airbag that has an unactivated airbag.**
- **The airbag produces an exploding sound when it is deployed, so perform the operation outdoors and where it will not create a nuisance to nearby residents.**
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool). Perform the operation in a place away from electrical noise.**
- **When deploying the airbag, perform the operation at least 10 m (32.8 ft.) away from the airbag.**
- **The front seat airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front seat airbag with a deployed airbag.**
- **Do not apply water to a front seat airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **An airbag or pretensioner may be activated by static electricity. To prevent this, be sure to touch a metal surface with bare hands to discharge static electricity before performing this procedure.**

## 1. DISPOSE OF FRONT SEAT AIRBAG ASSEMBLY LH (WHEN INSTALLED IN VEHICLE)

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Read the precaution (Click here).

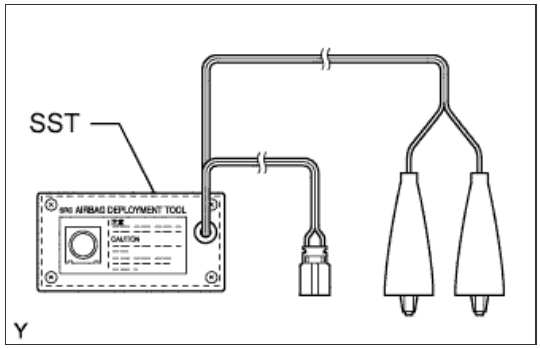
c. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).




d. Remove the front seat (Click here).

**HINT:**

Keep the front seat in the cabin.

e. Install SST.

i. Disconnect the connector (yellow colored) from the front seat airbag.

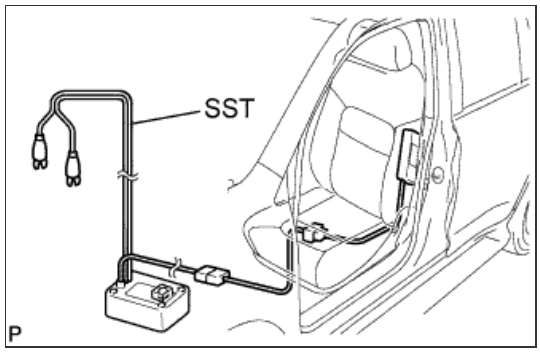
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

ii. Connect SST connector to the front seat airbag connector.

*SST*

09082-00700
09082-00820



**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.

iii. Install the front seat (Click here).

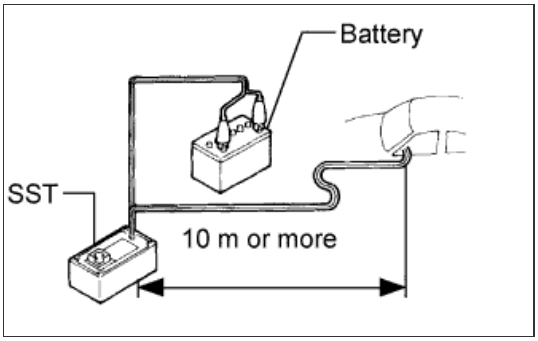
iv. Move SST at least 10 m (32.8 ft.) away from the vehicle front side window.

v. Maintaining enough clearance for SST wire harness in the front side window, close all doors and windows of the vehicle.

**NOTICE:**

Take care not to damage SST wire harness.

vi. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.




f. Deploy the airbag.

i. Check that no one is inside the vehicle or within a 10 m (32.8 ft.) radius of the vehicle.

ii. Press SST activation switch to deploy the airbag.

**CAUTION:**

- **When deploying the airbag, make sure that no one is near the vehicle.**
- **The front seat airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front seat airbag with a deployed airbag.**
- **Do not apply water to a front seat airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

## 2. DISPOSE OF FRONT SEAT AIRBAG ASSEMBLY LH (WHEN NOT INSTALLED IN VEHICLE)

**NOTICE:**

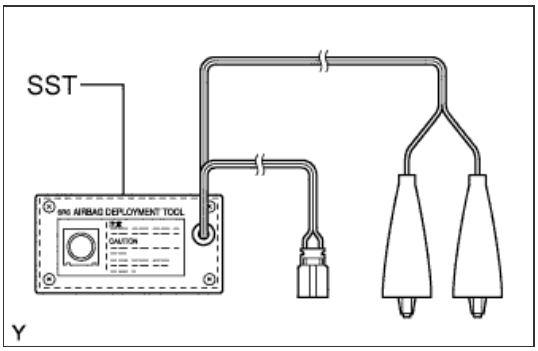
Be sure to follow the procedure detailed below when deploying the airbag.

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Remove the front seat airbag (Click here).



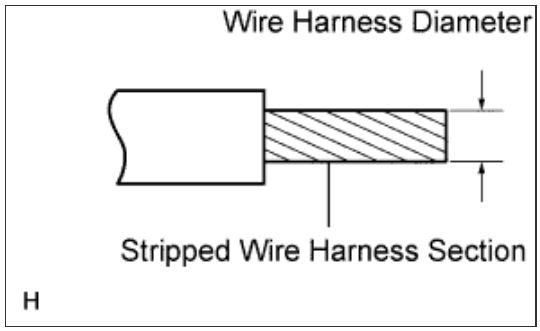

c. Using a service-purpose wire harness for the vehicle, tie down the front seat airbag to a tire.

**Cross-sectional area of stripped wire harness section:**
**1.25 mm$^2$ (0.00192 in.$^2$) or more**

**HINT:**

To calculate the cross-sectional area of the stripped wire harness section:

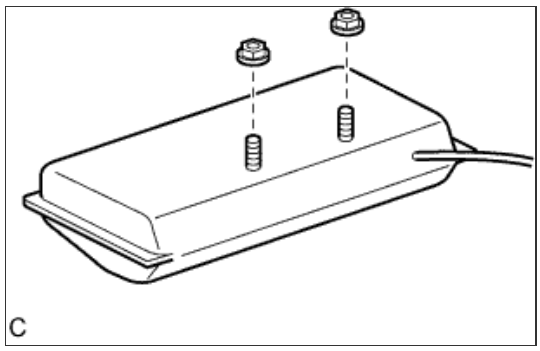
Cross-sectional area = 3.14 x (Diameter)$^2$ divided by 4



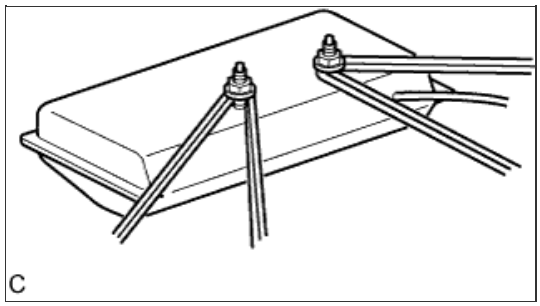

**CAUTION:**

If the wire harness is too thin or an alternative object is used to tie down the front seat airbag, it may be snapped by the shock when the airbag is deployed. Always use a wire harness for vehicle use with a cross-sectional area of at least 1.25 mm$^2$ (0.00192 in.$^2$).

i. Install the 2 nuts to the front seat airbag.

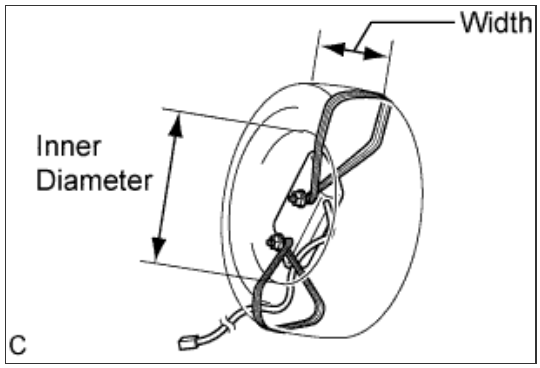



ii. Wind the wire harness around the stud bolts of the front seat airbag as shown in the illustration.




iii. Position the front seat airbag inside a tire.

**Tire size:**
**Must exceed the following dimensions**
**Width:**
**185 mm (7.28 in.)**
**Inner diameter:**
**360 mm (14.2 in.)**




**CAUTION:**

- **Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the front seat airbag may become loose due to the shock when the airbag is deployed.**
- **Always tie down the front seat airbag with the airbag deployment direction facing inside the tire.**

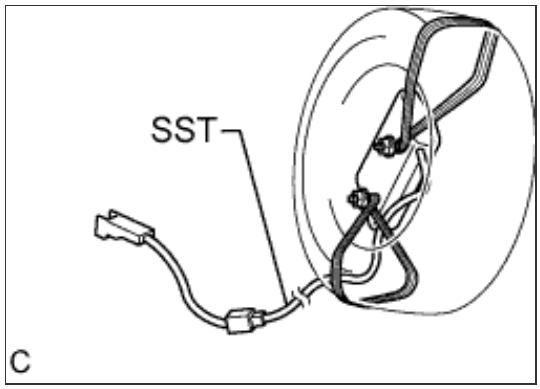
**NOTICE:**

As the tire may be damaged by the airbag deployment, use a tire that you are planning to throw away.

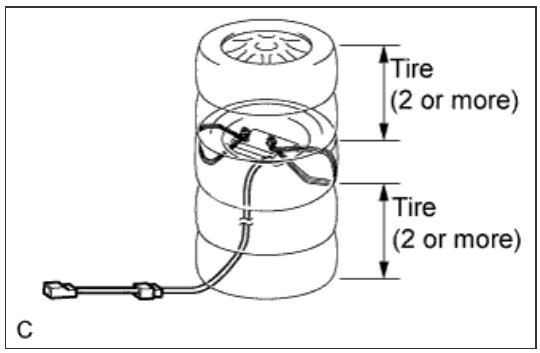
d. Install SST.

i. Connect SST connector to the front seat airbag connector.

*SST*
09082-00820




e. Place tires.




i. Place at least 2 tires under the tire which the front seat airbag is tied to.

ii. Place at least 2 tires over the tire which the front seat airbag is tied to. The top tire should have a disc wheel installed.

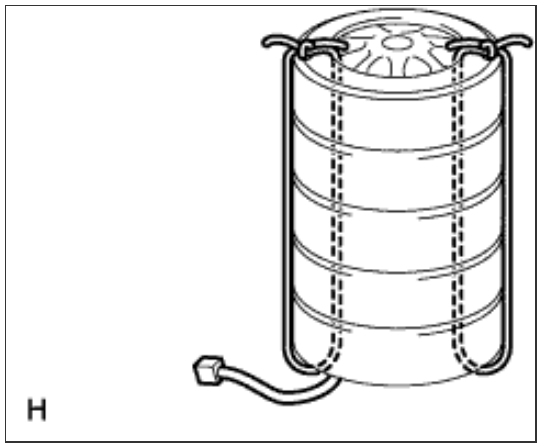
**NOTICE:**

- **Do not place SST connector under the tire because it could be damaged.**
- **As the disc wheel may be damaged by the airbag deployment, use a disc wheel that you are planning to throw away.**
- **As the tires may be damaged by the airbag deployment, use tires that you are planning to throw away.**

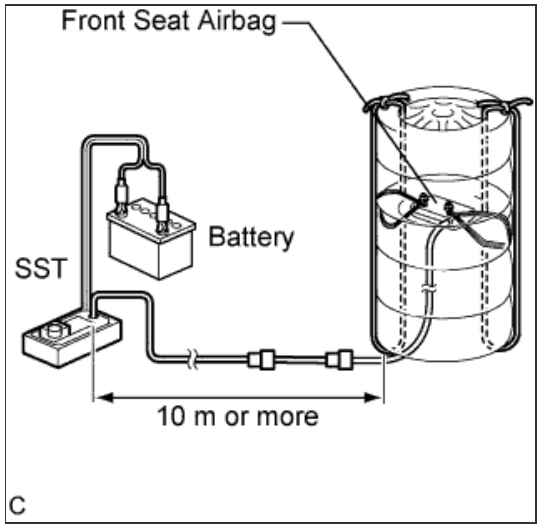
iii. Tie the tires together with 2 wire harnesses.

**CAUTION:**

Make sure that the wire harnesses are tight. Looseness in the wire harnesses results in the tires coming free due to the shock when the airbag is deployed.




f. Install SST.




i. Connect SST connector.

***SST***
**09082-00700**

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, secure some slack for SST wire harness inside the tire.

g. Deploy the airbag.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.

ii. Check that no one is within a 10 m (32.8 ft.) radius of the tire which the front seat airbag is tied to.

iii. Press SST activation switch to deploy the airbag.

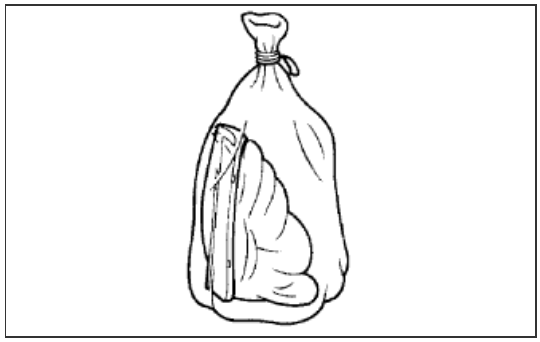
**CAUTION:**

When deploying the airbag, make sure that no one is near the tire.

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

h. Dispose of the front seat airbag.



**CAUTION:**

- **The front seat airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front seat airbag with a deployed airbag.**
- **Do not apply water to a front seat airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

i. Remove the front seat airbag from the tire.

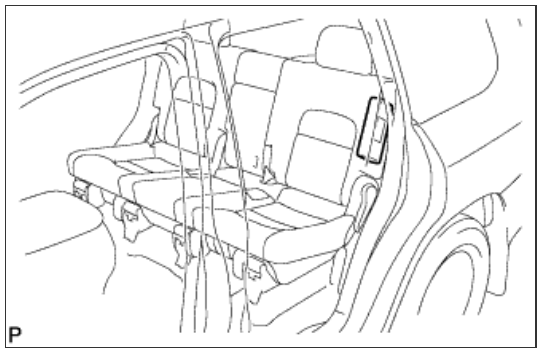
ii. Place the front seat airbag in a plastic bag, tie it tightly and dispose of it in the same way as other general parts.

**for Preparation** Click here

## 1. CHECK REAR SEAT SIDE AIRBAG ASSEMBLY (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

b. With the rear seat side airbag installed on the vehicle, perform a visual check. If there are any defects as mentioned below, replace the rear seat with a new one: Cuts, minute cracks or marked discoloration on the rear seatback around the rear seat side airbag.

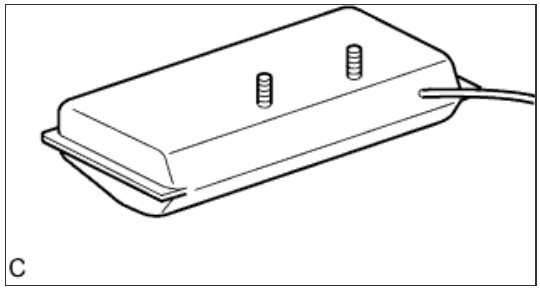



## 2. CHECK REAR SEAT SIDE AIRBAG ASSEMBLY (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

a. Perform a diagnostic system check (Click here).

b. With the rear seat side airbag removed from the vehicle, perform a visual check. If there are any defects as mentioned below, replace the rear seat side airbag with a new one:

- Cuts, minute cracks or marked discoloration on the rear seat side airbag.
- Cracks or other damage to the wire harness or connector.




**NOTICE:**

For removal and installation procedures of the rear seat side airbag, be sure to follow the correct procedure.

**for Preparation** Click here

**HINT:**

When scrapping a vehicle equipped with the SRS or disposing of the steering pad, be sure to deploy the airbag first in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of the DISTRIBUTOR.

**CAUTION:**

- **Never dispose of a rear seat side airbag that has an unactivated airbag.**
- **The airbag produces an exploding sound when it is deployed, so perform the operation outdoors and where it will not create a nuisance to nearby residents.**
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool). Perform the operation in a place away from electrical noise.**
- **When deploying the airbag, perform the operation at least 10 m (32.8 ft.) away from the airbag.**
- **The rear seat side airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a rear seat side airbag with a deployed airbag.**
- **Do not apply water to a rear seat side airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **An airbag or pretensioner may be activated by static electricity. To prevent this, be sure to touch a metal surface with bare hands to discharge static electricity before performing this procedure.**

## 1. DISPOSE OF REAR SEAT SIDE AIRBAG ASSEMBLY (WHEN INSTALLED IN VEHICLE)

**HINT:**

Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Read the precaution (Click here).

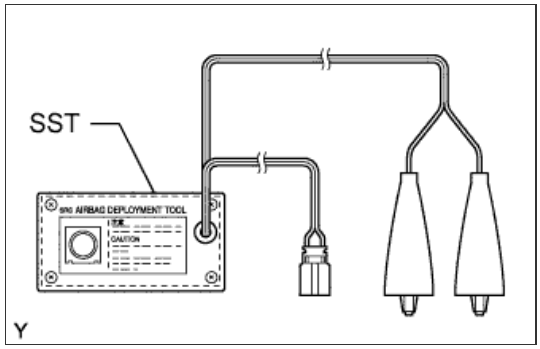
c. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).




d. Remove the rear seat (Click here).

**HINT:**

Keep the rear seat in the cabin.

e. Install SST.

i. Disconnect the connector (yellow colored) from the rear seat side airbag.

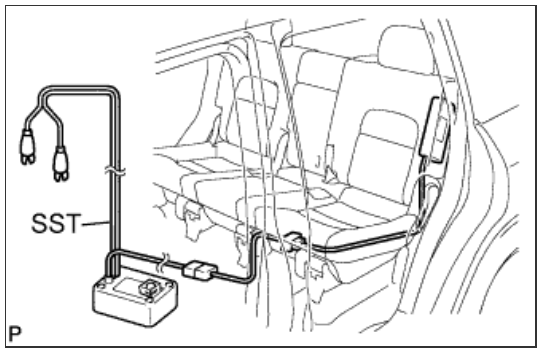
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

ii. Connect SST connector to the rear seat side airbag connector.

*SST*

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**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.

iii. Install the rear seat (Click here).

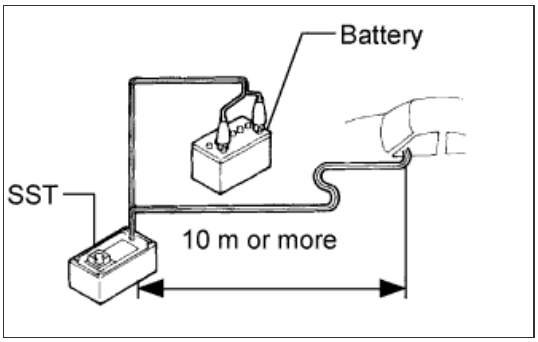
iv. Move SST at least 10 m (32.8 ft.) away from the vehicle front side window.

v. Maintaining enough clearance for SST wire harness in the front side window, close all doors and windows of the vehicle.

**NOTICE:**

Take care not to damage SST wire harness.

vi. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.




f. Deploy the airbag.

i. Check that no one is inside the vehicle or within a 10 m (32.8 ft.) radius of the vehicle.

ii. Press SST activation switch to deploy the airbag.

**CAUTION:**

- **When deploying the airbag, make sure that no one is near the vehicle.**
- **The rear seat side airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a rear seat side airbag with a deployed airbag.**
- **Do not apply water to a rear seat side airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

## 2. DISPOSE OF REAR SEAT SIDE AIRBAG ASSEMBLY (WHEN NOT INSTALLED IN VEHICLE)

**NOTICE:**

Be sure to follow the procedure detailed below when deploying the airbag.

**HINT:**

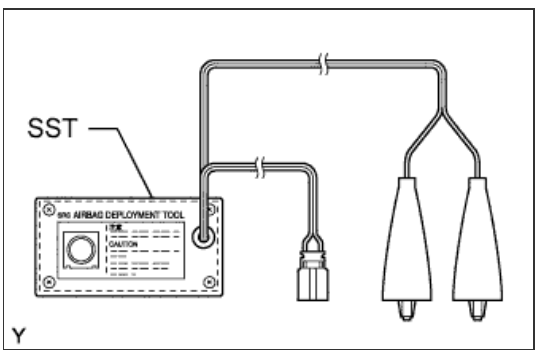
Prepare a battery as the power source to deploy the airbag.

a. Check the function of SST (Click here).

b. Remove the rear seat side airbag.

i. Remove the rear seat (Click here).

ii. Remove the 2 nuts and the rear seat side airbag from the seatback.

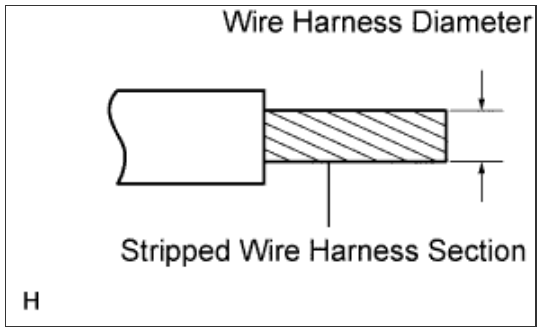



**CAUTION:**

- **When removing the rear seat airbag, wait at least 90 seconds after the ignition switch is turned off and the cable is disconnected from the negative (-) battery terminal before starting work.**
- **When storing the rear seat side airbag, keep the airbag deployment side facing upward.**

c. Using a service-purpose wire harness for the vehicle, tie down the rear seat side airbag to a tire.

**Cross-sectional area of stripped wire harness section:**
**1.25 mm$^2$ (0.00192 in.$^2$) or more**




**HINT:**

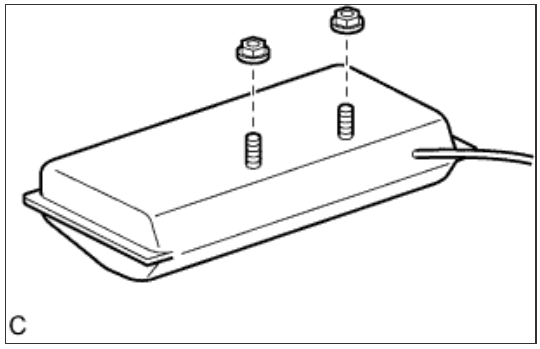
To calculate the cross-sectional area of the stripped wire harness section:

Cross-sectional area = 3.14 x (Diameter)$^2$ divided by 4

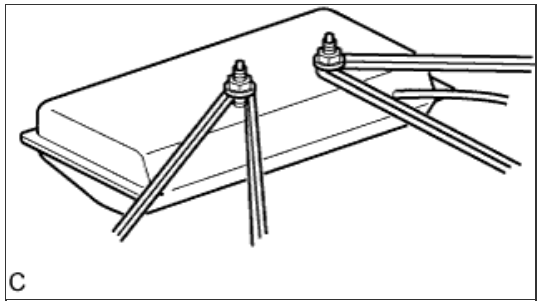
**CAUTION:**

If the wire harness is too thin or an alternative object is used to tie down the rear seat side airbag, it may be snapped by the shock when the airbag is deployed. Always use a wire harness for vehicle use with a cross-sectional area of at least 1.25 mm$^2$ (0.00192 in.$^2$).

i. Install the 2 nuts to the rear seat side airbag.

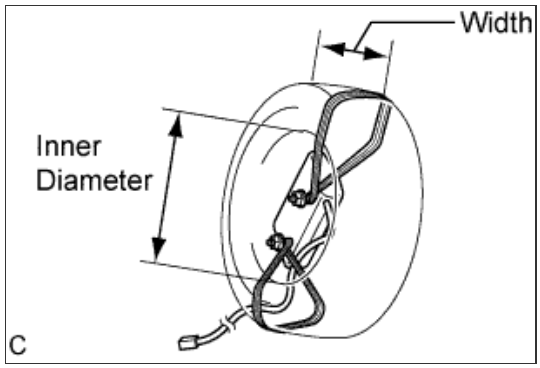



ii. Wind the wire harness around the stud bolts of the rear seat side airbag as shown in the illustration.




iii. Position the rear seat side airbag inside a tire.

**Tire size:**
**Must exceed the following dimensions**
**Width:**
**185 mm (7.28 in.)**
**Inner diameter:**
**360 mm (14.2 in.)**




**CAUTION:**

- **Make sure that the wire harnesses are tight. If there is slack in the wire harnesses, the rear seat side airbag may become loose due to the shock when the airbag is deployed.**
- **Always tie down the rear seat side airbag with the airbag deployment direction facing inside the tire.**

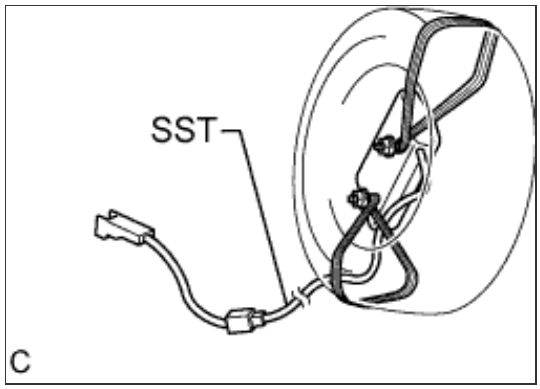
**NOTICE:**

As the tire may be damaged by the airbag deployment, use a tire that you are planning to throw away.

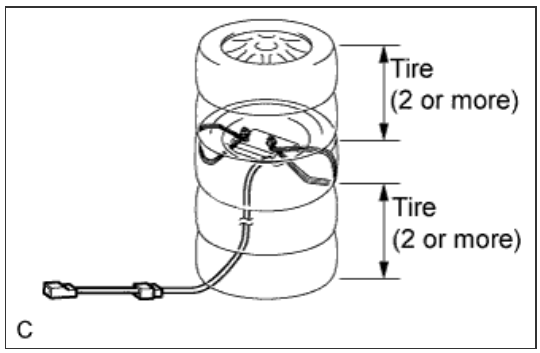
d. Install SST.

i. Connect SST connector to the rear seat side airbag connector.

*SST*
09082-00820




e. Place tires.




i. Place at least 2 tires under the tire which the rear seat side airbag is tied to.

ii. Place at least 2 tires over the tire which the rear seat side airbag is tied to. The top tire should have a disc wheel installed.

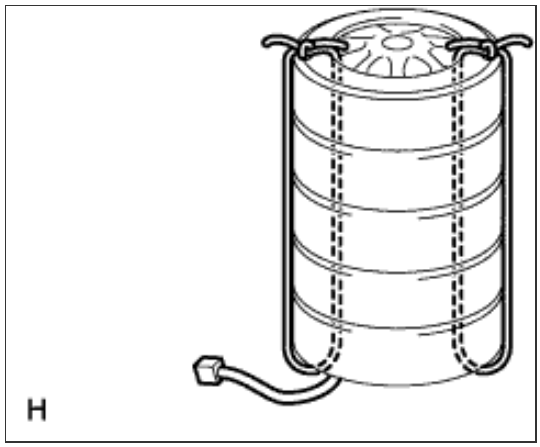
**NOTICE:**

- **Do not place SST connector under the tire because it could be damaged.**
- **As the disc wheel may be damaged by the airbag deployment, use a disc wheel that you are planning to throw away.**
- **As the tires may be damaged by the airbag deployment, use tires that you are planning to throw away.**

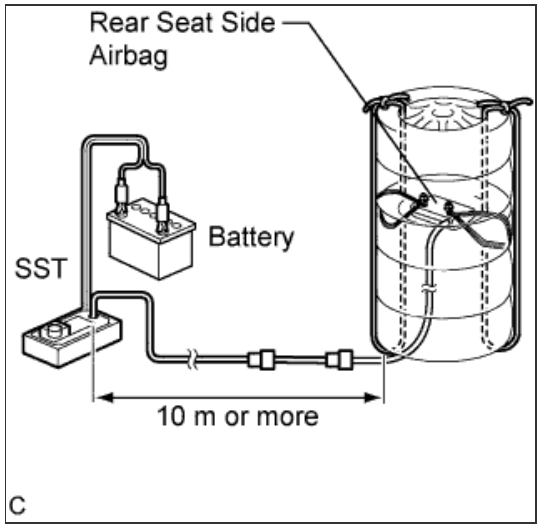
iii. Tie the tires together with 2 wire harnesses.

**CAUTION:**

Make sure that the wire harnesses are tight. Looseness in the wire harnesses results in the tires coming free due to the shock when the airbag is deployed.




f. Install SST.




i. Connect SST connector.

***SST***
09082-00700

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, secure some slack for SST wire harness inside the tire.

g. Deploy the airbag.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip of SST to the battery negative (-) terminal.

ii. Check that no one is within a 10 m (32.8 ft.) radius of the tire which the rear seat side airbag is tied to.

iii. Press SST activation switch to deploy the airbag.

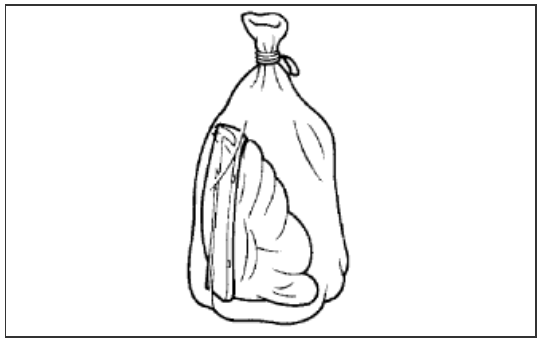
**CAUTION:**

When deploying the airbag, make sure that no one is near the tire.

**HINT:**

The airbag is deployed as the LED of SST activation switch comes on.

h. Dispose of the rear seat side airbag.



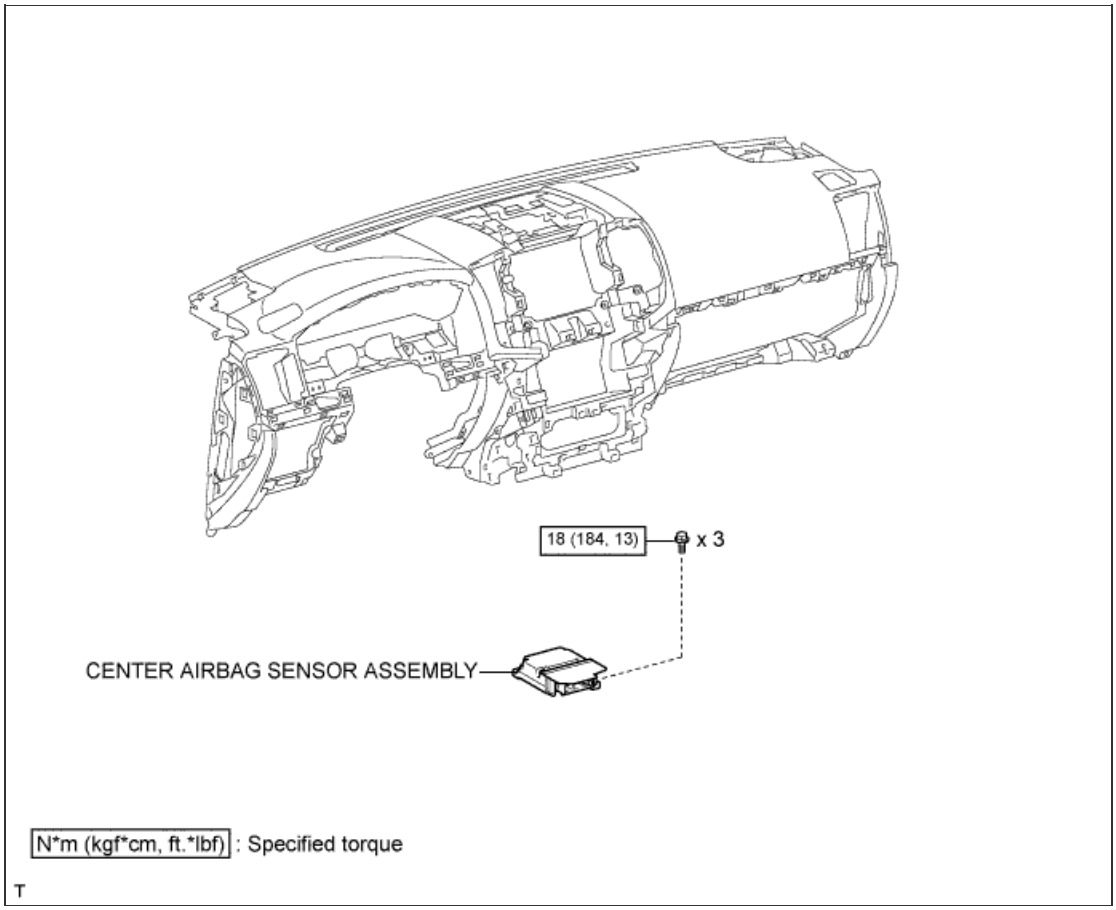
**CAUTION:**

- **The rear seat side airbag becomes extremely hot when the airbag is deployed, so do not touch it for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a rear seat side airbag with a deployed airbag.**
- **Do not apply water to a rear seat side airbag with a deployed airbag.**
- **Always wash your hands with water after completing the operation.**

i. Remove the rear seat side airbag from the tire.

ii. Place the rear seat side airbag in a plastic bag, tie it tightly and dispose of it in the same way as other general parts.

**for Preparation** Click here



**for Preparation** Click here

### 1. CHECK CENTER AIRBAG SENSOR ASSEMBLY (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

### 2. CHECK CENTER AIRBAG SENSOR ASSEMBLY (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

a. Perform a diagnostic system check (Click here).

### 3. CHECK CENTER AIRBAG SENSOR ASSEMBLY (VEHICLE INVOLVED IN COLLISION AND AIRBAG IS DEPLOYED)

a. Replace the center airbag sensor.

**CAUTION:**

For removal and installation procedures of the center airbag sensor, be sure to follow the correct procedure.

**HINT:**

The center airbag sensor should be replaced after any of the airbags have deployed, as it has been subjected to the impact.

**for Preparation** Click here

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

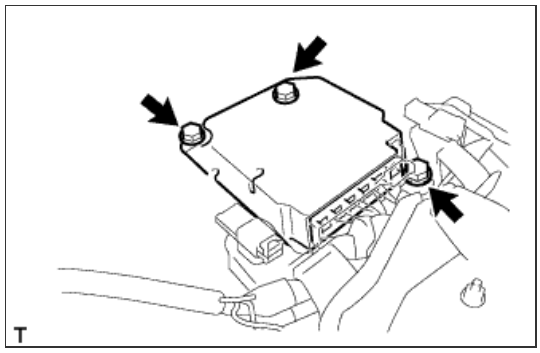
## 2. REMOVE FRONT AIR CONDITIONING UNIT

a. Remove the front air conditioning unit (Click here).

## 3. REMOVE CENTER AIRBAG SENSOR ASSEMBLY

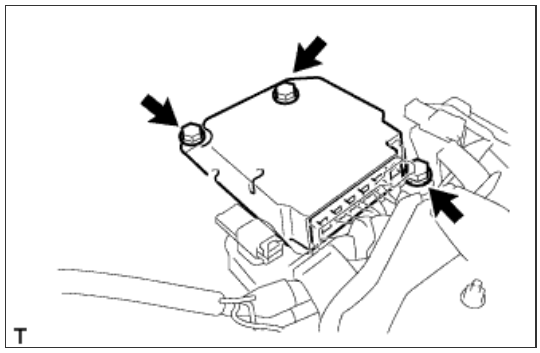
a. Disconnect the holder (with connectors).

b. Remove the 3 bolts and airbag sensor.



**for Preparation** Click here

## 1. INSTALL CENTER AIRBAG SENSOR ASSEMBLY




a. Check that the ignition switch is off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Install the airbag sensor with the 3 bolts.

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

**NOTICE:**

- **If the center airbag sensor has been dropped, or there are any cracks, dents or other defects in the case, bracket or connector, replace it with a new one.**
- **When installing the center airbag sensor, be careful that the SRS wiring does not interfere with other parts and that it is not pinched between other parts.**

d. Check that there is no looseness in the installation parts of the center airbag sensor.

e. Connect the holder (with connectors).

f. Check that the waterproof sheet is properly set.

## 2. INSTALL FRONT AIR CONDITIONING UNIT

a. Install the front air conditioning unit (Click here).

## 3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

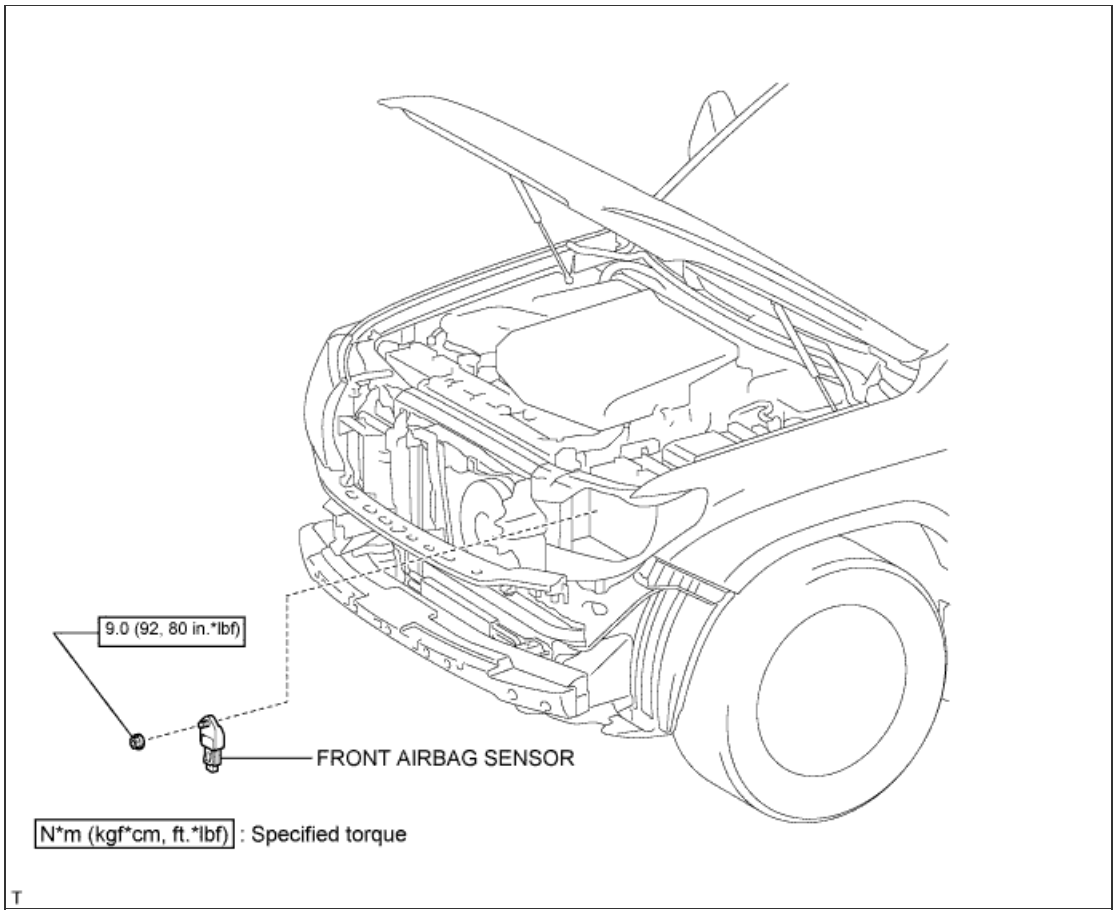
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 4. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here



**for Preparation** Click here

### 1. CHECK FRONT AIRBAG SENSOR (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

### 2. CHECK FRONT AIRBAG SENSOR (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

a. Perform a diagnostic system check (Click here).

b. When the front bumper of the vehicle or its area is damaged, check if there is any damage to the front airbag sensor. If the front airbag sensor has defects as mentioned below, replace it with a new one:

- Cracks, dents or chips on the sensor housing.
- Cracks or other damage to the connector.
- Peeling off of the label or damage to the serial number.

**CAUTION:**

For removal and installation procedures of the front airbag sensor, be sure to follow the correct procedure.

### 3. CHECK FRONT AIRBAG SENSOR (VEHICLE INVOLVED IN COLLISION AND AIRBAG IS DEPLOYED)

a. When airbags have deployed as the result of a collision, be certain to replace the front airbag sensor when it is in the damaged area (anywhere in need of repair). Furthermore, it is also necessary to replace the front airbag sensor in an undamaged area that has registered a major collision, or which exhibits any of the following abnormalities:

- Cracks, dents or chips on the sensor housing.
- Cracks or other damage to the connector.
- Peeling off of the label or damage to the serial number.

**CAUTION:**

For removal and installation procedures of the front airbag sensor, be sure to follow the correct procedure.

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

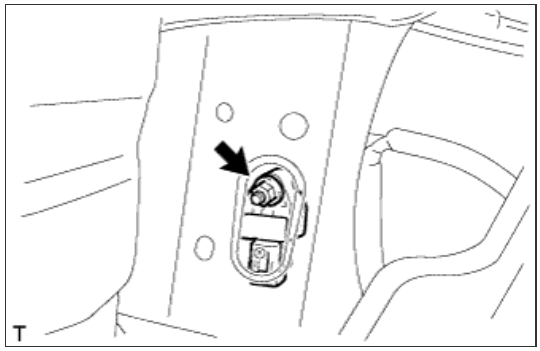
## 2. REMOVE HEADLIGHT ASSEMBLY

a. Remove the headlight assembly (Click here).

## 3. REMOVE FRONT AIRBAG SENSOR

a. Remove the nut and front airbag sensor from the body.

b. Disconnect the connector.

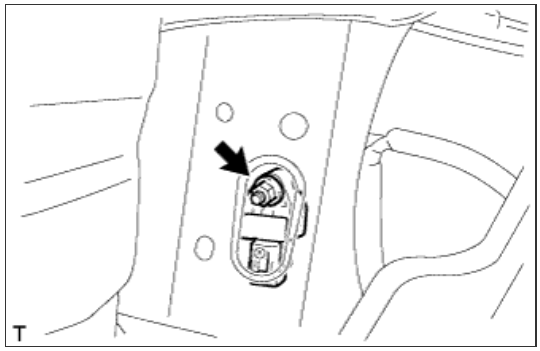


**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. INSTALL FRONT AIRBAG SENSOR




a. Check that the ignition switch is off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Connect the connector.

d. Install the front airbag sensor with the nut.

**Torque:**
**9.0 N*m{ 92 kgf*cm , 80 in.*lbf }**

**NOTICE:**

- **If the front airbag sensor has been dropped, or there are any cracks, dents or other defects in the case, bracket or connector, replace it with a new one.**
- **When installing the front airbag sensor, be careful that the SRS wiring does not interfere with other parts and that it is not pinched between other parts.**

e. Check that there is no looseness in the installation parts of the front airbag sensor.

## 2. INSTALL HEADLIGHT ASSEMBLY

a. Install the headlight assembly (Click here).

## 3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

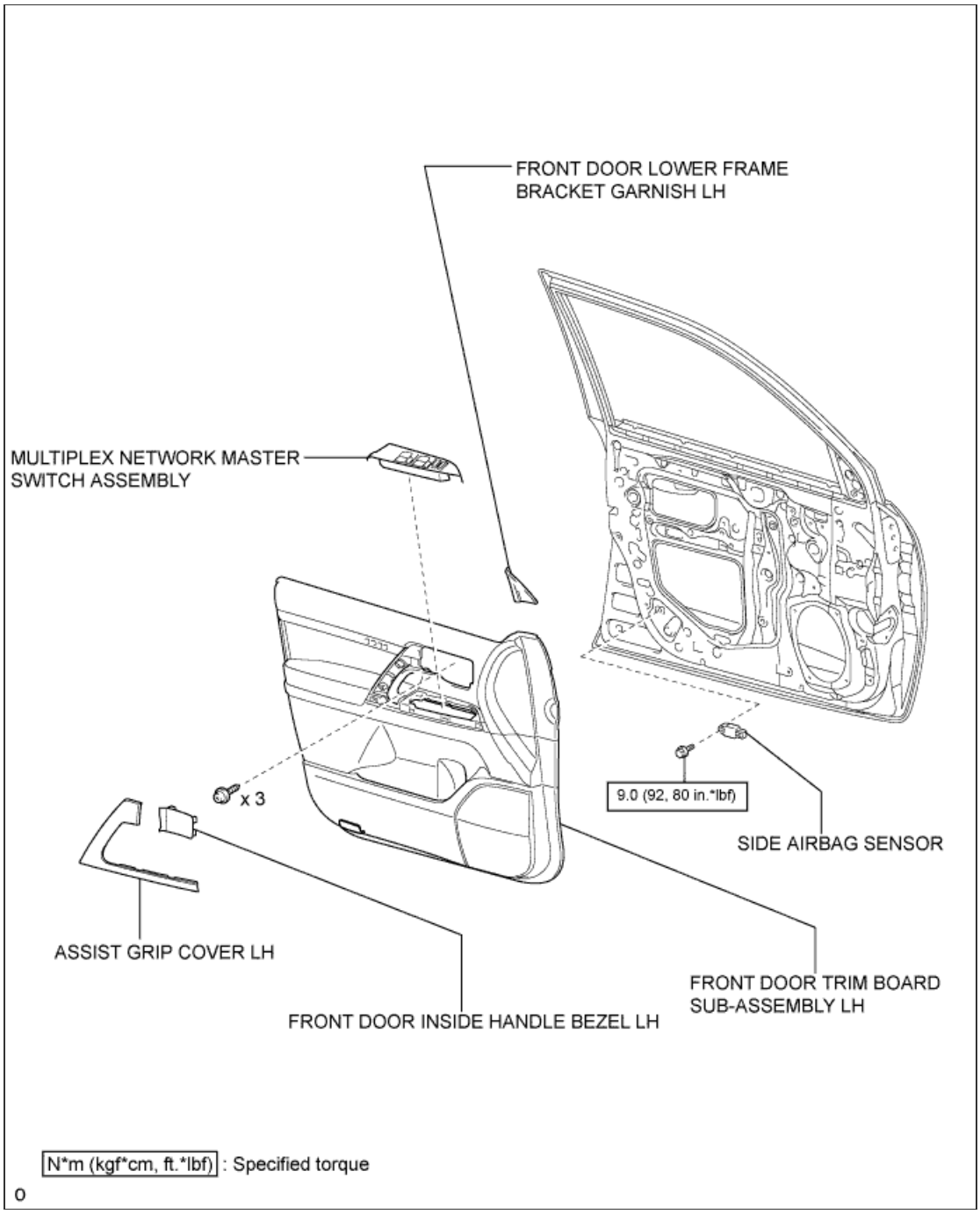
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 4. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here



**for Preparation** Click here

## 1. CHECK SIDE AIRBAG SENSOR (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

## 2. CHECK SIDE AIRBAG SENSOR (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

a. Perform a diagnostic system check (Click here).

b. When the front door of the vehicle or its area is damaged, check if there is any damage to the side airbag sensor. If there are any defects as mentioned below, replace the side airbag sensor with a new one:

- Cracks, dents or chips on the sensor housing.
- Cracks or other damage to the connector.
- Peeling off of the label or damage to the serial number.

**CAUTION:**

For removal and installation procedures of the side airbag sensor, be sure to follow the correct procedure.

## 3. CHECK SIDE AIRBAG SENSOR (VEHICLE INVOLVED IN COLLISION AND AIRBAG IS DEPLOYED)

a. Replace the side airbag sensor.

**CAUTION:**

- **For removal and installation procedures of the side airbag sensor, be sure to follow the correct procedure.**
- **If the airbags have deployed, replace the side airbag sensor on the side in which the collision occurred. Replace both if necessary.**

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH and LH.**
- **The procedures listed below are the LH side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

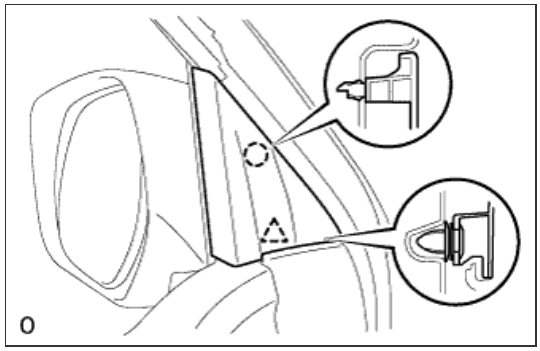
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

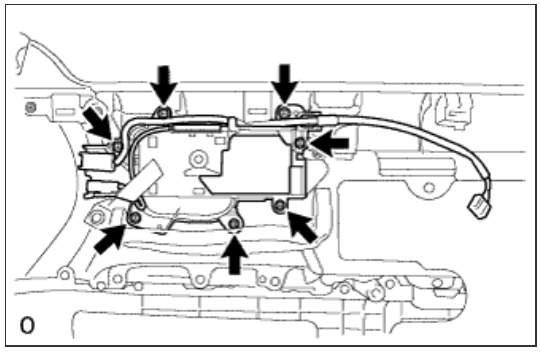
## 2. REMOVE FRONT DOOR LOWER FRAME BRACKET GARNISH LH

a. Detach the clip and claw, and remove the front door lower frame bracket garnish LH.



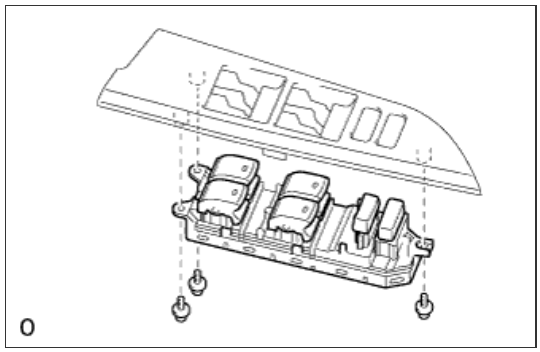
## 3. REMOVE FRONT DOOR INSIDE HANDLE BEZEL LH

a. Remove the 7 screws and front door inside handle bezel LH.



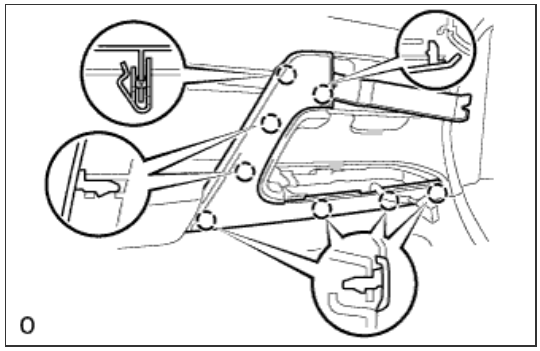
## 4. REMOVE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY

a. Remove the 3 screws and master switch.



## 5. REMOVE ASSIST GRIP COVER LH

a. Using a moulding remover, detach the 8 claws and remove the door assist grip cover LH.



## 6. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

a. Remove the 3 screws.

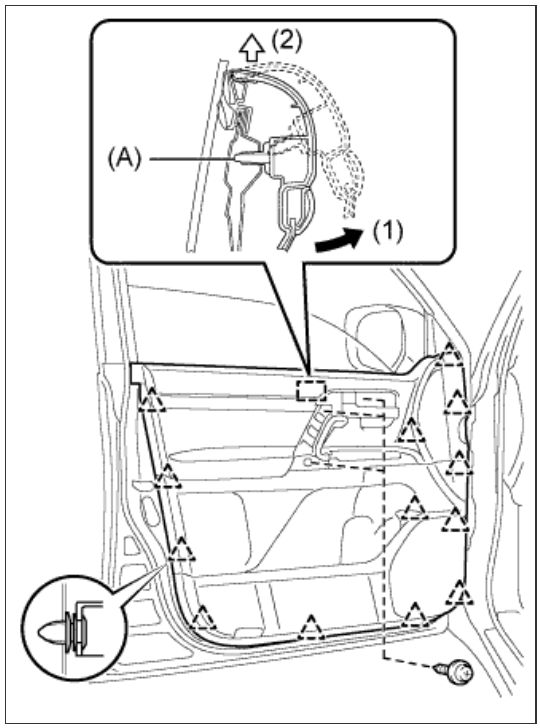
b. Remove the 13 clips.

c. Remove the front inner door glass weatherstrip LH together with the front door trim board sub-assembly LH by pulling them upward in the order shown in the illustration.

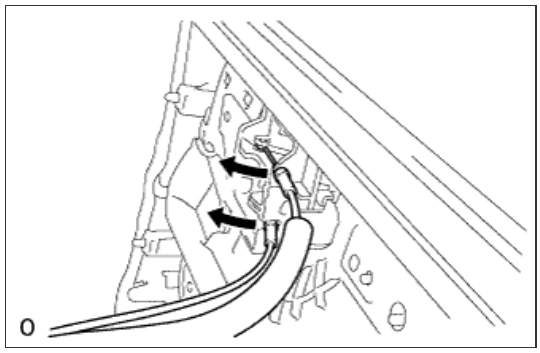
**HINT:**

Make sure that the pin labeled A in the illustration is detached from the door panel.

d. Disconnect the connector.



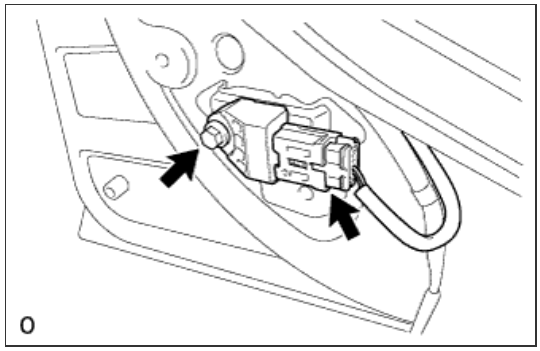

e. Disconnect the 2 cables from the front door inside handle sub-assembly LH.



## 7. REMOVE SIDE AIRBAG SENSOR

a. Disconnect the connector.

b. Remove the bolt and side airbag sensor.

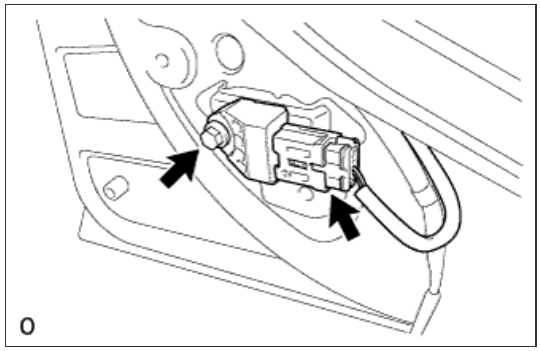


**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH and LH.**
- **The procedures listed below are the LH side.**

## 1. INSTALL SIDE AIRBAG SENSOR



a. Check that the ignition switch is off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Install the side airbag sensor with the bolt.

**Torque:**
**9.0 N*m{ 92 kgf*cm , 80 in.*lbf }**

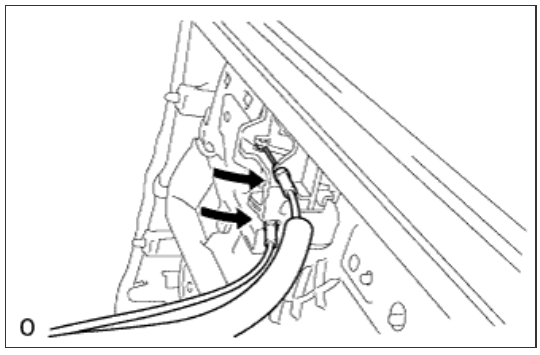
**NOTICE:**

- **If the side airbag sensor has been dropped, or there are any cracks, dents or other defects in the case, bracket or connector, replace it with a new one.**
- **When installing the side airbag sensor, be careful that the SRS wiring does not interfere with other parts and that it is not pinched between other parts.**

d. Check that there is no looseness in the installation parts of the side airbag sensor.

e. Connect the connector.

## 2. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

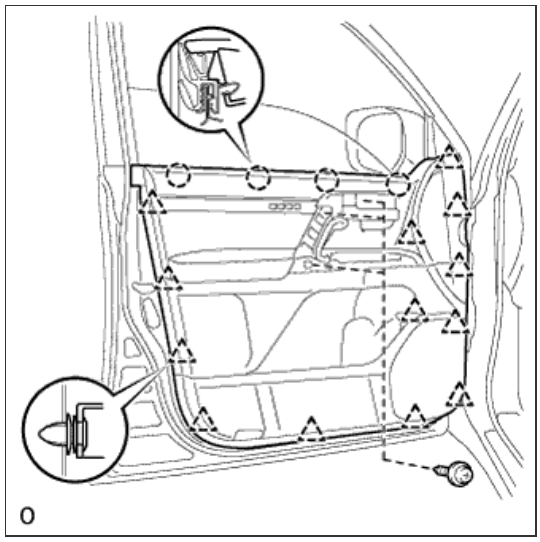


a. Connect the connector.

b. Connect the front door lock remote control cable assembly LH and front door inside locking cable assembly LH to the front door inside handle sub-assembly LH.

c. Attach the 4 claws and 13 clips to install the front door trim board sub-assembly LH.

d. Install the 3 screws.

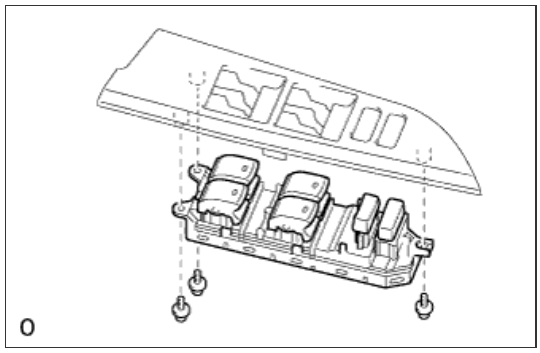


### 3. INSTALL ASSIST GRIP COVER LH

a. Attach the 8 claws to install the door assist grip cover LH to the front door trim board sub-assembly LH.

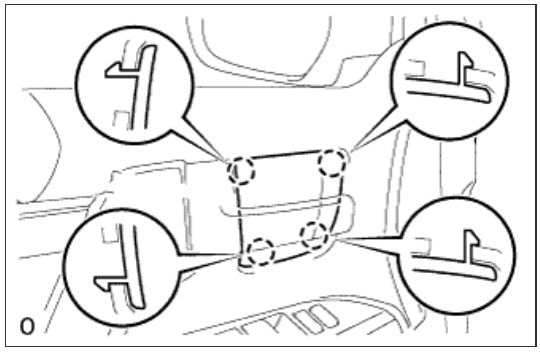
### 4. INSTALL MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY

a. Install the master switch with the 3 screws.



### 5. INSTALL FRONT DOOR INSIDE HANDLE BEZEL LH

a. Attach the 4 claws to install the front door inside handle bezel LH.



### 6. INSTALL FRONT DOOR LOWER FRAME BRACKET GARNISH LH

a. Attach the clip and claw, and install the front door lower frame bracket garnish LH.

### 7. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

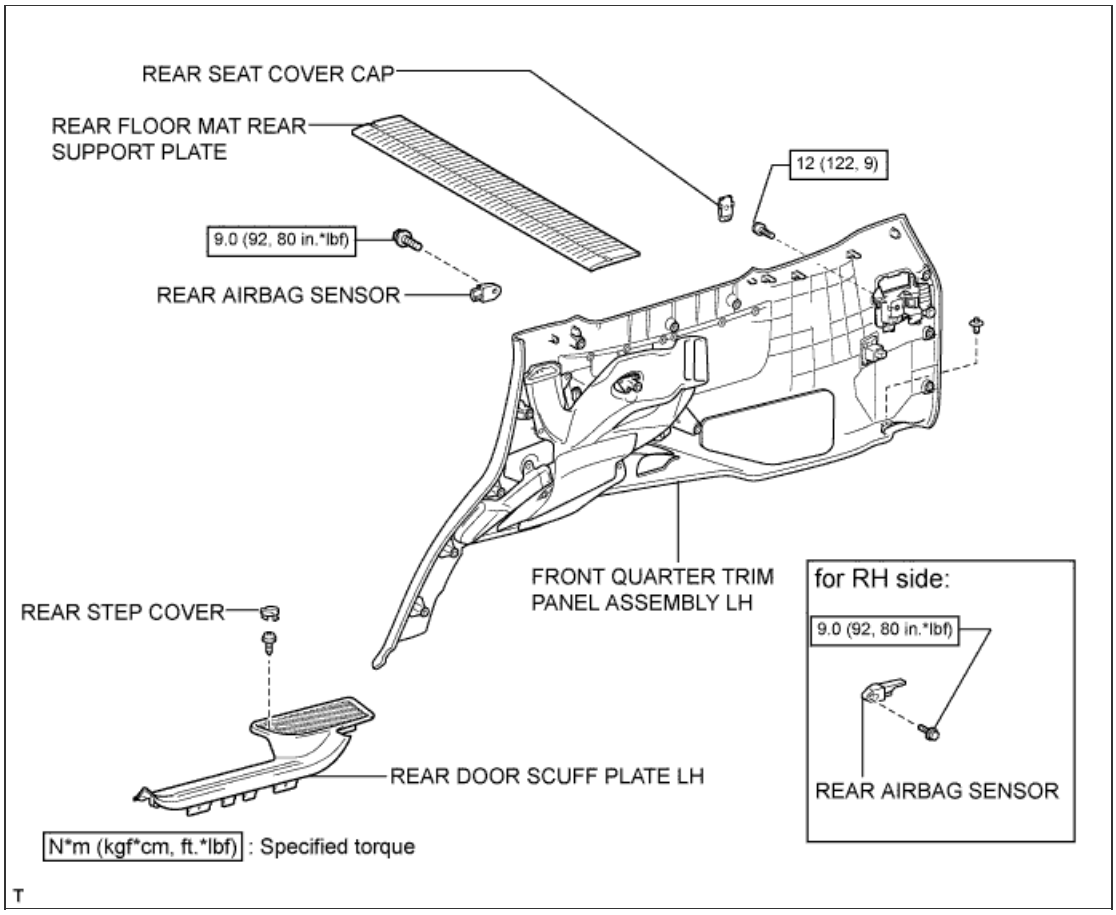
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 8. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here



**for Preparation** Click here

## 1. CHECK REAR AIRBAG SENSOR (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

## 2. CHECK REAR AIRBAG SENSOR (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

a. Perform a diagnostic system check (Click here).

b. When the quarter panel of the vehicle or its area is damaged, check if there is any damage to the rear airbag sensor. If there are any defects as mentioned below, replace the rear airbag sensor with a new one:

- Cracks, dents or chips on the sensor housing.
- Cracks or other damage to the connector.
- Peeling off of the label or damage to the serial number.

**CAUTION:**

For removal and installation procedures of the rear airbag sensor, be sure to follow the correct procedure.

## 3. CHECK REAR AIRBAG SENSOR (VEHICLE INVOLVED IN COLLISION AND AIRBAG IS DEPLOYED)

a. When airbags have deployed as the result of a collision, be certain to replace all rear airbag sensors in the damaged area (anywhere in need of repair). Furthermore, it is also necessary to replace any rear airbag sensor in undamaged areas that have registered a major collision, or which exhibit any of the following abnormalities:

- Cracks, dents or chips on the sensor housing.
- Cracks or other damage to the connector.
- Peeling off of the label or damage to the serial number.

**CAUTION:**

For removal and installation procedures of the rear airbag sensor, be sure to follow the correct procedure.

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 2. REMOVE REAR NO. 2 SEAT ASSEMBLY LH

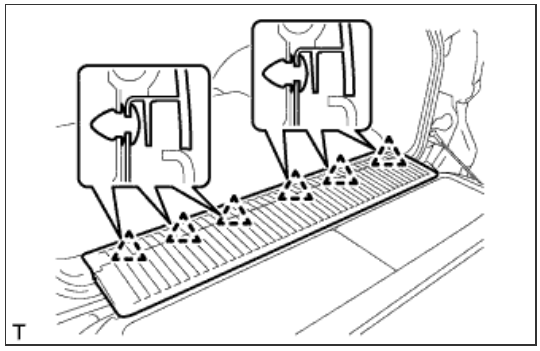
a. Remove the rear No. 2 seat assembly LH ( Click here).

## 3. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (for Split Bench Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

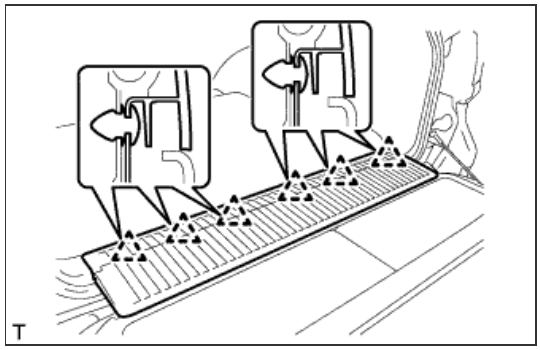
## 4. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE (w/ Sliding Roof)

a. Detach the 6 clips and remove the support plate.




## 5. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE (w/o Sliding Roof)

a. Detach the 6 clips and remove the support plate.

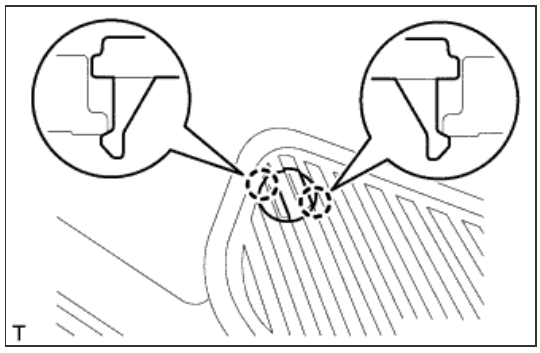


## 6. REMOVE REAR STEP COVER (w/ Sliding Roof)

**HINT:**

Use the same procedure to remove the step cover on the other side.

a. Detach the 2 claws and remove the step cover.

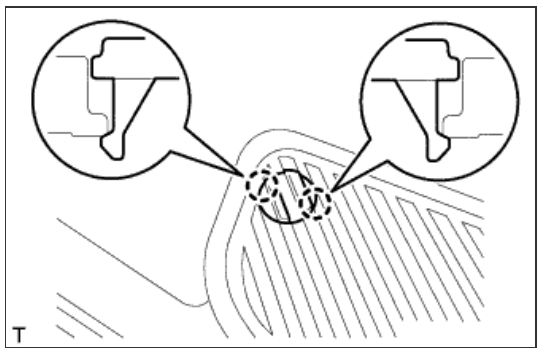



## 7. REMOVE REAR STEP COVER (w/o Sliding Roof)

**HINT:**

Use the same procedure to remove the step cover on the other side.

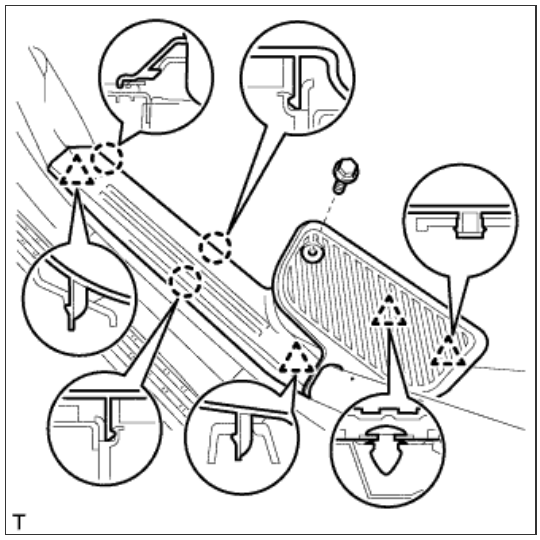
a. Detach the 2 claws and remove the step cover.




## 8. REMOVE REAR DOOR SCUFF PLATE LH (w/ Sliding Roof)

a. Remove the screw.

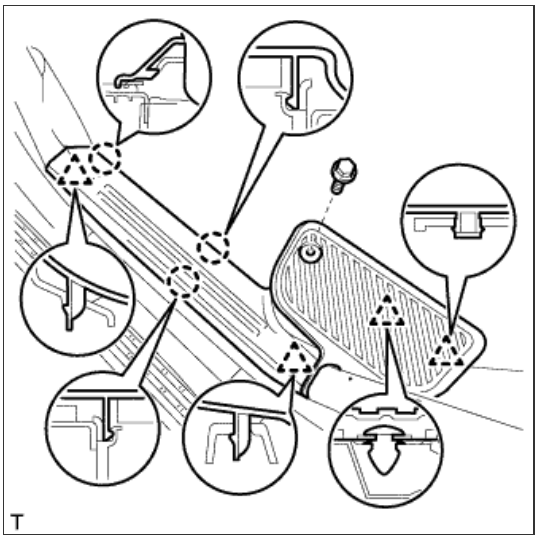
b. Detach the 3 claws and 4 clips, and remove the scuff plate.




## 9. REMOVE REAR DOOR SCUFF PLATE LH (w/o Sliding Roof)

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




### 10. REMOVE REAR SEAT COVER CAP (w/ Sliding Roof)

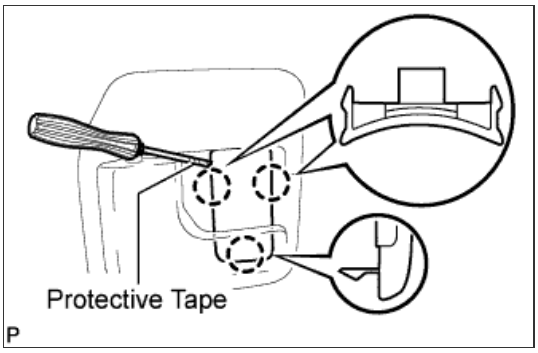
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

Tape the screwdriver tip before use.




### 11. REMOVE REAR SEAT COVER CAP (w/o Sliding Roof)

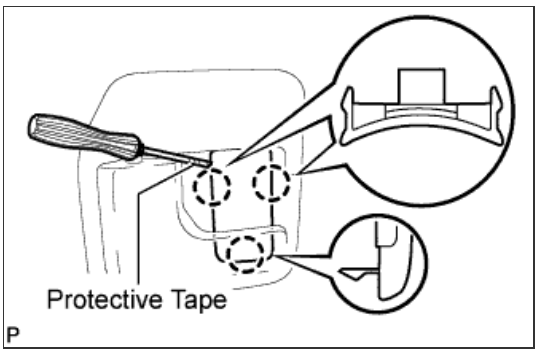
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

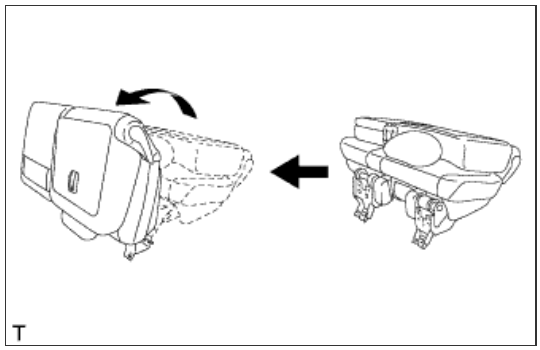
Tape the screwdriver tip before use.



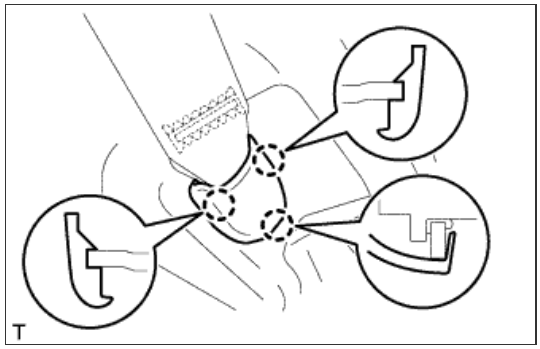

### 12. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH (w/ Sliding Roof)

**HINT:**

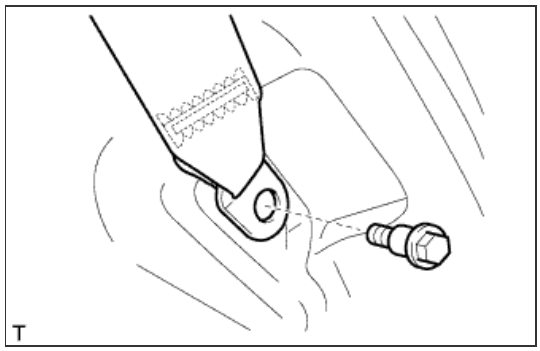
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



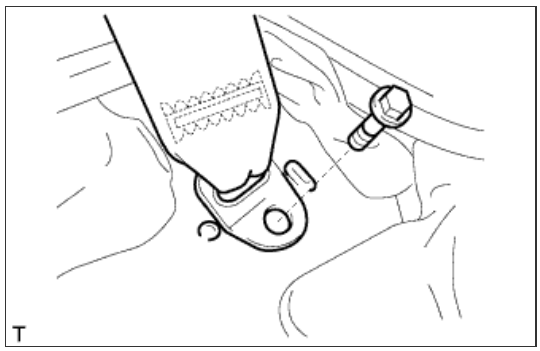
a. Detach the 3 claws and remove the cover.



b. Remove the bolt and rear No. 1 seat belt anchor.



c. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Remove the bolt and rear No. 2 seat belt anchor.



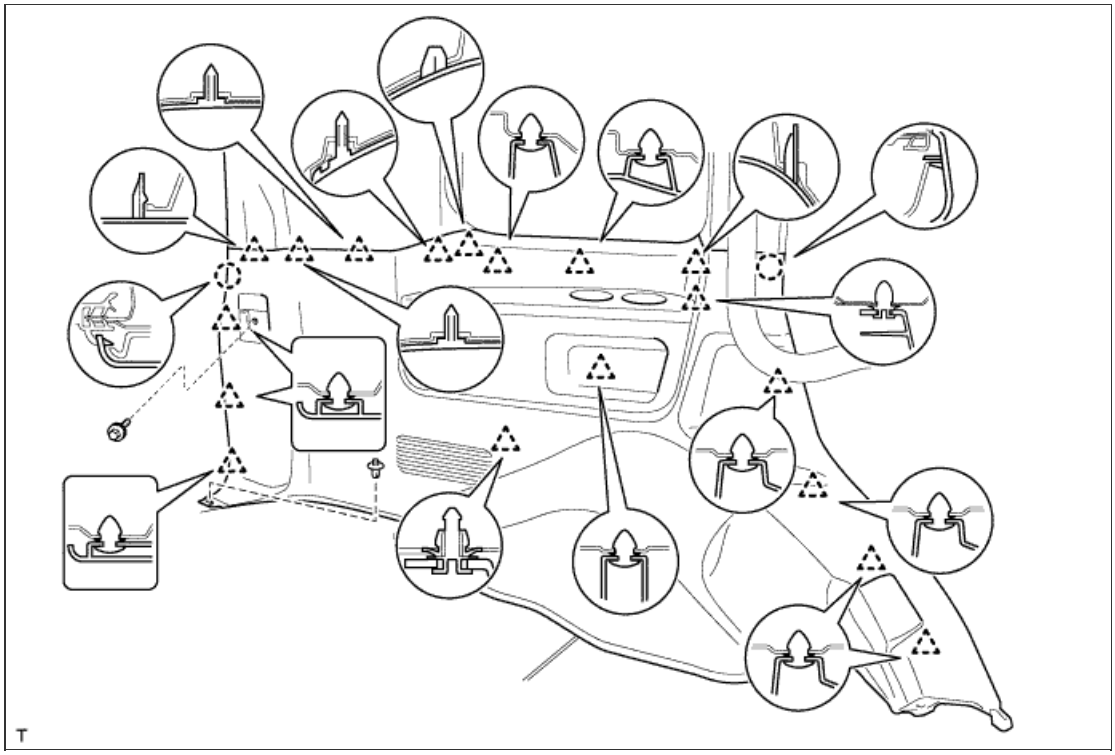
d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Remove the clip and bolt.

ii. Detach the 18 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

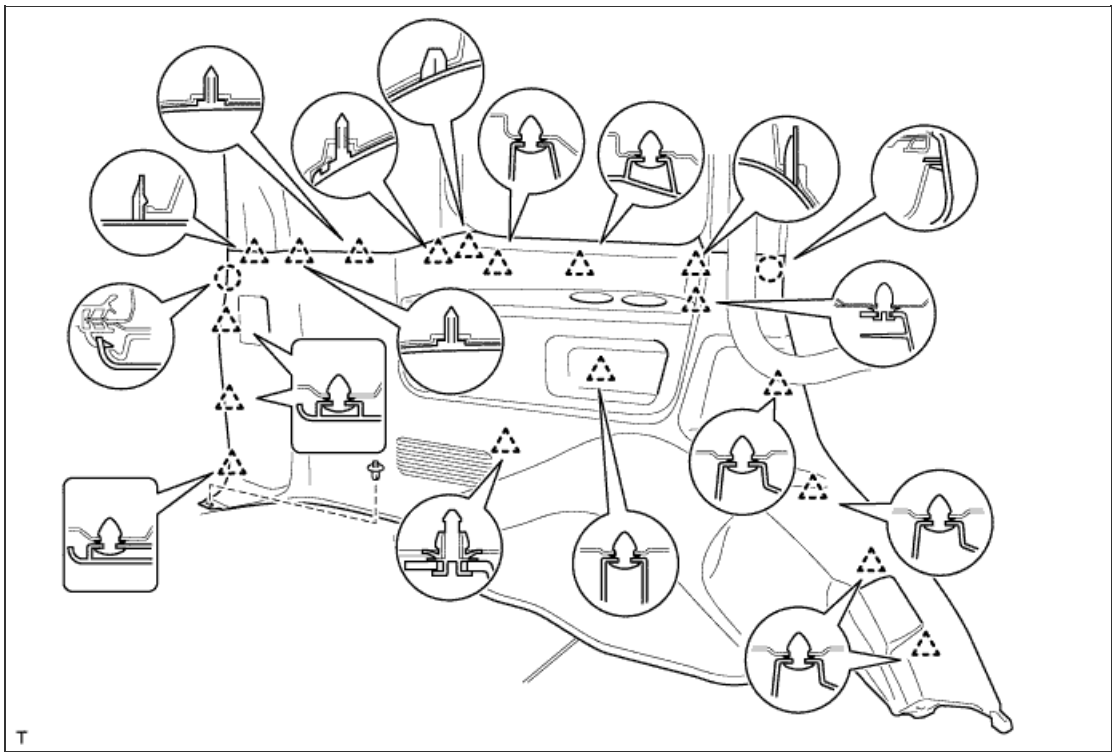
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.




e. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Remove the clip.

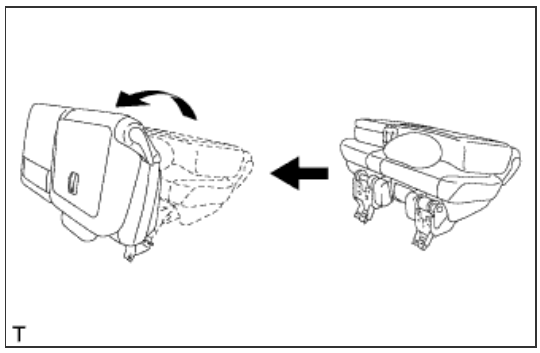
ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.



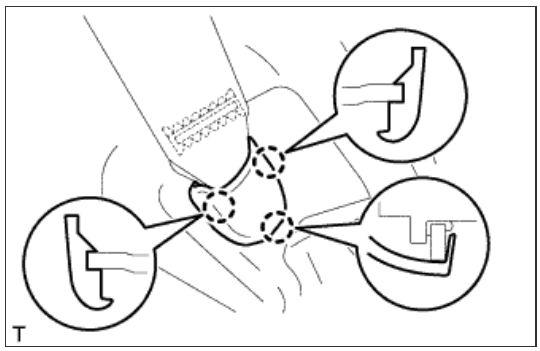
## 13. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH (w/o Sliding Roof)

**HINT:**

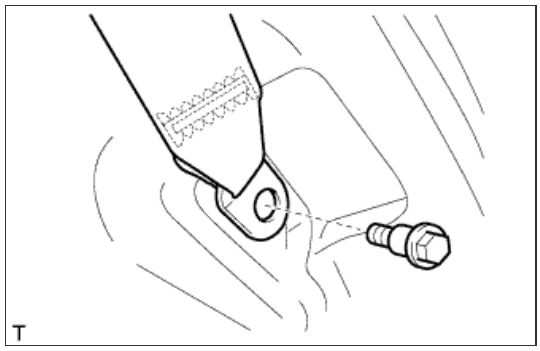
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



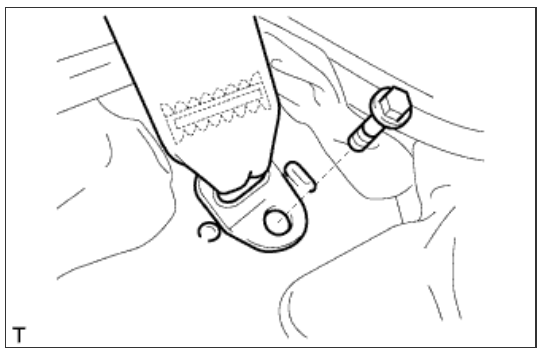

a. Detach the 3 claws and remove the cover.




b. Remove the bolt and rear No. 1 seat belt anchor.




c. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Remove the bolt and rear No. 2 seat belt anchor.



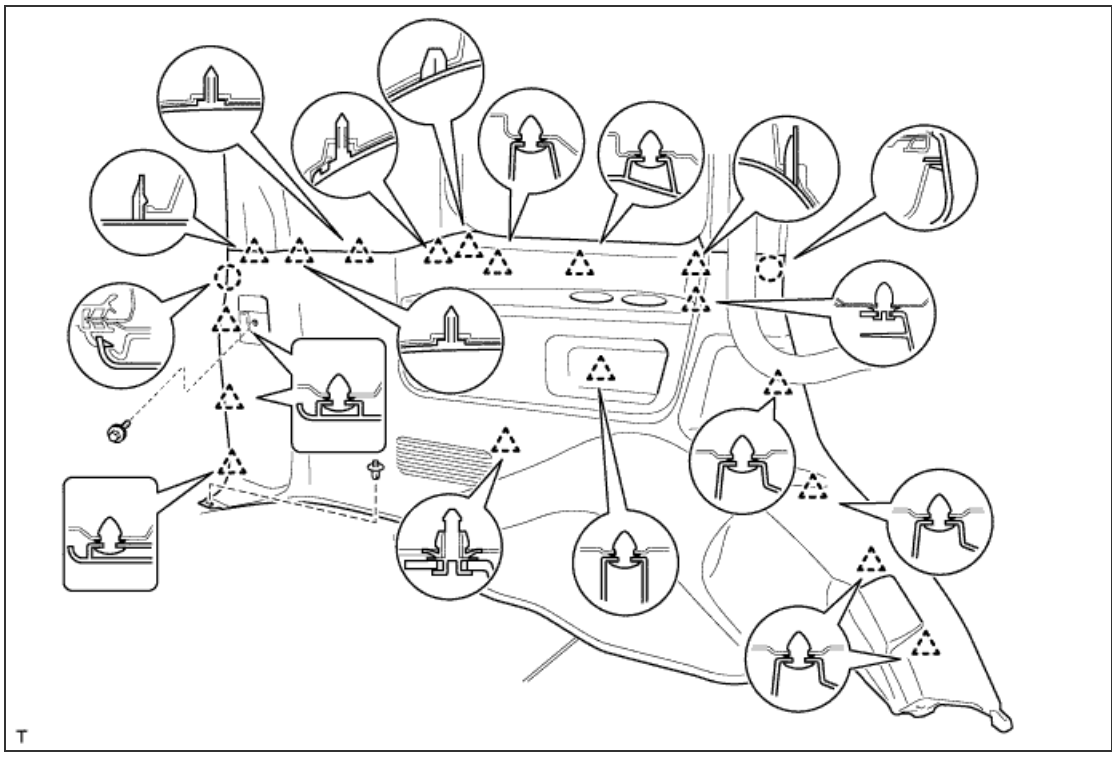

d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Remove the clip and bolt.

ii. Detach the 18 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

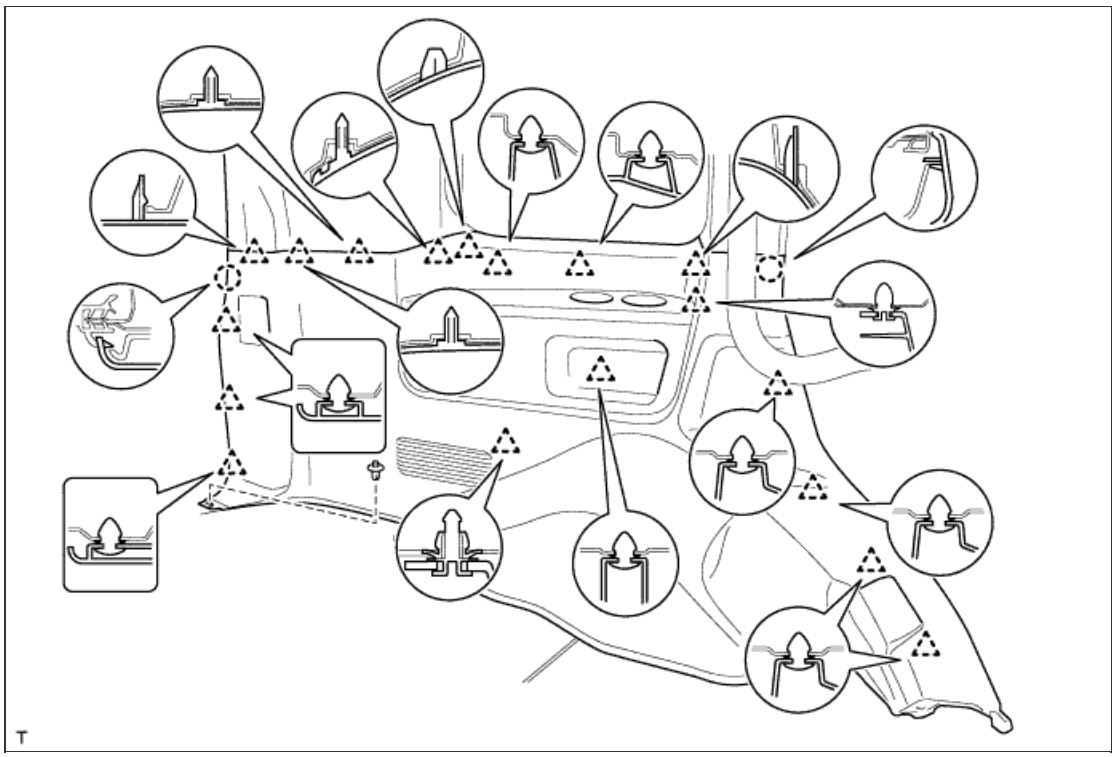
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.




e. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Remove the clip.

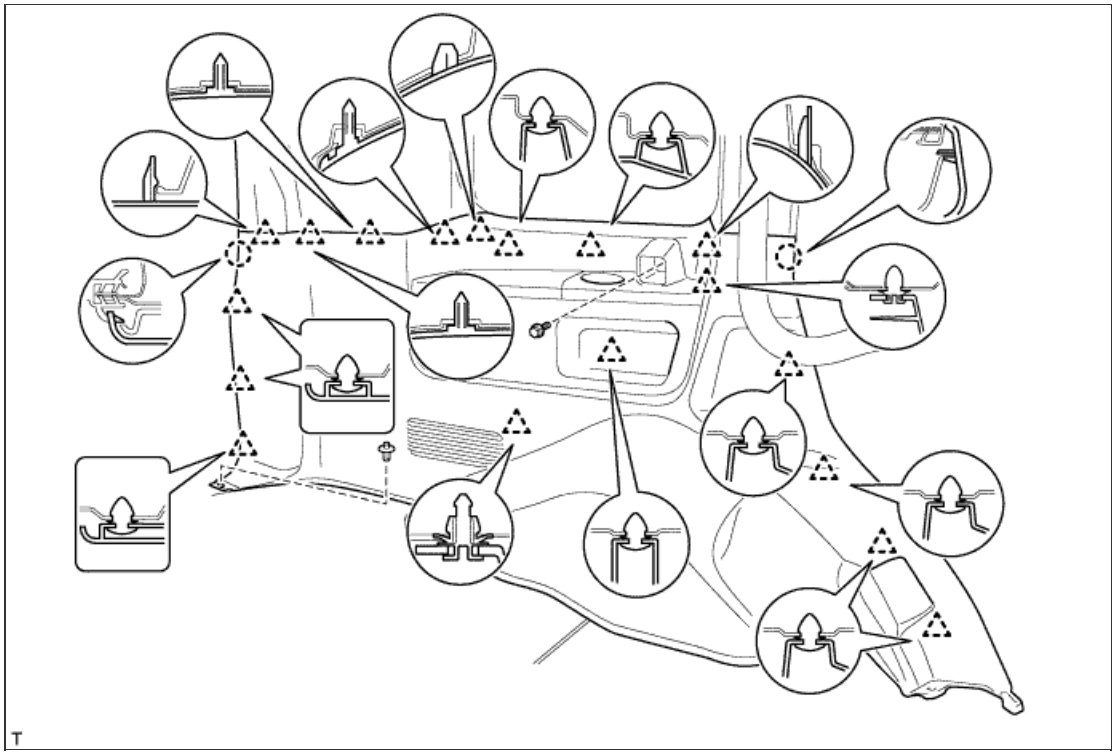
ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.



f. w/ Tonneau Cover:

i. Remove the screw and clip.

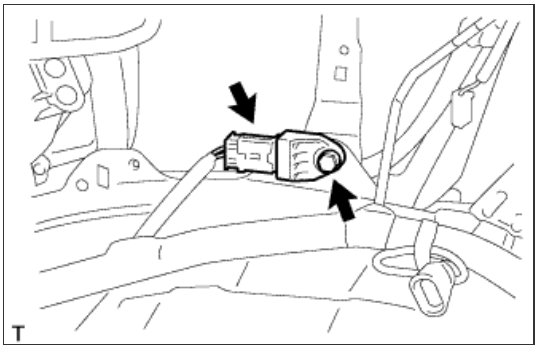
ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.




## 14. REMOVE REAR AIRBAG SENSOR

a. Remove the bolt and rear airbag sensor.

b. Disconnect the connector.

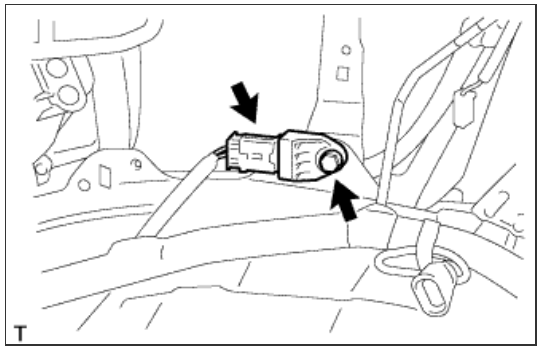


**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. INSTALL REAR AIRBAG SENSOR




a. Check that the ignition switch is turned off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Install the rear airbag sensor with the bolt.

**Torque:**
**9.0 N*m{ 92 kgf*cm , 80 in.*lbf }**

**NOTICE:**

- **If the rear airbag sensor has been dropped, or there are any cracks, dents or other defects in the case, bracket or connector, replace it with a new one.**
- **When installing the rear airbag sensor, be careful that the SRS wiring does not interfere with other parts and that it is not pinched between other parts.**

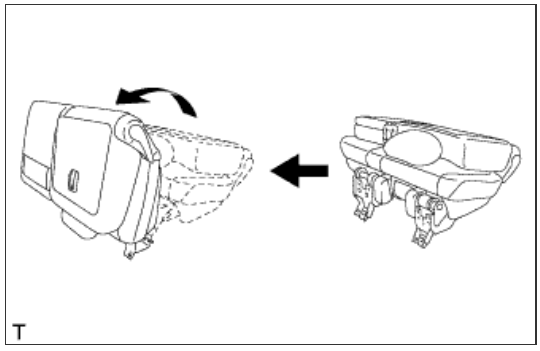
d. Check that there is no looseness in the installation parts of the rear airbag sensor.

e. Connect the connector.

## 2. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH (w/ Sliding Roof)

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

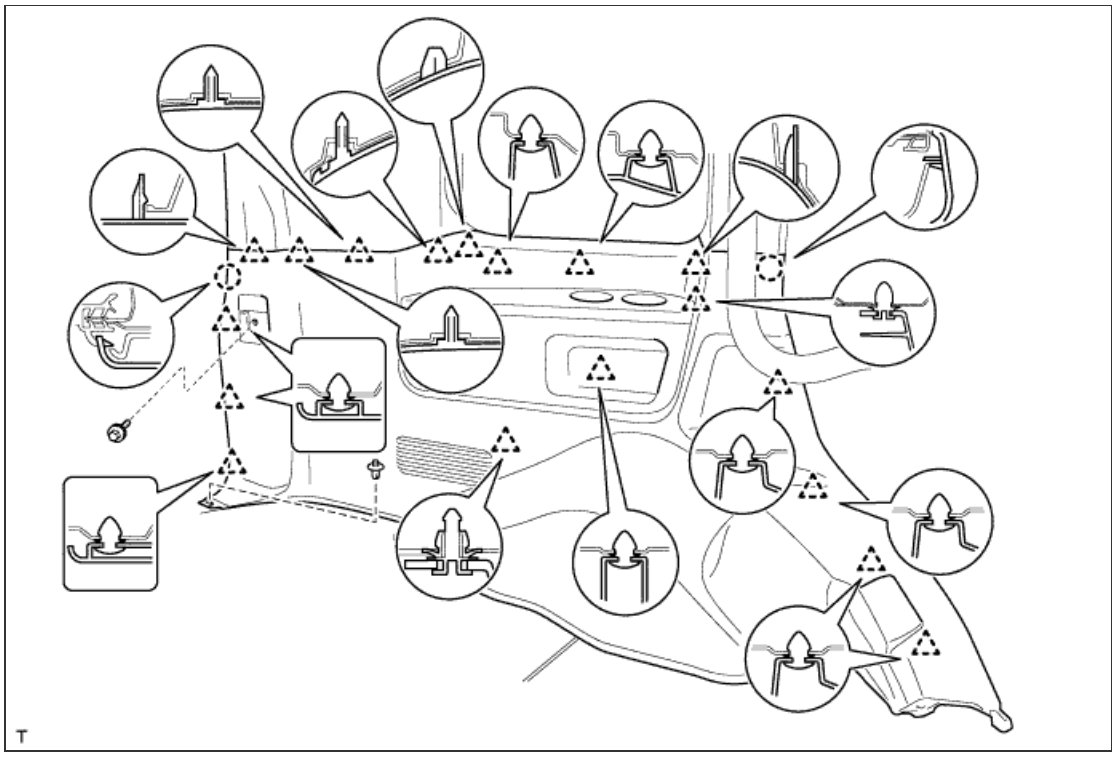
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 18 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

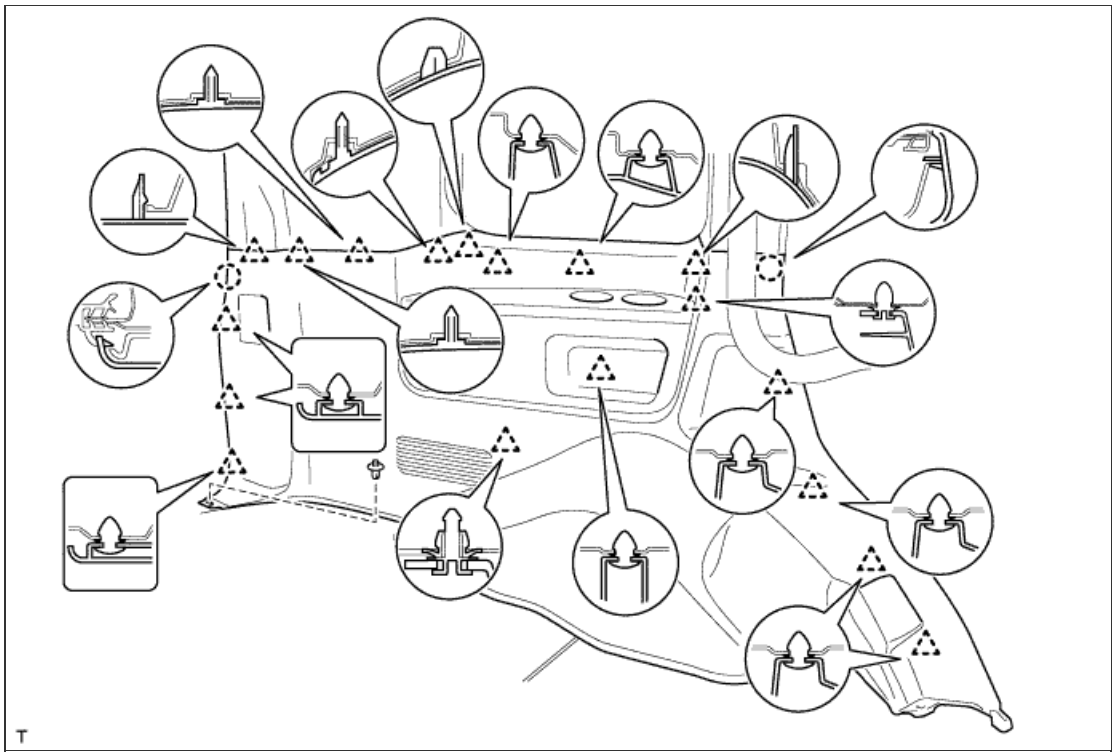
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

ii. Install the clip.

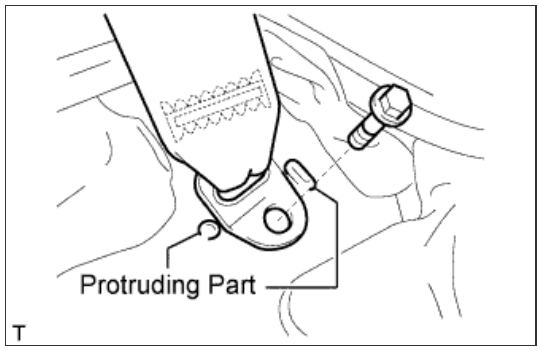



c. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

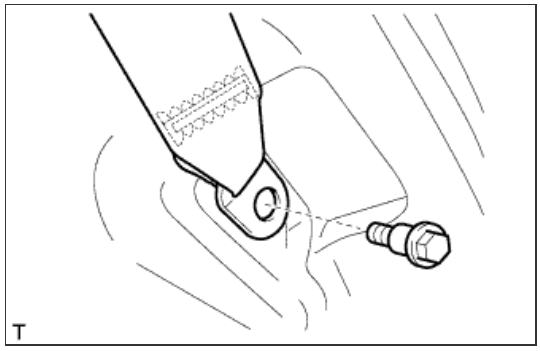
**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

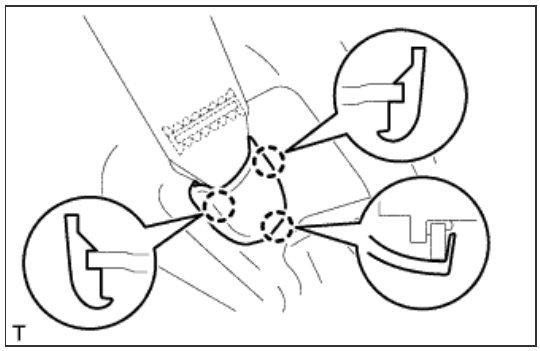



d. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**



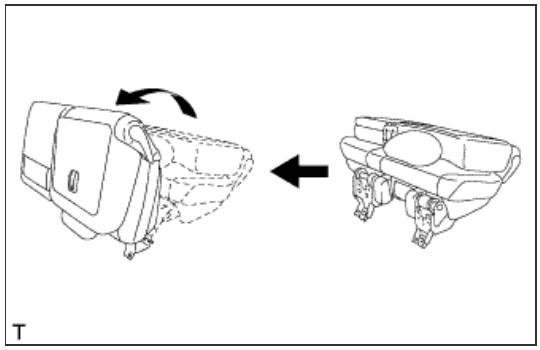

e. Attach the 3 claws to install the cover.



### 3. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH (w/o Sliding Roof)

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

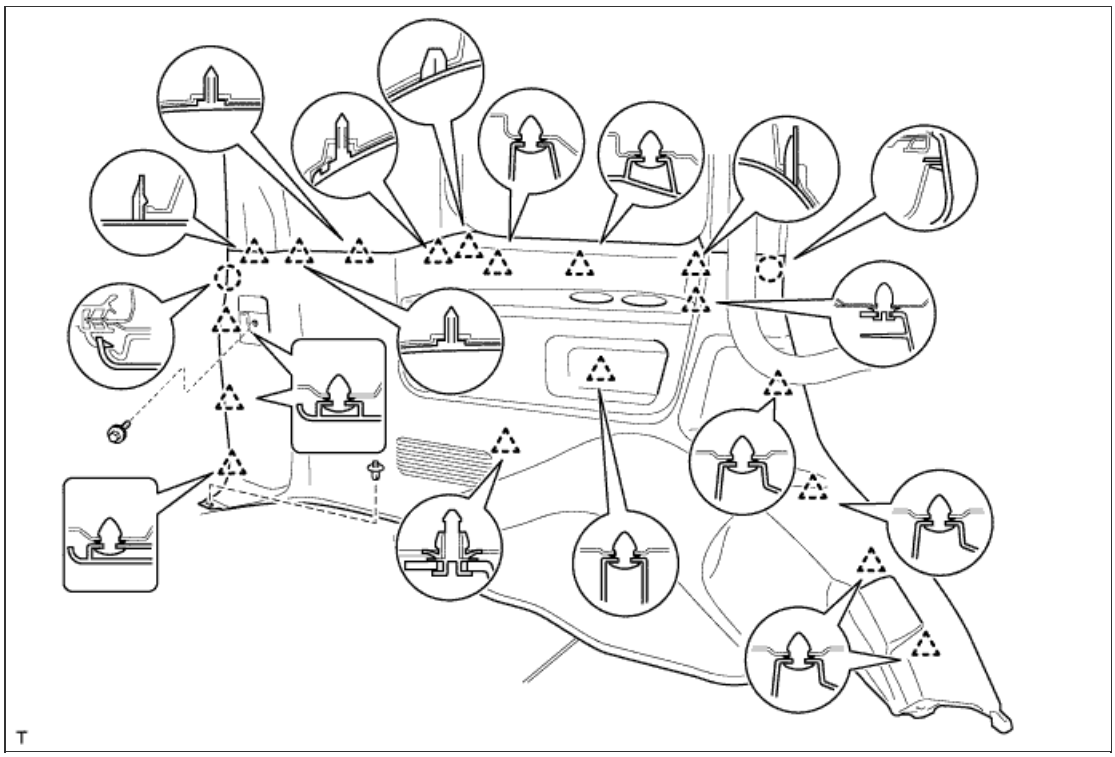
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 18 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

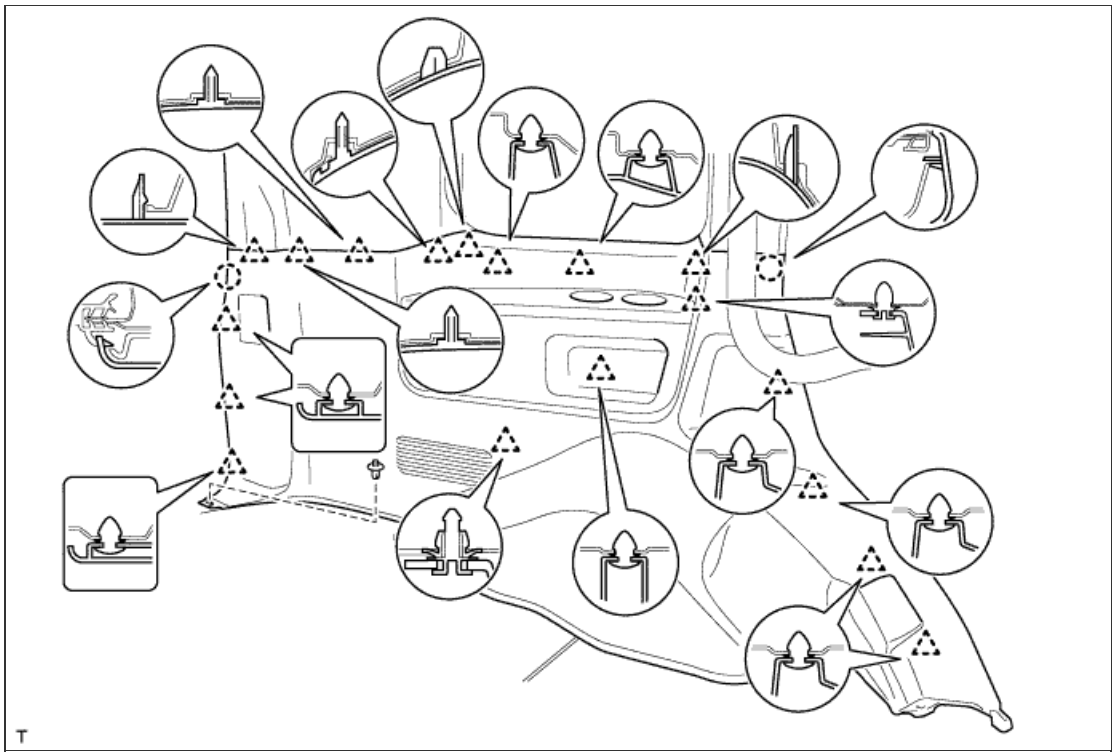
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

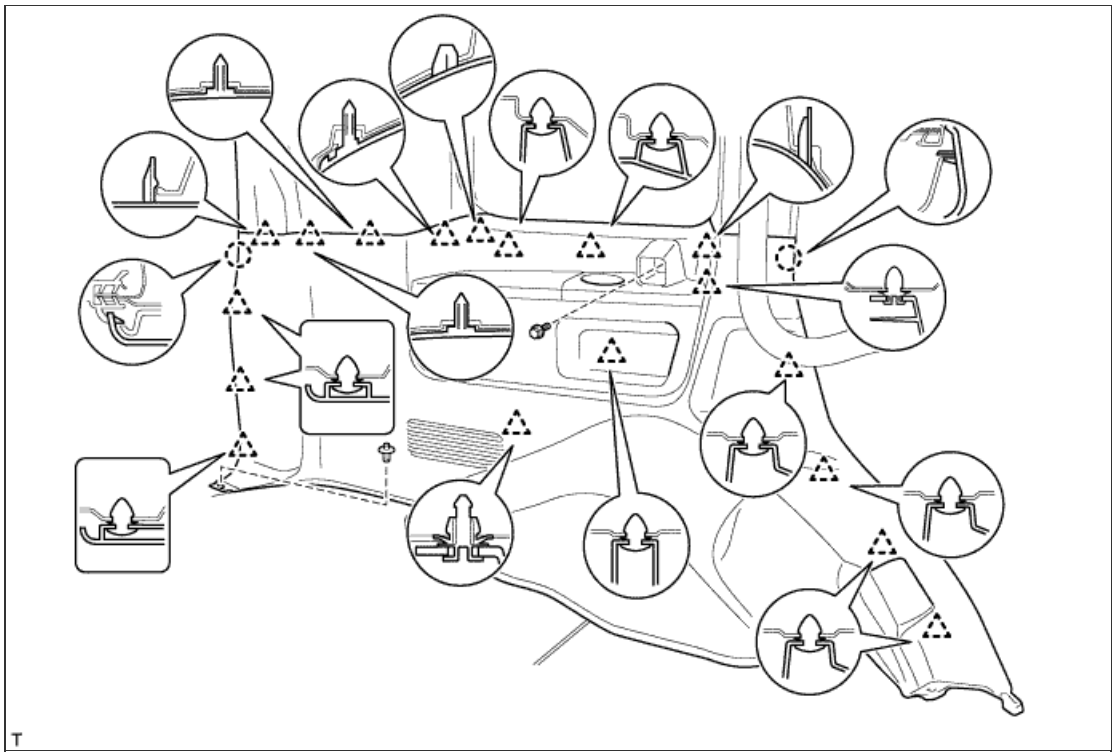
ii. Install the clip.



c. w/ Tonneau Cover:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

ii. Install the screw and clip.

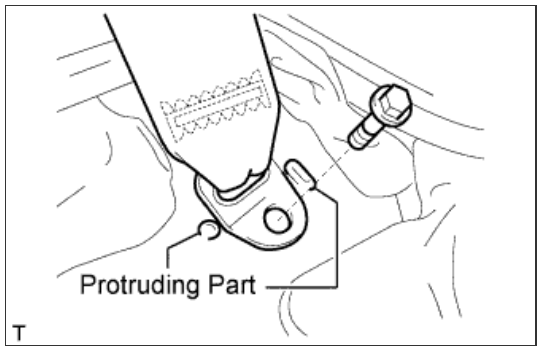



d. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

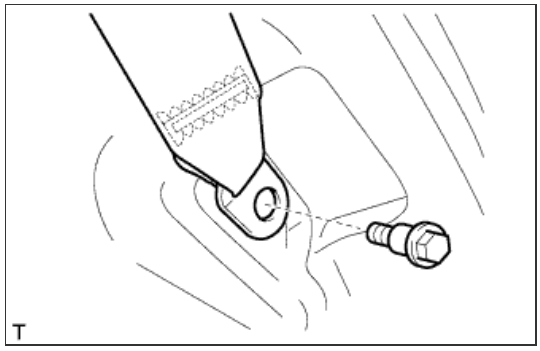
**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

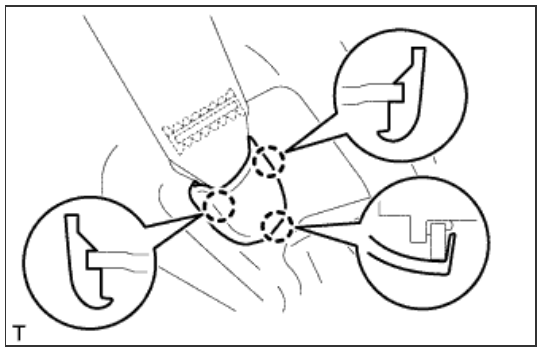



e. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




f. Attach the 3 claws to install the cover.

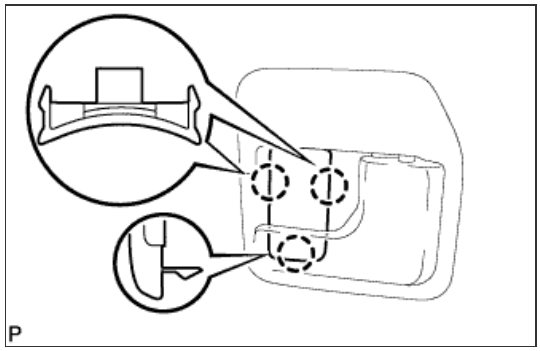


### 4. INSTALL REAR SEAT COVER CAP (w/ Sliding Roof)

**HINT:**

Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.

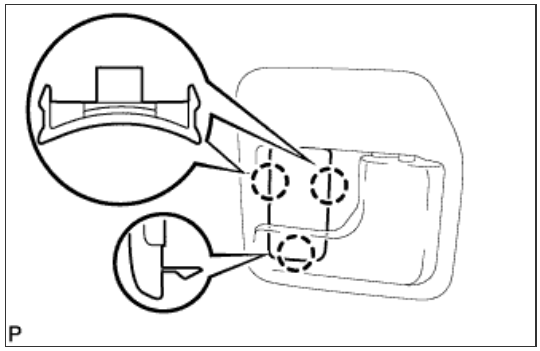



### 5. INSTALL REAR SEAT COVER CAP (w/o Sliding Roof)

**HINT:**

Use the same procedure to install the rear seat cover cap on the other side.

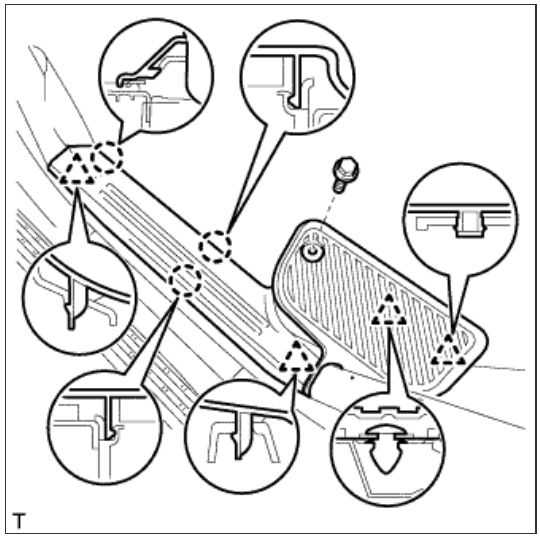
a. Attach the 3 claws to install the rear seat cover cap.




### 6. INSTALL REAR DOOR SCUFF PLATE LH (w/ Sliding Roof)

a. Attach the 3 claws and 4 clips to install the scuff plate.

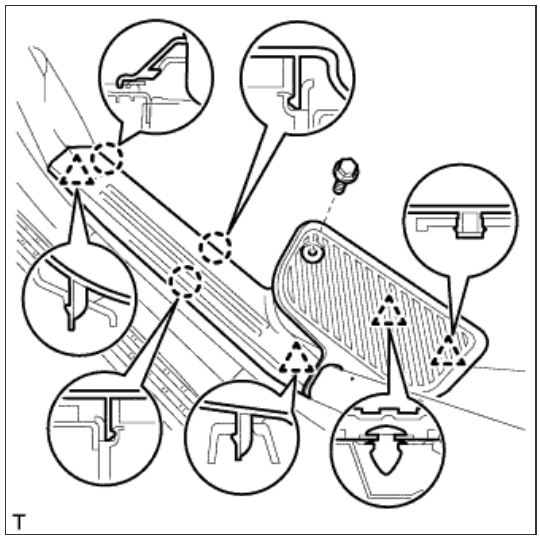
b. Install the screw.




### 7. INSTALL REAR DOOR SCUFF PLATE LH (w/o Sliding Roof)

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

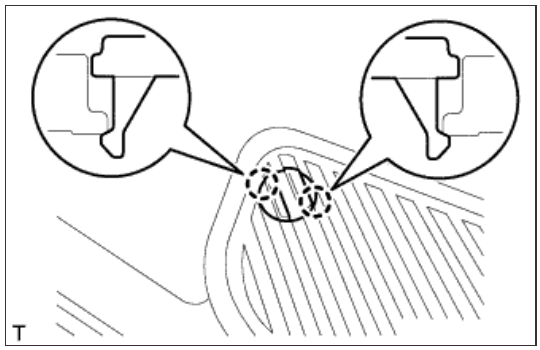



### 8. INSTALL REAR STEP COVER (w/ Sliding Roof)

**HINT:**

Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.

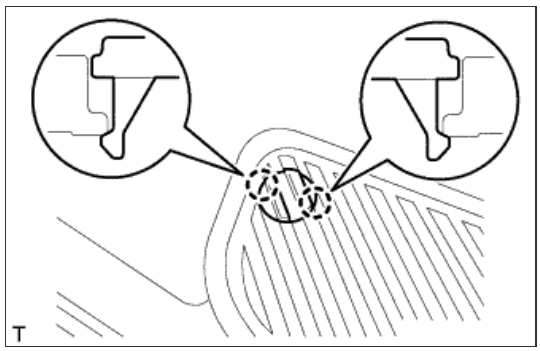



### 9. INSTALL REAR STEP COVER (w/o Sliding Roof)

**HINT:**

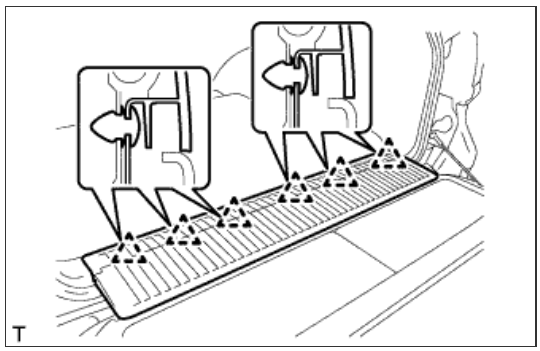
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.



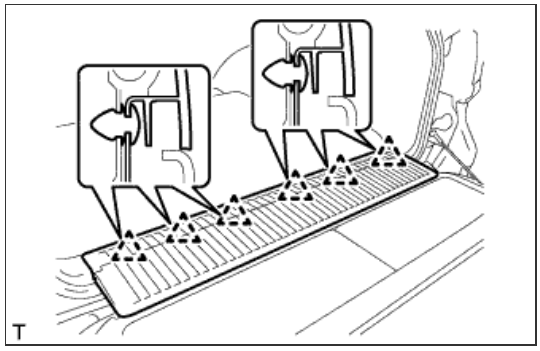

### 10. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE (w/ Sliding Roof)

a. Attach the 6 clips to install the support plate.



## 11. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE (w/o Sliding Roof)

a. Attach the 6 clips to install the support plate.




## 12. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (for Split Bench Seat Type)

a. Install the rear No. 2 seat assembly LH ( Click here).

## 13. INSTALL REAR NO. 2 SEAT ASSEMBLY LH

a. Install the rear No. 2 seat assembly LH ( Click here).

## 14. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

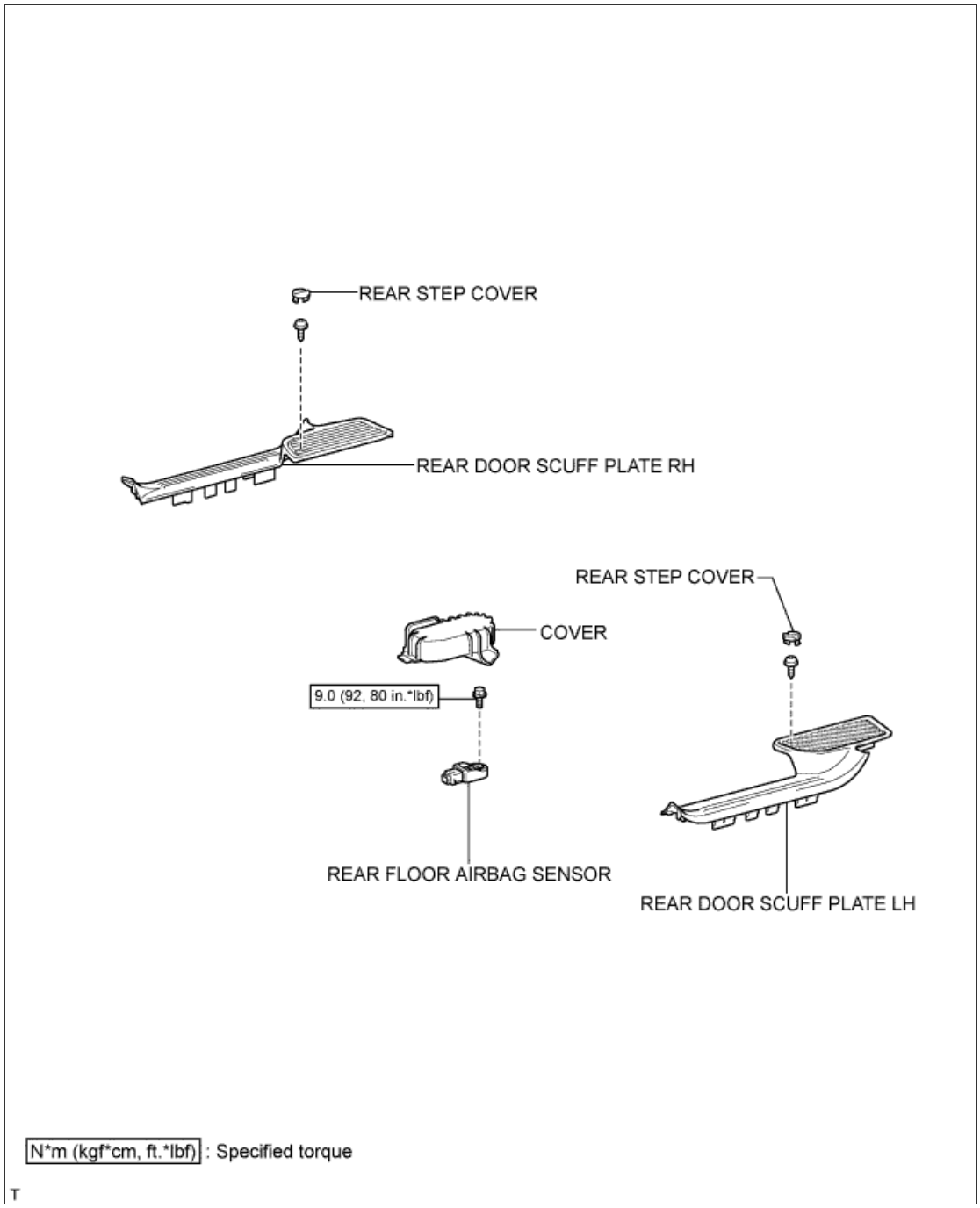
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 15. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here



**for Preparation** Click here

### 1. CHECK REAR FLOOR AIRBAG SENSOR (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

### 2. CHECK REAR FLOOR AIRBAG SENSOR (VEHICLE INVOLVED IN COLLISION AND AIRBAG HAS NOT DEPLOYED)

a. Perform a diagnostic system check (Click here).

b. When airbags have deployed as the result of a collision, be certain to replace the rear floor airbag sensor when it is in the damaged area (anywhere in need of repair). Furthermore, it is also necessary to replace the rear floor airbag sensor in an undamaged area that has registered a major collision, or which exhibits any of the following abnormalities:

- Cracks, dents or chips on the sensor housing.
- Cracks or other damage to the connector.
- Peeling off of the label or damage to the serial number.

**CAUTION:**

For removal and installation procedures of the rear floor airbag sensor, be sure to follow the correct procedure.

### 3. CHECK REAR FLOOR AIRBAG SENSOR (VEHICLE INVOLVED IN COLLISION AND AIRBAG IS DEPLOYED)

a. When airbags have deployed as the result of a collision, be certain to replace the rear floor airbag sensor in the damaged area (anywhere in need of repair). Furthermore, it is also necessary to replace the rear floor airbag sensor in a undamaged area that has registered a major collision, or which exhibits any of the following abnormalities:

- Cracks, dents or chips on the sensor housing.
- Cracks or other damage to the connector.
- Peeling off of the label or damage to the serial number.

**CAUTION:**

For removal and installation procedures of the rear floor airbag sensor, be sure to follow the correct procedure.

**for Preparation** Click here

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

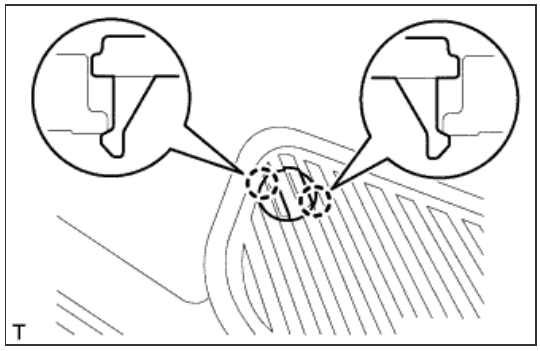
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 2. REMOVE REAR STEP COVER (w/ Sliding Roof)

**HINT:**

Use the same procedure to remove the step cover on the other side.

a. Detach the 2 claws and remove the step cover.

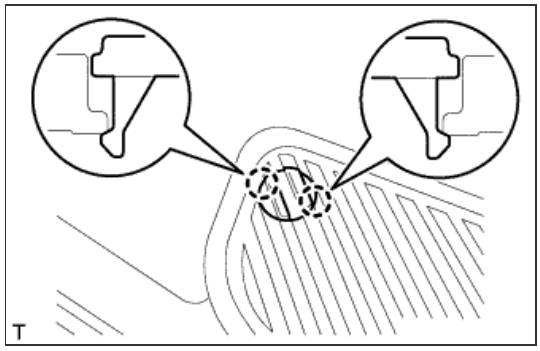



## 3. REMOVE REAR STEP COVER (w/o Sliding Roof)

**HINT:**

Use the same procedure to remove the step cover on the other side.

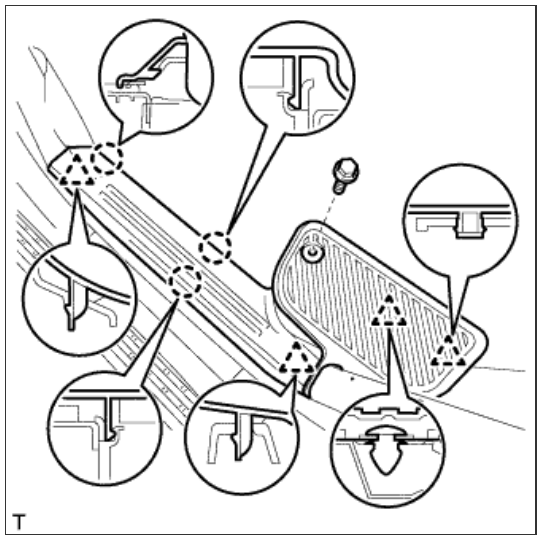
a. Detach the 2 claws and remove the step cover.




## 4. REMOVE REAR DOOR SCUFF PLATE LH (w/ Sliding Roof)

a. Remove the screw.

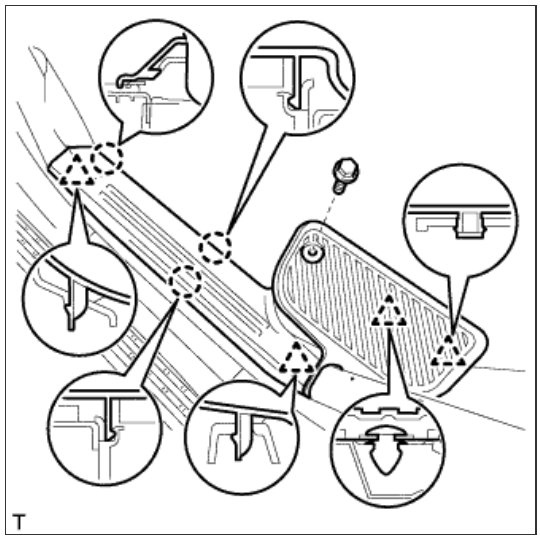
b. Detach the 3 claws and 4 clips, and remove the scuff plate.




### 5. REMOVE REAR DOOR SCUFF PLATE LH (w/o Sliding Roof)

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




### 6. REMOVE REAR DOOR SCUFF PLATE RH (w/ Sliding Roof)

**HINT:**

Use the same procedures described for the LH side.

### 7. REMOVE REAR DOOR SCUFF PLATE RH (w/o Sliding Roof)

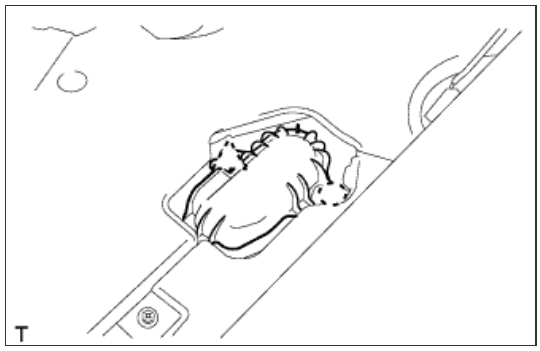
**HINT:**

Use the same procedures described for the LH side.

### 8. REMOVE REAR FLOOR AIRBAG SENSOR

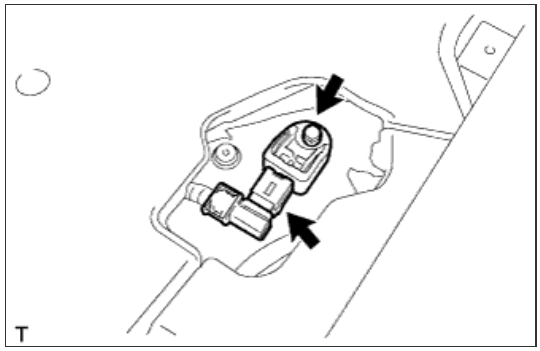
a. Fold back the floor carpet.

b. Detach the clip and claw, and remove the cover.




c. Remove the bolt and sensor.

d. Disconnect the connector.



**for Preparation** Click here

## 1. INSTALL REAR FLOOR AIRBAG SENSOR

a. Check that the ignition switch is off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

**CAUTION:**

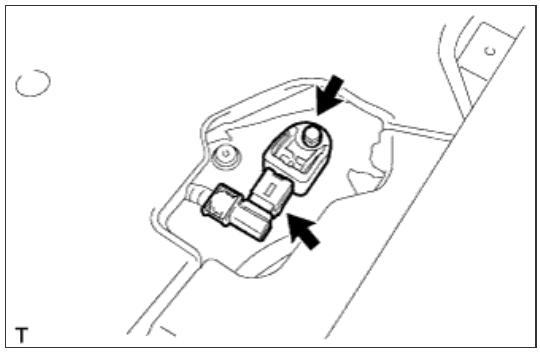
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Install the rear floor airbag sensor with the bolt.

**Torque:**
**9.0 N*m{ 92 kgf*cm , 80 in.*lbf }**

**NOTICE:**

- **If the rear floor airbag sensor has been dropped, or there are any cracks, dents or other defects in the case, bracket or connector, replace it with a new one.**
- **When installing the rear floor airbag sensor, be careful that the SRS wiring does not interfere with other parts and that it is not pinched between other parts.**

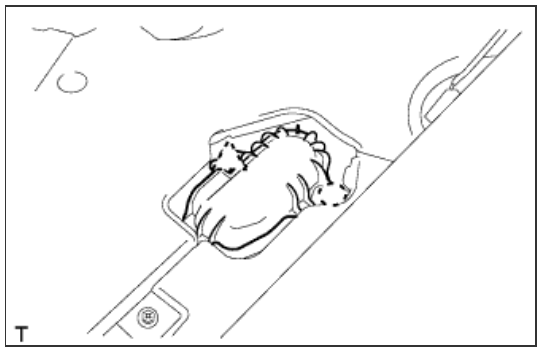



d. Check that there is no looseness in the installation parts of the rear floor airbag sensor.

e. Connect the connector.

f. Attach the clip, claw and cover.

g. Return the floor carpet to its original position.




## 2. INSTALL REAR DOOR SCUFF PLATE RH (w/ Sliding Roof)

**HINT:**

Use the same procedures described for the LH side.

## 3. INSTALL REAR DOOR SCUFF PLATE RH (w/o Sliding Roof)

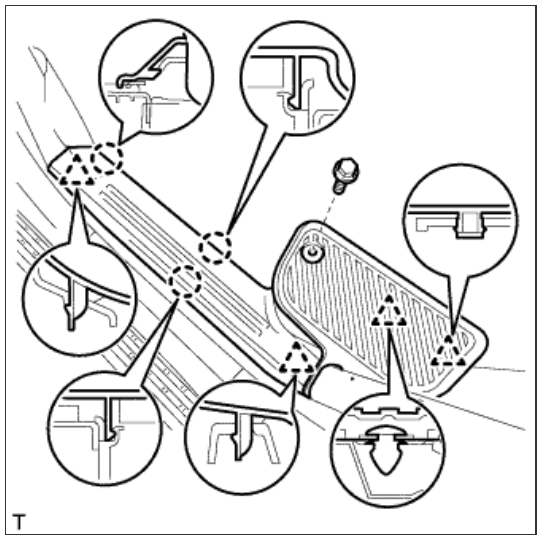
**HINT:**

Use the same procedures described for the LH side.

## 4. INSTALL REAR DOOR SCUFF PLATE LH (w/ Sliding Roof)

a. Attach the 3 claws and 4 clips to install the scuff plate.

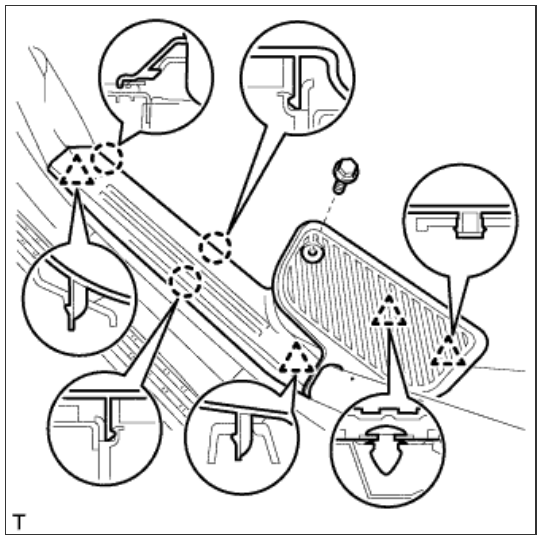
b. Install the screw.




### 5. INSTALL REAR DOOR SCUFF PLATE LH (w/o Sliding Roof)

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

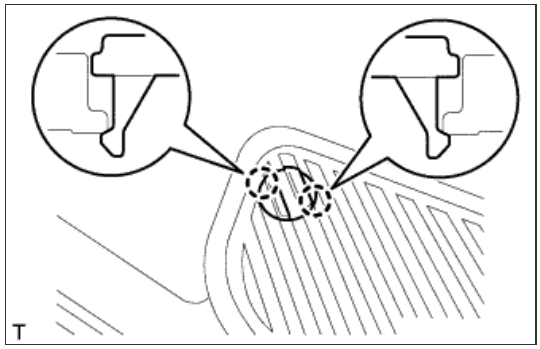



### 6. INSTALL REAR STEP COVER (w/ Sliding Roof)

**HINT:**

Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.

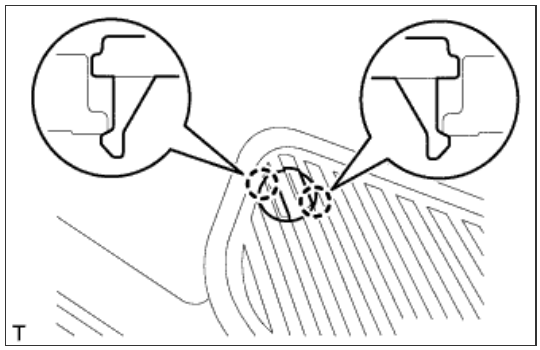



### 7. INSTALL REAR STEP COVER (w/o Sliding Roof)

**HINT:**

Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 8. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

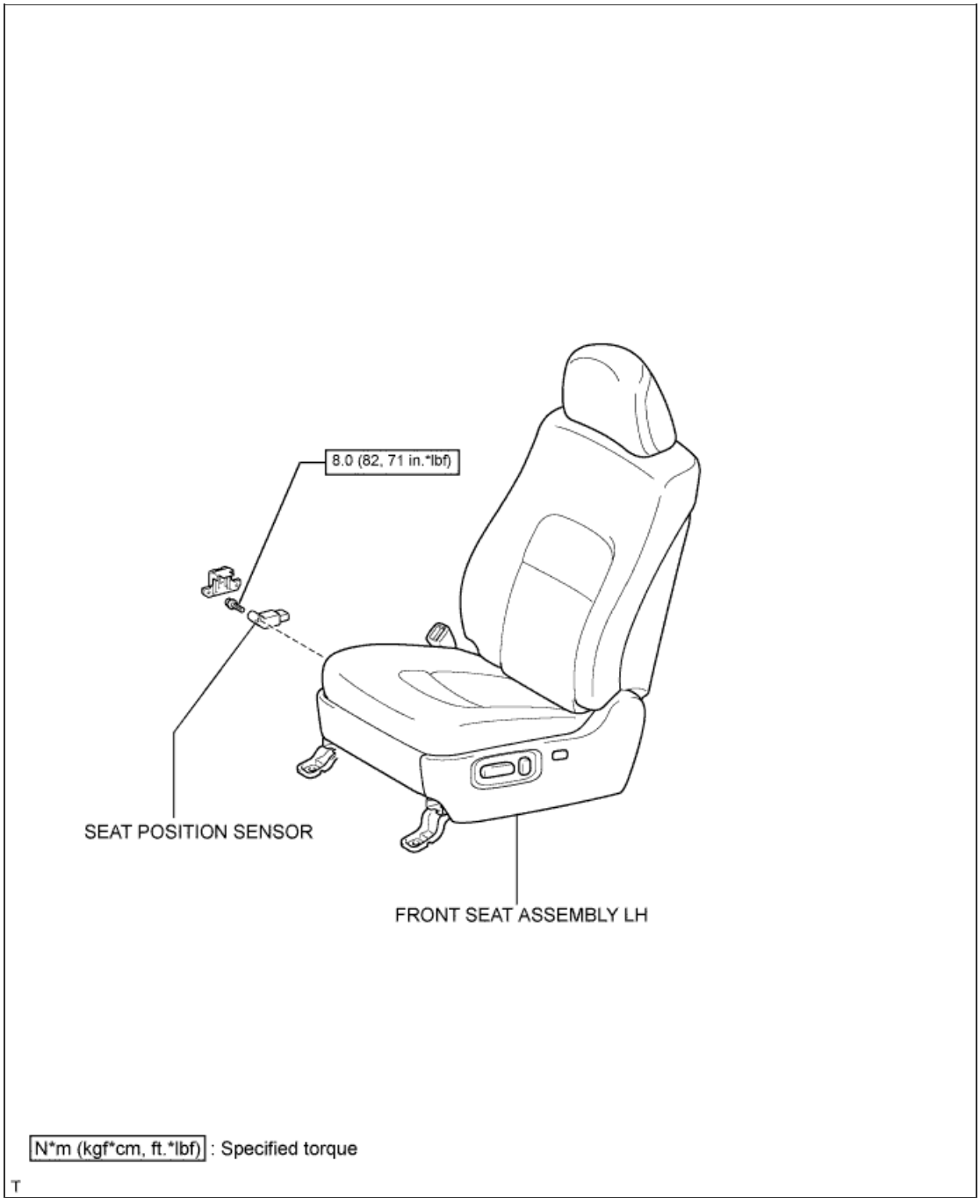
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here)

## 9. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here)

**for Preparation** Click here



**for Preparation** Click here

## 1. CHECK SEAT POSITION SENSOR (VEHICLE NOT INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

## 2. CHECK SEAT POSITION SENSOR (VEHICLE INVOLVED IN COLLISION)

a. Perform a diagnostic system check (Click here).

b. Even if the airbag was not deployed, check if there is any damage to the seat position sensor. If there are any defects as mentioned below, replace the seat position sensor with a new one:

- Cracks, dents or chips on the sensor housing.
- Cracks or other damage to the connector.

**CAUTION:**

For removal and installation procedures of the seat position sensor, be sure to follow the correct procedure.

**for Preparation** Click here

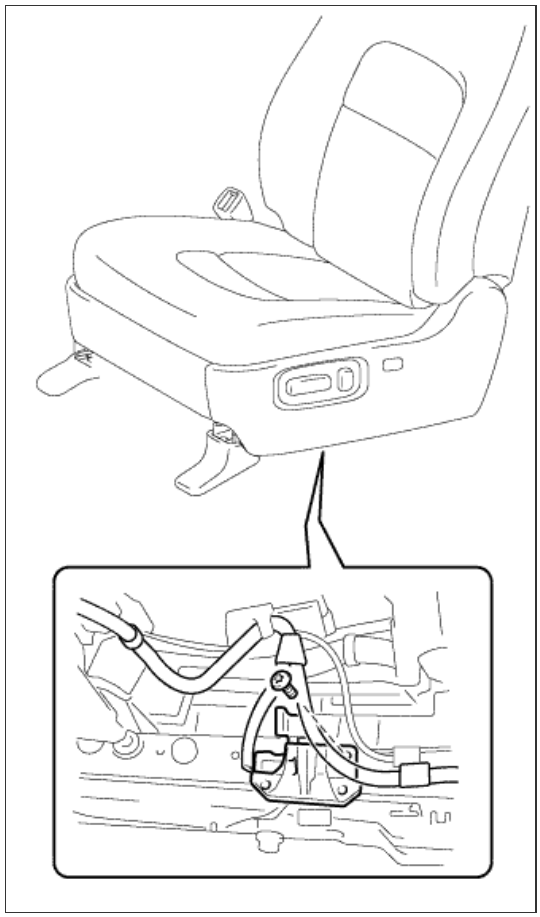
## 1. REMOVE FRONT SEAT ASSEMBLY LH

a. Remove the front seat (Click here).

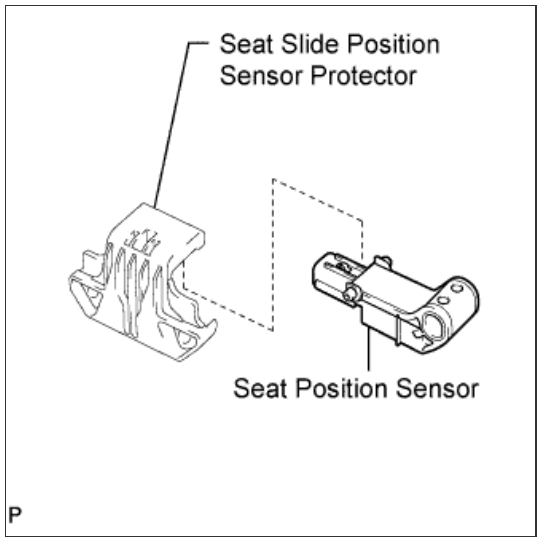
## 2. REMOVE SEAT POSITION SENSOR

a. Using a T30 "TORX" socket wrench, remove the screw and seat position sensor with sensor protector.

b. Disconnect the connector.



c. Remove the seat slide position sensor protector from the seat position sensor.



**for Preparation** Click here

## 1. INSTALL SEAT POSITION SENSOR

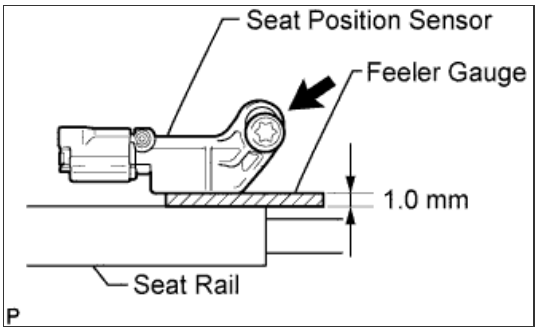
a. Check that the ignition switch is off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Using a 1.0 mm (0.0393 in.) feeler gauge, install the seat position sensor.




**NOTICE:**

- **If the seat position sensor has been dropped, or there are any cracks, dents or other defects in the case or connector, replace the seat position sensor with a new one.**
- **When installing the seat position sensor, be careful that the SRS wiring does not interfere with other parts and that it is not pinched between other parts.**

**HINT:**

Be sure that the clearance between the seat position sensor and the seat rail is within 0.6 to 1.4 mm (0.0236 to 0.0551 in.).

d. Using a T30 "TORX" socket wrench, install the seat position sensor with the screw.

**Torque:**
**8.0 N*m{ 82 kgf*cm , 71 in.*lbf }**

e. Make sure that the clearance between the seat position sensor and the seat rail is within 0.6 to 1.4 mm (0.0236 to 0.0551 in.).

f. Check that there is no looseness in the installation parts of the seat position sensor.

g. Connect the connector.

h. Install the seat slide position sensor protector to the seat position sensor.

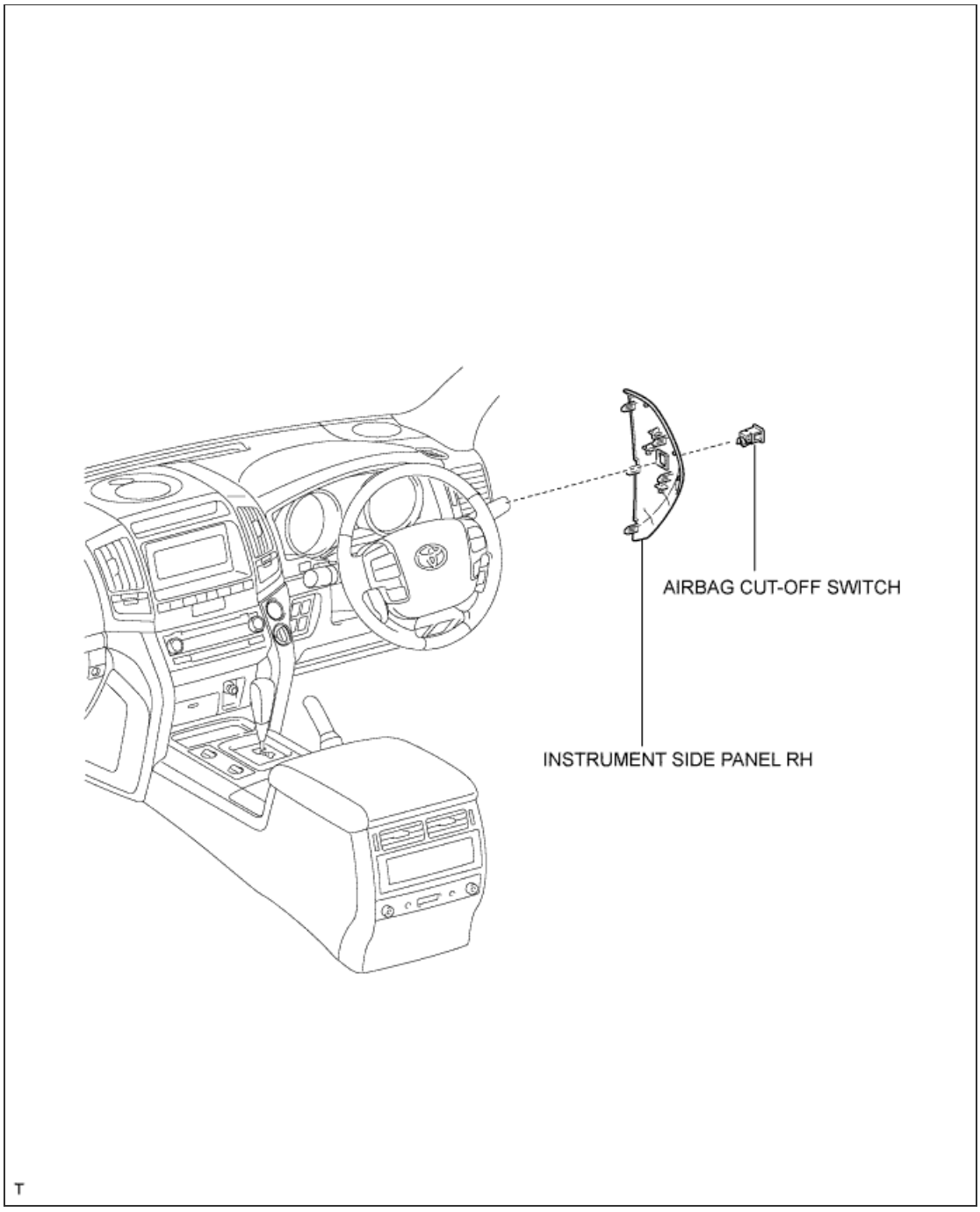
## 2. INSTALL FRONT SEAT ASSEMBLY LH

a. Install the front seat LH ( Click here).

## 3. CHECK SRS WARNING LIGHT

a. Check the SRS warning light ( Click here).

**for Preparation** [Click here]



**for Preparation** Click here

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 2. REMOVE INSTRUMENT SIDE PANEL RH

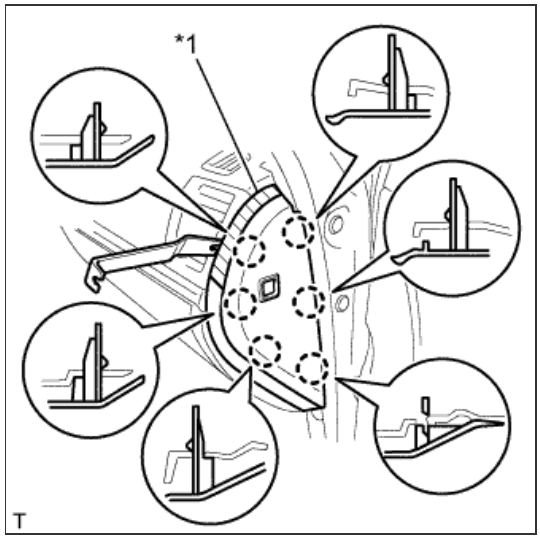
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

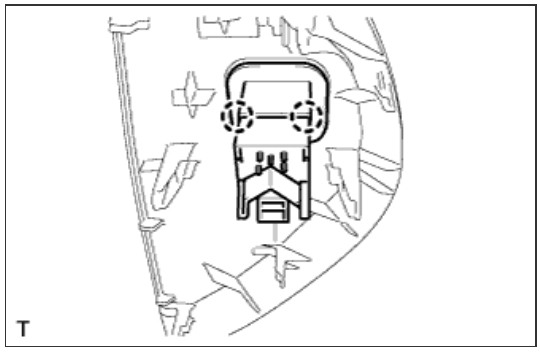
b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the instrument side panel.




## 3. REMOVE AIRBAG CUT-OFF SWITCH

a. Detach the 2 claws and remove the airbag cut-off switch.



**for Preparation** Click here

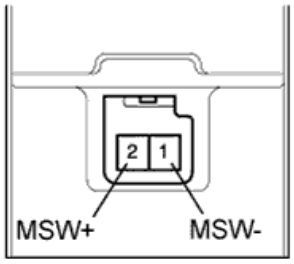
## 1. INSPECT AIRBAG CUT-OFF SWITCH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (MSW-) - 2 (MSW+) | Off | 400 Ω |
| 1 (MSW-) - 2 (MSW+) | On | 100 Ω |

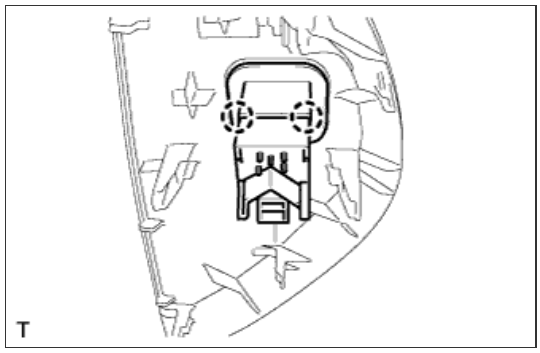
Component without harness connected:
(Airbag Cut-off Switch)



**for Preparation** Click here

## 1. INSTALL AIRBAG CUT-OFF SWITCH

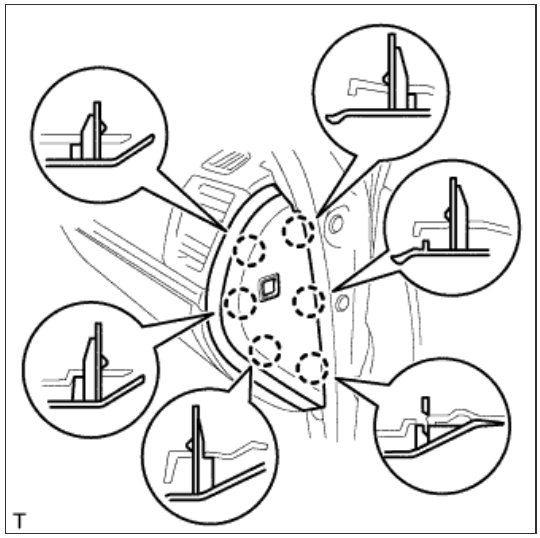
a. Attach the 2 claws to install the switch.




## 2. INSTALL INSTRUMENT SIDE PANEL RH

a. Connect the connector.

b. Attach the 6 claws to install the instrument side panel.




## 3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

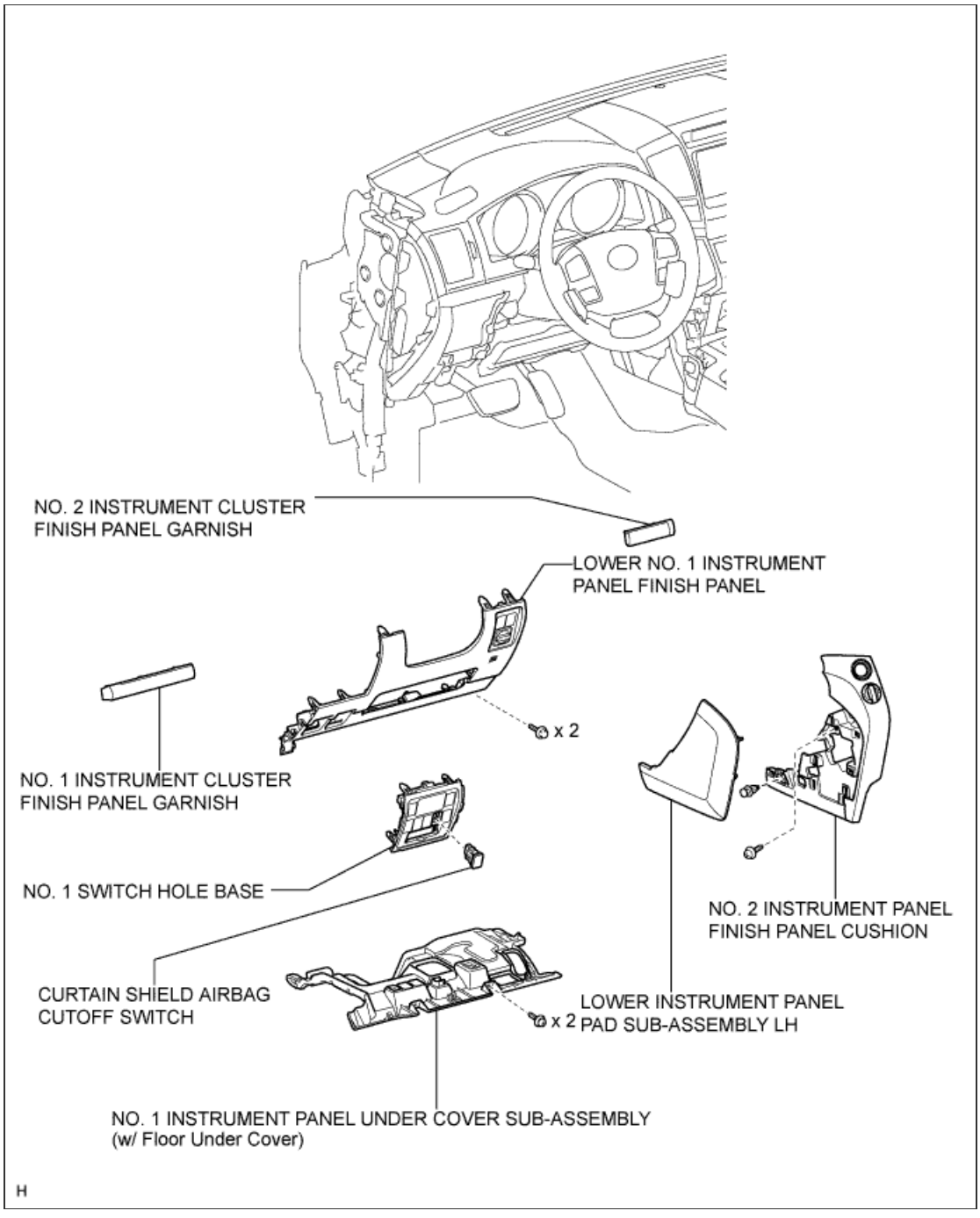
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 4. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH and LH.**
- **The procedures listed below are the LH side.**

## 1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

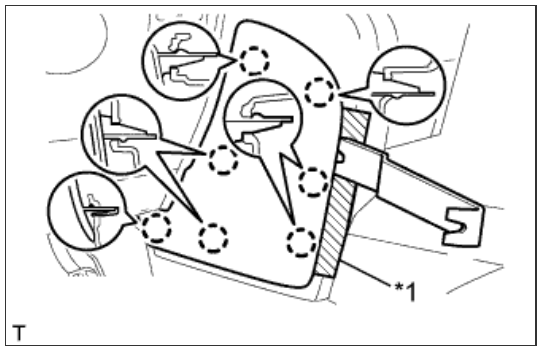
## 2. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 2 instrument panel finish panel cushion.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 2 instrument panel finish panel cushion.

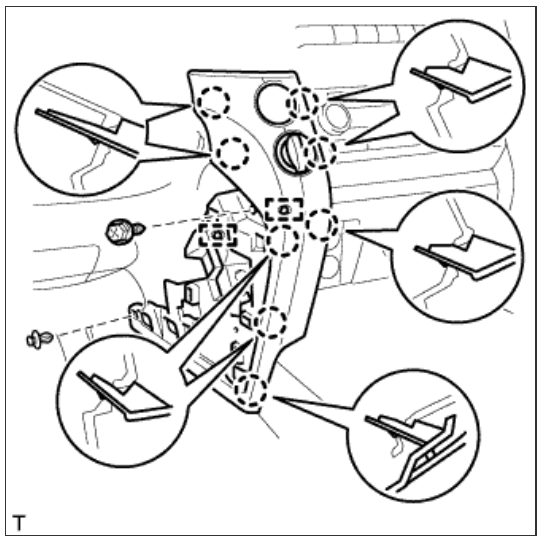



## 3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.



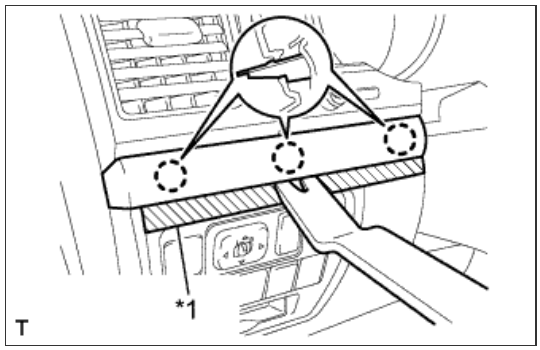

## 4. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

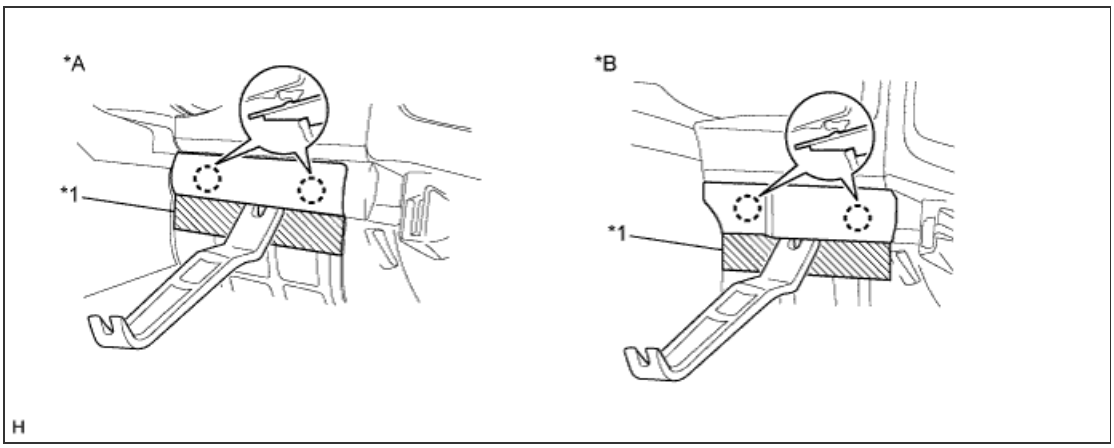
b. Using a moulding remover, detach the 3 claws and remove the No. 1 instrument cluster finish panel garnish.




## 5. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 2 claws and remove the No. 2 instrument cluster finish panel garnish.




**Text in Illustration**

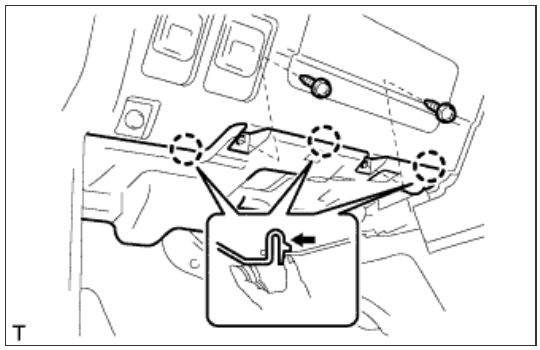
| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |
| *1 | Protective Tape | - | - |

## 6. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Remove the 2 screws.

b. Detach the 3 claws.

c. Disconnect the connectors and remove the No. 1 instrument panel under cover.




## 7. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

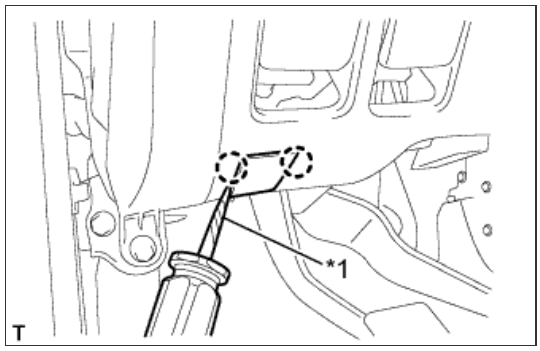
a. Using a screwdriver, detach the 2 claws and open the hole cover.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

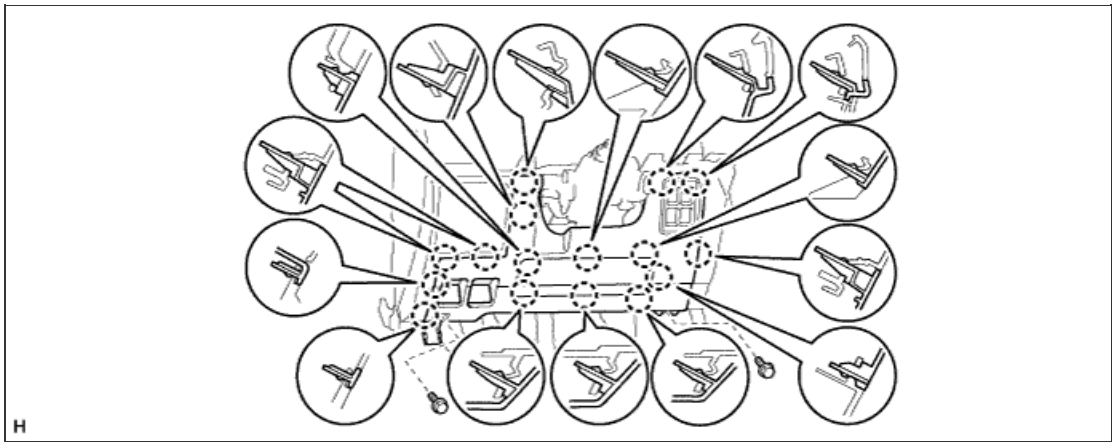
| | |
|---|---|
| *1 | Protective Tape |




b. w/ Driver Side Knee Airbag:

i. Remove the 2 bolts.

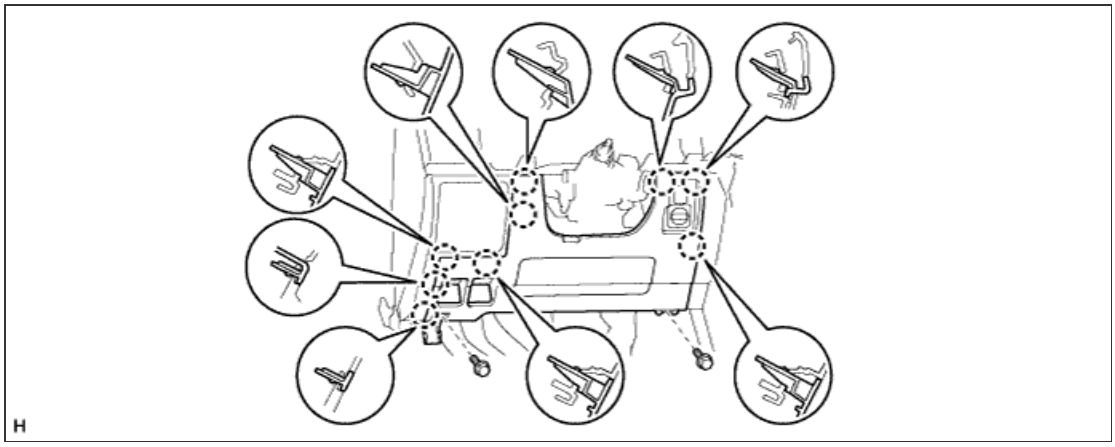
ii. Detach the 16 claws.




c. w/o Driver Side Knee Airbag:

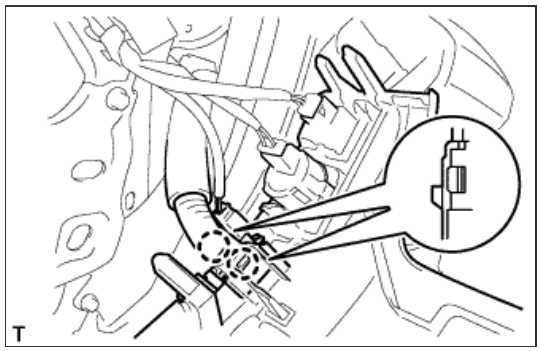
i. Remove the 2 bolts.

ii. Detach the 9 claws.



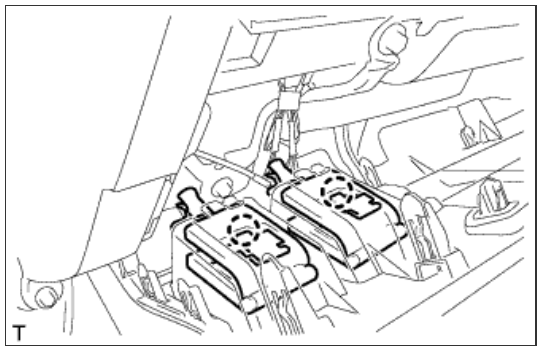
d. for Automatic Air Conditioning System:

i. Detach the 2 claws and remove the room temperature sensor.




e. Detach the 2 claws and disconnect the 2 control cables.

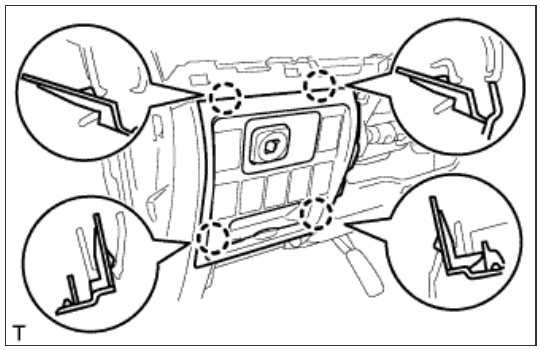
f. Disconnect the connectors and remove the lower No. 1 instrument panel finish panel.




## 8. REMOVE NO. 1 SWITCH HOLE BASE

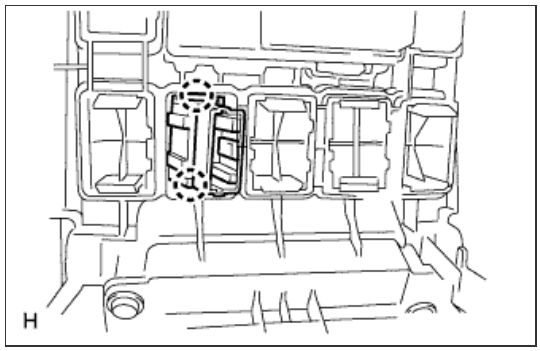
a. Detach the 4 claws.

b. Disconnect the connectors and remove the No. 1 switch hole cover.




## 9. REMOVE CURTAIN SHIELD AIRBAG CUTOFF SWITCH

a. Detach the 2 claws and remove the switch.



**for Preparation** Click here

## 1. INSPECT CURTAIN SHIELD AIRBAG CUTOFF SWITCH

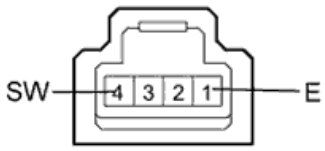
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 4 (SW) - 1 (E) | Switch is not pressed | Below 1 Ω |
| | Switch is pressed | 10 kΩ or higher |

If the result is not as specified, replace the switch.

Component without harness connected:
(Curtain Shield Airbag Cutoff Switch)



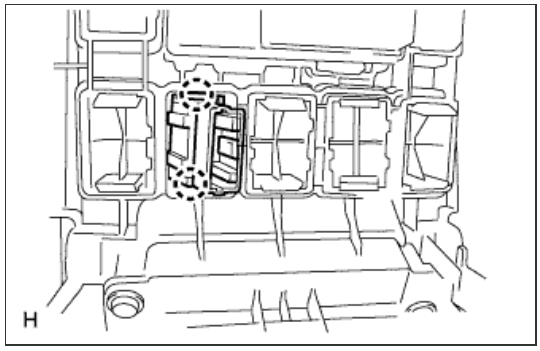
**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH and LH.**
- **The procedures listed below are the LH side.**

## 1. INSTALL CURTAIN SHIELD AIRBAG CUTOFF SWITCH

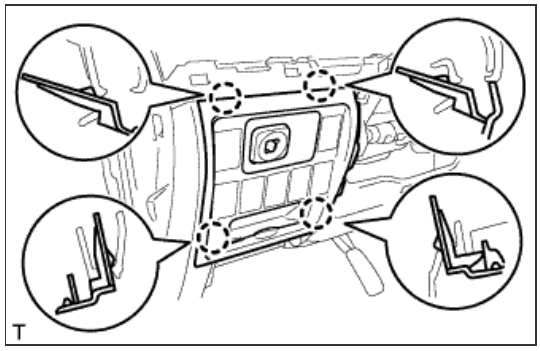
a. Attach the 2 claws to install the switch.




## 2. INSTALL NO. 1 SWITCH HOLE BASE

a. Connect the connectors.

b. Attach the 4 claws to install the No. 1 switch hole base.

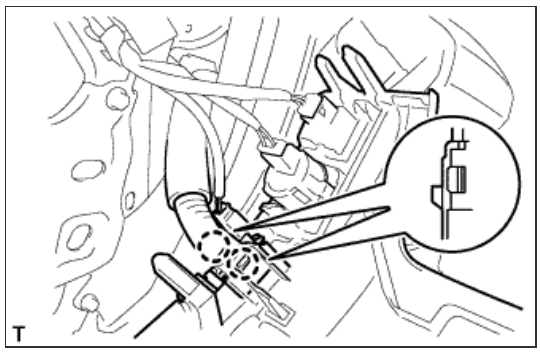



## 3. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

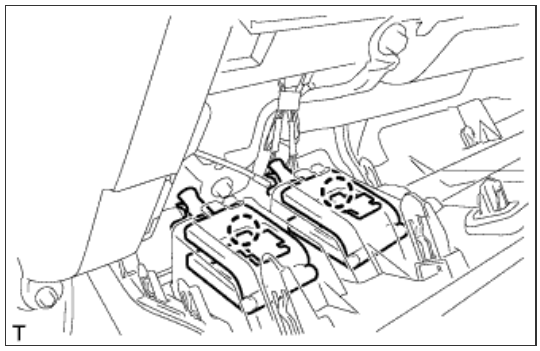
a. Connect the connectors.

b. for Automatic Air Conditioning System:

i. Attach the 2 claws to install the room temperature sensor.



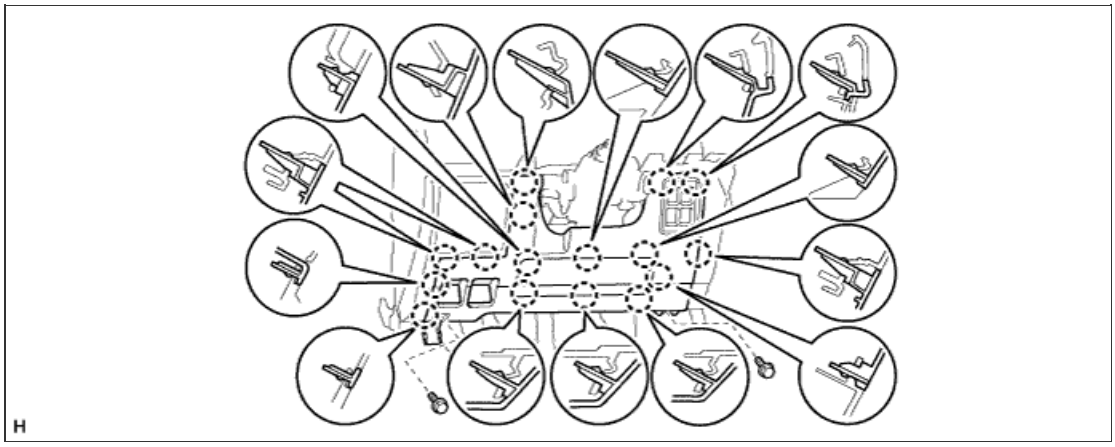

c. Attach the 2 claws to connect the 2 control cables.




d. w/ Driver Side Knee Airbag:

i. Attach the 16 claws to install the lower No. 1 instrument panel finish panel.

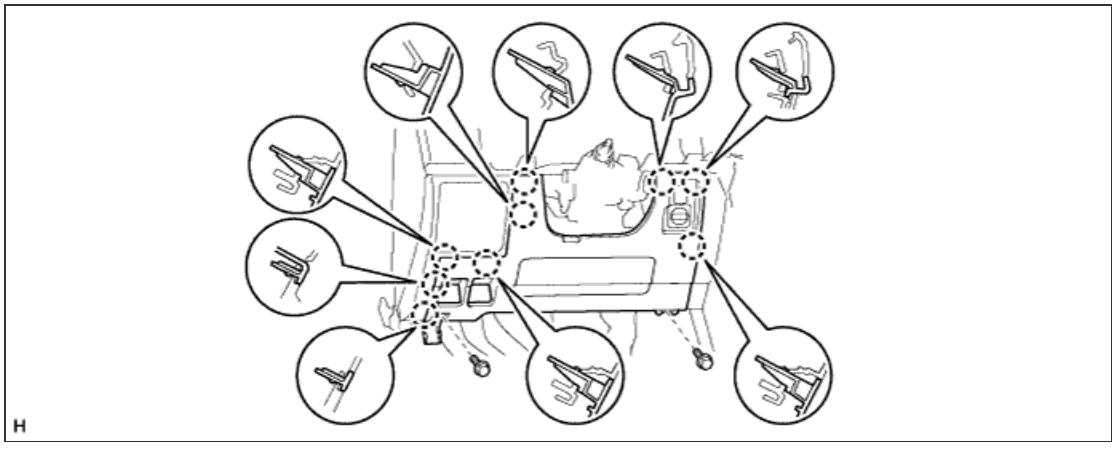
ii. Install the 2 bolts.



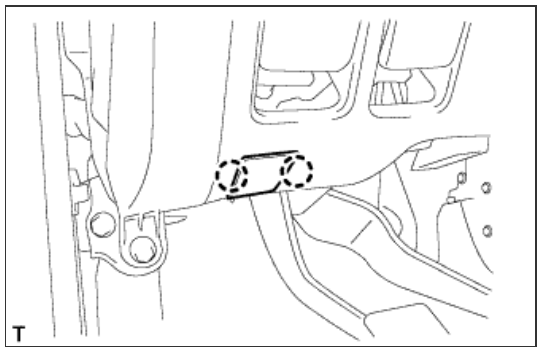

e. w/o Driver Side Knee Airbag:

i. Attach the 9 claws to install the lower No. 1 instrument panel finish panel.

ii. Install the 2 bolts.



f. Attach the 2 claws to close the hole cover.

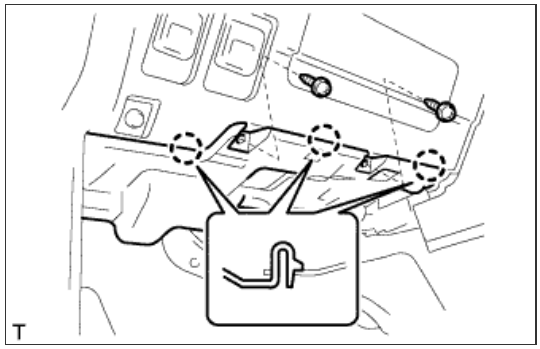



## 4. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Connect the connectors.

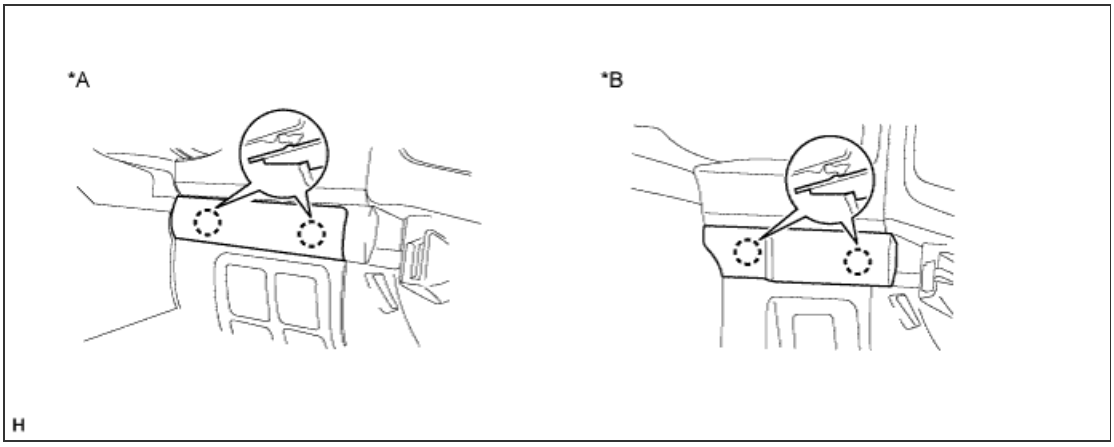
b. Attach the 3 claws to install the No. 1 instrument panel under cover.

c. Install the 2 screws.




## 5. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 2 claws to install the No. 2 instrument cluster finish panel garnish.

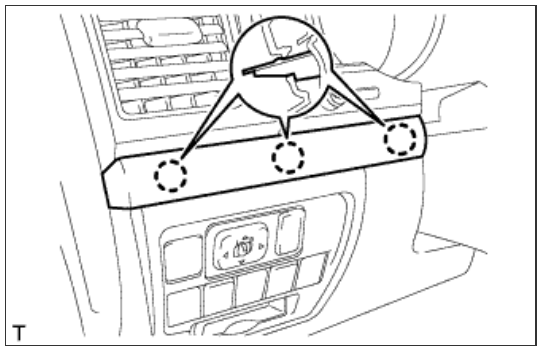



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |

## 6. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 3 claws to install the No. 1 instrument cluster finish panel garnish.

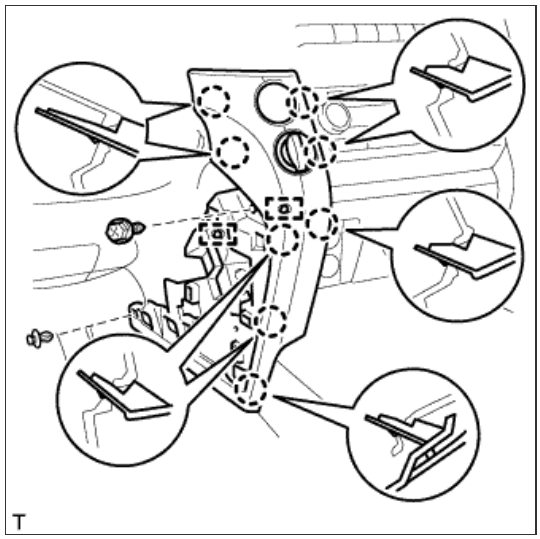



### 7. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

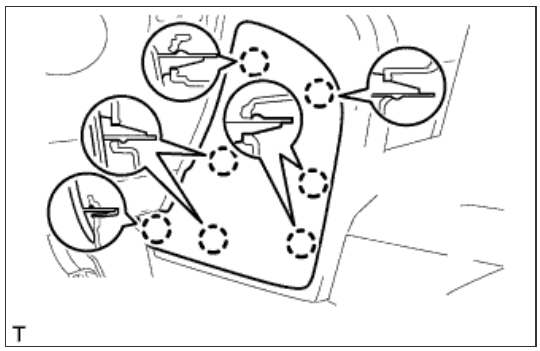
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.




### 8. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 2 instrument panel finish panel cushion.




### 9. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 10. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here

## 1.IGNITION SWITCH EXPRESSION

**HINT:**

The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

| Expression | Ignition Switch (position) | Engine Switch (condition) |
|---|---|---|
| Ignition Switch off | LOCK | Off |
| Ignition Switch ACC | ACC | On (ACC) |
| Ignition Switch ON | ON | On (IG) |
| Engine Start | START | Start |

## 2.TROUBLESHOOTING PRECAUTIONS

a. If a terminal contact point malfunction or part installation problem occurs, removal and reinstallation of the suspected part may return the system to normal. However, be aware that the normal condition may only be temporary.

b. Before disconnecting connectors or removing/installing parts, determine the malfunctioning area by checking and writing down the condition of the vehicle at the time of the malfunction (DTC outputs, etc.).

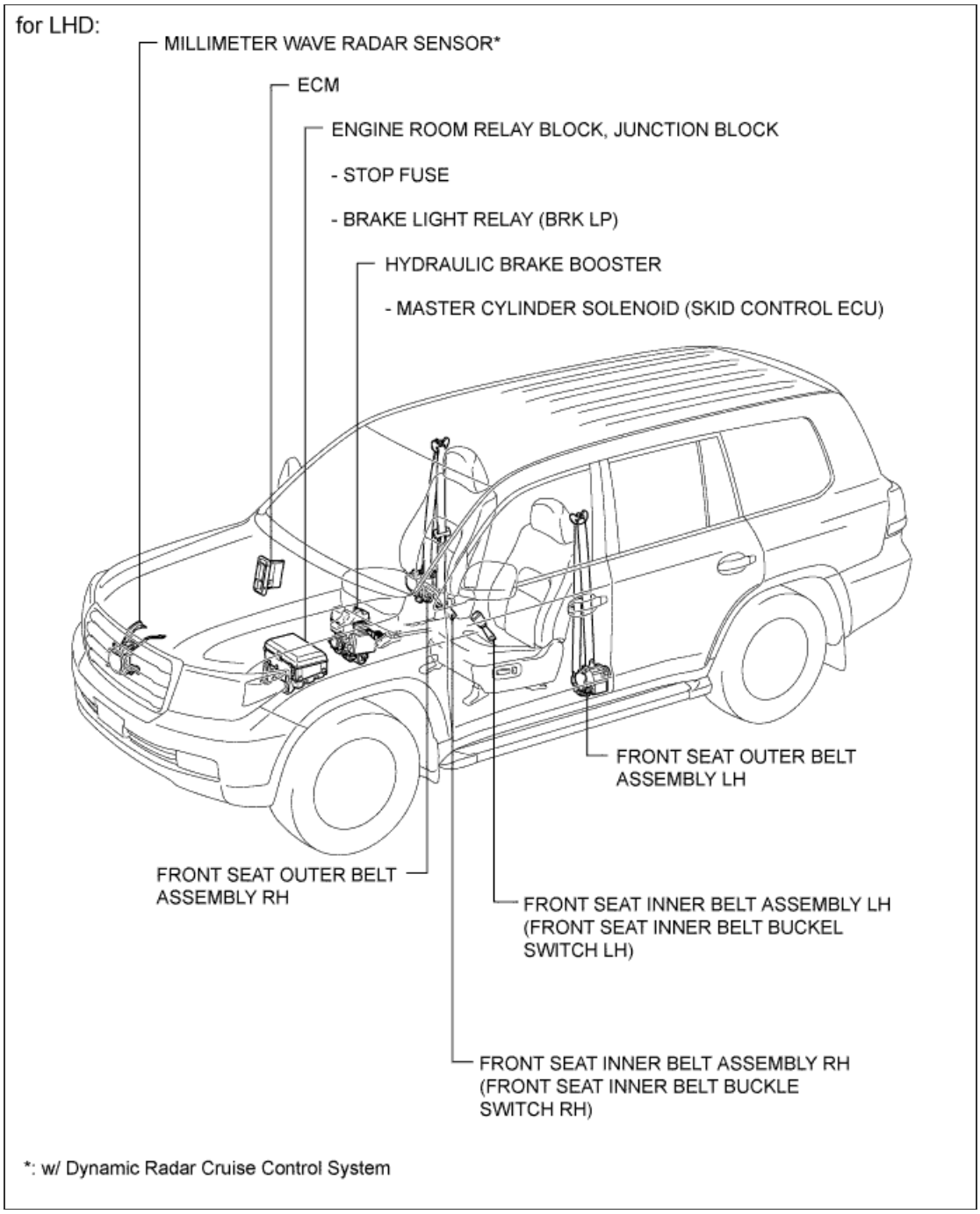
c. Be sure to check for DTCs related to other systems. The pre-crash safety system may be influenced by malfunctions in other systems.

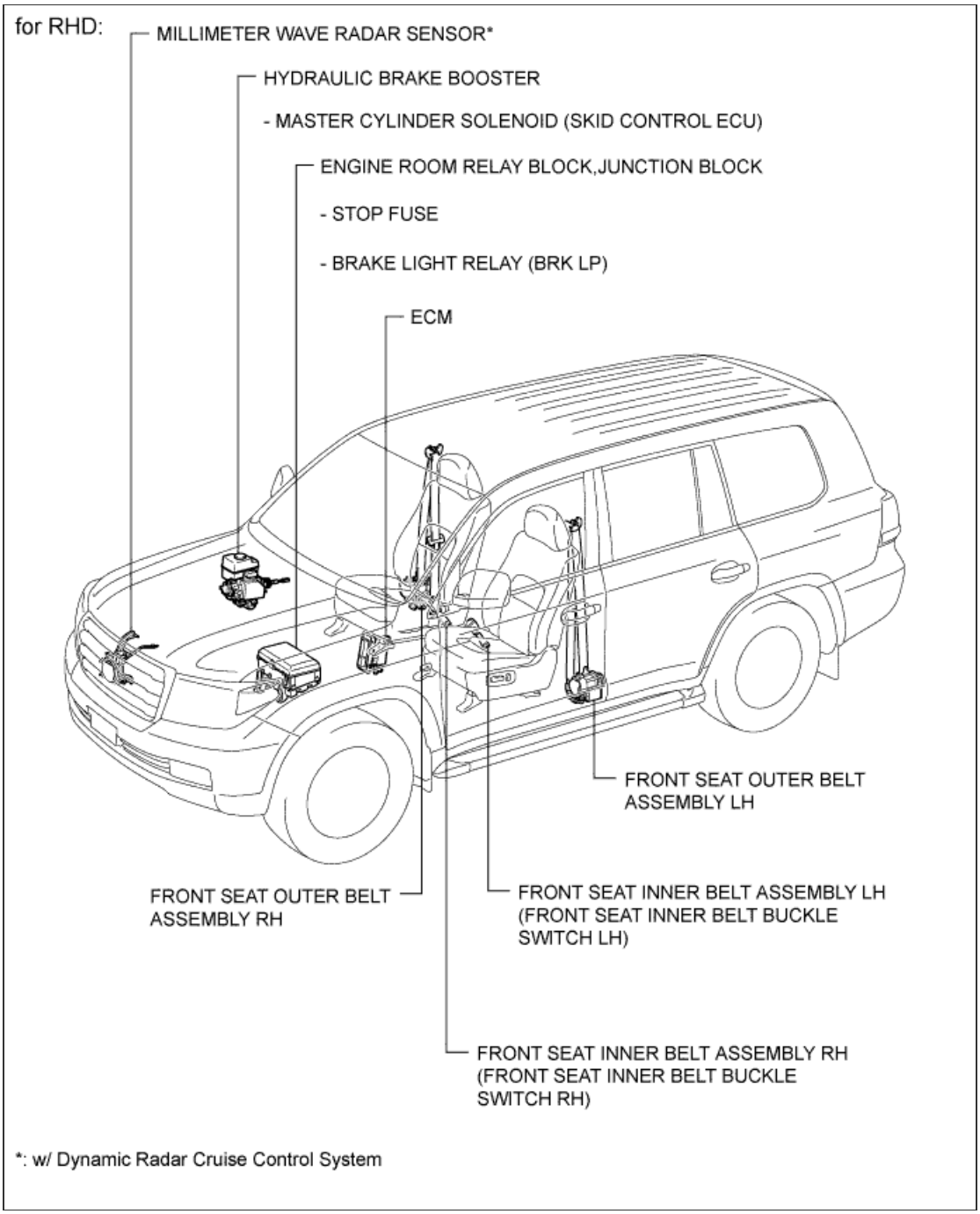
## 3.HANDLING PRECAUTIONS

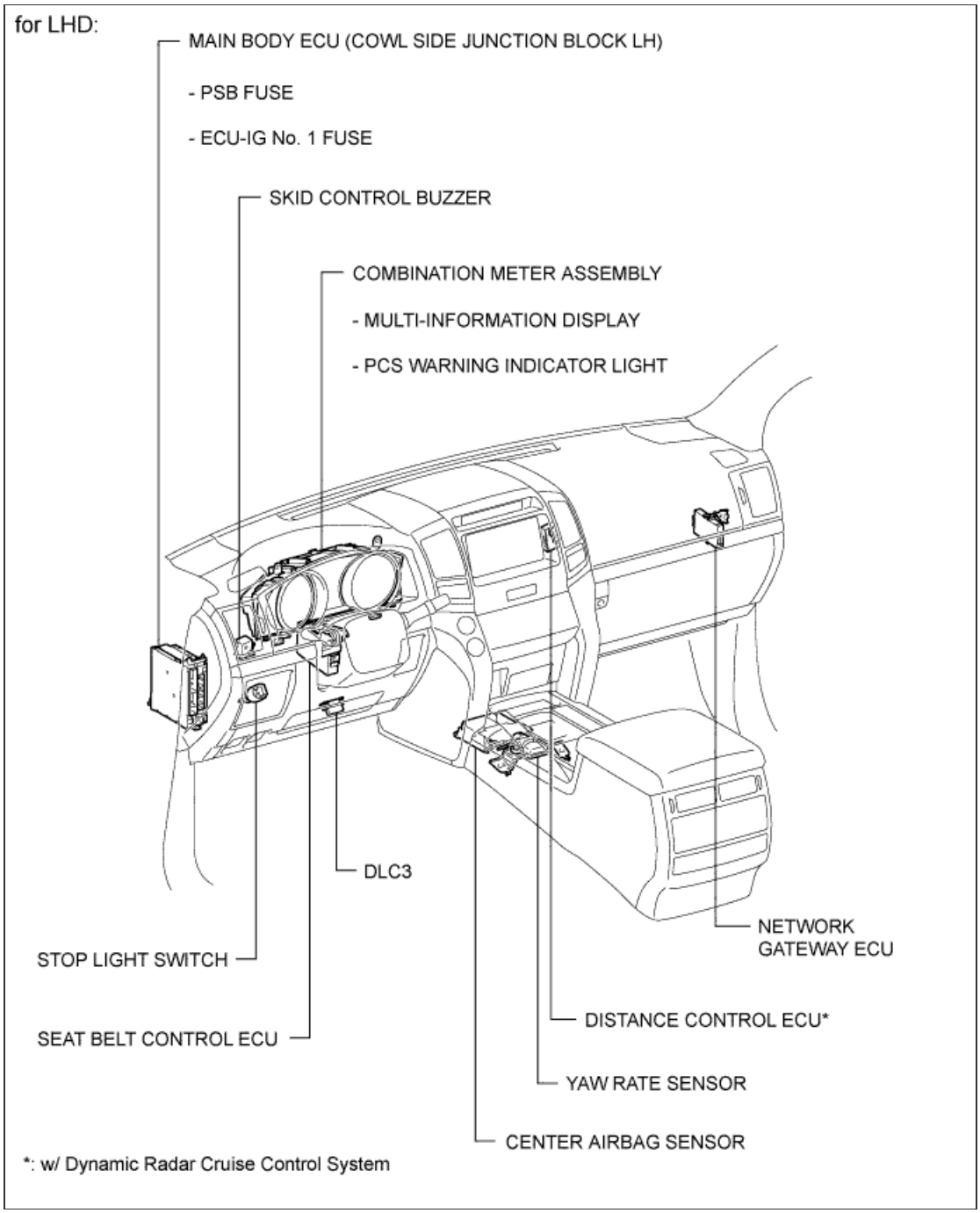
a. When removing and installing the ECUs, sensors, switches or other pre-crash safety system related parts, perform the following:

- Make sure the ignition switch is off unless otherwise specified in the inspection procedures.
- After the removal/installation, check for DTCs and confirm that a normal system code is output.

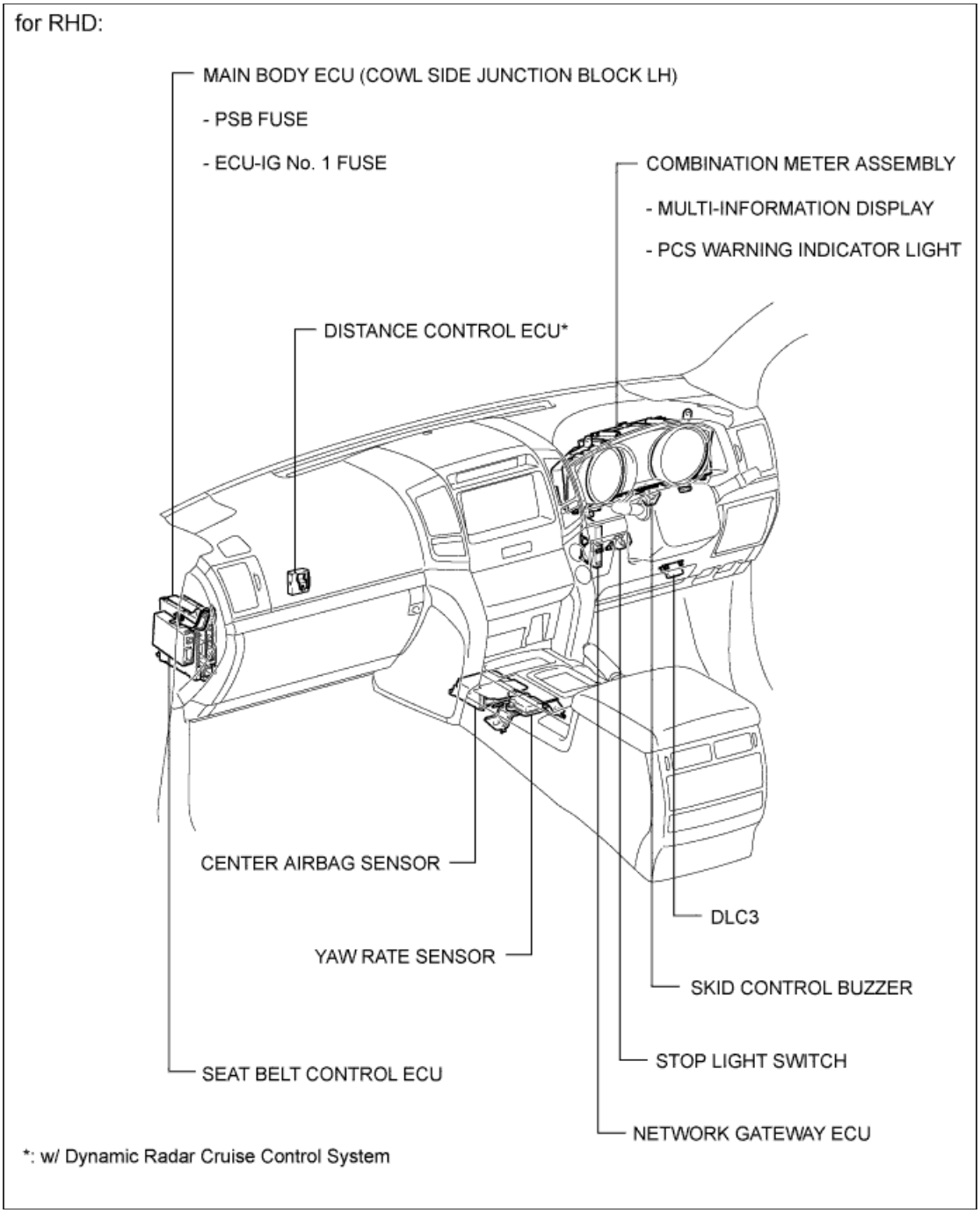
**for Preparation** Click here




for RHD:
MILLIMETER WAVE RADAR SENSOR*
HYDRAULIC BRAKE BOOSTER
- MASTER CYLINDER SOLENOID (SKID CONTROL ECU)
ENGINE ROOM RELAY BLOCK,JUNCTION BLOCK
- STOP FUSE
- BRAKE LIGHT RELAY (BRK LP)
ECM
FRONT SEAT OUTER BELT ASSEMBLY LH
FRONT SEAT OUTER BELT ASSEMBLY RH
FRONT SEAT INNER BELT ASSEMBLY LH (FRONT SEAT INNER BELT BUCKLE SWITCH LH)
FRONT SEAT INNER BELT ASSEMBLY RH (FRONT SEAT INNER BELT BUCKLE SWITCH RH)
*: w/ Dynamic Radar Cruise Control System

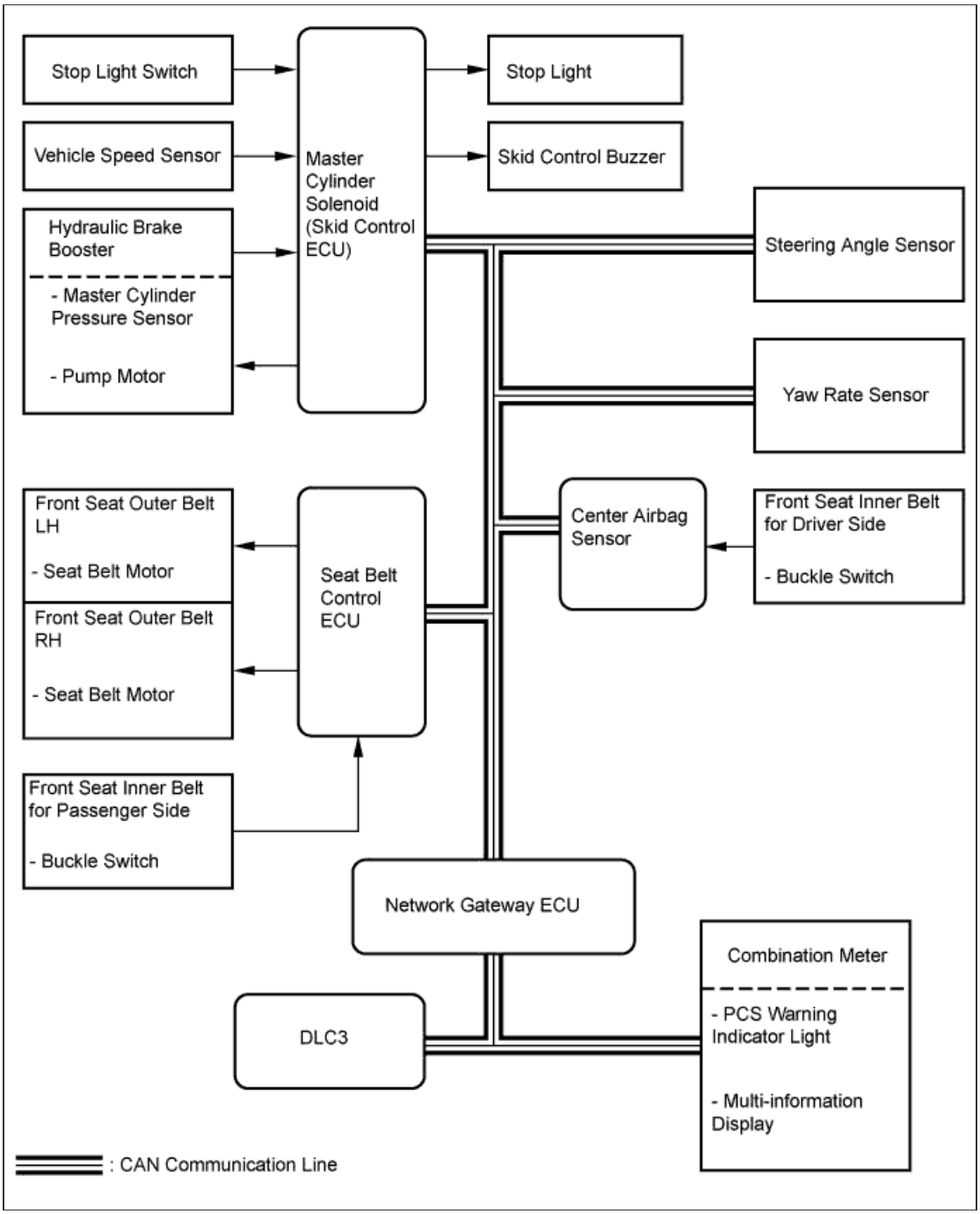

for LHD:
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- PSB FUSE
- ECU-IG No. 1 FUSE
SKID CONTROL BUZZER
COMBINATION METER ASSEMBLY
- MULTI-INFORMATION DISPLAY
- PCS WARNING INDICATOR LIGHT
DLC3
NETWORK GATEWAY ECU
STOP LIGHT SWITCH
SEAT BELT CONTROL ECU
DISTANCE CONTROL ECU*
YAW RATE SENSOR
CENTER AIRBAG SENSOR
*: w/ Dynamic Radar Cruise Control System

for RHD:




*: w/ Dynamic Radar Cruise Control System

**for Preparation** Click here




### Communication Table

| Transmitter | Receiver | Signal | Communication Line |
|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | Seat Belt Control ECU | • Seat belt operation signal<br>• Sudden braking signal<br>• VSC control signal<br>• Vehicle speed signal | CAN |
| Center Airbag Sensor | Seat Belt Control ECU | • Buckle switch malfunction signal<br>• Driver seat belt buckle switch signal | CAN |
| Seat Belt Control ECU | Combination Meter | • Pre-crash safety system malfunction signal<br>• Passenger seat belt buckle switch signal | CAN |

**for Preparation** Click here

## PRE-CRASH SAFETY SYSTEM

a. The pre-crash safety system optimizes and activates occupant protection equipment in an attempt to reduce injury in a collision.

## OUTLINE OF PRE-CRASH SAFETY SYSTEM

| Operating Condition | Control | Transmitting ECU | Receiving ECU | Part Operated |
|---|---|---|---|---|
| Operates when sudden braking occurs | Pre-crash safety seat belts | Master cylinder solenoid (skid control ECU) | Seat belt control ECU | Front seat outer belts |

a. When operating as a result of sudden braking:

The master cylinder solenoid (skid control ECU) uses brake pressure information and other data to determine if the driver has suddenly applied the brakes. If so, the master cylinder solenoid (skid control ECU) sends a signal to the seat belt control ECU through CAN communication and the pre-crash safety seat belt activates.

## OUTLINE OF PRE-CRASH SAFETY SEAT BELT CONTROL

a. Pre-crash safety seat belt operation conditions:

- The driver firmly depresses the brake pedal suddenly
- The driver oversteers or the vehicle is spinning

b. Pre-crash safety seat belt non-operation conditions:
If any of the following conditions are met, the pre-crash safety seat belt does not operate.

- The seat belts are not fastened
- The ignition switch is off or ACC
- The vehicle speed is approximately 30 km/h (18.6 mph) or less
- When the pre-crash safety seat belts are repeatedly operated and the seat belt control ECU overheats, seat belt operation is prohibited to protect the ECU

**HINT:**

The PCS warning indicator light in the combination meter will blink at this time.

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the pre-crash safety system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard Voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.CHECK COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B. GO TO CAN COMMUNICATION SYSTEM (**Click here**)

C. GO TO CAN COMMUNICATION SYSTEM (**Click here**)

A

## 4.CHECK INDICATOR

a. Check the indicator (Click here).

NEXT

## 5.CHECK FOR DTC*

a. Check for DTCs (Click here).

b. Clear the DTCs (Click here).

c. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output | B |

B. GO TO DTC CHART (Click here)

A

## 6.PROBLEM SYMPTOMS TABLE

a. Refer to the Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. Go to step 8

A

## 7.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here).

b. Data List / Active Test (Click here).

NEXT

## 8.ADJUST, REPAIR OR REPLACE

NEXT

## 9.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

**HINT:**

- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

### w/o Dynamic Radar Cruise Control System

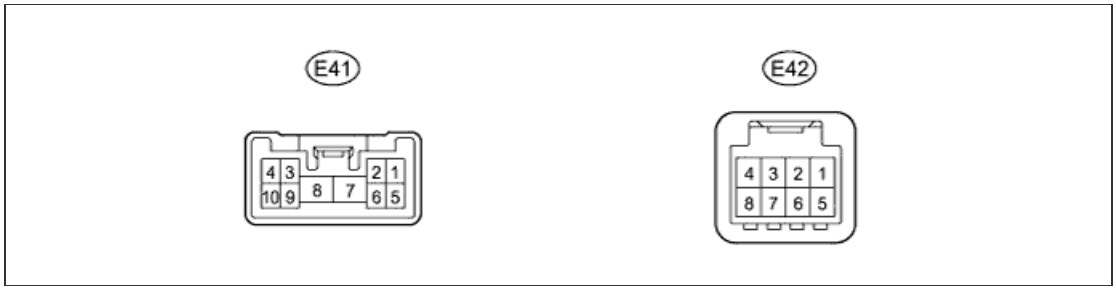
| Symptom | Suspected Area | See page |
|---|---|---|
| All functions of pre-crash safety system do not operate | Power source circuit | Click here |
| | Seat belt control ECU | Click here |
| | Front seat inner belt LH assembly | - |
| | Front seat inner belt RH assembly | - |
| | Buckle switch error (malfunction in which DTC is not output) | - |

### w/ Dynamic Radar Cruise Control System

| Symptom | Suspected Area | See page |
|---|---|---|
| All functions of pre-crash safety system do not operate | Power source circuit | Click here |
| | Seat belt control ECU | Click here |
| | Front seat inner belt LH assembly | - |
| | Front seat inner belt RH assembly | - |
| | Buckle switch error (malfunction in which DTC is not output) | - |
| "CHECK PCS SYSTEM" is displayed | Seat belt control ECU | Click here |
| | Distance control ECU | Click here |
| "PCS TEMPORARILY NOT AVAILABLE" is displayed | System determines obstacles cannot be detected due to the millimeter wave radar sensor or the radiator grille being dirty. If the dirt is removed, normal control returns (dirt history can be checked using Data List). | - |
| | System determines the millimeter wave radar sensor cannot detect obstacles due to bad weather. If weather recovers, normal control returns (bad weather history can be checked using Data List). | - |
| | Overheating protection fail-safe of the seat belt control ECU operates. If the ECU temperature drops, normal control returns. | - |
| | Millimeter wave radar sensor | - |
| | Seat belt control ECU | Click here |
| | Distance control ECU | Click here |
| Although there is a possibility of collision, pre-crash safety control (all front collision controls) does not operate ("PCS TEMPORARILY NOT AVAILABLE" is not displayed) | Vehicle condition/environment does not match the pre-crash control operation conditions (confirm control operation conditions). | - |
| | Check the installation condition of the millimeter wave radar sensor. | - |
| | Perform the millimeter wave radar sensor adjustment. | - |
| | Millimeter wave radar sensor | - |
| | Distance control ECU | Click here |
| Only pre-crash safety seat belt does not operate | Buckle switch error (malfunction in which DTC is not output) | - |
| | Seat belt control ECU | Click here |
| Pre-crash brake cannot be canceled (pre-crash warning indicator does not blink) | Combination meter (check if the indicator blinks using Active Test) | - |

**for Preparation** Click here

## CHECK SEAT BELT CONTROL ECU




a. Measure the voltage and resistance according to the value(s) in the table below.

**HINT:**

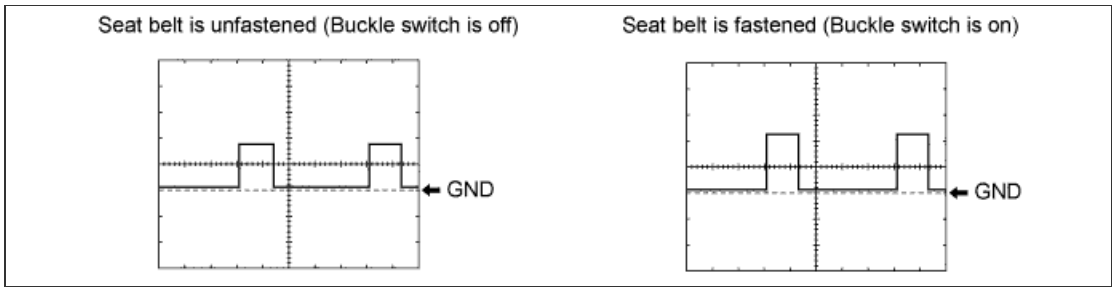
Check from the rear of the connector while it is connected to the seat belt control ECU.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E41-2 (MOR+) - E41-8 (PGND) | L - W-B | Passenger side seat belt motor power source line | Ignition switch ON | 4 to 8.5 V |
| E41-3 (MOL+) - E41-8 (PGND) | GR - W-B | Driver side seat belt motor power source line | Ignition switch ON | 4 to 8.5 V |
| E42-8 (IG1) - Body ground | G - Body ground | Seat belt control ECU power source line | Ignition switch ON | 11 to 14 V |
| E41-7 (+B) - Body ground | R - W-B | Seat belt control ECU power source line | Always | 11 to 14 V |
| E41-1 (MOR-) - Body ground | B - Body ground | Passenger side seat belt motor ground line | Ignition switch ON | 4 to 8.5 V |
| E41-4 (MOL-) - Body ground | W - Body ground | Driver side seat belt motor ground line | Ignition switch ON | 4 to 8.5 V |
| E41-5 (PBK+) - Body ground | G - Body ground | Passenger side buckle switch ground line | Always | Below 1 Ω |
| E41-5 (PBK+) - E41-8 (PGND) | G - W-B | Passenger side buckle switch signal line | Ignition switch ON<br>Front passenger side seat belt unfastened (Buckle switch off) | Waveform 1 |
| | | | Ignition switch ON<br>Front passenger side seat belt fastened (Buckle switchs on) | |
| E41-8 (PGND) - Body ground | W-B - Body ground | Seat belt control ECU ground line | Always | Below 1 Ω |

If the result is not as specified, the seat belt control ECU may have a malfunction.

b. Inspect using an oscilloscope.

i. Waveform 1 (Reference)




| | |
|---|---|
| Terminal No. (Symbol) | E41-5 (PBK+) - E41-8 (PGND) |
| Tool Setting | 5 V/DIV., 20 ms./DIV. |
| Switch Condition | Ignition switch ON<br>Front passenger side seat belt unfastened (Buckle switch off) |
| | Ignition switch ON<br>Front passenger side seat belt fastened (Buckle switch on) |

**for Preparation** Click here

## INITIAL CHECK

a. The initial check occurs when the ignition switch is off for more than 2 seconds, and then turned to ON. The initial check consists of the pre-crash safety system diagnostic check which lasts approximately 3 seconds.

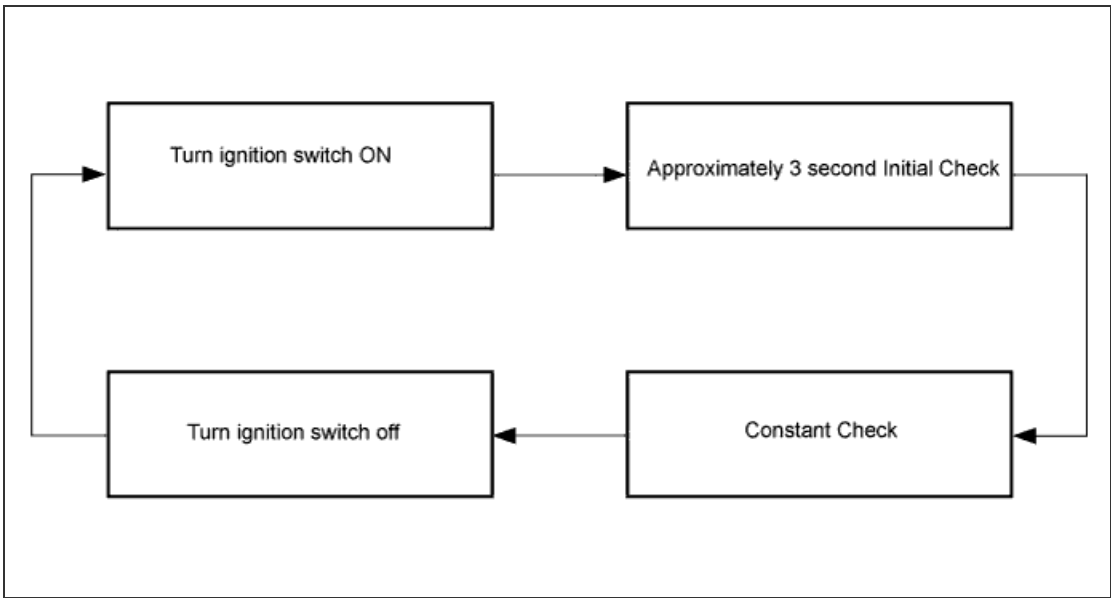
b. If a malfunction is detected during the initial check, the multi-information display displays "CHECK PCS SYSTEM" or "PCS TEMPORARILY NOT AVAILABLE".

| Warning Message | Detail | DTC | PCS Warning Indicator |
|---|---|---|---|
| CHECK PCS SYSTEM | This message appears when the seat belt control ECU detects a system malfunction | DTC is output | ON |
| PCS TEMPORARILY NOT AVAILABLE | This message appears when the seat belt control ECU is in the fail-safe mode | DTC is not output | Blinking |

## CONSTANT CHECK

a. After completing the initial check, the pre-crash safety system will become operational. Then, the diagnosis circuit will perform a constant check to check that there is not a system malfunction.

b. If a malfunction is detected during the constant check, the multi-information display displays "CHECK PCS SYSTEM" or "PCS TEMPORARILY NOT AVAILABLE".



**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Pre-Crash / Trouble Codes.

e. Read the DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Pre-Crash / Trouble Codes.

e. Clear the DTCs.

**for Preparation** Click here

**HINT:**

The pre-crash safety system fail-safe function and details are indicated in the table below.

| Cause | Warning Message | Fail-safe Operation | Conditions to Return to Normal Condition |
|---|---|---|---|
| Malfunction exists in part of pre-crash safety system | "Check PCS System" or "PCS Not available now" | Depending on the malfunctioning part, the pre-crash seat belt or the brake assist system may stop operating.* | Repair the malfunctioning part |
| Radiator grille is dirty | "PCS Not available now" | Depending on the amount of dirt on the radiator grille, the pre-crash seat belt or the brake assist system may stop operating.* | Clean the radiator grille |

*: The pre-crash seat belts operate only with sudden braking.

**for Preparation** Click here

## READ DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Pre-Crash / Data List.

e. According to the display on the intelligent tester, read the Data List.

**Pre-Crash**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Driver Buckle SW | Driver side buckle switch status / UNSET, SET or NG | UNSET: Driver side seat belt unfastened<br>SET: Driver side seat belt fastened<br>NG: Indeterminate data | - |
| Passenger Buckle SW | Front passenger side buckle switch status / UNSET, SET or NG | UNSET: Passenger side seat belt unfastened<br>SET: Passenger side seat belt fastened<br>NG: Indeterminate data | - |
| Driver Belt Control | Seat belt control status of driver side seat / STOP, ON or ERROR | STOP: Control stopped<br>ON: Controlled<br>ERROR: Indeterminate data | Driver side seat belt is fastened |
| Passenger Belt Control | Seat belt control status of passenger side seat / STOP, ON or ERROR | STOP: Control stopped<br>ON: Controlled<br>ERROR: Indeterminate data | Passenger side seat belt is fastened |
| Number of Trouble Codes | Number of present trouble codes / Min.: 0, Max.: 255 | Number of DTCs present | - |

## PERFORM ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: All ECUs / (desired menu) / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

**Pre-Crash**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Driver Seat Belt Motor | Driver side seat belt motor | OFF or ON | Driver side seat belt is fastened |

| | | | |
|---|---|---|---|
| Passenger Seat Belt Motor | Passenger side seat belt motor | OFF or ON | Passenger side seat belt is fastened |
| Driver and Passenger Seat Belt Motor | Driver and passenger side seat belt motors | OFF or ON | Driver and passenger side seat belts are fastened |

**ABS/VSC/TRAC**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Buzzer | Skid control buzzer sounds | OFF or ON | - |

**for Preparation** Click here

**HINT:**

If a trouble code is output during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.

**Pre-Crash Safety System**

| DTC Code | Detection Item | Trouble Area | See page |
|---|---|---|---|
| B2000 | Short to B+ in Seat Belt Motor RH Circuit | - Front seat outer belt RH<br>- Harness or connector<br>- Seat belt control ECU | Click here |
| B2001 | Short to GND in Seat Belt Motor RH Circuit | - Front seat outer belt RH<br>- Harness or connector<br>- Seat belt control ECU | Click here |
| B2002 | Open in Seat Belt Motor RH Circuit | - Front seat outer belt RH<br>- Harness or connector<br>- Seat belt control ECU | Click here |
| B2005 | Short to B+ in Seat Belt Motor LH Circuit | - Front seat outer belt LH<br>- Harness or connector<br>- Seat belt control ECU | Click here |
| B2006 | Short to GND in Seat Belt Motor LH Circuit | - Front seat outer belt LH<br>- Harness or connector<br>- Seat belt control ECU | Click here |
| B2007 | Open in Seat Belt Motor LH Circuit | - Front seat outer belt LH<br>- Harness or connector<br>- Seat belt control ECU | Click here |
| B2015 | Open in Right Side Upper MOS | Seat belt control ECU | Click here |
| B2016 | Open in Right Side Lower MOS | Seat belt control ECU | Click here |
| B2020 | Open in Left Side Upper MOS | Seat belt control ECU | Click here |
| B2021 | Open in Left Side Lower MOS | Seat belt control ECU | Click here |
| B2025 | Right Side Current Detection Circuit Malfunction Hi | Seat belt control ECU | Click here |
| B2026 | Right Side Current Detection Circuit Malfunction Lo | Seat belt control ECU | Click here |
| B2027 | Right Side Over-Current Malfunction | Seat belt control ECU | Click here |
| B2030 | Left Side Current Detection Circuit Malfunction Hi | Seat belt control ECU | Click here |
| B2031 | Left Side Current Detection Circuit Malfunction Lo | Seat belt control ECU | Click here |
| B2032 | Left Side Over-Current Malfunction | Seat belt control ECU | Click here |
| B2035 | Power Supply Relay Adherence Malfunction | Seat belt control ECU | Click here |
| B2036 | Power Supply Relay Malfunction Open | - Harness or connector<br>- Fuse<br>- Seat belt control ECU | Click here |
| B2040 | EEPROM Malfunction | Seat belt control ECU | Click here |
| B2041 | Fall of Raised Voltage | Seat belt control ECU | Click here |
| B2043 | Fall of B+ Voltage | Seat belt control ECU | Click here |
| B2047 | Seat Belt Control ECU Inner Circuit Malfunction | Seat belt control ECU | Click here |
| B2055 | Radar Sensor Malfunction | - Millimeter wave radar sensor<br>- Seat belt control ECU<br>- Distance control ECU | Click here |
| B2056 | Axial Gap of Radar Sensor | - Millimeter wave radar sensor<br>- Seat belt control ECU<br>- Distance control ECU | Click here |
| B2057 | Yaw Rate Sensor | - Yaw rate sensor<br>- Seat belt control ECU<br>- Distance control ECU | Click here |
| B2058 | Steering Angle Sensor | - Steering angle sensor<br>- Seat belt control ECU<br>- Distance control ECU | Click here |
| B2059 | Vehicle Speed Malfunction | - Combination meter<br>- ECM<br>- Master cylinder solenoid (skid control ECU)<br>- Seat belt control ECU | Click here |

| | | | |
|---|---|---|---|
| | | - Distance control ECU | |
| B2060 | ABS Malfunction | - CAN communication system<br>- Vehicle stability control system<br>- Seat belt control ECU | Click here |
| B2070 | VSC Buzzer | - Vehicle stability control system<br>- Seat belt control ECU | Click here |
| B2071 | Stop Light Control Relay Malfunction | - CAN communication system<br>- Vehicle stability control system<br>- Seat belt control ECU | Click here |
| B2074 | Driver Side Seat Belt Buckle Switch Circuit Malfunction | - Front seat inner belt LH assembly<br>- Center airbag sensor<br>- Seat belt control ECU<br>- CAN communication system | Click here |
| B2075 | Passenger Side Seat Belt Buckle Switch Circuit Malfunction | - Harness or connector<br>- Front seat inner belt (for passenger side)<br>- Seat belt control ECU | Click here |
| U0100 | Lost Communication with ECM / PCM "A" | - CAN communication system<br>- Distance control ECU<br>- ECM | Click here |
| U0122 | Lost Communication with Vehicle Dynamics Control Module | - CAN communication system<br>- Master cylinder solenoid (skid control ECU)<br>- Seat belt control ECU | Click here |
| U0151 | Lost Communication with Airbag ECU | - CAN communication system<br>- Center airbag sensor<br>- Seat belt control ECU | Click here |
| U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | - CAN communication system<br>- Millimeter wave radar sensor<br>- Distance control ECU | Click here |
| U1101 | Lost Communication with Distance Control ECU | - CAN communication system<br>- Distance control ECU<br>- Seat belt control ECU | Click here |
| U1102 | Lost Communication with Radar Sensor | - CAN communication system<br>- Distance control ECU<br>- Millimeter wave radar sensor | Click here |

## DTC B2000 Short to B+ in Seat Belt Motor RH Circuit

## DTC B2005 Short to B+ in Seat Belt Motor LH Circuit

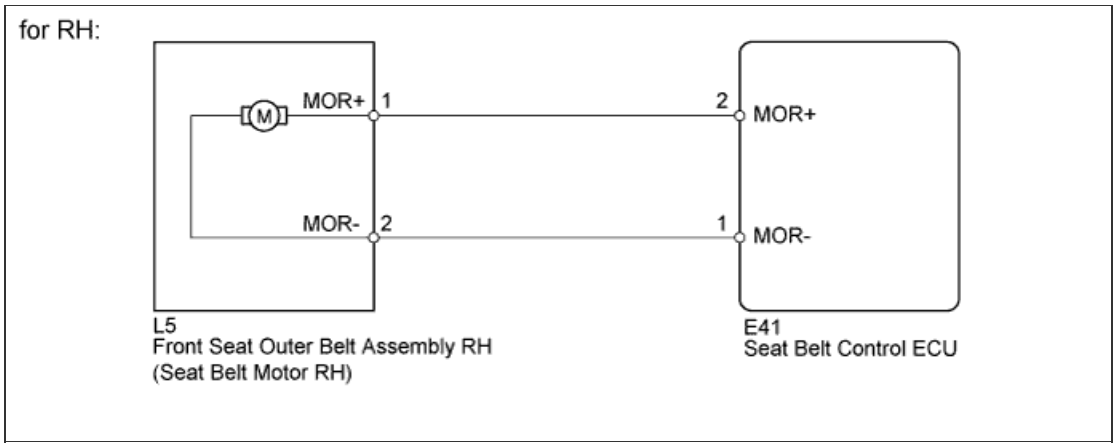
**for Preparation** Click here

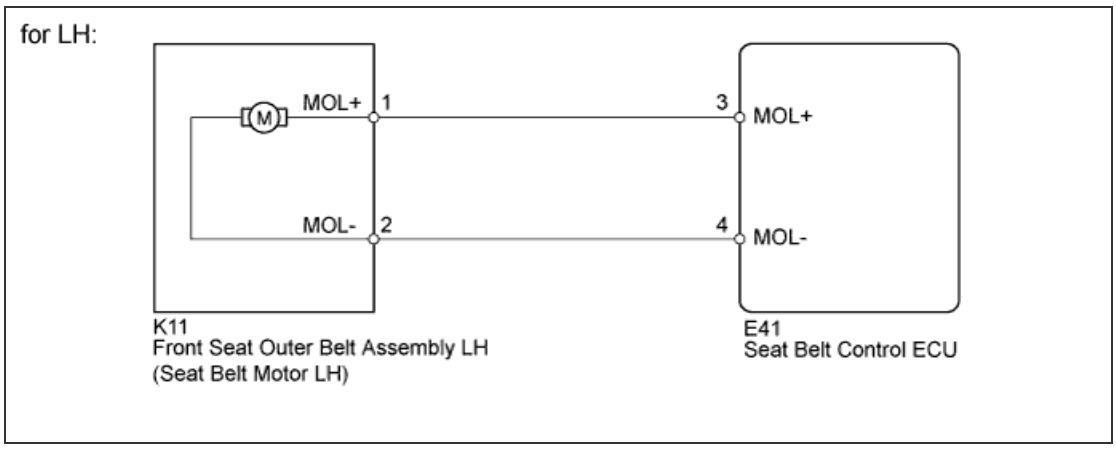
### DESCRIPTION

The seat belt control ECU receives information from the master cylinder solenoid (skid control ECU) via the CAN communication line and tightens the seat belt by operating the motor in the front seat outer belt assembly RH or LH.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2000 | • Short to B+ in the seat belt motor RH circuit continues for 1 second or more.<br>• Short in the seat belt motor RH circuit. | • Front seat outer belt assembly RH<br>• Harness or connector<br>• Seat belt control ECU |
| B2005 | • Short to B+ in the seat belt motor LH circuit continues for 1 second or more.<br>• Short in the seat belt motor LH circuit. | • Front seat outer belt assembly LH<br>• Harness or connector<br>• Seat belt control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

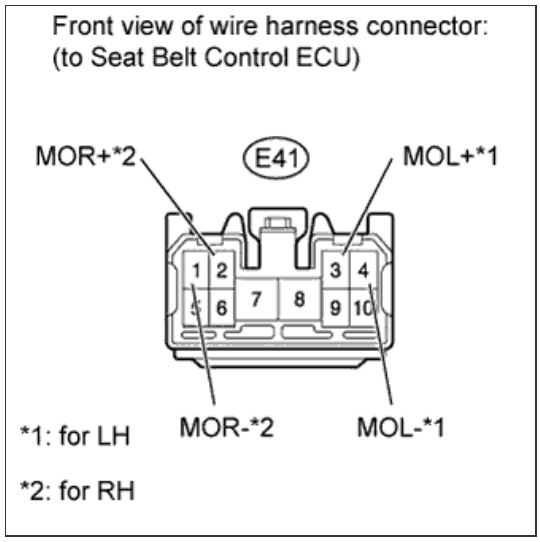
**CAUTION:**

The pretensioner is built into the front seat outer belt assembly. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may deploy the pretensioner.

#### 1.CHECK SEAT BELT CONTROL ECU

a. Disconnect the E41 seat belt control ECU connector.

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**for LH**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E41-3 (MOL+) - Body ground | Ignition switch ON | Below 1 V |
| E41-4 (MOL-) - Body ground | | |

**for RH**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E41-1 (MOR-) - Body ground | Ignition switch ON | Below 1 V |
| E41-2 (MOR+) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

| | |
|---|---|
| B | REPLACE SEAT BELT CONTROL ECU (Click here) |
| C | Go to step 2 |

A

REPLACE SEAT BELT CONTROL ECU (Click here)

## 2.CHECK HARNESS AND CONNECTOR (FRONT SEAT OUTER BELT - SEAT BELT CONTROL ECU)

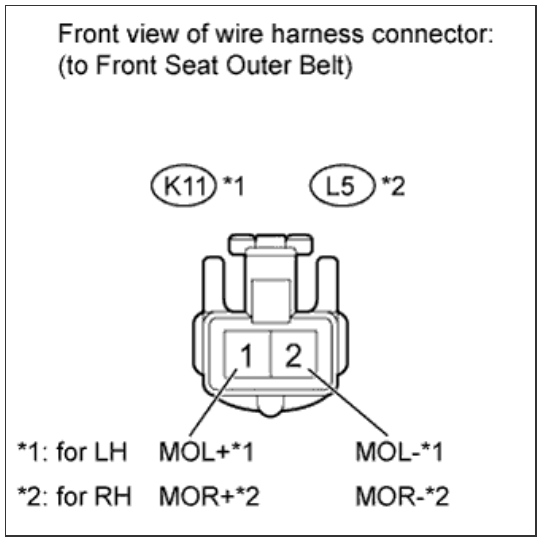
a. Disconnect the E41 seat belt control ECU connector.

b. Disconnect the K11*1 or L5*2 front seat outer belt connector.

**HINT:**

- ***1: for LH**
- ***2: for RH**

c. Measure the voltage according to the value(s) in the table below.




**Standard Voltage :**

**for LH**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K11-1 (MOL+) - Body ground | Ignition switch ON | Below 1 V |
| K11-2 (MOL-) - Body ground | | |

**for RH**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L5-1 (MOR+) - Body ground | Ignition switch ON | Below 1 V |
| L5-2 (MOR-) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for DTC B2000) | A |
| OK (for DTC B2005) | B |
| NG | C |

B → REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH ( Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A → REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B2000 Short to B+ in Seat Belt Motor RH Circuit

## DTC B2005 Short to B+ in Seat Belt Motor LH Circuit

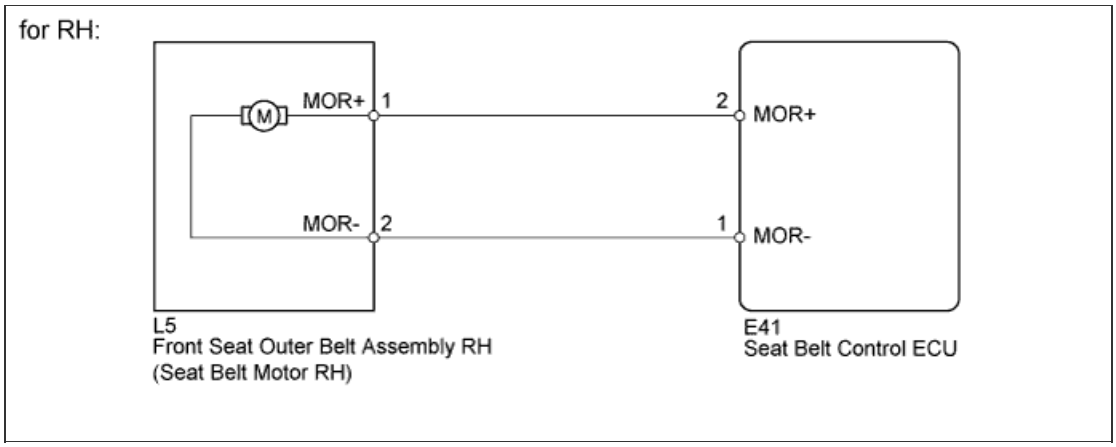
**for Preparation** Click here

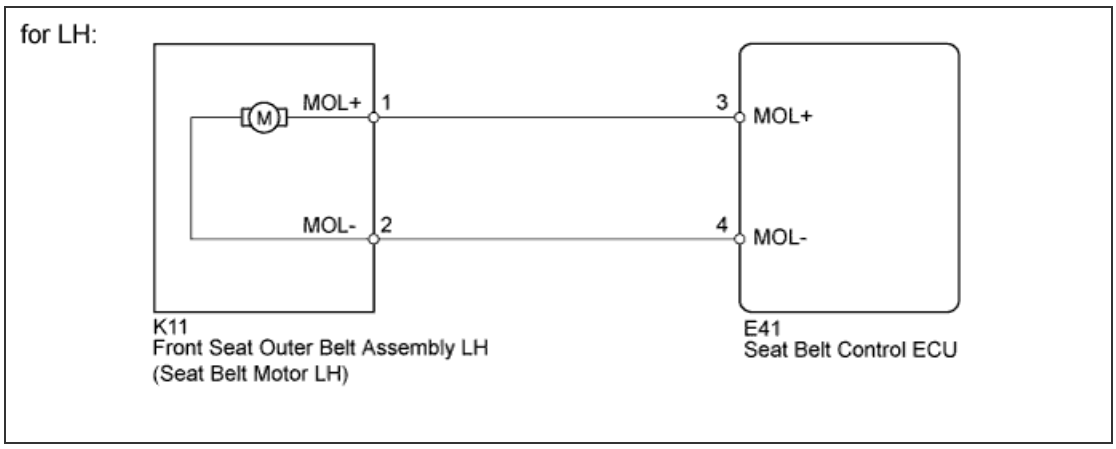
### DESCRIPTION

The seat belt control ECU receives information from the master cylinder solenoid (skid control ECU) via the CAN communication line and tightens the seat belt by operating the motor in the front seat outer belt assembly RH or LH.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2000 | • Short to B+ in the seat belt motor RH circuit continues for 1 second or more.<br>• Short in the seat belt motor RH circuit. | • Front seat outer belt assembly RH<br>• Harness or connector<br>• Seat belt control ECU |
| B2005 | • Short to B+ in the seat belt motor LH circuit continues for 1 second or more.<br>• Short in the seat belt motor LH circuit. | • Front seat outer belt assembly LH<br>• Harness or connector<br>• Seat belt control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

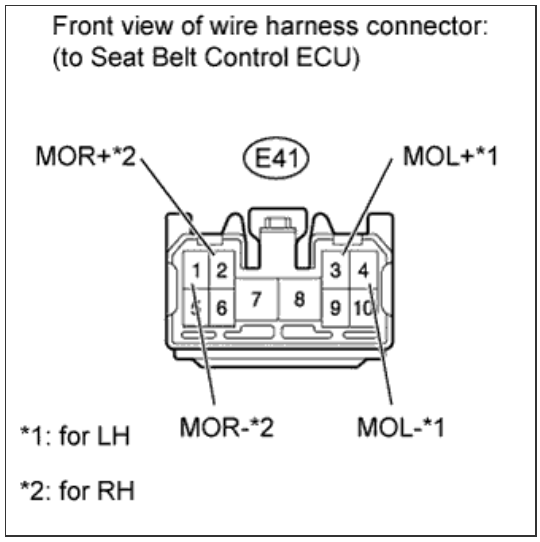
**CAUTION:**

The pretensioner is built into the front seat outer belt assembly. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may deploy the pretensioner.

#### 1.CHECK SEAT BELT CONTROL ECU

a. Disconnect the E41 seat belt control ECU connector.

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**for LH**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E41-3 (MOL+) - Body ground | Ignition switch ON | Below 1 V |
| E41-4 (MOL-) - Body ground | | |

**for RH**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E41-1 (MOR-) - Body ground | Ignition switch ON | Below 1 V |
| E41-2 (MOR+) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

| | |
|---|---|
| B | REPLACE SEAT BELT CONTROL ECU (Click here) |
| C | Go to step 2 |

A

REPLACE SEAT BELT CONTROL ECU (Click here)

## 2.CHECK HARNESS AND CONNECTOR (FRONT SEAT OUTER BELT - SEAT BELT CONTROL ECU)

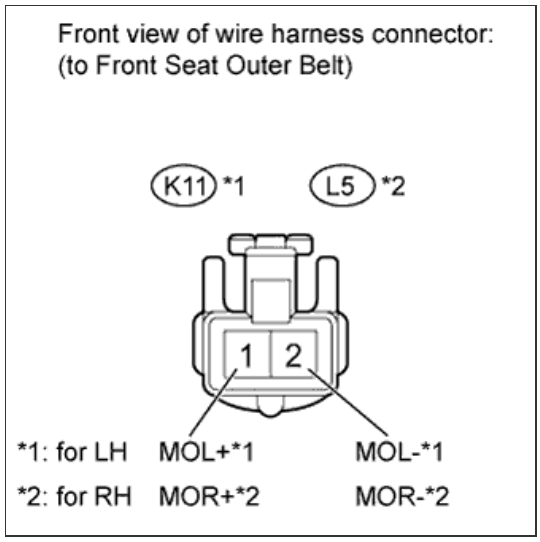
a. Disconnect the E41 seat belt control ECU connector.

b. Disconnect the K11*1 or L5*2 front seat outer belt connector.

**HINT:**

- ***1: for LH**
- ***2: for RH**

c. Measure the voltage according to the value(s) in the table below.




**Standard Voltage :**

**for LH**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K11-1 (MOL+) - Body ground | Ignition switch ON | Below 1 V |
| K11-2 (MOL-) - Body ground | | |

**for RH**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L5-1 (MOR+) - Body ground | Ignition switch ON | Below 1 V |
| L5-2 (MOR-) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for DTC B2000) | A |
| OK (for DTC B2005) | B |
| NG | C |

B → REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH ( Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A → REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B2001 Short to GND in Seat Belt Motor RH Circuit

## DTC B2006 Short to GND in Seat Belt Motor LH Circuit

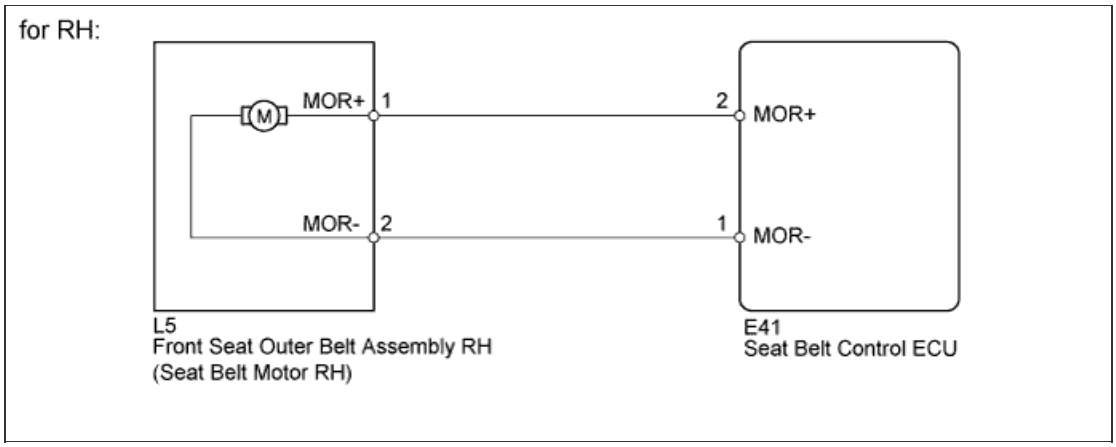
**for Preparation** Click here

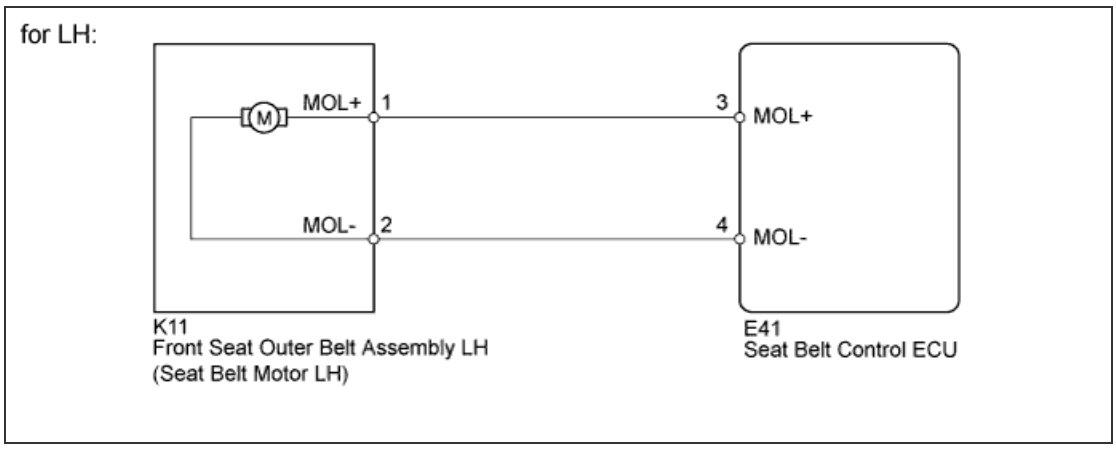
### DESCRIPTION

The seat belt control ECU receives information from the master cylinder solenoid (skid control ECU) via the CAN communication line and tightens the seat belt by operating the motor in the front seat outer belt assembly RH or LH.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2001 | • Short to ground in seat belt motor RH circuit continues for 1 second or more.<br>• Short in seat belt motor RH circuit. | • Front seat outer belt assembly RH<br>• Harness or connector<br>• Seat belt control ECU |
| B2006 | • Short to ground in seat belt motor LH circuit continues for 1 second or more.<br>• Short in seat belt motor LH circuit. | • Front seat outer belt assembly LH<br>• Harness or connector<br>• Seat belt control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

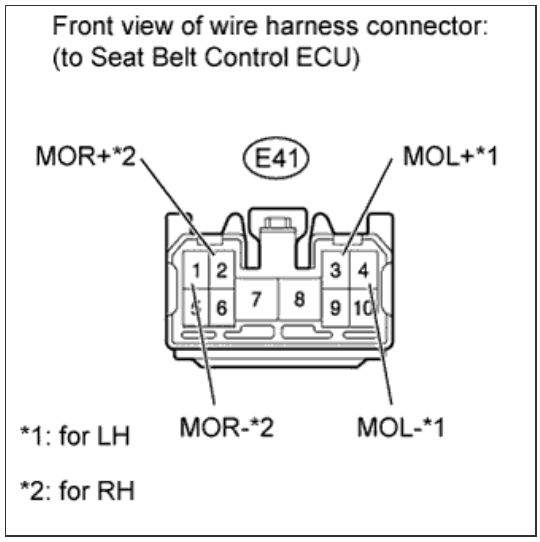
**CAUTION:**

The pretensioner is built into the front seat outer belt assembly. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may deploy the pretensioner.

#### 1.CHECK SEAT BELT CONTROL ECU

a. Disconnect the E41 seat belt control ECU connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-3 (MOL+) - Body ground | Always | 1 MΩ or higher |
| E41-4 (MOL-) - Body ground | | |

**for RH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-1 (MOR-) - Body ground | Always | 1 MΩ or higher |
| E41-2 (MOR+) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → Go to step 2

A

REPLACE SEAT BELT CONTROL ECU (Click here)

## 2.CHECK HARNESS AND CONNECTOR (FRONT SEAT OUTER BELT - SEAT BELT CONTROL ECU)

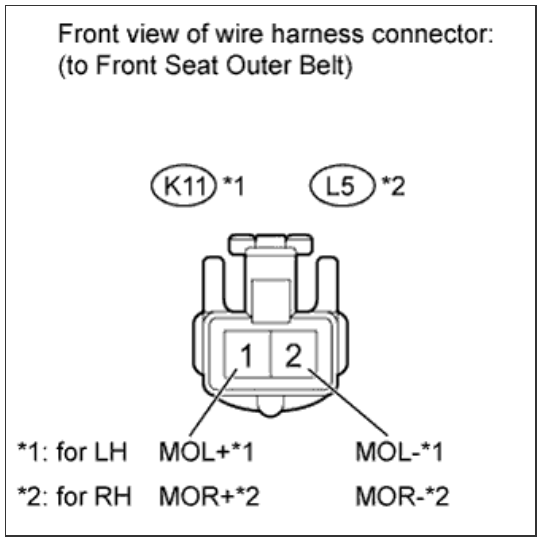
a. Disconnect the E41 seat belt control ECU connector.

b. Disconnect the K11*1 or L5*2 front seat outer belt connector.

**HINT:**

- ***1: for LH**
- ***2: for RH**

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K11-1 (MOL+) - Body ground | Always | 1 MΩ or higher |
| K11-2 (MOL-) - Body ground | | |

**for RH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L5-1 (MOR+) - Body ground | Always | 1 MΩ or higher |
| L5-2 (MOR-) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for DTC B2001) | A |
| OK (for DTC B2006) | B |
| NG | C |

B → REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH ( Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A → REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

# DTC B2036 Power Supply Relay Malfunction Open

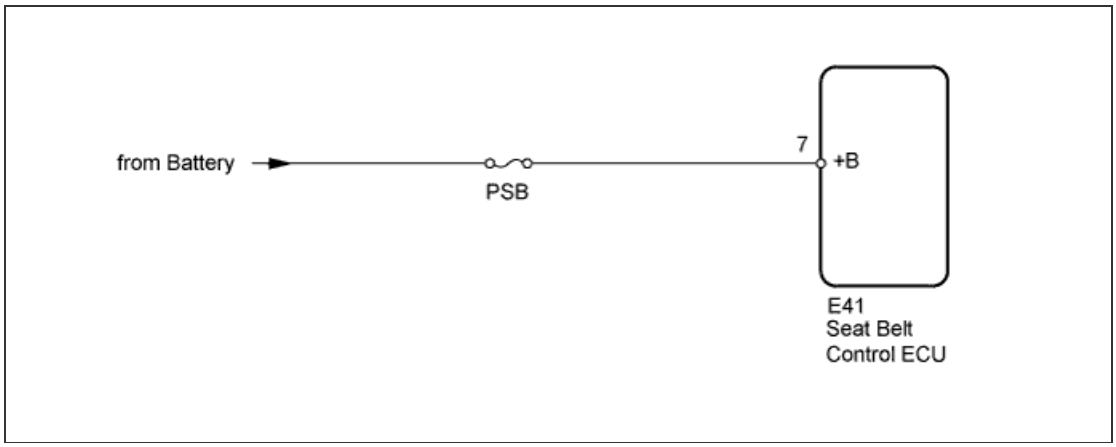
**for Preparation** Click here

## DESCRIPTION

If the seat belt control ECU judges that there is a malfunction in its internal circuit as a result of self-diagnosis, or if the power source voltage (+B) is not input to the seat belt control ECU, this DTC will be stored.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2036 | • Malfunction in seat belt control ECU<br>• Power source voltage (+B) is not input to the seat belt control ECU. | • Harness or connector<br>• Fuse<br>• Seat belt control ECU |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**CAUTION:**

The pretensioner is built into the front seat outer belt assembly. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may deploy the pretensioner.

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

### 1.INSPECT SEAT BELT CONTROL ECU (+B TERMINAL VOLTAGE)

a. Disconnect the negative (-) battery terminal.

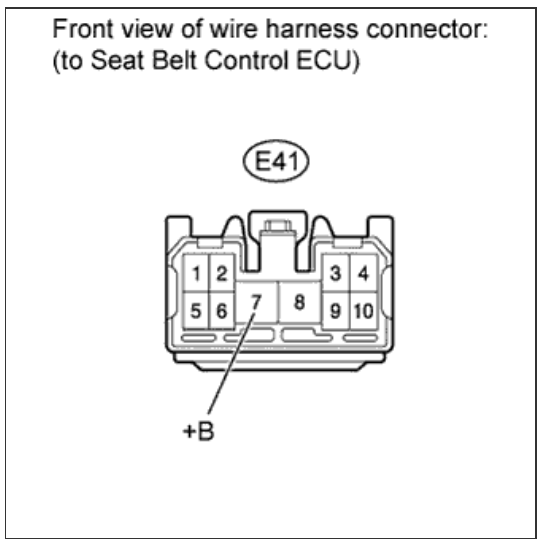
**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

b. Disconnect the E41 connector of the seat belt control ECU.

c. Connect the negative (-) battery terminal.

d. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-7 (+B) - Body ground | Always | 11 to 14 V |

**Result**

| Result | Proceed to |
|---|---|
| OK | |

| | |
|---|---|
| (for LHD) | A |
| OK<br>(for RHD) | B |
| NG | C |

e. Disconnect the negative (-) battery terminal.

f. Reconnect the E41 seat belt control ECU connector.

g. Connect the negative (-) battery terminal.

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

REPLACE SEAT BELT CONTROL ECU (Click here)

## DTC B2001 Short to GND in Seat Belt Motor RH Circuit

## DTC B2006 Short to GND in Seat Belt Motor LH Circuit

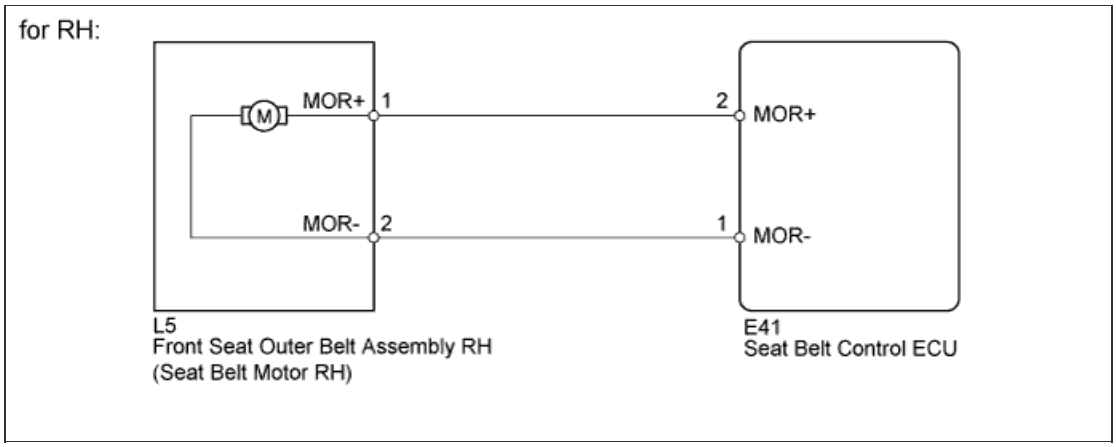
**for Preparation** Click here

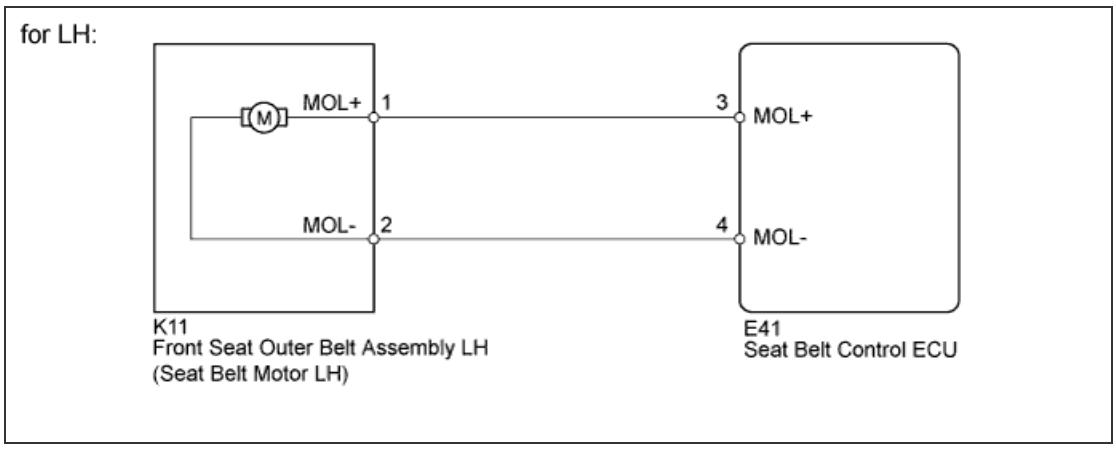
### DESCRIPTION

The seat belt control ECU receives information from the master cylinder solenoid (skid control ECU) via the CAN communication line and tightens the seat belt by operating the motor in the front seat outer belt assembly RH or LH.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2001 | • Short to ground in seat belt motor RH circuit continues for 1 second or more.<br>• Short in seat belt motor RH circuit. | • Front seat outer belt assembly RH<br>• Harness or connector<br>• Seat belt control ECU |
| B2006 | • Short to ground in seat belt motor LH circuit continues for 1 second or more.<br>• Short in seat belt motor LH circuit. | • Front seat outer belt assembly LH<br>• Harness or connector<br>• Seat belt control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

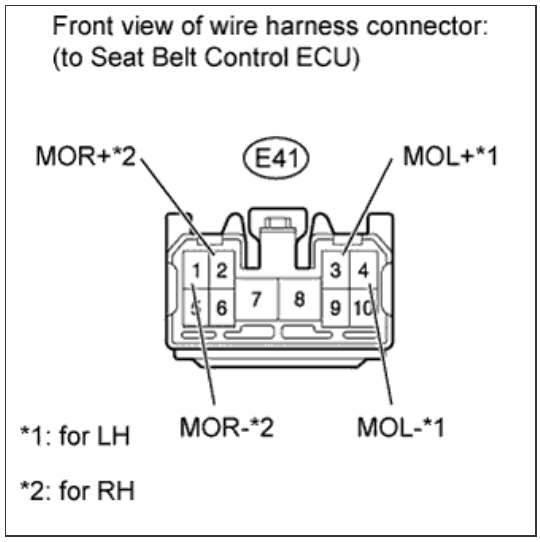
**CAUTION:**

The pretensioner is built into the front seat outer belt assembly. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may deploy the pretensioner.

#### 1.CHECK SEAT BELT CONTROL ECU

a. Disconnect the E41 seat belt control ECU connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-3 (MOL+) - Body ground | Always | 1 MΩ or higher |
| E41-4 (MOL-) - Body ground | | |

**for RH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-1 (MOR-) - Body ground | Always | 1 MΩ or higher |
| E41-2 (MOR+) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → Go to step 2

A

REPLACE SEAT BELT CONTROL ECU (Click here)

## 2.CHECK HARNESS AND CONNECTOR (FRONT SEAT OUTER BELT - SEAT BELT CONTROL ECU)

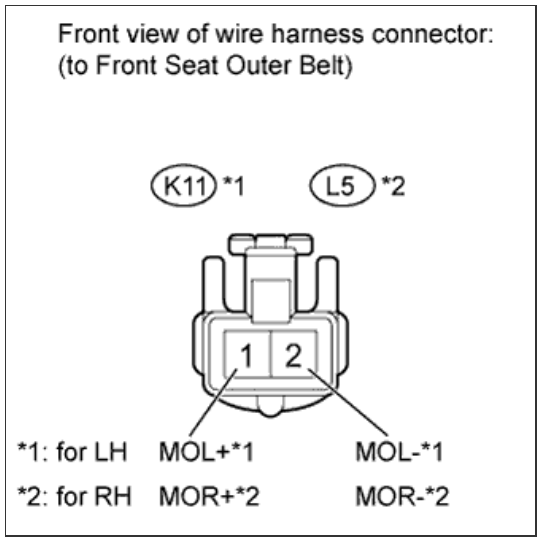
a. Disconnect the E41 seat belt control ECU connector.

b. Disconnect the K11*1 or L5*2 front seat outer belt connector.

**HINT:**

- ***1: for LH**
- ***2: for RH**

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K11-1 (MOL+) - Body ground | Always | 1 MΩ or higher |
| K11-2 (MOL-) - Body ground | | |

**for RH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L5-1 (MOR+) - Body ground | Always | 1 MΩ or higher |
| L5-2 (MOR-) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for DTC B2001) | A |
| OK (for DTC B2006) | B |
| NG | C |

B → REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH ( Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A → REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

# DTC B2055 Radar Sensor Malfunction

**for Preparation** Click here

## DESCRIPTION

This DTC is stored when there is a malfunction in the communication from the millimeter wave radar sensor. This DTC is also stored when the vehicle information sent from the millimeter wave radar sensor is abnormal.
In these cases, perform initialization so that the millimeter wave radar sensor recognizes the vehicle information.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2055 | There is a malfunction in the millimeter wave radar sensor or there is a problem with the initialization. | • Millimeter wave radar sensor<br>• Seat belt control ECU<br>• Distance control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (DYNAMIC RADAR CRUISE CONTROL SYSTEM)

a. Using the intelligent tester, enter the following menus: Powertrain / Radar Cruise / Trouble Code.

b. Clear the DTC (Click here).

c. Perform the following to make sure the DTC detection conditions are met.

**HINT:**

If the detection conditions are not met, the system cannot detect the malfunction.

i. Drive the vehicle at a speed of 40 km/h (25 mph) or more.

ii. Turn the cruise control main switch on to set the vehicle-to-vehicle distance control mode to the standby state.

d. Check for DTCs (Click here).

**OK:**
**DTC P1570 is not output.**

NG → GO TO DYNAMIC RADAR CRUISE CONTROL SYSTEM (Click here)

OK

### 2.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC B2055 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B2002 Open in Seat Belt Motor RH Circuit

## DTC B2007 Open in Seat Belt Motor LH Circuit

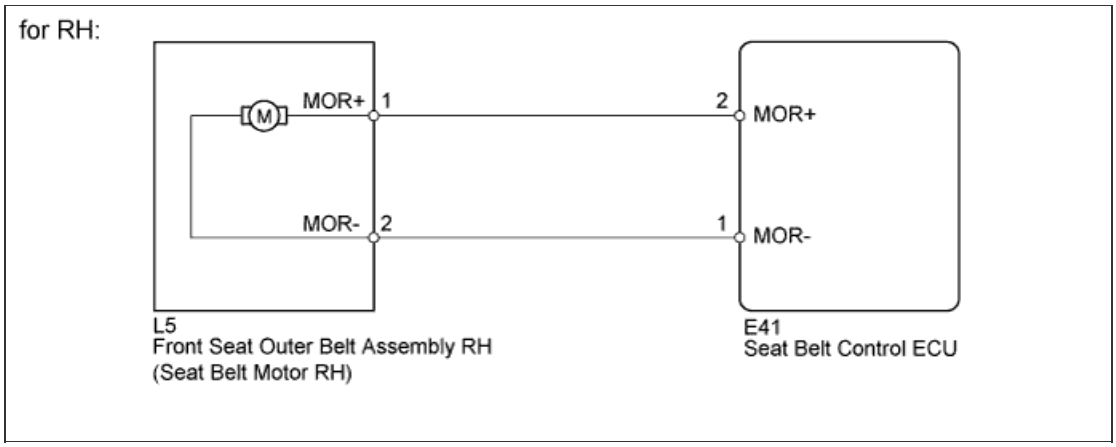
**for Preparation** Click here

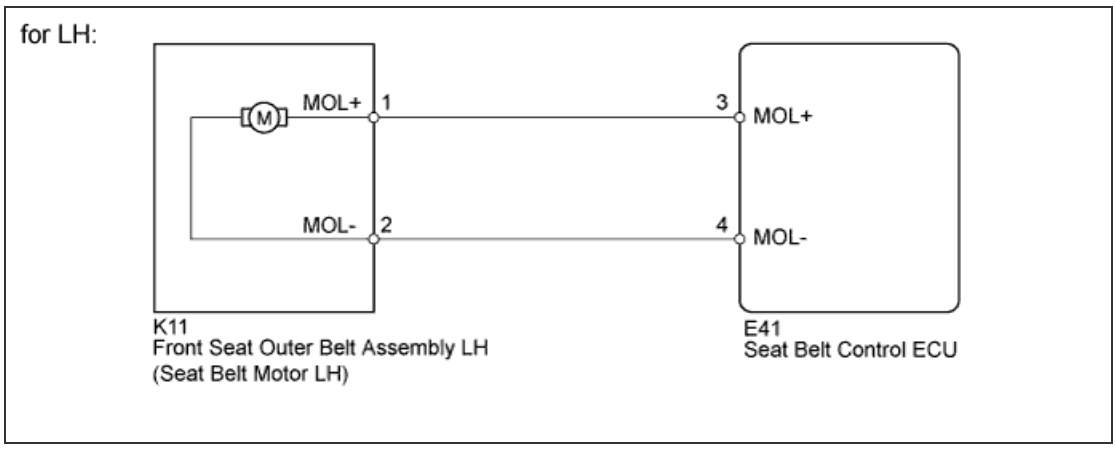
### DESCRIPTION

The seat belt control ECU receives information from the master cylinder solenoid (skid control ECU) via the CAN communication line and tightens the seat belt by operating the motor in the front seat outer belt assembly RH or LH.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2002 | Open in the seat belt motor RH circuit continues for 1 second or more. | • Front seat outer belt assembly RH<br>• Harness or connector<br>• Seat belt control ECU |
| B2007 | Open in the seat belt motor LH circuit continues for 1 second or more. | • Front seat outer belt assembly LH<br>• Harness or connector<br>• Seat belt control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

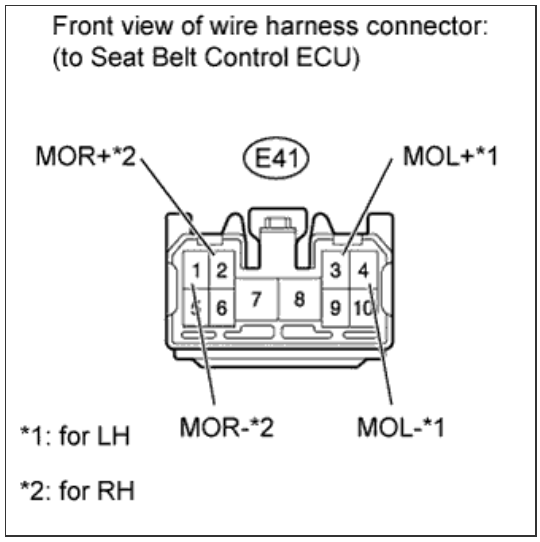
**CAUTION:**

The pretensioner is built into the front seat outer belt assembly. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may deploy the pretensioner.

#### 1.INSPECT SEAT BELT CONTROL ECU

a. Disconnect the E41 seat belt control ECU connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-3 (MOL+) - E41-4 (MOL-) | Always | Below 100 Ω |

**for RH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-1 (MOR-) - E41-2 (MOR+) | Always | Below 100 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → Go to step 2

A

REPLACE SEAT BELT CONTROL ECU (Click here)

## 2.CHECK HARNESS AND CONNECTOR (FRONT SEAT OUTER BELT - SEAT BELT CONTROL ECU)

a. Disconnect the E41 seat belt control ECU connector.

b. Disconnect the K11*1 or L5*2 front seat outer belt connector.

**HINT:**

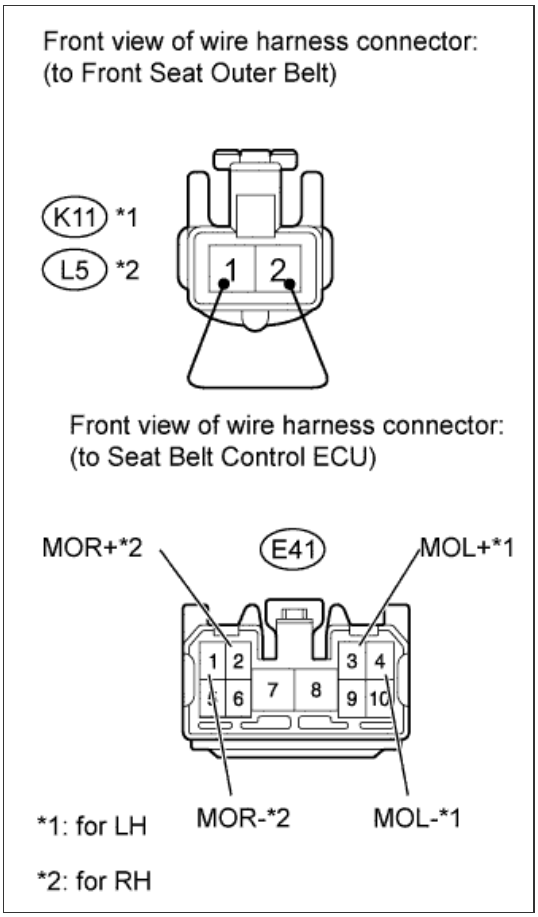
- ***1: for LH**
- ***2: for RH**

c. Using a service wire, connect K11-1*1 and K11-2*1 or L5-1*2 and L5-2*2 of the connector on the front seat outer belt assembly.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector.

d. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-3 (MOL+) - E41-4 (MOL-) | Always | Below 1 Ω |

**for RH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-1 (MOR-) - E41-2 (MOR+) | Always | Below 1 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK (for DTC B2002) | A |
| OK (for DTC B2007) | B |
| NG | C |

B → REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH ( Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A → REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

# DTC B2056 Axial Gap of Radar Sensor

**for Preparation** Click here

## DESCRIPTION

This DTC is stored when the beam axis of the millimeter wave radar sensor is not aligned with the direction the vehicle is traveling. If the beam axis adjustment is not performed after installing a new millimeter wave radar sensor, the pre-crash safety system DTC B2056 is output, and when the vehicle speed is 40 km/h (25 mph) or more, the dynamic radar cruise control system DTC P1572 is output.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2056 | The engine switch is on (IG) and the beam axis of the millimeter wave radar sensor is determined to be misaligned. | • Millimeter wave radar sensor<br>• Seat belt control ECU<br>• Distance control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (DYNAMIC RADAR CRUISE CONTROL SYSTEM)

a. Using the intelligent tester, enter the following menus: Powertrain / Radar Cruise / Trouble Code.

b. Clear the DTC (Click here).

c. Perform the following to make sure the DTC detection conditions are met.

**HINT:**

If the detection conditions are not met, the system cannot detect the malfunction.

i. Drive the vehicle at a speed of 40 km/h (25 mph) or more.

ii. Turn the cruise control main switch on to set the vehicle-to-vehicle distance control mode to the standby state.

d. Check for DTCs (Click here).

**OK:**
**DTC P1572 is not output.**

NG → GO TO DYNAMIC RADAR CRUISE CONTROL SYSTEM (Click here)

OK

### 2.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC B2056 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B2002 Open in Seat Belt Motor RH Circuit

## DTC B2007 Open in Seat Belt Motor LH Circuit

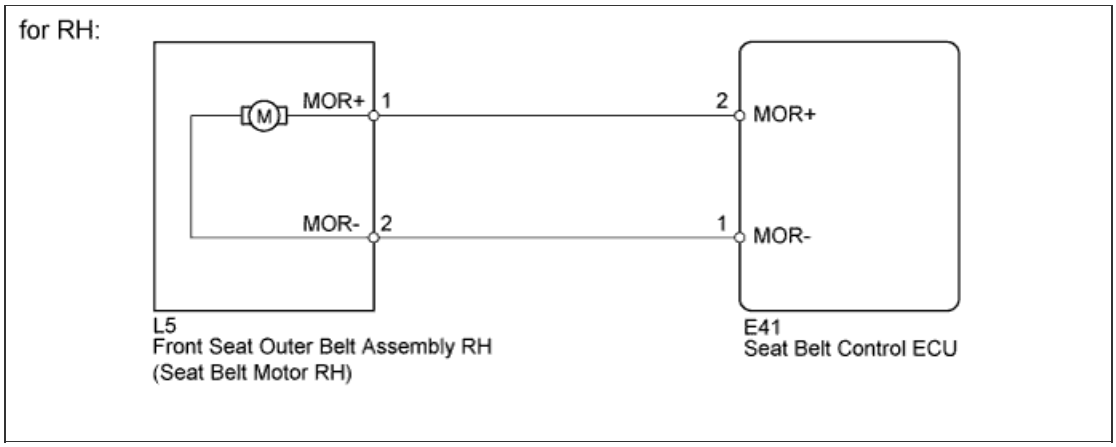
**for Preparation** Click here

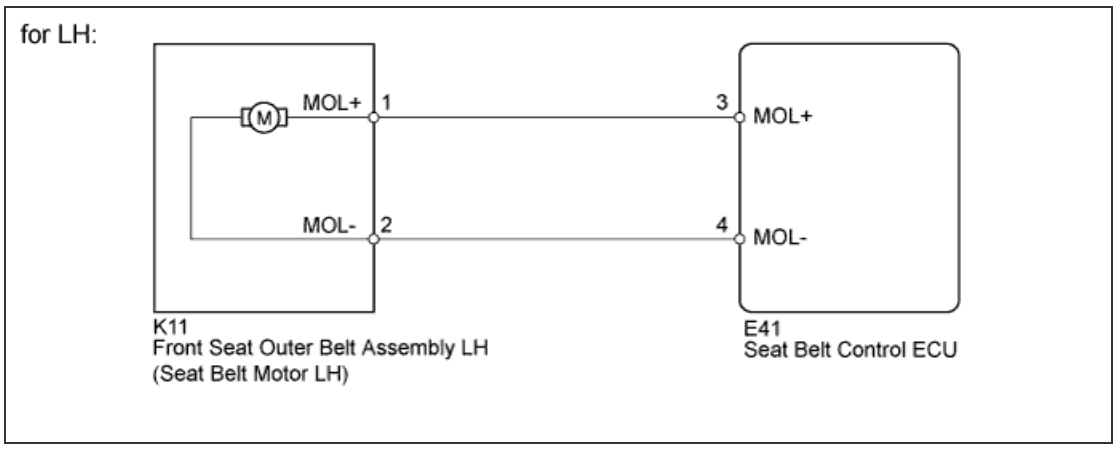
### DESCRIPTION

The seat belt control ECU receives information from the master cylinder solenoid (skid control ECU) via the CAN communication line and tightens the seat belt by operating the motor in the front seat outer belt assembly RH or LH.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2002 | Open in the seat belt motor RH circuit continues for 1 second or more. | • Front seat outer belt assembly RH<br>• Harness or connector<br>• Seat belt control ECU |
| B2007 | Open in the seat belt motor LH circuit continues for 1 second or more. | • Front seat outer belt assembly LH<br>• Harness or connector<br>• Seat belt control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

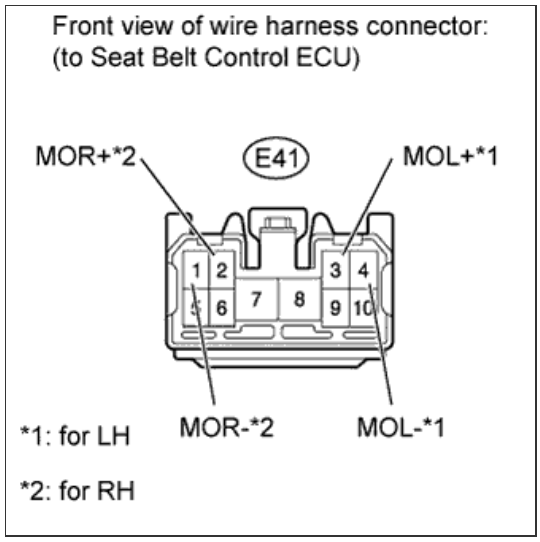
**CAUTION:**

The pretensioner is built into the front seat outer belt assembly. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may deploy the pretensioner.

#### 1.INSPECT SEAT BELT CONTROL ECU

a. Disconnect the E41 seat belt control ECU connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-3 (MOL+) - E41-4 (MOL-) | Always | Below 100 Ω |

**for RH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-1 (MOR-) - E41-2 (MOR+) | Always | Below 100 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → Go to step 2

A

REPLACE SEAT BELT CONTROL ECU (Click here)

## 2.CHECK HARNESS AND CONNECTOR (FRONT SEAT OUTER BELT - SEAT BELT CONTROL ECU)

a. Disconnect the E41 seat belt control ECU connector.

b. Disconnect the K11*1 or L5*2 front seat outer belt connector.

**HINT:**

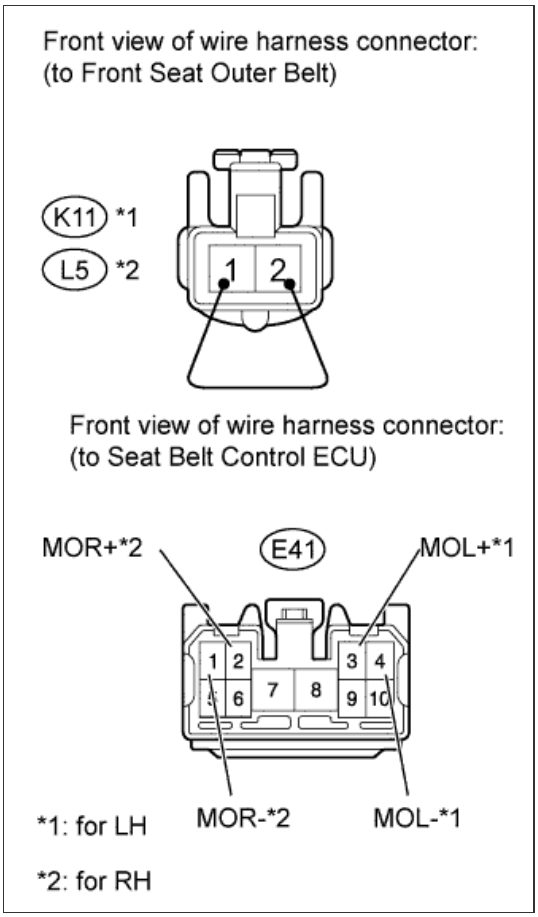
- ***1: for LH**
- ***2: for RH**

c. Using a service wire, connect K11-1*1 and K11-2*1 or L5-1*2 and L5-2*2 of the connector on the front seat outer belt assembly.

**NOTICE:**

Do not forcibly insert the service wire into the terminals of the connector.

d. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-3 (MOL+) - E41-4 (MOL-) | Always | Below 1 Ω |

**for RH**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-1 (MOR-) - E41-2 (MOR+) | Always | Below 1 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK (for DTC B2002) | A |
| OK (for DTC B2007) | B |
| NG | C |

B → REPLACE FRONT SEAT OUTER BELT ASSEMBLY LH ( Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A → REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH ( Click here)

## DTC B2057 Yaw Rate Sensor

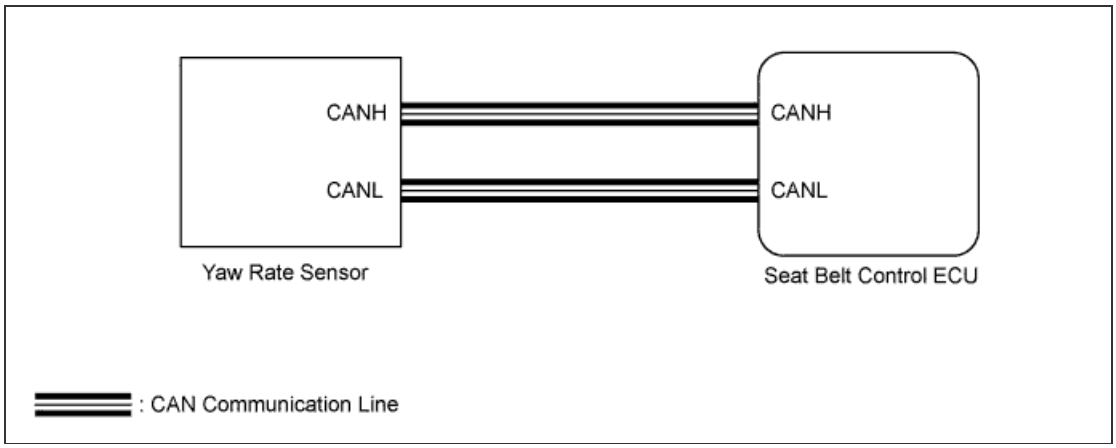
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when the vehicle is driven at a vehicle speed of 5 km/h (3 mph) or more and a malfunction occurs in the yaw rate sensor.
This circuit consists of the yaw rate sensor and seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2057 | The vehicle speed is 5 km/h (3 mph) or more and a malfunction is detected in the yaw rate sensor. | • Yaw rate sensor<br>• Seat belt control ECU<br>• Distance control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.CHECK DTC (VEHICLE STABILITY CONTROL SYSTEM)

a. Using the intelligent tester, enter the following menus: Chassis / ABS/VSC/TRAC / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**OK:**
**DTC C1234 is not output.**

**NG** → GO TO VEHICLE STABILITY CONTROL SYSTEM (Click here)

**OK**

#### 2.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC B2057 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B2058 Steering Angle Sensor

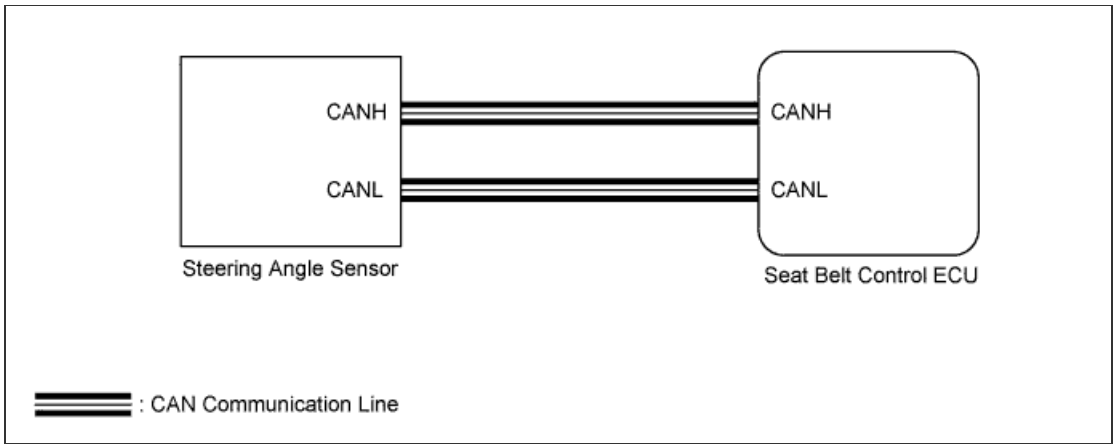
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when a malfunction occurs in the steering angle sensor.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2058 | The vehicle speed is 50 km/h (31 mph) or more and a malfunction is detected in the steering angle sensor. | • Steering angle sensor<br>• Seat belt control ECU<br>• Distance control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK DTC (CAN COMMUNICATION SYSTEM)**

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC U0126 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**2.CHECK DTC (PRE-CRASH SAFETY SYSTEM)**

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC B2058 is not output) | A |
| NG<br>(for LHD) | B |

| | |
|---|---|
| NG<br>(for RHD) | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B2059 Vehicle Speed Malfunction

**for Preparation** Click here

### DESCRIPTION

The seat belt control ECU receives vehicle speed information from the ECM and master cylinder solenoid (skid control ECU) via CAN communication.
The ECM receives vehicle speed information from the master cylinder solenoid (skid control ECU) through the combination meter.
This DTC is stored when there is a difference in the vehicle speed information from the ECM and master cylinder solenoid (skid control ECU).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2059 | The vehicle speed information from the ECM and the vehicle speed information from the master cylinder solenoid (skid control ECU) are different. | • Combination meter<br>• ECM<br>• Master cylinder solenoid (skid control ECU)<br>• Seat belt control ECU<br>• Distance control ECU |

### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (VEHICLE SPEED)

a. Using the intelligent tester, enter the following menus: Body / Combination Meter / Data List.

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Vehicle Speed Meter | Vehicle speed/ Min.: 0 km/h (0 mph) Max.: 255 km/h (158 mph) | Almost same as actual speed (when driving) | The speed is indicated on the speedometer. |

b. Read the value displayed on the intelligent tester.

**OK:**
**Vehicle speed displayed on the intelligent tester is almost the same as actual vehicle speed measured using speedometer tester (calibrated chassis dynamometer).**

NG → REPLACE COMBINATION METER (Click here)

OK

#### 2.CHECK DTC (MALFUNCTION IN CAN COMMUNICATION SYSTEM WITH ECM)

a. Using the intelligent tester, clear the DTCs (Click here).

b. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| CAN communication system DTCs (U0073, U0100, U0122, U0126) are output (for LHD) | B |
| CAN communication system DTCs (U0073, U0100, U0122, U0126) are output (for RHD) | C |
| Pre-crash safety system DTC B2059 is output (for LHD) | D |
| Pre-crash safety system DTC B2059 is output (for RHD) | E |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C

GO TO CAN COMMUNICATION SYSTEM (Click here)

D

REPLACE SEAT BELT CONTROL ECU (Click here)

E

REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B2060 ABS Malfunction

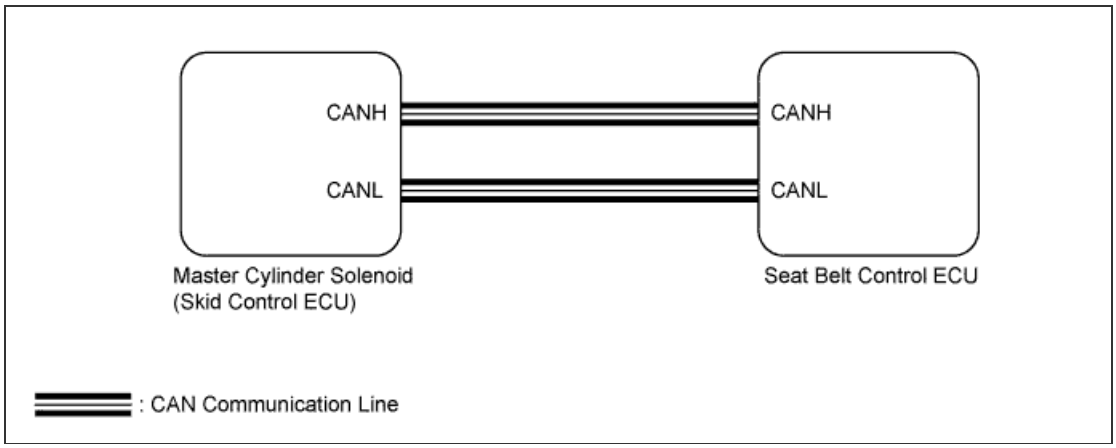
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when a malfunction in the vehicle stability control system is detected. This circuit consists of the master cylinder solenoid (skid control ECU) and seat belt control ECU. Signals are sent from the master cylinder solenoid (skid control ECU) via the CAN communication line.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2060 | Malfunction in the brake system is detected. | • CAN communication system<br>• Vehicle stability control system<br>• Seat belt control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.CHECK DTC (CAN COMMUNICATION SYSTEM)

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC U0122 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

**HINT:**

DTC U0122: Lost Communication with Skid Control ECU

**B** → GO TO CAN COMMUNICATION SYSTEM (**Click here**)

**C** → GO TO CAN COMMUNICATION SYSTEM (**Click here**)

**A**

#### 2.CHECK DTC (VEHICLE STABILITY CONTROL SYSTEM)

a. Using the intelligent tester, enter the following menus: Chassis / ABS/VSC/TRAC / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**OK:**

**DTC is not output.**

NG → GO TO VEHICLE STABILITY CONTROL SYSTEM (DTC CHART) (Click here)

OK

3.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC B2060 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

# DTC B2070 VSC Buzzer

**for Preparation** Click here

## DESCRIPTION

When the master cylinder solenoid (skid control ECU) detects a malfunction in the VSC warning buzzer circuit, a malfunction signal is sent to the seat belt control ECU, and this DTC is stored.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2070 | While the ignition switch is ON, the skid control ECU buzzer circuit malfunction signal is received by the seat belt control ECU. | • Vehicle stability control system<br>• Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (BUZZER)

a. Using the intelligent tester, enter the following menus: Chassis / ABS/VSC/TRAC / Active Test.

**ABS/VSC/TRAC**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Buzzer | Skid control buzzer sounds | OFF or ON | - |

**OK:**

**Skid control buzzer sounds.**

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(for LHD) | A |
| OK<br>(for RHD) | B |
| NG | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → GO TO VEHICLE STABILITY CONTROL SYSTEM (Skid Control Buzzer Circuit) (Click here)

A

REPLACE SEAT BELT CONTROL ECU (Click here)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC B2071 Stop Light Control Relay Malfunction

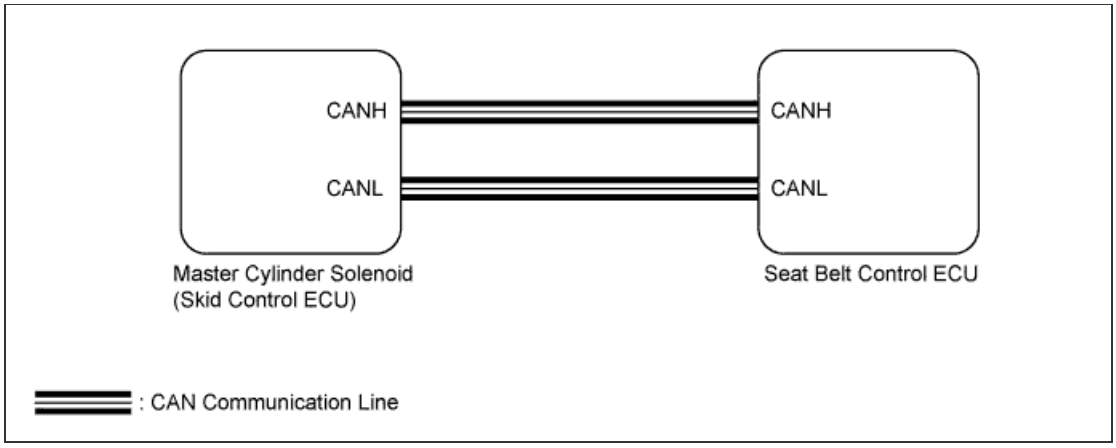
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when a malfunction in the stop light operation relay circuit of the vehicle stability control system is detected. This circuit consists of the master cylinder solenoid (skid control ECU) and seat belt control ECU. Signals are sent from the master cylinder solenoid (skid control ECU) via the CAN communication line.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2071 | Malfunction in the brake system is detected. | • CAN communication system<br>• Vehicle stability control system<br>• Seat belt control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK DTC (CAN COMMUNICATION SYSTEM)**

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC U0122 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

**HINT:**

DTC U0122: Lost Communication with Skid Control ECU

**B** → GO TO CAN COMMUNICATION SYSTEM (**Click here**)

**C** → GO TO CAN COMMUNICATION SYSTEM (**Click here**)

**A**

**2.CHECK DTC (VEHICLE STABILITY CONTROL SYSTEM)**

a. Using the intelligent tester, enter the following menus: Chassis / ABS/VSC/TRAC / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**OK:**

**DTC C1380 is not output.**

**HINT:**

DTC C1380: Stop Light Control Relay Malfunction

**NG** → **GO TO VEHICLE STABILITY CONTROL SYSTEM (DTC C1380) (Click here)**

**OK**

**3.CHECK DTC (PRE-CRASH SAFETY SYSTEM)**

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC B2071 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

**B** → **REPLACE SEAT BELT CONTROL ECU (Click here)**

**C** → **REPLACE SEAT BELT CONTROL ECU (Click here)**

**A**

**USE SIMULATION METHOD TO CHECK (Click here)**

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

# DTC B2074 Driver Side Seat Belt Buckle Switch Circuit Malfunction

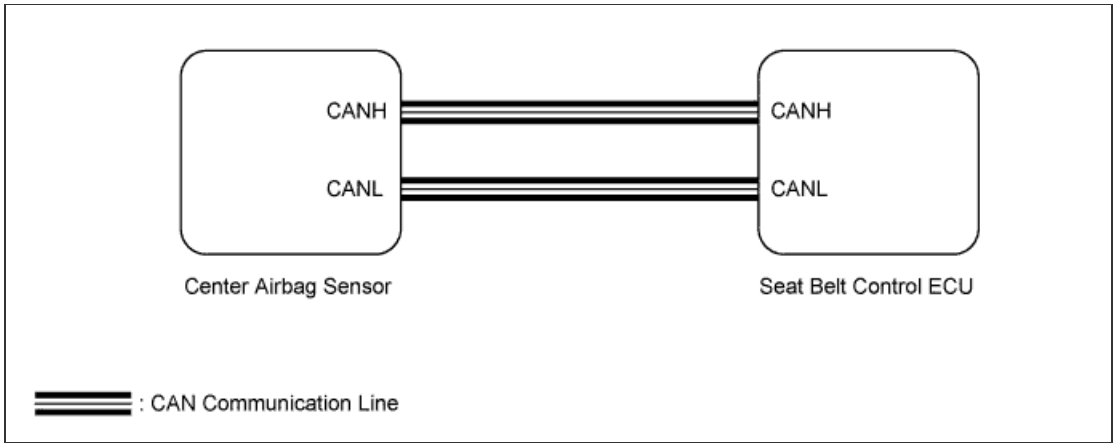
**for Preparation** Click here

## DESCRIPTION

This DTC is stored when there is a malfunction in the front seat inner belt buckle switch circuit for the driver side. The seat belt control ECU receives buckle switch condition information from the center airbag sensor via the CAN communication line and controls the pre-crash safety system.
When DTC B2074 is stored, DTC B1655 is also output.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2074 | Malfunction in the front seat inner belt (buckle switch) circuit. | • Front seat inner belt LH assembly<br>• Center airbag sensor<br>• Seat belt control ECU<br>• CAN communication system |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

If DTC B1655 is not cleared, DTC B2074 continues to be output.

### 1.CHECK DTC (CAN COMMUNICATION SYSTEM)

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC U0151 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

**HINT:**

DTC U0151: Lost Communication with Airbag ECU

B → GO TO CAN COMMUNICATION SYSTEM (DIAGNOSIS SYSTEM) (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (DIAGNOSIS SYSTEM) (Click here)

A

### 2.CHECK DTC (AIRBAG SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / SRS Airbag / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**OK:**
**DTC B1655 is not output.**

**HINT:**

DTC B1655: Driver Side Seat Belt Buckle Switch Circuit Malfunction

NG → GO TO AIRBAG SYSTEM (DTC B1655) (**Click here**)

OK

**3.CHECK DTC (PRE-CRASH SAFETY SYSTEM)**

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC B2074 is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → REPLACE SEAT BELT CONTROL ECU (**Click here**)

C → REPLACE SEAT BELT CONTROL ECU (**Click here**)

A

USE SIMULATION METHOD TO CHECK (**Click here**)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

# DTC B2075 Passenger Side Seat Belt Buckle Switch Circuit Malfunction

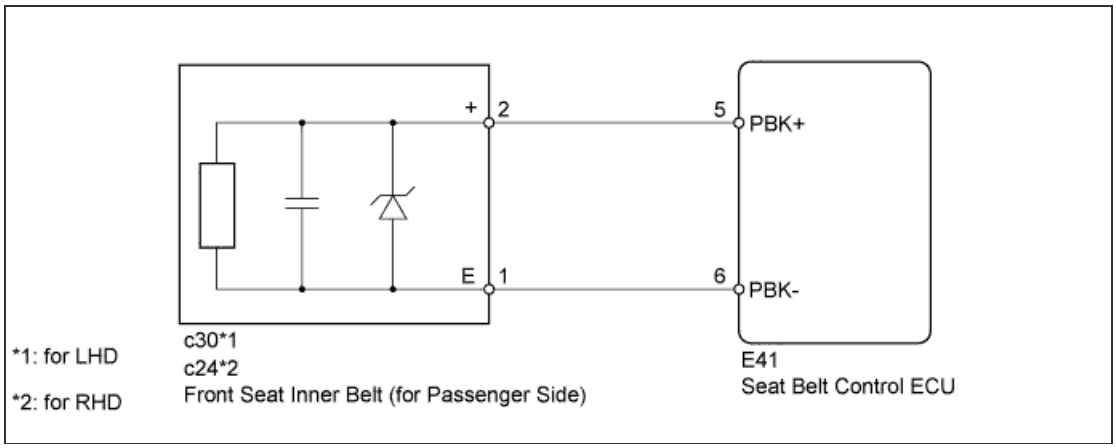
**for Preparation** Click here

## DESCRIPTION

This DTC is stored when there is a malfunction in the front seat inner belt buckle switch circuit for the passenger side.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2075 | Malfunction in the front seat inner belt (buckle switch) circuit. | • Harness or connector<br>• Front seat inner belt (for passenger side)<br>• Seat belt control ECU |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

**OK:**
**DTC B2075 is not output**

**NG** → **Go to step 2**

**OK**

### USE SIMULATION METHOD TO CHECK (Click here)

### 2.CHECK SEAT BELT CONTROL ECU

a. Reconnect the E41 seat belt control ECU connector.

b. Disconnect the c30*1 or c24*2 front seat inner belt connector.

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

c. Use an oscilloscope to check the waveform of the seat belt control ECU between the connector terminals.

**Measurement Condition**

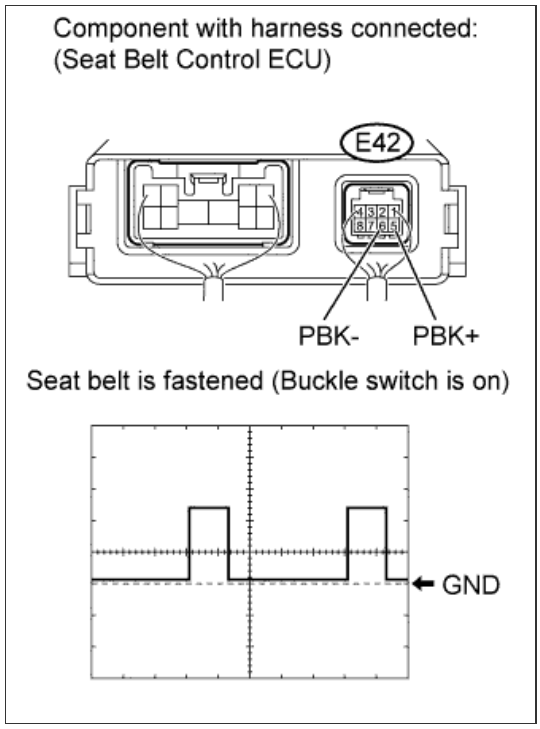
| | |
|---|---|
| Tester Connection | E41-5 (PBK+) - E41-6 (PBK-) |

| | |
|---|---|
| Tool Setting | 5 V/DIV., 20 ms./DIV. |
| Switch Condition | Ignition switch ON<br>Front passenger side seat belt unfastened (Buckle switch off) |
| | Ignition switch ON<br>Front passenger side seat belt fastened (Buckle switch on) |

**OK:**
**4.5 to 5.5 V**

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(for LHD) | A |
| OK<br>(for RHD) | B |
| NG | C |




| | |
|---|---|
| B | REPLACE SEAT BELT CONTROL ECU (Click here) |
| C | Go to step 3 |

A

REPLACE SEAT BELT CONTROL ECU (Click here)

## 3.CHECK HARNESS AND CONNECTOR (FRONT SEAT INNER BELT - SEAT BELT CONTROL ECU)

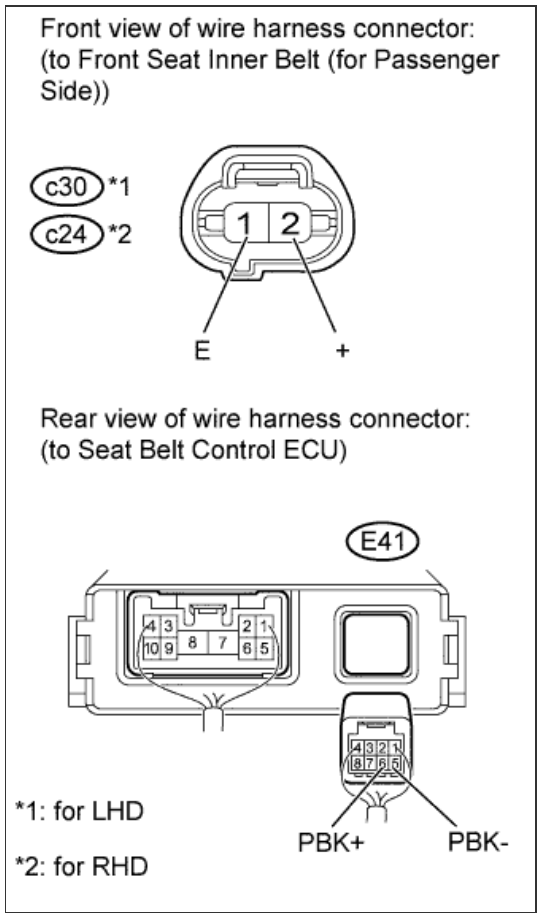
a. Disconnect the c30*1 or c24*2 front seat inner belt connector.

**HINT:**

- ***1: for LHD**
- ***2: for RHD**

b. Disconnect the E41 seat belt control ECU connector.

c. Measure the resistance according to the value(s) in the table below.



**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c30-2 (+) - E41-5 (PBK+) | Always | Below 1 Ω |
| c30-1 (E) - E41-6 (PBK-) | | |
| c30-2 (+) or E41-5 (PBK+) - Body ground | | 1 MΩ higher |
| c30-1 (E) or E41-6 (PBK-) - Body ground | | |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c24-2 (+) - E41-5 (PBK+) | Always | Below 1 Ω |
| c24-1 (E) - E41-6 (PBK-) | | |
| c24-2 (+) or E41-5 (PBK+) - Body ground | | 1 MΩ higher |
| c24-1 (E) or E41-6 (PBK-) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

B → REPLACE FRONT SEAT INNER BELT LH (for Passenger Side) (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

REPLACE FRONT SEAT INNER BELT RH (for Passenger Side) ( Click here)

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0122 Lost Communication with Vehicle Dynamics Control Module

## DTC U0151 Lost Communication with Airbag ECU

## DTC U1101 Lost Communication with Distance Control ECU

**for Preparation** Click here

### DESCRIPTION

The seat belt control ECU receives signals from the master cylinder solenoid (skid control ECU) and the center airbag sensor via the CAN communication line.
The distance control ECU receives signals from the ECM via the CAN communication line.

| DTC Code | DTC Detection Item | Inspection Area |
|---|---|---|
| U0100 | ECM communication error. | • CAN communication system<br>• Distance control ECU<br>• ECM |
| U0122 | Skid control ECU communication error. | • CAN communication system<br>• Master cylinder solenoid (skid control ECU)<br>• Seat belt control ECU |
| U0151 | Center airbag sensor communication error. | • CAN communication system<br>• Seat belt control ECU<br>• Center airbag sensor |
| U1101 | Distance control ECU communication error. | • CAN communication system<br>• Distance control ECU<br>• Seat belt control ECU |

### INSPECTION PROCEDURE

**HINT:**

When 2 or more DTCs starting with "U" are output simultaneously, inspect the connectors and wire harnesses of each ECU.

**1.CHECK DTC (CAN COMMUNICATION SYSTEM)**

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0122 Lost Communication with Vehicle Dynamics Control Module

## DTC U0151 Lost Communication with Airbag ECU

## DTC U1101 Lost Communication with Distance Control ECU

**for Preparation** Click here

### DESCRIPTION

The seat belt control ECU receives signals from the master cylinder solenoid (skid control ECU) and the center airbag sensor via the CAN communication line.
The distance control ECU receives signals from the ECM via the CAN communication line.

| DTC Code | DTC Detection Item | Inspection Area |
|---|---|---|
| U0100 | ECM communication error. | • CAN communication system<br>• Distance control ECU<br>• ECM |
| U0122 | Skid control ECU communication error. | • CAN communication system<br>• Master cylinder solenoid (skid control ECU)<br>• Seat belt control ECU |
| U0151 | Center airbag sensor communication error. | • CAN communication system<br>• Seat belt control ECU<br>• Center airbag sensor |
| U1101 | Distance control ECU communication error. | • CAN communication system<br>• Distance control ECU<br>• Seat belt control ECU |

### INSPECTION PROCEDURE

**HINT:**

When 2 or more DTCs starting with "U" are output simultaneously, inspect the connectors and wire harnesses of each ECU.

**1.CHECK DTC (CAN COMMUNICATION SYSTEM)**

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0122 Lost Communication with Vehicle Dynamics Control Module

## DTC U0151 Lost Communication with Airbag ECU

## DTC U1101 Lost Communication with Distance Control ECU

**for Preparation** Click here

### DESCRIPTION

The seat belt control ECU receives signals from the master cylinder solenoid (skid control ECU) and the center airbag sensor via the CAN communication line.
The distance control ECU receives signals from the ECM via the CAN communication line.

| DTC Code | DTC Detection Item | Inspection Area |
|---|---|---|
| U0100 | ECM communication error. | • CAN communication system<br>• Distance control ECU<br>• ECM |
| U0122 | Skid control ECU communication error. | • CAN communication system<br>• Master cylinder solenoid (skid control ECU)<br>• Seat belt control ECU |
| U0151 | Center airbag sensor communication error. | • CAN communication system<br>• Seat belt control ECU<br>• Center airbag sensor |
| U1101 | Distance control ECU communication error. | • CAN communication system<br>• Distance control ECU<br>• Seat belt control ECU |

### INSPECTION PROCEDURE

**HINT:**

When 2 or more DTCs starting with "U" are output simultaneously, inspect the connectors and wire harnesses of each ECU.

**1.CHECK DTC (CAN COMMUNICATION SYSTEM)**

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0122 Lost Communication with Vehicle Dynamics Control Module

## DTC U0151 Lost Communication with Airbag ECU

## DTC U1101 Lost Communication with Distance Control ECU

**for Preparation** Click here

### DESCRIPTION

The seat belt control ECU receives signals from the master cylinder solenoid (skid control ECU) and the center airbag sensor via the CAN communication line.
The distance control ECU receives signals from the ECM via the CAN communication line.

| DTC Code | DTC Detection Item | Inspection Area |
|---|---|---|
| U0100 | ECM communication error. | • CAN communication system<br>• Distance control ECU<br>• ECM |
| U0122 | Skid control ECU communication error. | • CAN communication system<br>• Master cylinder solenoid (skid control ECU)<br>• Seat belt control ECU |
| U0151 | Center airbag sensor communication error. | • CAN communication system<br>• Seat belt control ECU<br>• Center airbag sensor |
| U1101 | Distance control ECU communication error. | • CAN communication system<br>• Distance control ECU<br>• Seat belt control ECU |

### INSPECTION PROCEDURE

**HINT:**

When 2 or more DTCs starting with "U" are output simultaneously, inspect the connectors and wire harnesses of each ECU.

**1.CHECK DTC (CAN COMMUNICATION SYSTEM)**

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here for LHD, Click here for RHD).

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC U0235 Lost Communication with Cruise Control Front Distance Range Sensor

## DTC U1102 Lost Communication with Radar Sensor

**for Preparation** Click here

### DESCRIPTION

The millimeter wave radar sensor and the distance control ECU transmit the data for general vehicle control and diagnosis function via the CAN communication line.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0235 | The ECM detects a communication error signal sent from the millimeter wave radar sensor to the distance control ECU for 0.15 sec. or more while dynamic radar cruise control is in operation. | • CAN communication system<br>• Millimeter wave radar sensor<br>• Distance control ECU |
| U1102 | The ECM detects a communication error signal sent from the distance control ECU to the millimeter wave radar sensor for 0.15 sec. or more while dynamic radar cruise control is in operation. | • CAN communication system<br>• Millimeter wave radar sensor<br>• Distance control ECU |

### INSPECTION PROCEDURE

Refer to dynamic radar cruise control system DTC U0235 ( Click here).
Refer to dynamic radar cruise control system DTC U1102 ( Click here).

DTC B2015 Open in Right Side Upper MOS

DTC B2016 Open in Right Side Lower MOS

DTC B2020 Open in Left Side Upper MOS

DTC B2021 Open in Left Side Lower MOS

DTC B2025 Right Side Current Detection Circuit Malfunction Hi

DTC B2026 Right Side Current Detection Circuit Malfunction Lo

DTC B2027 Right Side Over-Current Malfunction

DTC B2030 Left Side Current Detection Circuit Malfunction Hi

DTC B2031 Left Side Current Detection Circuit Malfunction Lo

DTC B2032 Left Side Over-Current Malfunction

DTC B2035 Power Supply Relay Adherence Malfunction

DTC B2040 EEPROM Malfunction

DTC B2041 Fall of Raised Voltage

DTC B2043 Fall of B+ Voltage

DTC B2047 Seat Belt Control ECU Inner Circuit Malfunction

**for Preparation** Click here

## DESCRIPTION

The DTCs above are stored during the self diagnosis of the seat belt control ECU.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2015 | Open in the right side upper MOS. | Seat belt control ECU |
| B2016 | Open in the right side lower MOS. | Seat belt control ECU |
| B2020 | Open in the left side upper MOS. | Seat belt control ECU |
| B2021 | Open in the left side lower MOS. | Seat belt control ECU |
| B2025 | Malfunction in the right side current detection HI circuit. | Seat belt control ECU |
| B2026 | Malfunction in the right side current detection LO circuit. | Seat belt control ECU |
| B2027 | Overcurrent in the right side circuit. | Seat belt control ECU |
| B2030 | Malfunction in the left side current detection HI circuit. | Seat belt control ECU |
| B2031 | Malfunction in the left side current detection LO circuit. | Seat belt control ECU |
| B2032 | Overcurrent in the left side circuit. | Seat belt control ECU |
| B2035 | Adherence malfunction in the power supply relay. | Seat belt control ECU |
| B2040 | EEPROM malfunction. | Seat belt control ECU |
| B2041 | Decline in raised voltage. | Seat belt control ECU |
| B2043 | Decline in B+ voltage. | Seat belt control ECU |
| B2047 | Malfunction in the inner circuit of the seat belt control ECU. | Seat belt control ECU |

## INSPECTION PROCEDURE

### 1.CHECK DTC (PRE-CRASH SAFETY SYSTEM)

a. Using the intelligent tester, enter the following menus: Body / Pre-Crash / Trouble Code.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| | |

| | |
|---|---|
| OK<br>(DTC is not output) | A |
| NG<br>(for LHD) | B |
| NG<br>(for RHD | C |

B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPLACE SEAT BELT CONTROL ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

## DTC U0235 Lost Communication with Cruise Control Front Distance Range Sensor

## DTC U1102 Lost Communication with Radar Sensor

**for Preparation** Click here

### DESCRIPTION

The millimeter wave radar sensor and the distance control ECU transmit the data for general vehicle control and diagnosis function via the CAN communication line.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0235 | The ECM detects a communication error signal sent from the millimeter wave radar sensor to the distance control ECU for 0.15 sec. or more while dynamic radar cruise control is in operation. | • CAN communication system<br>• Millimeter wave radar sensor<br>• Distance control ECU |
| U1102 | The ECM detects a communication error signal sent from the distance control ECU to the millimeter wave radar sensor for 0.15 sec. or more while dynamic radar cruise control is in operation. | • CAN communication system<br>• Millimeter wave radar sensor<br>• Distance control ECU |

### INSPECTION PROCEDURE

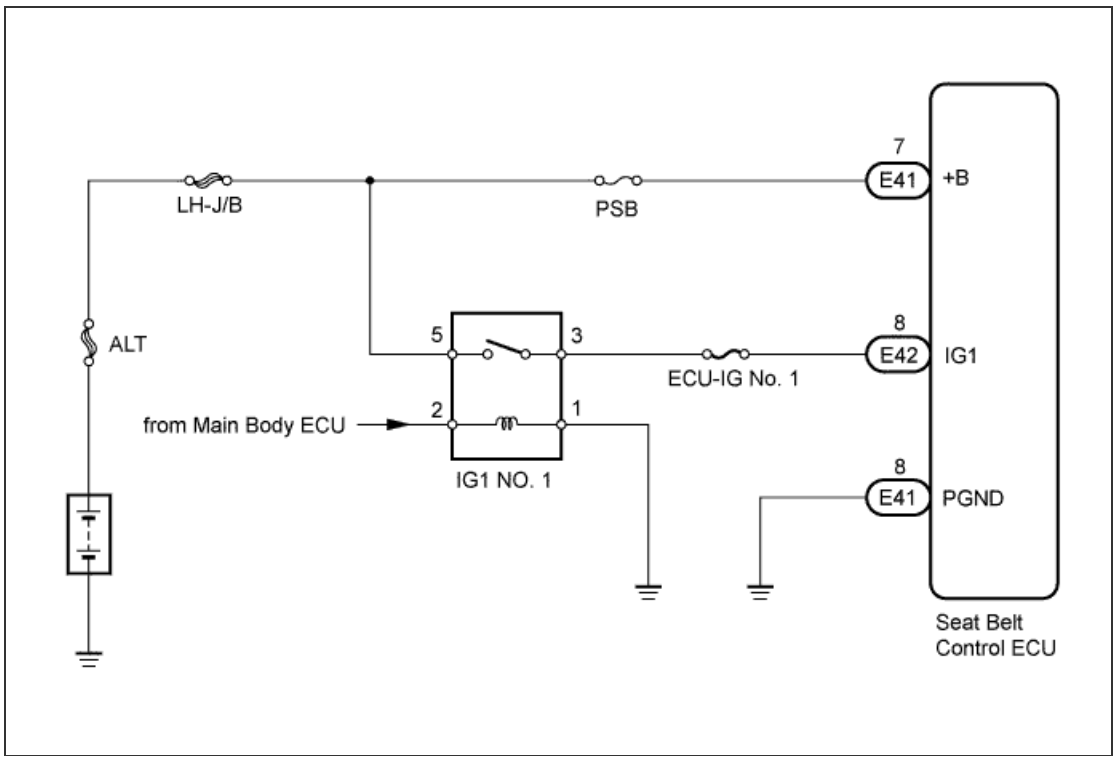
Refer to dynamic radar cruise control system DTC U0235 ( Click here).
Refer to dynamic radar cruise control system DTC U1102 ( Click here).

**for Preparation** Click here

## DESCRIPTION

This circuit supplies power to the seat belt control ECU when the ignition switch is ON.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Start the engine before inspection. Check the IG1 NO. 1 relay or battery if the starting system does not start.

### 1.INSPECT FUSE (ECU-IG No. 1, PSB)

a. Remove the ECU-IG No. 1 and PSB fuses from the main body ECU.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| ECU-IG No. 1 fuse | Always | Below 1 Ω |
| PSB fuse | | |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (SEAT BELT CONTROL ECU - BATTERY AND BODY GROUND)

a. Disconnect the E41 and E42 seat belt control ECU connectors.

b. Measure the voltage according to the value(s) in the table below.

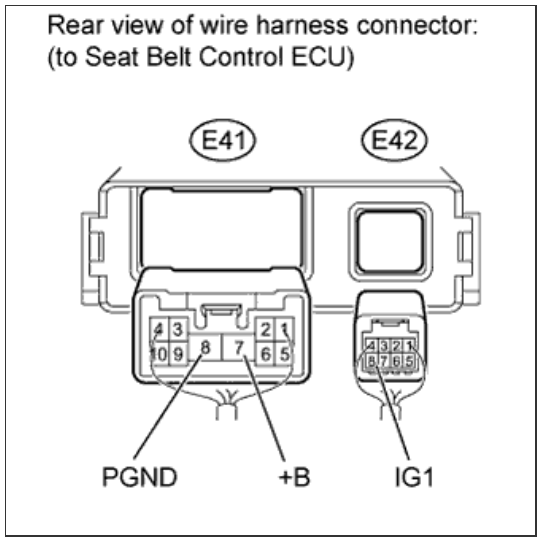
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E42-8 (IG1) - Body ground | Ignition switch ON | 11 to 14 V |
| | Ignition switch off | Below 1 V |
| E41-7 (+B) - Body ground | Always | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-8 (PGND) - Body ground | Always | Below 1 Ω |




**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |

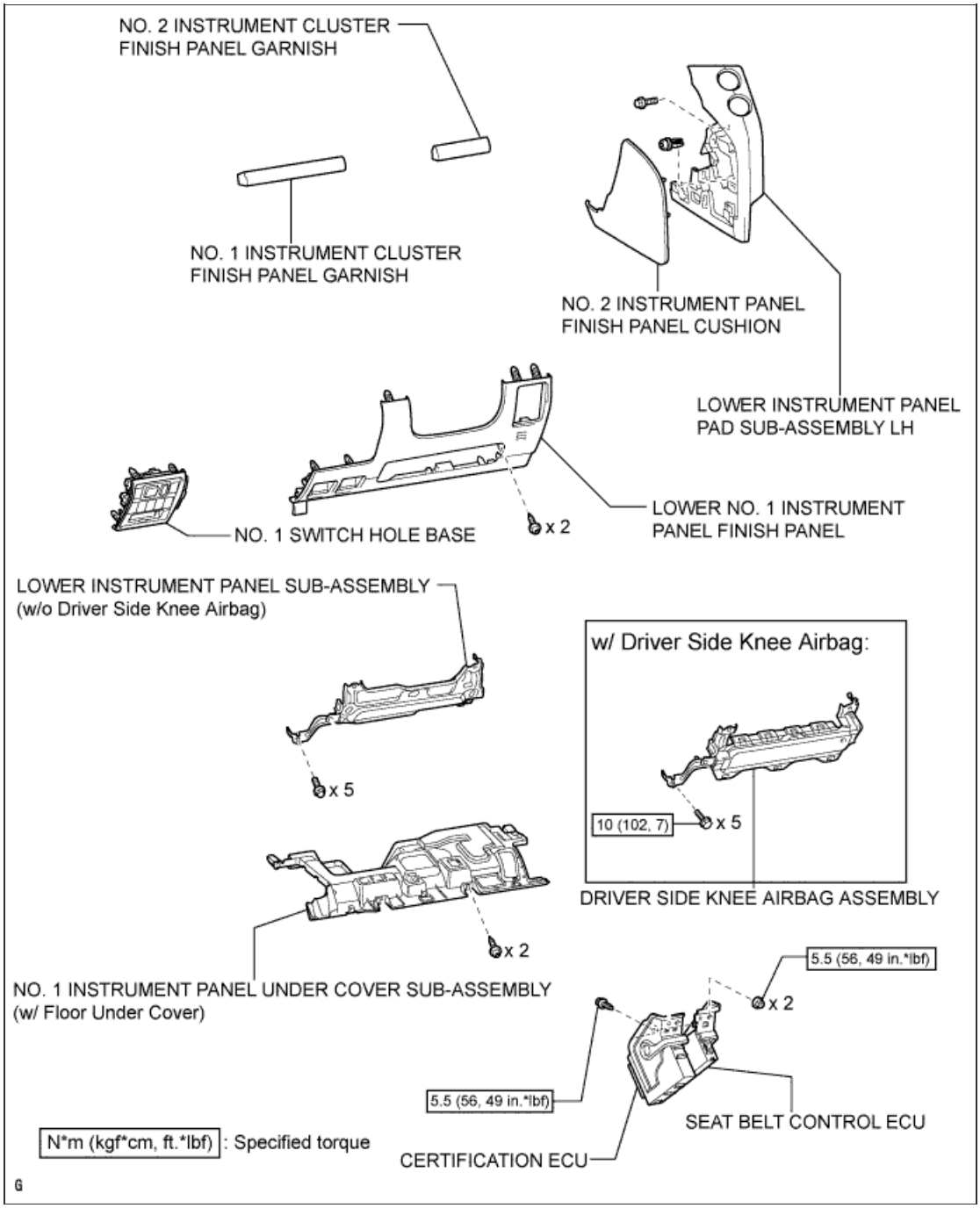
B → REPLACE SEAT BELT CONTROL ECU (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

REPLACE SEAT BELT CONTROL ECU (Click here)

**for Preparation** Click here



# SEAT BELT CONTROL ECU (for LHD) > REMOVAL

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL (w/ Driver Side Knee Airbag)

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

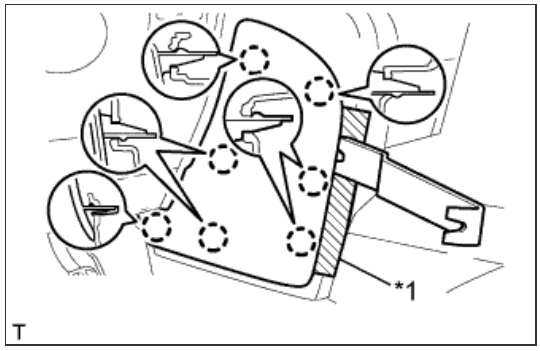
## 3. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 2 instrument panel finish panel cushion.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 2 instrument panel finish panel cushion.

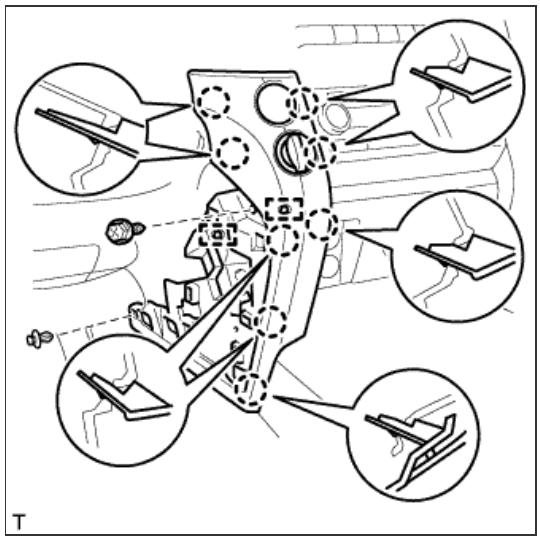



## 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.



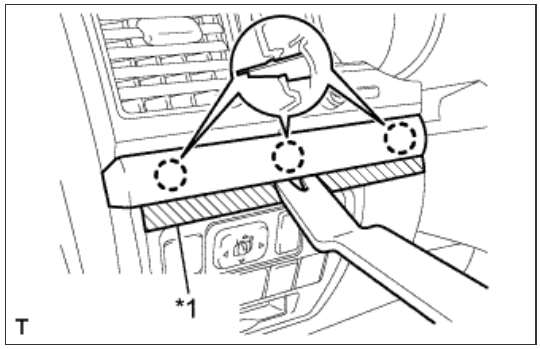

## 5. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

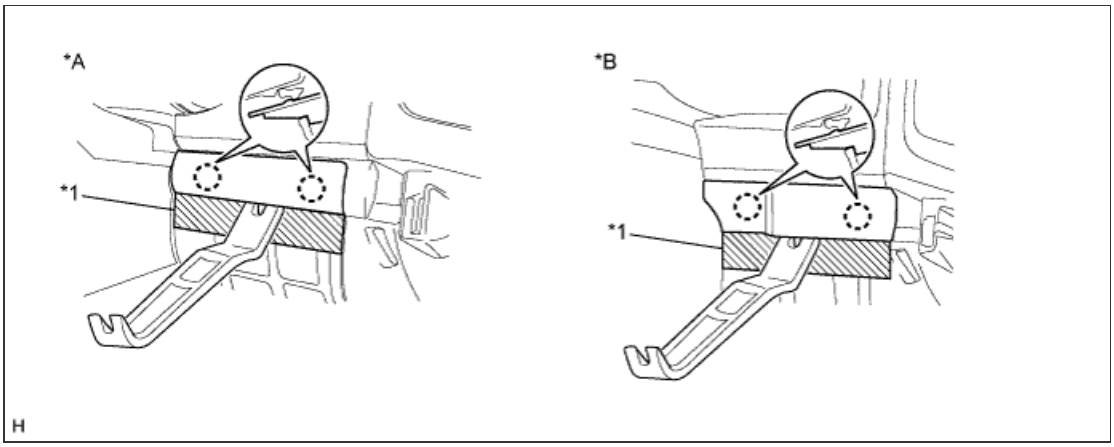
b. Using a moulding remover, detach the 3 claws and remove the No. 1 instrument cluster finish panel garnish.




## 6. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 2 claws and remove the No. 2 instrument cluster finish panel garnish.




**Text in Illustration**

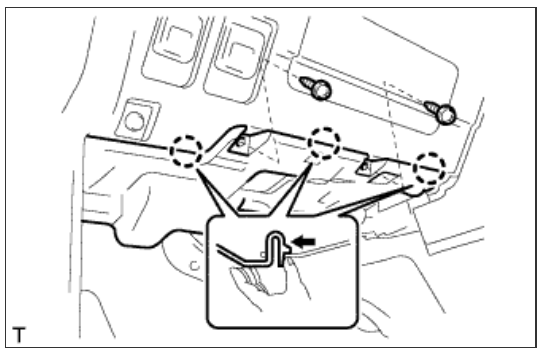
| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |
| *1 | Protective Tape | - | - |

## 7. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Remove the 2 screws.

b. Detach the 3 claws.

c. Disconnect the connectors and remove the No. 1 instrument panel under cover.



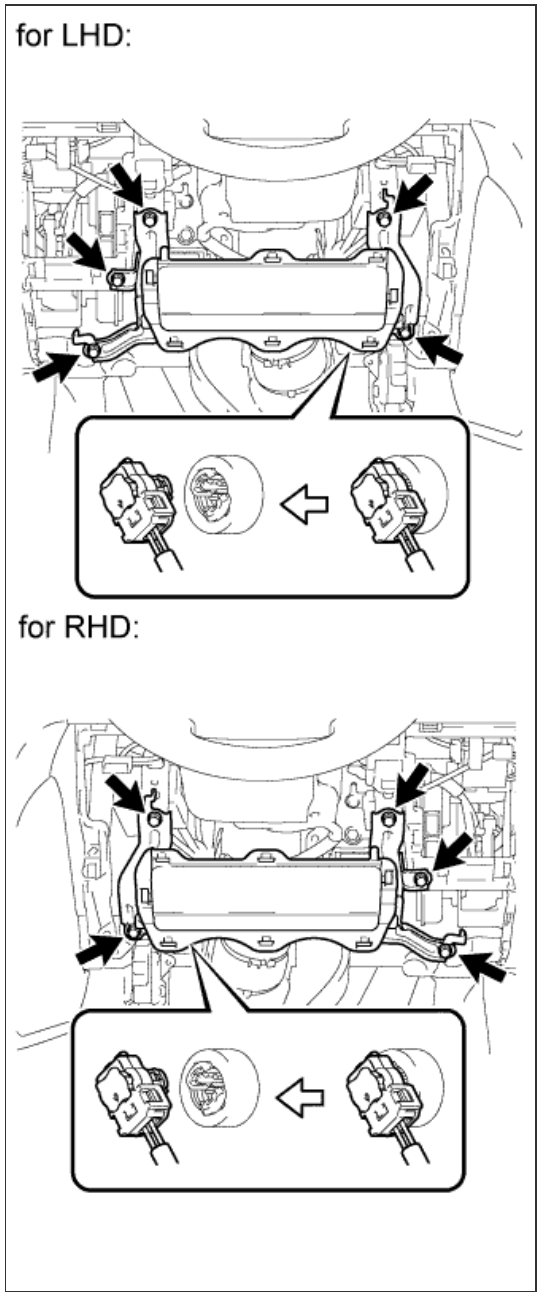

## 8. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY (w/ Driver Side Knee Airbag)

a. Remove the 5 bolts and driver side knee airbag.

b. Disconnect the connector.

**NOTICE:**

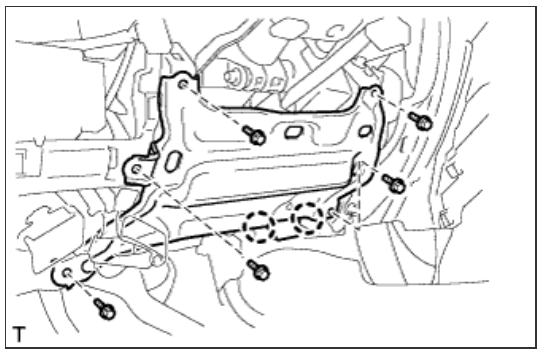
When handling the airbag connector, take care not to damage the airbag wire harness.




## 9. REMOVE LOWER INSTRUMENT PANEL SUB-ASSEMBLY (w/o Driver Side Knee Airbag)

a. Detach the 2 claws and disconnect the DLC3.

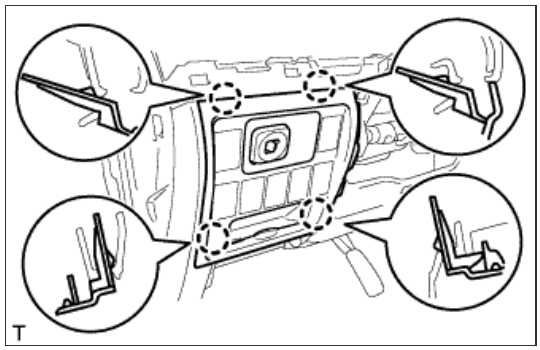
b. Remove the 5 bolts and lower instrument panel.




## 10. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 4 claws.

b. Disconnect the connectors and remove the No. 1 switch hole cover.




## 11. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

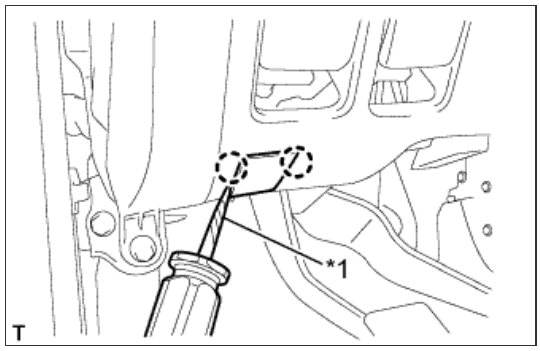
a. Using a screwdriver, detach the 2 claws and open the hole cover.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

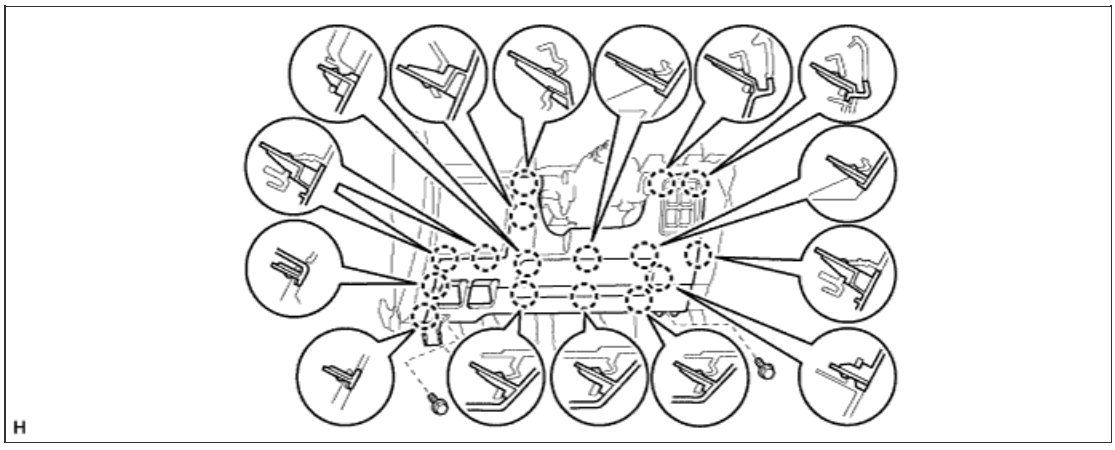
| | |
|---|---|
| *1 | Protective Tape |




b. w/ Driver Side Knee Airbag:

i. Remove the 2 bolts.

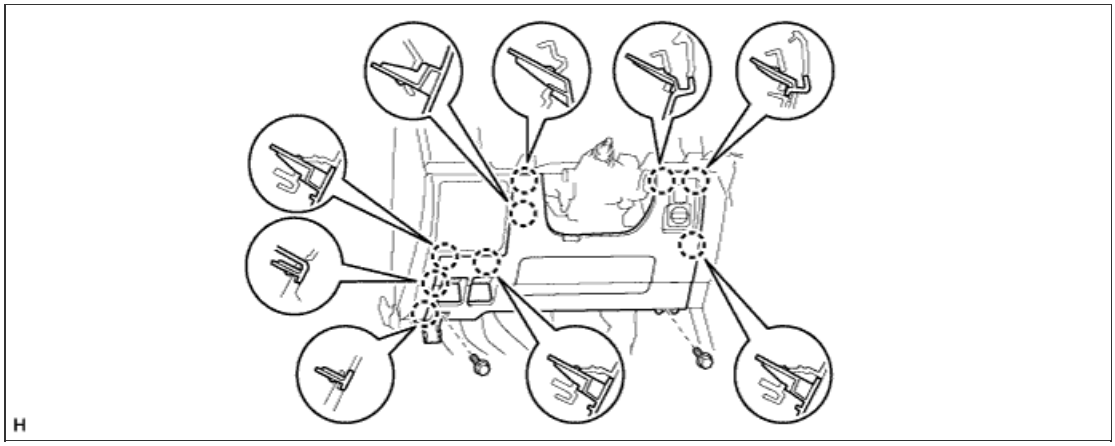
ii. Detach the 16 claws.




c. w/o Driver Side Knee Airbag:

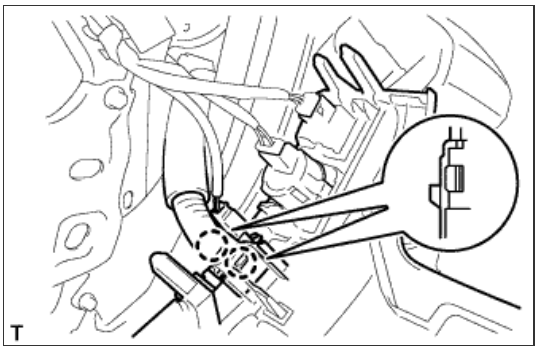
i. Remove the 2 bolts.

ii. Detach the 9 claws.



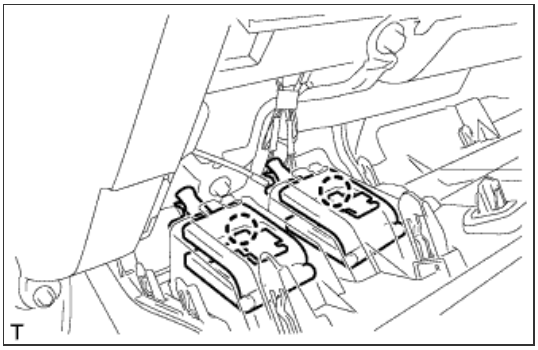

d. for Automatic Air Conditioning System:

i. Detach the 2 claws and remove the room temperature sensor.




e. Detach the 2 claws and disconnect the 2 control cables.

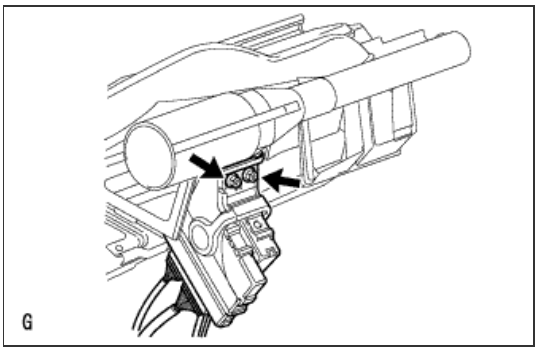
f. Disconnect the connectors and remove the lower No. 1 instrument panel finish panel.



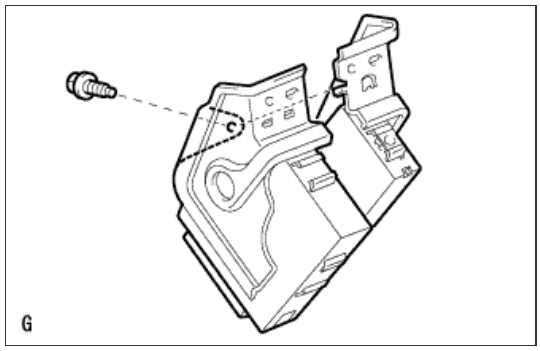

## 12. REMOVE SEAT BELT CONTROL ECU

a. Disconnect the 2 connectors.

b. Remove the 2 nuts and remove the seat belt control ECU together with the certification ECU.




c. Remove the bolt and seat belt control ECU from the certification ECU.

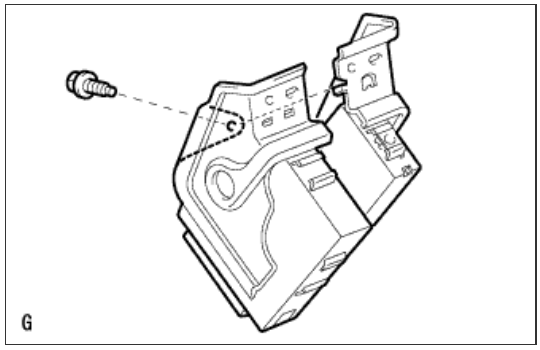

G

**for Preparation** Click here

## 1. INSTALL SEAT BELT CONTROL ECU

a. Install the seat belt control ECU to the certification ECU with the bolt.

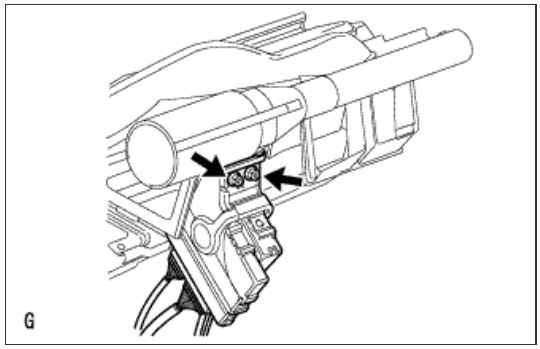
**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**




b. Install the seat belt control ECU together with the certification ECU with the 2 nuts.

**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

c. Connect the 2 connectors.

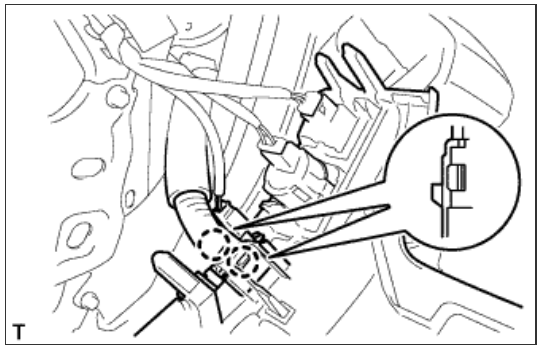



## 2. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

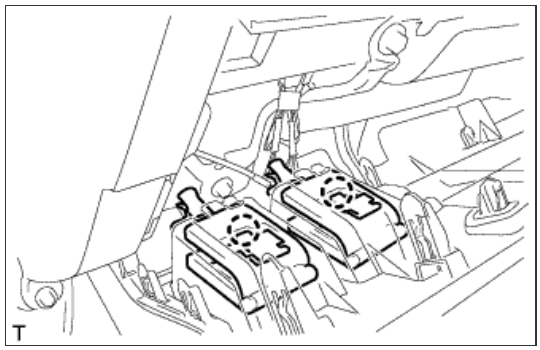
a. Connect the connectors.

b. for Automatic Air Conditioning System:

i. Attach the 2 claws to install the room temperature sensor.



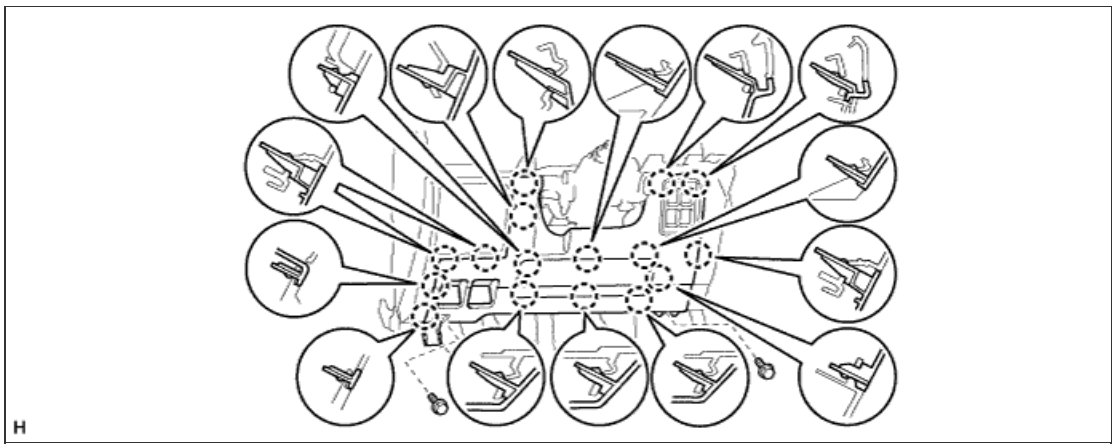

c. Attach the 2 claws to connect the 2 control cables.



d. w/ Driver Side Knee Airbag:

i. Attach the 16 claws to install the lower No. 1 instrument panel finish panel.

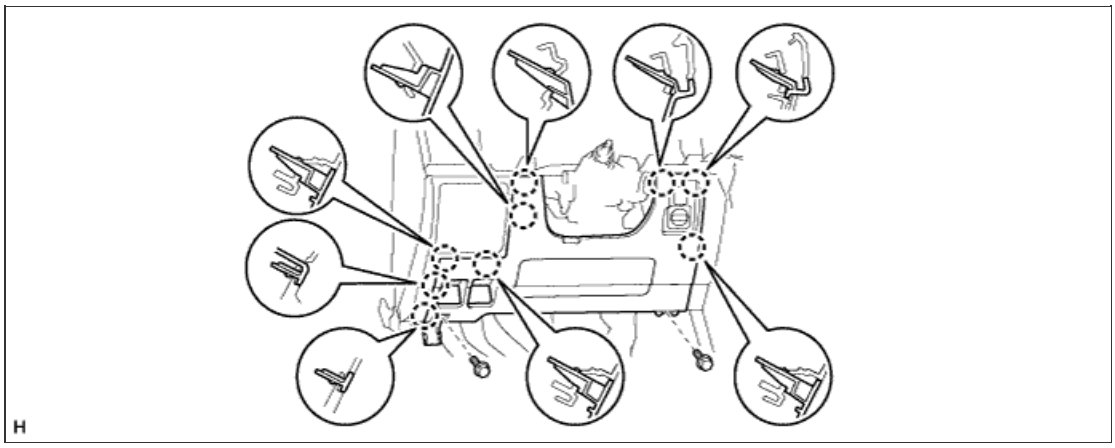
ii. Install the 2 bolts.



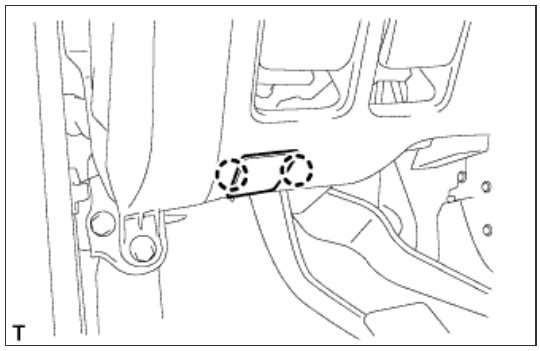

e. w/o Driver Side Knee Airbag:

i. Attach the 9 claws to install the lower No. 1 instrument panel finish panel.

ii. Install the 2 bolts.



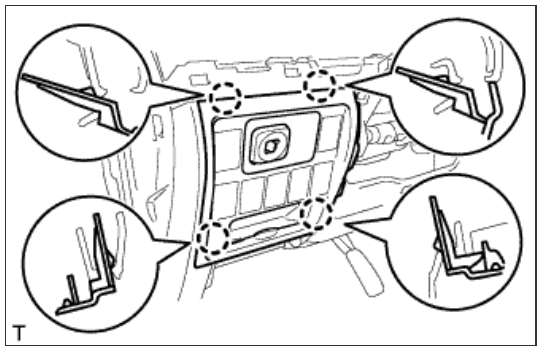

f. Attach the 2 claws to close the hole cover.




### 3. INSTALL NO. 1 SWITCH HOLE BASE

a. Connect the connectors.

b. Attach the 4 claws to install the No. 1 switch hole base.




### 4. INSTALL DRIVER SIDE KNEE AIRBAG ASSEMBLY (w/ Driver Side Knee Airbag)

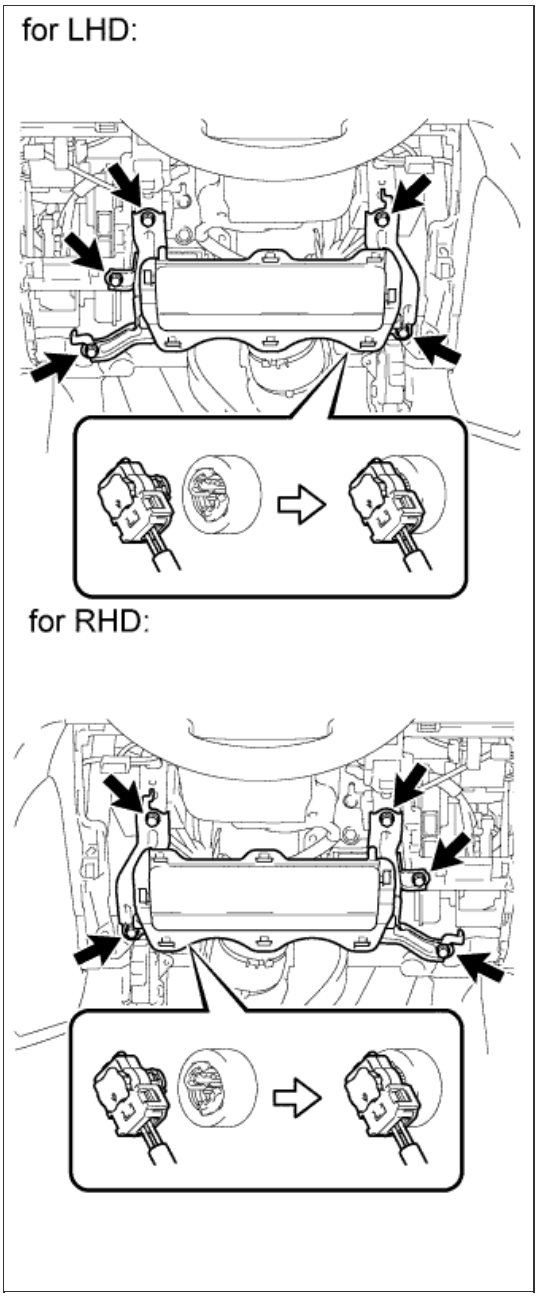
a. Connect the connector.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Install the driver side knee airbag with the 5 bolts.

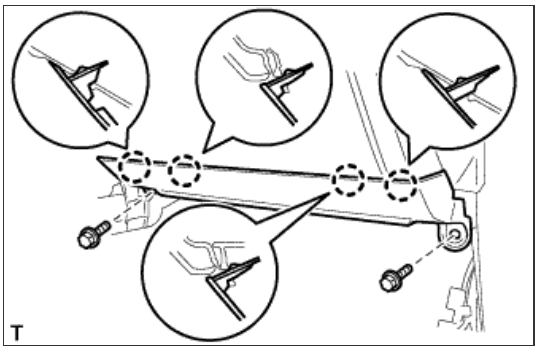
**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




**5. INSTALL LOWER INSTRUMENT PANEL SUB-ASSEMBLY (w/o Driver Side Knee Airbag)**

a. Attach the 4 claws to install the lower instrument panel.

b. Install the 2 bolts.

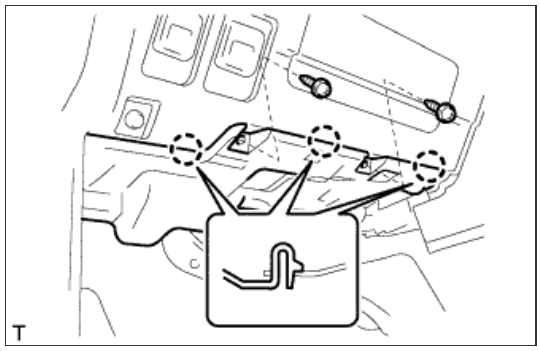



**6. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)**

a. Connect the connectors.

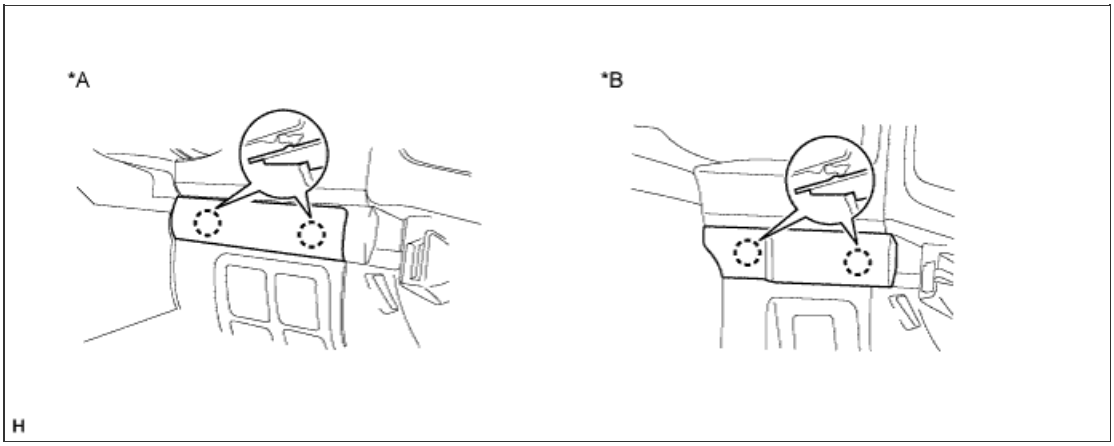
b. Attach the 3 claws to install the No. 1 instrument panel under cover.

c. Install the 2 screws.




## 7. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 2 claws to install the No. 2 instrument cluster finish panel garnish.

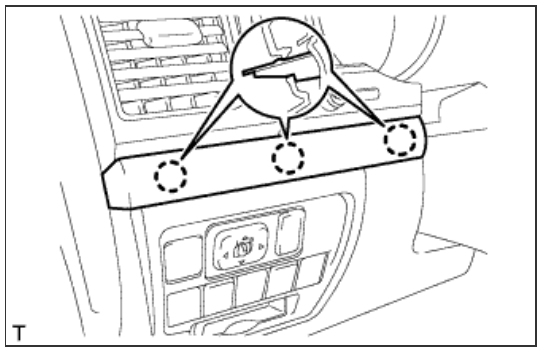



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |

## 8. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 3 claws to install the No. 1 instrument cluster finish panel garnish.

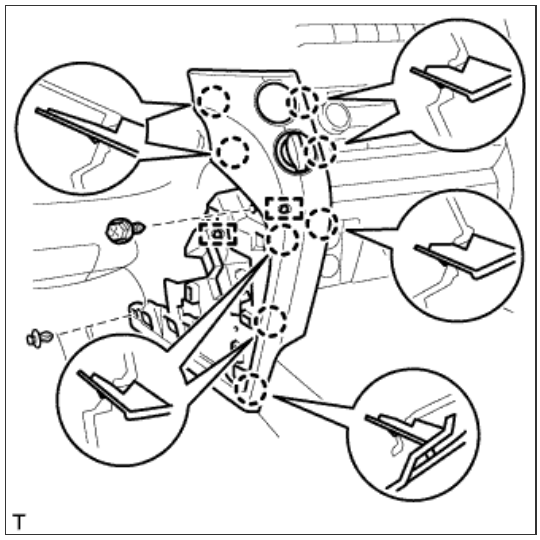



## 9. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

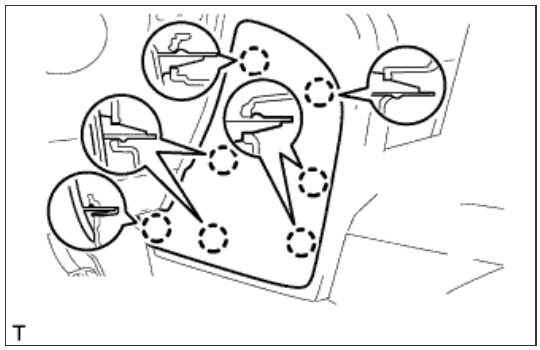
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.




### 10. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 2 instrument panel finish panel cushion.




### 11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL (w/ Driver Side Knee Airbag)

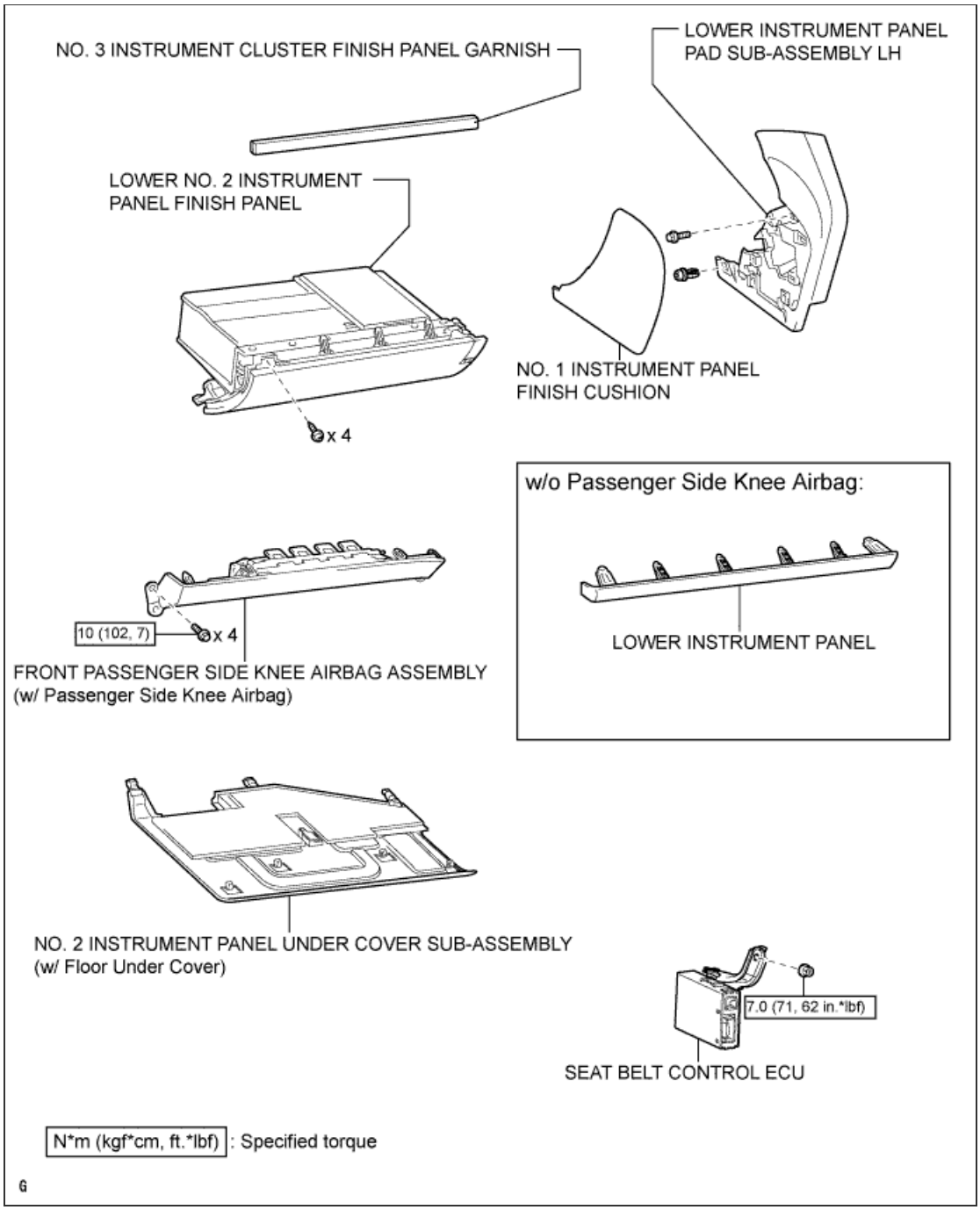
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 12. CHECK SRS WARNING LIGHT (w/ Driver Side Knee Airbag)

a. Check the SRS warning light (Click here).

**for Preparation** Click here



# SEAT BELT CONTROL ECU (for RHD) > REMOVAL

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL (w/ Passenger Side Knee Airbag)

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

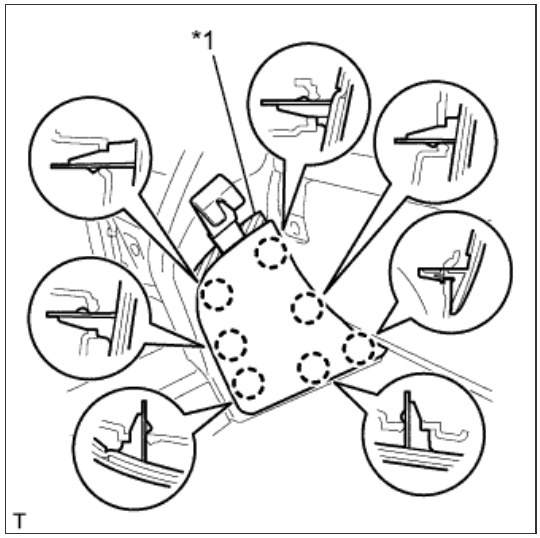
## 3. REMOVE NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Put protective tape around the No. 1 instrument panel finish panel cushion.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 1 instrument panel finish panel cushion.

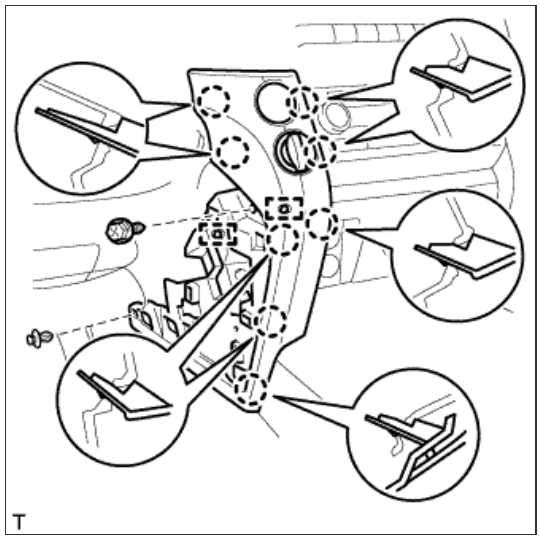



## 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

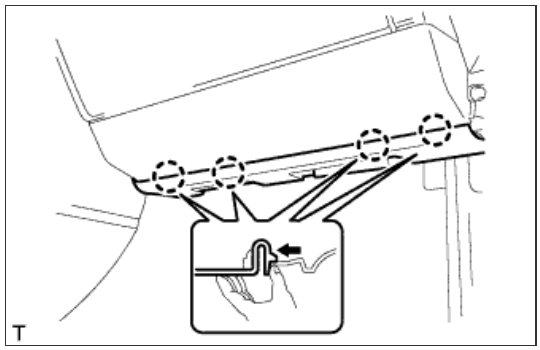
b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.




### 5. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Detach the 4 claws and remove the No. 2 instrument panel under cover.




### 6. REMOVE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (w/ Passenger Side Knee Airbag)

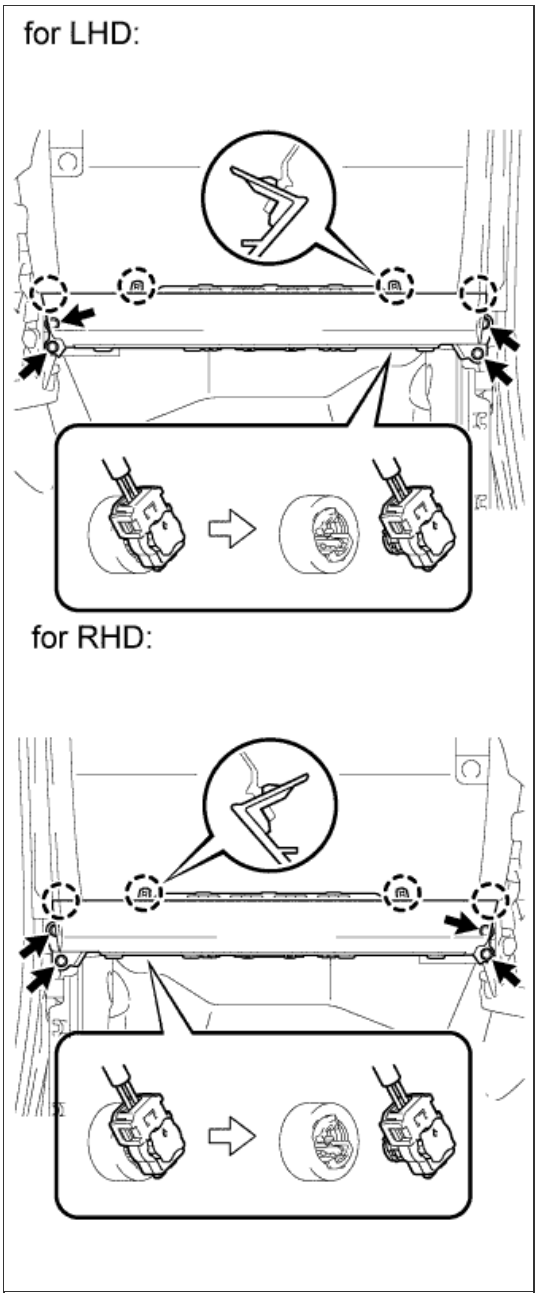
a. Remove the 4 bolts.

b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

**NOTICE:**

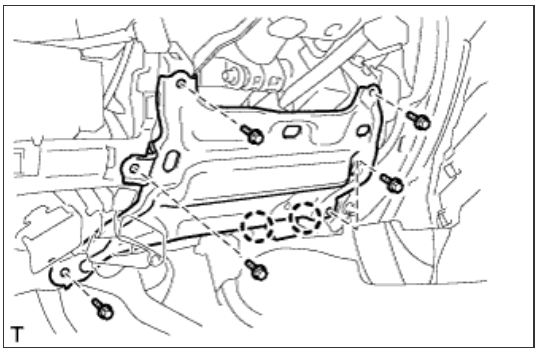
When handling the airbag connector, take care not to damage the airbag wire harness.




## 7. REMOVE LOWER INSTRUMENT PANEL (w/o Passenger Side Knee Airbag)

a. Detach the 2 claws and disconnect the DLC3.

b. Remove the 5 bolts and lower instrument panel.



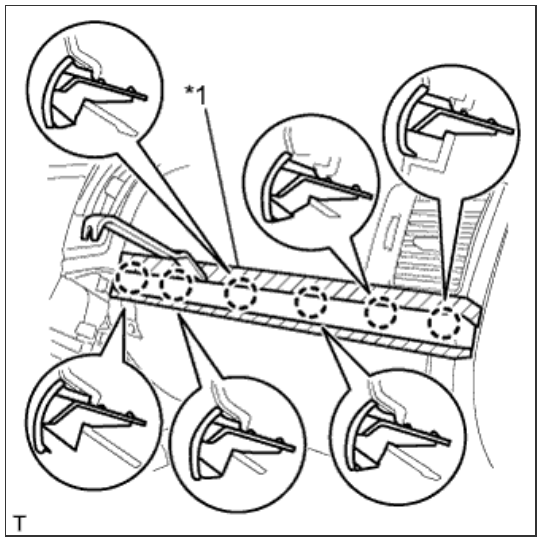

## 8. REMOVE NO. 3 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws and remove the No. 3 instrument cluster finish panel garnish.

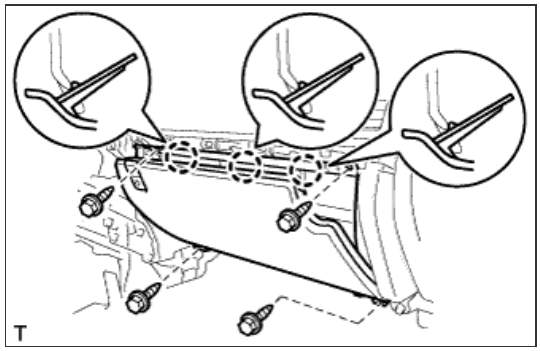



## 9. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 3 claws.

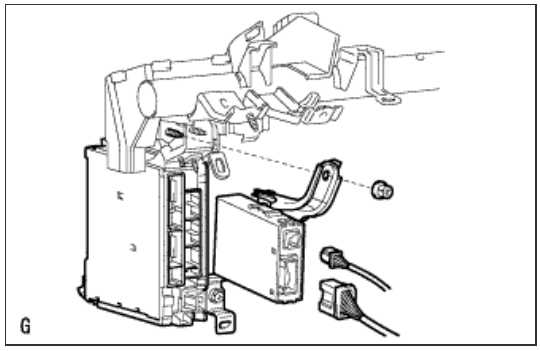
c. Disconnect the connector and remove the lower No. 2 instrument panel finish panel.




## 10. REMOVE SEAT BELT CONTROL ECU

a. Disconnect the 2 connectors.

b. Remove the nut and ECU.



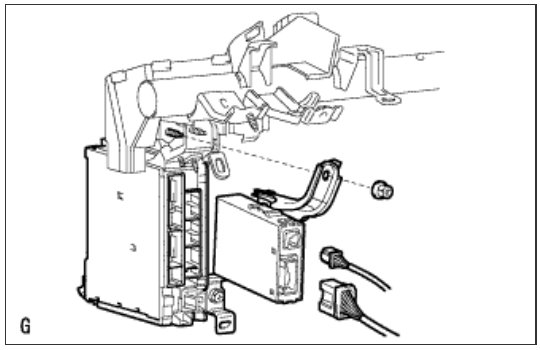
**for Preparation** Click here

## 1. INSTALL SEAT BELT CONTROL ECU

a. Install the ECU with the nut.

**Torque:**
**7.0 N*m{ 71 kgf*cm , 62 in.*lbf }**

b. Connect the 2 connectors.

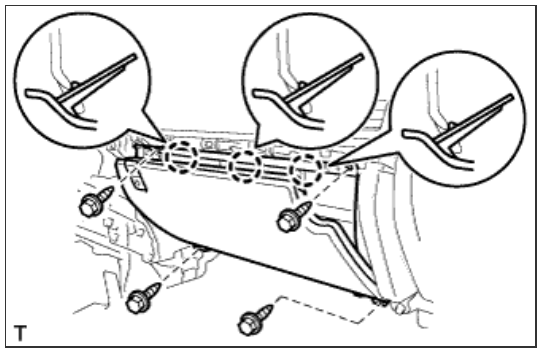



## 2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

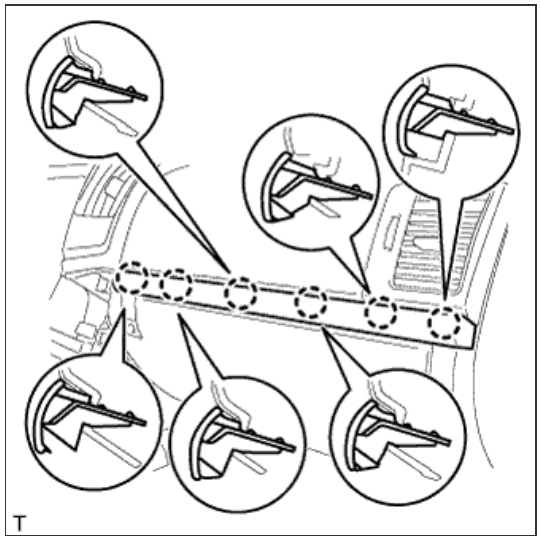
b. Attach the 3 claws to install the lower No. 2 instrument panel finish panel.

c. Install the 4 bolts.




## 3. INSTALL NO. 3 INSTRUMENT CLUSTER FINISH PANEL GARNISH

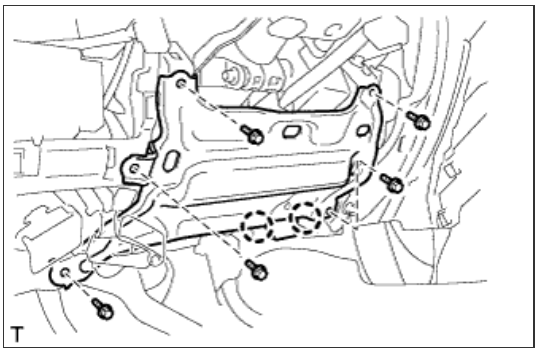
a. Attach the 6 claws to install the No. 3 instrument cluster finish panel garnish.




## 4. INSTALL LOWER INSTRUMENT PANEL (w/o Passenger Side Knee Airbag)

a. Attach the 2 claws and connect the DLC3.

b. Install the lower instrument panel with the 5 bolts.




## 5. INSTALL FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (w/ Passenger Side Knee Airbag)

a. Connect the connector.

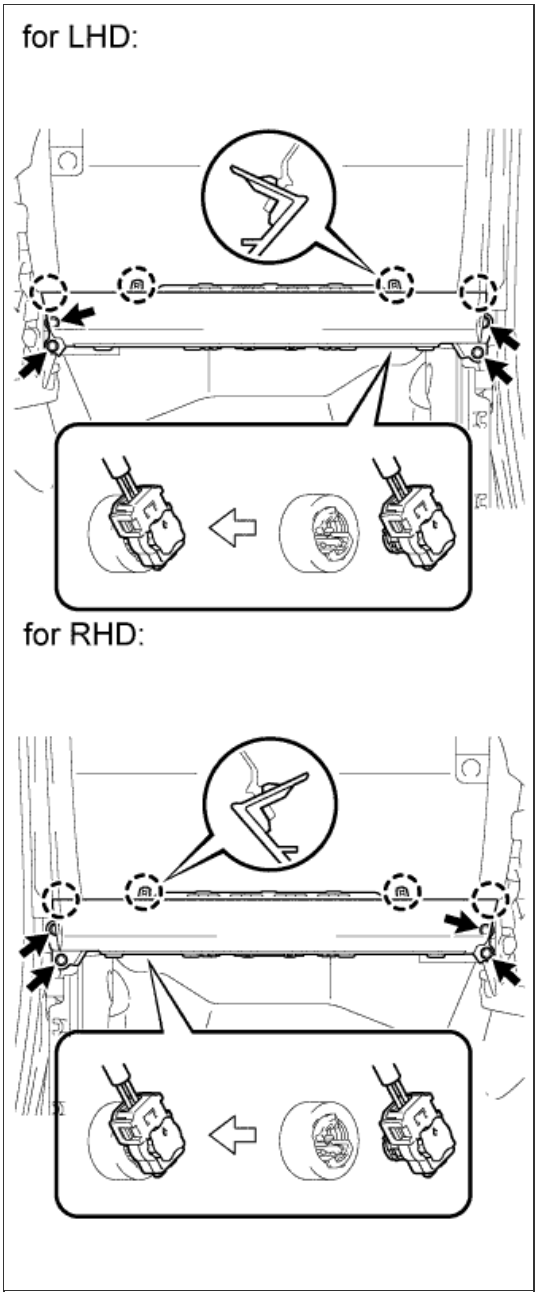
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Attach the 4 claws to install the front passenger side knee airbag.

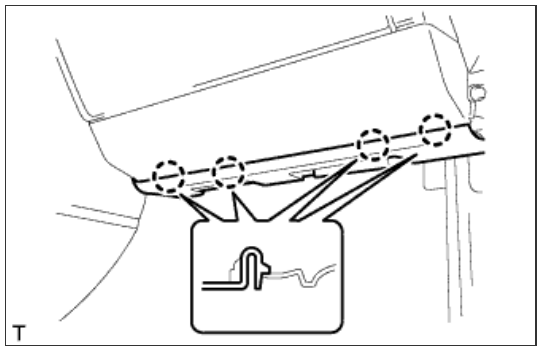
c. Install the 4 bolts.

**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




## 6. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Attach the 4 claws to install the No. 2 instrument panel under cover.

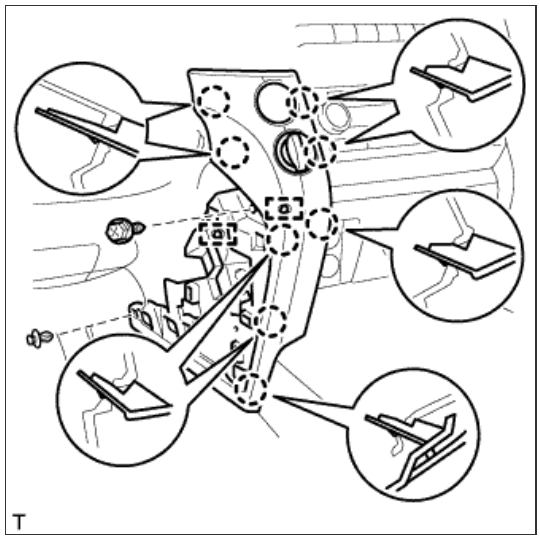



### 7. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

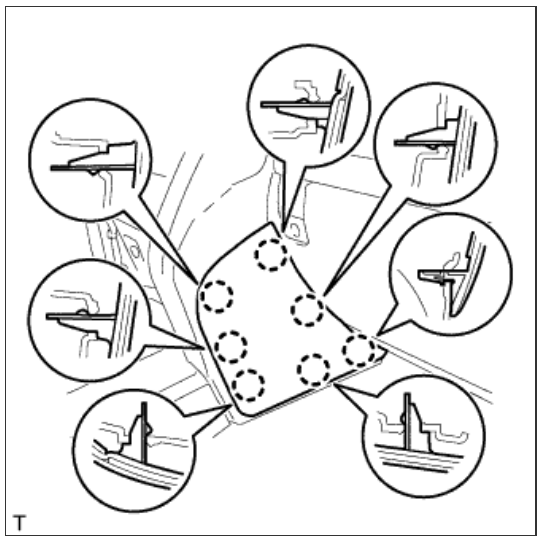
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.




### 8. INSTALL NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Attach the 7 claws to install the No. 1 instrument panel finish panel cushion.




### 9. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL (w/ Passenger Side Knee Airbag)

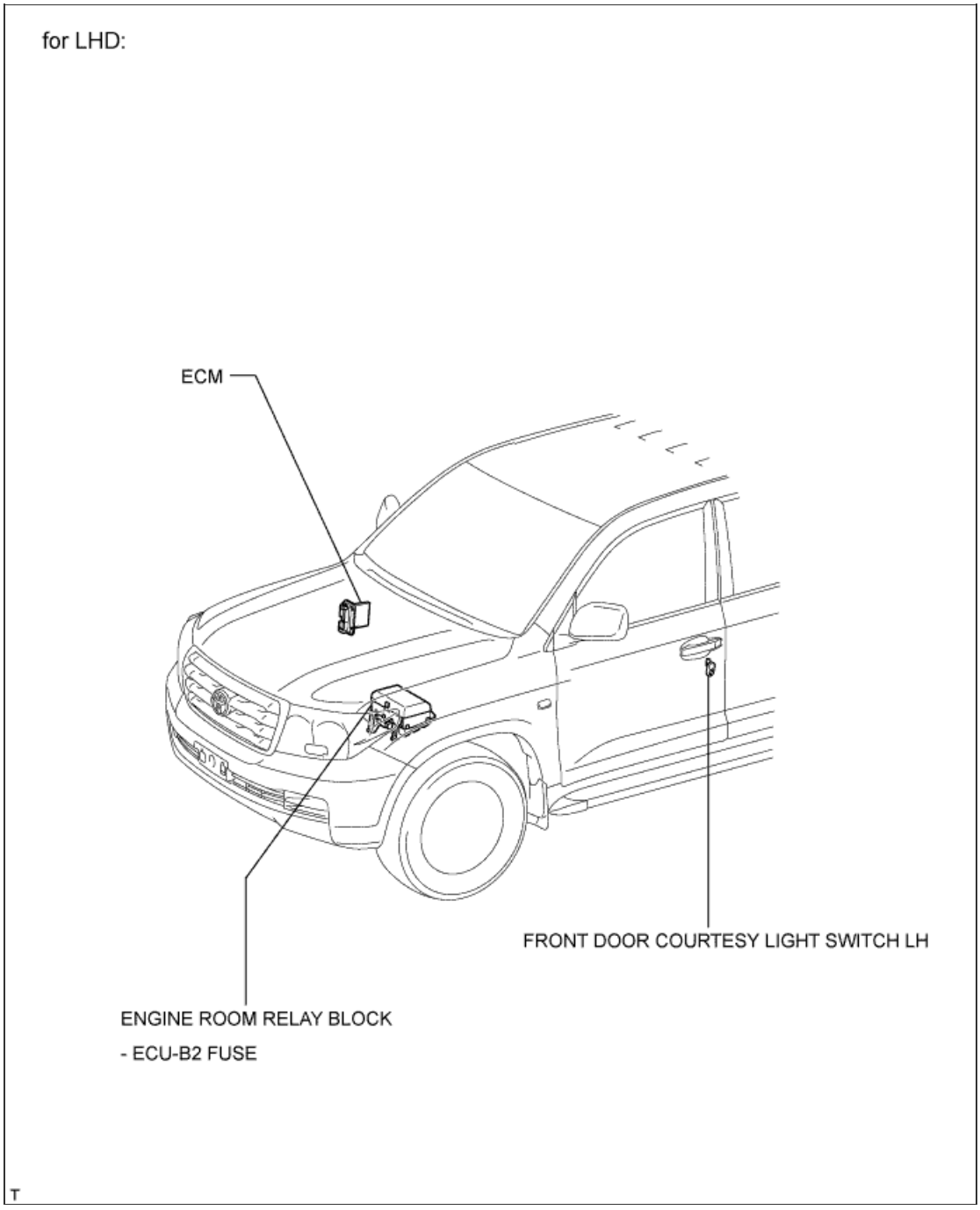
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

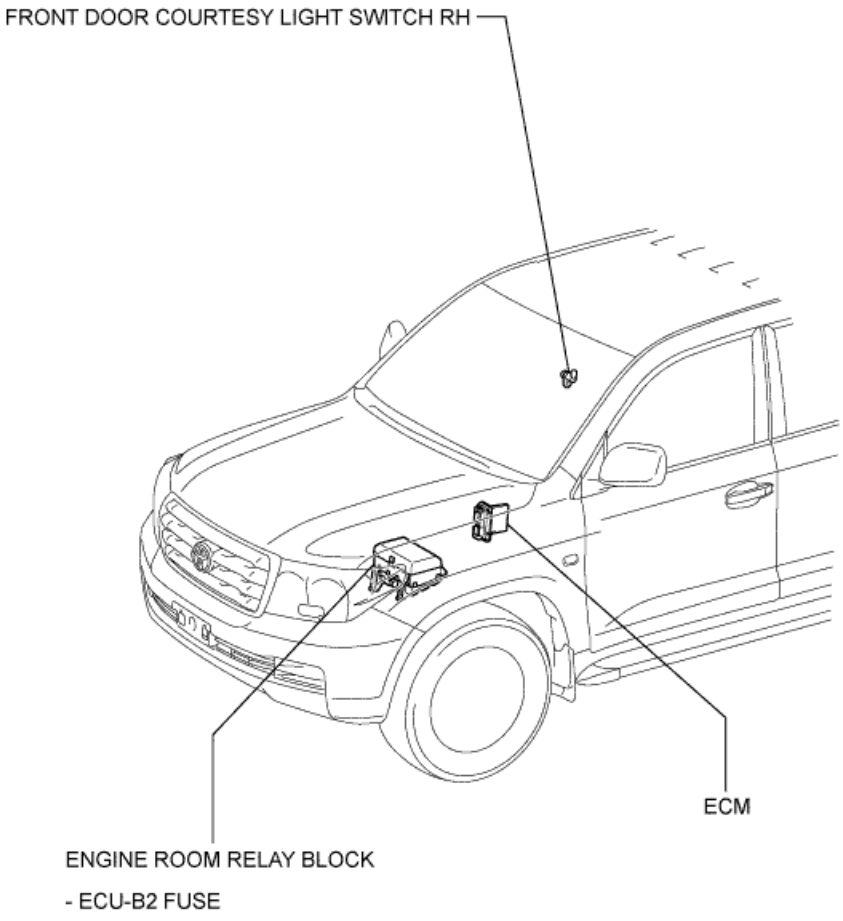
### 10. CHECK SRS WARNING LIGHT (w/ Passenger Side Knee Airbag)

a. Check the SRS warning light (Click here).

**for Preparation** Click here

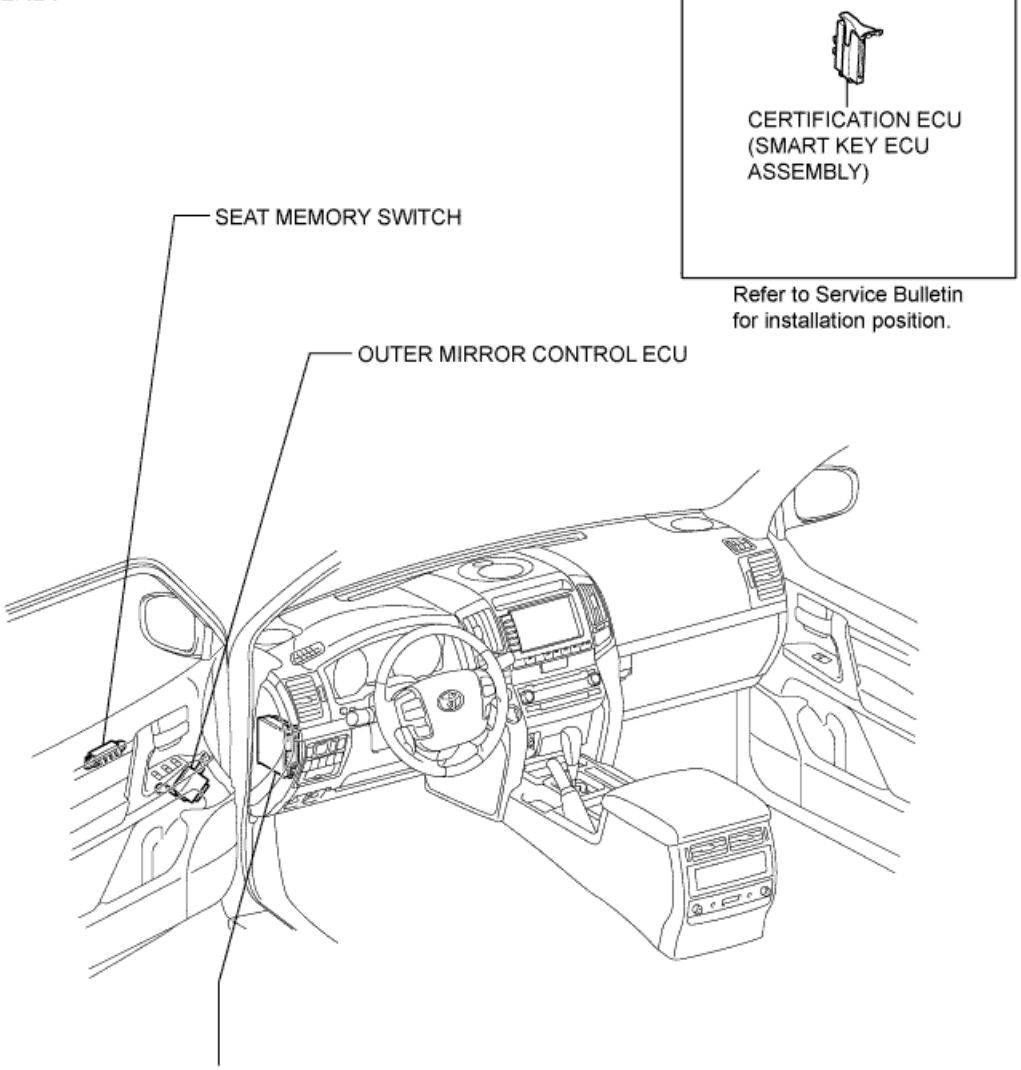


for RHD:


FRONT DOOR COURTESY LIGHT SWITCH RH
ECM
ENGINE ROOM RELAY BLOCK
- ECU-B2 FUSE

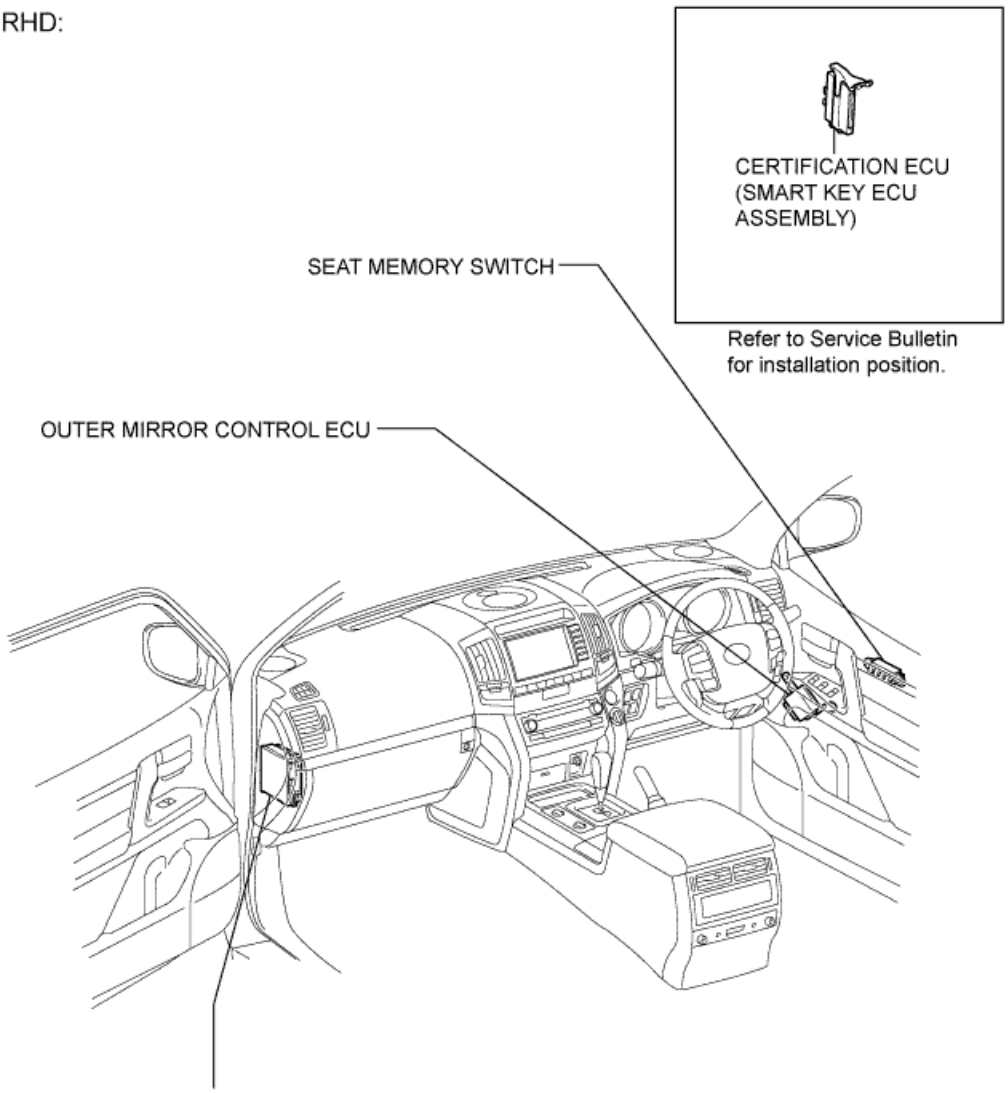
T

for LHD:

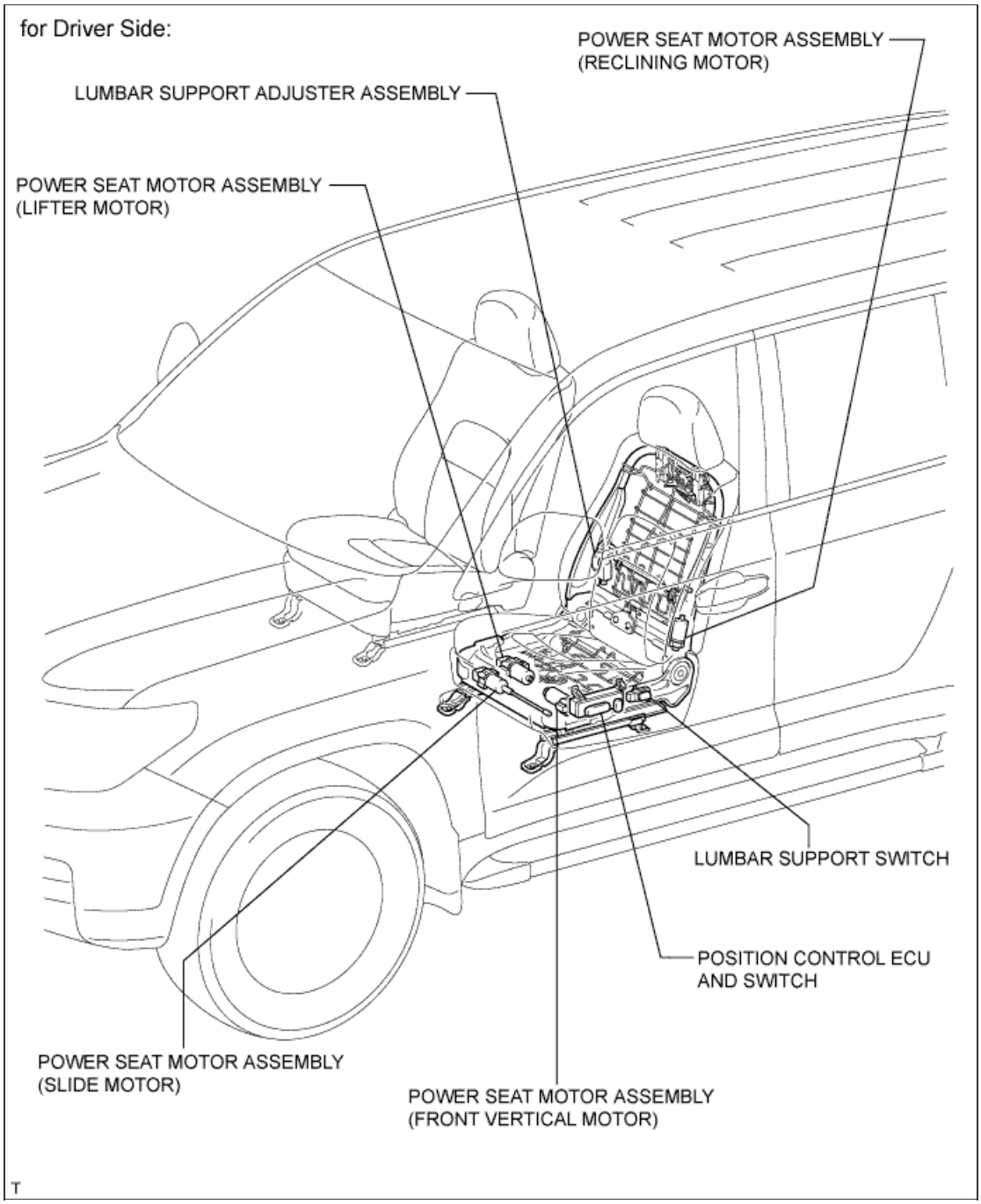

CERTIFICATION ECU
(SMART KEY ECU
ASSEMBLY)
Refer to Service Bulletin
for installation position.
SEAT MEMORY SWITCH
OUTER MIRROR CONTROL ECU
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- FR P/SEAT LH FUSE
- FR P/SEAT RH FUSE

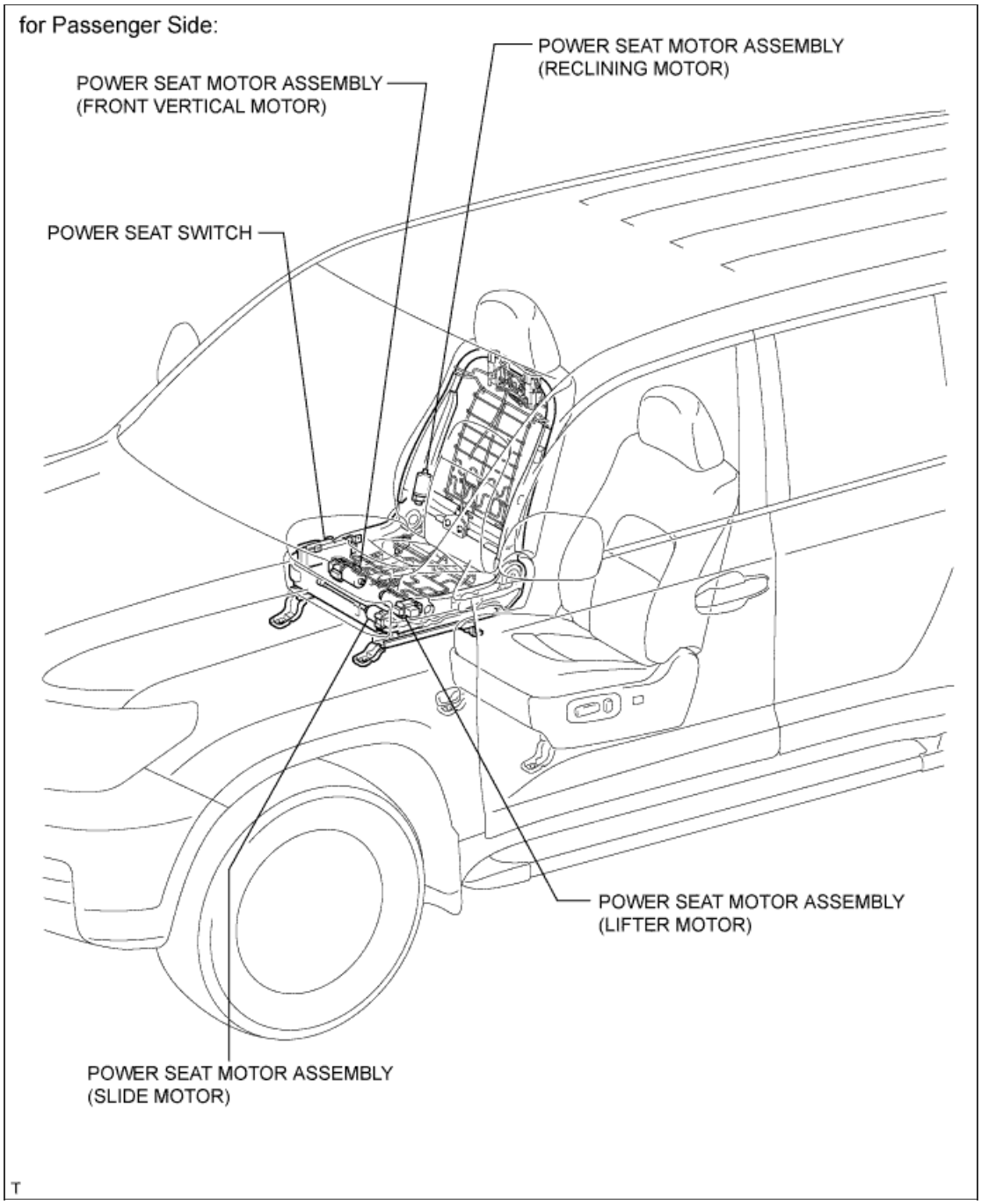
T

for RHD:

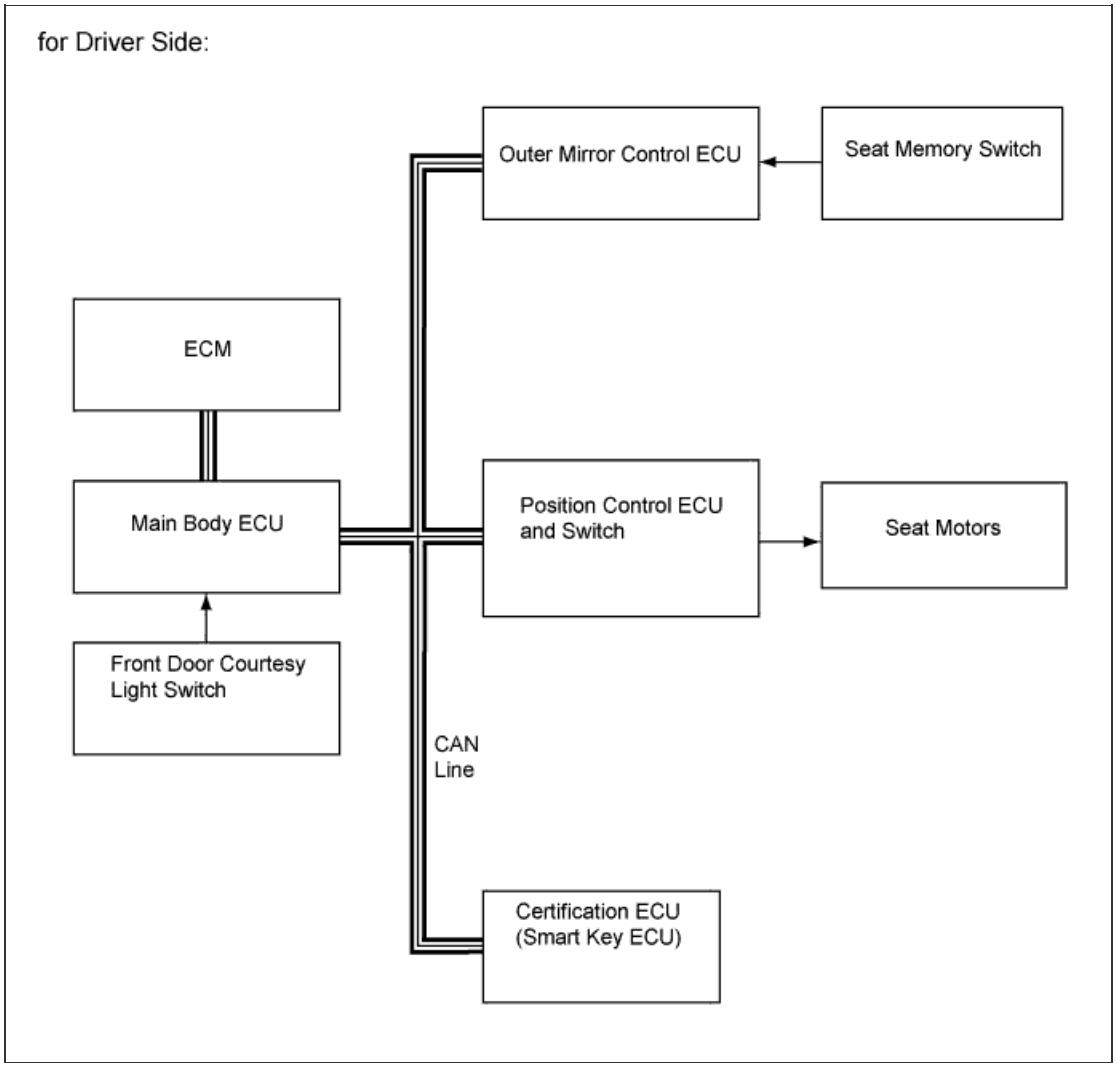

CERTIFICATION ECU
(SMART KEY ECU
ASSEMBLY)
SEAT MEMORY SWITCH
Refer to Service Bulletin
for installation position.
OUTER MIRROR CONTROL ECU
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- FR P/SEAT LH FUSE
- FR P/SEAT RH FUSE

T


for Driver Side:
POWER SEAT MOTOR ASSEMBLY
(RECLINING MOTOR)
LUMBAR SUPPORT ADJUSTER ASSEMBLY
POWER SEAT MOTOR ASSEMBLY
(LIFTER MOTOR)
LUMBAR SUPPORT SWITCH
POSITION CONTROL ECU
AND SWITCH
POWER SEAT MOTOR ASSEMBLY
(SLIDE MOTOR)
POWER SEAT MOTOR ASSEMBLY
(FRONT VERTICAL MOTOR)
T


for Passenger Side:
POWER SEAT MOTOR ASSEMBLY
(RECLINING MOTOR)
POWER SEAT MOTOR ASSEMBLY
(FRONT VERTICAL MOTOR)
POWER SEAT SWITCH
POWER SEAT MOTOR ASSEMBLY
(LIFTER MOTOR)
POWER SEAT MOTOR ASSEMBLY
(SLIDE MOTOR)
T

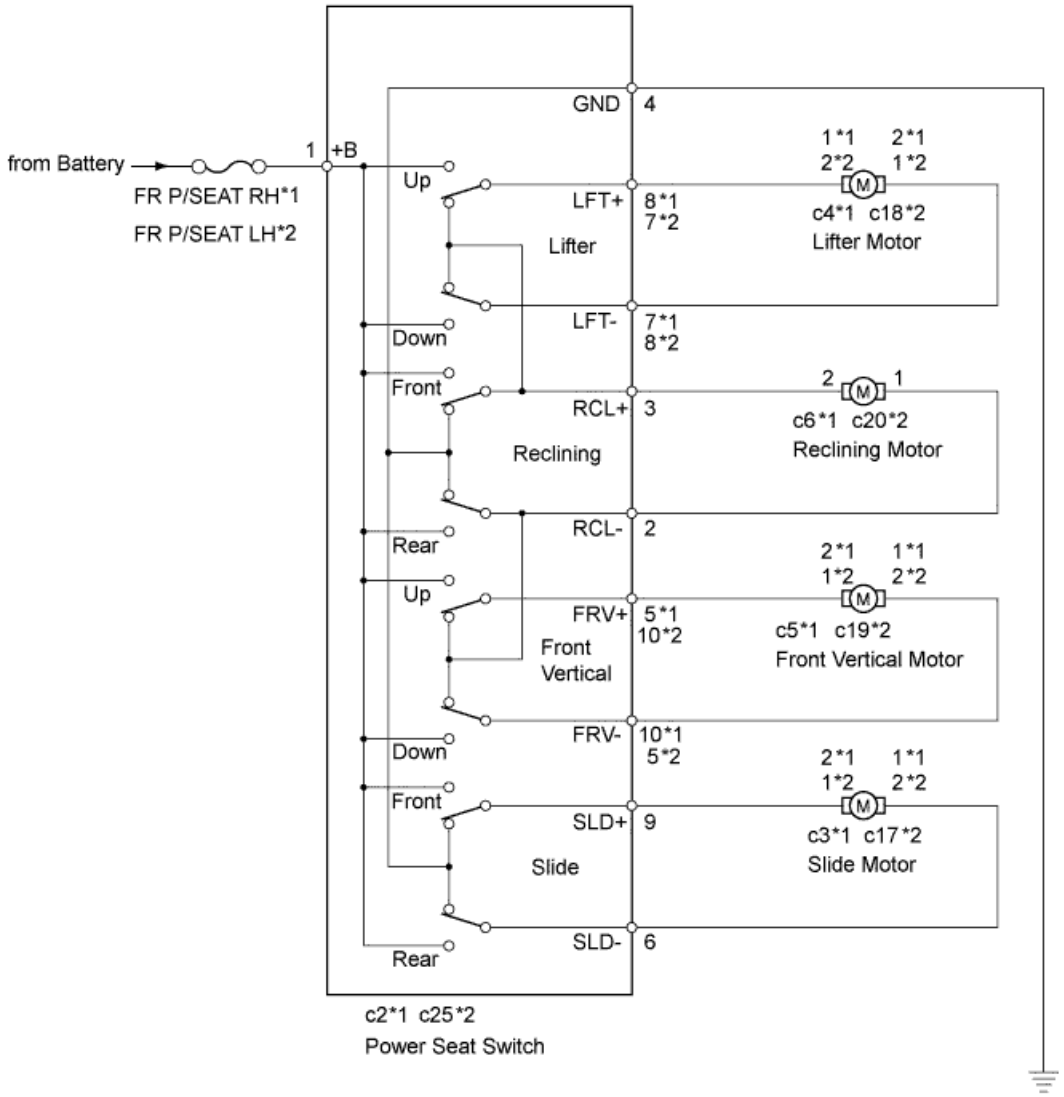
**for Preparation** Click here




**Communication Table**

| Sender | Receiver | Signal | Line |
|---|---|---|---|
| ECM | Position Control ECU and Switch | Shift position signal | CAN |
| Outer Mirror Control ECU | Position Control ECU and Switch | • Seat memory switch 1 signal<br>• Seat memory switch 2 signal<br>• Seat memory switch 3 signal | CAN |
| Main Body ECU | Position Control ECU and Switch | Driver door courtesy light switch signal | CAN |
| Certification ECU (Smart Key ECU) | Position Control ECU and Switch | • Door lock/unlock signal<br>• Key ID signal | CAN |
| Position Control ECU and Switch | Outer Mirror Control ECU | • Seat memory switch 1 command signal<br>• Seat memory switch 2 command signal<br>• Seat memory switch 3 command signal | CAN |

for Passenger Side:




*1: for LHD

*2: for RHD

**for Preparation** Click here

## FRONT POWER SEAT CONTROL SYSTEM DESCRIPTION

- The driver seat is equipped with slide, reclining, lifter, front vertical, and lumbar support adjustment functions.
- The passenger seat is equipped with slide, reclining, lifter, and front vertical adjustment functions.
- The memory call function uses the key ID code of the key to memorize and reproduce the appropriate driving position for each individual who possesses a master key or sub key.

## FUNCTION OF MAIN COMPONENT

The following functions are available.

| Component | Function |
|---|---|
| Seat slide motor | Receives signal from front power seat switch, and slides seat forward and rearward. |
| Seat reclining motor | Receives signal from front power seat switch, and tilts and reclines seat. |
| Seat front vertical motor | Receives signal from front power seat switch, and raises and lowers front of seat cushion. |
| Seat lifter motor | Receives signal from front power seat switch, and raises and lowers seat cushion. |
| Lumbar support adjuster motor | Activated based on signal from lumbar support switch. Adjusts lumbar support. |
| Seat position sensor | Is built into each seat adjuster and sends position data to front power seat switch so that it can detect seat positions at all times. |
| Seat control switch | Based on switches operated, seat adjuster signals are input into position control ECU and seat is adjusted accordingly. |
| Seat memory switch | When seat memory SET switch and seat memory switch are pressed simultaneously, signal is input to outer mirror control ECU and seat position is recorded.<br>Then, when seat memory switch is pressed, signal is input to outer mirror control ECU and seat position changes according to memory. |

## SYSTEM OPERATION

The front power seat functions which can be adjusted with power seat motors and/or memorized are shown in the chart below.
For the driver side memory function, the seat memory switch operation is first transferred from the outer mirror control ECU to the position control ECU and switch via the CAN communication line. Then, either the seat position is stored in memory or a previously stored seat position is recalled.

| Seat Adjustment Function | Driver Seat | Passenger Seat |
|---|---|---|
| Fore-and-Aft Slide | Power and memory | Power |
| Reclining | Power and memory | Power |
| Front Vertical Height | Power and memory | Power |
| Lifter | Power and memory | Power |
| Lumbar support | Power | - |

**for Preparation** Click here

**HINT:**

- **Use the following procedures to troubleshoot the front power seat control system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

## 3.INSPECT COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B. Go to CAN COMMUNICATION SYSTEM (for LHD) (Click here)

C. Go to CAN COMMUNICATION SYSTEM (for RHD) (Click here)

A

## 4.PROBLEM SYMPTOMS TABLE

a. Refer to the Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. Go to step 6

A

## 5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Data List / Active Test (Click here)

b. Terminals of ECU (Click here)

c. Operation Check (Click here)

NEXT

6.REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

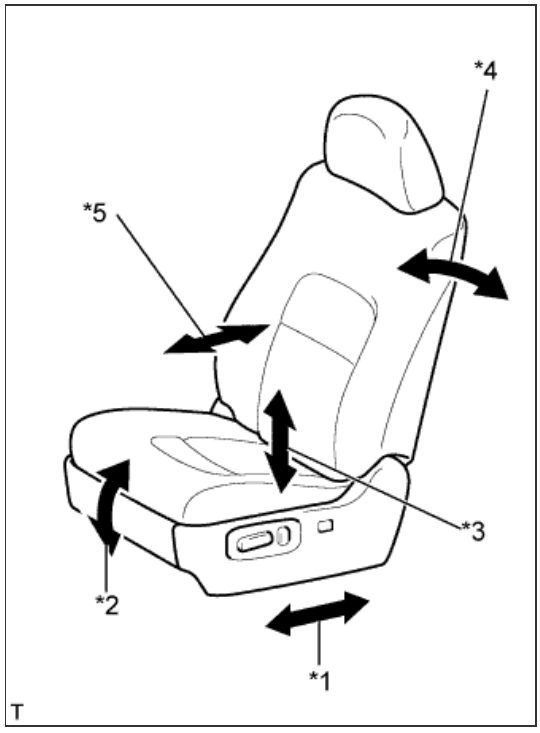
**for Preparation** Click here

## CHECK POWER SEAT FUNCTION

a. Check the basic functions.

i. Operate the power seat switches and check to make sure each seat function works:

- Sliding (*1)
- Front vertical (*2)
- Lifter (*3)
- Reclining (*4)
- Lumbar support (Driver seat only) (*5)




## CHECK POWER SEAT MOTOR ASSEMBLY (SLIDING, FRONT VERTICAL, LIFTER, AND RECLINING FUNCTIONS)

a. Check the PTC operation inside the power seat motor.

**HINT:**

The resistance of the PTC thermistor increases when the power seat switch is held down even after the seat has been moved to the farthest possible position in one direction. If the resistance increases beyond a specified level, the current is shut off to prevent a short circuit.

**NOTICE:**

- **The inspection should be performed with the seat installed in the vehicle.**
- **Perform the 4 steps below to check the full range of motion for each power seat function.**

i. Choose a power seat function. Operate the power seat switch and move the seat to the farthest possible position in one direction. Keep the seat in that position for approximately 60 seconds.

ii. Operate the power seat switch again and continue to try to move the seat in the same direction as in the previous step. Measure the time until the current is shut off (motor operation sound will stop).

**Standard:**
**4 to 90 seconds**

iii. After the current is shut off, release the power seat switch and wait for approximately 60 seconds.

iv. Operate the same power seat switch and move the seat in the opposite direction. Check that the motor operates.

## CHECK LUMBAR SUPPORT ADJUSTER ASSEMBLY

a. Check the PTC operation inside the power seat motor.

**NOTICE:**

The inspection should be performed with the seat installed in the vehicle.

i. Operate the lumbar support switch and move the lumbar support to either the foremost or rearmost position. Keep the seat in that

position for approximately 60 seconds.

ii. Operate the lumbar support switch again and continue to try to move the lumbar support in the same direction as in the previous step. Measure the time until the current is shut off (motor operation sound will stop).

**Standard:**
**4 to 90 seconds**

iii. After the current is shut off, release the lumbar support switch and wait for approximately 60 seconds.

iv. Operate the lumbar support switch and move the seat in the opposite direction. Check that the motor operates.

## CHECK MEMORY AND SEAT RESTORING OPERATION

**HINT:**

The seat position will not be stored if the seat memory SET switch and 2 or more of the seat memory switches (for example, seat memory switch 1 and seat memory switch 2) are pressed simultaneously.

a. Turn the engine switch on (IG).

b. Move the seat to the foremost and uppermost position using the seat switch.

c. Check that the buzzer sounds for 0.5 seconds and the seat position is memorized when seat memory switch 1 is pressed within 3 seconds after the SET switch being pressed.

d. Move the seat from the foremost and uppermost position using the seat switch.

e. Check that the buzzer sounds for 0.5 seconds and the seat position is memorized when seat memory switch 2 is pressed within 3 seconds after the SET switch being pressed.

f. Move the seat to the rearmost and lowermost position using the seat switch.

g. Check that the buzzer sounds for 0.5 seconds and the seat position is memorized when seat memory switch 3 is pressed within 3 seconds after the SET switch being pressed.

h. Check that the buzzer sounds for 0.1 seconds and the seat automatically moves to the foremost and uppermost position (memorized position) when seat memory switch 1 of the seat memory switch is pressed.

i. Check that the buzzer sounds for 0.1 seconds and the seat automatically moves out of the foremost and uppermost position (memorized position) when seat memory switch 2 of the seat memory switch is pressed.

j. Check that the buzzer sounds for 0.1 seconds and the seat automatically moves to the rearmost and lowermost position (memorized position) when seat memory switch 3 of the seat memory switch is pressed.

k. Turn the engine switch off and open the driver door. Check that the buzzer sounds for 0.1 seconds and the seat automatically moves to the memorized position by pressing seat memory switch 1, seat memory switch 2 or seat memory switch 3 within 180 seconds after the engine switch is turned off.

l. Turn the engine switch off and close the driver door. Check that the buzzer sounds for 0.1 seconds and the seat automatically moves to the memorized position by pressing seat memory switch 1, seat memory switch 2 or seat memory switch 3 within 60 seconds after the engine switch is turned off.

m. Operate the front vertical function of the power seat switch to tilt the seat down 3 times; Within 10 seconds after operating the front vertical function of the power seat switch, operate the lifter function of the power seat switch to tilt up and the reclining function of the power seat switch to recline the seat simultaneously, and hold both switches for 10 seconds.

## CHECK MEMORY CALL FUNCTION

a. Automatic memory call function (automatic wireless memory call function)

i. With a transmitter key recognition code registered:
Perform a wireless door unlock operation and check that opening the driver side door causes: 1) the buzzer to sound for 0.1 seconds, and 2) the front seat, the steering wheel (tilt and telescopic), and outer mirror (RH and LH) to move automatically to the stored positions.

**HINT:**

- **The registered transmitter key recognition code is recalled automatically.**
- **If the front seats are not operated, the buzzer will not sound.**

b. Memory registration (transmitter key recognition code registration)

i. With the driver door closed, turn the engine switch from ON to OFF, then press and hold seat memory switch 1, seat memory switch 2 or seat memory switch 3. The front power seat switch (position control ECU) will enter transmitter key recognition code registration mode to allow a key to be linked to a seat memory position.

ii. When the transmitter lock or unlock switch is pressed, check that the buzzer of the front power seat switch (position control ECU) sounds once (0.5 seconds).

c. Memory deletion (transmitter key recognition code memory deletion)

i. With the driver door closed, turn the engine switch from ON to OFF, then press and hold SET switch. The front power seat switch (position control ECU) will enter transmitter key recognition code deletion mode.

ii. When the transmitter lock or unlock switch is pressed, check that the buzzer of the front power seat switch (position control ECU) sounds twice (0.1 seconds each time).

## MEMORY CALL EMERGENCY STOP FUNCTION

a. While a memory call function is operating, check that performing one of the following will stop the memory call operation: 1) press the seat memory SET switch, seat memory switch 1, seat memory switch 2 or seat memory switch 3, or 2) press the front power seat switch (position control ECU).

**for Preparation** Click here

**HINT:**

- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to the system before inspecting the suspected areas below.**

**Front Power Seat Control System (for Driver Side)**

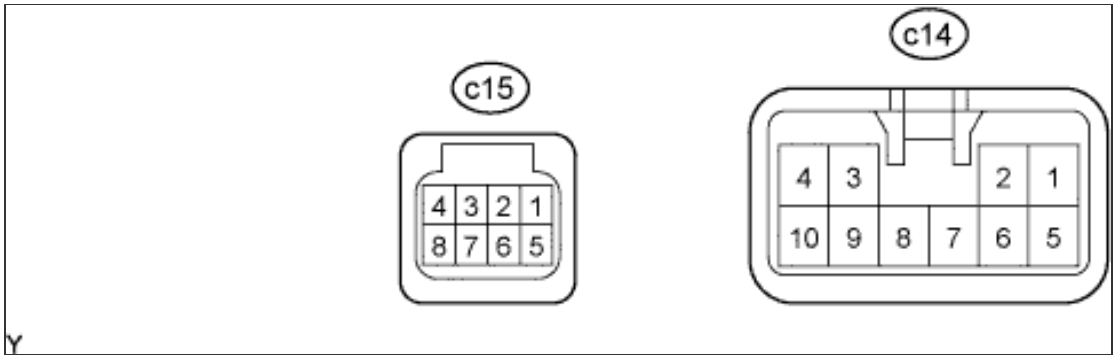
| Symptom | Suspected Area | See page |
|---|---|---|
| Front power seat does not operate with front power seat switch. | Front Power Seat does not Operate with Front Power Seat Switch | Click here |
| One or more power seat motors do not operate. | One or more Power Seat Motors do not Operate | Click here |
| Power seat position is not memorized. | Power Seat Position is not Memorized | Click here |
| Power seat does not return to memorized position. | Position control ECU and switch | - |
| Wireless transmitter memory function does not operate. | Wireless Transmitter Memory Function does not Operate | Click here |
| Wireless-linked return function does not operate. | Wireless-linked Return Function does not Operate | Click here |

**Front Power Seat Control System (for Passenger Side)**

| Symptom | Suspected Area | See page |
|---|---|---|
| Front power seat does not operate (slide, front vertical, lifter, reclining). | FR P/SEAT RH fuse (for LHD) | - |
| | FR P/SEAT LH fuse (for RHD) | - |
| | Power seat switch | Click here |
| | Harness or connector | - |
| Only slide operation function does not operate. | Power seat switch | Click here |
| | Slide motor | Click here |
| | Harness or connector | - |
| Only front vertical operation function does not operate. | Power seat switch | Click here |
| | Front vertical motor | Click here |
| | Harness or connector | - |
| Only lifter operation function does not operate. | Power seat switch | Click here |
| | Lifter motor | Click here |
| | Harness or connector | - |
| Only reclining operation function does not operate. | Power seat switch | Click here |
| | Reclining motor | Click here |
| | Harness or connector | - |

**for Preparation** Click here

## CHECK POSITION CONTROL ECU AND SWITCH (for LHD)




a. Disconnect the c14 and c15 switch connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c14-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| c14-5 (+B) - c14-1 (GND) | L - W-B | Power source | Always | 11 to 14 V |
| c15-4 (IG) - c14-1 (GND) | G - W-B | Engine switch signal | Engine switch off | Below 1 V |
| | | | Engine switch on (IG) | 11 to 14 V |
| c15-8 (SYSB) - c14-1 (GND) | R - W-B | System power source | Always | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

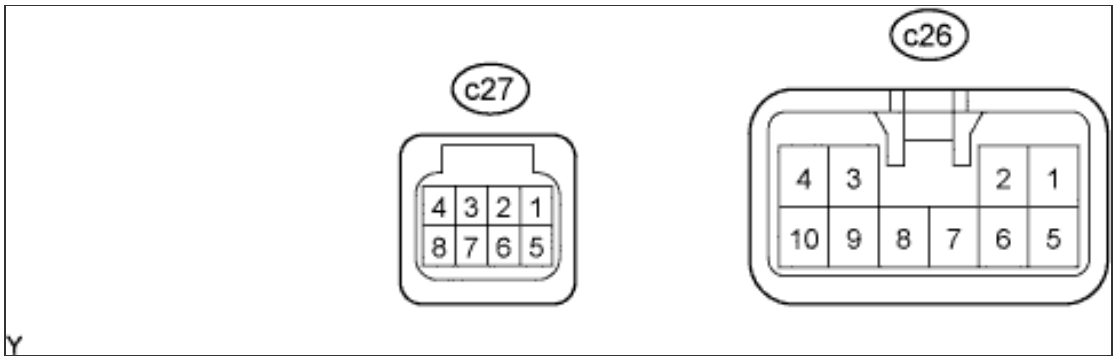
c. Reconnect the c14 and c15 switch connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c14-2 (SLD+) - c14-1 (GND) | B - W-B | Sliding motor signal (forward) | Slide switch off | Below 1 V |
| | | | Slide switch front on | 11 to 14 V |
| c14-3 (SLD-) - c14-1 (GND) | P - W-B | Sliding motor signal (rearward) | Slide switch off | Below 1 V |
| | | | Slide switch rear on | 11 to 14 V |
| c14-6 (FRV+) - c14-1 (GND) | R - W-B | Front vertical motor signal (upward) | Front vertical switch off | Below 1 V |
| | | | Front vertical switch up on | 11 to 14 V |
| c14-4 (FRV-) - c14-1 (GND) | LG - W-B | Front vertical motor signal (downward) | Front vertical switch off | Below 1 V |
| | | | Front vertical switch down on | 11 to 14 V |
| c14-7 (LFT+) - c14-1 (GND) | G - W-B | Lifter motor signal (upward) | Lifter switch off | Below 1 V |
| | | | Lifter switch up on | 11 to 14 V |
| c14-9 (LFT-) - c14-1 (GND) | W - W-B | Lifter motor signal (downward) | Lifter switch off | Below 1 V |
| | | | Lifter switch down on | 11 to 14 V |
| c14-8 (RCL+) - c14-1 (GND) | GR - W-B | Reclining motor signal (forward) | Reclining switch off | Below 1 V |
| | | | Reclining switch front on | 11 to 14 V |
| c14-10 (RCL-) - c14-1 (GND) | Y - W-B | Reclining motor signal (rearward) | Reclining switch off | Below 1 V |
| | | | Reclining switch rear on | 11 to 14 V |

If the result is not as specified, the position control ECU and switch may have a malfunction.

## CHECK POSITION CONTROL ECU AND SWITCH (for RHD)




a. Disconnect the c26 and c27 switch connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c26-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| c26-5 (+B) - c26-1 (GND) | L - W-B | Power source | Always | 11 to 14 V |
| c27-4 (IG) - c26-1 (GND) | G - W-B | Engine switch signal | Engine switch off | Below 1 V |
| | | | Engine switch on (IG) | 11 to 14 V |
| c27-8 (SYSB) - c26-1 (GND) | R - W-B | System power source | Always | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

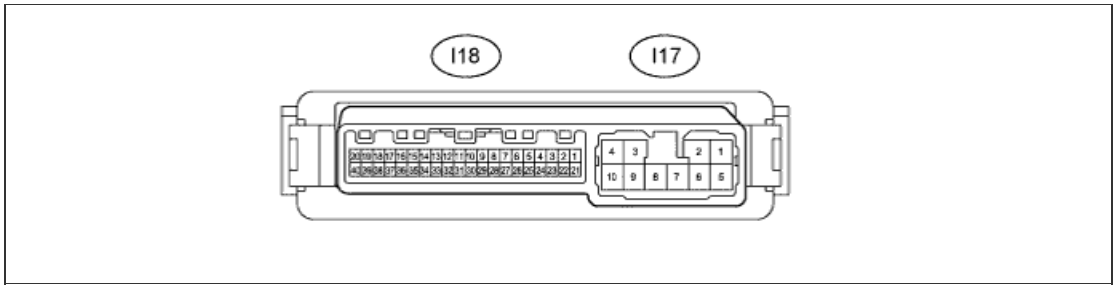
c. Reconnect the c26 and c27 switch connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c26-2 (SLD+) - c26-1 (GND) | B - W-B | Sliding motor signal (forward) | Slide switch off | Below 1 V |
| | | | Slide switch front on | 11 to 14 V |
| c26-3 (SLD-) - c26-1 (GND) | P - W-B | Sliding motor signal (rearward) | Slide switch off | Below 1 V |
| | | | Slide switch rear on | 11 to 14 V |
| c26-6 (FRV+) - c26-1 (GND) | R - W-B | Front vertical motor signal (upward) | Front vertical switch off | Below 1 V |
| | | | Front vertical switch up on | 11 to 14 V |
| c26-4 (FRV-) - c26-1 (GND) | LG - W-B | Front vertical motor signal (downward) | Front vertical switch off | Below 1 V |
| | | | Front vertical switch down on | 11 to 14 V |
| c26-7 (LFT+) - c26-1 (GND) | G - W-B | Lifter motor signal (upward) | Lifter switch off | Below 1 V |
| | | | Lifter switch up on | 11 to 14 V |
| c26-9 (LFT-) - c26-1 (GND) | W - W-B | Lifter motor signal (downward) | Lifter switch off | Below 1 V |
| | | | Lifter switch down on | 11 to 14 V |
| c26-8 (RCL+) - c26-1 (GND) | GR - W-B | Reclining motor signal (forward) | Reclining switch off | Below 1 V |
| | | | Reclining switch front on | 11 to 14 V |
| c26-10 (RCL-) - c26-1 (GND) | Y - W-B | Reclining motor signal (rearward) | Reclining switch off | Below 1 V |
| | | | Reclining switch rear on | 11 to 14 V |

If the result is not as specified, the position control ECU and switch may have a malfunction.

## CHECK OUTER MIRROR CONTROL ECU (for LHD)



a. Disconnect the I17 and I18 ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| I18-10 (MSWE) - I17-9 (GND) | BR - W-B | Ground for seat memory switch | Always | Below 1 Ω |
| I17-9 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| I17-3 (B) - I17-9 (GND) | R - W-B | Battery (ECU power source) | Always | 11 to 14 V |
| I17-4 (ACC) - I17-9 (GND) | GR - W-B | Engine switch (ACC) power source supply | Engine switch off | Below 1 V |
| | | | Engine switch on (ACC) | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

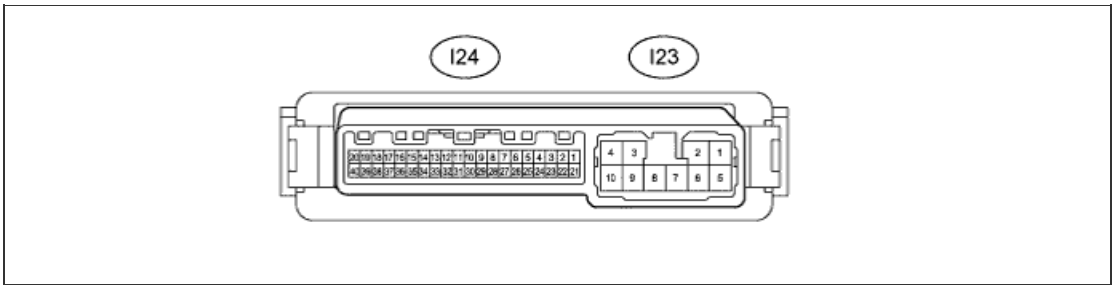
c. Reconnect the I17 and I18 ECU connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| I18-6 (M3) - I18-10 (MSWE) | B - BR | Seat memory switch 3 signal for seat memory switch | Seat memory switch 3 on | 11 to 14 V |
| | | | Seat memory switch 3 off | Below 1 V |
| I18-7 (M2) - I18-10 (MSWE) | W - BR | Seat memory switch 2 signal for seat memory switch | Seat memory switch 2 on | 11 to 14 V |
| | | | Seat memory switch 2 off | Below 1 V |
| I18-8 (M1) - I18-10 (MSWE) | G - BR | Seat memory switch 1 signal for seat memory switch | Seat memory switch 1 on | 11 to 14 V |
| | | | Seat memory switch 1 off | Below 1 V |
| I18-9 (MM) - I18-10 (MSWE) | B - BR | Seat memory SET switch signal for seat memory switch | Seat memory SET switch on | 11 to 14 V |
| | | | Seat memory SET switch off | Below 1 V |

If the result is not as specified, the outer mirror control ECU may have a malfunction.

## CHECK OUTER MIRROR CONTROL ECU (for RHD)




a. Disconnect the I23 and I24 ECU connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| I24-10 (MSWE) - I23-9 (GND) | BR - W-B | Ground for seat memory switch | Always | Below 1 Ω |
| I23-9 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| I23-3 (B) - I23-9 (GND) | R - W-B | Battery (ECU power source) | Always | 11 to 14 V |
| I23-4 (ACC) - I23-9 (GND) | GR - W-B | Engine switch (ACC) power source supply | Engine switch off | Below 1 V |
| | | | Engine switch on (ACC) | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the I23 and I24 ECU connectors.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| I24-6 (M3) - I24-10 (MSWE) | B - BR | Seat memory switch 3 signal for seat memory switch | Seat memory switch 3 on | 11 to 14 V |
| | | | Seat memory switch 3 off | Below 1 V |
| I24-7 (M2) - I24-10 (MSWE) | W - BR | Seat memory switch 2 signal for seat memory switch | Seat memory switch 2 on | 11 to 14 V |
| | | | Seat memory switch 2 off | Below 1 V |
| I24-8 (M1) - I24-10 (MSWE) | G - BR | Seat memory switch 1 signal for seat memory switch | Seat memory switch 1 on | 11 to 14 V |
| | | | Seat memory switch 1 off | Below 1 V |
| I24-9 (MM) - I24-10 (MSWE) | B - BR | Seat memory SET switch signal for seat memory switch | Seat memory SET switch on | 11 to 14 V |
| | | | Seat memory SET switch off | Below 1 V |

If the result is not as specified, the outer mirror control ECU may have a malfunction.

**for Preparation** Click here

## DATA LIST

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Turn the engine switch off.

b. Connect the intelligent tester to the DLC3.

c. Turn the engine switch on (IG).

d. Turn the intelligent tester on.

e. Enter the following menus: Body / (desired system) / Data List.

f. According to the display on the intelligent tester, read the Data List.

**Mirror**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Driver Side SET Mem SW | Driver side seat memory SET switch / ON or OFF | ON: Driver side seat memory SET switch on<br>OFF: Driver side seat memory SET switch off | - |
| Driver Side Memory SW 1 | Driver side seat memory switch 1 / ON or OFF | ON: Driver side seat memory switch 1 on<br>OFF: Driver side seat memory switch 1 off | - |
| Driver Side Memory SW 2 | Driver side seat memory switch 2 / ON or OFF | ON: Driver side seat memory switch 2 on<br>OFF: Driver side seat memory switch 2 off | - |
| Driver Side Memory SW 3 | Driver side seat memory switch 3 / ON or OFF | ON: Driver side seat memory switch 3 on<br>OFF: Driver side seat memory switch 3 off | - |

**Driver Seat**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Reclining Rear | Reclining switch signal (Rearward) / ON or OFF | ON: Reclining switch (Rearward) on<br>OFF: Reclining switch (Rearward) off | - |
| Reclining Front | Reclining switch signal (Forward) / ON or OFF | ON: Reclining switch (Forward) on<br>OFF: Reclining switch (Forward) off | - |
| Front Vertical Down | Front vertical switch signal (Downward) / ON or OFF | ON: Front vertical switch (Downward) on<br>OFF: Front vertical switch (Downward) off | - |
| Front Vertical Up | Front vertical switch signal (Upward) / ON or OFF | ON: Front vertical switch (Upward) on<br>OFF: Front vertical switch (Upward) off | - |
| Lifter Switch Down | Lifter switch signal (Downward) / ON or OFF | ON: Lifter switch (Downward) on<br>OFF: Lifter switch (Downward) off | - |
| | | ON: Lifter switch (Upward) on | |

| | | | |
|---|---|---|---|
| Lifter Switch Up | Lifter switch signal (Upward) / ON or OFF | OFF: Lifter switch (Upward) off | - |
| Slide Rear | Sliding switch signal (Rearward) / ON or OFF | ON: Sliding switch (Rearward) on<br>OFF: Sliding switch (Rearward) off | - |
| Slide Front | Sliding switch signal (Forward) / ON or OFF | ON: Sliding switch (Forward) on<br>OFF: Sliding switch (Forward) off | - |
| SET Switch | Seat memory SET switch signal / ON or OFF | ON: Seat memory SET switch on<br>OFF: Seat memory SET switch off | - |
| M1 Switch | Seat memory switch 1 signal / ON or OFF | ON: Seat memory switch 1 on<br>OFF: Seat memory switch 1 off | - |
| M2 Switch | Seat memory switch 2 signal / ON or OFF | ON: Seat memory switch 2 on<br>OFF: Seat memory switch 2 off | - |
| M3 Switch | Seat memory switch 3 signal / ON or OFF | ON: Seat memory switch 3 on<br>OFF: Seat memory switch 3 off | - |
| Seat Memory No1 | Seat position memorized with seat memory switch 1 / Mem or Not Mem | Mem: Memorized<br>Not Mem: Not memorized | - |
| Seat Memory No2 | Seat position memorized with seat memory switch 2 / Mem or Not Mem | Mem: Memorized<br>Not Mem: Not memorized | - |
| Seat Memory No3 | Seat position memorized with seat memory switch 3 / Mem or Not Mem | Mem: Memorized<br>Not Mem: Not memorized | - |
| Ignition Switch | Communication state of engine switch signal / ON or OFF | ON: Engine switch on (IG) signal is received<br>OFF: Engine switch off signal is not received | - |
| Key Switch | Engine switch status (IG) / ON or OFF | ON: Engine switch on (IG)<br>OFF: Engine switch off | - |
| Key Code Conf | Recognition code is registered / ON or OFF | ON: One more recognition codes registered<br>OFF: No recognition code registered | - |
| D-Door Courtesy | Door courtesy switch signal / ON or OFF | ON: Driver side door open<br>OFF: Driver side door closed | - |
| P Switch | Shift lever position P signal / ON or OFF | ON: Shift lever in P<br>OFF: Shift lever not in P | - |
| Parking Brake SW | Parking brake switch status / ON or OFF | ON: Parking brake operated<br>OFF: Parking brake released | - |
| Vehicle Speed | Vehicle speed data / Min.: 0 km/h (0 mph), Max.: 255 km/h (158 mph) | Actual vehicle speed | - |
| Power Voltage | Power supply for driver seat ECU / MIN: 0 V, MAX: 19.89 V | Within range from 11 V to 14 V | - |
| Slide Position | Seat sliding position / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Reclining Position | Seatback position / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Front Vertical Position | Seat front vertical position / MIN: 4096 MAX: 61440 | Within range from 4096 to 61440 | - |
| Lifter Position | Seat lifter position / MIN: 4096 MAX: 61440 | Within range from 4096 to 61440 | - |
| Slide Pos Mem No1 | Seat sliding position memorized with seat memory switch 1 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Reclining Pos Mem No1 | Seatback position memorized with seat memory switch 1 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Frnt Vrtcl Pos Mem No1 | Front vertical position memorized with seat memory switch 1 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Lifter Pos Mem No1 | Lifter position memorized with seat memory switch 1 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Slide Pos Mem No2 | Seat sliding position memorized with seat memory switch 2 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Reclining Pos Mem No2 | Seatback position memorized with seat memory switch 2 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Frnt Vrtcl Pos Mem No2 | Front vertical position memorized with seat memory switch 2 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Lifter Pos Mem No2 | Lifter position memorized with seat memory switch 2 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Slide Pos Mem | Seat sliding position memorized with seat memory switch 3 / | | |

| | | | |
|---|---|---|---|
| No3 | MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Reclining Pos Mem No3 | Seatback position memorized with seat memory switch 3 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Frnt Vrtcl Pos Mem No3 | Front vertical position memorized with seat memory switch 3 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |
| Lifter Pos Mem No3 | Lifter position memorized with seat memory switch 3 / MIN: 4096, MAX: 61440 | Within range from 4096 to 61440 | - |

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Turn the engine switch off.

b. Connect the intelligent tester to the DLC3.

c. Turn the engine switch on (IG).

d. Turn the intelligent tester on.

e. Enter the following menus: Body / (desired system) / Active Test.

f. According to the display on the intelligent tester, perform the Active Test.

**Driver Seat**

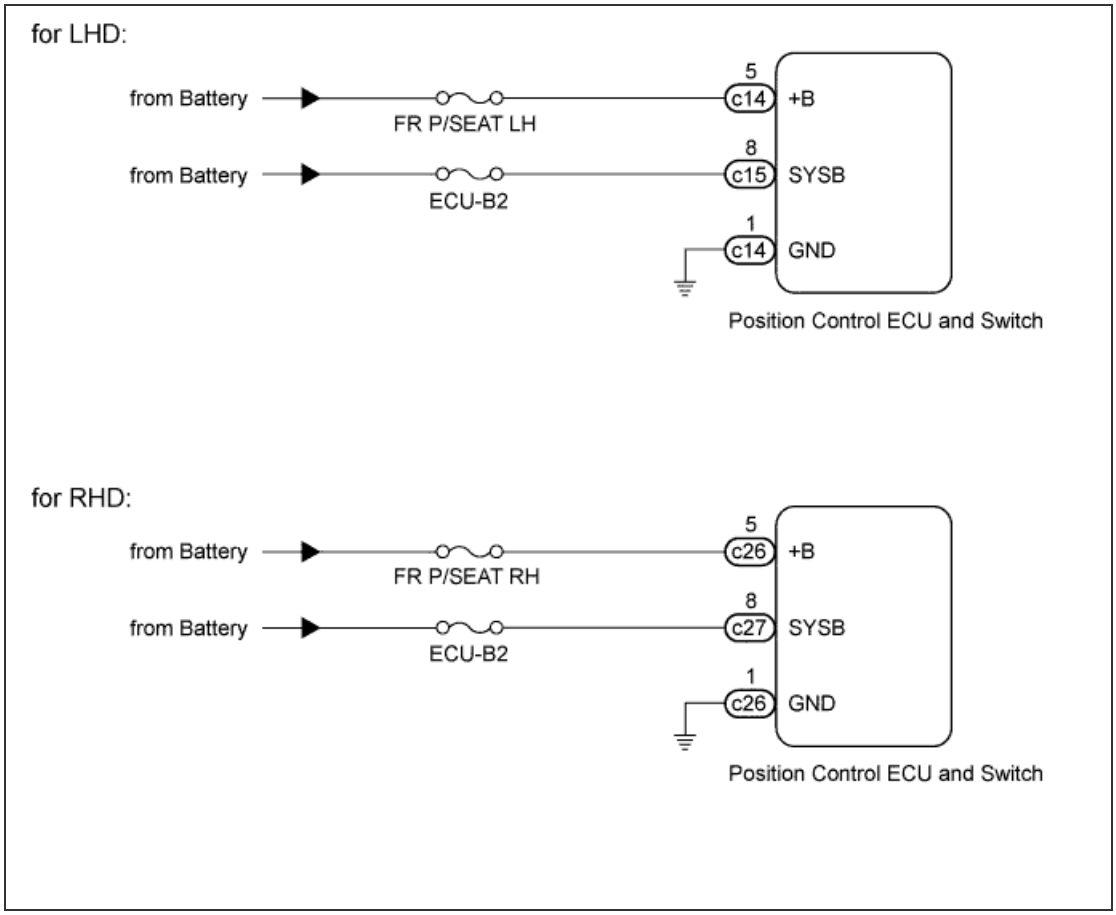
| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Seat Reclining | Seat reclining operation | Front / OFF / Rear | - |
| Front Vertical Operation | Seat front vertical operation | Up / OFF / Down | - |
| Lifter Operation | Seat lifter operation | Up / OFF / Down | - |
| Seat Slide Operation | Seat sliding operation | Front / OFF / Rear | - |
| Buzzer | Buzzer operation | ON / OFF | - |

**for Preparation** Click here

## DESCRIPTION

When a signal is input into the position control ECU, the ECU manages the signals received from the front power seat switch LH, and operates each motor. When 2 or more signals are input, the motors only operate when the signals are from the slide switch and reclining switch.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (FR P/SEAT LH, FR P/SEAT RH, ECU-B2)

a. Remove the FR P/SEAT LH*1, FR P/SEAT RH*2 and ECU-B2 fuses from the main body ECU.

**HINT:**

*1: for LHD

*2: for RHD

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| FR P/SEAT LH fuse | Always | Below 1 Ω |
| ECU-B2 fuse | Always | Below 1 Ω |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| FR P/SEAT RH fuse | Always | Below 1 Ω |
| ECU-B2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

## 2.CHECK HARNESS AND CONNECTOR (POSITION CONTROL ECU AND SWITCH - BATTERY AND BODY GROUND)

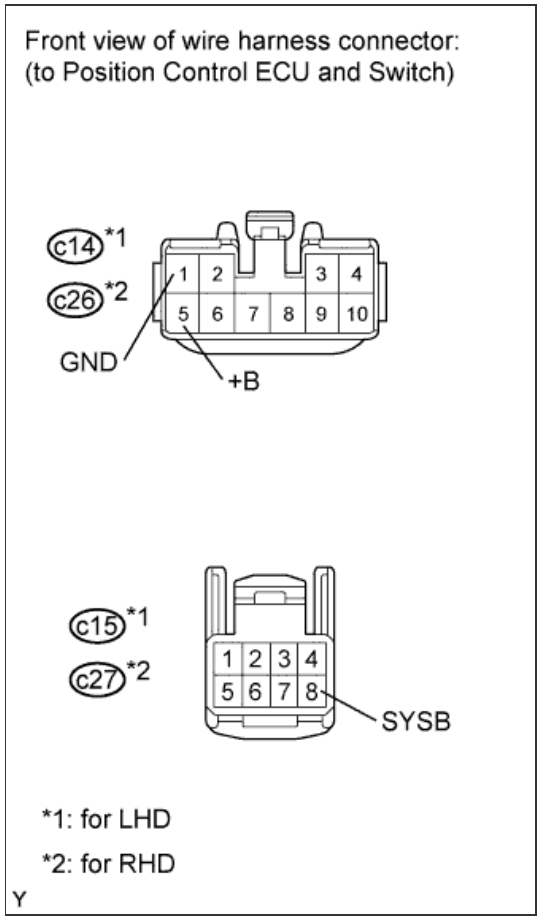
a. Disconnect the c14*1, c15*1 or c26*2, c27*2 switch connectors.

**HINT:**

*1: for LHD

*2: for RHD

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c14-5 (+B) - Body ground | Always | 11 to 14 V |
| c15-8 (SYSB) - Body ground | Always | 11 to 14 V |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c26-5 (+B) - Body ground | Always | 11 to 14 V |
| c27-8 (SYSB) - Body ground | Always | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c14-1 (GND) - Body ground | Always | Below 1 Ω |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c26-1 (GND) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

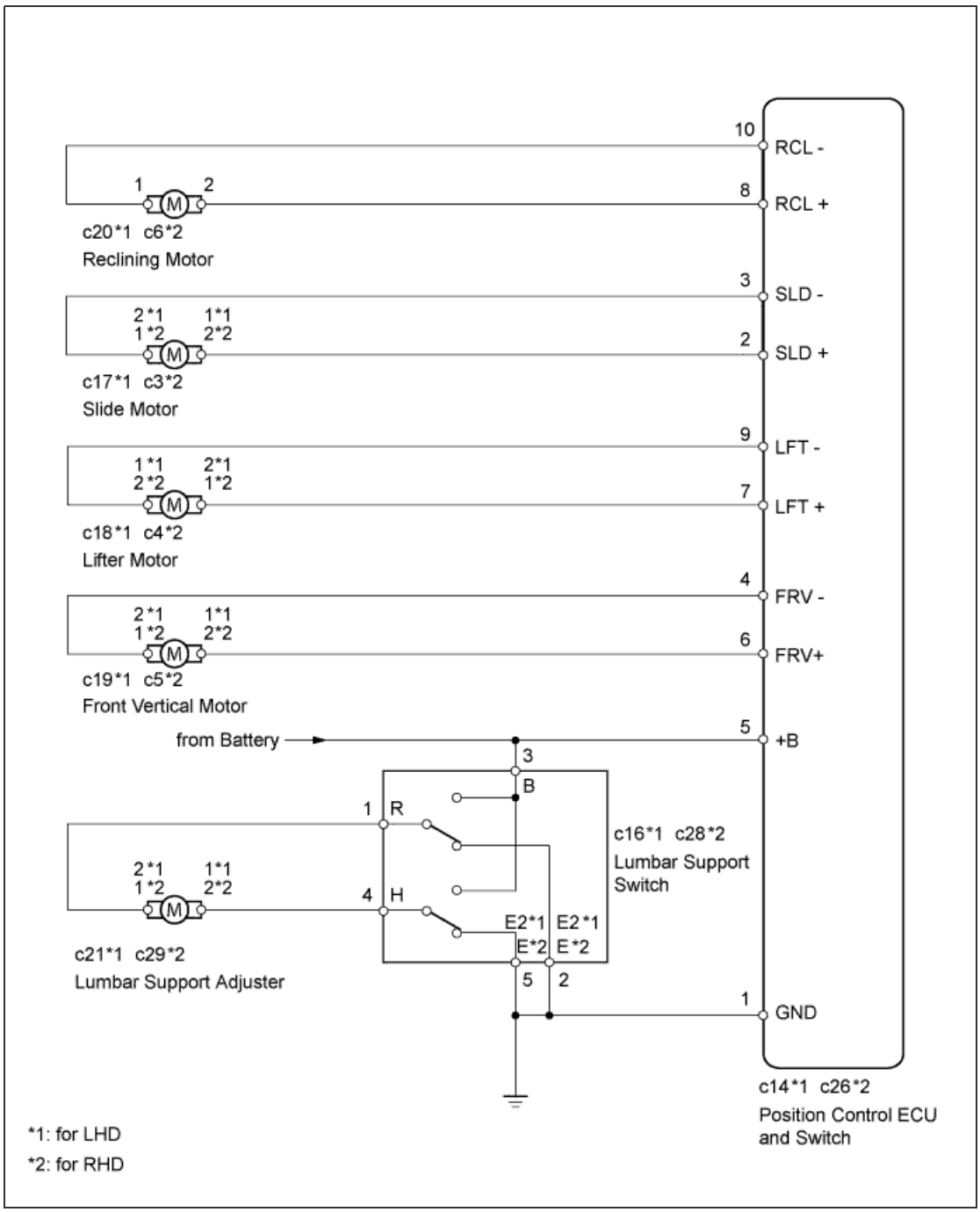
REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

**for Preparation** Click here

## DESCRIPTION

When the front power seat switch is operated, a command signal is sent to the position control ECU. The position control ECU then controls the appropriate seat motor as needed. The position control ECU is designed so that a malfunction of the seat memory system will not interfere with manual seat control.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.CHECK FRONT POWER SEAT OPERATION

a. Check that each function of the power seat operates normally by using the front power seat switches.

**Result**

| Result | Proceed to |
|---|---|

| | |
|---|---|
| All front power seat switch operations are malfunctioning except lumbar support switch operation | A |
| Only lumbar support switch operation is malfunctioning | B |

B → Go to step 6

A

## 2.READ VALUE USING INTELLIGENT TESTER (FRONT POWER SEAT SWITCH)

a. Using the intelligent tester, read the Data List.

**Driver Seat**

| Item | Measurement Item/Display (Range) | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Reclining Rear | Reclining switch signal (Rearward) / ON or OFF | ON: Reclining switch (Rearward) on<br>OFF: Reclining switch (Rearward) off | - |
| Reclining Front | Reclining switch signal (Forward) / ON or OFF | ON: Reclining switch (Forward) on<br>OFF: Reclining switch (Forward) off | - |
| Front Vertical Down | Front vertical switch signal (Downward) / ON or OFF | ON: Front vertical switch (Downward) on<br>OFF: Front vertical switch (Downward) off | - |
| Front Vertical Up | Front vertical switch signal (Upward) / ON or OFF | ON: Front vertical switch (Upward) on<br>OFF: Front vertical switch (Upward) off | - |
| Lifter Switch Down | Lifter switch signal (Downward) / ON or OFF | ON: Lifter switch (Downward) on<br>OFF: Lifter switch (Downward) off | - |
| Lifter Switch Up | Lifter switch signal (Upward) / ON or OFF | ON: Lifter switch (Upward) on<br>OFF: Lifter switch (Upward) off | - |
| Slide Rear | Sliding switch signal (Rearward) / ON or OFF | ON: Sliding switch (Rearward) on<br>OFF: Sliding switch (Rearward) off | - |
| Slide Front | Sliding switch signal (Forward) / ON or OFF | ON: Sliding switch (Forward) on<br>OFF: Sliding switch (Forward) off | - |

**OK:**
**On intelligent tester screen, each item changes between ON and OFF according to above chart.**

NG → REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

OK

## 3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (FRONT POWER SEAT MOTOR)

a. Using the intelligent tester, perform the Active Test.

**Driver Seat**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Seat Reclining | Seat reclining operation | Front / OFF / Rear | - |
| Front Vertical Operation | Seat front vertical operation | Up / OFF / Down | - |
| Lifter Operation | Seat lifter operation | Up / OFF / Down | - |
| Seat Slide Operation | Seat sliding operation | Front / OFF / Rear | - |

**OK:**
**The power seat motors operate normally.**

NG → Go to step 4

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

## 4.INSPECT FRONT SEAT ASSEMBLY (FRONT POWER SEAT MOTOR)

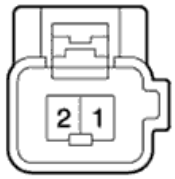
a. Remove the front seat assembly LH (for LHD) ( Click here).

b. Remove the front seat assembly RH (for RHD) ( Click here).

c. Check operation of the slide motor.

i. Check if the seat moves smoothly when the battery is connected to the slide motor connector terminals.

Component without harness connected:
(Slide Motor)




**OK:**

**for LHD**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Forward |
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Rearward |

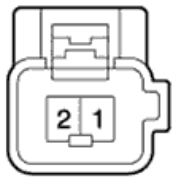
**for RHD**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Forward |
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Rearward |

d. Check operation of the front vertical motor.

i. Check if the seat moves smoothly when the battery is connected to the front vertical motor connector terminals.

Component without harness connected:
(Front Vertical Motor)




**OK:**

**for LHD**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Upward |
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Downward |

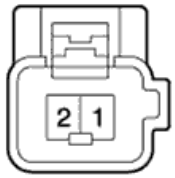
**for RHD**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Upward |
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Downward |

e. Check operation of the lifter motor.

i. Check if the seat moves smoothly when the battery is connected to the lifter motor connector terminals.

Component without harness connected:
(Lifter Motor)




**OK:**

**for LHD**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Upward |
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Downward |

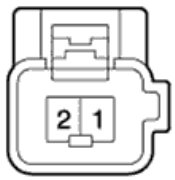
**for RHD**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Upward |
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Downward |

f. Check operation of the reclining motor.

i. Check if the seat moves smoothly when the battery is connected to the reclining motor connector terminals.

Component without harness connected:
(Reclining Motor)




**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Forward |
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Rearward |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for LHD) | B |
| NG (for RHD) | C |

| | |
|---|---|
| B | REPLACE FRONT SEAT ASSEMBLY LH (Click here) |
| C | REPLACE FRONT SEAT ASSEMBLY RH |

A

## 5.CHECK HARNESS AND CONNECTOR (POSITION CONTROL ECU AND SWITCH - POWER SEAT MOTOR)

a. Disconnect the c14*1 or c26*2 switch connector.

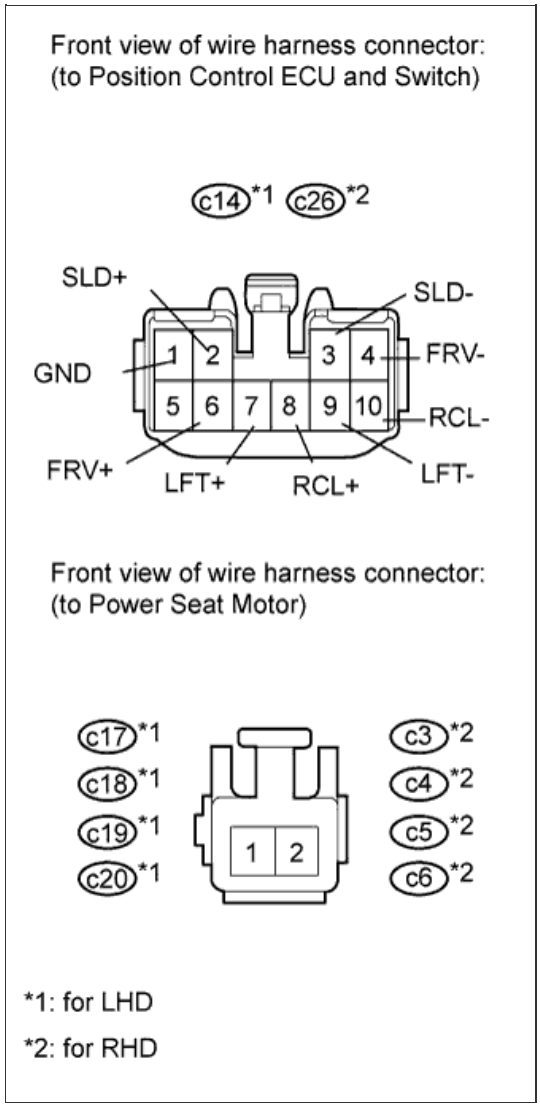
b. Disconnect the c17*1, c18*1, c19*1, c20*1 or c3*2, c4*2, c5*2, c6*2 motor connectors.

**HINT:**

*1: for LHD

*2: for RHD

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c14-3 (SLD-) - c17-2 | Always | Below 1 Ω |
| c14-2 (SLD+) - c17-1 | Always | Below 1 Ω |
| c14-4 (FRV-) - c19-2 | Always | Below 1 Ω |
| c14-6 (FRV+) - c19-1 | Always | Below 1 Ω |
| c14-9 (LFT-) - c18-1 | Always | Below 1 Ω |
| c14-7 (LFT+) - c18-2 | Always | Below 1 Ω |
| c14-10 (RCL-) - c20-1 | Always | Below 1 Ω |
| c14-8 (RCL+) - c20-2 | Always | Below 1 Ω |
| c14-1 (GND) - Body ground | Always | Below 1 Ω |
| c14-3 (SLD-) or c17-2 - Body ground | Always | 10 kΩ or higher |
| c14-2 (SLD+) or c17-1 - Body ground | Always | 10 kΩ or higher |
| c14-4 (FRV-) or c19-2 - Body ground | Always | 10 kΩ or higher |
| c14-6 (FRV+) or c19-1 - Body ground | Always | 10 kΩ or higher |
| c14-9 (LFT-) or c18-1 - Body ground | Always | 10 kΩ or higher |
| | | |

| | | |
|---|---|---|
| c14-7 (LFT+) or c18-2 - Body ground | Always | 10 kΩ or higher |
| c14-10 (RCL-) or c20-1 - Body ground | Always | 10 kΩ or higher |
| c14-8 (RCL+) or c20-2 - Body ground | Always | 10 kΩ or higher |

for RHD

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c26-3 (SLD-) - c3-1 | Always | Below 1 Ω |
| c26-2 (SLD+) - c3-2 | Always | Below 1 Ω |
| c26-4 (FRV-) - c5-1 | Always | Below 1 Ω |
| c26-6 (FRV+) - c5-2 | Always | Below 1 Ω |
| c26-9 (LFT-) - c4-2 | Always | Below 1 Ω |
| c26-7 (LFT+) - c4-1 | Always | Below 1 Ω |
| c26-10 (RCL-) - c6-1 | Always | Below 1 Ω |
| c26-8 (RCL+) - c6-2 | Always | Below 1 Ω |
| c26-1 (GND) - Body ground | Always | Below 1 Ω |
| c26-3 (SLD-) or c3-1 - Body ground | Always | 10 kΩ or higher |
| c26-2 (SLD+) or c3-2 - Body ground | Always | 10 kΩ or higher |
| c26-4 (FRV-) or c5-1 - Body ground | Always | 10 kΩ or higher |
| c26-6 (FRV+) or c5-2 - Body ground | Always | 10 kΩ or higher |
| c26-9 (LFT-) or c4-2 - Body ground | Always | 10 kΩ or higher |
| c26-7 (LFT+) or c4-1 - Body ground | Always | 10 kΩ or higher |
| c26-10 (RCL-) or c6-1 - Body ground | Always | 10 kΩ or higher |
| c26-8 (RCL+) or c6-2 - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

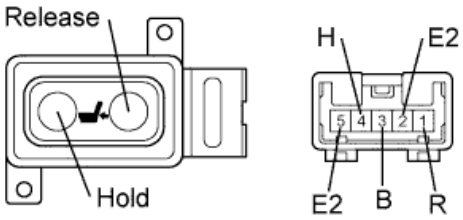
### 6.INSPECT LUMBAR SUPPORT SWITCH

a. Remove the lumbar support switch (Click here).

b. Measure the resistance according to the value(s) in the table below.

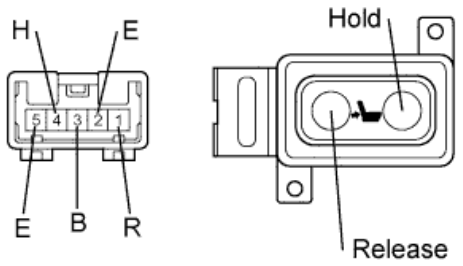
for LHD:

Component without harness connected:
(Lumbar Support Switch)




for RHD:

Component without harness connected:
(Lumbar Support Switch)




**Standard Resistance:**

for LHD

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (B) - 4 (H) | Hold | Below 1 Ω |
| 1 (R) - 2 (E2) | | |
| 4 (H) - 5 (E2) | Off | |
| 1 (R) - 2 (E2) | | |
| 4 (H) - 5 (E2) | Release | |
| 1 (R) - 3 (B) | | |

for RHD

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (B) - 4 (H) | Hold | Below 1 Ω |
| 1 (R) - 2 (E) | | |
| 4 (H) - 5 (E) | Off | |
| 1 (R) - 2 (E) | | |
| 4 (H) - 5 (E) | Release | |
| 1 (R) - 3 (B) | | |

NG → REPLACE LUMBAR SUPPORT SWITCH (Click here)

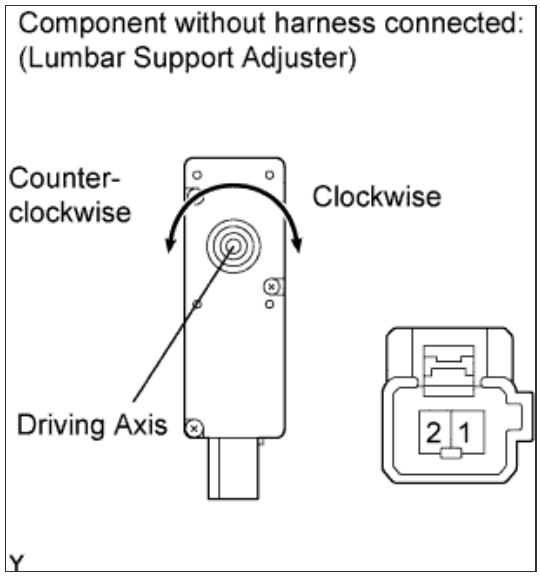
OK

## 7.INSPECT LUMBAR SUPPORT ADJUSTER ASSEMBLY

a. Remove the lumbar support adjuster (Click here).

b. Check operation of the lumbar support adjuster.

i. Check that the lumbar support adjuster moves smoothly when the battery is connected to the lumbar support adjuster motor connector terminals.




**OK:**

**for LHD**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Clockwise |
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Counterclockwise |

**for RHD**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Clockwise |
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Counterclockwise |

NG → REPLACE LUMBAR SUPPORT ADJUSTER ASSEMBLY (Click here)

OK

**8.CHECK HARNESS AND CONNECTOR (LUMBAR SUPPORT SWITCH - BATTERY AND BODY GROUND)**

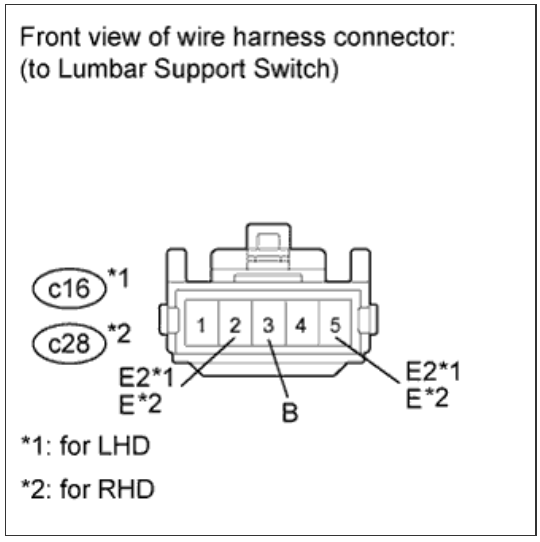
a. Disconnect the c16*1 or c28*2 switch connector.

**HINT:**

*1: for LHD

*2: for RHD

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c16-3 (B) - Body ground | Always | 11 to 14 V |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c28-3 (B) - Body ground | Always | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c16-5 (E2) - Body ground | Always | Below 1 Ω |
| c16-2 (E2) - Body ground | | |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c28-5 (E) - Body ground | Always | Below 1 Ω |
| c28-2 (E) - Body ground | | |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

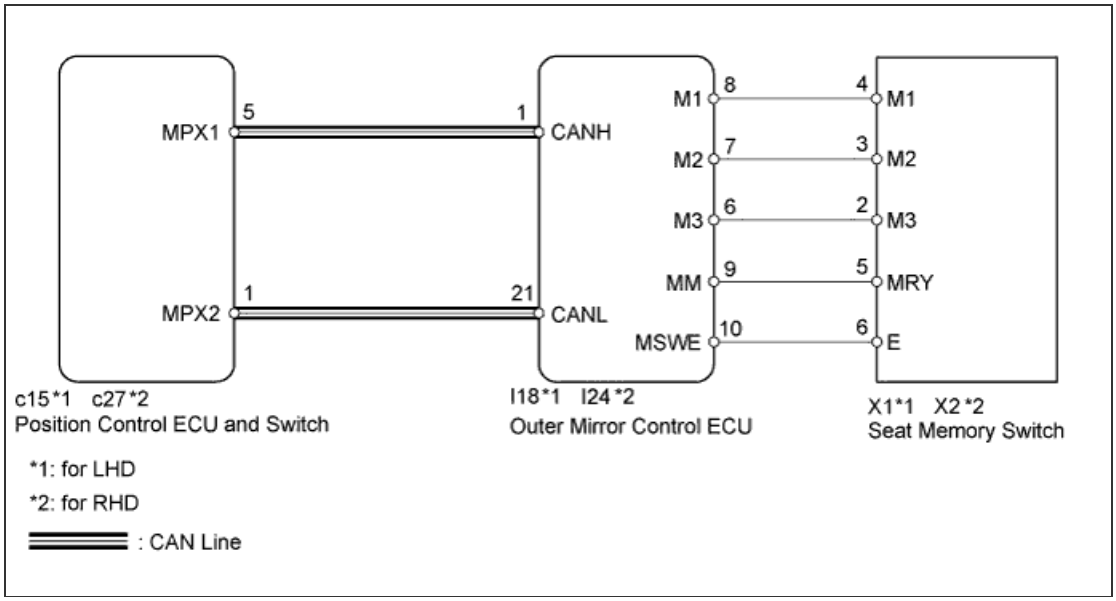
REPAIR OR REPLACE HARNESS OR CONNECTOR (LUMBAR SUPPORT SWITCH - LUMBAR SUPPORT ADJUSTER ASSEMBLY)

**for Preparation** Click here

## DESCRIPTION

When the seat memory SET switch and a seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3) are pressed simultaneously, the outer mirror control ECU commands the position control ECU and switch through CAN communication to record each position value.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

First perform the communication function inspections in How to Proceed with Troubleshooting to confirm that there are no CAN communication malfunctions before troubleshooting this symptom.

### 1.CHECK FRONT POWER SEAT CONTROL FUNCTION

a. Check that each function of the power seat operates normally by using the front power seat switches.

**OK:**
**Each function of power seat operates normally by using seat switches.**

NG → GO TO PROBLEM SYMPTOMS TABLE (Click here)

OK

### 2.CHECK SEAT MEMORY SWITCH FUNCTION

a. Perform a memory operation properly. Check that the buzzer sounds to indicate the completion of the memory operation.

**NOTICE:**

- **The seat position will not be recorded if the seat memory SET switch and 2 or more of the seat memory switches (for example, seat memory switch 1 and seat memory switch 2) are pressed simultaneously.**
- **If a memorizing operation has failed, release all switches. The seat memory function does not operate unless the switches are released.**

**OK:**
**Seat memory switch function operates normally.**

NG → Go to step 3

OK

END

3.CHECK COMBINATION METER FUNCTION

a. When the engine switch is on (IG) and the shift lever is in P, check that the combination meter shows that the shift lever is in P.

**OK:**
**Meter shows that shift lever is in P.**

NG → GO TO METER / GAUGE SYSTEM (Click here)

OK

4.READ VALUE USING INTELLIGENT TESTER (SEAT MEMORY SWITCH)

a. Check the Data List for proper functioning of the seat memory switch.

**Driver Seat**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| SET Switch | Seat memory SET switch signal / ON or OFF | ON: Seat memory SET switch on<br>OFF: Seat memory SET switch off | - |
| M1 Switch | Seat memory switch 1 signal / ON or OFF | ON: Seat memory switch 1 on<br>OFF: Seat memory switch 1 off | - |
| M2 Switch | Seat memory switch 2 signal / ON or OFF | ON: Seat memory switch 2 on<br>OFF: Seat memory switch 2 off | - |
| M3 Switch | Seat memory switch 3 signal / ON or OFF | ON: Seat memory switch 3 on<br>OFF: Seat memory switch 3 off | - |

**OK:**
**On intelligent tester screen, each item changes between ON and OFF according to above chart.**

NG → Go to step 5

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

5.INSPECT SEAT MEMORY SWITCH

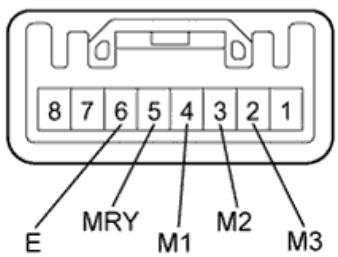
a. Remove the seat memory switch (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 4 (M1) - 6 (E) | Seat memory switch 1 pressed | Below 1 Ω |
| 3 (M2) - 6 (E) | Seat memory switch 2 pressed | Below 1 Ω |
| 2 (M3) - 6 (E) | Seat memory switch 3 pressed | Below 1 Ω |
| 5 (MRY) - 6 (E) | Seat memory SET switch pressed | Below 1 Ω |

Component without harness connected:
(Seat Memory Switch)




NG → REPLACE SEAT MEMORY SWITCH (Click here)

OK

6.CHECK HARNESS AND CONNECTOR (OUTER MIRROR CONTROL ECU - SEAT MEMORY SWITCH)

a. Disconnect the I18*1 or I24*2 ECU connector.

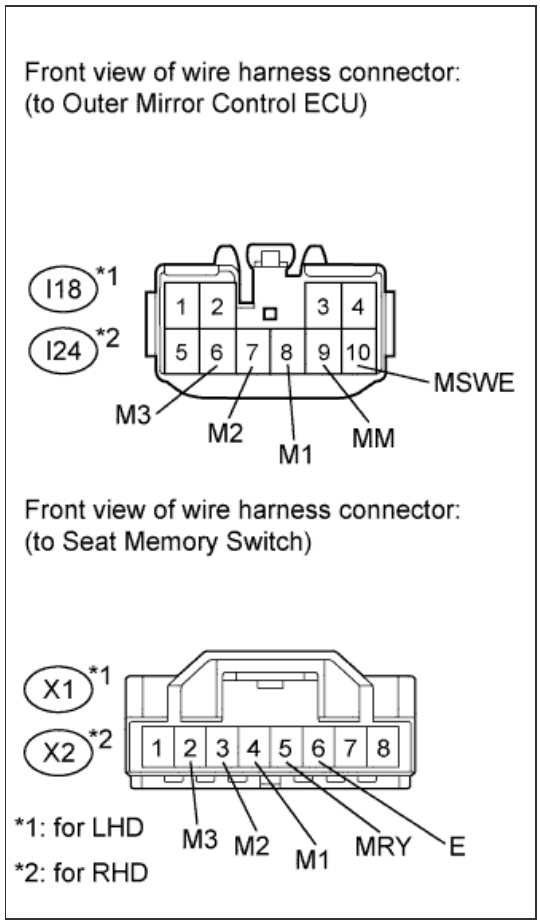
b. Disconnect the X1*1 or X2*2 switch connector.

**HINT:**

*1: for LHD

*2: for RHD

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I18-8 (M1) - X1-4 (M1) | Always | Below 1 Ω |
| I18-7 (M2) - X1-3 (M2) | Always | Below 1 Ω |
| I18-6 (M3) - X1-2 (M3) | Always | Below 1 Ω |
| I18-9 (MM) - X1-5 (MRY) | Always | Below 1 Ω |
| I18-10 (MSWE) - X1-6 (E) | Always | Below 1 Ω |
| I18-8 (M1) - Body ground | Always | 10 kΩ or higher |
| I18-7 (M2) - Body ground | Always | 10 kΩ or higher |
| I18-6 (M3) - Body ground | Always | 10 kΩ or higher |
| I18-9 (MM) - Body ground | Always | 10 kΩ or higher |
| I18-10 (MSWE) - Body ground | Always | 10 kΩ or higher |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I24-8 (M1) - X2-4 (M1) | Always | Below 1 Ω |
| I24-7 (M2) - X2-3 (M2) | Always | Below 1 Ω |
| I24-6 (M3) - X2-2 (M3) | Always | Below 1 Ω |
| I24-9 (MM) - X2-5 (MRY) | Always | Below 1 Ω |
| I24-10 (MSWE) - X2-6 (E) | Always | Below 1 Ω |
| I24-8 (M1) - Body ground | Always | 10 kΩ or higher |
| I24-7 (M2) - Body ground | Always | 10 kΩ or higher |
| I24-6 (M3) - Body ground | Always | 10 kΩ or higher |
| I24-9 (MM) - Body ground | Always | 10 kΩ or higher |
| I24-10 (MSWE) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.CHECK OUTER MIRROR CONTROL ECU (OPERATION)

a. After replacing the outer mirror control ECU, check that the front power seat control functions operate normally using the front seat switches and seat memory switch.

**OK:**

**Front power seat control functions operate normally.**

NG → REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

OK

END (REPLACE OUTER MIRROR CONTROL ECU) (Click here)

**for Preparation** Click here

## DESCRIPTION

With the engine switch off and the driver door closed, press the transmitter lock or unlock switch while holding a seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3). Doing so will register the transmitter recognition code into the seat memory switch that was pressed. After the registration is complete, the answer-back buzzer sounds.

## INSPECTION PROCEDURE

### 1.CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

a. Using the standard operation procedure, check that the wireless door lock/unlock operates normally.

**OK:**
**Wireless door lock/unlock operates normally.**

**HINT:**

The standard operating procedure is as follows:

Hold the transmitter approximately 1 m (3.28 ft.) from the driver door outside handle. Press and hold the transmitter lock or unlock switch for 1 second.

NG → GO TO WIRELESS DOOR LOCK CONTROL SYSTEM (Click here)

OK ↓

### 2.CHECK POWER DOOR LOCK CONTROL FUNCTION

a. Using the standard operation procedure, check that the power door lock/unlock operates normally.

**OK:**
**Power door lock/unlock operates normally.**

NG → GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

OK ↓

### 3.CHECK SEAT MEMORY SWITCH FUNCTION (SEAT POSITION MEMORY FUNCTION)

a. Perform a memory operation properly. Check that the buzzer sounds to indicate the completion of the memory operation.

**NOTICE:**

- **The seat position will not be recorded if the seat memory SET switch and 2 or more of the seat memory switches (for example, seat memory switch 1 and seat memory switch 2) are pressed simultaneously.**
- **If a memorizing operation has failed, release all switches. The seat memory function does not operate unless the switches are released.**

**OK:**
**Seat memory switch function operates normally.**

NG → GO TO PROBLEM SYMPTOMS TABLE (Click here)

OK ↓

### 4.CHECK MEMORY CALL FUNCTION (REGISTER RECOGNITION CODE)

a. While pressing the seat memory switch 1, seat memory switch 2 or seat memory switch 3, press the transmitter lock or unlock switch. Then check that the buzzer sounds normally.

**OK:**
**Buzzer sounds normally.**

NG → REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

OK

END

**for Preparation** Click here

## DESCRIPTION

When a door is unlocked, the certification ECU (smart key ECU) sends a door unlock signal and key ID signal to the position control ECU and switch. When the position control ECU and switch receives the door unlock signal, it stores the key ID. When the driver door is opened, the memory call and memory command information of the stored key ID is sent to each driving position related control ECU. Each control ECU receives the memory commands and performs the memory call operation according to predetermined control timing values.

## INSPECTION PROCEDURE

### 1.CHECK ENTRY UNLOCK FUNCTION AND WIRELESS UNLOCK FUNCTION

a. Check that the driver side door unlocks when holding the driver side door outside handle, or when pressing the transmitter unlock switch.

**OK:**
**Driver side door unlocks normally.**

NG → GO TO ENTRY AND START SYSTEM OR WIRELESS DOOR LOCK CONTROL SYSTEM

OK

### 2.CHECK POWER SEAT CONTROL FUNCTION

a. Manually operate the driver seat power seat switches, and check if the seat operates normally.

**OK:**
**Seat operates normally through manual operation.**

NG → GO TO PROBLEM SYMPTOMS TABLE (Click here)

OK

### 3.CHECK SEAT MEMORY SWITCH FUNCTION (SEAT POSITION MEMORY FUNCTION)

a. Perform a memory operation properly. Check that the buzzer sounds to indicate the completion of the memory operation.

**NOTICE:**

- **The seat position will not be recorded if the seat memory SET switch and 2 or more of the seat memory switches (for example, seat memory switch 1 and seat memory switch 2) are pressed simultaneously.**
- **If a memorizing operation has failed, release all switches. The seat memory function does not operate unless the switches are released.**

**OK:**
**Seat memory switch function operates normally.**

NG → GO TO PROBLEM SYMPTOMS TABLE (Click here)

OK

### 4.CHECK SEAT MEMORY SWITCH FUNCTION (SEAT RESTORING OPERATION)

a. Press the seat memory switch 1, seat memory switch 2 or seat memory switch 3 and check that the seat moves to a recorded position.

**OK:**
**Seat moves to recorded position.**

NG → GO TO PROBLEM SYMPTOMS TABLE (Click here)

OK

5.CHECK MEMORY CALL FUNCTION (REGISTER RECOGNITION CODE)

a. While pressing the seat memory switch 1, seat memory switch 2 or seat memory switch 3, press the transmitter lock or unlock switch. Then check that the buzzer sounds normally.

**OK:**
**Buzzer sounds normally.**

NG → GO TO PROBLEM SYMPTOMS TABLE (Click here)

OK

6.CHECK MEMORY CALL FUNCTION (SEAT MEMORY CALL)

a. With a recognition code stored in memory, open the driver door by performing an entry unlock operation or by pressing the transmitter unlock switch. Check that the driver side power seat moves to the memorized position.

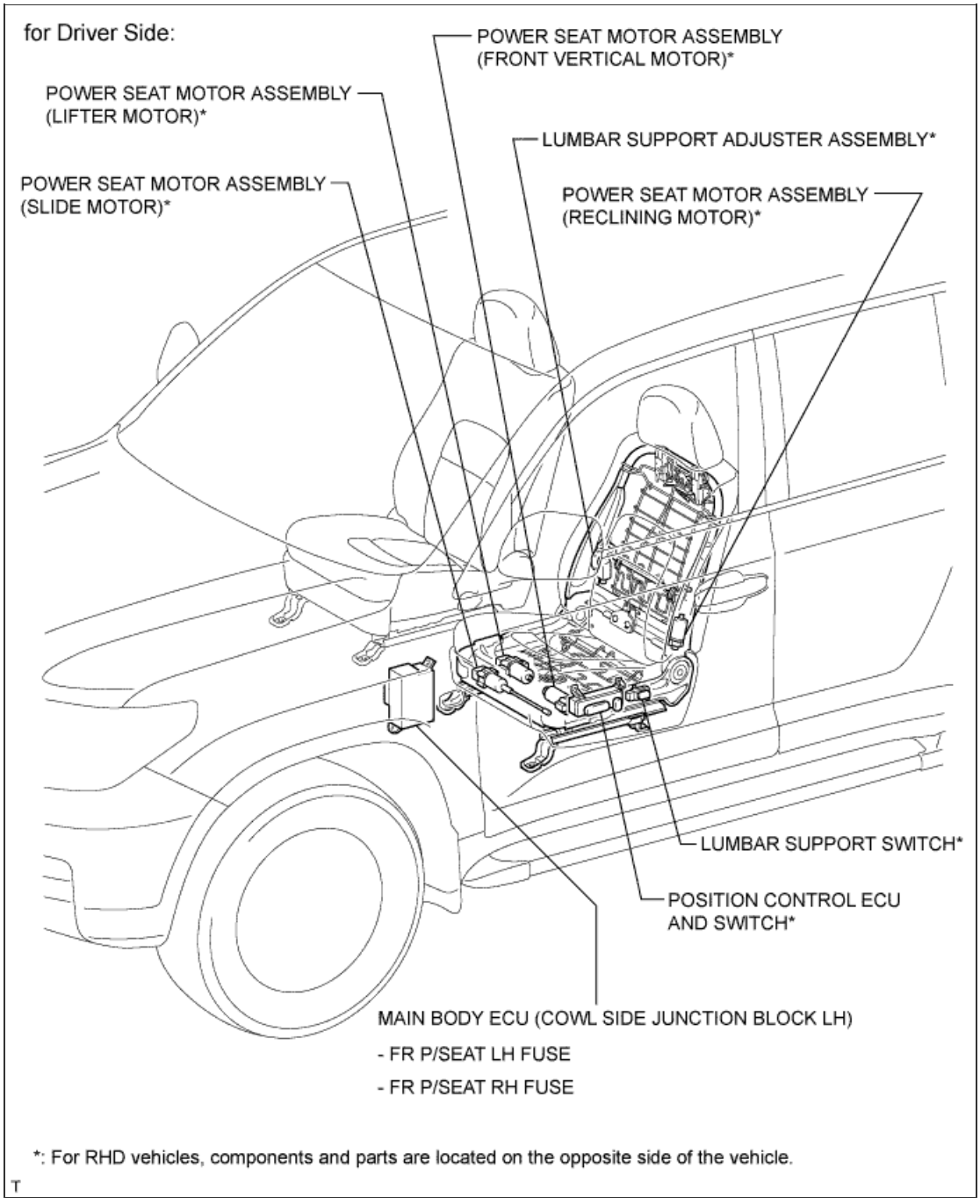
**OK:**
**Driver side power seat moves to the memorized position.**

NG → REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

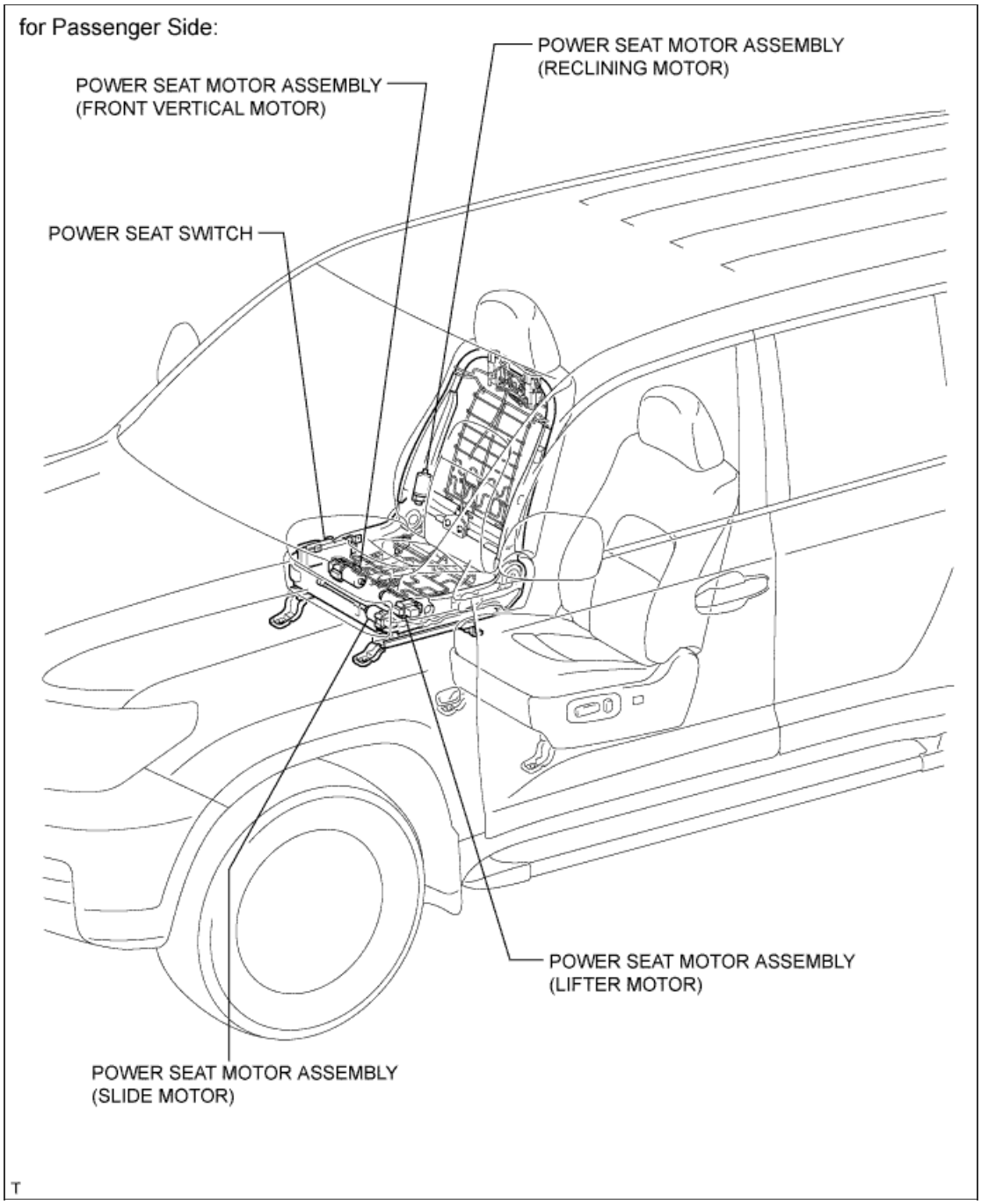
OK

END

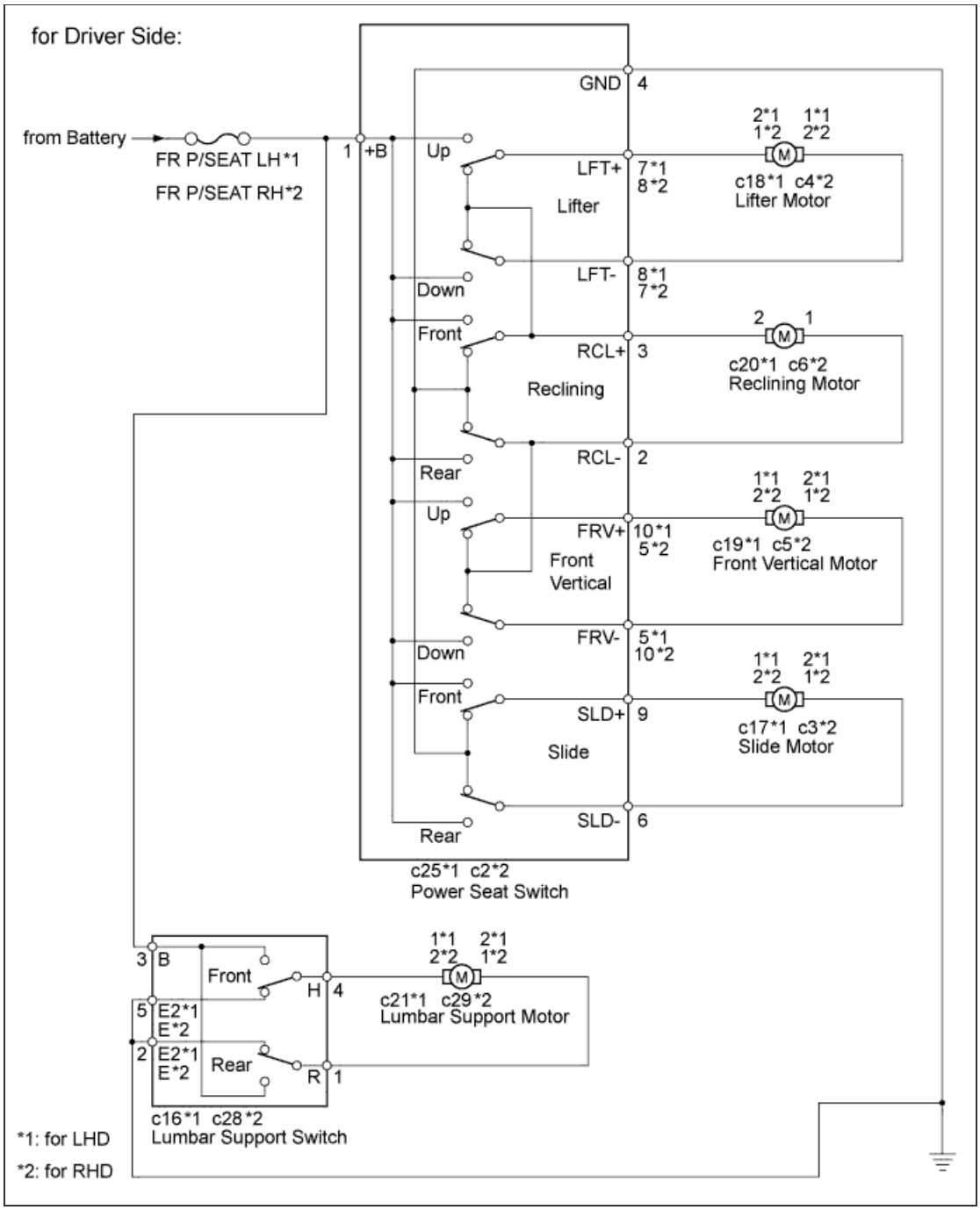
**for Preparation** Click here



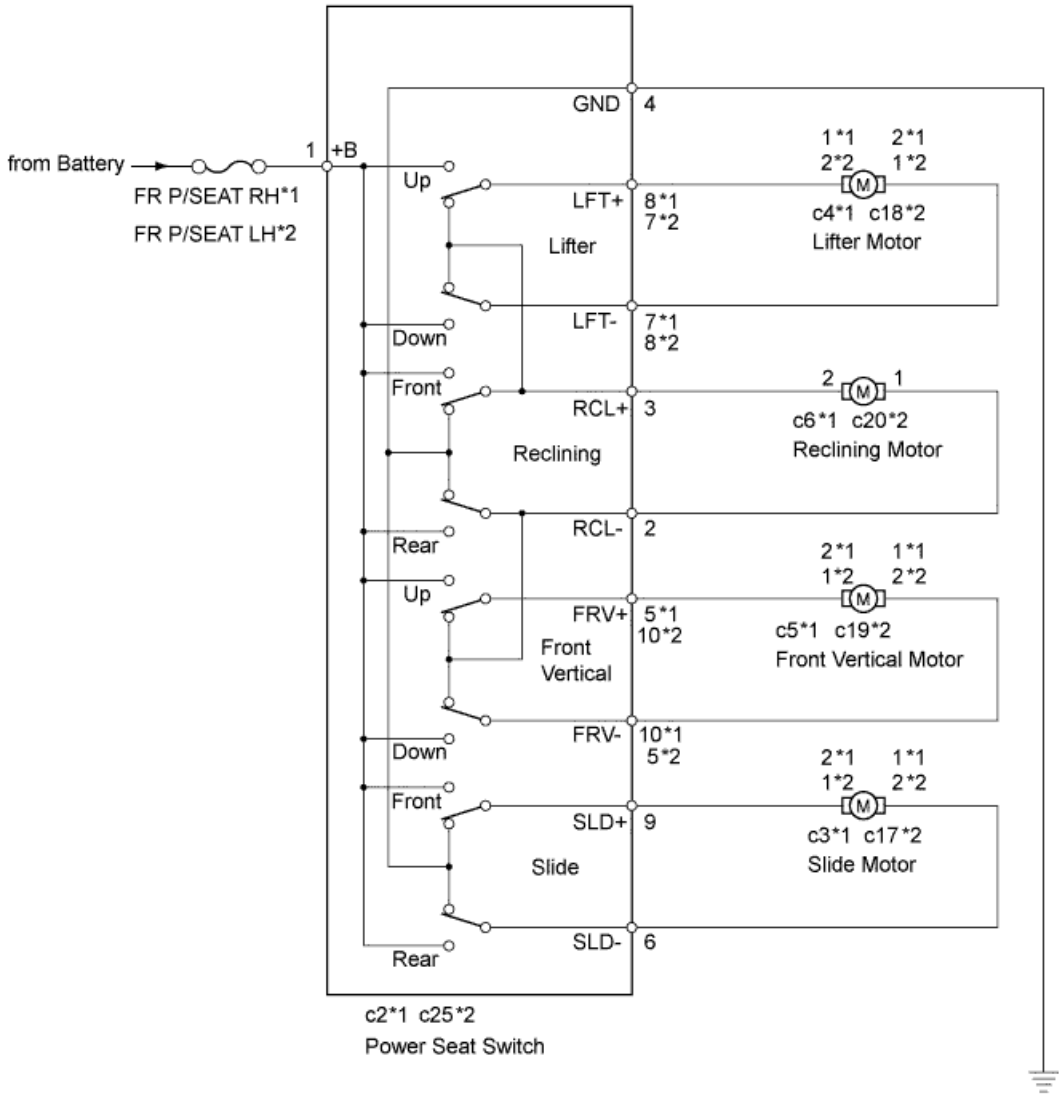

T


for Passenger Side:
POWER SEAT MOTOR ASSEMBLY
(RECLINING MOTOR)
POWER SEAT MOTOR ASSEMBLY
(FRONT VERTICAL MOTOR)
POWER SEAT SWITCH
POWER SEAT MOTOR ASSEMBLY
(LIFTER MOTOR)
POWER SEAT MOTOR ASSEMBLY
(SLIDE MOTOR)
T

**for Preparation** Click here



for Passenger Side:




*1: for LHD

*2: for RHD

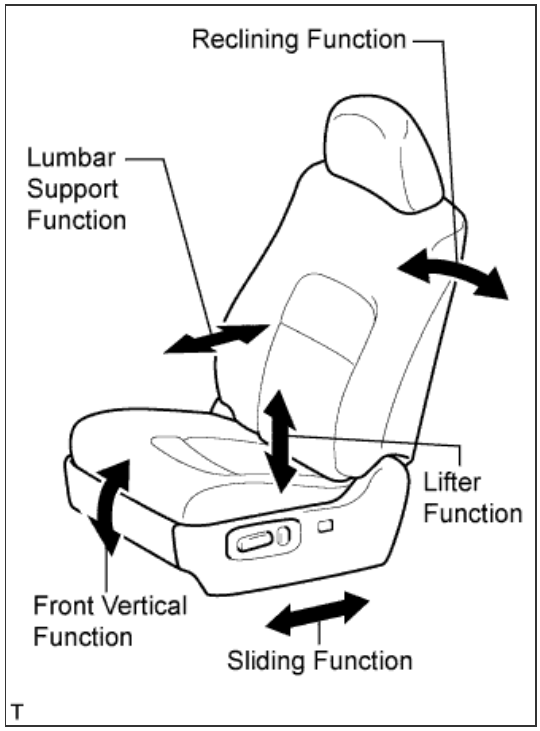
**for Preparation** Click here

## CHECK POWER SEAT FUNCTION

a. Check the basic functions.

i. Operate the power seat switches and check to make sure each seat function works:

- Sliding
- Front vertical
- Lifter
- Reclining
- Lumbar support (driver seat only)




## CHECK POWER SEAT MOTOR ASSEMBLY (SLIDING, FRONT VERTICAL, LIFTER, AND RECLINING FUNCTIONS)

a. Check the PTC operation inside the power seat motor.

**HINT:**

The resistance of the PTC thermistor increases when the power seat switch is held down even after the seat has been moved to the farthest possible position in one direction. If the resistance increases beyond a specified level, the current is shut off to prevent a short circuit.

**NOTICE:**

- **The inspection should be performed with the seat installed in the vehicle.**
- **Perform the 4 steps below to check the full range of motion for each power seat function.**

i. Choose a power seat function. Operate the power seat switch and move the seat to the farthest possible position in one direction. Keep the seat in that position for approximately 60 seconds.

ii. Operate the power seat switch again and continue to try to move the seat in the same direction as in the previous step. Measure the time until the current is shut off (motor operation sound will stop).

**Standard:**
**4 to 90 seconds**

iii. After the current is shut off, release the power seat switch and wait for approximately 60 seconds.

iv. Operate the same power seat switch and move the seat in the opposite direction. Check that the motor operates.

## CHECK LUMBAR SUPPORT ADJUSTER ASSEMBLY

a. Check the PTC operation inside the power seat motor.

**NOTICE:**

The inspection should be performed with the seat installed in the vehicle.

i. Operate the lumbar support switch and move the lumbar support to either the foremost or rearmost position. Keep the seat in that

position for approximately 60 seconds.

ii. Operate the lumbar support switch again and continue to try to move the lumbar support in the same direction as in the previous step. Measure the time until the current is shut off (motor operation sound will stop).

**Standard:**
**4 to 90 seconds**

iii. After the current is shut off, release the lumbar support switch and wait for approximately 60 seconds.

iv. Operate the lumbar support switch and move the seat in the opposite direction. Check that the motor operates.

**for Preparation** Click here

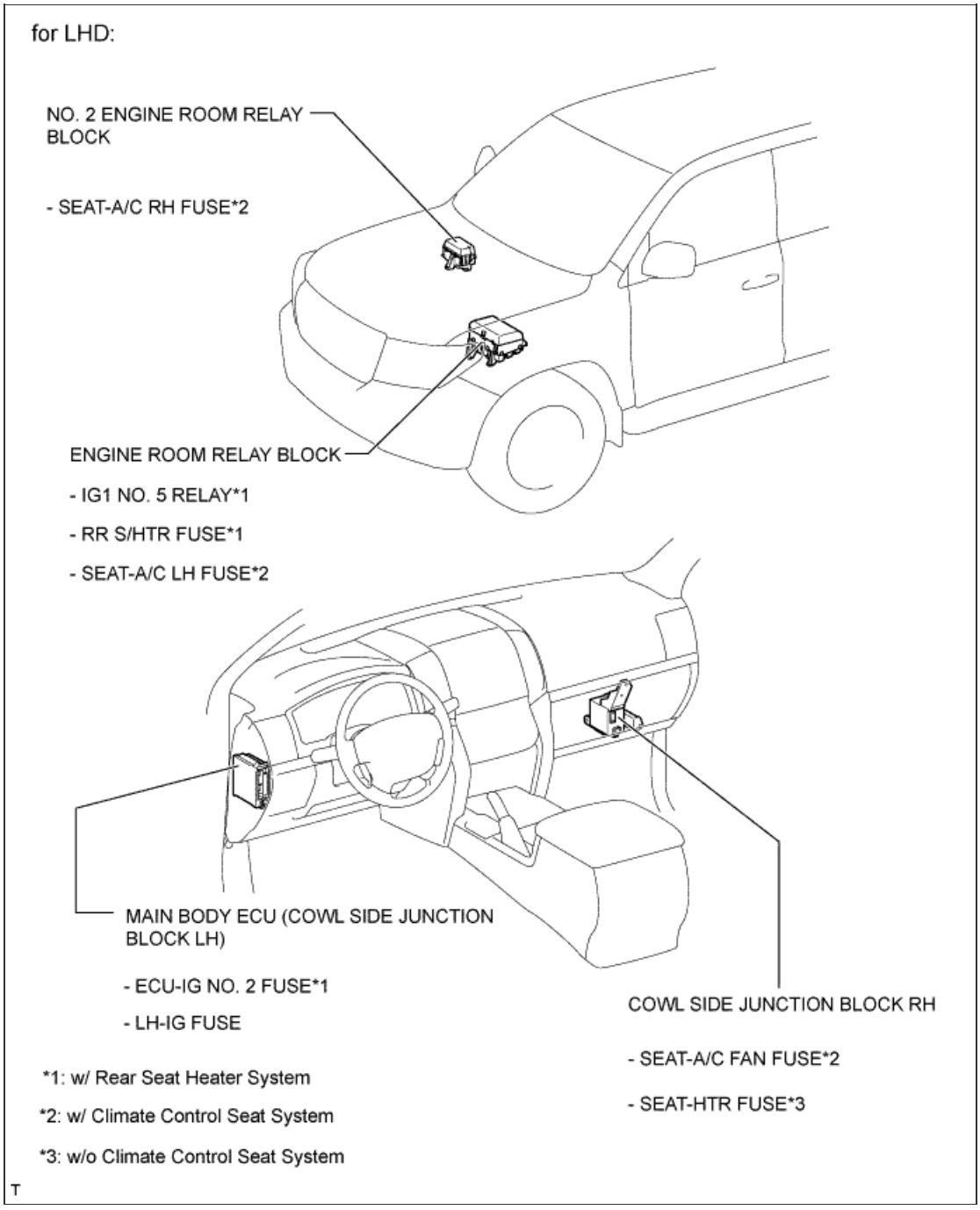
**HINT:**

- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to the system before inspecting the suspected areas below.**

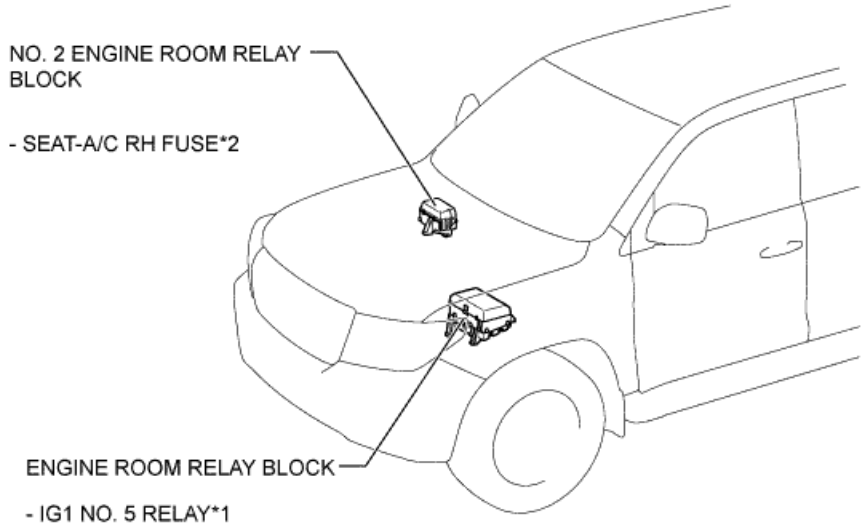
**Front Power Seat Control System**

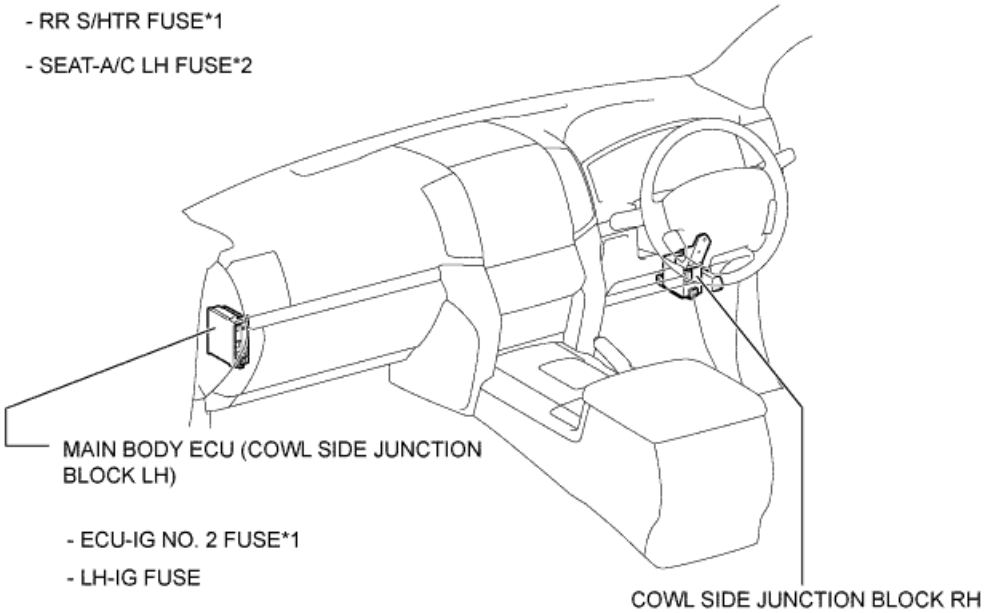
| Symptom | Suspected Area | See page |
|---|---|---|
| Front power seat does not operate (slide, front vertical, lifter, reclining). | FR P/SEAT LH fuse (for LH Side) | - |
| | FR P/SEAT RH fuse (for RH Side) | - |
| | Power seat switch | Click here |
| | Harness or connector | - |
| Only slide operation function does not operate. | Power seat switch | Click here |
| | Slide motor | Click here |
| | Harness or connector | - |
| Only front vertical operation function does not operate. | Power seat switch | Click here |
| | Front vertical motor | Click here |
| | Harness or connector | - |
| Only lifter operation function does not operate. | Power seat switch | Click here |
| | Lifter motor | Click here |
| | Harness or connector | - |
| Only reclining operation function does not operate. | Power seat switch | Click here |
| | Reclining motor | Click here |
| | Harness or connector | - |
| Only lumbar support operation function does not operate (driver seat only). | Lumbar support switch | Click here |
| | Lumbar support adjuster | Click here |
| | Harness or connector | - |

**for Preparation** Click here



for RHD:



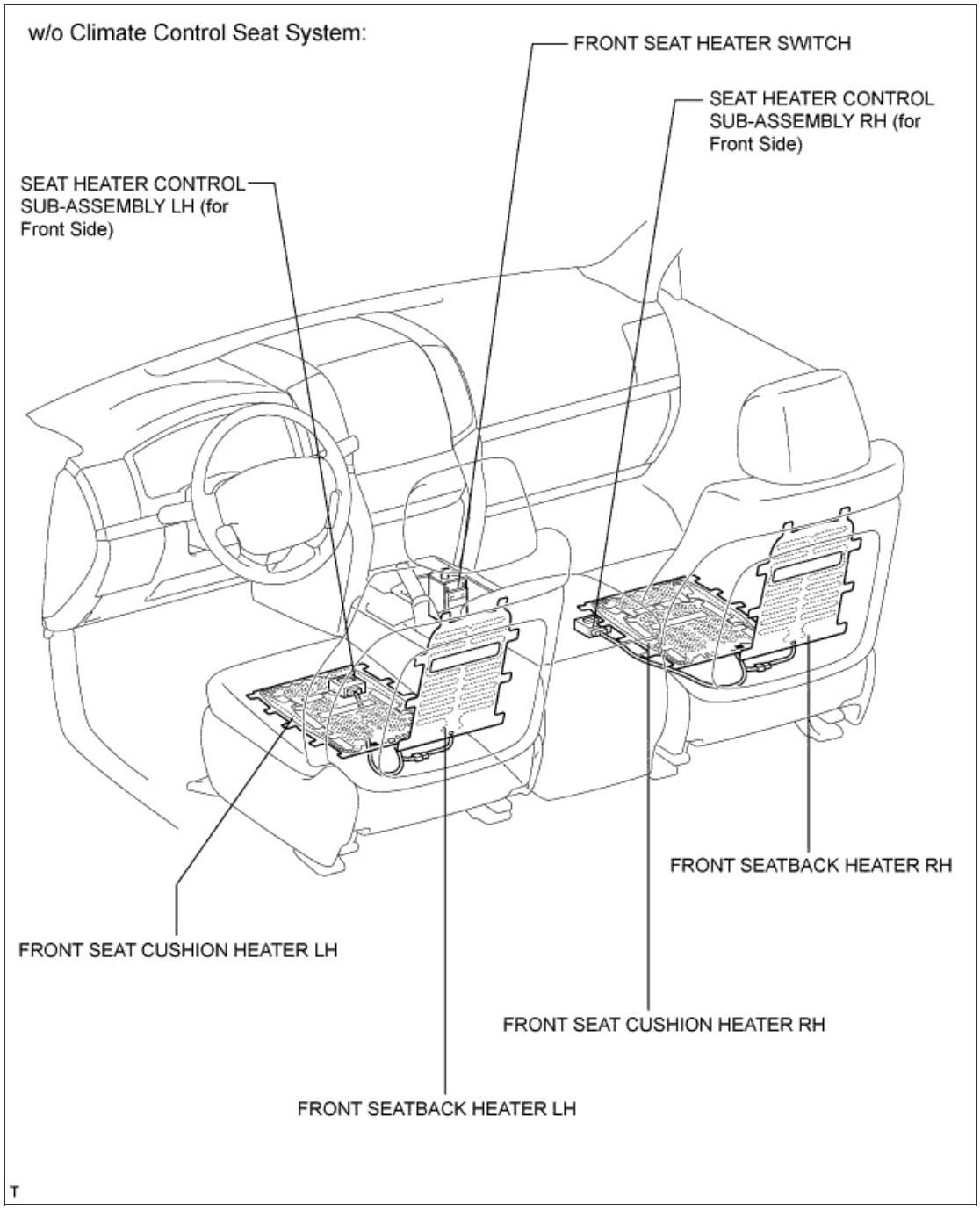



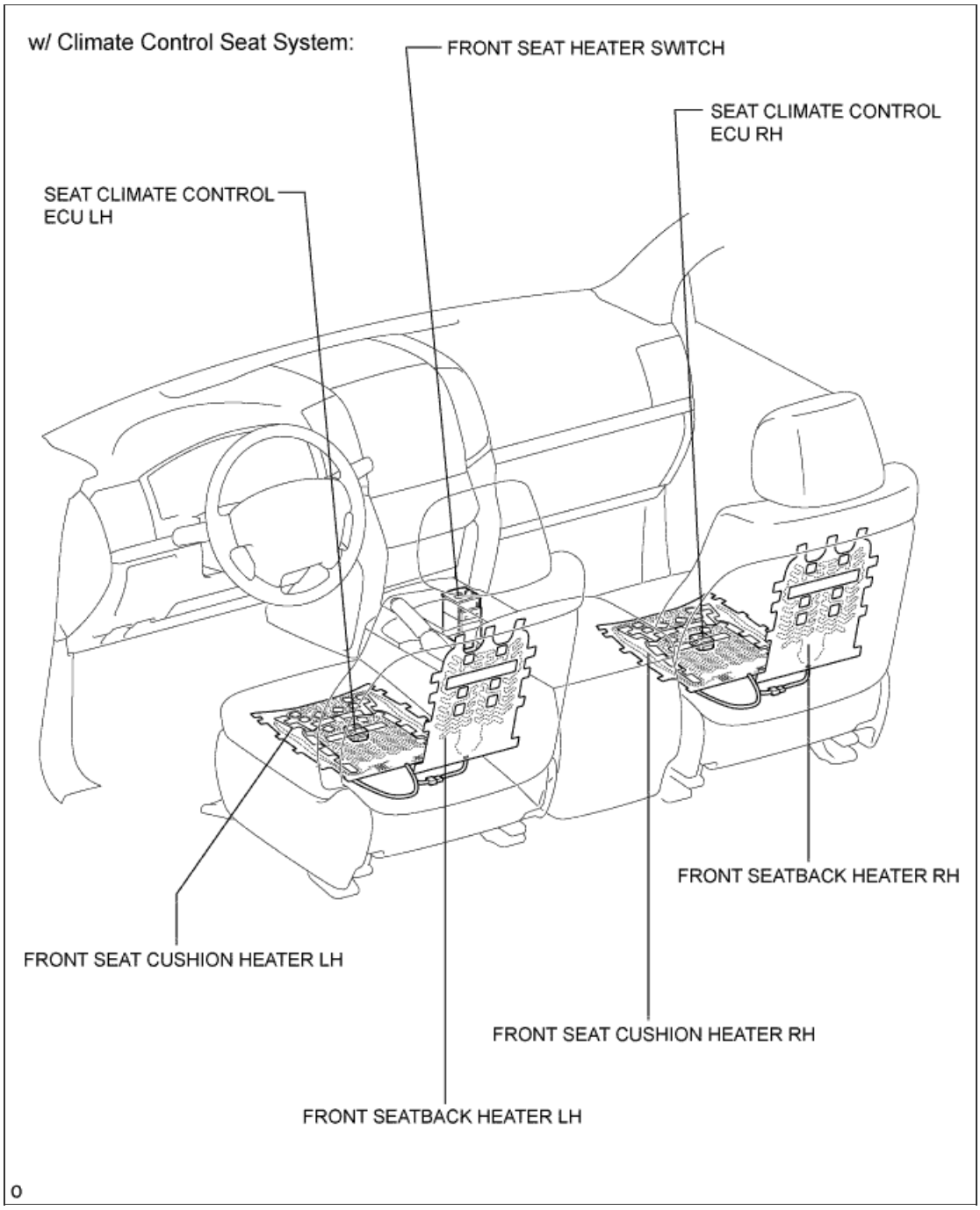

*1: w/ Rear Seat Heater System

*2: w/ Climate Control Seat System

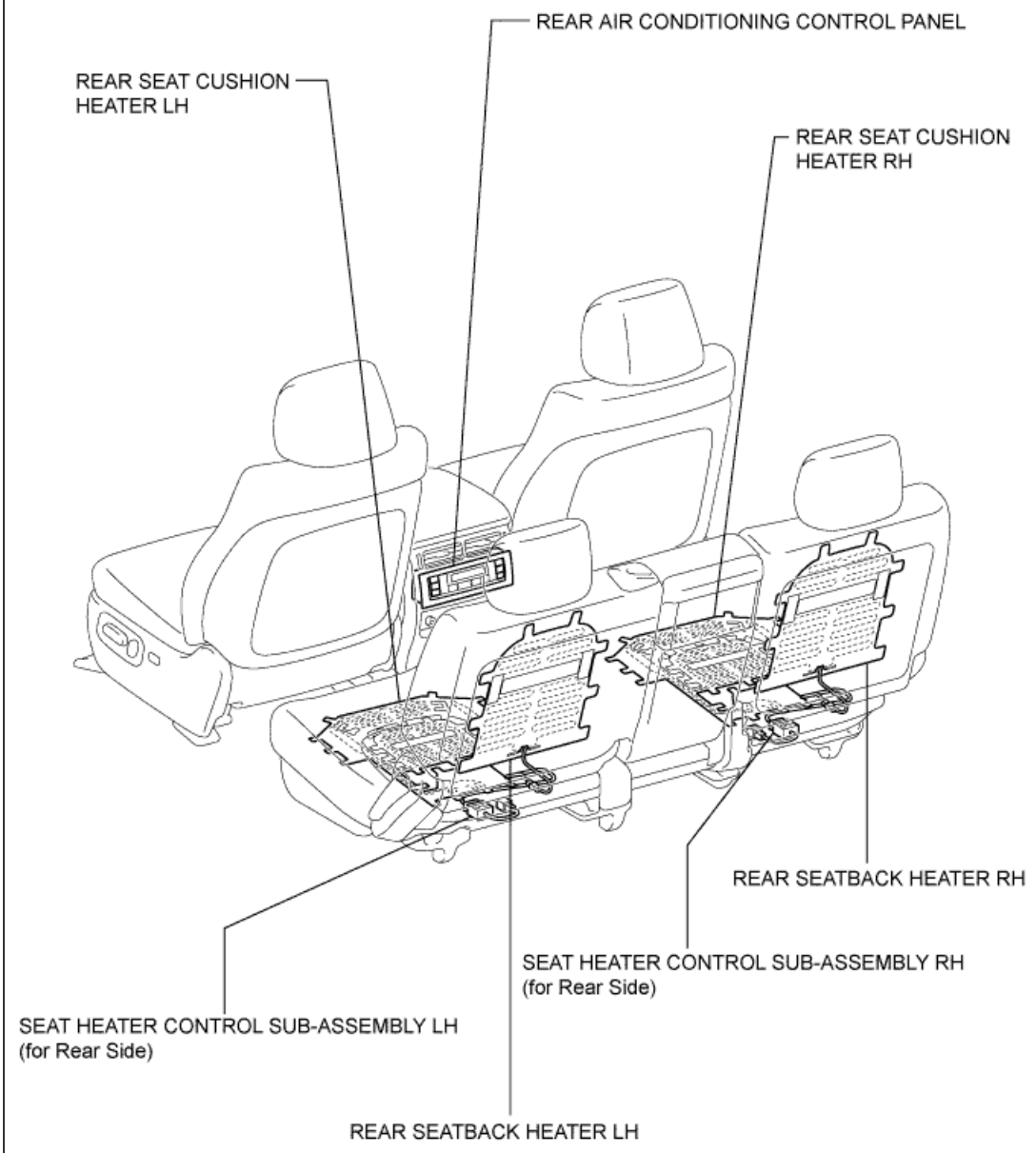
*3: w/o Climate Control Seat System

o


w/o Climate Control Seat System:
FRONT SEAT HEATER SWITCH
SEAT HEATER CONTROL SUB-ASSEMBLY RH (for Front Side)
SEAT HEATER CONTROL SUB-ASSEMBLY LH (for Front Side)
FRONT SEATBACK HEATER RH
FRONT SEAT CUSHION HEATER LH
FRONT SEAT CUSHION HEATER RH
FRONT SEATBACK HEATER LH
T

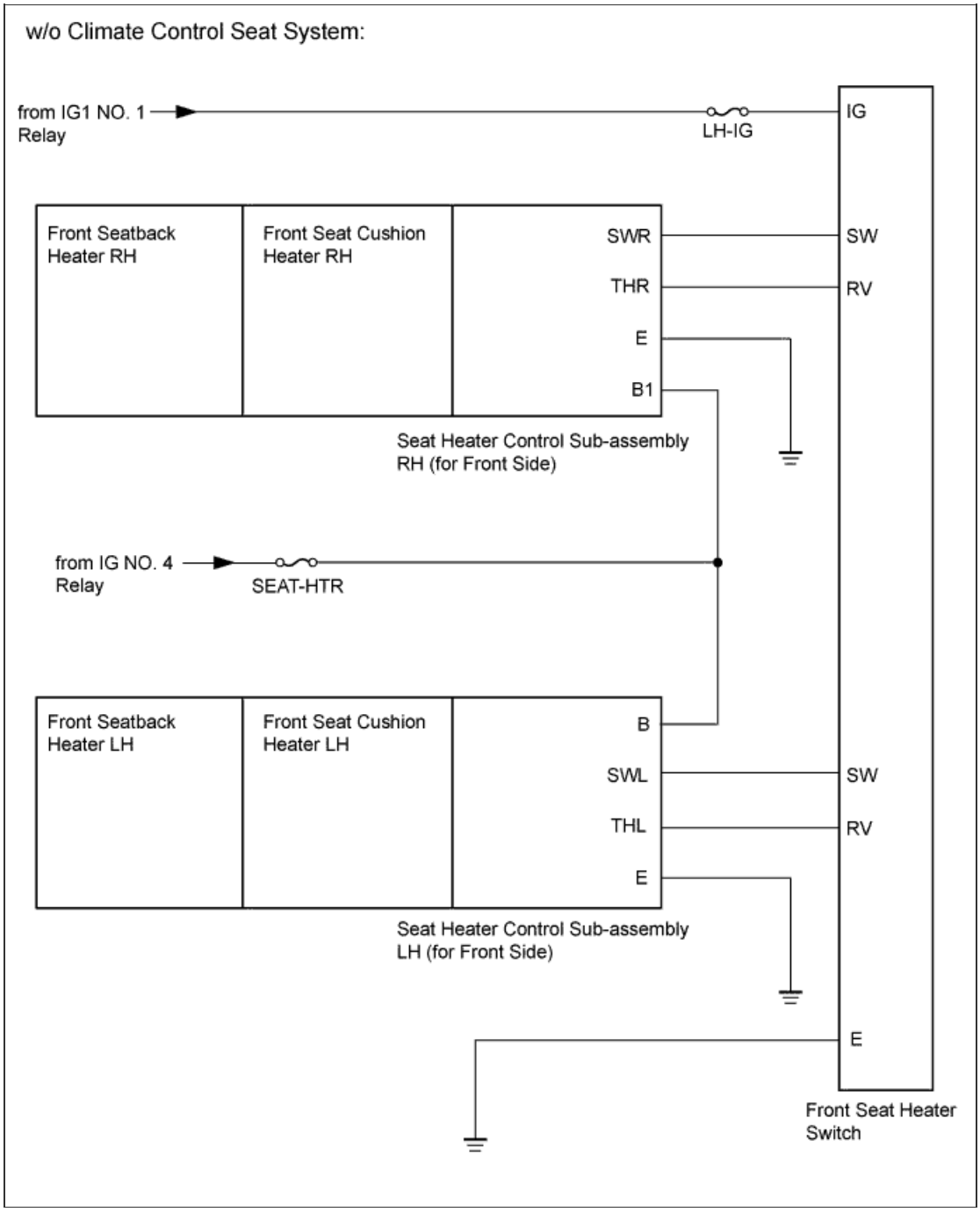

w/ Climate Control Seat System:
FRONT SEAT HEATER SWITCH
SEAT CLIMATE CONTROL ECU RH
SEAT CLIMATE CONTROL ECU LH
FRONT SEATBACK HEATER RH
FRONT SEAT CUSHION HEATER LH
FRONT SEAT CUSHION HEATER RH
FRONT SEATBACK HEATER LH
o

w/ Rear Seat Heater System:

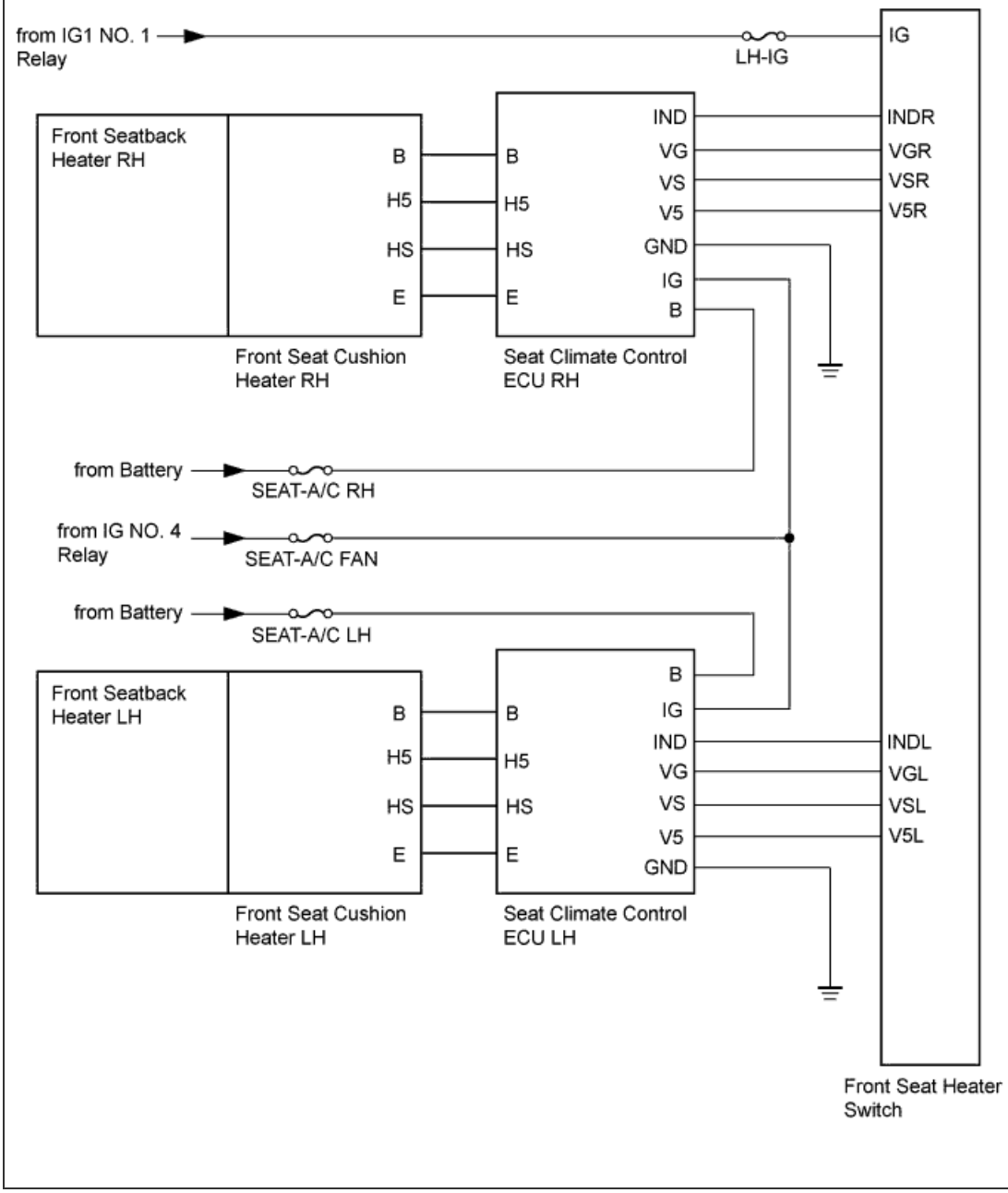



T

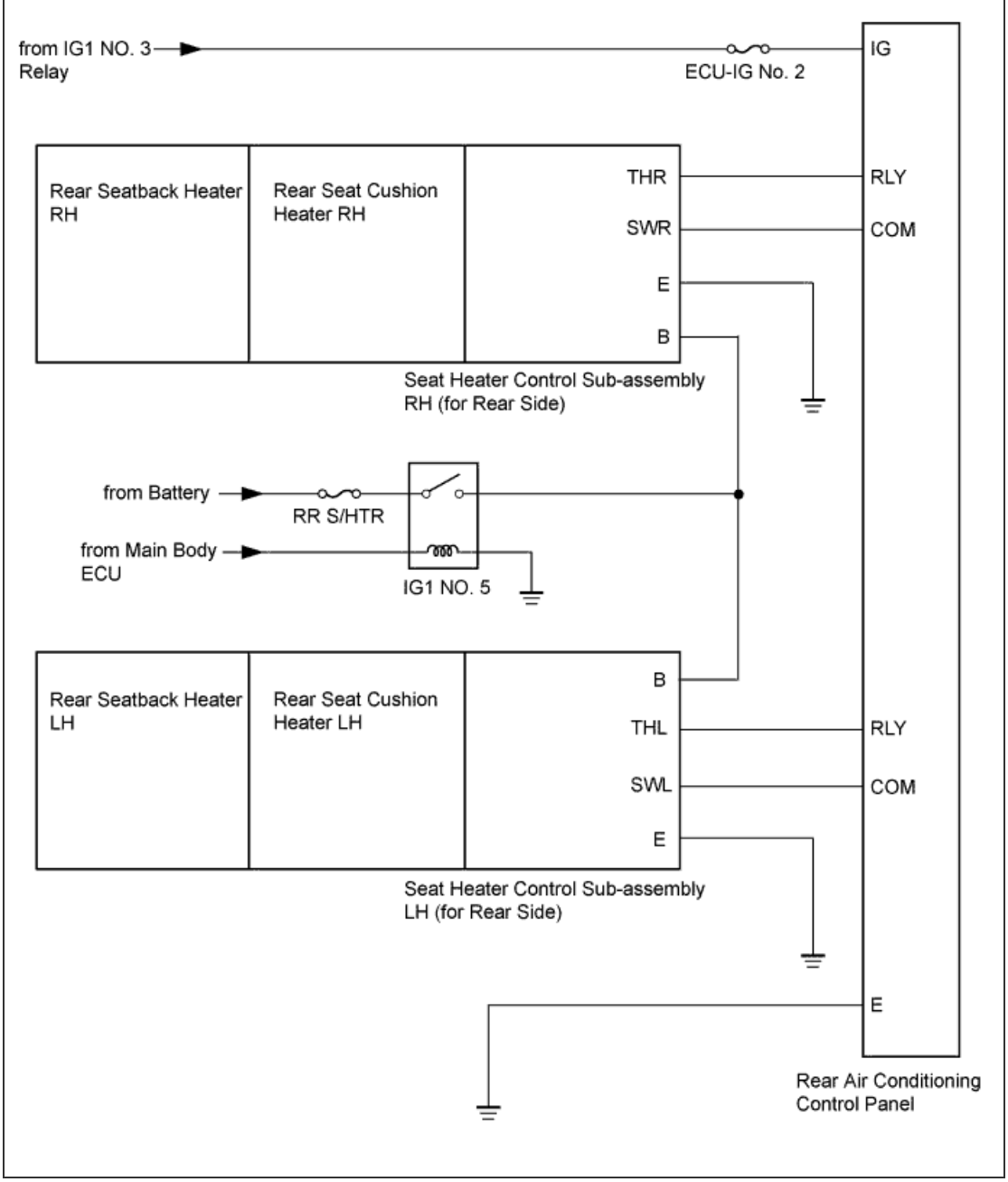
**for Preparation** Click here



w/ Climate Control Seat System:



w/ Rear Seat Heater System:



**for Preparation** Click here

## GENERAL

a. By operating the seat heater switch which is located in the console box, the temperature can be controlled within the range of 30 to 40°C (86 to 104°F).

b. Whether the seat heater is on or off can be determined by checking if the seat heater switch indicator light is on or off.

c. w/o Climate Control Seat System:

   i. The seat heaters of the front seats are controlled by the seat heater controls, which are located under the respective seat.

d. w/ Climate Control Seat System:

   i. The seat heaters of the front seats are controlled by the seat climate control ECUs, which are located under the respective seat.

e. w/ Rear Seat Heater System:

   i. The seat heaters of the rear seats are controlled by the seat heater controls, which are located under the respective seat.

**for Preparation** Click here

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

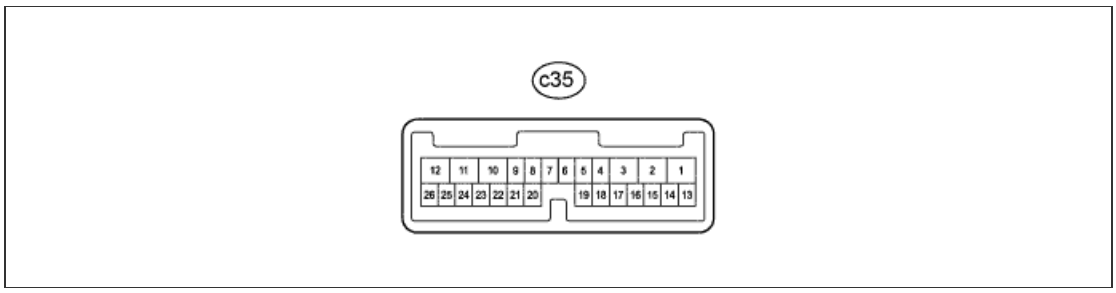
**Seat Heater System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Both front seat heaters do not operate (w/o climate control system) | LH-IG fuse | - |
| | SEAT-HTR fuse | - |
| | Front seat heater switch | Click here |
| | Harness or connector | - |
| Both front seat heaters do not operate (w/ climate control system) | LH-IG fuse | - |
| | SEAT-A/C FAN fuse | - |
| | Front seat heater switch | Click here |
| | Harness or connector | - |
| Front seat heater LH does not operate (w/o climate control system) | Front seat heater switch | Click here |
| | Seat heater control sub-assembly LH (for front side) | Click here |
| | Front seat cushion heater LH | Click here |
| | Front seatback heater LH | Click here |
| | Harness or connector | - |
| Front seat heater LH does not operate (w/ climate control system) | SEAT-A/C LH fuse | - |
| | Front seat heater switch | Click here |
| | Seat climate control ECU LH | Click here |
| | Front seat cushion heater LH | Click here |
| | Front seatback heater LH | Click here |
| | Harness or connector | - |
| Front seat heater RH does not operate (w/o climate control system) | Front seat heater switch | Click here |
| | Seat heater control sub-assembly RH (for front side) | Click here |
| | Front seat cushion heater RH | Click here |
| | Front seatback heater RH | Click here |
| | Harness or connector | - |
| Front seat heater RH does not operate (w/ climate control system) | SEAT-A/C RH fuse | - |
| | Front seat heater switch | Click here |
| | Seat climate control ECU RH | Click here |
| | Front seat cushion heater RH | Click here |
| | Front seatback heater RH | Click here |
| | Harness or connector | - |
| | Front seat cushion heater LH | Click |

| | | |
|---|---|---|
| Indicator light (LH side) of front seat heater switch blinks (w/ climate control system) | | here |
| | Harness or connector | - |
| | Seat climate control ECU LH | Click here |
| Indicator light (RH side) of front seat heater switch blinks (w/ climate control system) | Front seat cushion heater RH | Click here |
| | Harness or connector | - |
| | Seat climate control ECU RH | Click here |
| Both rear seat heaters do not operate (w/ rear seat heater system) | ECU-IG No. 2 fuse | - |
| | RR S/HTR fuse | - |
| | IG1 NO. 5 relay | - |
| | Rear air conditioning control panel | - |
| | Harness or connector | - |
| Rear seat heater LH does not operate (w/ rear seat heater system) | Seat heater control sub-assembly LH (for rear side) | - |
| | Rear air conditioning control panel | - |
| | Rear seat cushion heater LH (for 60/40 Split Seat Type 40 Side) | Click here |
| | Rear seat cushion heater LH (for 60/40 Split Seat Type 60 Side) | Click here |
| | Rear seatback heater LH (for 60/40 Split Seat Type 40 Side) | Click here |
| | Rear seatback heater LH (for 60/40 Split Seat Type 60 Side) | Click here |
| | Harness or connector | - |
| Rear seat heater RH does not operate (w/ rear seat heater system) | Seat heater control sub-assembly RH (for rear side) | - |
| | Rear air conditioning control panel | - |
| | Rear seat cushion heater RH (for 60/40 Split Seat Type 40 Side) | Click here |
| | Rear seat cushion heater RH (for 60/40 Split Seat Type 60 Side) | Click here |
| | Rear seatback heater RH (for 60/40 Split Seat Type 40 Side) | Click here |
| | Rear seatback heater RH (for 60/40 Split Seat Type 60 Side) | Click here |
| | Harness or connector | - |

**for Preparation** Click here

## CHECK SEAT CLIMATE CONTROL ECU LH (w/ Climate Control Seat System)




a. Disconnect the c35 seat climate control ECU LH connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

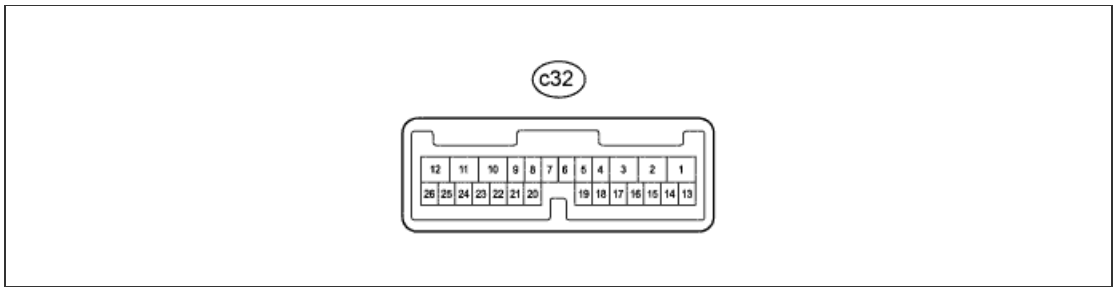
| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c35-12 (B) - Body ground | G - Body ground | Battery power supply | Always | 11 to 14 V |
| c35-13 (IG) - Body ground | G - Body ground | Ignition power supply | Engine switch on (IG) | 11 to 14 V |
| c35-8 (H5) - c35-19 (HS) | LG - BE | Front seat cushion heater LH (temperature sensor) signal | 25°C | 10 kΩ |
| c35-15 (V5) - c35-6 (VS) | B - G | Front seat heater switch (LH side) signal | Front seat heater switch (LH side) max hot | Below 100 Ω |
| c35-15 (V5) - c35-17 (VG) | B - BR | Front seat heater switch (LH side) signal | Always | 4 to 6 kΩ |
| c35-3 (GND) -Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

c. Reconnect the c35 seat climate control ECU LH connector.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c35-11 (B) - c35-2 (E) | W - B | Front seat heater LH drive signal | Engine switch on (IG), front seat heater LH operating | 11 to 14 V |
| | | | Engine switch on (IG), front seat heater LH not operating | Below 1 V |
| c35-15 (V5) - Body ground | B - Body ground | Front seat heater switch (LH side) power supply | Engine switch on (IG) | 4.7 to 5.2 V |
| c35-26 (IND) - Body ground | L - Body ground | Seat heater switch indicator light (LH side) illumination signal | Engine switch on (IG), front seat heater LH operating (seat heater switch indicator light [LH side] illuminated) | Below 1 V |
| | | | Engine switch on (IG), front seat heater LH not operating (seat heater switch indicator light [LH side] not illuminated) | 11 to 14 V |

## CHECK SEAT CLIMATE CONTROL ECU RH (w/ Climate Control Seat System)




a. Disconnect the c32 seat climate control ECU RH connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c32-12 (B) - Body ground | G - Body ground | Battery power supply | Always | 11 to 14 V |
| c32-13 (IG) - Body ground | G - Body ground | Ignition power supply | Engine switch on (IG) | 11 to 14 V |
| c32-8 (H5) - c32-19 (HS) | LG - BE | Front seat cushion heater RH (temperature sensor) signal | 25°C | 10 kΩ |
| c32-15 (V5) - c32-6 (VS) | B - W | Front seat heater switch (RH side) signal | Front seat heater switch (RH side) max hot | Below 100 Ω |
| c32-15 (V5) - c32-17 (VG) | B - BR | Front seat heater switch (RH side) signal | Always | 4 to 6 kΩ |
| c32-3 (GND) -Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

c. Reconnect the c32 seat climate control ECU RH connector.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c32-11 (B) - c32-2 (E) | W - B | Front seat heater RH drive signal | Engine switch on (IG), front seat heater RH operating | 11 to 14 V |
| | | | Engine switch on (IG), front seat heater RH not operating | Below 1 V |
| c32-15 (V5) - Body ground | B - Body ground | Front seat heater switch (RH side) power supply | Engine switch on (IG) | 4.7 to 5.2 V |
| c32-26 (IND) - Body ground | R - Body ground | Seat heater switch indicator light (RH side) illumination signal | Engine switch on (IG), front seat heater RH operating (seat heater switch indicator light [RH side] illuminated) | Below 1 V |
| | | | Engine switch on (IG), front seat heater RH not operating (seat heater switch indicator light [RH side] not illuminated) | 11 to 14 V |

**for Preparation** Click here

## FAIL-SAFE FUNCTION (w/ Climate Control Seat System)

a. When the front seat heater is operating and either of the following conditions is met, the fail-safe function stops the front seat heater and blinks the front seat heater switch indicator light.

   i. An open circuit occurs in the thermistor inside the front seat cushion heater or related parts (-40°C or less).

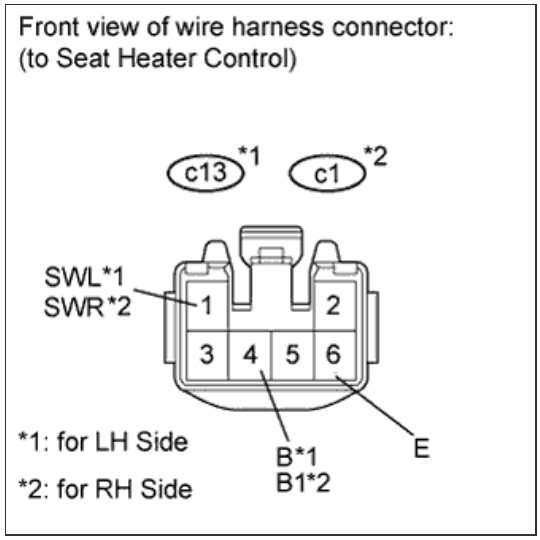
   ii. A short circuit occurs in the thermistor inside the front seat cushion heater or related parts (90°C or higher).

**for Preparation** Click here

## 1. INSPECT SEAT HEATER CONTROL SUB-ASSEMBLY (for Front Side)

a. Disconnect the c13 and c1 heater control connectors.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**for LH Side**

| Tester Connection | Specified Condition |
|---|---|
| c13-6 (E) - Body ground | Below 1 Ω |

**for RH Side**

| Tester Connection | Specified Condition |
|---|---|
| c1-6 (E) - Body ground | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

**for LH Side**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c13-1 (SWL) - c13-6 (E) | Engine switch on (IG), seat heater switch off | Below 1 V |
| | Engine switch on (IG), seat heater switch on | 11 to 14 V |
| c13-4 (B) - c13-6 (E) | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |

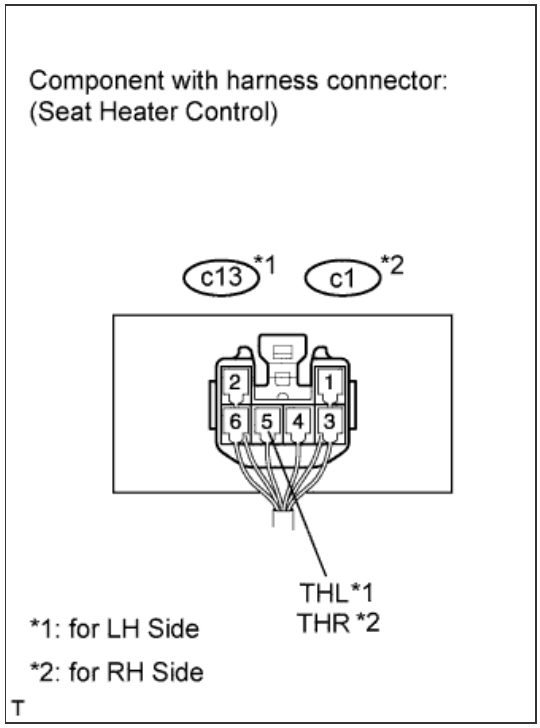
**for RH Side**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c1-1 (SWR) - c1-6 (E) | Engine switch on (IG), seat heater switch off | Below 1 V |
| | Engine switch on (IG), seat heater switch on | 11 to 14 V |
| c1-4 (B1) - c1-6 (E) | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |

If the result is not as specified, there may be a malfunction on the wire harness side.

d. Connect the c13 and c1 heater control connectors.

e. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**for LH Side**

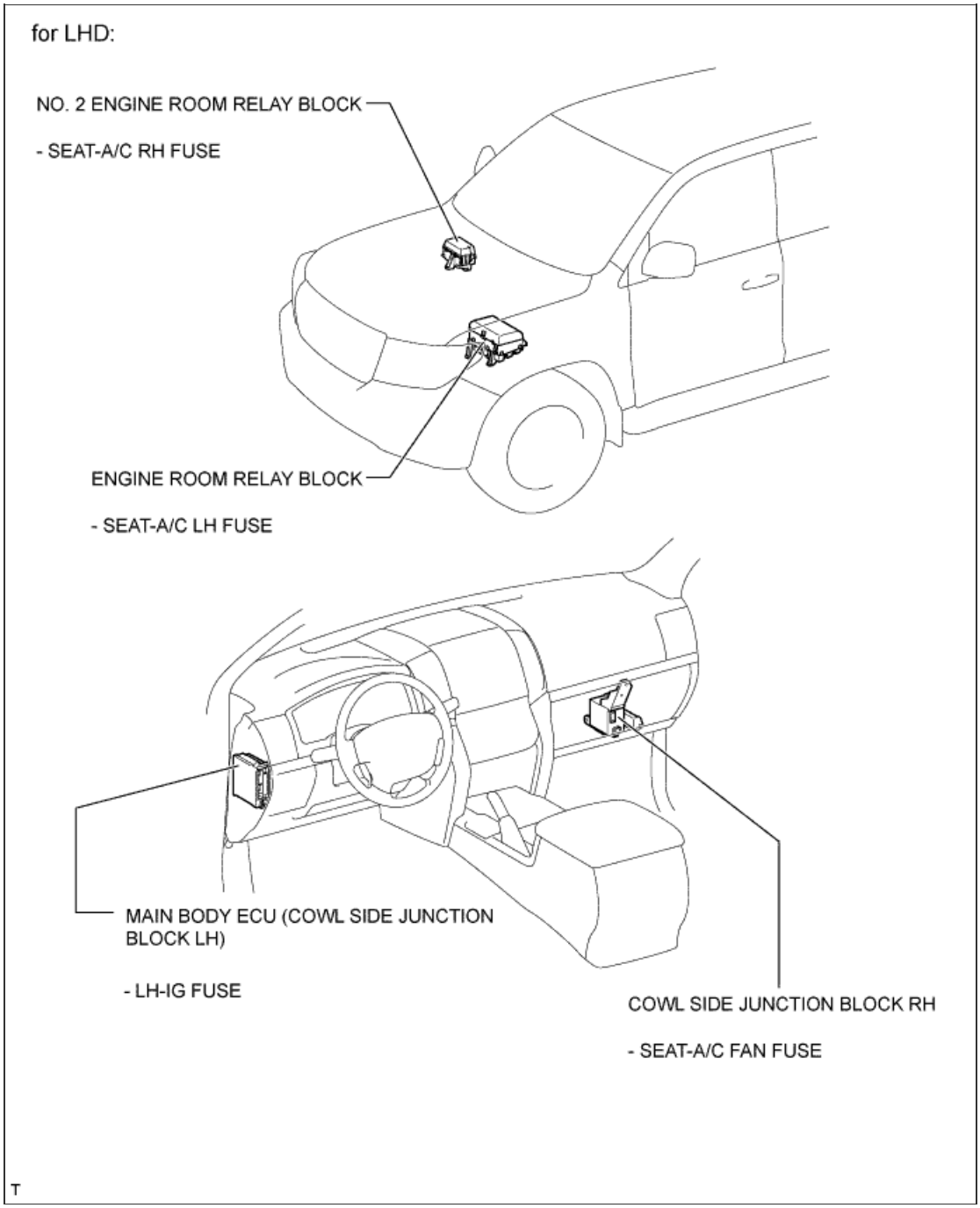
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c13-5 (THL) - Body ground | Engine switch on (IG), seat heater switch on, volume Min→ Max | Gradual increase from below 1 V to 11 to 14 V |

**for RH Side**

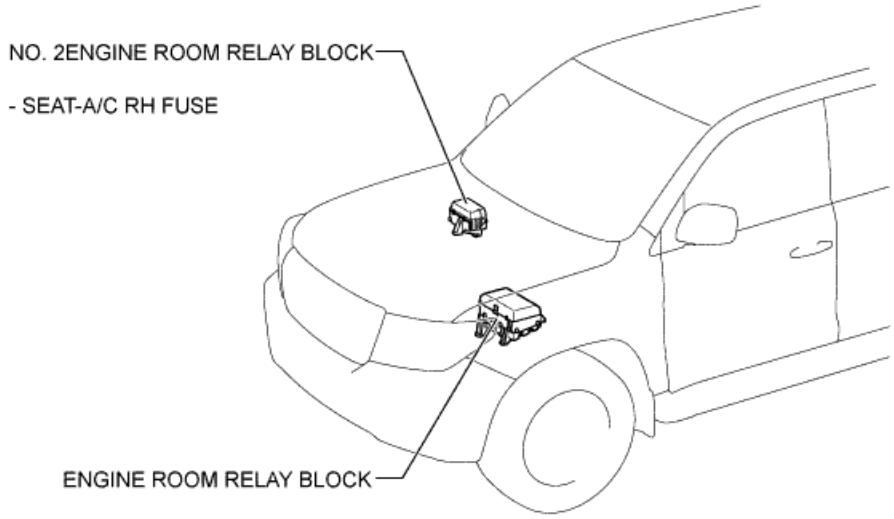
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c1-5 (THR) - Body ground | Engine switch on (IG), seat heater switch on, volume Min → Max | Gradual increase from below 1 V to 11 to 14 V |

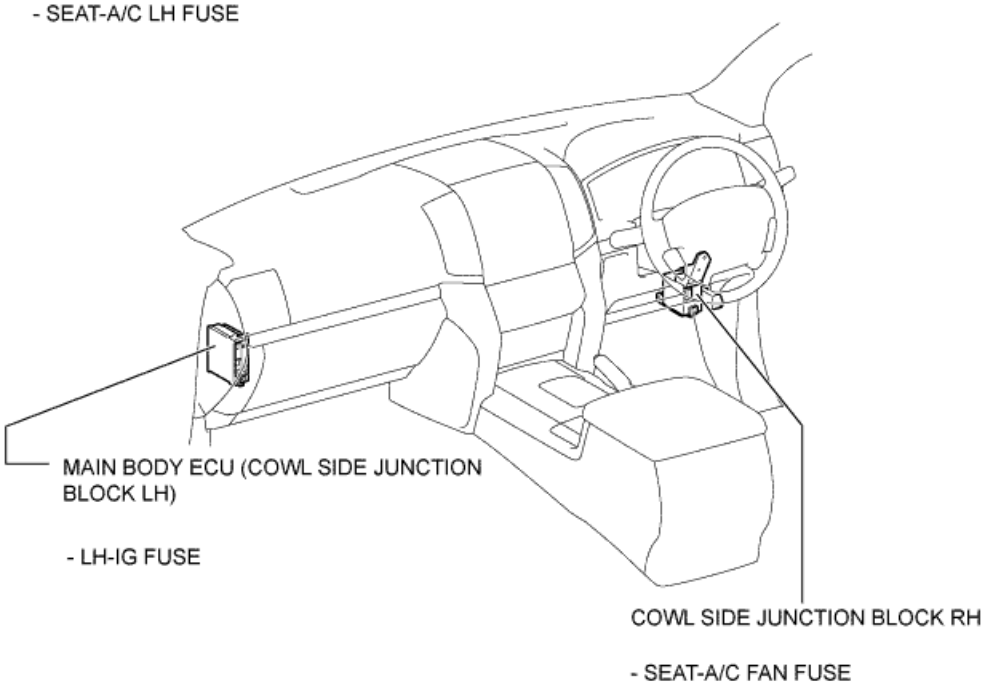
If the result is not as specified, the seat heater control may have a malfunction.

**for Preparation** Click here

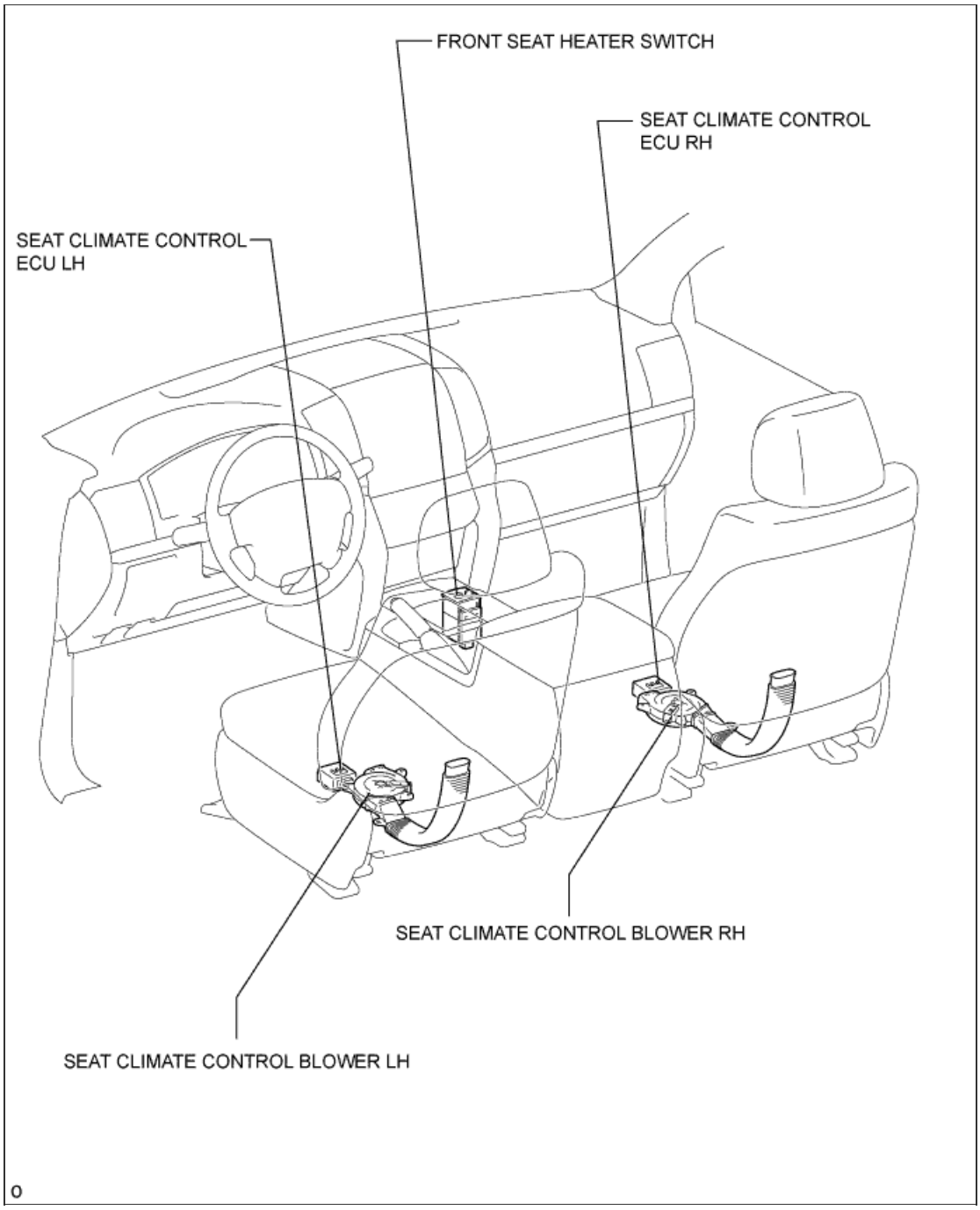


for RHD:

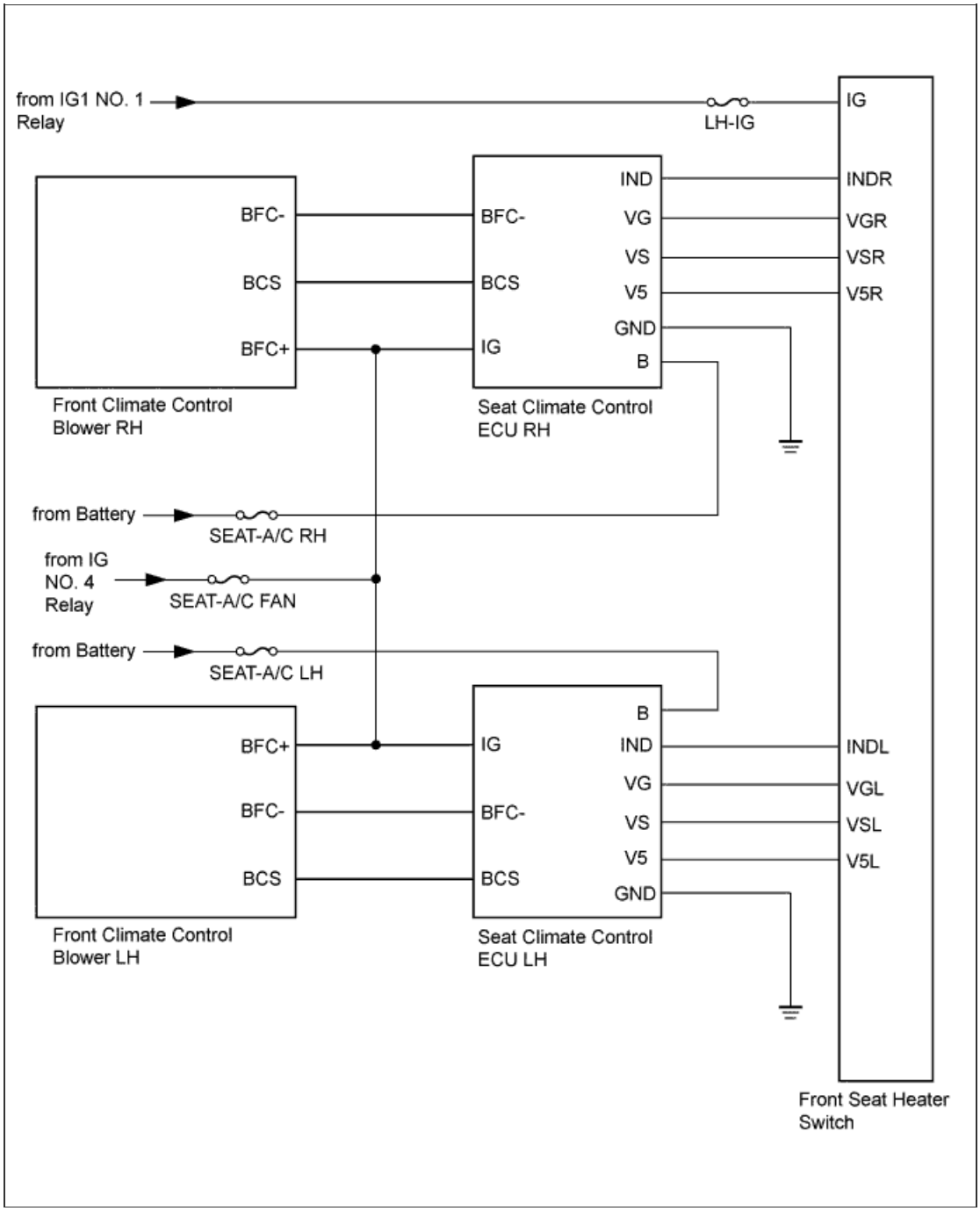

NO. 2ENGINE ROOM RELAY BLOCK
- SEAT-A/C RH FUSE
ENGINE ROOM RELAY BLOCK
- SEAT-A/C LH FUSE


MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- LH-IG FUSE
COWL SIDE JUNCTION BLOCK RH
- SEAT-A/C FAN FUSE

o


FRONT SEAT HEATER SWITCH
SEAT CLIMATE CONTROL ECU RH
SEAT CLIMATE CONTROL ECU LH
SEAT CLIMATE CONTROL BLOWER RH
SEAT CLIMATE CONTROL BLOWER LH
O

**for Preparation** Click here



**for Preparation** Click here

## GENERAL

a. When the front seat heater switch is turned to the blower position, the indicator light illuminates and the blower fan operates.

**for Preparation** Click here

**HINT:**

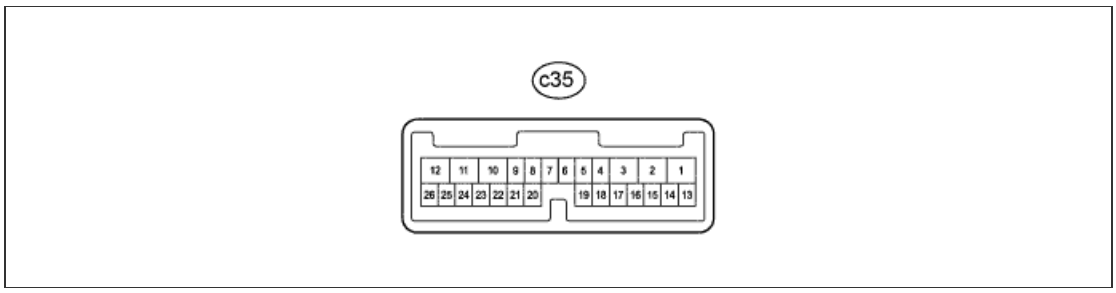
- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Climate Control Seat System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Both climate control seat system does not operate | LH-IG fuse | - |
| | SEAT-A/C FAN fuse | - |
| | Front seat heater switch | Click here |
| | Harness or connector | - |
| Climate control seat system does not operate (RH side) | SEAT-A/C RH fuse | - |
| | Front seat heater switch | Click here |
| | Check blower duct | - |
| | Front climate control blower RH | Click here |
| | Seat climate control ECU RH | Click here |
| | Harness or connector | - |
| Climate control seat system does not operate (LH side) | SEAT-A/C LH fuse | - |
| | Front seat heater switch | Click here |
| | Check blower duct | - |
| | Front climate control blower LH | Click here |
| | Seat climate control ECU LH | Click here |
| | Harness or connector | - |

**for Preparation** Click here

## CHECK SEAT CLIMATE CONTROL ECU LH




a. Disconnect the c35 seat climate control ECU LH connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

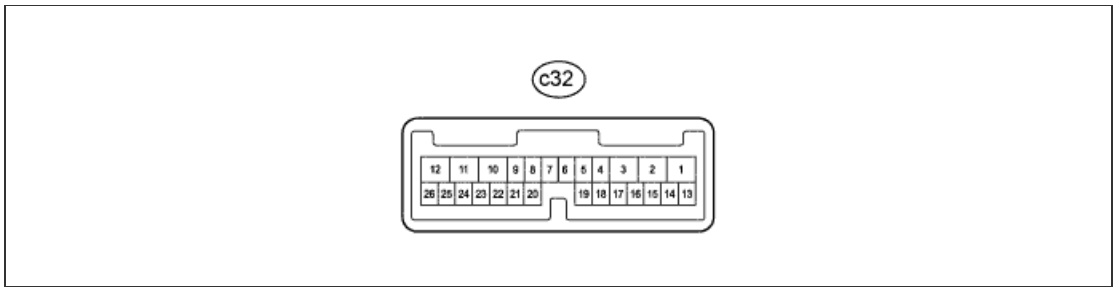
| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c35-12 (B) - Body ground | G - Body ground | Battery power supply | Always | 11 to 14 V |
| c35-13 (IG) - Body ground | G - Body ground | Ignition power supply | Engine switch on (IG) | 11 to 14 V |
| c35-15 (V5) - c35-6 (VS) | B - G | Front seat heater switch (LH side) signal | Front seat heater switch (LH side) (blower on HI) | Below 100 Ω |
| c35-15 (V5) - c35-17 (VG) | B - BR | Front seat heater switch (LH side) signal | Always | 4 to 6 kΩ |
| c35-3 (GND) -Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

c. Reconnect the c35 seat climate control ECU LH connector.

d. Measure the voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c35-15 (V5) - Body ground | B - Body ground | Front seat heater switch (LH side) power supply | Engine switch on (IG) | 4.7 to 5.2 V |
| c35-26 (IND) - Body ground | L - Body ground | Seat heater switch indicator light (LH side) illumination signal | Engine switch on (IG), front LH blower fan operating (seat heater switch indicator light [LH side] illuminated) | Below 1 V |
| | | | Engine switch on (IG), front LH blower fan not operating (seat heater switch indicator light [LH side] not illuminated) | 11 to 14 V |
| c35-24 (BCS) - c35-1 (BFC-) | L - B | Front climate control blower LH drive signal | Engine switch on (IG), front seat heater switch (LH side) off | Below 1 V |
| | | | Engine switch on (IG), front seat heater switch (LH side) on (blower on HI) | 12.6 to 13.4 V |

## CHECK SEAT CLIMATE CONTROL ECU RH




a. Disconnect the c32 seat climate control ECU RH connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

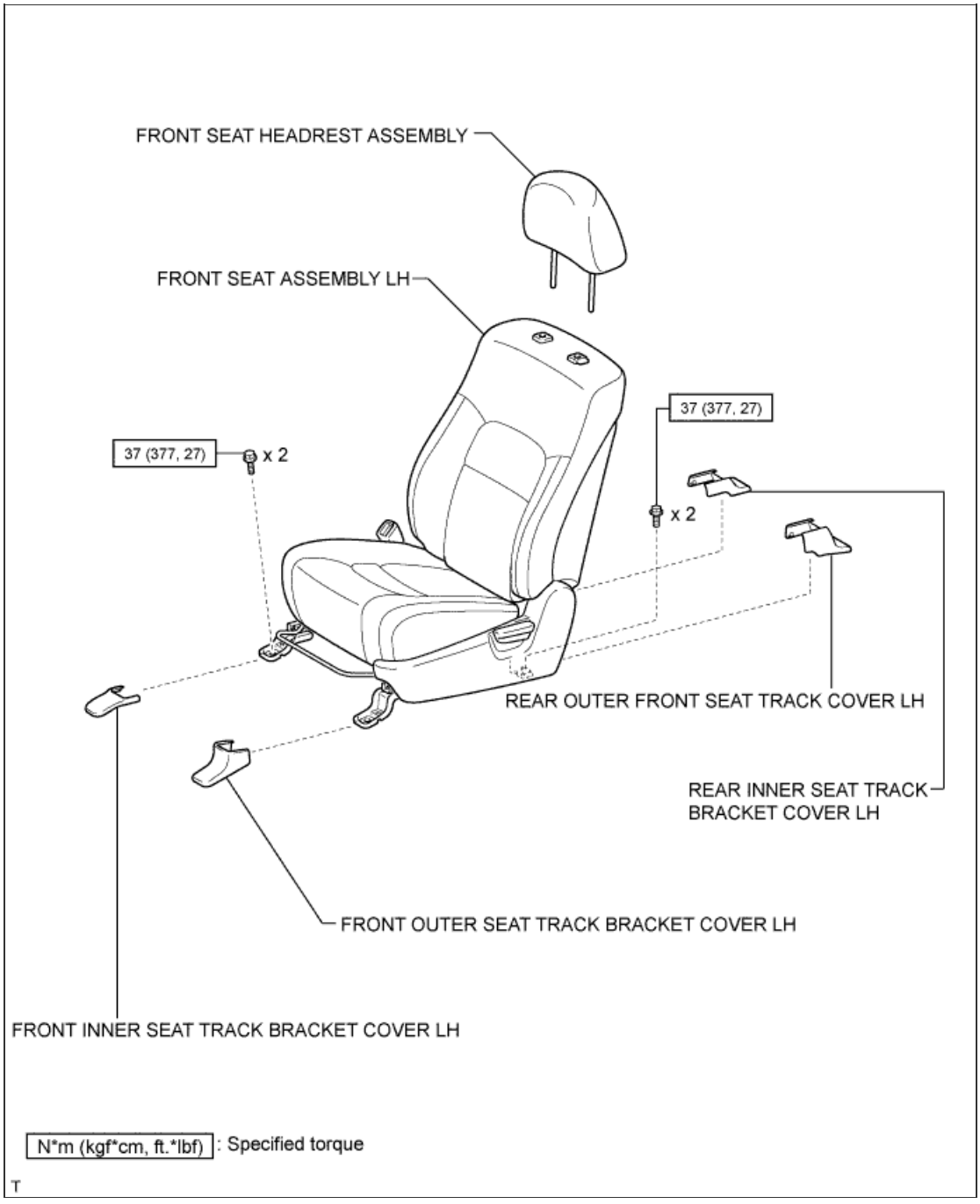
| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c32-12 (B) - Body ground | G - Body ground | Battery power supply | Always | 11 to 14 V |
| c32-13 (IG) - Body ground | G - Body ground | Ignition power supply | Engine switch on (IG) | 11 to 14 V |
| c32-15 (V5) - c32-6 (VS) | B - W | Front seat heater switch (RH side) signal | Front seat heater switch (RH side) (blower on HI) | Below 100 Ω |
| c32-15 (V5) - c32-17 (VG) | B - BR | Front seat heater switch (RH side) signal | Always | 4 to 6 kΩ |
| c32-3 (GND) -Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

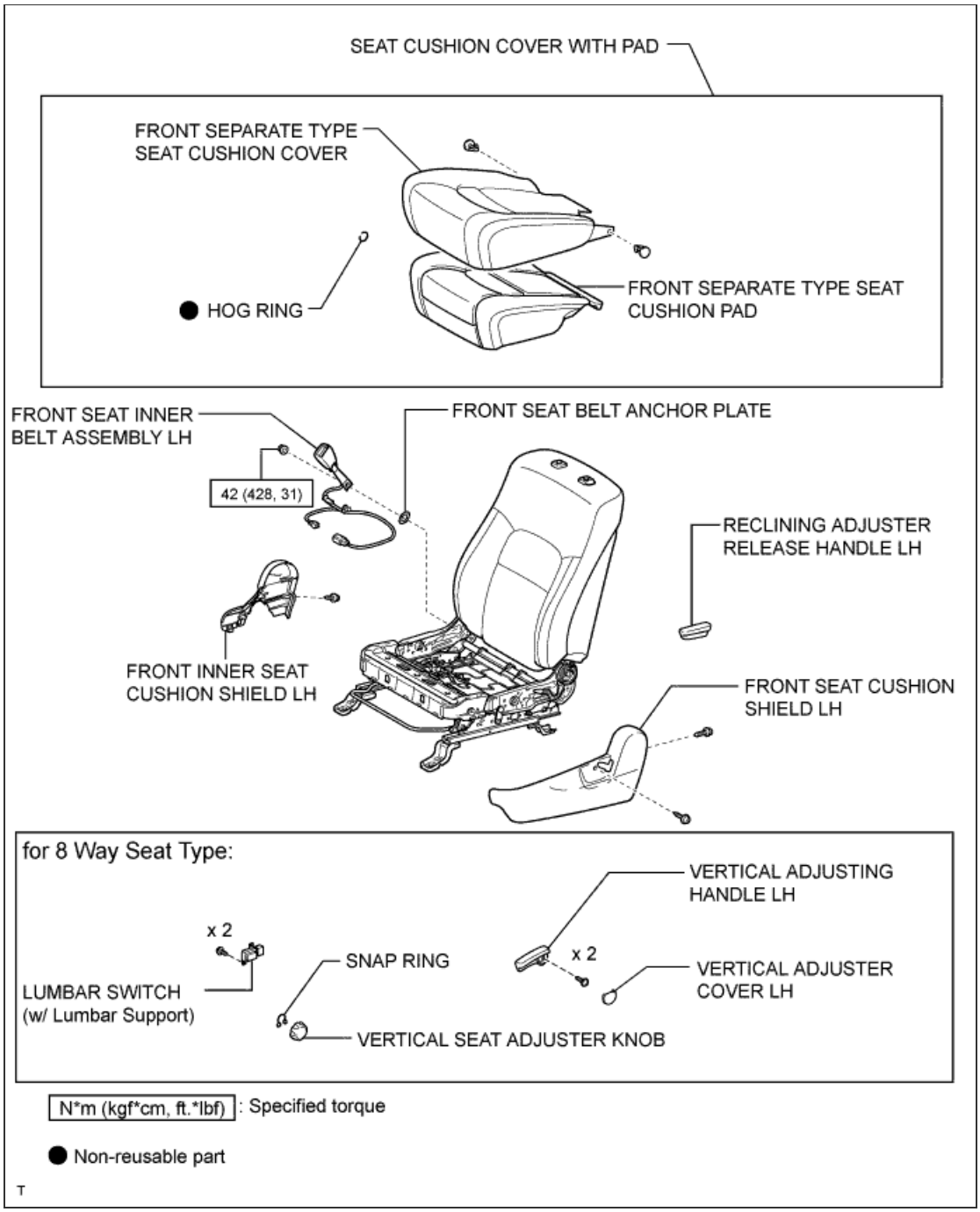
c. Reconnect the c32 seat climate control ECU RH connector.

d. Measure the voltage according to the value(s) in the table below.

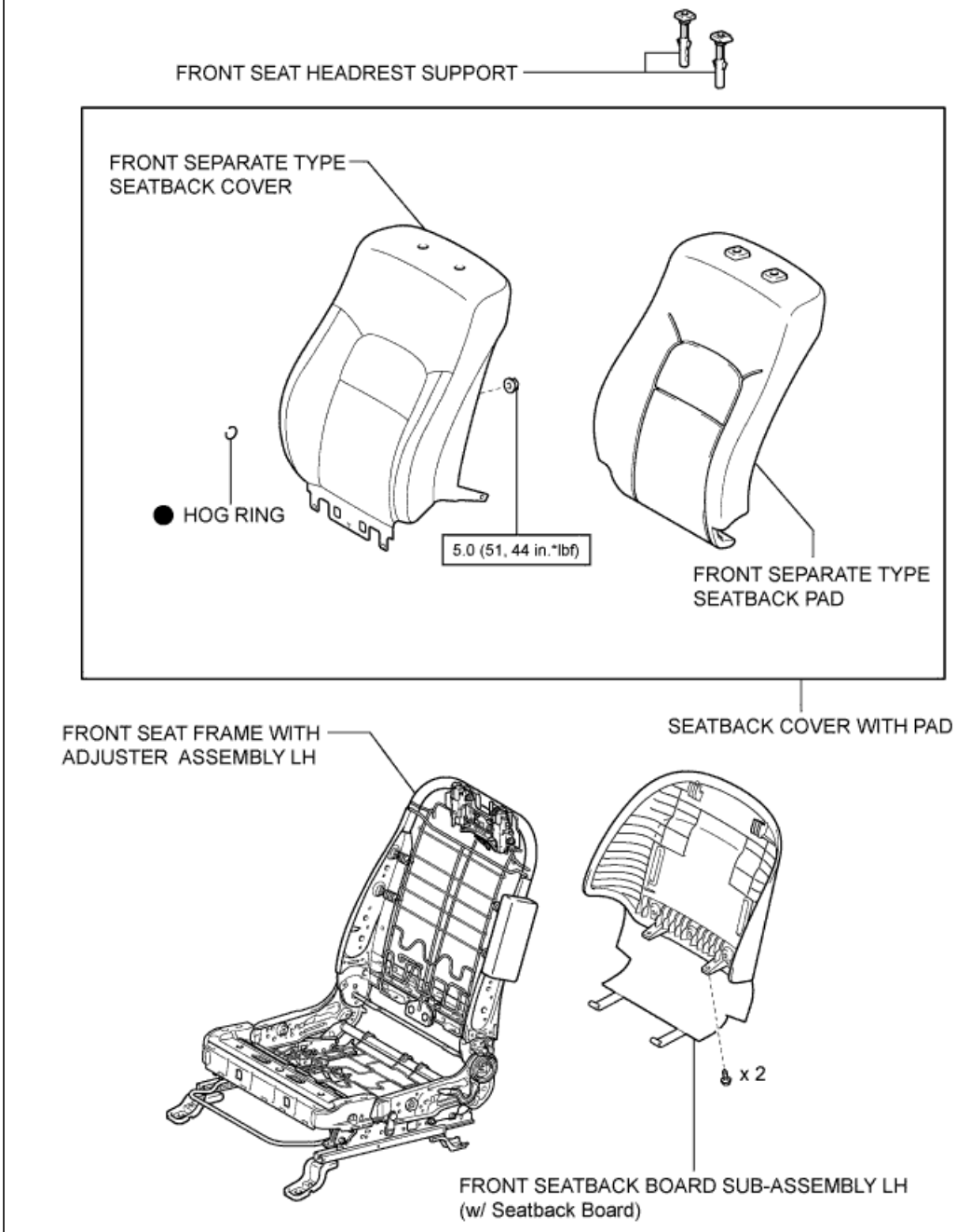
| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c32-15 (V5) - Body ground | B - Body ground | Front seat heater switch (RH side) power supply | Engine switch on (IG) | 4.7 to 5.2 V |
| c32-26 (IND) - Body ground | R - Body ground | Seat heater switch indicator light (RH side) illumination signal | Engine switch on (IG), front RH blower fan operating (seat heater switch indicator light [RH side] illuminated) | Below 1 V |
| | | | Engine switch on (IG), front RH blower fan not operating (seat heater switch indicator light [RH side] not illuminated) | 11 to 14 V |
| c32-24 (BCS) - c32-1 (BFC-) | L - B | Front climate control blower RH drive signal | Engine switch on (IG), front seat heater switch (RH side) off | Below 1 V |
| | | | Engine switch on (IG), front seat heater switch (RH side) on (blower on HI) | 12.6 to 13.4 V |

**for Preparation** Click here




SEAT CUSHION COVER WITH PAD
FRONT SEPARATE TYPE SEAT CUSHION COVER
HOG RING
FRONT SEPARATE TYPE SEAT CUSHION PAD
FRONT SEAT INNER BELT ASSEMBLY LH
FRONT SEAT BELT ANCHOR PLATE
42 (428, 31)
RECLINING ADJUSTER RELEASE HANDLE LH
FRONT INNER SEAT CUSHION SHIELD LH
FRONT SEAT CUSHION SHIELD LH
for 8 Way Seat Type:
VERTICAL ADJUSTING HANDLE LH
x 2
LUMBAR SWITCH (w/ Lumbar Support)
SNAP RING
x 2
VERTICAL ADJUSTER COVER LH
VERTICAL SEAT ADJUSTER KNOB
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
T

w/ Front Seat Side Airbag:

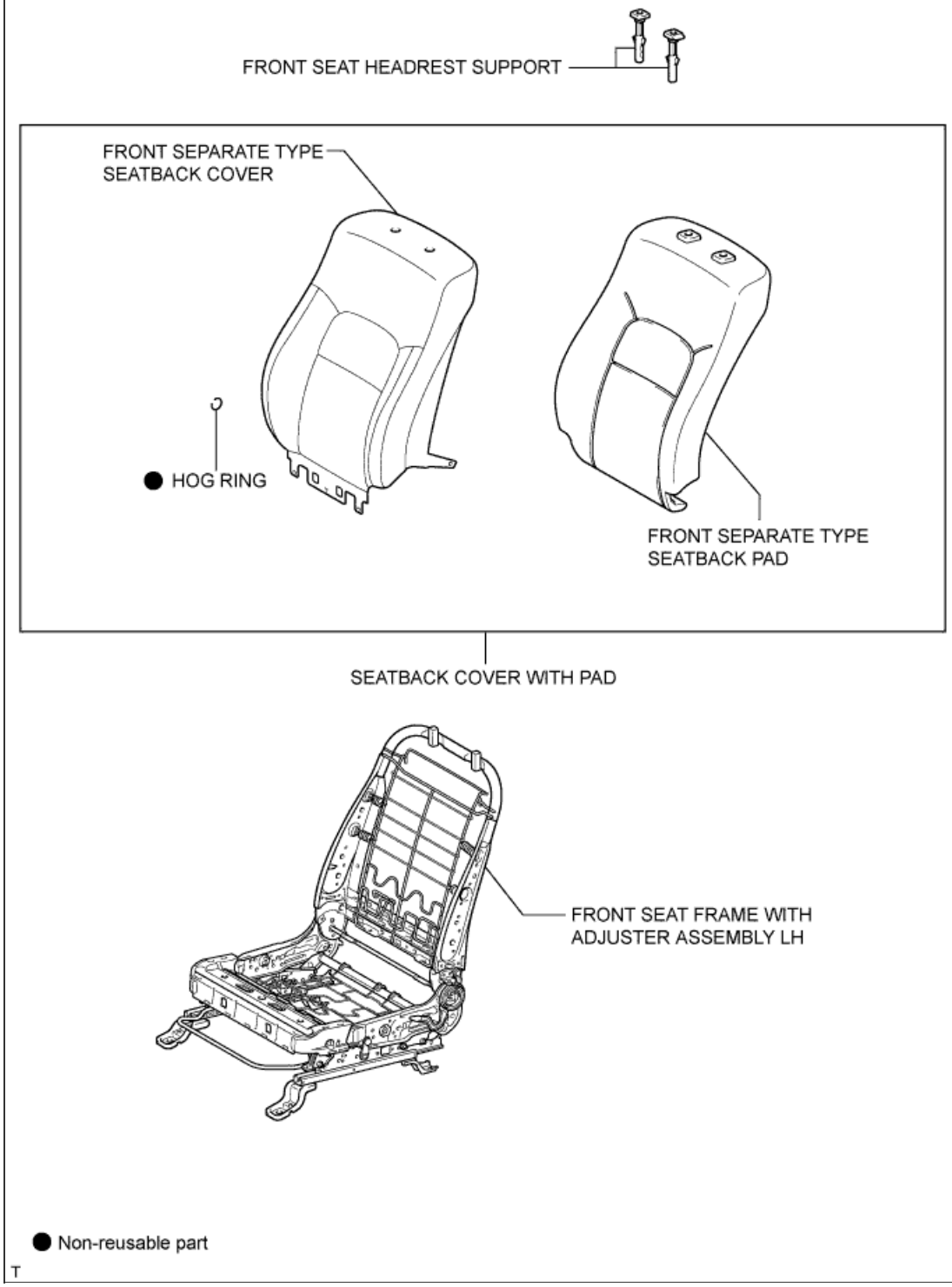



N*m (kgf*cm, ft.*lbf) : Specified torque

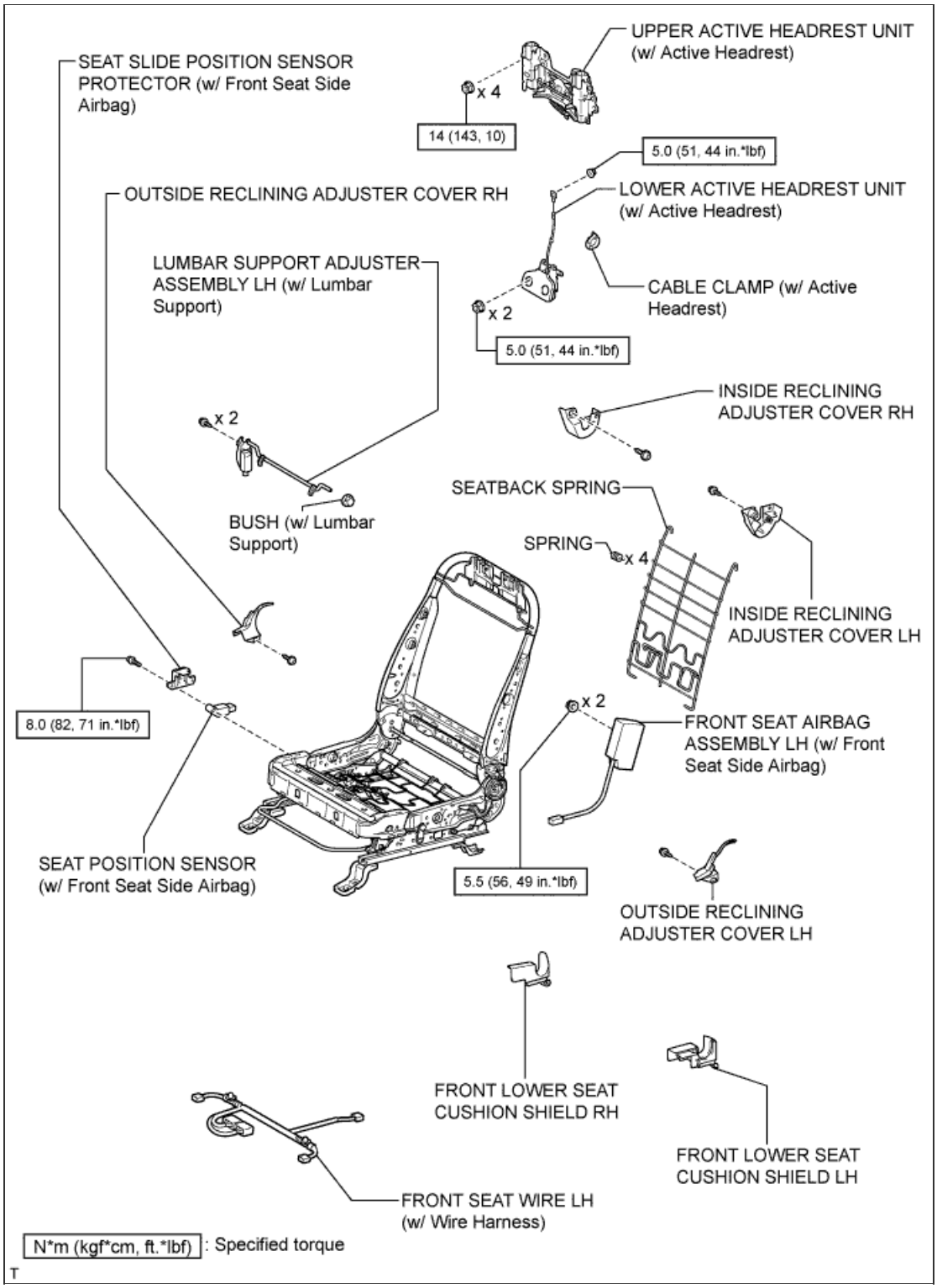
● Non-reusable part

T

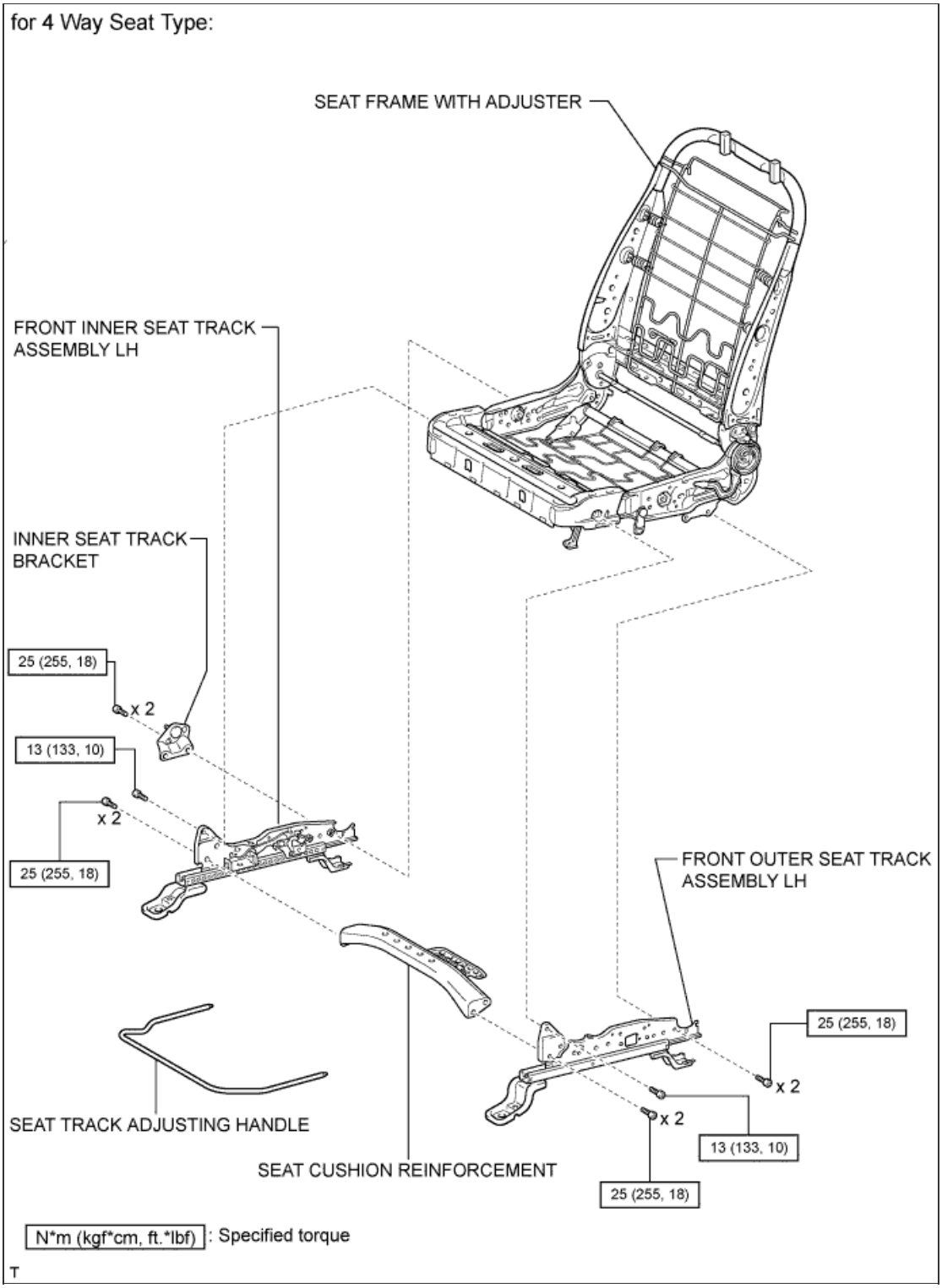
w/o Front Seat Side Airbag:



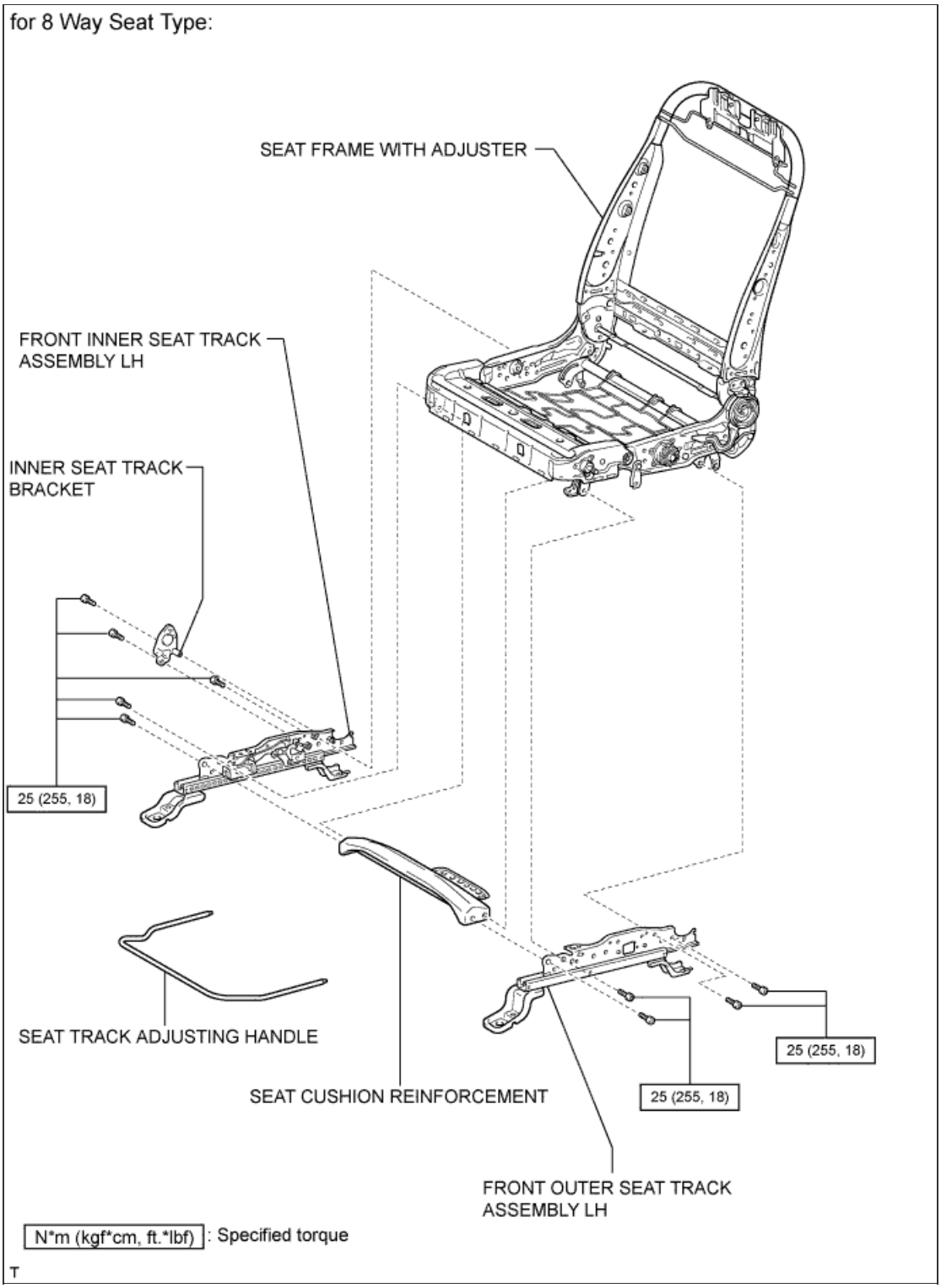

T


SEAT SLIDE POSITION SENSOR PROTECTOR (w/ Front Seat Side Airbag)
UPPER ACTIVE HEADREST UNIT (w/ Active Headrest)
x 4
14 (143, 10)
5.0 (51, 44 in.*lbf)
OUTSIDE RECLINING ADJUSTER COVER RH
LOWER ACTIVE HEADREST UNIT (w/ Active Headrest)
LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (w/ Lumbar Support)
CABLE CLAMP (w/ Active Headrest)
x 2
5.0 (51, 44 in.*lbf)
INSIDE RECLINING ADJUSTER COVER RH
x 2
SEATBACK SPRING
BUSH (w/ Lumbar Support)
SPRING
x 4
INSIDE RECLINING ADJUSTER COVER LH
8.0 (82, 71 in.*lbf)
x 2
FRONT SEAT AIRBAG ASSEMBLY LH (w/ Front Seat Side Airbag)
SEAT POSITION SENSOR (w/ Front Seat Side Airbag)
5.5 (56, 49 in.*lbf)
OUTSIDE RECLINING ADJUSTER COVER LH
FRONT LOWER SEAT CUSHION SHIELD RH
FRONT LOWER SEAT CUSHION SHIELD LH
FRONT SEAT WIRE LH (w/ Wire Harness)
N*m (kgf*cm, ft.*lbf) : Specified torque
T

for 4 Way Seat Type:



for 8 Way Seat Type:



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. REMOVE FRONT SEAT HEADREST ASSEMBLY

a. Remove the front seat headrest assembly.

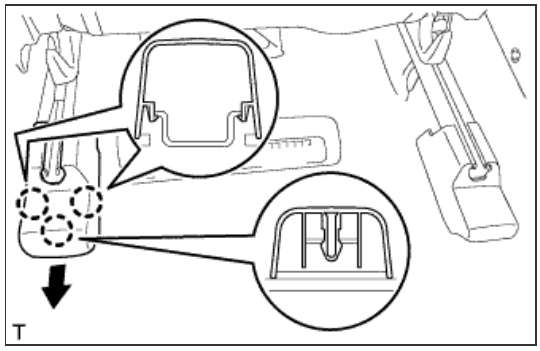
## 3. REMOVE REAR OUTER FRONT SEAT TRACK COVER LH

a. Operate the seat track adjusting handle to move the front seat assembly LH to the foremost position.

b. Using a screwdriver, detach the 3 claws and remove the rear outer front seat track cover LH.

**HINT:**

Tape the screwdriver tip before use.

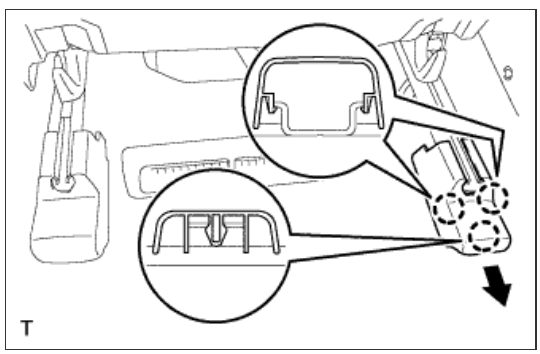



## 4. REMOVE REAR INNER SEAT TRACK BRACKET COVER LH

a. Using a screwdriver, detach the 3 claws and remove the rear inner seat track bracket cover LH.

**HINT:**

Tape the screwdriver tip before use.



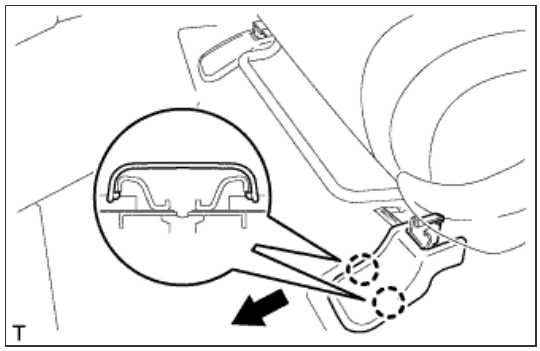
## 5. REMOVE FRONT OUTER SEAT TRACK BRACKET COVER LH

a. Operate the seat track adjusting handle to move the front seat assembly LH to the rearmost position.

b. Using a screwdriver, detach the 2 claws and remove the front outer track bracket cover LH.

**HINT:**

Tape the screwdriver tip before use.

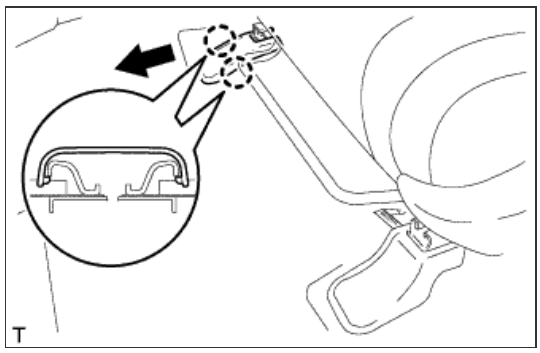



## 6. REMOVE FRONT INNER SEAT TRACK BRACKET COVER LH

a. Using a screwdriver, detach the 2 claws and remove the front inner seat track bracket cover LH.

**HINT:**

Tape the screwdriver tip before use.




## 7. REMOVE FRONT SEAT ASSEMBLY LH

a. for Power Tilt and Power telescopic Steering Column:

i. Disable the Autoaway/Return function by changing the customize parameter ( Click here).

**NOTICE:**

Record the current customize parameter setting (whether the Autoaway/Return function is enabled or disabled) in order to restore the current setting after finishing the operation.

**HINT:**

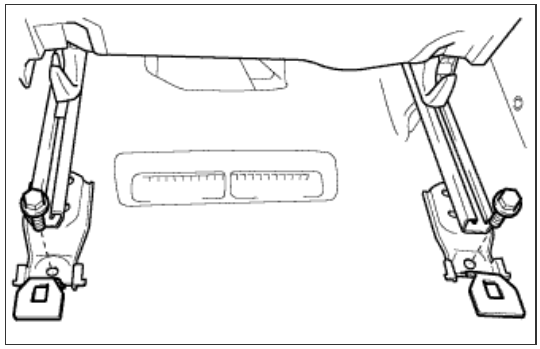
Performing the above operation causes the Autoaway/Return function to be disabled when the ignition switch is turned off.

ii. Turn the ignition switch to ON. Operate the tilt and telescopic switch to fully retract and tilt up the steering column assembly.

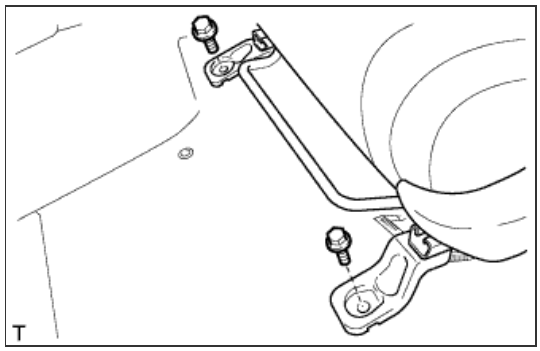
iii. Turn the ignition switch off.

b. Remove the 2 bolts.

c. Operate the seat track adjusting handle to move the front seat assembly LH to the foremost position.



d. Remove the 2 bolts.




e. Operate the seat track adjusting handle to move the front seat assembly LH to the center position, and operate the reclining adjusting handle and move the seatback to the upright position.

f. w/ Front Seat Side Airbag:
Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

g. w/ Wire Harness:
Disconnect the connectors under the front seat assembly LH.

h. Remove the front seat assembly LH from the vehicle.

**NOTICE:**

Be careful not to damage the vehicle body.

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

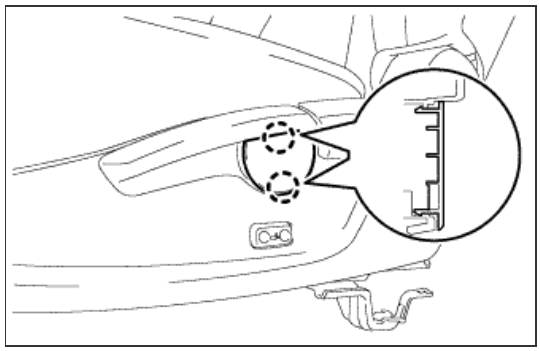
- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE VERTICAL ADJUSTER COVER LH (for 8 Way Seat Type)

a. Using a screwdriver, detach the 2 claws and remove the vertical adjuster cover LH.

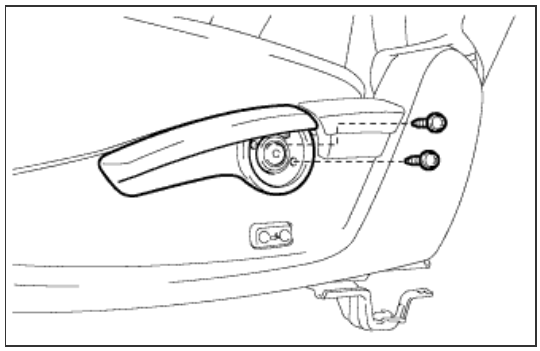
**HINT:**

Tape the screwdriver tip before use.



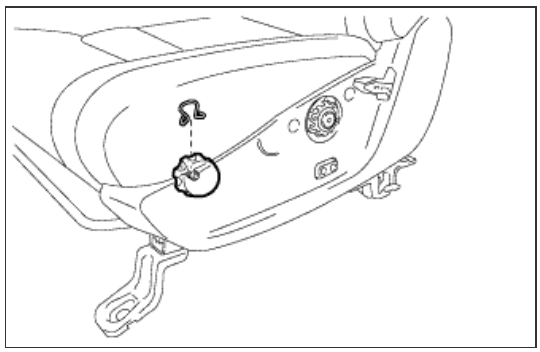
## 2. REMOVE VERTICAL ADJUSTING HANDLE LH (for 8 Way Seat Type)

a. Remove the 2 screws and vertical adjusting handle LH.



## 3. REMOVE VERTICAL SEAT ADJUSTER KNOB (for 8 Way Seat Type)

a. Remove the snap ring and vertical seat adjuster knob.



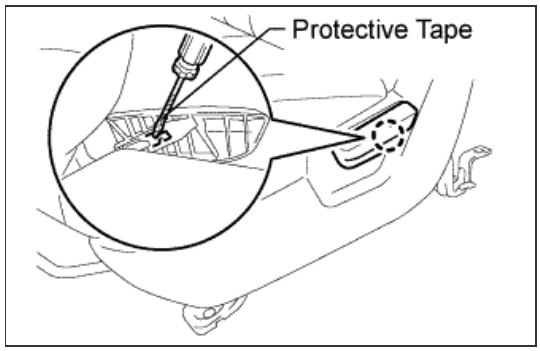
## 4. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

a. Lift the reclining adjuster release handle LH.

b. Using a screwdriver, detach the claw and remove the reclining adjuster release handle LH.

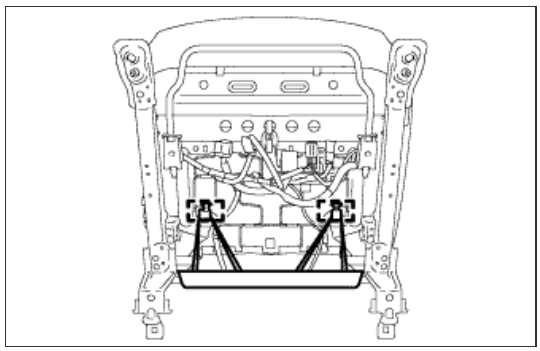
**HINT:**

Tape the screwdriver tip before use.

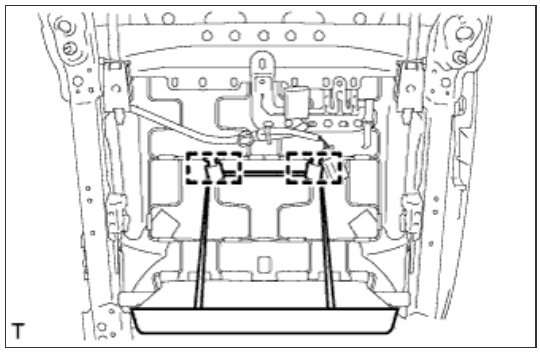



## 5. REMOVE FRONT SEAT CUSHION SHIELD LH

a. w/ Seatback Board:
Disconnect the 2 rubber bands from the 2 hooks.



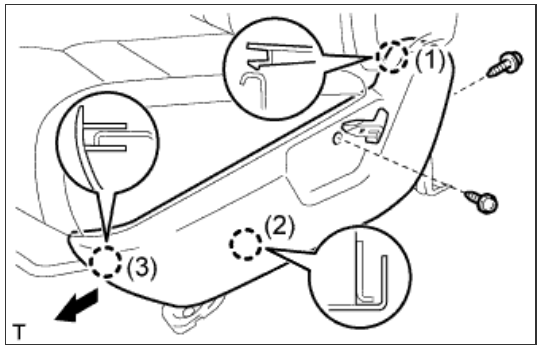
b. w/o Seatback Board:
Disconnect the rubber band from the 2 hooks.




c. for 4 Way Seat Type:

i. Remove the 2 screws.

ii. Detach the 3 claws in the order shown in the illustration, and then remove the front seat cushion shield LH.



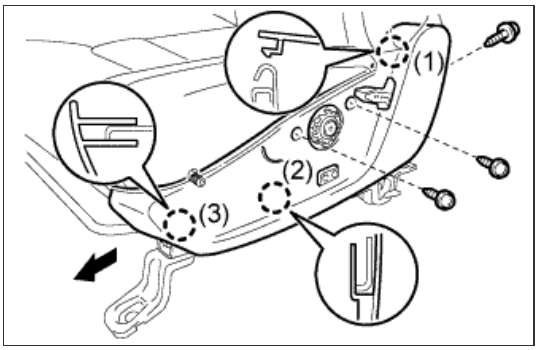

d. for 8 Way Seat Type:

i. Remove the 3 screws.

ii. Detach the 3 claws in the order shown in the illustration, and then

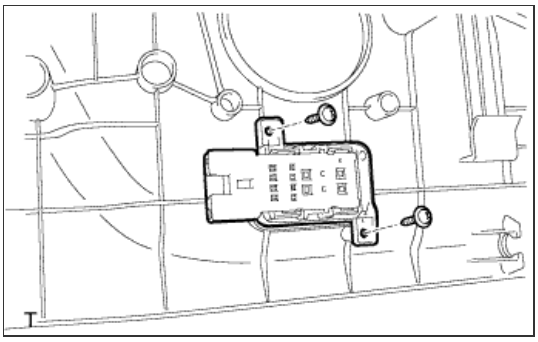
remove the front seat cushion shield LH.

e. w/ Lumbar Support:
Disconnect the lumbar switch connector.




## 6. REMOVE LUMBAR SWITCH (w/ Lumbar support)

a. Remove the 2 screws and lumbar switch.

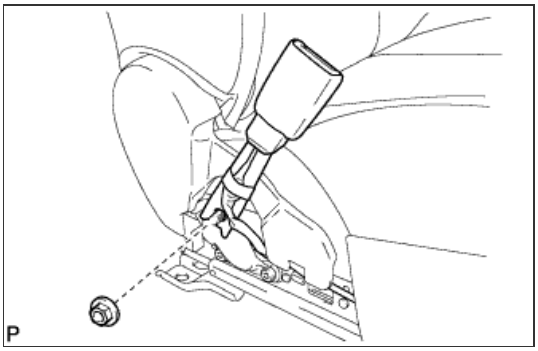


## 7. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH (for Manual Seat)

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

c. Remove the front seat belt anchor plate.



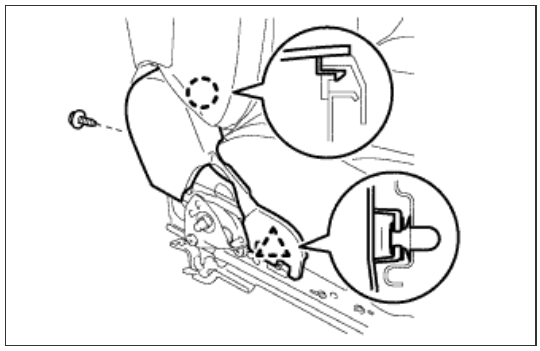
## 8. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH (for Bench Seat Type)

(Click here)

## 9. REMOVE FRONT INNER SEAT CUSHION SHIELD LH

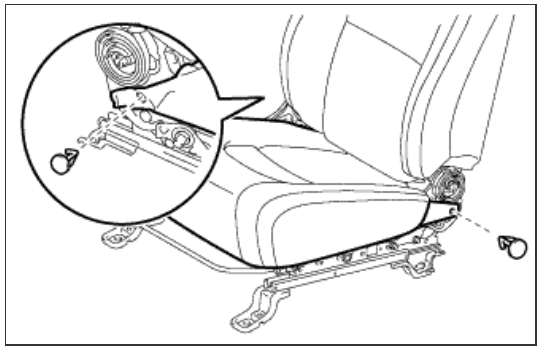
a. Remove the screw.

b. Detach the claw and clip, and then remove the front inner seat cushion shield LH.

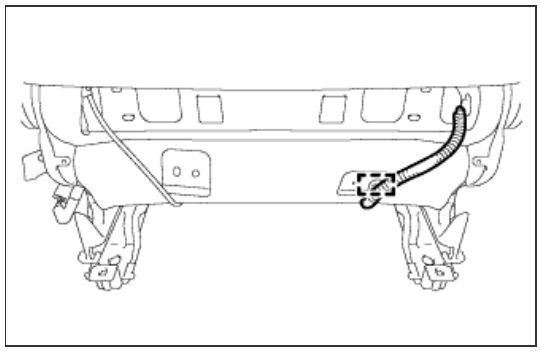


## 10. REMOVE SEAT CUSHION COVER WITH PAD

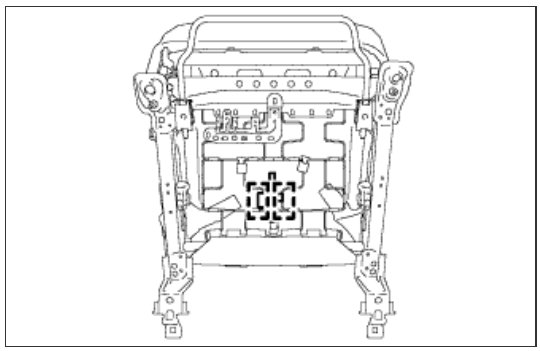
a. Using a clip remover, remove the 2 clips.



b. w/ Lumbar Support:
Detach the wire harness clamp.

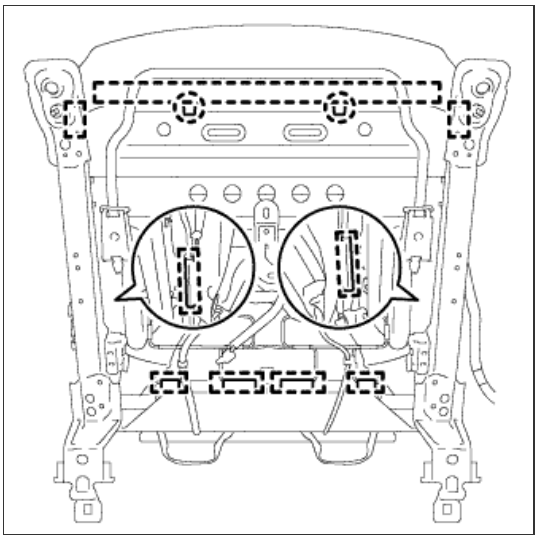


c. w/ Occupant Detection Sensor:
Detach the 2 clamps and remove connector holder.



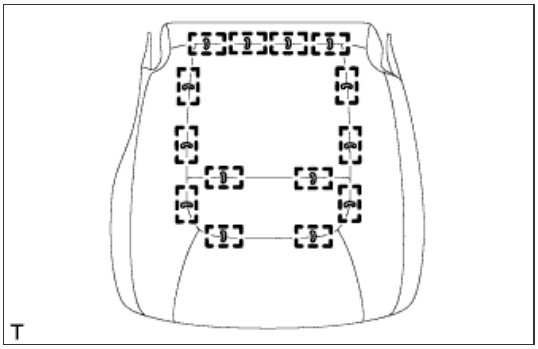
d. Bend the 2 seat frame claws upward.

e. Detach the hooks and remove the seat cushion cover with pad.



## 11. REMOVE FRONT SEPARATE TYPE SEAT CUSHION COVER

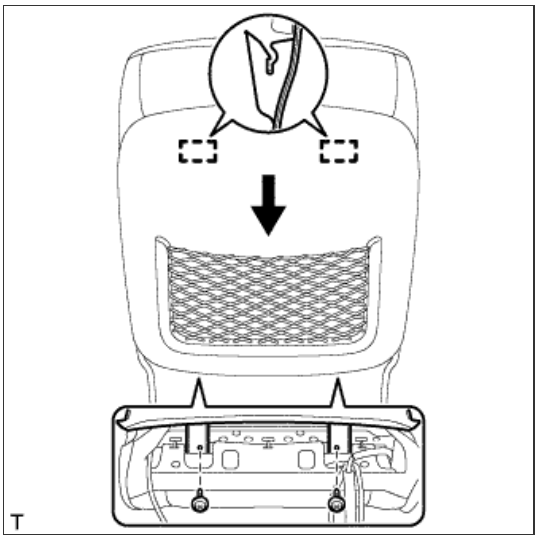
a. Remove the hog rings and front separate type seat cushion cover from the front separate type seat cushion pad.




## 12. REMOVE FRONT SEATBACK BOARD SUB-ASSEMBLY LH (w/ Seatback Board)

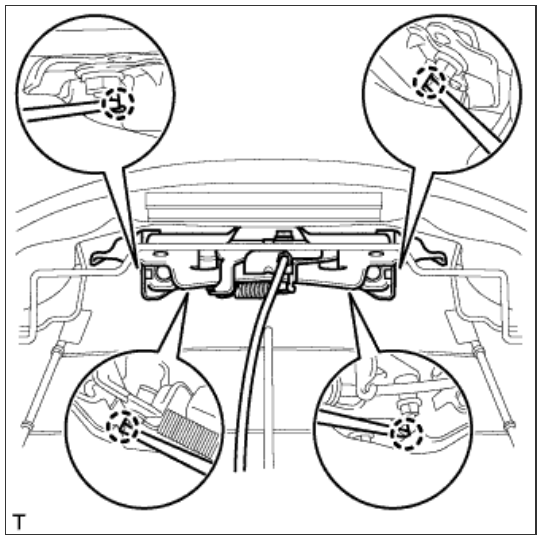
a. Remove the 2 screws.

b. Move the front seatback board sub-assembly LH in the direction of the arrow to detach the 2 hooks and remove it.




## 13. REMOVE FRONT SEAT HEADREST SUPPORT (w/ Active Headrest)

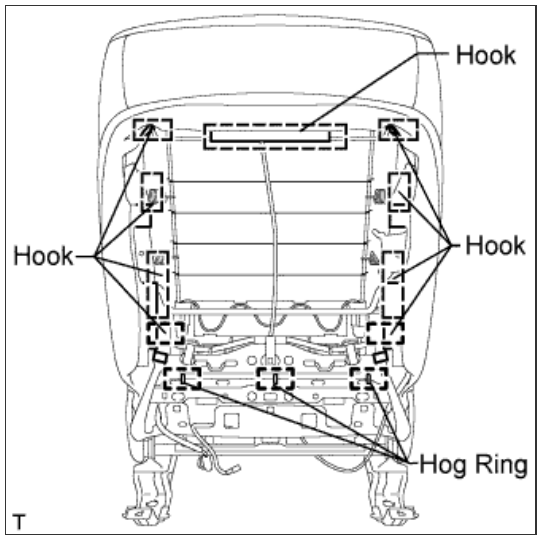
a. Detach the 4 claws and remove the 2 front seat headrest supports.



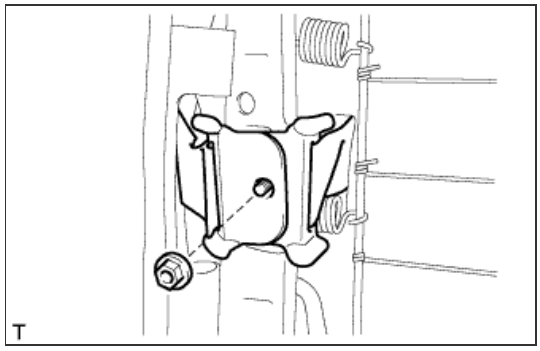

## 14. REMOVE SEATBACK COVER WITH PAD

**a.** w/ Seatback Board:

**i.** Remove the 3 hog rings and detach the 9 hooks.

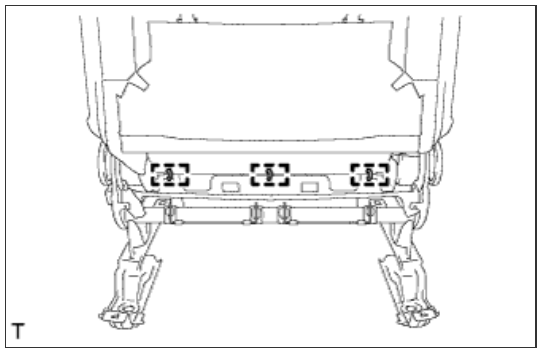



**ii.** w/ Front Seat Side Airbag:
Remove the nut and seatback cover bracket from the seat frame.

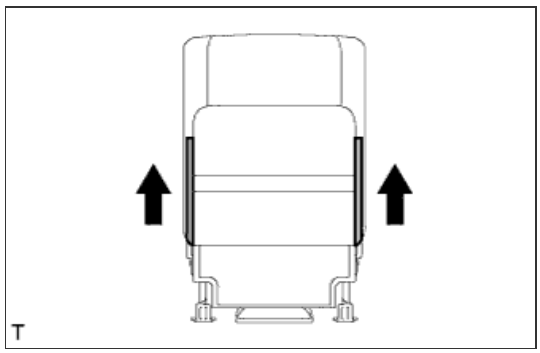



**b.** w/o Seatback Board:

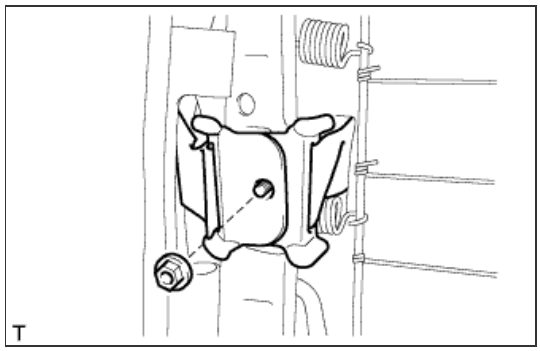
**i.** Remove the 3 hog rings.




ii. Open the 2 fasteners, and then open the front separate type seatback cover.

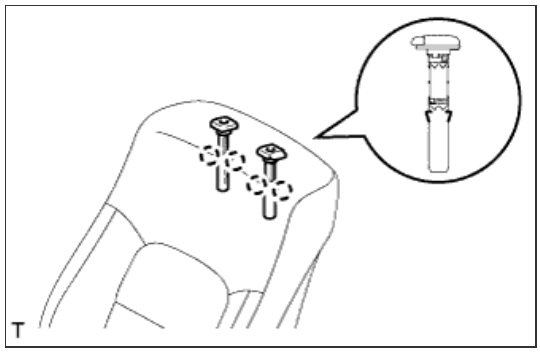



iii. w/ Front Seat Side Airbag:
Remove the nut and seatback cover bracket from the seat frame.



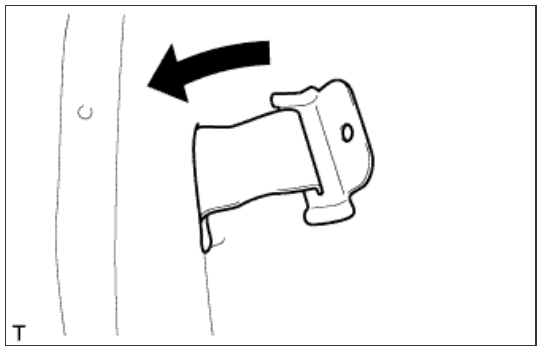

iv. Detach the 4 claws and remove the 2 front seat headrest supports.

c. Remove the seatback cover with pad from the seatback frame.



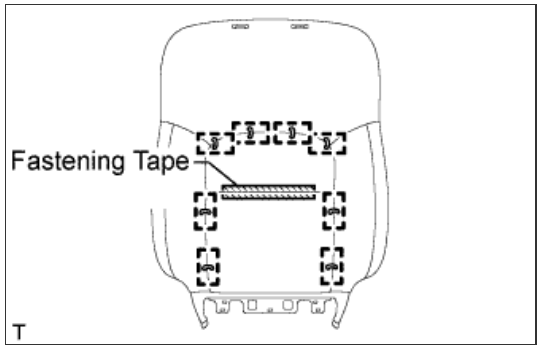

## 15. REMOVE FRONT SEPARATE TYPE SEATBACK COVER

a. w/ Front Seat Side Airbag:
Disconnect the seatback cover bracket from the front separate type seatback pad.




b. Remove the hog rings.

c. Detach the fastening tape and remove the front separate type seatback cover from the front separate type seatback pad.

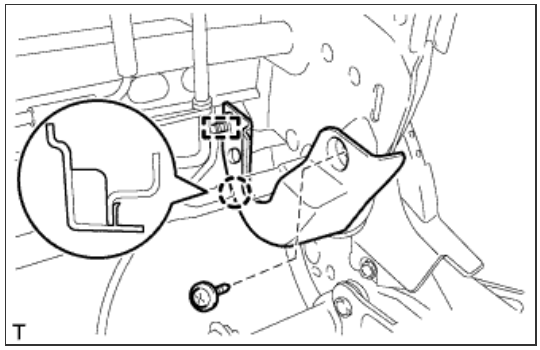



## 16. REMOVE INSIDE RECLINING ADJUSTER COVER LH

a. w/ Front Seat Side Airbag:
Detach the wire harness clamp.

b. Remove the screw.

c. Detach the claw and remove the inside reclining adjuster cover LH.




## 17. REMOVE INSIDE RECLINING ADJUSTER COVER RH

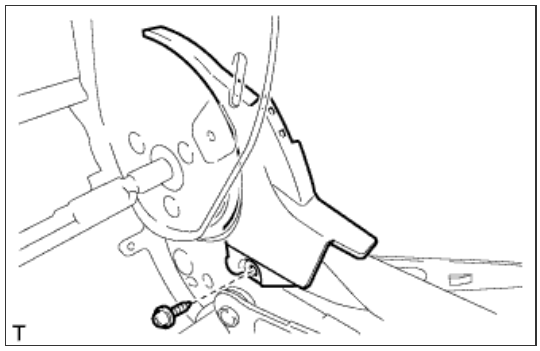
a. w/ Lumbar Support:
Detach the wire harness clamp.

b. Remove the screw.

c. Detach the claw and remove the inside reclining adjuster cover RH.

## 18. REMOVE OUTSIDE RECLINING ADJUSTER COVER LH

a. Remove the screw and outside reclining adjuster cover LH.




## 19. REMOVE OUTSIDE RECLINING ADJUSTER COVER RH

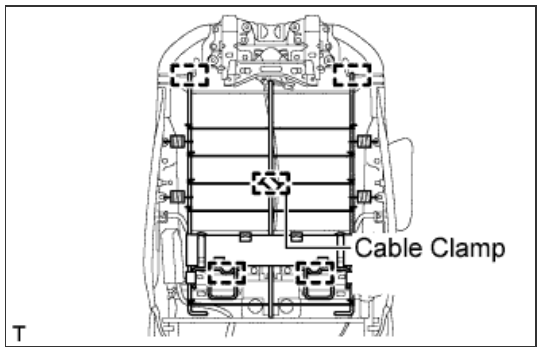
a. Remove the screw and outside reclining adjuster cover RH.

## 20. REMOVE LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (w/Lumbar Support)

a. Remove the 4 springs.

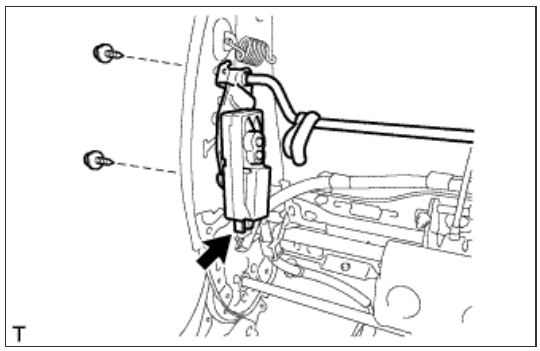
b. w/ Active Headrest:
Remove the cable clamp and disconnect the active headrest cable from the seatback spring.

c. Detach the 4 hooks and remove the seatback spring.

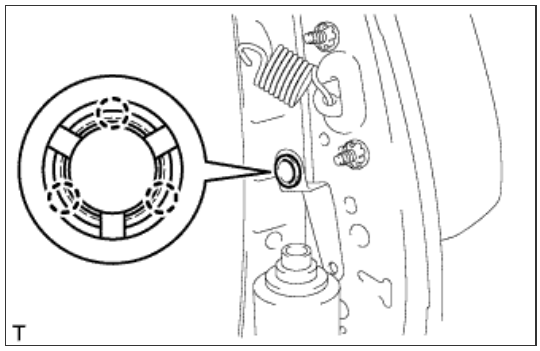



d. Disconnect the lumbar support adjuster connector.

e. Remove the 2 screws and lumbar support adjuster assembly LH.



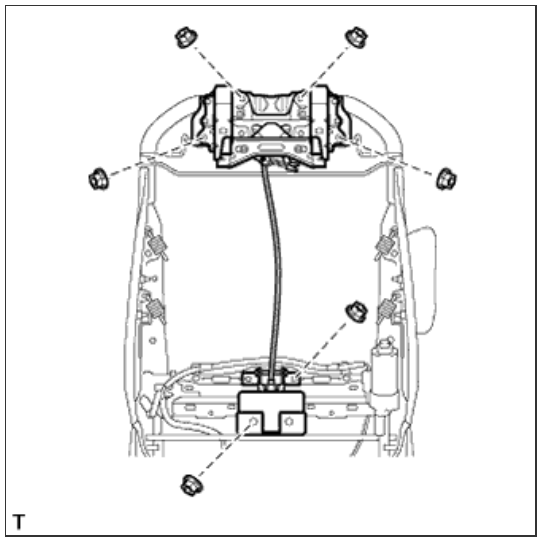

f. Detach the 3 claws and remove the bush from the seat frame.




## 21. REMOVE LOWER ACTIVE HEADREST UNIT (w/ Active Headrest)

a. Remove the 6 nuts, and then remove the lower active headrest unit together

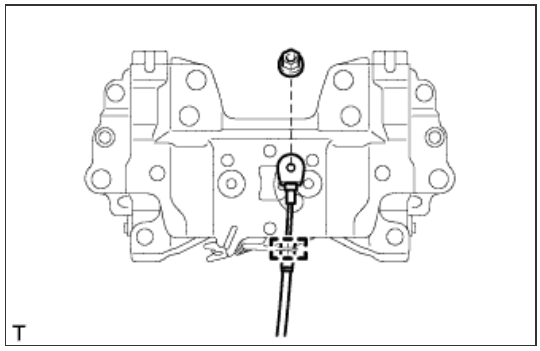
with the upper active headrest unit.




## 22. REMOVE UPPER ACTIVE HEADREST UNIT (w/ Active Headrest)

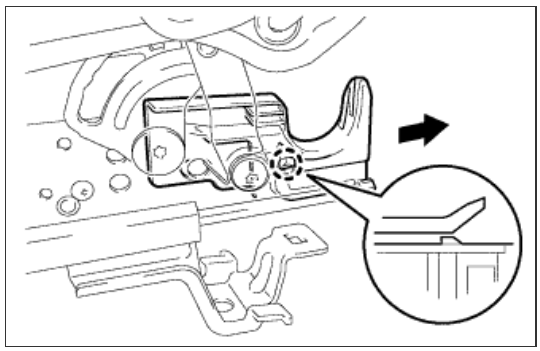
a. Remove the nut.

b. Detach the cable clamp and remove the upper active headrest unit from the lower active headrest unit.




## 23. REMOVE FRONT LOWER SEAT CUSHION SHIELD LH

a. Detach the claw and remove the front lower seat cushion shield LH.



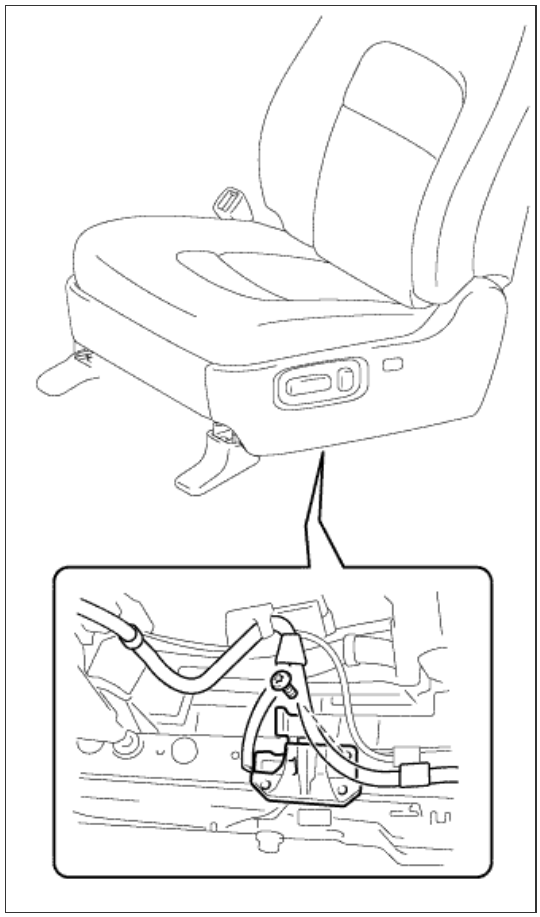
## 24. REMOVE FRONT LOWER SEAT CUSHION SHIELD RH

a. Detach the claw and remove the front lower seat cushion shield RH.

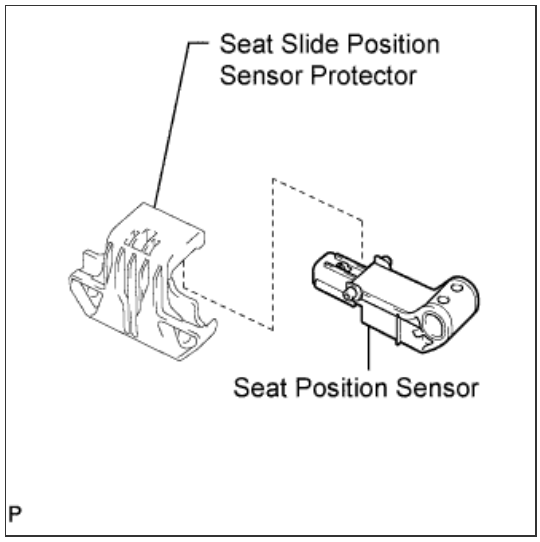
## 25. REMOVE SEAT POSITION SENSOR (w/ Front Seat Side Airbag)

a. Using a T30 "TORX" socket wrench, remove the screw and seat position sensor with sensor protector.

b. Disconnect the connector.

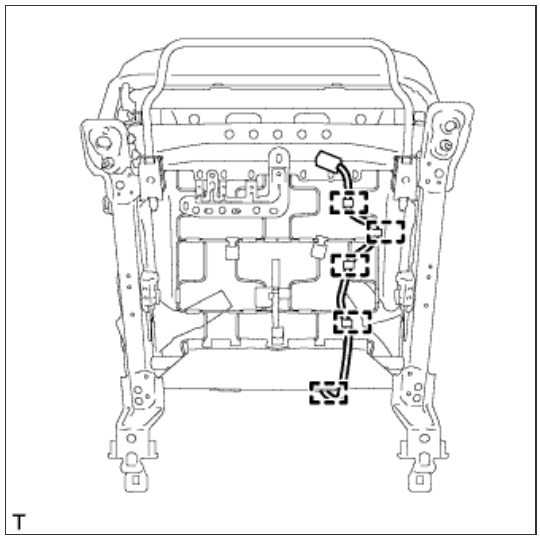


c. Remove the seat slide position sensor protector from the seat position sensor.




**26. REMOVE FRONT SEAT AIRBAG ASSEMBLY LH (w/ Front Seat Side Airbag)**

a. Detach the 5 clamps and disconnect the wire harness.

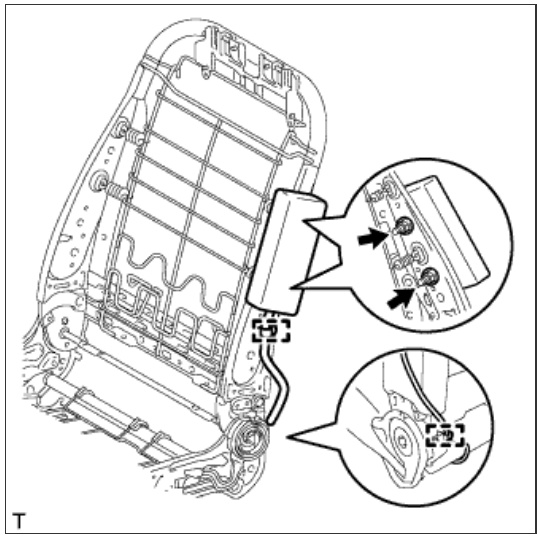



b. Detach the 2 clamps and disconnect the wire harness.

c. Remove the 2 nuts and front seat airbag assembly LH.

**CAUTION:**

Make sure that the seat frame assembly is not deformed. If it is, replace it with a new one.




## 27. REMOVE FRONT SEAT WIRE LH (w/ Wire Harness)

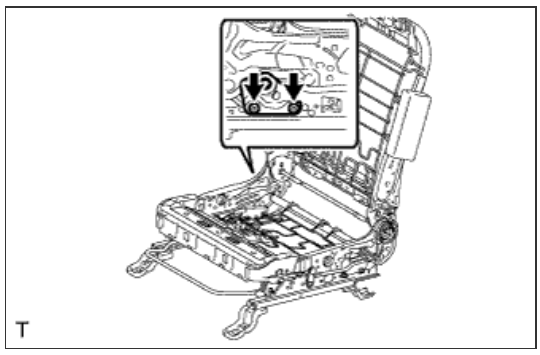
a. Detach the wire harness clamps.

b. Detach the claw and remove the front seat wire LH.

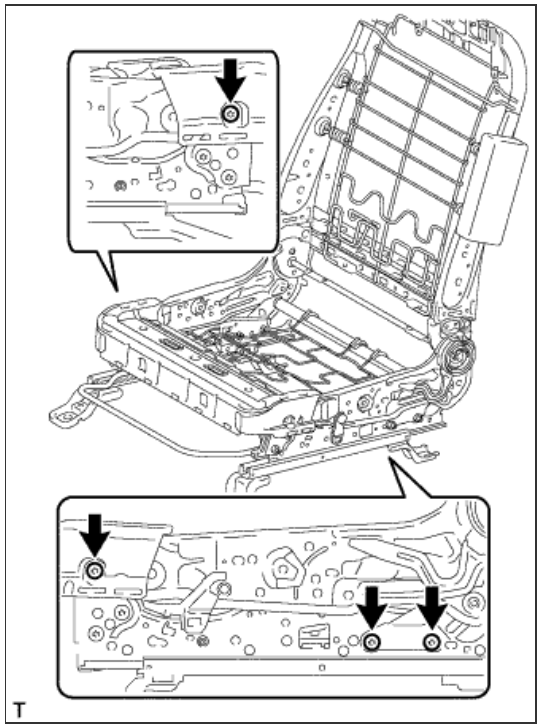
## 28. REMOVE FRONT INNER SEAT TRACK ASSEMBLY LH

a. for 4 Way Seat Type:

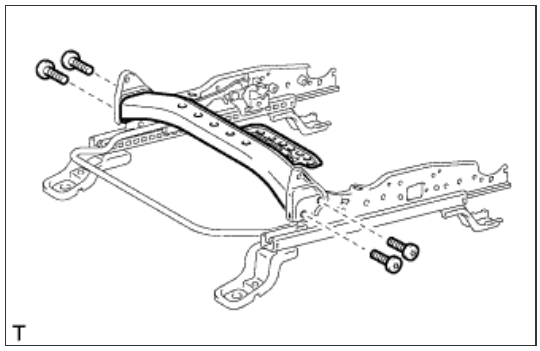
i. Using a T40 "TORX" socket wrench, remove the 2 "TORX" bolts and inner seat track bracket.



ii. Using a T40 "TORX" socket wrench , remove the 4 "TORX" bolts and seat frame with adjuster.




iii. Using a T40 "TORX" socket wrench, remove the 4 "TORX" bolts and reinforcement.

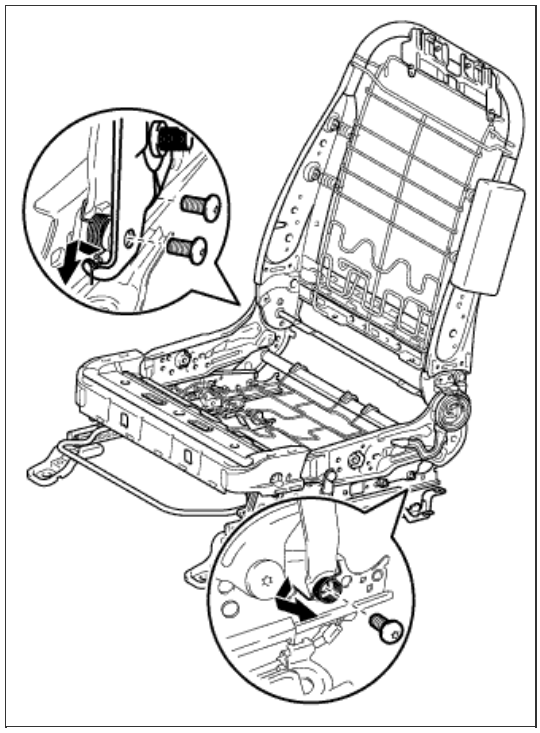



b. for 8 Way Seat Type:

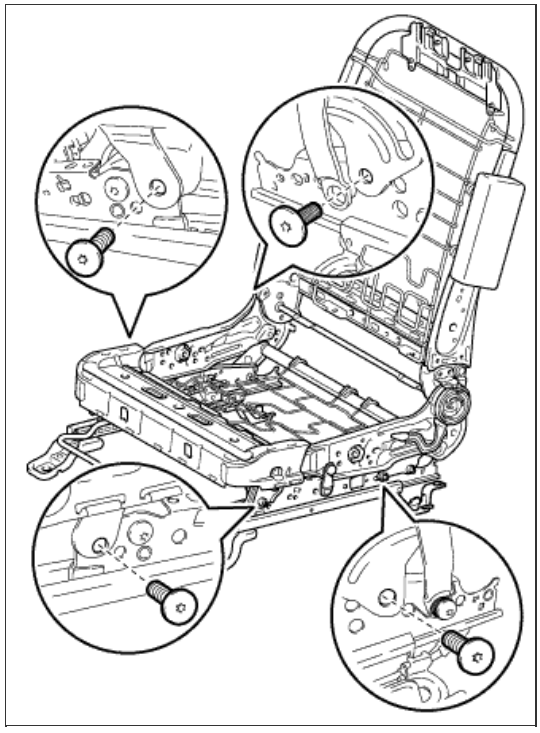
i. Detach the spring.

ii. Using a T40 "TORX" socket wrench, remove the 2 "TORX" bolts and inner seat track bracket.

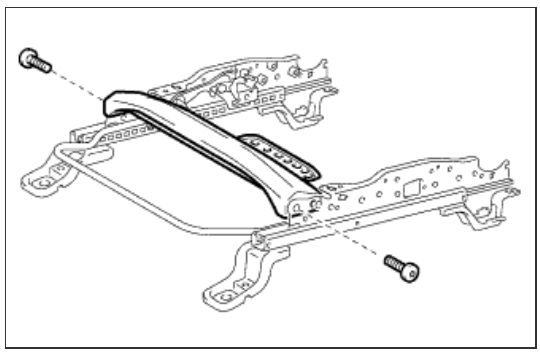
iii. Using a T40 "TORX" socket, remove the "TORX" bolt and spring.



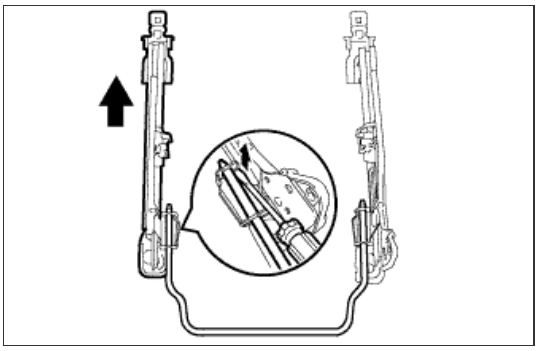
iv. Using a T40 "TORX" socket, remove the 4 bolts and seat frame with adjuster.



v. Using a T40 "TORX" socket wench, remove the 2 "TORX" bolts and reinforcement.

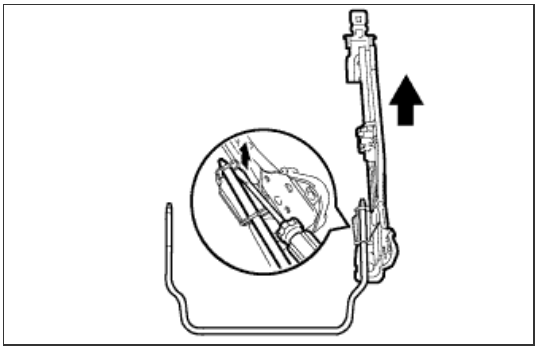


c. Using a screwdriver, detach the spring and remove the front inner seat track assembly LH from the seat track adjusting handle as shown in the illustration.



## 29. REMOVE FRONT OUTER SEAT TRACK ASSEMBLY LH

a. Using a screwdriver, detach the spring and remove the front outer seat track assembly LH from the seat track adjusting handle as shown in the illustration.



**for Preparation** Click here

**CAUTION:**

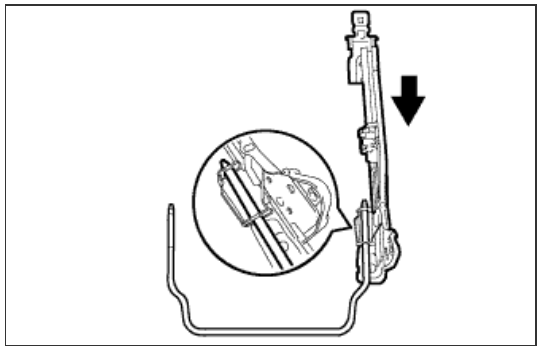
Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

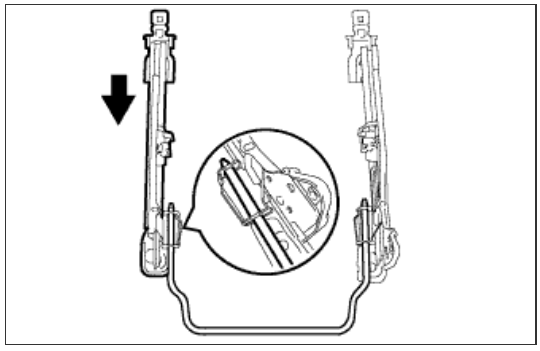
## 1. INSTALL FRONT OUTER SEAT TRACK ASSEMBLY LH

a. Attach the spring to install the front outer seat track assembly LH to the seat track adjusting handle as shown in the illustration.



## 2. INSTALL FRONT INNER SEAT TRACK ASSEMBLY LH

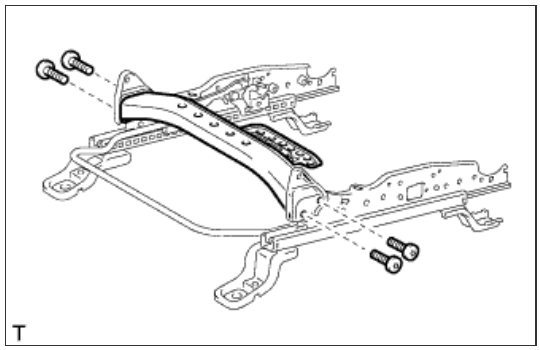
a. Attach the spring to install the front inner seat track assembly LH to the seat track adjusting handle as shown in the illustration.



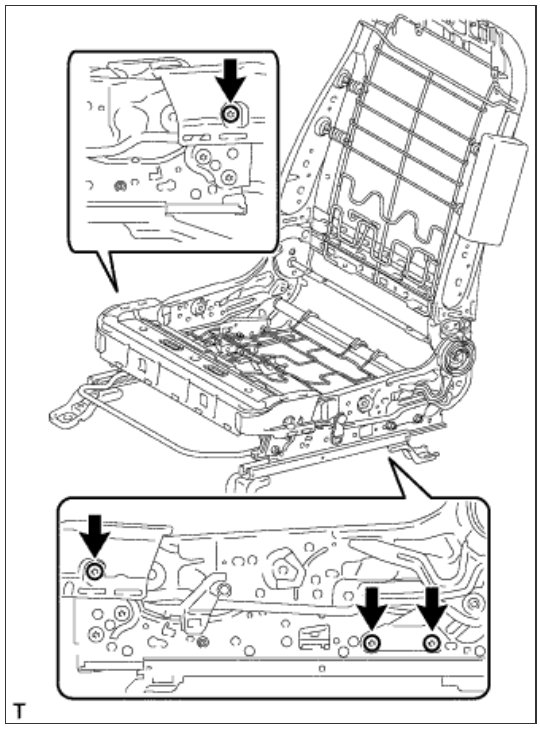
b. for 4 Way Seat Type:

i. Using a T40 "TORX" socket wrench, install the reinforcement with the 4 "TORX" bolts.

**Torque:**
**25 N*m{ 255 kgf*cm , 18 ft.*lbf }**



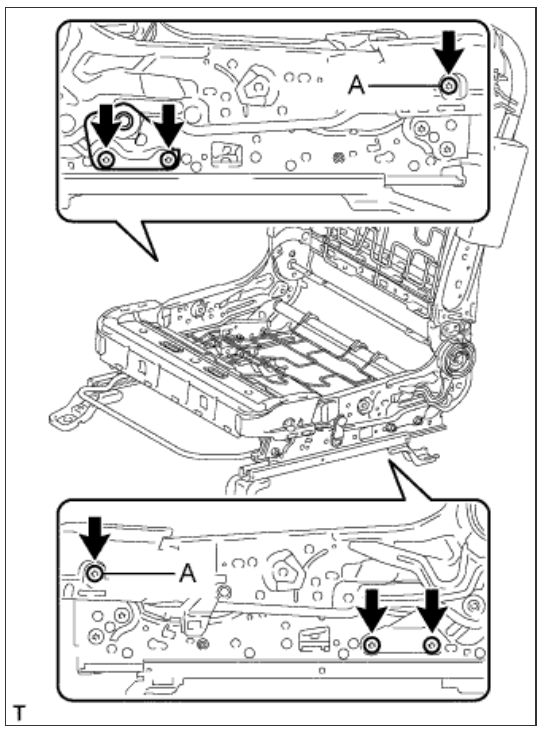

ii. Temporarily install the seat frame with adjuster with 4 "TORX" bolts.




iii. Temporarily install the inner seat track bracket with 2 "TORX" bolts.

iv. Using a T40 "TORX" socket wrench , tighten the 6 "TORX" bolts.

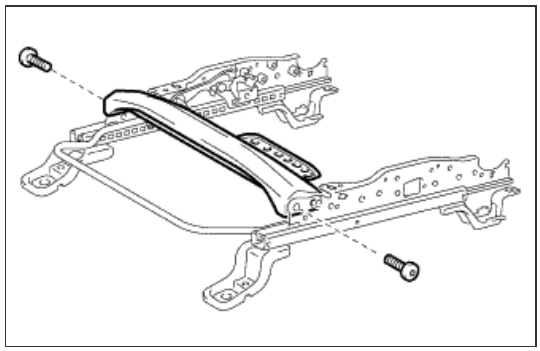
**Torque:**
**25 N*m{ 255 kgf*cm , 18 ft.*lbf }**
**Bolt A:**
**13 N*m{ 133 kgf*cm , 10 ft.*lbf }**




c. for 8 Way Seat Type:

i. Using a T40 "TORX" socket wrench , install the reinforcement with the 2 "TORX" bolts.

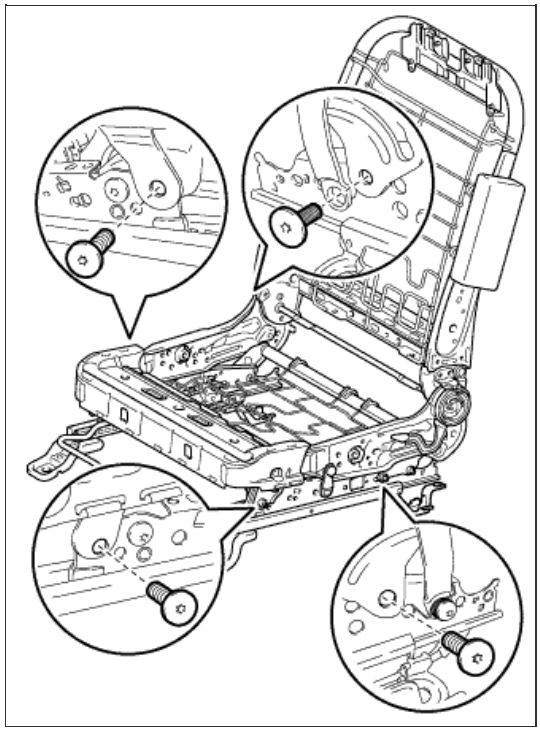
**Torque:**
**25 N*m{ 255 kgf*cm , 18 ft.*lbf }**



ii. Temporarily install the seat frame with adjuster with the 4 "TORX" bolts.

iii. Using a T40 "TORX" socket wrench, tighten the 4 "TORX" bolts.

**Torque:**
**25 N*m{ 255 kgf*cm , 18 ft.*lbf }**



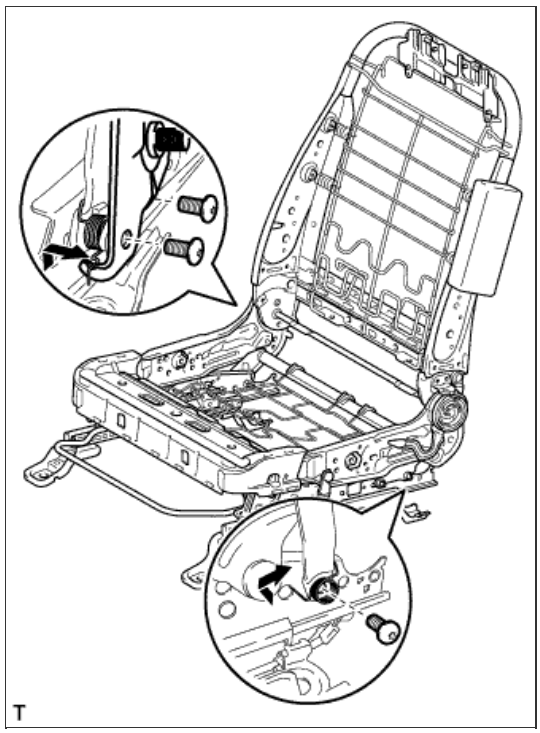
iv. Install the spring and then using a T40 "TORX" socket wrench, install the "TORX" bolt.

**Torque:**
**25 N*m{ 255 kgf*cm , 18 ft.*lbf }**

v. Using a T40 "TORX" socket wrench, install the inner seat track bracket with the 2 "TORX" bolts.

**Torque:**
**25 N*m{ 255 kgf*cm , 18 ft.*lbf }**

vi. Attach the spring.




## 3. INSTALL FRONT SEAT WIRE LH (w/ Wire Harness)

a. Attach the claw to install the front seat wire LH.

b. Attach the wire harness clamps.

## 4. INSTALL FRONT SEAT AIRBAG ASSEMBLY LH (w/ Front Seat Side Airbag)

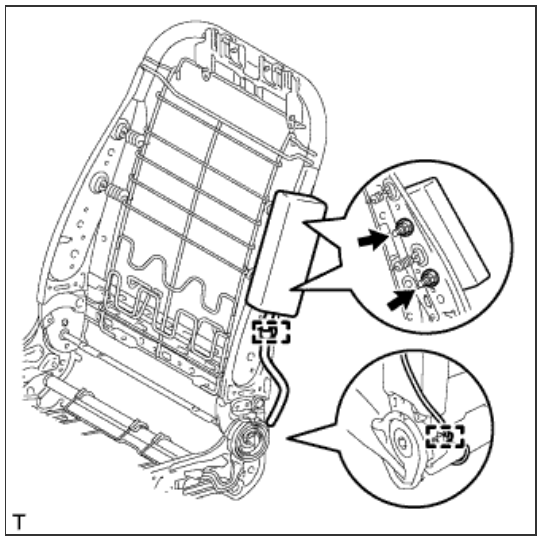
**CAUTION:**

Make sure that the seat frame assembly is not deformed. If it is, replace it with a new one.

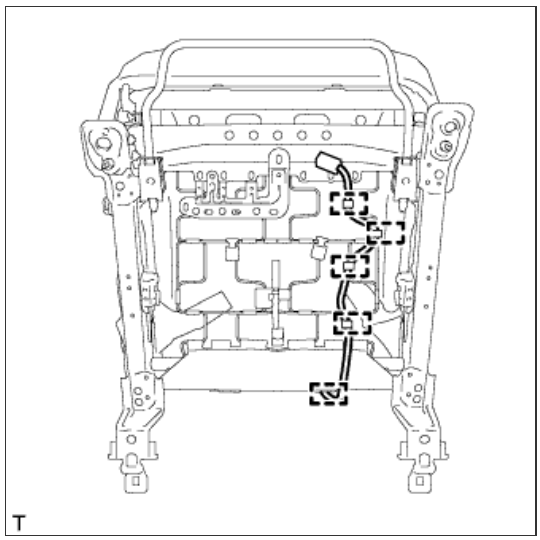
a. Install the front seat airbag assembly with 2 nuts.

**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

b. Attach the 2 clamps to connect the wire harness.




c. Attach the 5 clamps to connect the wire harness.




## 5. INSTALL SEAT POSITION SENSOR (w/ Front Seat Side Airbag)

a. Check that the ignition switch is off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Using a 1.0 mm (0.0393 in.) feeler gauge, install the seat position sensor.

**NOTICE:**

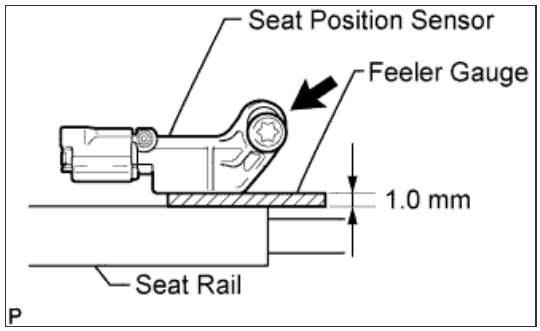
- **If the seat position sensor has been dropped, or there are any cracks, dents or other defects in the case or connector, replace**

the seat position sensor with a new one.

- When installing the seat position sensor, be careful that the SRS wiring does not interfere with other parts and that it is not pinched between other parts.

**HINT:**

Be sure that the clearance between the seat position sensor and the seat rail is within 0.6 to 1.4 mm (0.0236 to 0.0551 in.).




d. Using a T30 "TORX" socket wrench, install the seat position sensor with the screw.

**Torque:**
**8.0 N*m{ 82 kgf*cm , 71 in.*lbf }**

e. Make sure that the clearance between the seat position sensor and the seat rail is within 0.6 to 1.4 mm (0.0236 to 0.0551 in.).

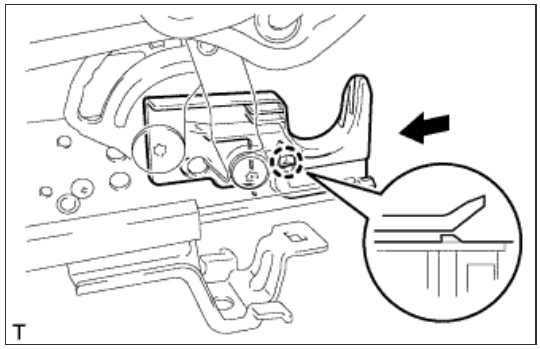
f. Check that there is no looseness in the installation parts of the seat position sensor.

g. Connect the connector.

h. Install the seat slide position sensor protector to the seat position sensor.

## 6. INSTALL FRONT LOWER SEAT CUSHION SHIELD LH

a. Attach the claw to install the front lower seat cushion shield LH.




## 7. INSTALL FRONT LOWER SEAT CUSHION SHIELD RH

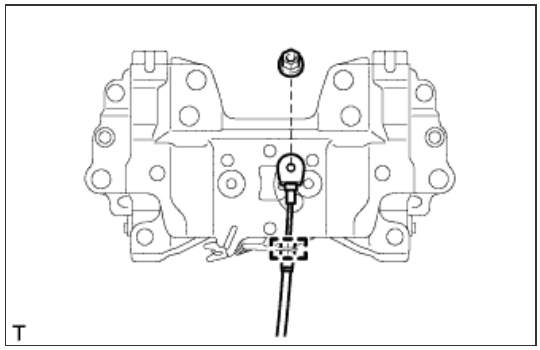
a. Attach the claw to install the front lower seat cushion shield RH.

## 8. INSTALL UPPER ACTIVE HEADREST UNIT (w/ Active Headrest)

a. Attach the cable clamp to install the upper active headrest unit to the lower active headrest unit.

b. Install the nut.

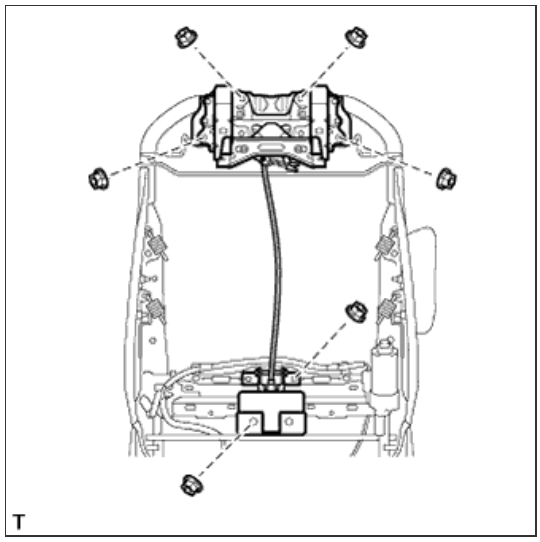
**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**




## 9. INSTALL LOWER ACTIVE HEADREST UNIT (w/ Active Headrest)

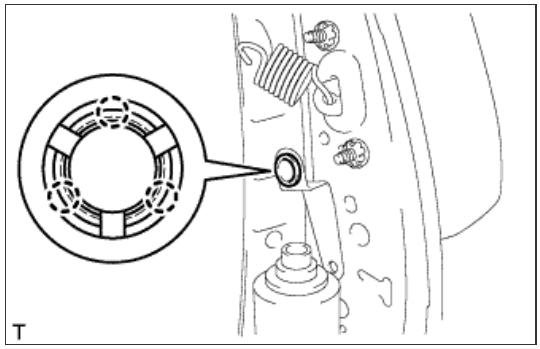
a. Install the lower active headrest unit together with the upper active headrest unit with the 6 nuts.

**Torque:**
**Upper active headrest unit:**
**14 N*m{ 143 kgf*cm , 10 ft.*lbf }**
**Lower active headrest unit:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**



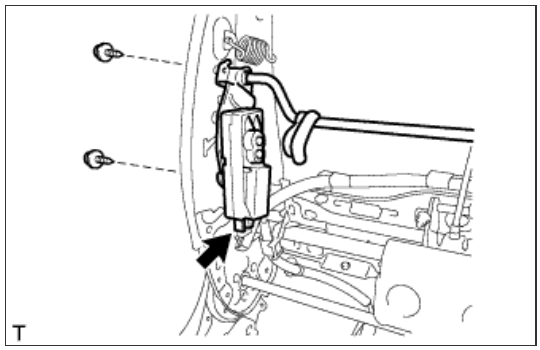

## 10. INSTALL LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (w/Lumbar Support)

a. Attach the 3 claws to install the bush to the seat frame.




b. Install the lumbar support adjuster assembly LH with the 2 screws.

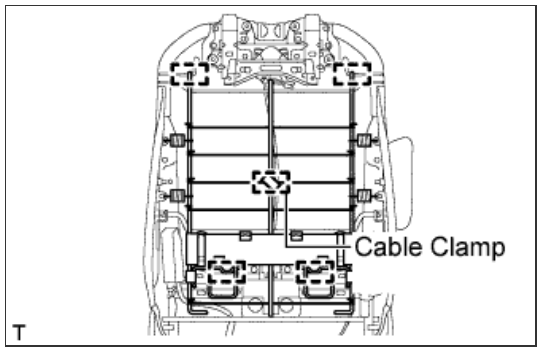
c. Connect the lumbar support adjuster connector.




d. Attach the 4 hooks to install the seatback spring.

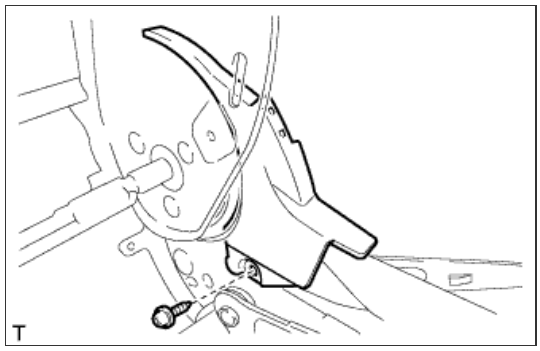
e. w/ Active Headrest:
Connect the active headrest cable with the cable clamp.

f. Install the 4 springs.




## 11. INSTALL OUTSIDE RECLINING ADJUSTER COVER LH

a. Install the outside reclining adjuster cover LH with the screw.




## 12. INSTALL OUTSIDE RECLINING ADJUSTER COVER RH

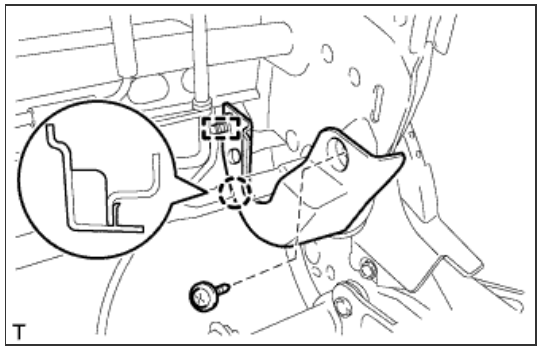
a. Install the outside reclining adjuster cover RH with the screw.

## 13. INSTALL INSIDE RECLINING ADJUSTER COVER LH

a. Attach the claw to install the inside reclining adjuster cover LH.

b. Install the screw.

c. w/ Front Seat Side Airbag:
Attach the wire harness clamp.




## 14. INSTALL INSIDE RECLINING ADJUSTER COVER RH

a. Attach the claw to install the inside reclining adjuster cover RH.

b. Install the screw.

c. w/ Lumbar Support:
Attach the wire harness clamp.

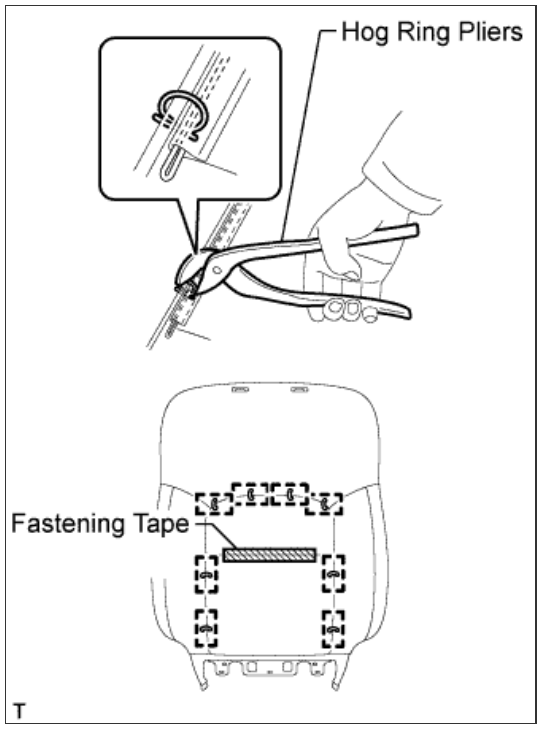
## 15. INSTALL FRONT SEPARATE TYPE SEATBACK COVER

a. Attach the fastening tape to install the front separate type seatback cover to the front separate type seatback pad.

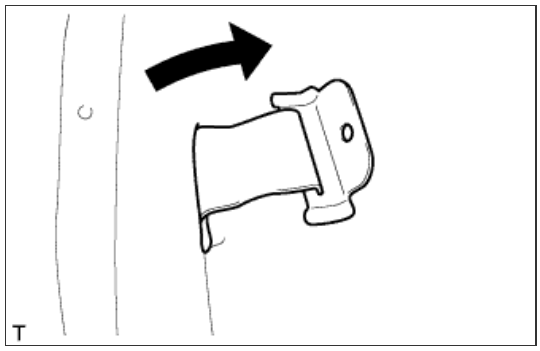
b. Using hog ring pliers, install new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




c. w/ Front Seat Side Airbag:
Connect the seatback cover bracket to the front separate type seatback pad.




## 16. INSTALL SEATBACK COVER WITH PAD

a. Set the seatback cover with pad in place.

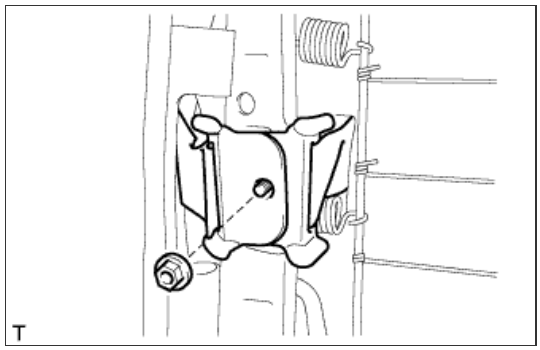
b. w/ Seatback Board:

i. w/ Front Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the nut.

**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.

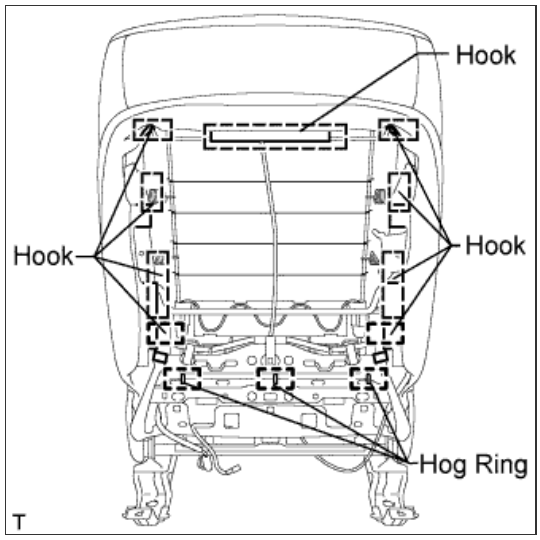



ii. Attach the 9 hooks.

iii. Using hog ring pliers, install new hog rings.

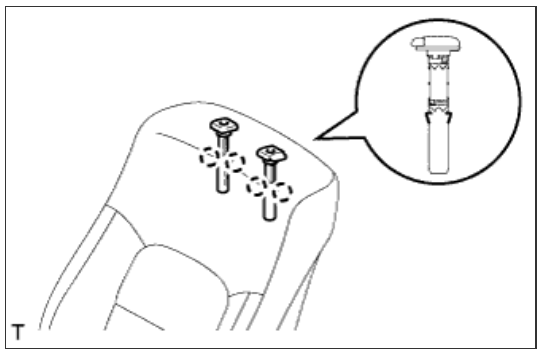
**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




c. w/o Seatback Board:

i. Attach the 4 claws to install the 2 headrest supports.

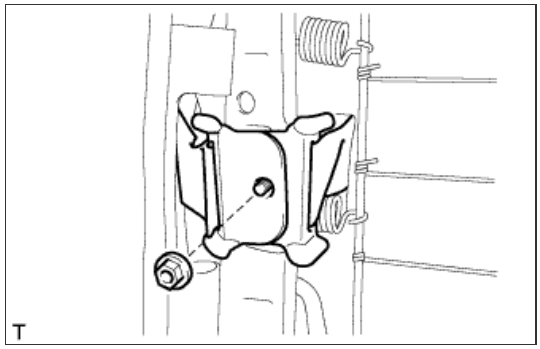



ii. w/ Front Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the nut.

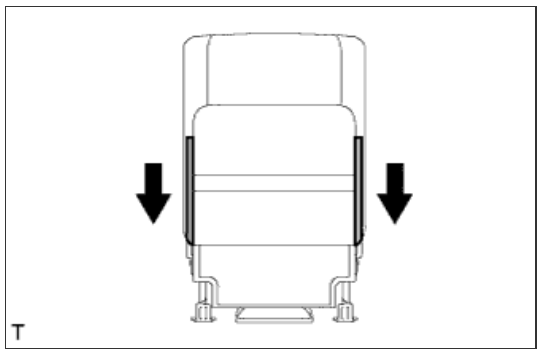
**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.



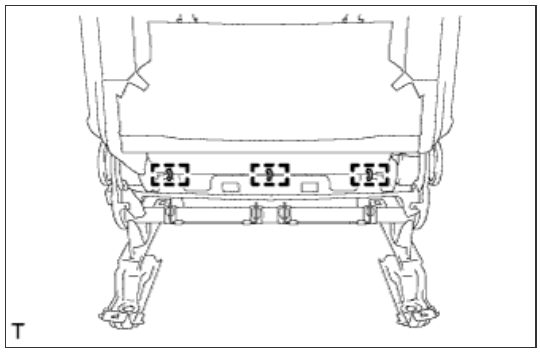

iii. Close the 2 fasteners.




iv. Using hog ring pliers, install new hog rings.

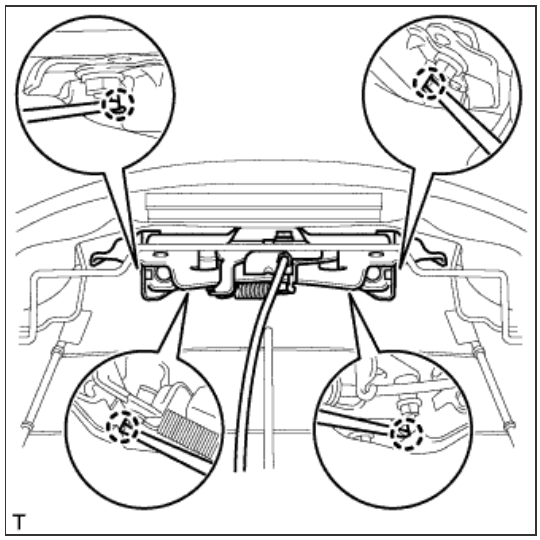
**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




## 17. INSTALL FRONT SEAT HEADREST SUPPORT (w/ Active Headrest)

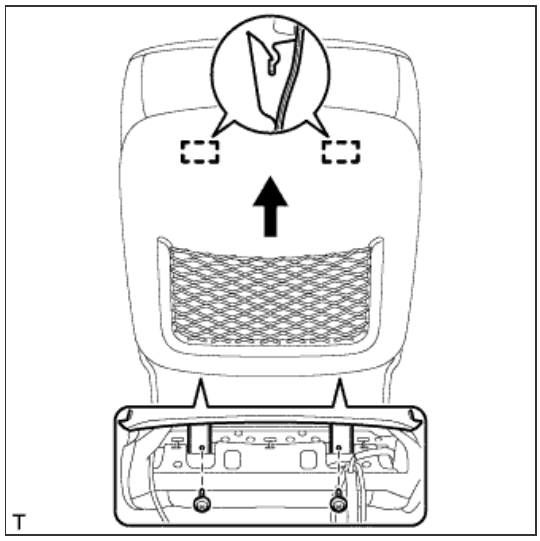
a. Attach the 4 claws to install the 2 front seat headrest supports.




## 18. INSTALL FRONT SEATBACK BOARD SUB-ASSEMBLY LH (w/ Seatback Board)

a. Move the front seatback board sub-assembly in the direction of the arrow to attach the 2 hooks and install it.

b. Install the 2 screws.

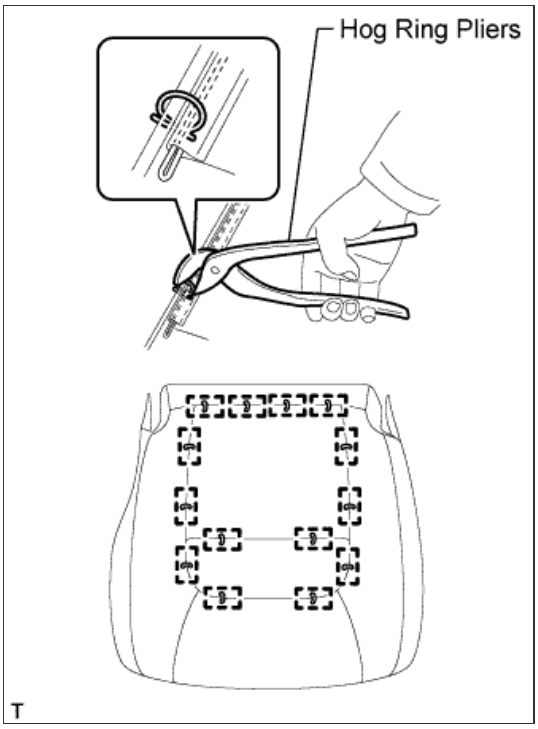



## 19. INSTALL FRONT SEPARATE TYPE SEAT CUSHION COVER

a. Using hog ring pliers, install the front separate type seat cushion cover to the front separate type seat cushion pad with new hog rings.

**NOTICE:**

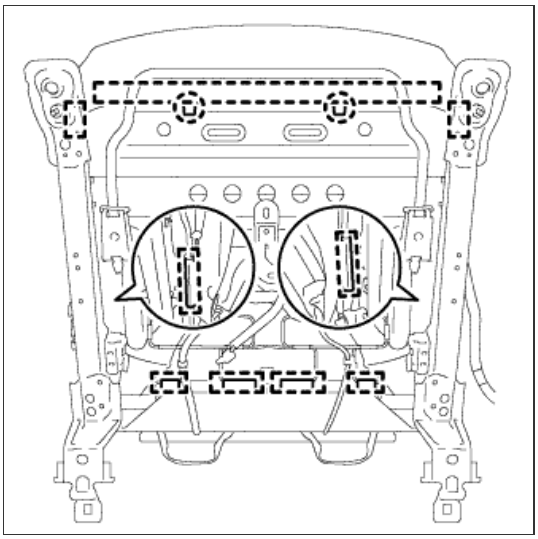
- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



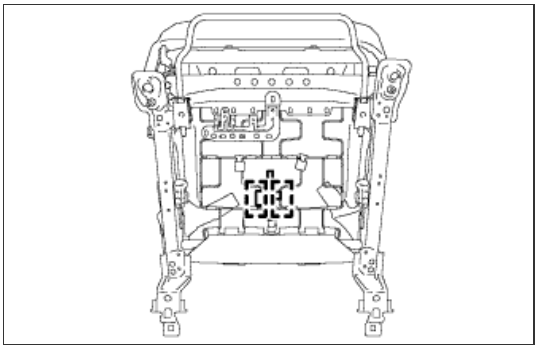

## 20. INSTALL SEAT CUSHION COVER WITH PAD

a. Attach the hooks to install the seat cushion cover with pad.

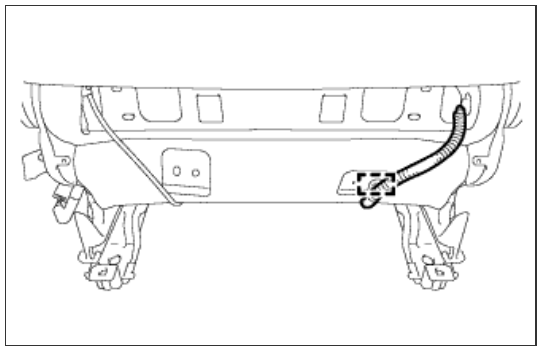
b. Bend the 2 seat frame claws downward.



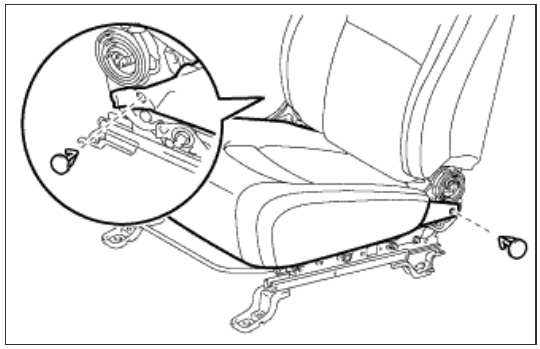
c. w/ Occupant Detection Sensor:
Attach the 2 clamps to install connector holder.



d. w/ Lumbar Support:
Attach the wire harness clamp.



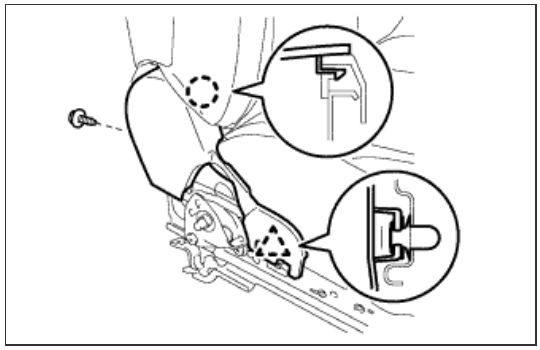
e. Install the 2 clips.



## 21. INSTALL FRONT INNER SEAT CUSHION SHIELD LH

a. Attach the claw and clip to install the front inner seat cushion shield LH.

b. Install the screw.



## 22. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH (for Manual Seat)

a. Install the front seat belt anchor plate.

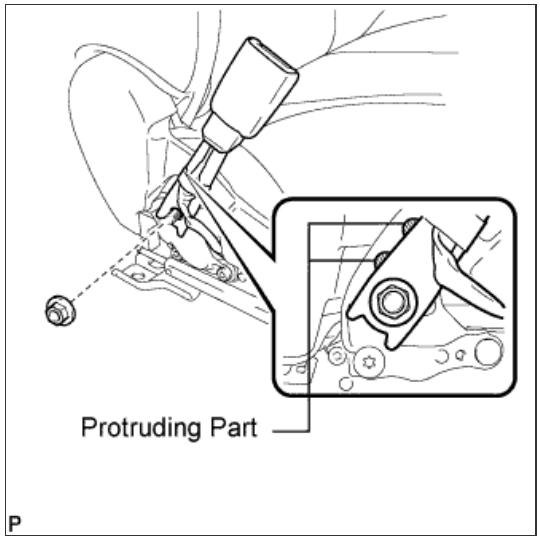
b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding part of the front seat adjuster.

c. Connect the connectors and attach the clamps.



## 23. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH (for Bench Seat Type)

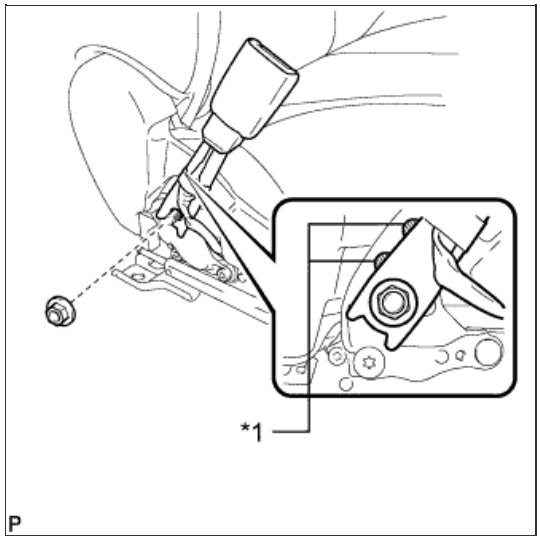
a. Install the front seat belt anchor plate.

b. Install the front seat inner belt assembly LH with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding part of the front seat.



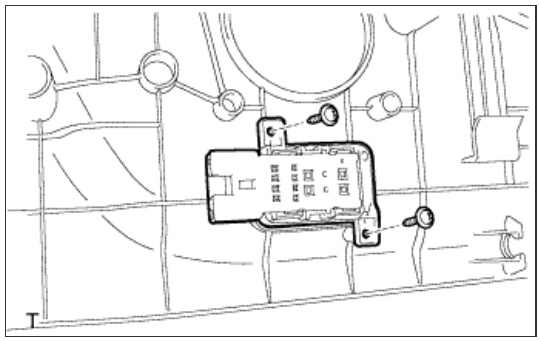

c. Connect the connectors and attach the clamps.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |

## 24. INSTALL LUMBAR SWITCH (w/ Lumbar Support)

a. Install the lumbar switch with the 2 screws.



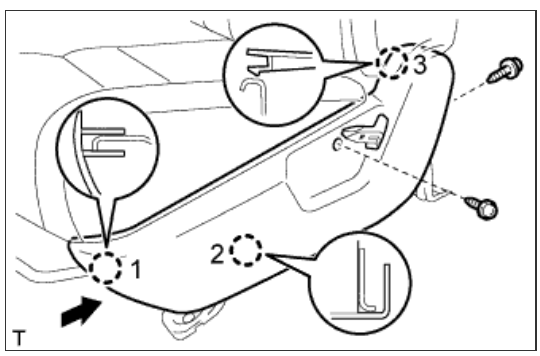

## 25. INSTALL FRONT SEAT CUSHION SHIELD LH

a. w/ Lumbar Support:
Connect the lumbar switch connector.

b. for 4 Way Seat Type:

i. Attach the 3 claws in the order shown in the illustration to install the front seat cushion shield LH.

ii. Install the 2 screws.

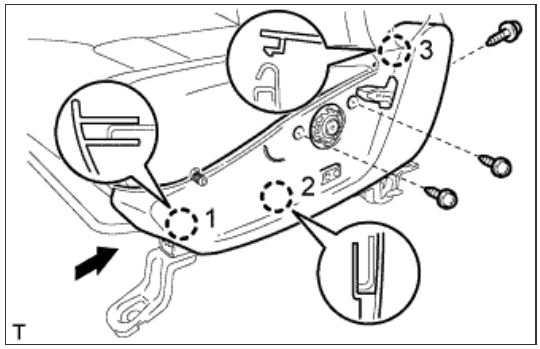



c. for 8 Way Seat Type:

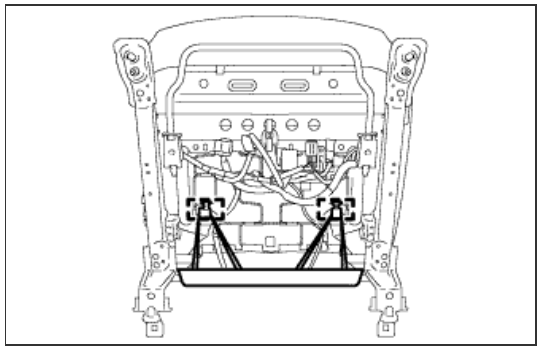
c. for 8 Way Seat Type:

i. Attach the 3 claws in the order shown in the illustration to install the front seat cushion shield LH.

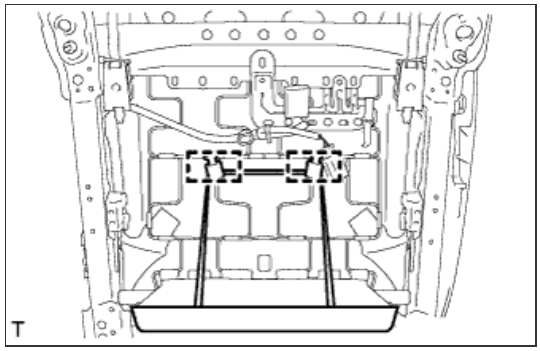
ii. Install the 3 screws.




d. w/ Seatback Board:
Connect the 2 rubber bands to the 2 hooks.

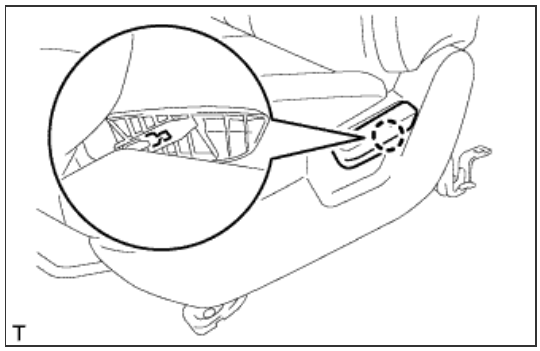


e. w/o Seatback Board:
Connect the rubber band to the 2 hooks.




## 26. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

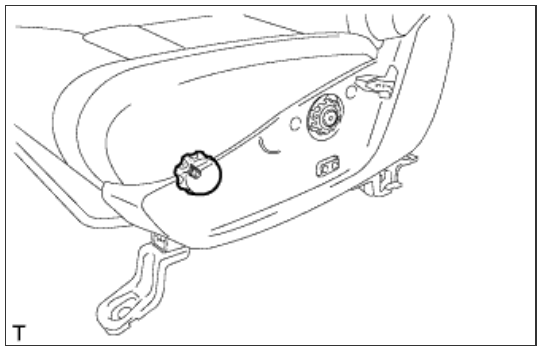
a. Attach the claw to install the reclining adjuster release handle LH.




## 27. INSTALL VERTICAL SEAT ADJUSTER KNOB (for 8 Way Seat Type)

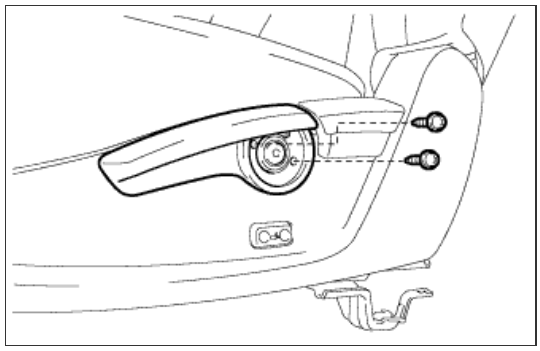
a. Install the snap ring to the vertical seat adjuster knob.

b. Install the vertical seat adjuster knob.



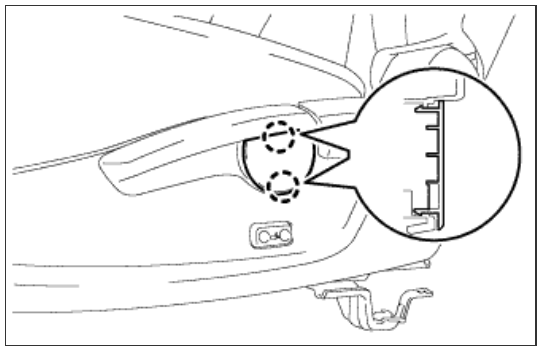

### 28. INSTALL VERTICAL ADJUSTING HANDLE LH (for 8 Way Seat Type)

a. Install the vertical adjusting handle with the 2 screws.



### 29. INSTALL VERTICAL ADJUSTER COVER LH (for 8 Way Seat Type)

a. Attach the 2 claws to install the vertical adjuster cover LH.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL FRONT SEAT ASSEMBLY LH

a. Place the front seat assembly LH in the cabin.

**NOTICE:**

Be careful not to damage the vehicle body.

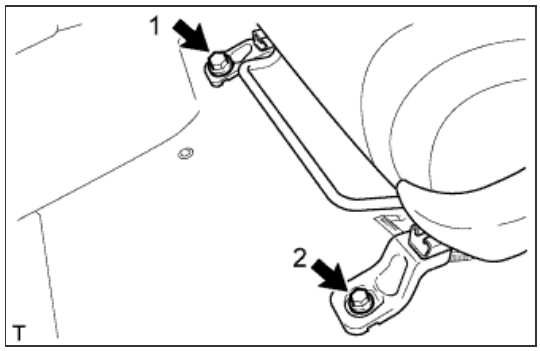
b. w/ Wire Harness:
Connect the connectors under the front seat assembly LH.

c. Temporarily install the front seat assembly LH with the 4 bolts.

d. Operate the seat track adjusting handle to move the front seat assembly LH to the rearmost position.

e. Tighten the bolts in the order indicated in the illustration.

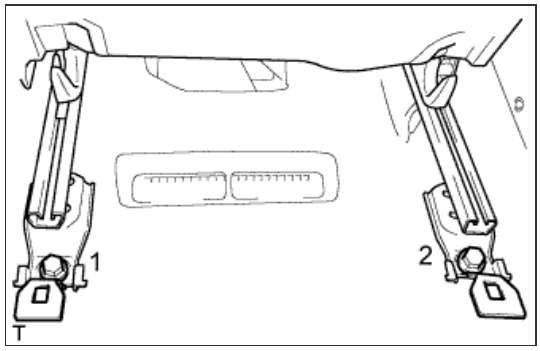
**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




f. Operate the seat track adjusting handle to move the front seat assembly LH to the foremost position.

g. Tighten the bolts in the order indicated in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




h. w/ Front Seat Side Airbag:
Connect the cable to the negative (-) battery terminal.

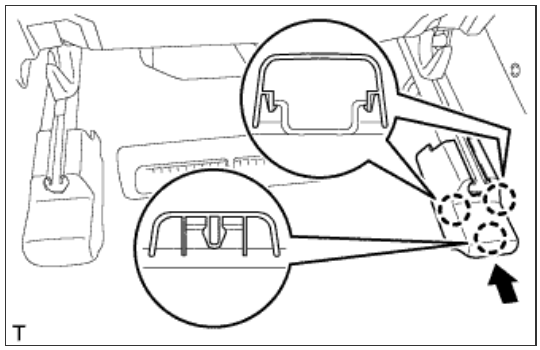
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here)

i. for Power Tilt and Power Telescopic Steering Column:
Restore the Autoaway/Return function setting to the previous condition by changing the customize parameter (Click here)

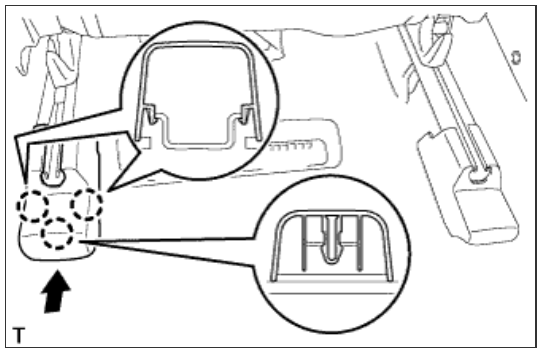
## 2. INSTALL REAR INNER SEAT TRACK BRACKET COVER LH

a. Attach the 3 claws to install the rear inner seat track bracket cover LH.



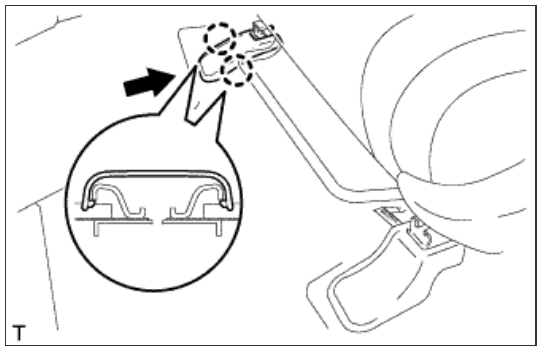

### 3. INSTALL REAR OUTER FRONT SEAT TRACK COVER LH

a. Attach the 3 claws to install the rear outer front seat track cover LH.



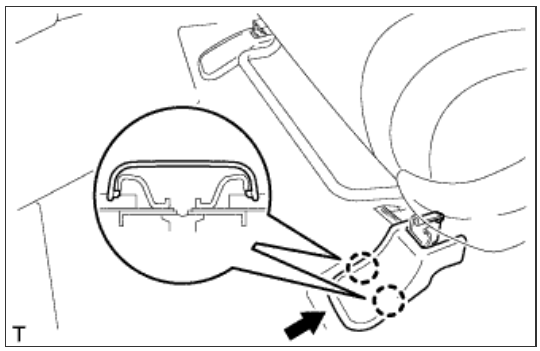

### 4. INSTALL FRONT INNER SEAT TRACK BRACKET COVER LH

a. Attach the 2 claws to install the front inner seat track bracket cover LH.




### 5. INSTALL FRONT OUTER SEAT TRACK BRACKET COVER LH

a. Attach the 2 claws to install the front outer seat track bracket cover LH.




### 6. INSTALL FRONT SEAT HEADREST ASSEMBLY

a. Install the front seat headrest assembly.

### 7. CHECK SRS WARNING LIGHT (w/ Front Seat Side Airbag)

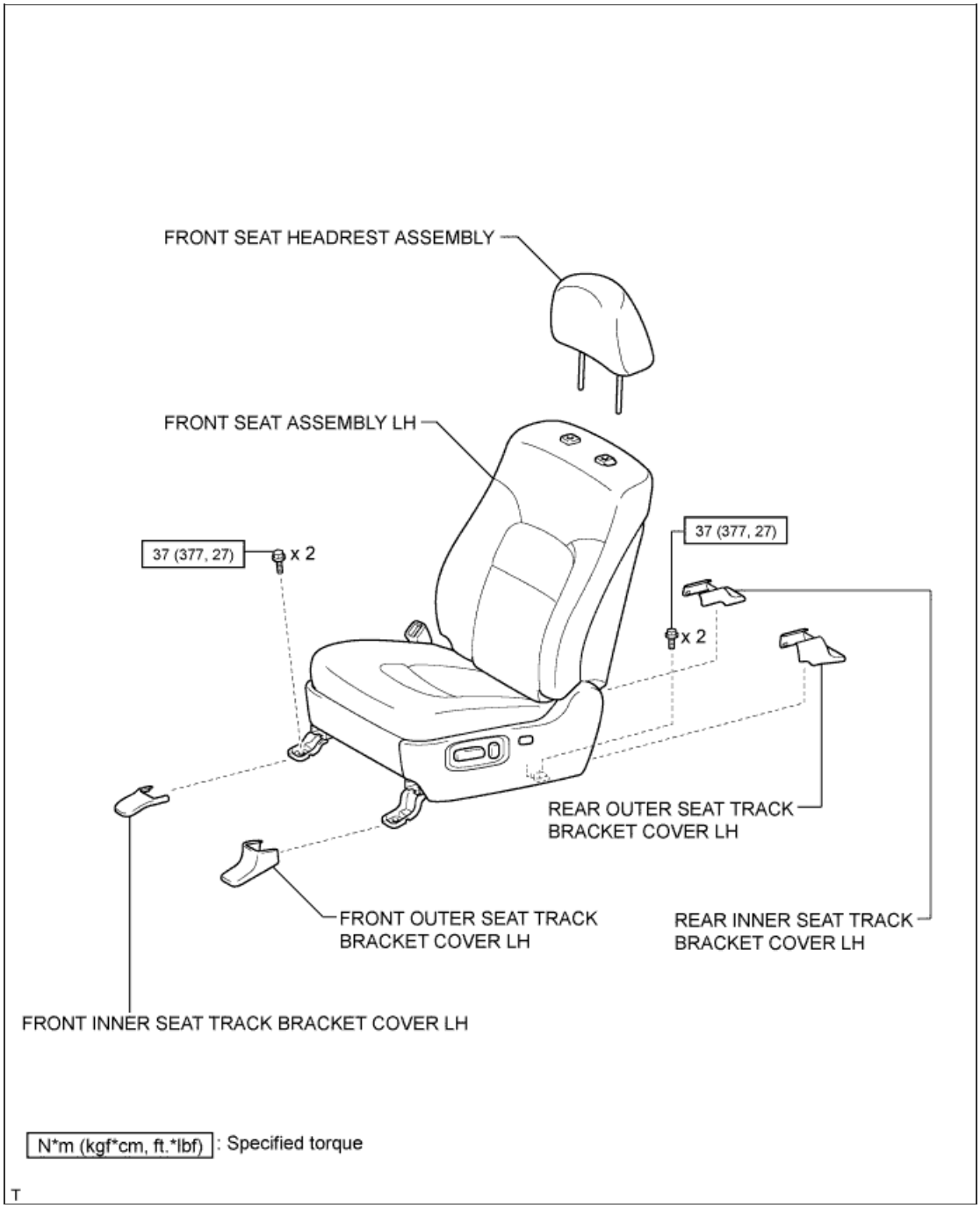
(Click here)

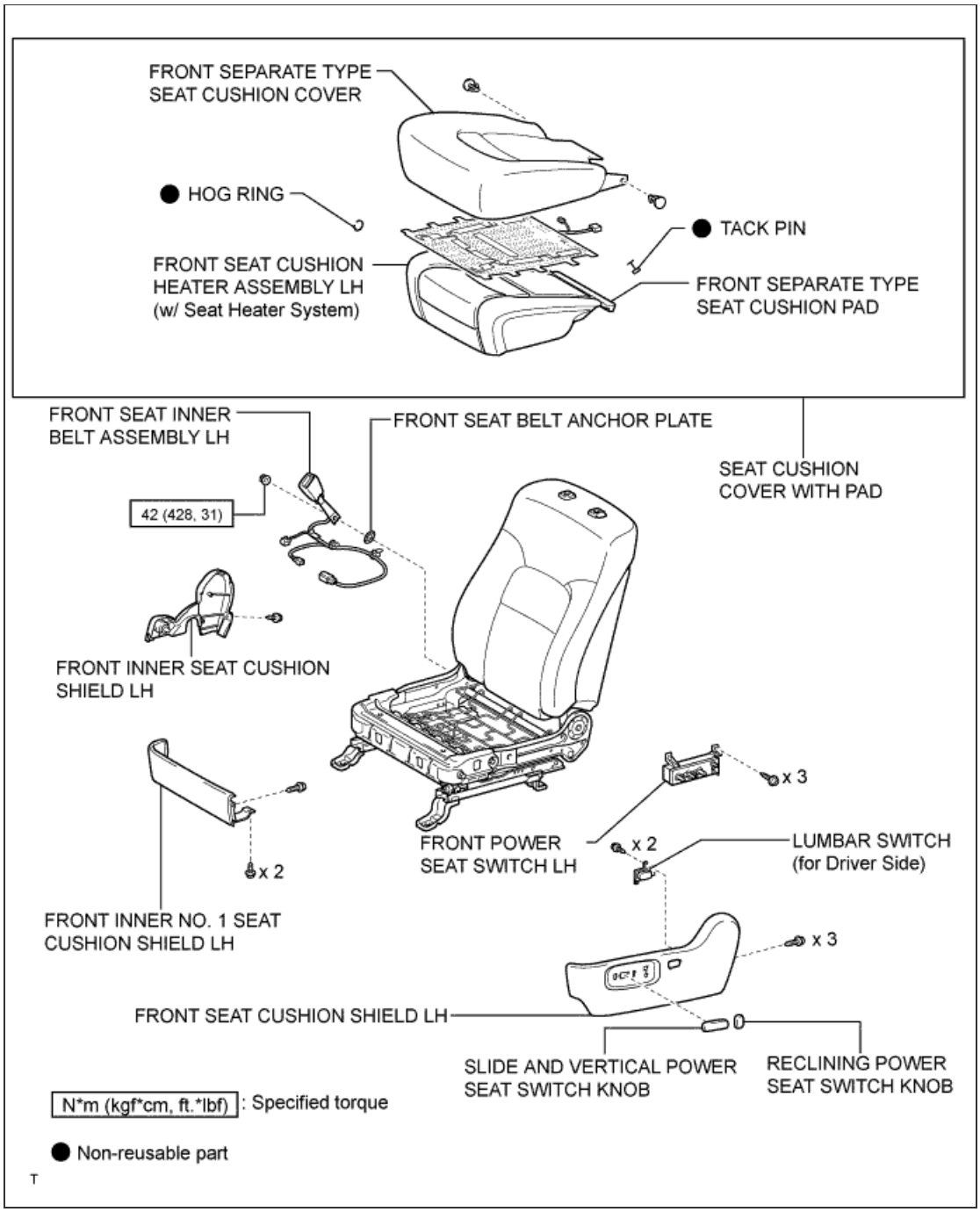
### 8. INSPECT FRONT SEAT ASSEMBLY (w/ Lumbar Support)

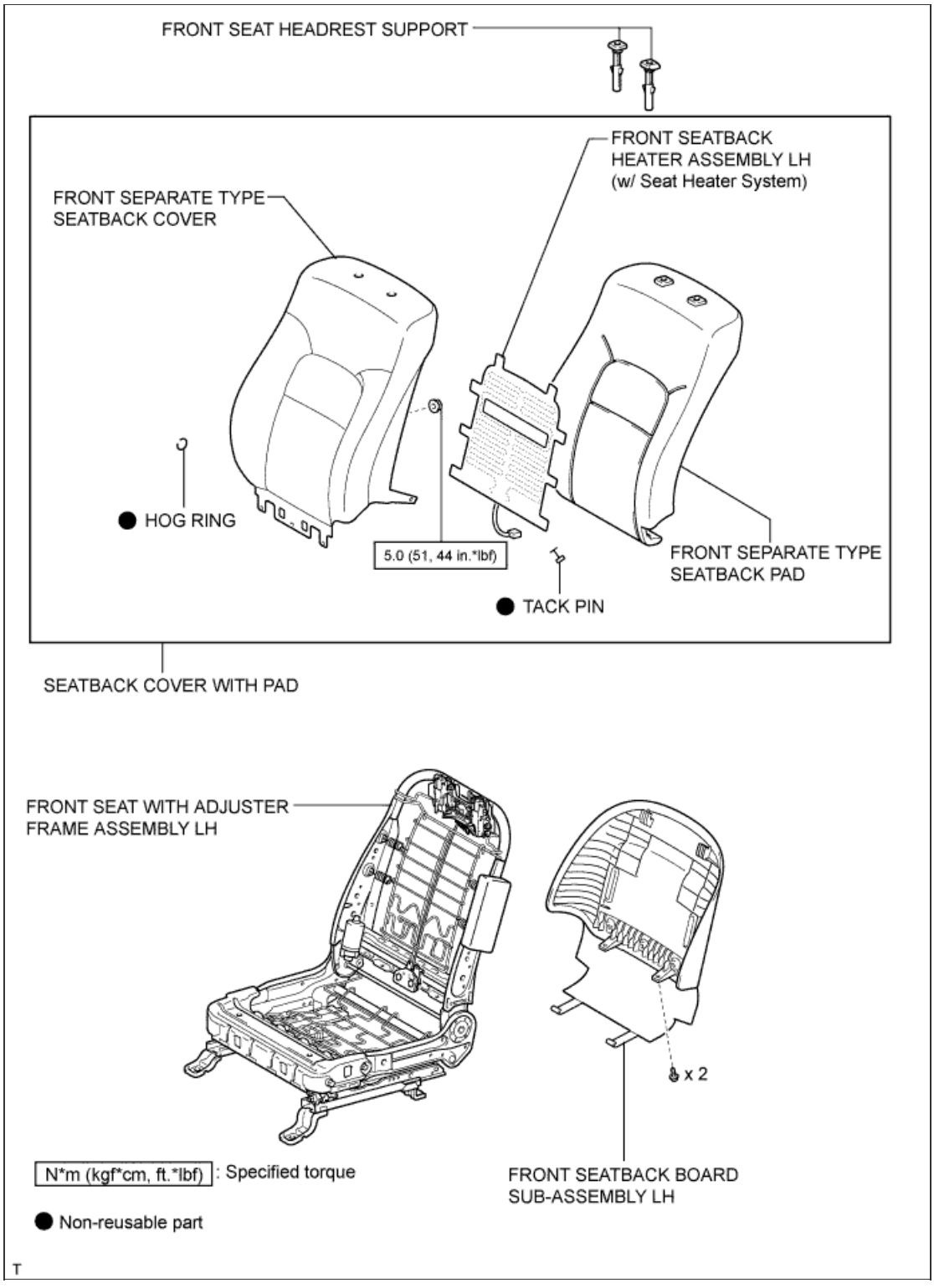
a. Check the lumbar support operation.

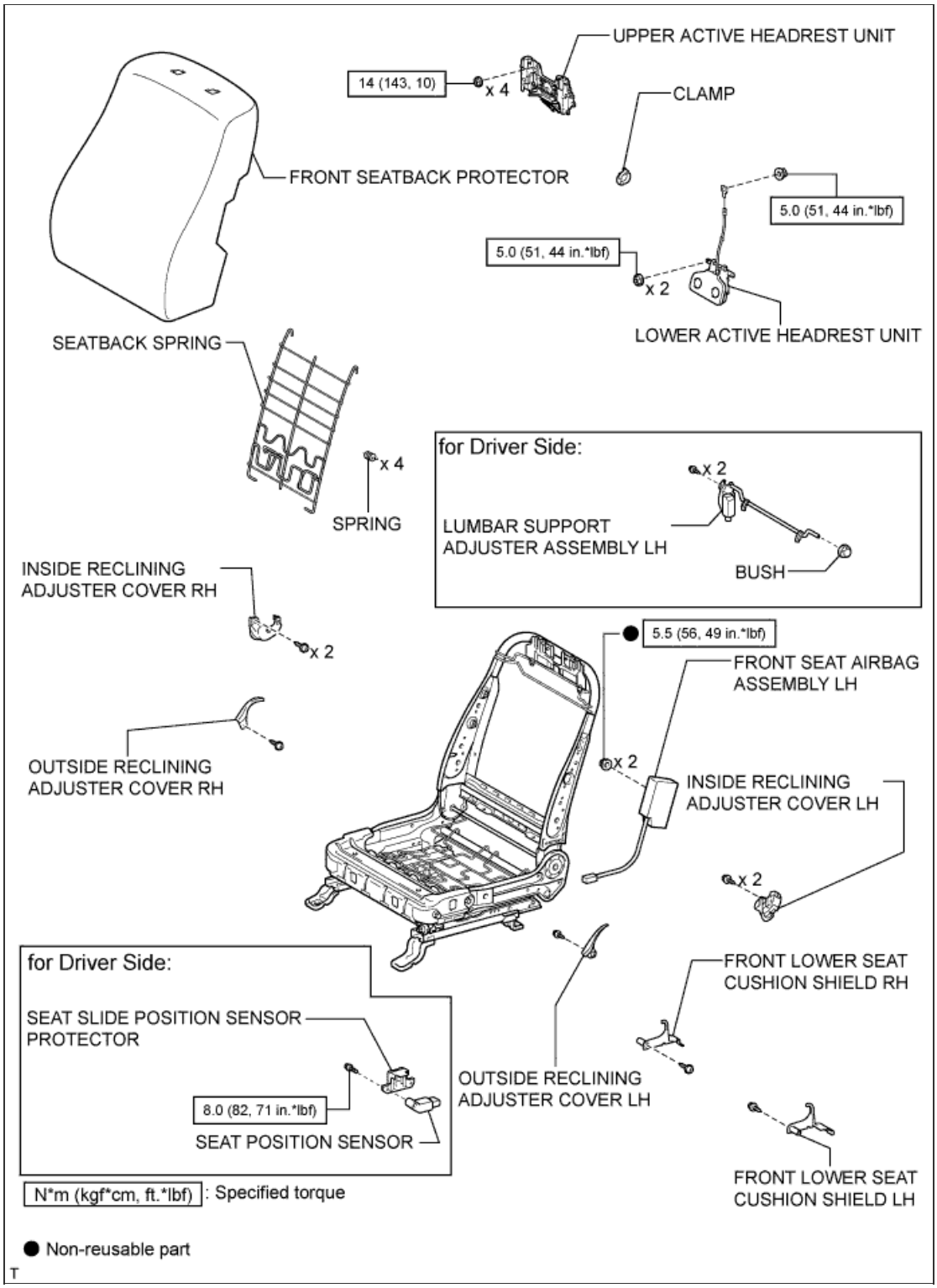
i. Operate the lumbar switch and check that the lumbar support moves in both directions.

**for Preparation** Click here



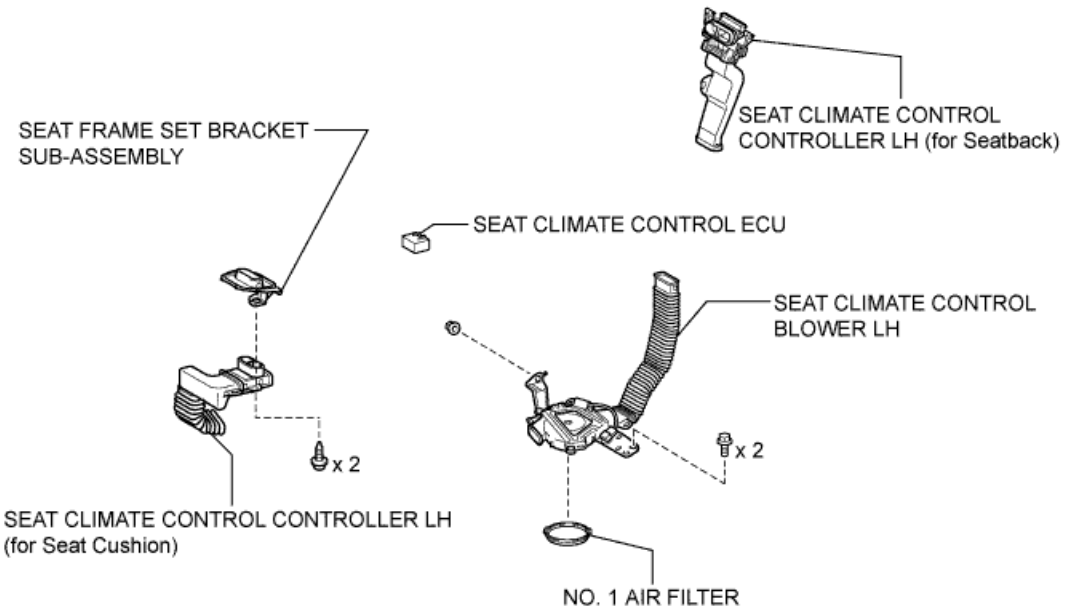

FRONT SEPARATE TYPE SEAT CUSHION COVER
HOG RING
TACK PIN
FRONT SEAT CUSHION HEATER ASSEMBLY LH (w/ Seat Heater System)
FRONT SEPARATE TYPE SEAT CUSHION PAD
FRONT SEAT INNER BELT ASSEMBLY LH
FRONT SEAT BELT ANCHOR PLATE
SEAT CUSHION COVER WITH PAD
42 (428, 31)
FRONT INNER SEAT CUSHION SHIELD LH
x 3
x 2
FRONT POWER SEAT SWITCH LH
x 2
LUMBAR SWITCH (for Driver Side)
FRONT INNER NO. 1 SEAT CUSHION SHIELD LH
x 3
FRONT SEAT CUSHION SHIELD LH
SLIDE AND VERTICAL POWER SEAT SWITCH KNOB
RECLINING POWER SEAT SWITCH KNOB
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
T


FRONT SEAT HEADREST SUPPORT
FRONT SEATBACK
HEATER ASSEMBLY LH
(w/ Seat Heater System)
FRONT SEPARATE TYPE
SEATBACK COVER
HOG RING
5.0 (51, 44 in.*lbf)
TACK PIN
FRONT SEPARATE TYPE
SEATBACK PAD
SEATBACK COVER WITH PAD
FRONT SEAT WITH ADJUSTER
FRAME ASSEMBLY LH
x 2
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
FRONT SEATBACK BOARD
SUB-ASSEMBLY LH
T

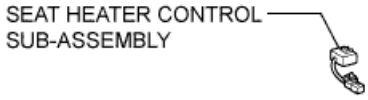

UPPER ACTIVE HEADREST UNIT
14 (143, 10)
x 4
CLAMP
FRONT SEATBACK PROTECTOR
5.0 (51, 44 in.*lbf)
5.0 (51, 44 in.*lbf)
x 2
LOWER ACTIVE HEADREST UNIT
SEATBACK SPRING
x 4
SPRING
for Driver Side:
x 2
LUMBAR SUPPORT ADJUSTER ASSEMBLY LH
BUSH
INSIDE RECLINING ADJUSTER COVER RH
x 2
5.5 (56, 49 in.*lbf)
FRONT SEAT AIRBAG ASSEMBLY LH
OUTSIDE RECLINING ADJUSTER COVER RH
x 2
INSIDE RECLINING ADJUSTER COVER LH
x 2
for Driver Side:
SEAT SLIDE POSITION SENSOR PROTECTOR
8.0 (82, 71 in.*lbf)
SEAT POSITION SENSOR
OUTSIDE RECLINING ADJUSTER COVER LH
FRONT LOWER SEAT CUSHION SHIELD RH
FRONT LOWER SEAT CUSHION SHIELD LH
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part

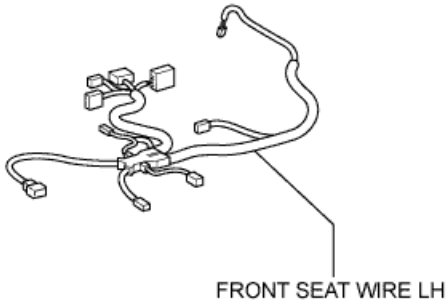
T

w/ Climate Control Seat System:




w/ Seat Heater System:






T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. REMOVE FRONT SEAT HEADREST ASSEMBLY

a. Remove the front seat headrest.

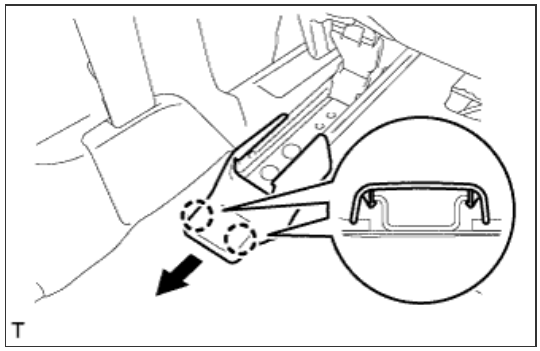
## 3. REMOVE REAR OUTER SEAT TRACK BRACKET COVER LH

a. Operate the power seat switch (slide switch) to move the front seat assembly LH to the foremost position.

b. Using a screwdriver, detach the 2 claws and remove the rear outer seat track bracket cover LH.

**HINT:**

Tape the screwdriver tip before use.

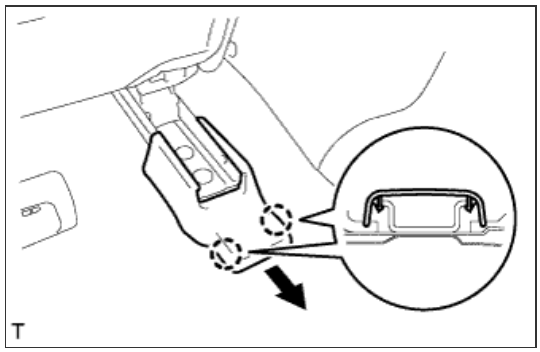



## 4. REMOVE REAR INNER SEAT TRACK BRACKET COVER LH

a. Using a screwdriver, detach the 2 claws and remove the rear inner seat track bracket cover LH.

**HINT:**

Tape the screwdriver tip before use.



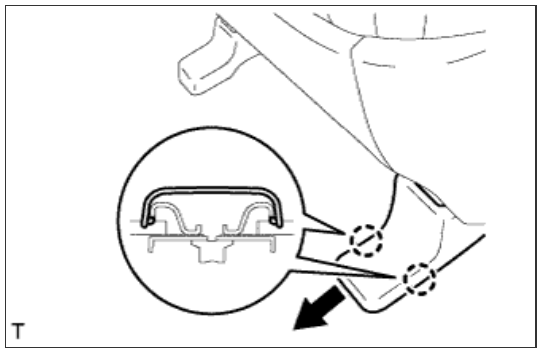
## 5. REMOVE FRONT OUTER SEAT TRACK BRACKET COVER LH

a. Operate the power seat switch (slide switch) to move the front seat assembly LH to the rearmost position.

b. Using a screwdriver, detach the 2 claws and remove the front outer seat track bracket cover LH.

**HINT:**

Tape the screwdriver tip before use.

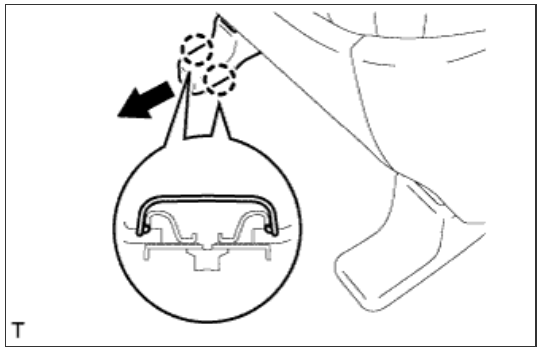



## 6. REMOVE FRONT INNER SEAT TRACK BRACKET COVER LH

a. Using a screwdriver, detach the 2 claws and remove the front inner seat track bracket cover LH.

**HINT:**

Tape the screwdriver tip before use.




## 7. REMOVE FRONT SEAT ASSEMBLY LH

a. Disable the Autoaway/Return function by changing the customize parameter ( Click here).

**NOTICE:**

Record the current customize parameter setting (whether the Autoaway/Return function is enabled or disabled) in order to restore the current setting after finishing the operation.

**HINT:**

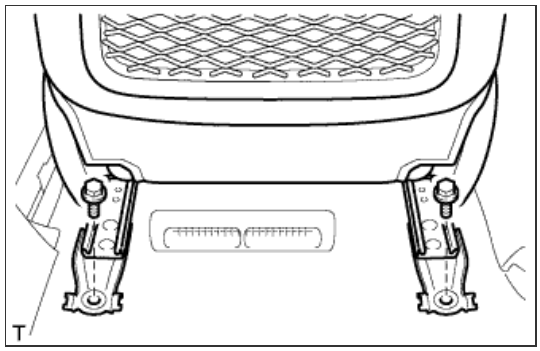
Performing the above operation causes the Autoaway/Return function to be disabled when the ignition switch is turned off.

b. Turn the ignition switch to ON. Operate the tilt and telescopic switch to fully retract and tilt up the steering column assembly.

c. Turn the ignition switch off.

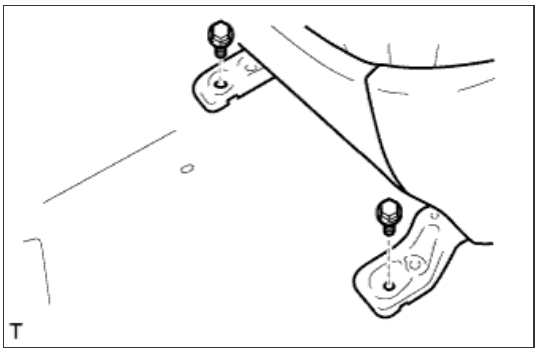
d. Remove the 2 bolts.

e. Operate the power seat switch (slide switch) to move the front seat assembly LH to the foremost position.




f. Remove the 2 bolts.

f. Remove the 2 bolts.




g. Operate the power seat switch (slide switch) and move the front seat assembly LH to the center position, and operate the power seat switch (reclining switch) and move the seatback to the upright position.

h. Disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

i. Disconnect the connectors under the front seat assembly LH.

j. Remove the front seat assembly LH from the vehicle.

**NOTICE:**

Be careful not to damage the vehicle body.

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Apply protective tape as shown in the illustration.

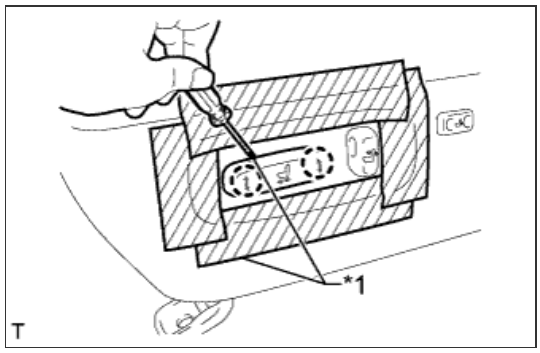
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a screwdriver, detach the 2 claws and remove the slide and vertical power seat switch knob.

**HINT:**

Tape the screwdriver tip before use.




## 2. REMOVE RECLINING POWER SEAT SWITCH KNOB

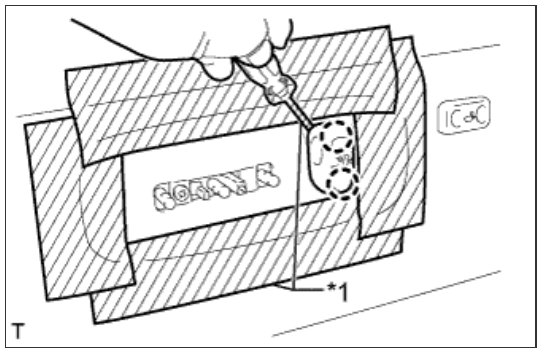
a. Using a screwdriver, detach the 2 claws and remove the reclining power seat switch knob.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

**HINT:**

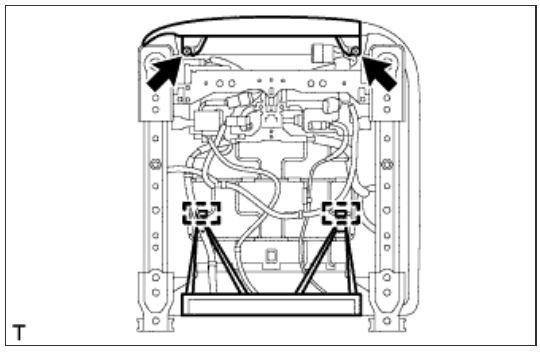
Tape the screwdriver tip before use.




## 3. REMOVE FRONT SEAT CUSHION SHIELD LH

a. Remove the 2 screws.

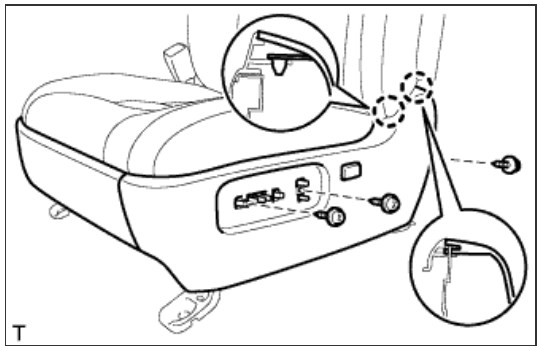
b. Disconnect the 2 rubber bands.



c. Remove the 3 screws.

d. Detach the 2 claws and remove the front seat cushion shield LH together with the front inner No. 1 seat cushion shield LH.

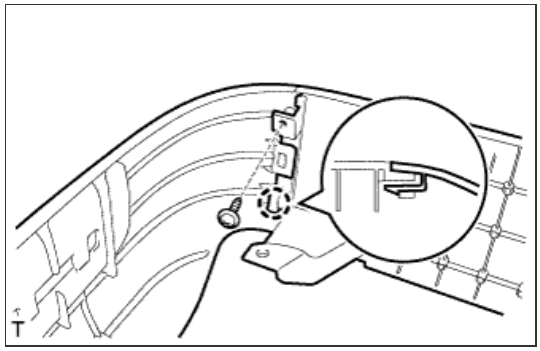
e. for Driver Side:
Disconnect the connector.




## 4. REMOVE FRONT INNER NO. 1 SEAT CUSHION SHIELD LH

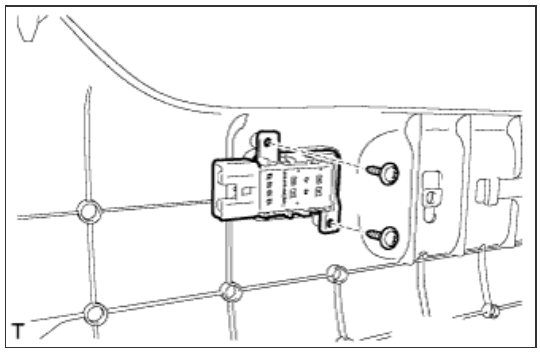
a. Remove the screw.

b. Detach the claw and remove the front inner No. 1 seat cushion shield LH from the front seat cushion shield LH.




## 5. REMOVE LUMBAR SWITCH (for Driver Side)

a. Remove the 2 screws and lumbar switch from the front seat cushion shield LH.

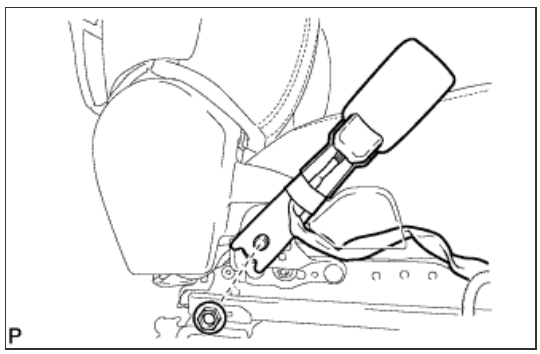



## 6. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

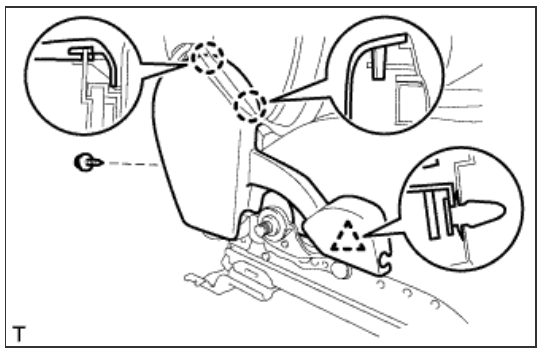
c. Remove the front seat belt anchor plate.



## 7. REMOVE FRONT INNER SEAT CUSHION SHIELD LH

a. Remove the screw.

b. Detach the 2 claws and clip, and then remove the front inner seat cushion shield LH.

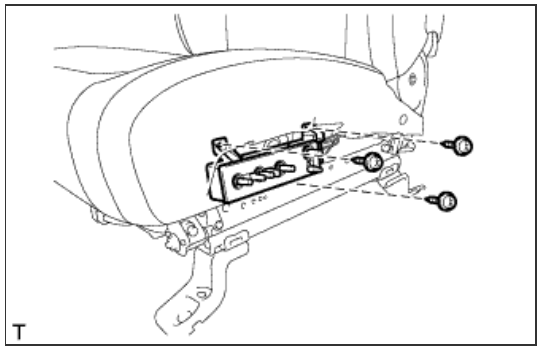



## 8. REMOVE FRONT POWER SEAT SWITCH LH

a. w/ Seat Position Memory System:
Disconnect the 2 connectors.

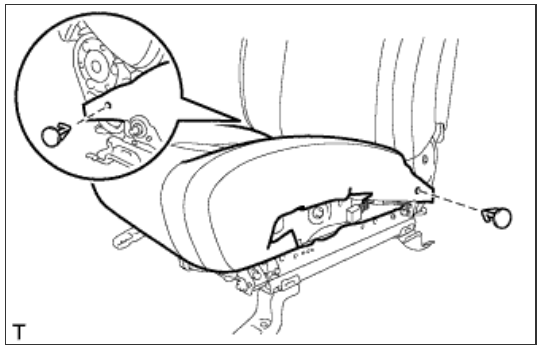
b. w/o Seat Position Memory System:
Disconnect the connector.

c. Remove the 3 screws and front power seat switch LH.



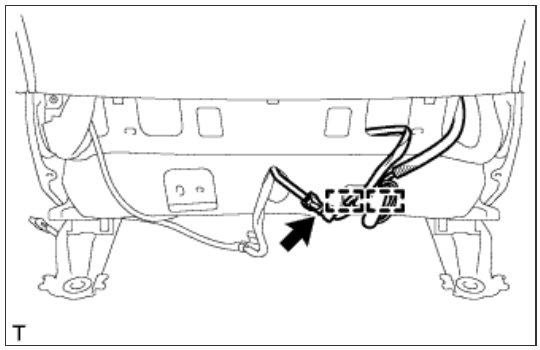

## 9. REMOVE SEAT CUSHION COVER WITH PAD

a. Using a clip remover, remove the 2 clips.

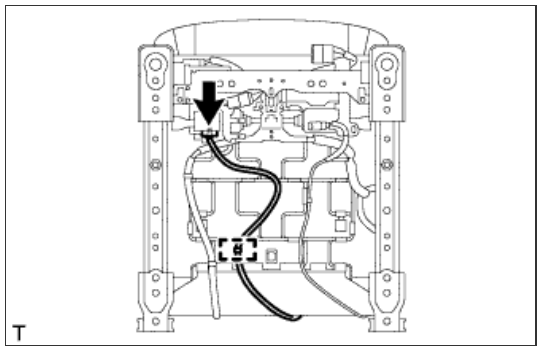



b. w/o Climate Control Seat System:

i. Disconnect the connector and detach the 2 wire harness clamps.

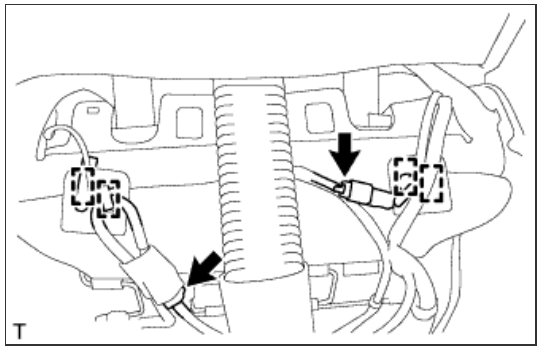



ii. Disconnect the connector and detach the wire harness clamp.

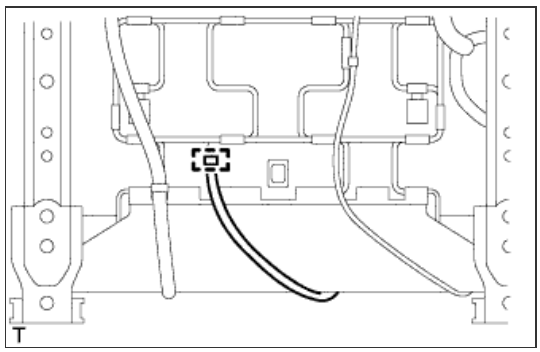



c. w/ Climate Control Seat System:

i. Disconnect the 2 connectors and detach the 4 wire harness clamps.



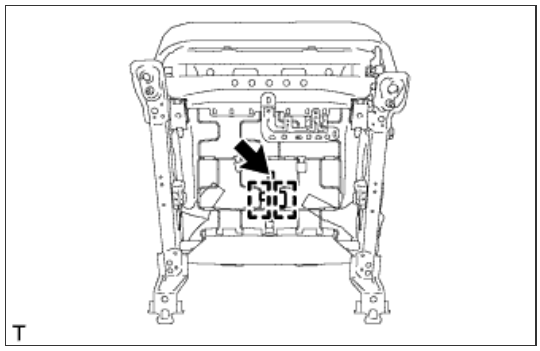

ii. Detach the wire harness clamp.




d. for Front Passenger Side:

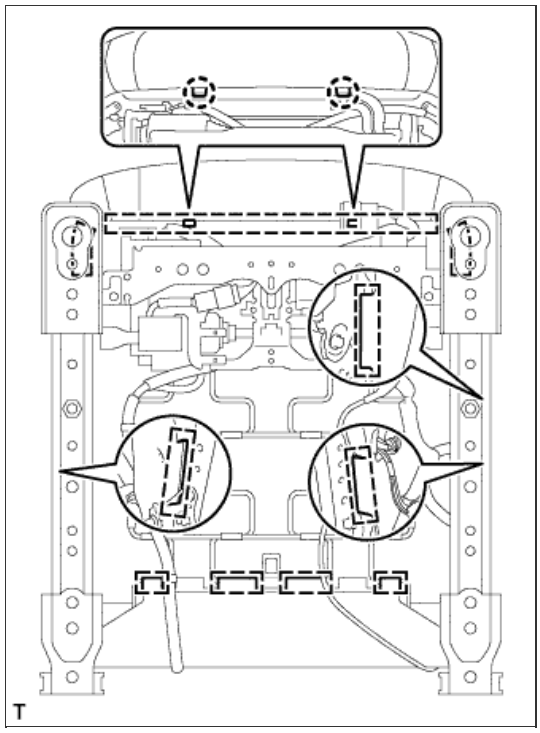
i. Disconnect the connector.

ii. Detach the 2 clamps and remove the connector holder.



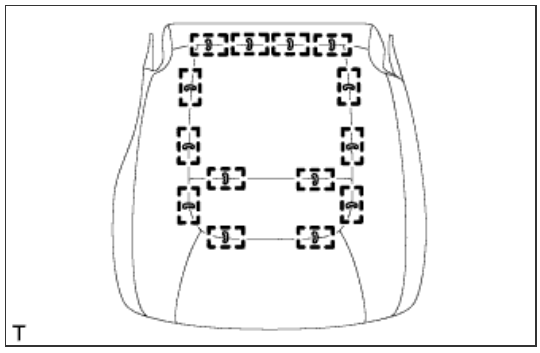

e. Bend the 2 seat frame claws upward.

f. Detach the hooks and remove the seat cushion cover with pad.



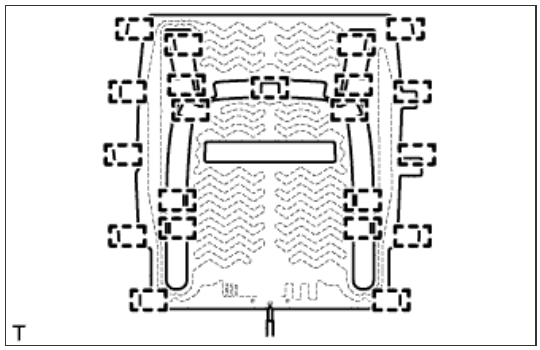

## 10. REMOVE FRONT SEPARATE TYPE SEAT CUSHION COVER

a. Remove the hog rings and front separate type seat cushion cover from the front separate type seat cushion pad.

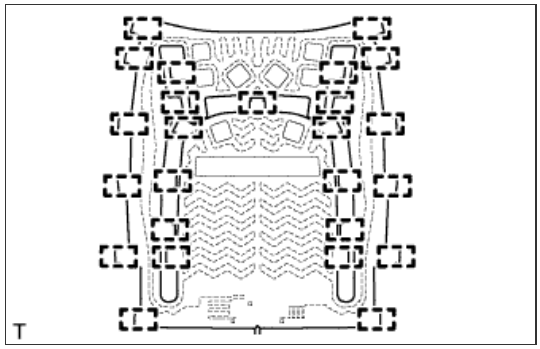



## 11. REMOVE FRONT SEAT CUSHION HEATER ASSEMBLY LH (w/ Seat Heater System)

a. w/o Climate Control Seat System:
Cut off the tack pins and remove the front seat cushion heater assembly LH from the front separate type seat cushion cover.



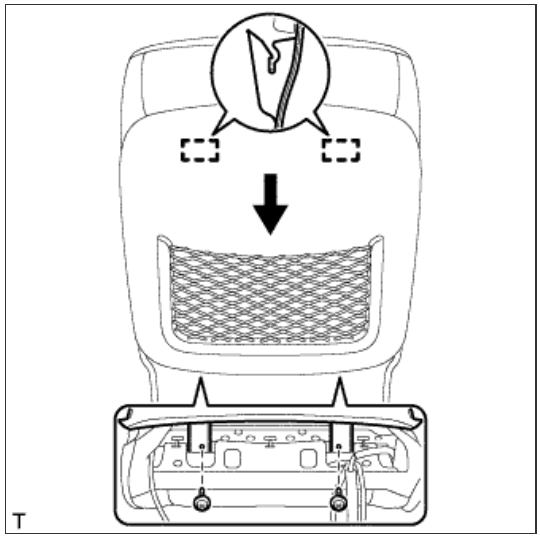

b. w/ Climate Control Seat System:
Cut off the tack pins and remove the front seat cushion heater assembly LH from the front separate type seat cushion cover.




## 12. REMOVE FRONT SEATBACK BOARD SUB-ASSEMBLY LH

a. Remove the 2 screws.

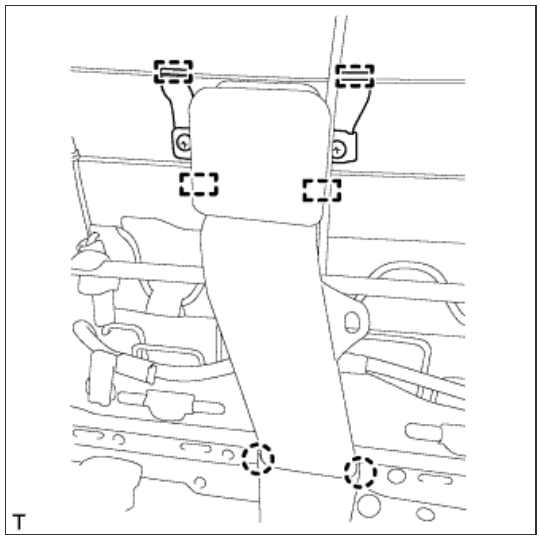
b. Move the front seatback board sub-assembly LH in the direction of the arrow to detach the 2 hooks and remove it.




## 13. REMOVE SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System, for Seatback)

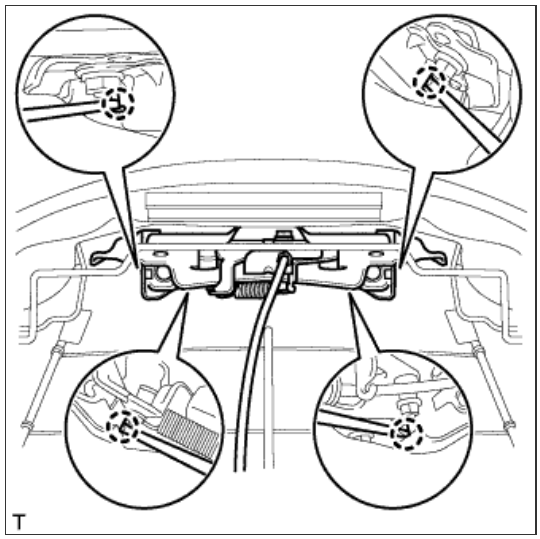
a. Detach the 2 claws and disconnect the seat climate control blower LH.

b. Detach the 4 hooks and remove the seat climate control controller LH.




## 14. REMOVE FRONT SEAT HEADREST SUPPORT

a. Detach the 4 claws and remove the 2 front seat headrest supports.

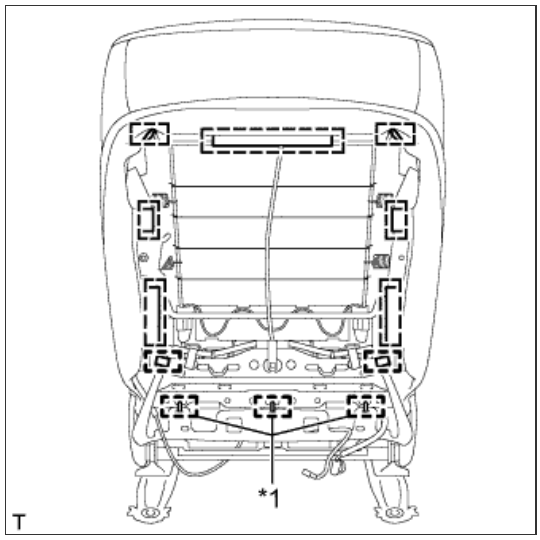



## 15. REMOVE SEATBACK COVER WITH PAD

a. Remove the hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |

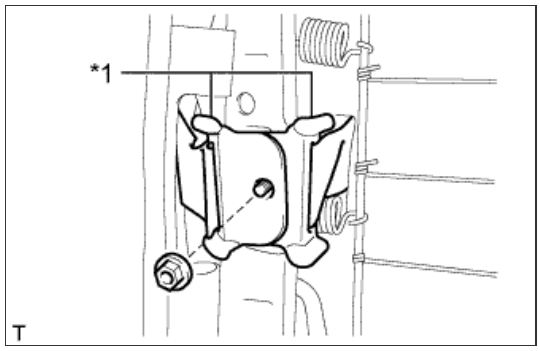



b. Remove the nut and detach the seatback cover bracket.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

c. Detach the hooks and remove the seatback cover with pad.

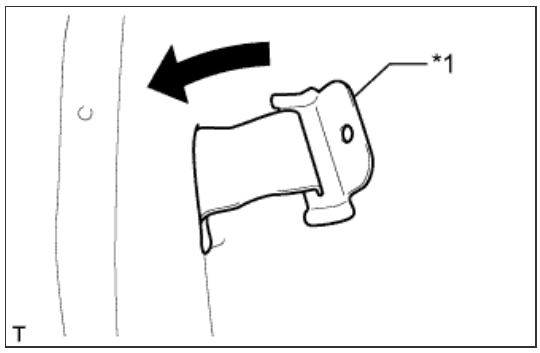



## 16. REMOVE FRONT SEPARATE TYPE SEATBACK COVER

a. Pass the seatback cover bracket through the hole of the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

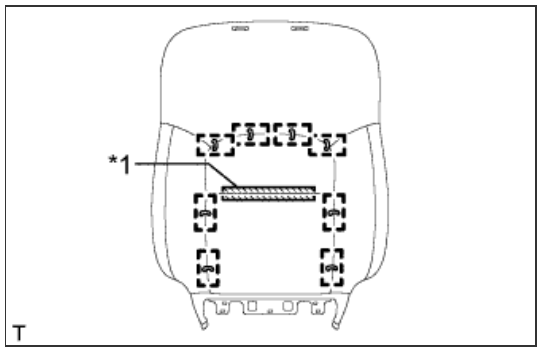



b. Remove the hog rings.

c. Detach the fastening tape and remove the front separate type seatback cover from the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Fastening Tape |

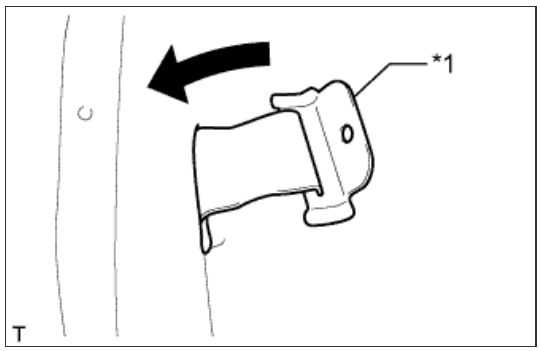



## 17. REMOVE FRONT SEPARATE TYPE SEATBACK COVER (w/ Climate Control Seat System)

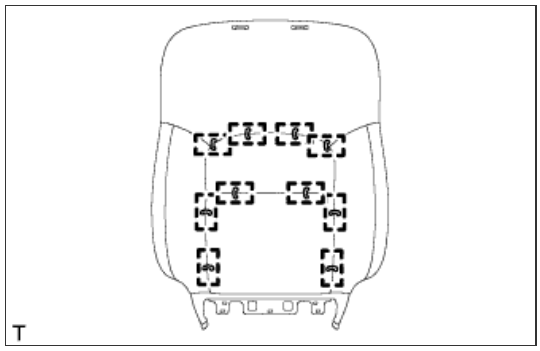
a. Pass the seatback cover bracket through the hole of the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

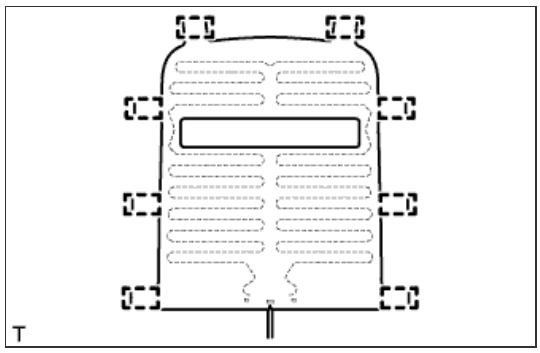



b. Remove the hog rings and front separate type seatback cover from the front separate type seatback pad.

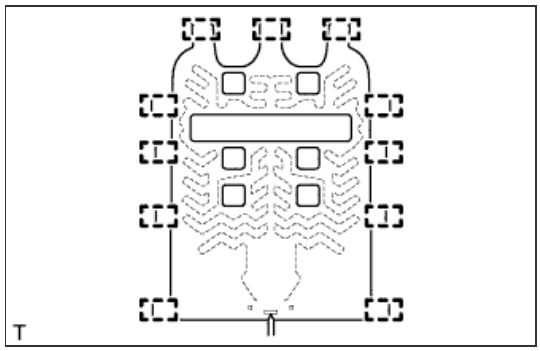



## 18. REMOVE FRONT SEATBACK HEATER ASSEMBLY LH (w/ Seat Heater System)

a. w/o Climate Control Seat System:
Cut off the tack pins and remove the front seatback heater assembly LH from the front separate type seatback cover.




b. w/ Climate Control Seat System:
Cut off the tack pins and remove the front seatback heater assembly LH from the front separate type seatback cover.



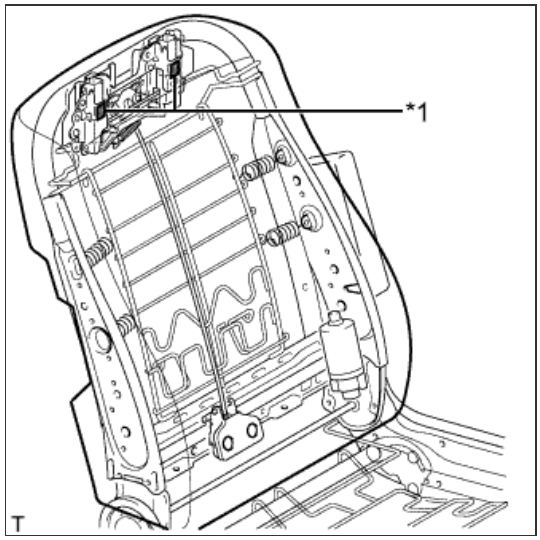

## 19. REMOVE FRONT SEATBACK PROTECTOR

a. Remove the front seatback protector.

b. Remove any remaining double-sided tape.

**Text in Illustration**

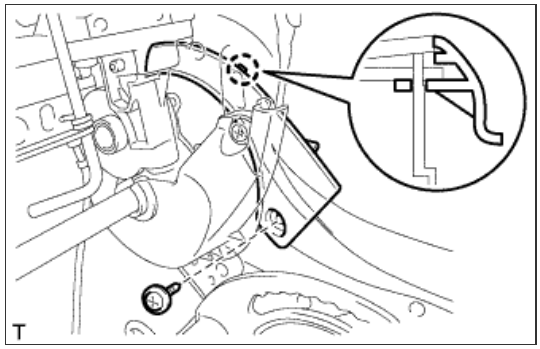
| | |
|---|---|
| *1 | Double-sided Tape |




## 20. REMOVE OUTSIDE RECLINING ADJUSTER COVER LH

a. Remove the screw.

b. Detach the claw and remove the outside reclining adjuster cover LH.




## 21. REMOVE OUTSIDE RECLINING ADJUSTER COVER RH

a. Remove the screw.

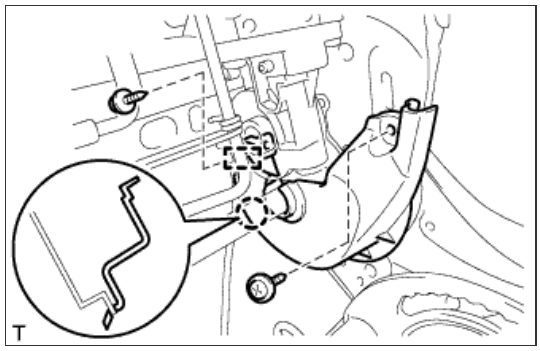
b. Detach the claw and remove the outside reclining adjuster cover RH.

## 22. REMOVE INSIDE RECLINING ADJUSTER COVER LH

a. Detach the wire harness clamp.

b. Remove the 2 screws.

c. Detach the claw and remove the inside reclining adjuster cover LH.




## 23. REMOVE INSIDE RECLINING ADJUSTER COVER RH

a. Detach the wire harness clamp.

b. Remove the 2 screws.

c. Detach the claw and remove the inside reclining adjuster cover RH.

## 24. REMOVE LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (for Driver Side)

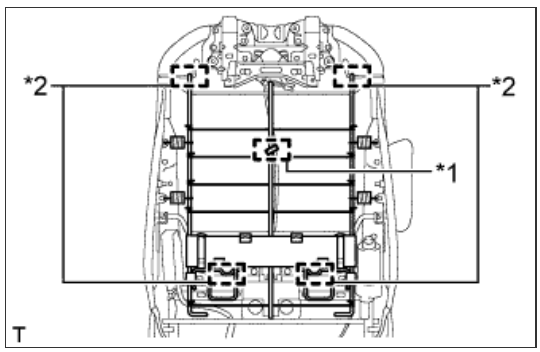
a. Remove the cable clamp and disconnect the active headrest cable from the seatback spring.

**Text in Illustration**

| | |
|---|---|
| *1 | Cable Clamp |
| *2 | Hook |

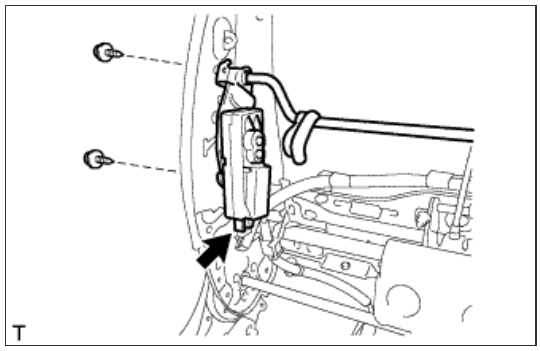
b. Remove the 4 springs.

c. Detach the 4 hooks and remove the seatback spring.



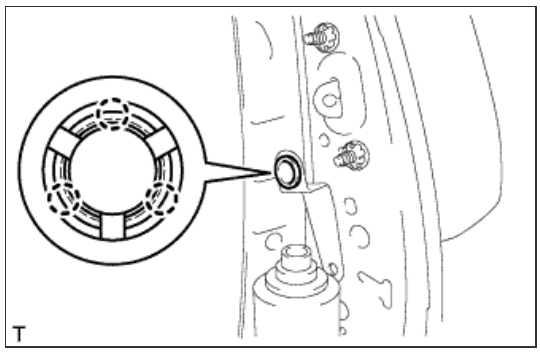

d. Disconnect the connector.

e. Remove the 2 screws and lumbar support adjuster assembly LH.



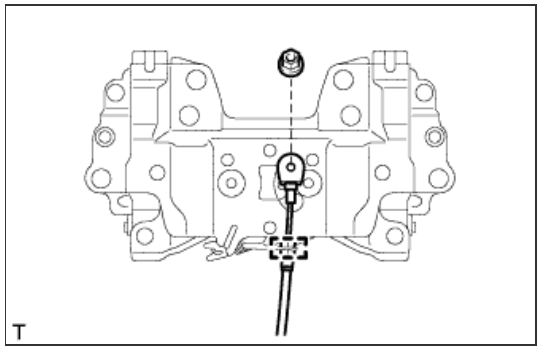
## 25. REMOVE BUSH (for Driver Side)

a. Detach the 3 claws and remove the bush.

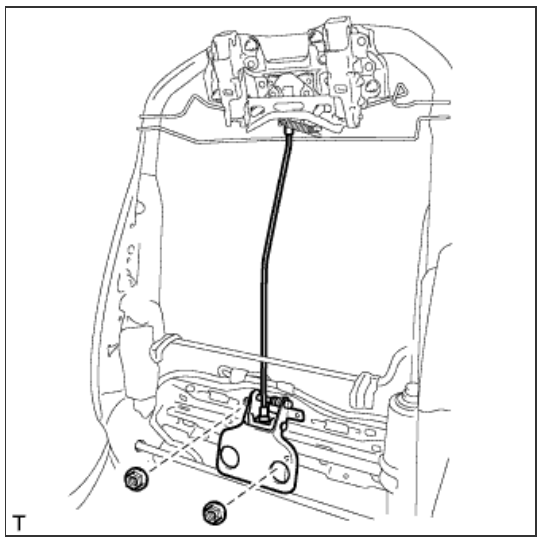


## 26. REMOVE LOWER ACTIVE HEADREST UNIT

a. Remove the nut and detach clamp, and then disconnect the active headrest cable from the upper active headrest unit.

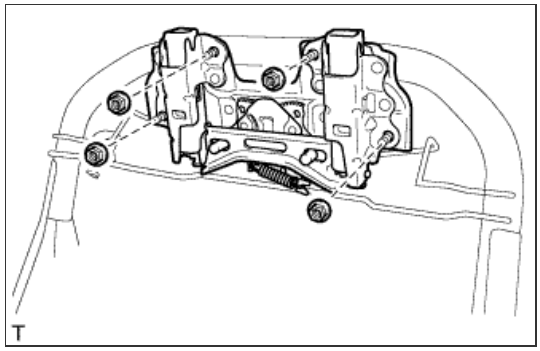


b. Remove the 2 nuts and lower active headrest unit.



## 27. REMOVE UPPER ACTIVE HEADREST UNIT

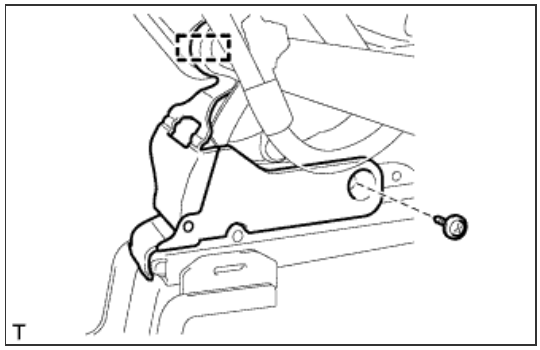
a. Remove the 4 nuts and upper active headrest unit.




## 28. REMOVE FRONT LOWER SEAT CUSHION SHIELD LH

a. Remove the screw.

b. Detach the hook and remove the lower seat cushion shield LH.




## 29. REMOVE FRONT LOWER SEAT CUSHION SHIELD RH

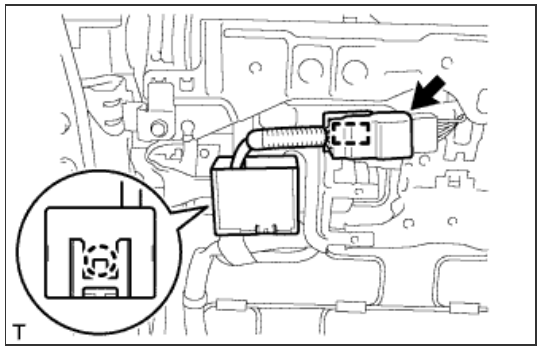
a. Remove the screw.

b. Detach the hook and remove the lower seat cushion shield RH.

## 30. REMOVE SEAT HEATER CONTROL SUB-ASSEMBLY (w/ Seat Heater System)

a. Disconnect the connector and detach the wire harness clamp.

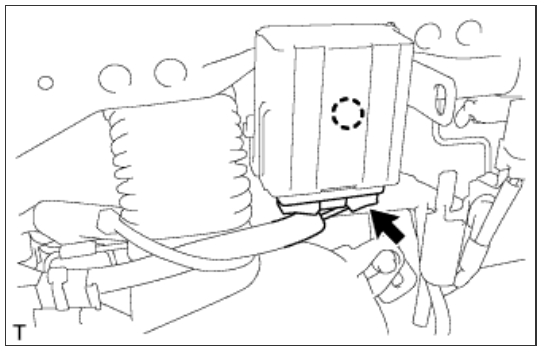
b. Detach the claw and remove the seat heater control sub-assembly.




## 31. REMOVE SEAT CLIMATE CONTROL ECU (w/ Climate Control Seat System)

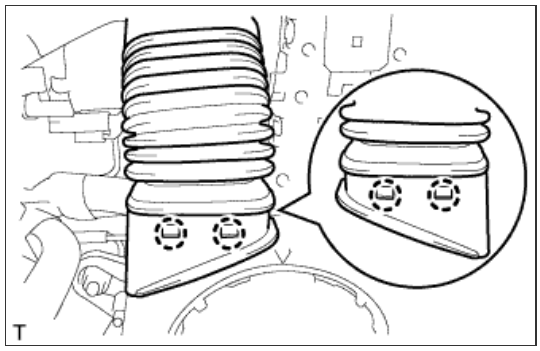
a. Disconnect the connector.

b. Detach the claw and remove the seat climate control ECU.



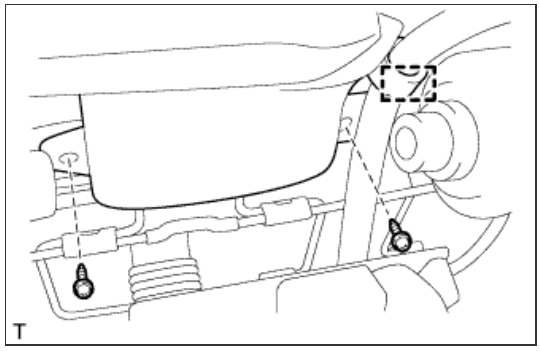

## 32. REMOVE SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System, for Seat Cushion)

a. Detach the 4 claws and disconnect the seat climate control blower LH.



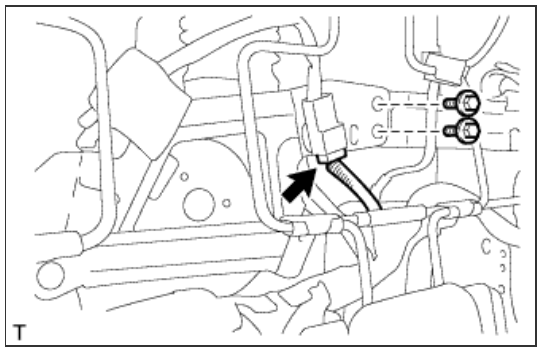

b. Detach the wire harness clamp.

c. Remove the 2 screws and seat climate control controller LH.



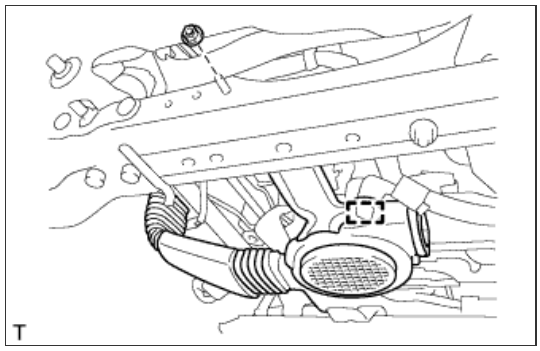

## 33. REMOVE SEAT CLIMATE CONTROL BLOWER LH (w/ Climate Control Seat System)

a. Disconnect the connector and remove the 2 bolts.



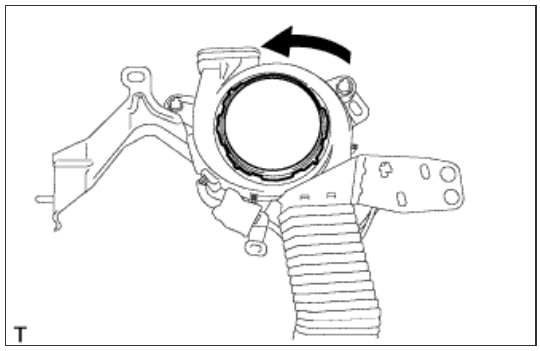

b. Detach the wire harness clamp.

c. Remove the nut and seat climate control blower LH.



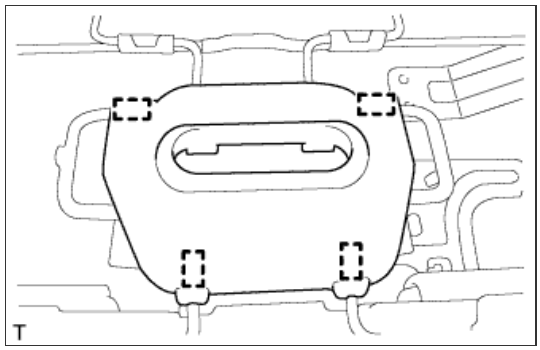

**34. REMOVE NO. 1 AIR FILTER (w/ Climate Control Seat System)**

a. Rotate the No. 1 air filter counterclockwise to detach the claws and remove it.




**35. REMOVE SEAT FRAME SET BRACKET SUB-ASSEMBLY (w/ Climate Control Seat System)**

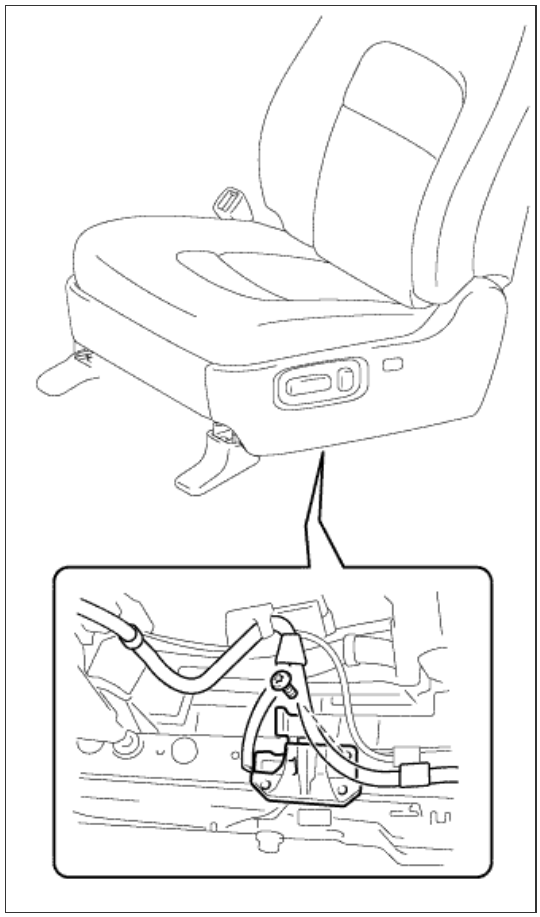
a. Detach the 4 hooks and remove the seat frame set bracket sub-assembly.



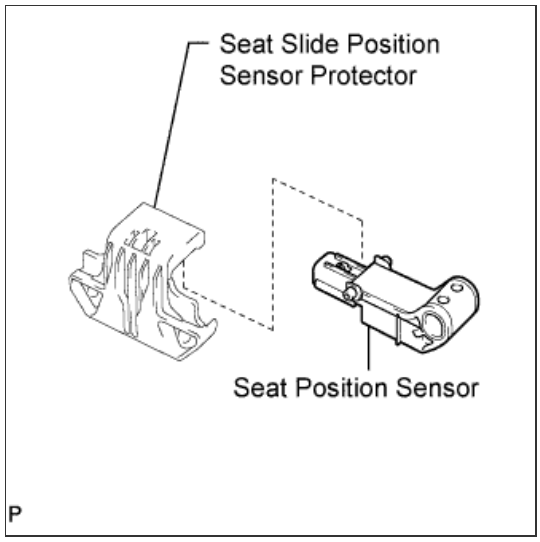

**36. REMOVE SEAT POSITION SENSOR (for Driver Side)**

a. Using a T30 "TORX" socket wrench, remove the screw and seat position sensor with sensor protector.

b. Disconnect the connector.

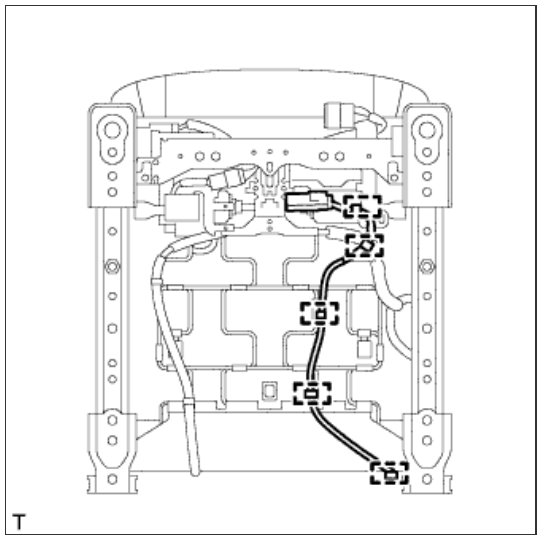


c. Remove the seat slide position sensor protector from the seat position sensor.




## 37. REMOVE FRONT SEAT AIRBAG ASSEMBLY LH

a. Detach the 5 clamps and disconnect the wire harness.

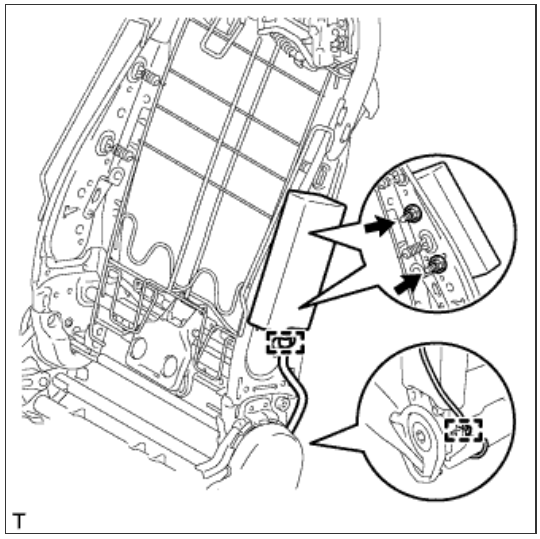



b. Detach the 2 clamps and disconnect the wire harness.

c. Remove the 2 nuts and front seat airbag assembly LH.

**CAUTION:**

Make sure that the seat frame assembly is not deformed. If it is, replace it with a new one.




## 38. REMOVE FRONT SEAT WIRE LH

a. Disconnect the connectors and detach the wire harness clamps.

b. Detach the claw and remove the front seat wire LH.

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

## 1. INSTALL FRONT SEAT WIRE LH

a. Attach the claw to install the front seat wire LH.

b. Attach the wire harness clamps and connect the connectors.

## 2. INSTALL FRONT SEAT AIRBAG ASSEMBLY LH

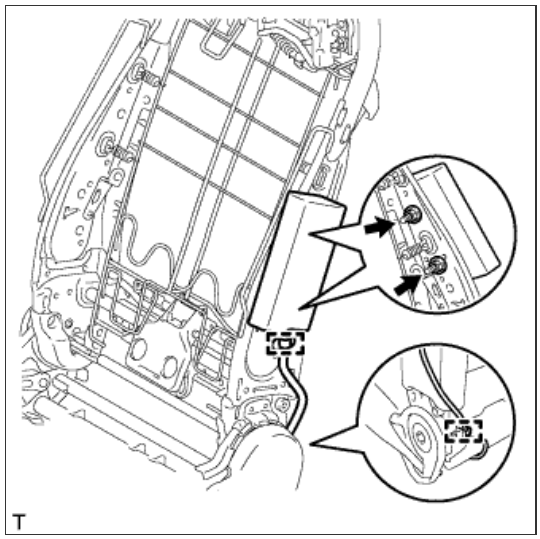
**CAUTION:**

Make sure that the seat frame assembly is not deformed. If it is, replace it with a new one.

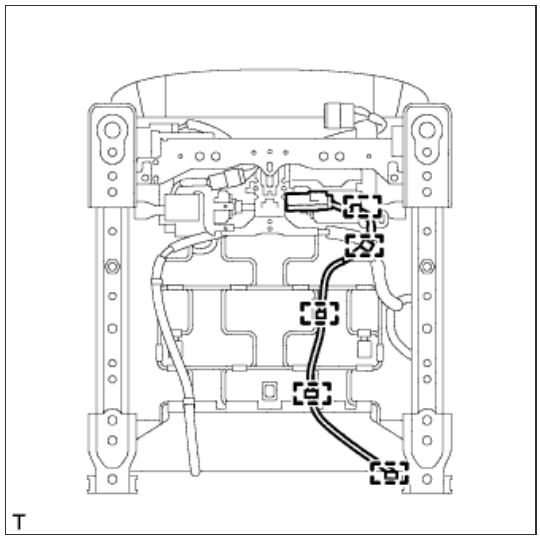
a. Install the front seat airbag assembly with 2 nuts.

**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

b. Attach the 2 clamps to connect the wire harness.




c. Attach the 5 clamps to connect the wire harness.




### 3. INSTALL SEAT POSITION SENSOR (for Driver Side)

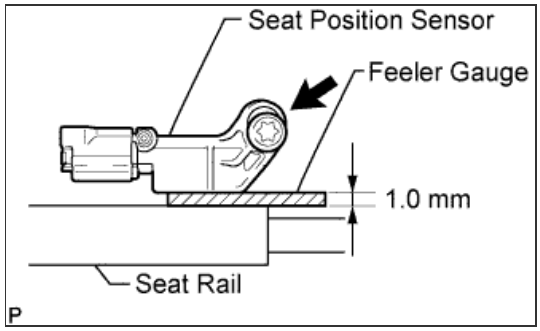
a. Check that the ignition switch is off.

b. Check that the cable is disconnected from the battery negative (-) terminal.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

c. Using a 1.0 mm (0.0393 in.) feeler gauge, install the seat position sensor.




**NOTICE:**

- **If the seat position sensor has been dropped, or there are any cracks, dents or other defects in the case or connector, replace the seat position sensor with a new one.**
- **When installing the seat position sensor, be careful that the SRS wiring does not interfere with other parts and that it is not pinched between other parts.**

**HINT:**

Be sure that the clearance between the seat position sensor and the seat rail is within 0.6 to 1.4 mm (0.0236 to 0.0551 in.).

d. Using a T30 "TORX" socket wrench, install the seat position sensor with the screw.

**Torque:**
**8.0 N*m{ 82 kgf*cm , 71 in.*lbf }**

e. Make sure that the clearance between the seat position sensor and the seat rail is within 0.6 to 1.4 mm (0.0236 to 0.0551 in.).

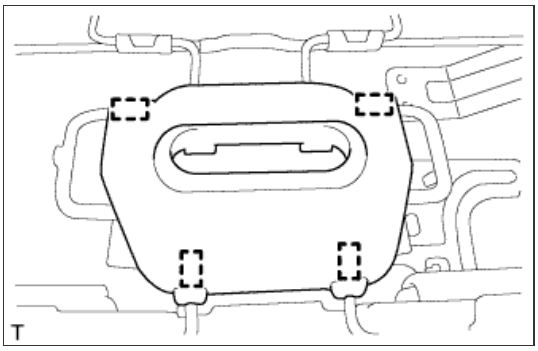
f. Check that there is no looseness in the installation parts of the seat position sensor.

g. Connect the connector.

h. Install the seat slide position sensor protector to the seat position sensor.

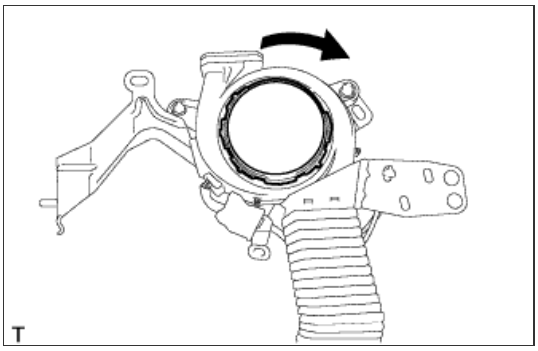
### 4. INSTALL SEAT FRAME SET BRACKET SUB-ASSEMBLY (w/ Climate Control Seat System)

a. Attach the 4 hooks to install the seat frame set bracket sub-assembly.




### 5. INSTALL NO. 1 AIR FILTER (w/ Climate Control Seat System)

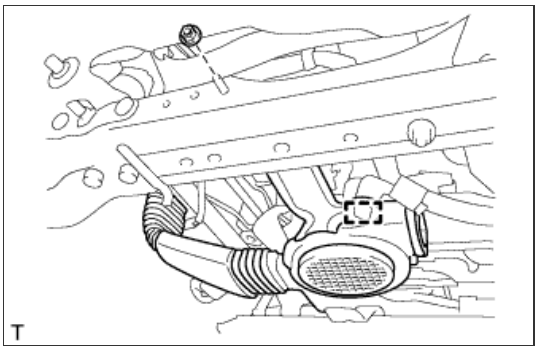
a. Rotate the No. 1 air filter clockwise to attach the claws and install it.



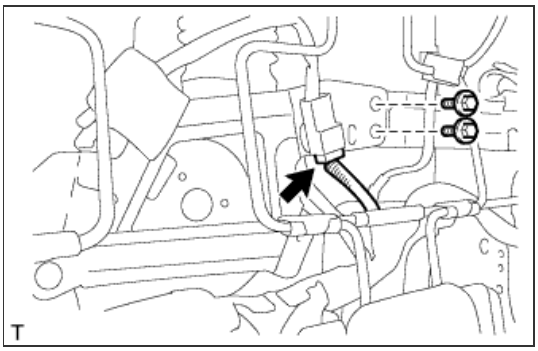

### 6. INSTALL SEAT CLIMATE CONTROL BLOWER LH (w/ Climate Control Seat System)

a. Install the seat climate control blower LH with the nut.

b. Attach the wire harness clamp.



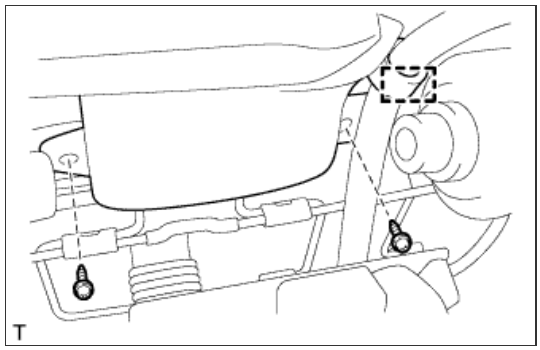

c. Install the 2 bolts and connect the connector.



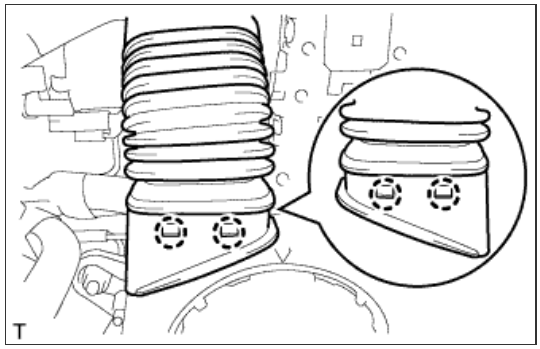

### 7. INSTALL SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System, for Seat Cushion)

a. Install the seat climate control controller LH with the 2 screws.

b. Attach the wire harness clamp.



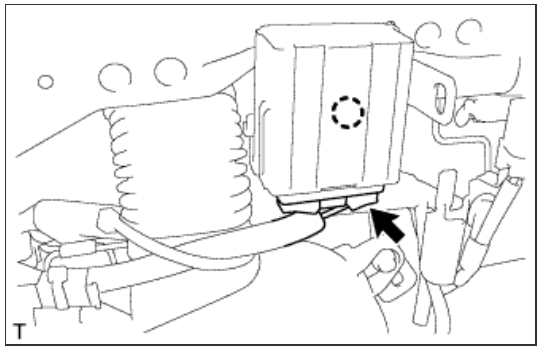

c. Attach the 4 claws to connect the seat climate control blower LH.




### 8. INSTALL SEAT CLIMATE CONTROL ECU (w/ Climate Control Seat System)

a. Attach the claw to install the seat climate control ECU.

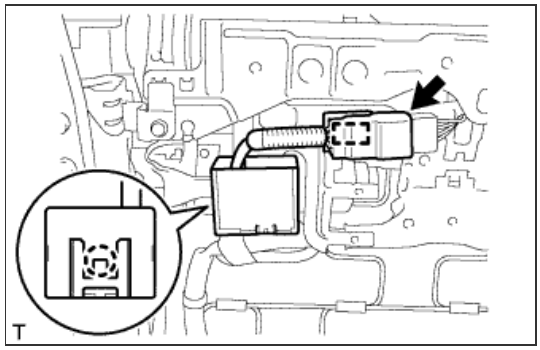
b. Connect the connector.




### 9. INSTALL SEAT HEATER CONTROL SUB-ASSEMBLY (w/ Seat Heater System)

a. Attach the claw to install the seat heater control sub-assembly.

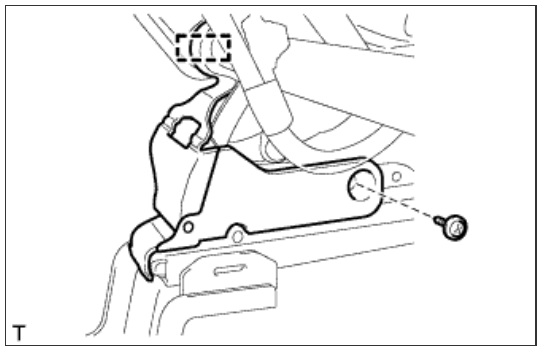
b. Attach the wire harness clamp and connect the connector.




### 10. INSTALL FRONT LOWER SEAT CUSHION SHIELD LH

a. Attach the hook to install the front lower seat cushion shield LH.

b. Install the screw.




## 11. INSTALL FRONT LOWER SEAT CUSHION SHIELD RH

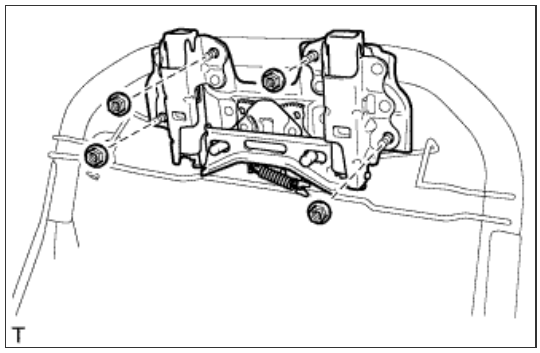
a. Attach the hook to install the front lower seat cushion shield RH.

b. Install the screw.

## 12. INSTALL UPPER ACTIVE HEADREST UNIT

a. Install the upper active headrest unit with the 4 nuts.

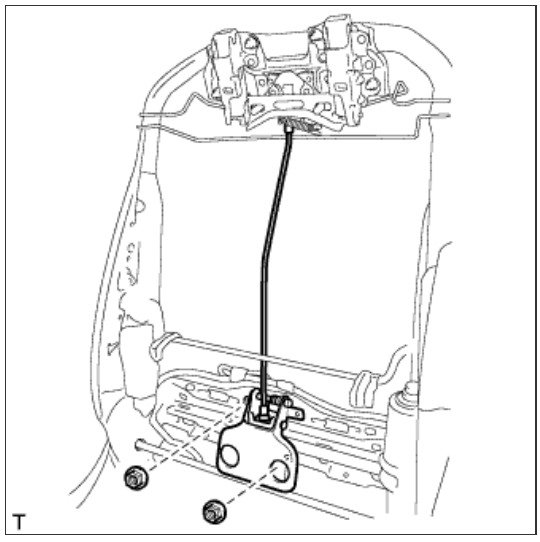
**Torque:**
**14 N*m{ 143 kgf*cm , 10 ft.*lbf }**




## 13. INSTALL LOWER ACTIVE HEADREST UNIT

a. Install the lower active headrest unit with the 2 nuts.

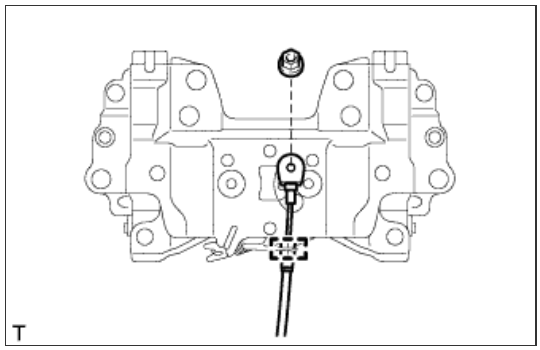
**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**




b. Attach the clamp.

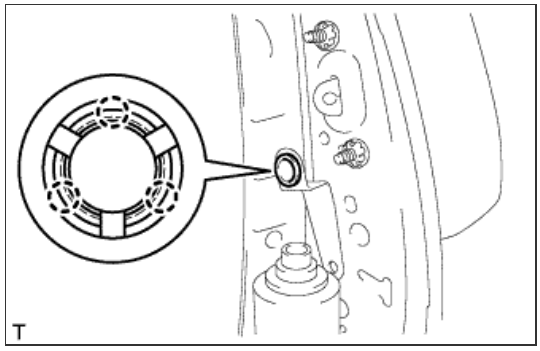
c. Connect the active headrest cable to the upper active headrest unit with the nut.

**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**




## 14. INSTALL BUSH (for Driver Side)

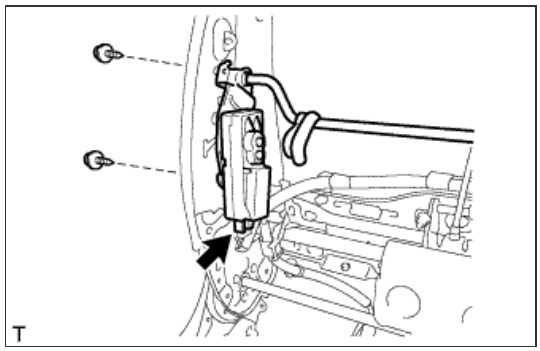
a. Attach the 3 claws to install the bush.




## 15. INSTALL LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (for Driver Side)

a. Install the lumbar support adjuster LH with the 2 screws.

b. Connect the connector.



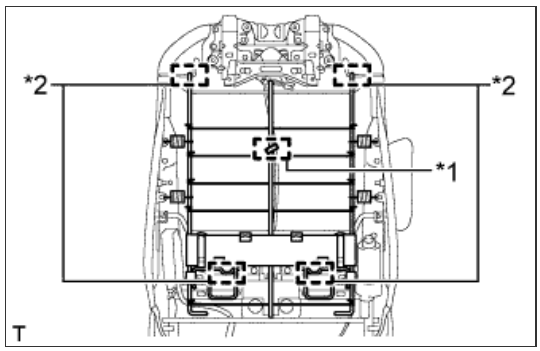

c. Attach the 4 hooks to install the seatback spring.

**Text in Illustration**

| | |
|---|---|
| *1 | Cable Clamp |
| *2 | Hook |

d. Install the 4 springs.

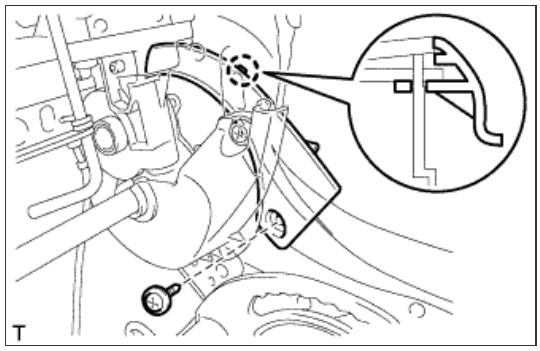
e. Connect the active headrest cable to the seatback spring with the cable clamp.




## 16. INSTALL OUTSIDE RECLINING ADJUSTER COVER LH

a. Attach the claw to install the outside reclining adjuster cover LH.

b. Install the screw.




### 17. INSTALL OUTSIDE RECLINING ADJUSTER COVER RH

a. Attach the claw to install the outside reclining adjuster cover RH.

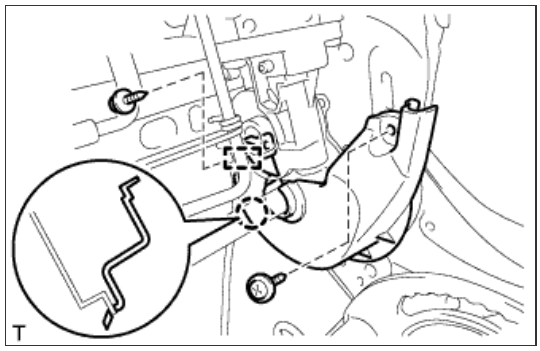
b. Install the screw.

### 18. INSTALL INSIDE RECLINING ADJUSTER COVER LH

a. Attach the claw to install the inside reclining adjuster cover LH.

b. Install the 2 screws.

c. Attach the wire harness clamp.




### 19. INSTALL INSIDE RECLINING ADJUSTER COVER RH

a. Attach the claw to install the inside reclining adjuster cover RH.

b. Install the 2 screws.

c. Attach the wire harness clamp.

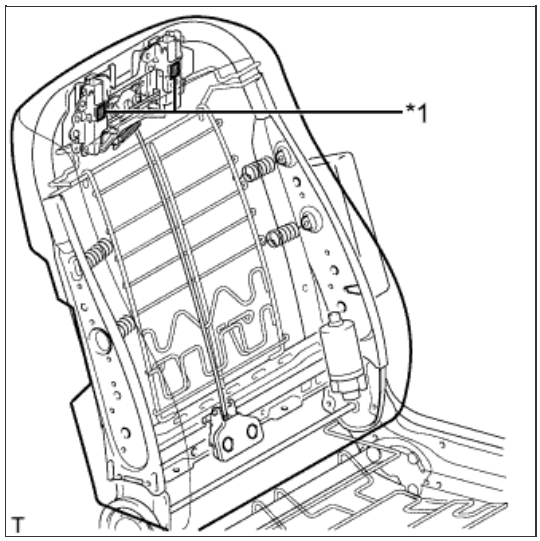
### 20. INSTALL FRONT SEATBACK PROTECTOR

a. Apply double-sided tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided tape |

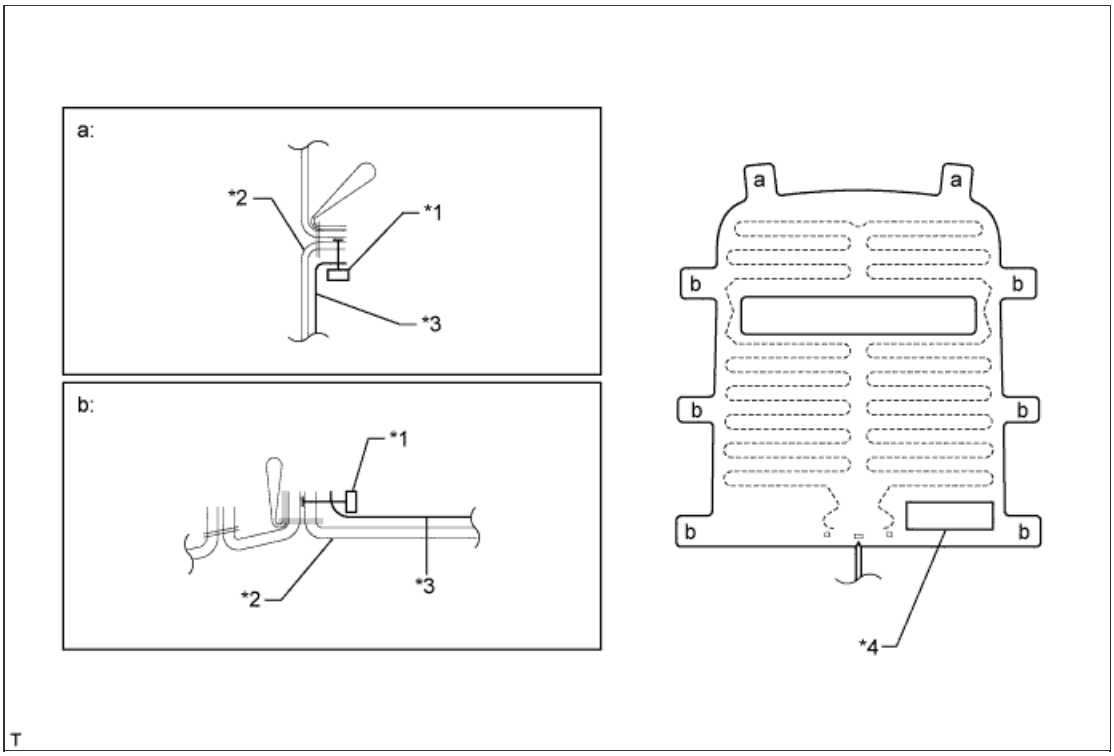
b. Install the front seatback protector.



## 21. INSTALL FRONT SEATBACK HEATER ASSEMBLY LH (w/ Seat Heater System)

**a.** Set the seatback heater with the name stamp side facing the front separate type seatback cover.

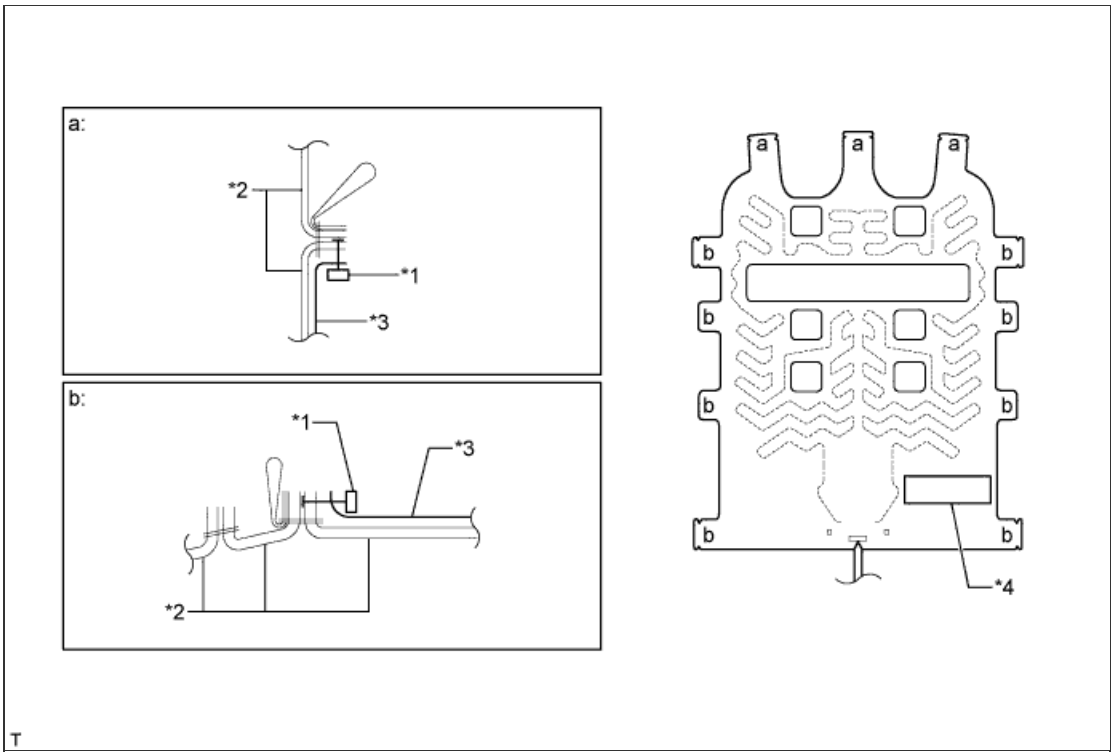
**b.** w/o Climate Control Seat System:
Install the front seatback heater assembly LH to the front separate type seatback cover with new tack pins.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tack Pin | *2 | Front Separate Type Seatback Cover |
| *3 | Front Seatback Heater Assembly LH | *4 | Name Stamp |

**c.** w/ Climate Control Seat System:
Install the front seatback heater assembly LH to the front separate type seatback cover with new tack pins.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tack Pin | *2 | Front Separate Type Seatback Cover |
| *3 | Front Seatback Heater Assembly LH | *4 | Name Stamp |

## 22. INSTALL FRONT SEPARATE TYPE SEATBACK COVER

a. Attach the fastening tape to install the front separate type seatback cover.

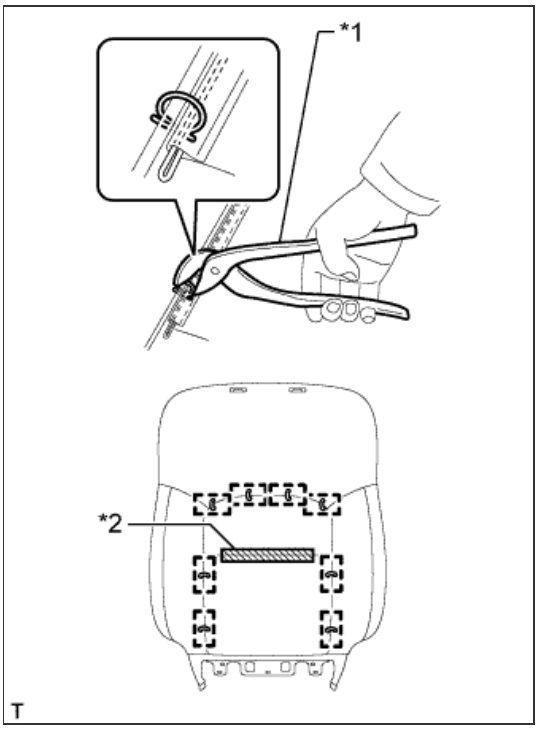
**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |
| *2 | Fastening Tape |

b. Using hog ring pliers, install new hog rings.

**NOTICE:**

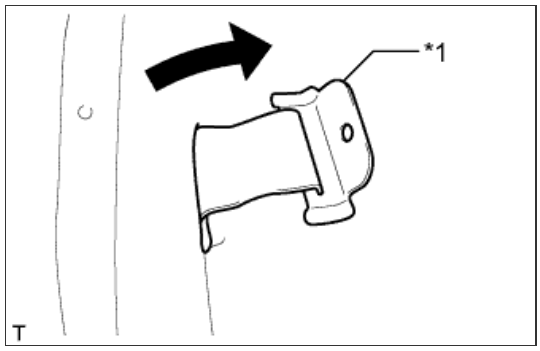
- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




c. Pass the seatback cover bracket through the hole of the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |




## 23. INSTALL FRONT SEPARATE TYPE SEATBACK COVER (w/ Climate Control Seat System)

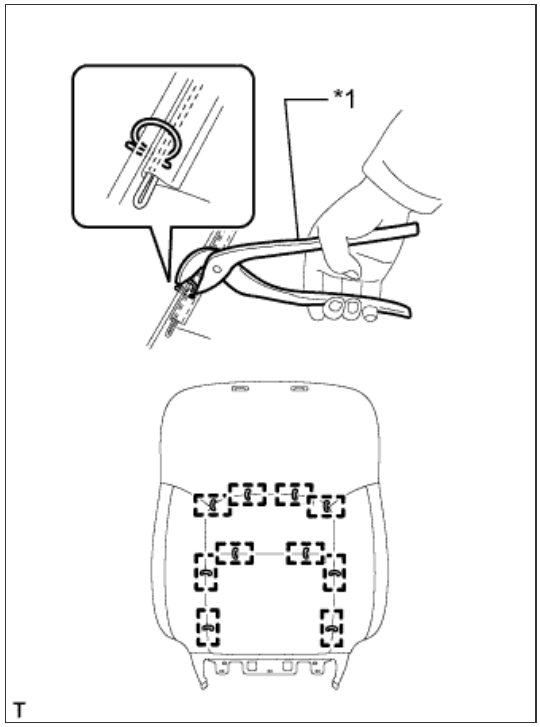
a. Using hog ring pliers, install the front separate type seatback cover to the front separate type seatback pad with new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

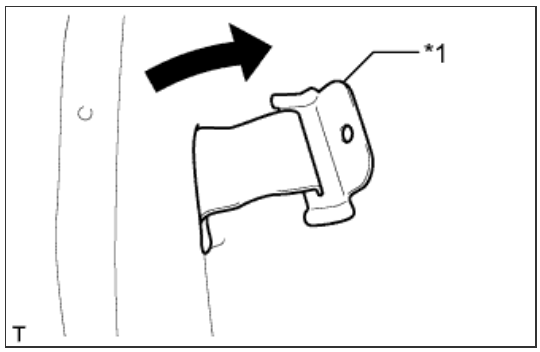
- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




b. Pass the seatback cover bracket through the hole of the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

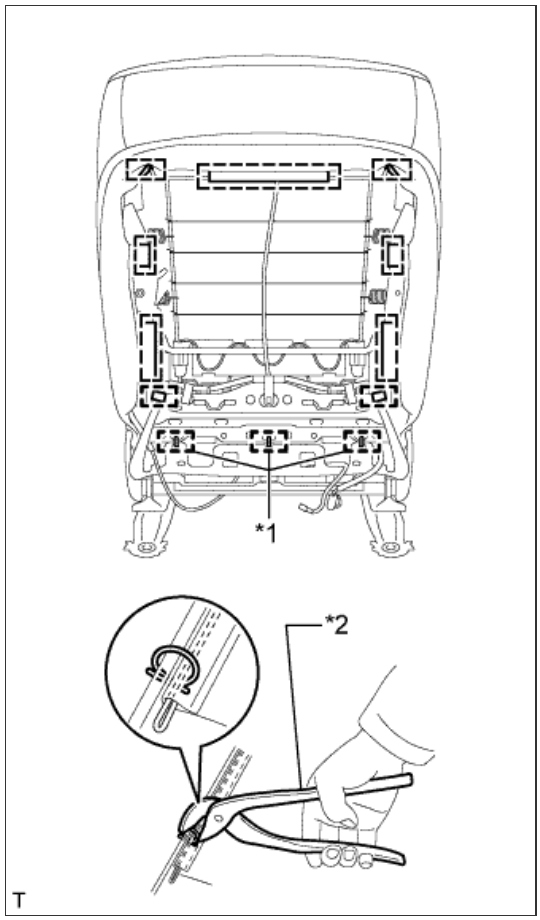



## 24. INSTALL SEATBACK COVER WITH PAD

a. Attach the hooks to install the seatback cover with pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |
| *2 | Hog Ring Pliers |




b. Attach the seatback cover bracket with the nut.

**Text in Illustration**

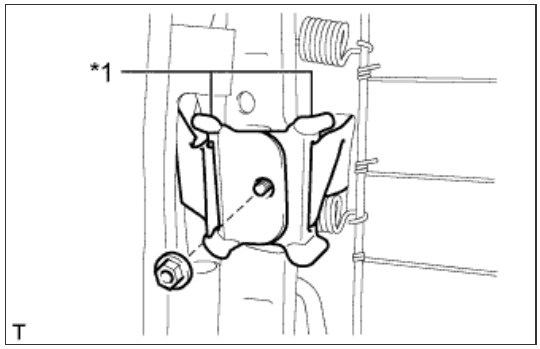
| | |
|---|---|
| *1 | Seatback Cover Bracket |

**Torque:**

**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.



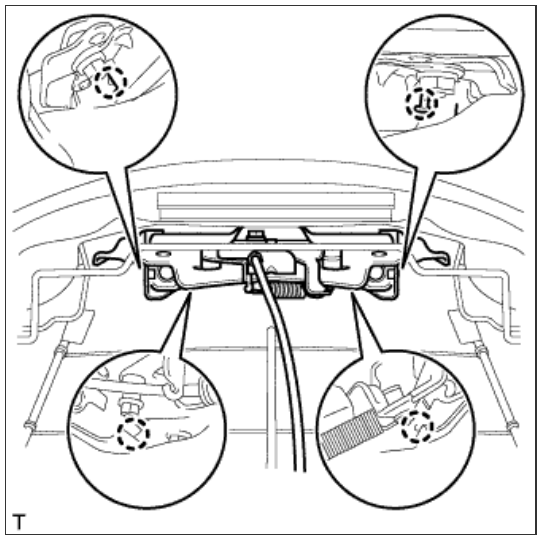

c. Using hog ring pliers, install new hog rings.

**NOTICE:**

Be careful not to damage the cover.

## 25. INSTALL FRONT SEAT HEADREST SUPPORT

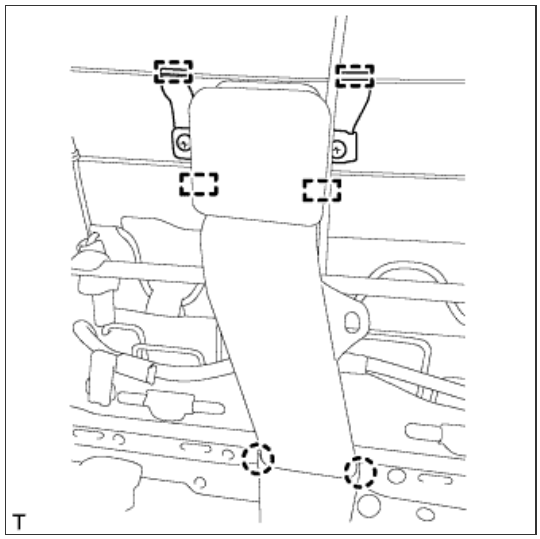
a. Attach the 4 claws to install the 2 front seat headrest supports.




### 26. INSTALL SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System, for Seatback)

a. Attach the 4 hooks to install the seat climate control controller LH.

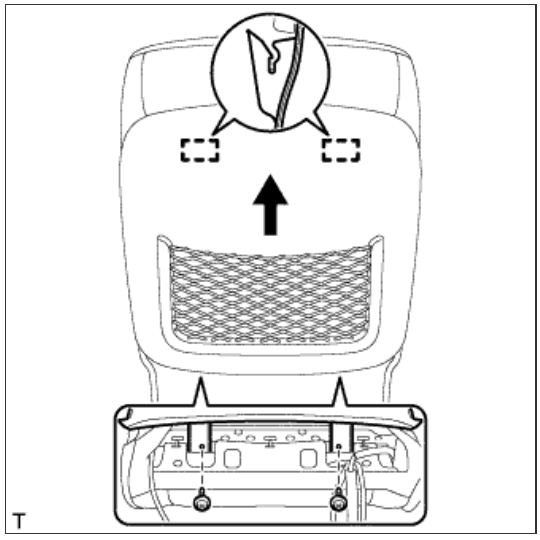
b. Attach the 2 claws to connect the seat climate control blower LH.




### 27. INSTALL FRONT SEATBACK BOARD SUB-ASSEMBLY LH

a. Move the front seatback board sub-assembly in the direction of the arrow to attach the 2 hooks and install it.

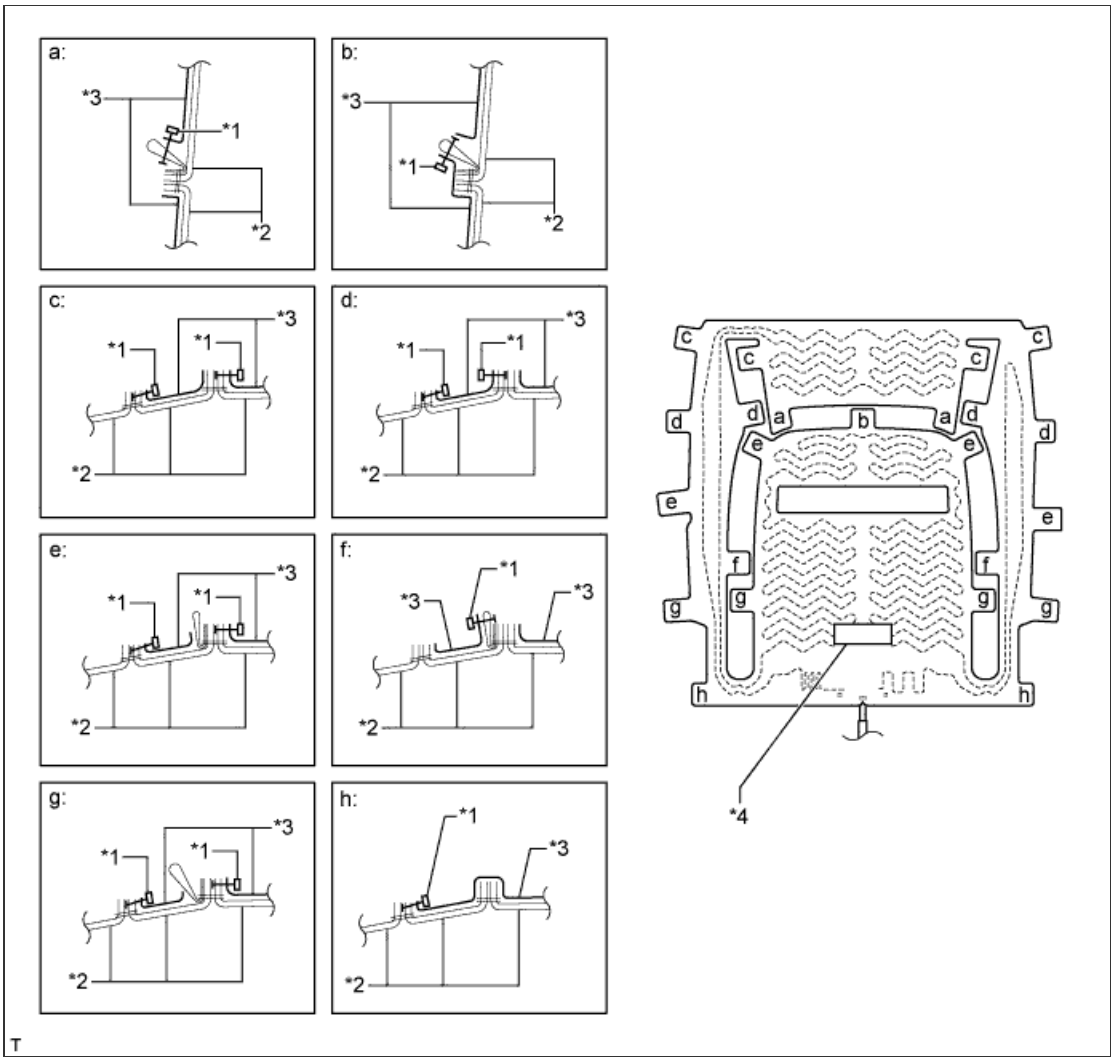
b. Install the 2 screws.




### 28. INSTALL FRONT SEAT CUSHION HEATER ASSEMBLY LH (w/ Seat Heater System)

a. Set the front seat cushion heater assembly LH with the name stamp side facing the front separate type seat cushion cover.

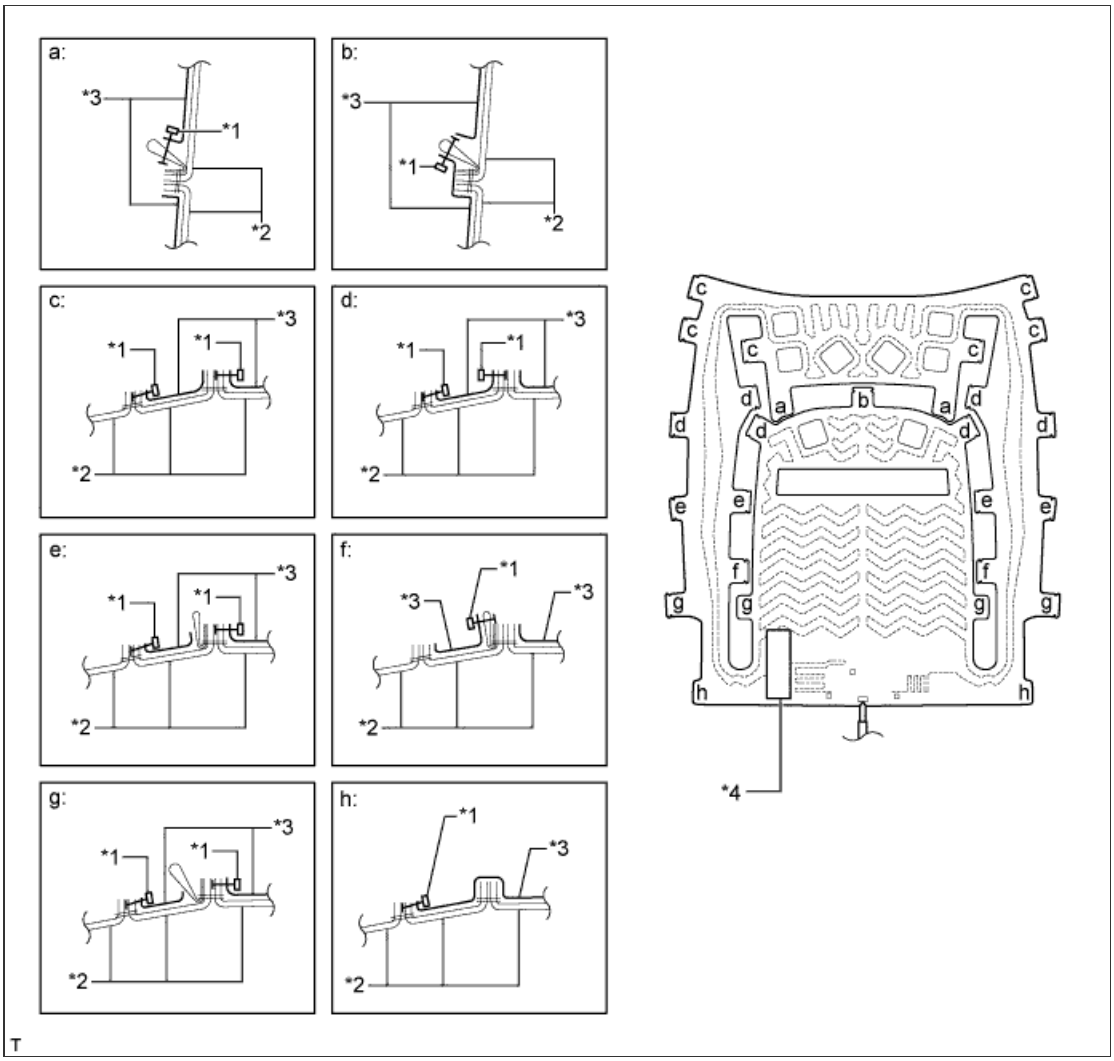
**b.** w/o Climate Control Seat System:
Install the front seat cushion heater assembly LH to the front separate type seat cushion cover with new tack pins.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tack Pin | *2 | Front Separate Type Seat Cushion Cover |
| *3 | Front Seat Cushion Heater Assembly LH | *4 | Name Stamp |

**c.** w/ Climate Control Seat System:
Install the front seat cushion heater assembly LH to the front separate type seat cushion cover with new tack pins.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tack Pin | *2 | Front Separate Type Seat Cushion Cover |
| *3 | Front Seat Cushion Heater Assembly LH | *4 | Name Stamp |

## 29. INSTALL FRONT SEPARATE TYPE SEAT CUSHION COVER

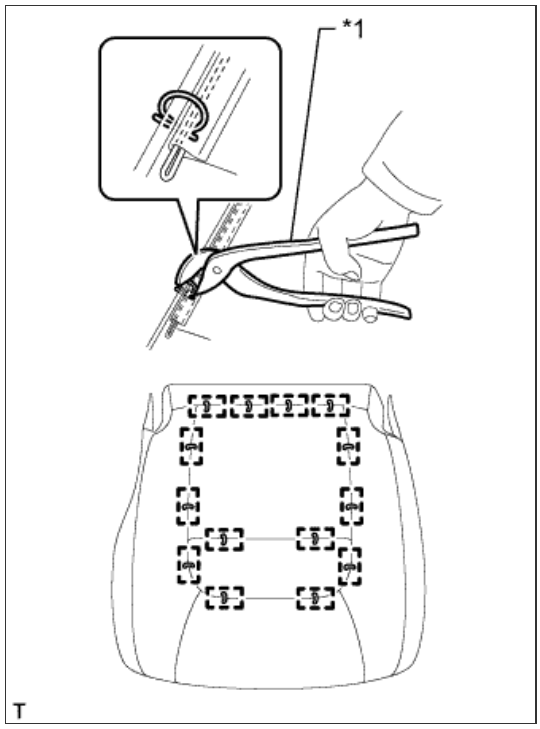
a. Using hog ring pliers, install the front separate type seat cushion cover to the front separate type seat cushion pad with new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

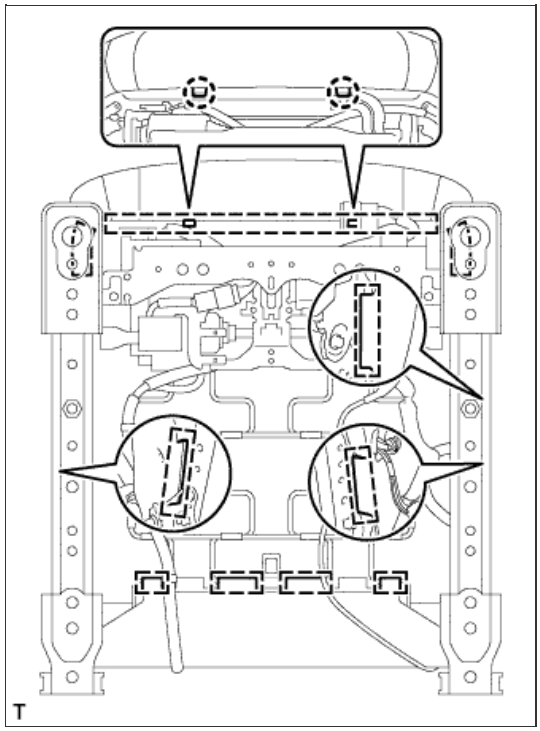



### 30. INSTALL SEAT CUSHION COVER WITH PAD

a. Set the seat cushion cover with pad in place.

b. Attach the hooks to install the seat cushion cover with pad.

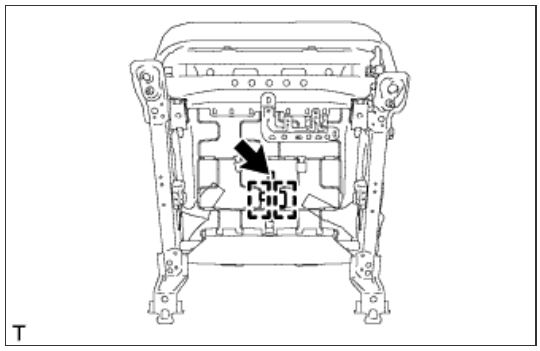
c. Bend the 2 seat frame claws downward.




d. for Front Passenger Side:

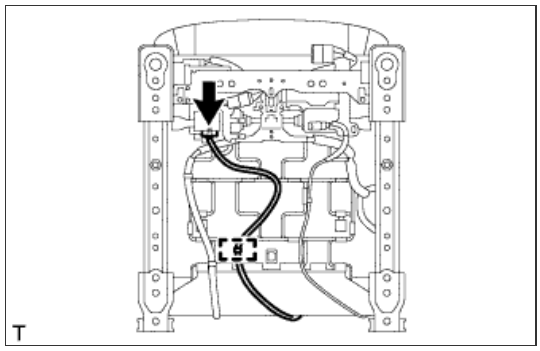
i. Attach the 2 clamps to connect the connector holder.

ii. Connect the connector.

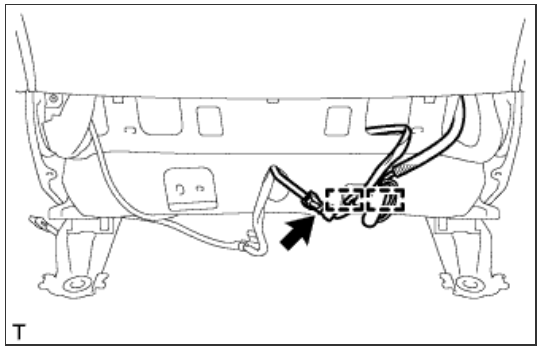



e. w/o Climate Control Seat System:

i. Connect the connector and attach the wire harness clamp.

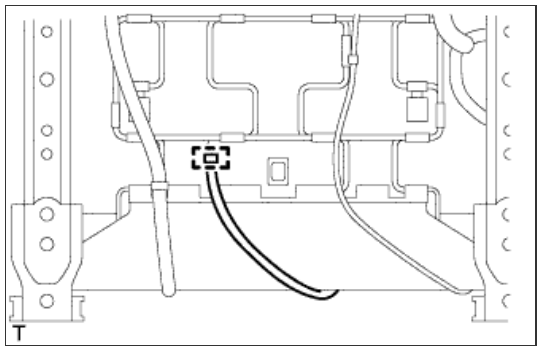



ii. Connect the connector and attach the 2 wire harness clamps.

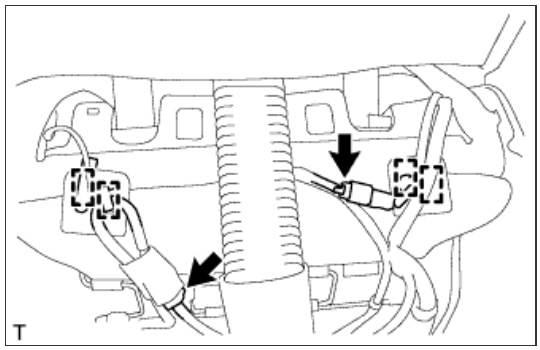



f. w/ Climate Control Seat System:

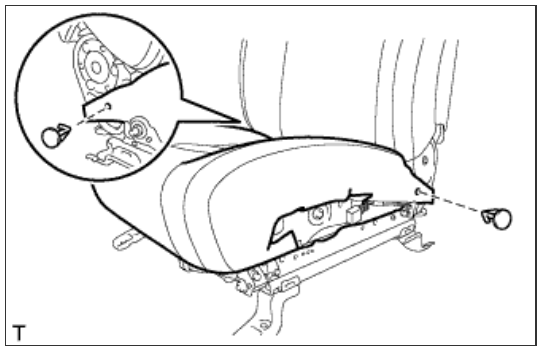
i. Attach the wire harness clamp.




ii. Connect the 2 connectors and attach the 4 wire harness clamps.




g. Install the 2 clips.

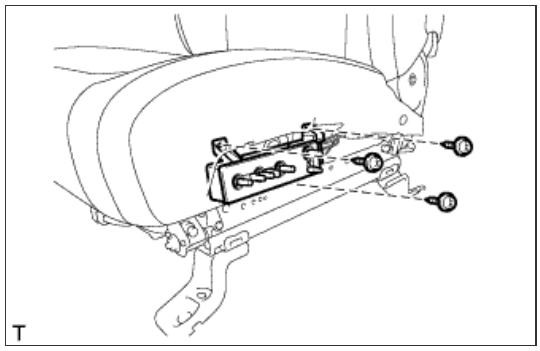



## 31. INSTALL FRONT POWER SEAT SWITCH LH

a. Install the front power seat switch LH with the 3 screws.

b. w/ Seat Position Memory System:
Connect the 2 connectors.

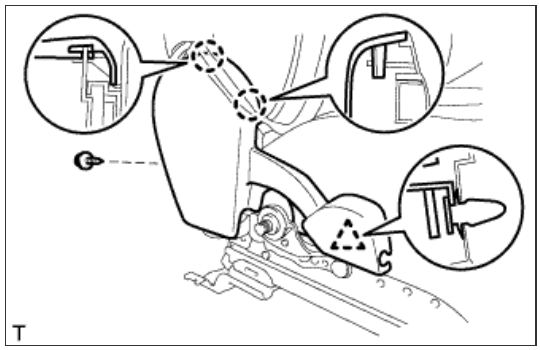
c. w/o Seat Position Memory System:
Connect the connector.




## 32. INSTALL FRONT INNER SEAT CUSHION SHIELD LH

a. Attach the 2 claws and clip to install the front inner seat cushion shield LH.

b. Install the screw.




## 33. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH

a. Install the front seat belt anchor plate.

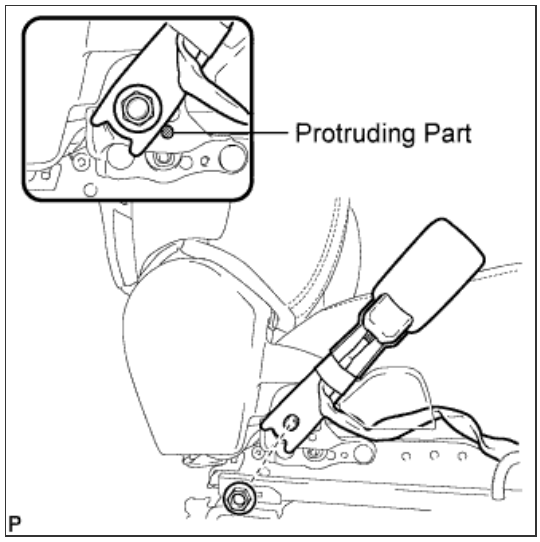
b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

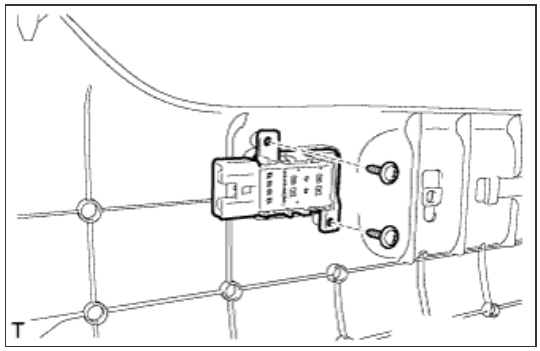
Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding parts of the front seat adjuster.

c. Connect the connectors and attach the clamps.




## 34. INSTALL LUMBAR SWITCH (for Driver Side)

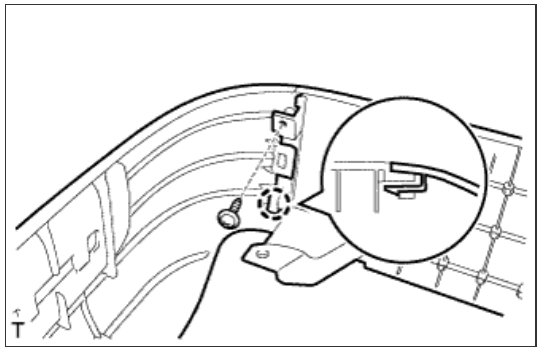
a. Install the lumbar switch to the front seat cushion shield LH with the 2 screws.




## 35. INSTALL FRONT INNER NO. 1 SEAT CUSHION SHIELD LH

a. Attach the claw to install the front inner No. 1 cushion shield LH to the front seat cushion shield LH.

b. Install the screw.

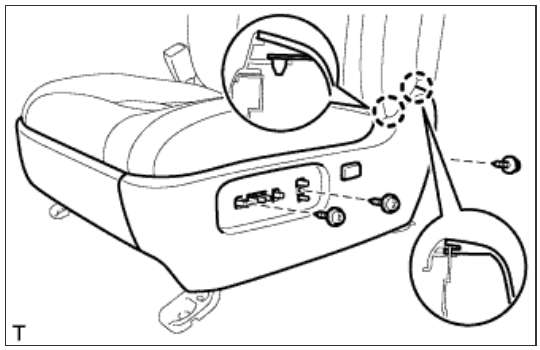



## 36. INSTALL FRONT SEAT CUSHION SHIELD LH

a. for Driver Side:
Connect the connector.

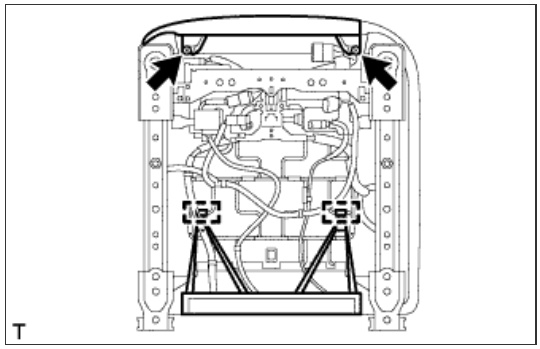
b. Attach the 2 claws to install the front seat cushion shield LH together with the front inner No. 1 cushion shield LH.

c. Install the 3 screws.



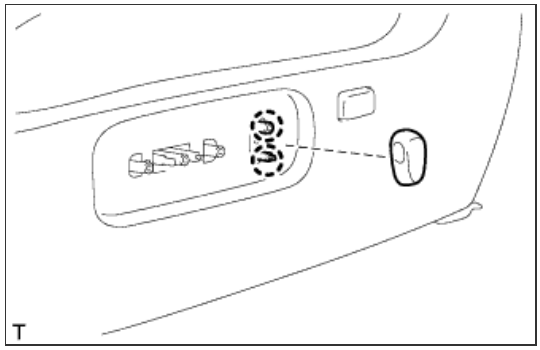

d. Connect the 2 rubber bands.

e. Install the 2 screws.



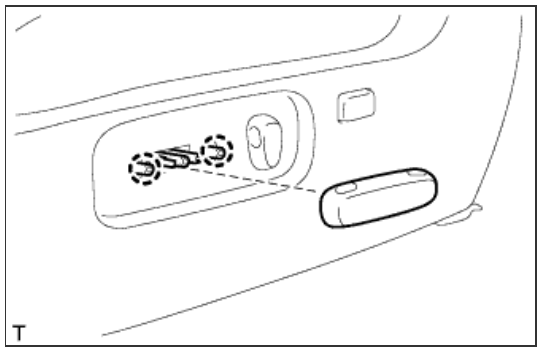

## 37. INSTALL RECLINING POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the reclining power seat switch knob.




## 38. INSTALL SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the slide and vertical power seat switch knob.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL FRONT SEAT ASSEMBLY LH

a. Place the front seat assembly LH in the cabin.

**NOTICE:**

Be careful not to damage the vehicle body.

b. Connect the connectors under the front seat assembly LH.

c. Connect the cable to the negative (-) battery terminal.

**NOTICE:**

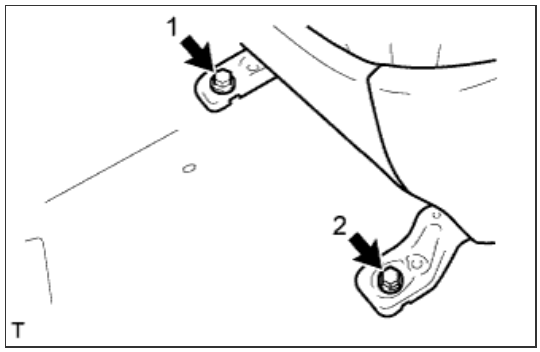
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

d. Temporarily install the front seat assembly LH with the 4 bolts.

e. Operate the power seat switch (slide switch) to move the front seat assembly LH to the rearmost position.

f. Tighten the 2 bolts in the order shown in the illustration.

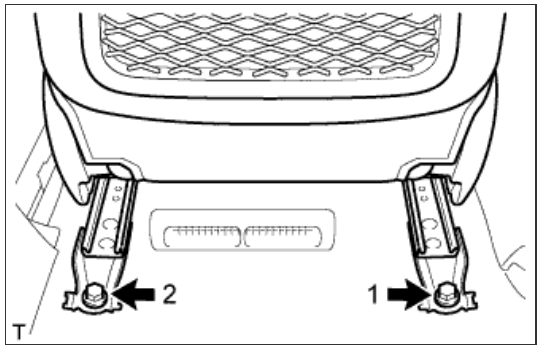
**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




g. Operate the power seat switch (slide switch) to move the front seat assembly LH to the foremost position.

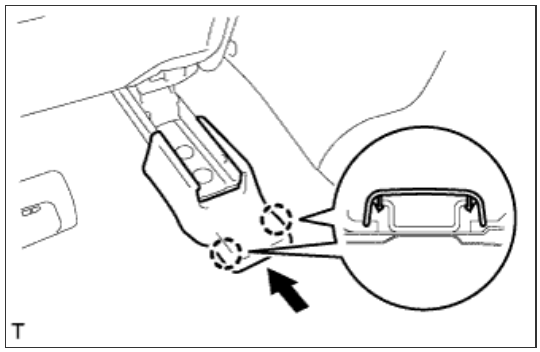
h. Tighten the 2 bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**



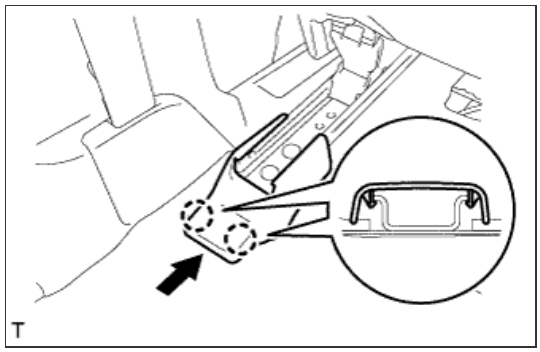

## 2. INSTALL REAR INNER SEAT TRACK BRACKET COVER LH

a. Attach the 2 claws to install the rear inner seat track bracket cover LH.



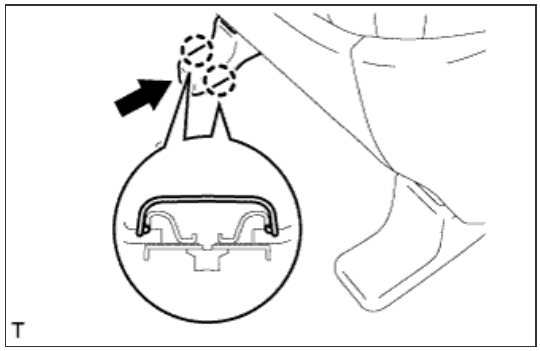

### 3. INSTALL REAR OUTER SEAT TRACK BRACKET COVER LH

a. Attach the 2 claws to install the rear outer seat track bracket cover LH.




### 4. INSTALL FRONT INNER SEAT TRACK BRACKET COVER LH

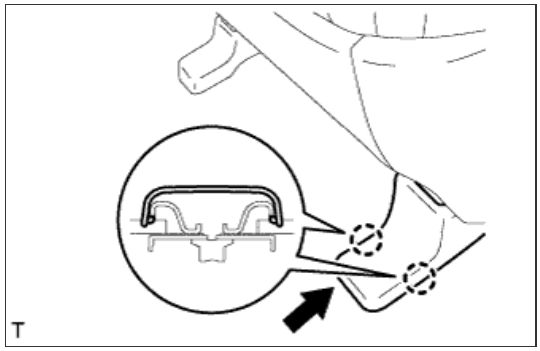
a. Attach the 2 claws to install the front inner seat track bracket cover LH.




### 5. INSTALL FRONT OUTER SEAT TRACK BRACKET COVER LH

a. Attach the 2 claws to install the front outer seat track bracket cover LH.

b. Restore the Autoaway/Return function setting to the previous condition by changing the customize parameter (Click here).




### 6. INSTALL FRONT SEAT HEADREST ASSEMBLY

a. Install the front seat headrest assembly.

### 7. CHECK SRS WARNING LIGHT

(Click here)

### 8. INSPECT FRONT SEAT ASSEMBLY

a. w/ Seat Position Memory System:
Check the power seat operation (Click here).

b. w/o Seat Position Memory System:
Check the power seat operation (Click here).

c. w/ Seat Heater System:
Check the seat heater operation.

i. Turn the ignition switch to ON.

ii. Turn the seat heater switch on.

iii. Wait 5 minutes or more and confirm that the seat surface becomes warm.

d. w/ Climate Control Seat System:
Check the climate control seat operation.

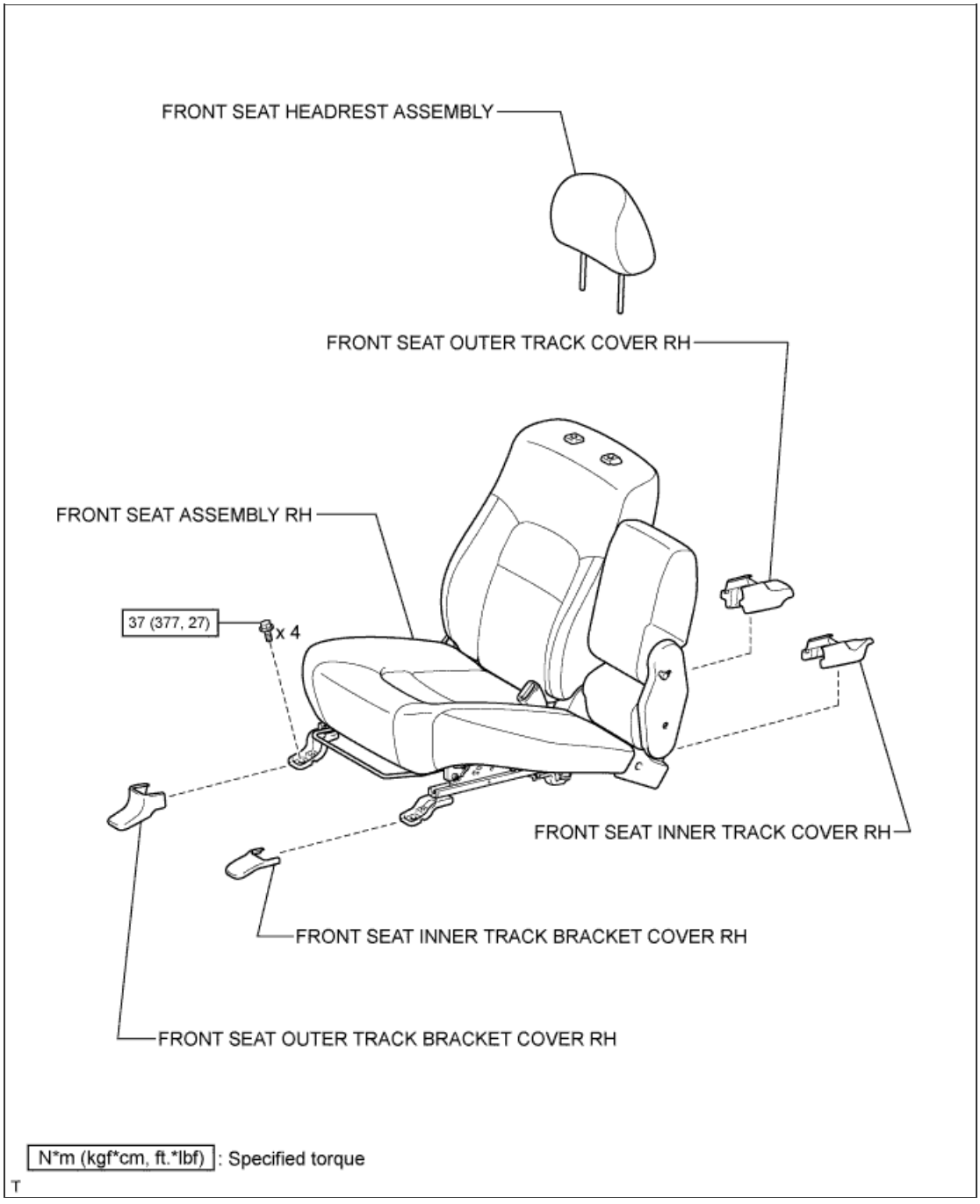
i. When the climate control seat switch is turned on, check that the seat heater and blower operate based on the seat temperature.

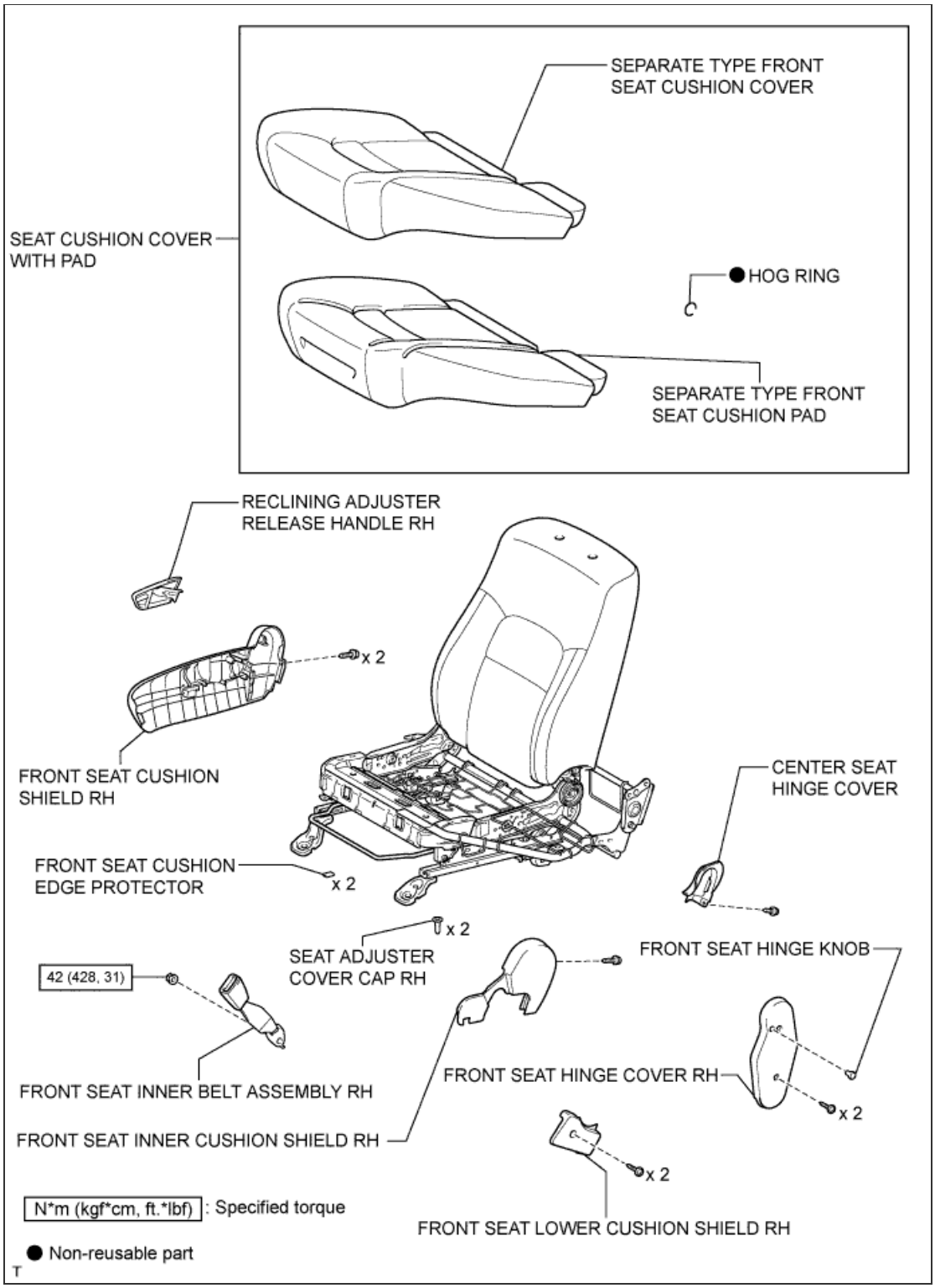
ii. If the seat temperature increases as a result of the seat heater operation, check that the seat heater operation stops and the blower operation continues.

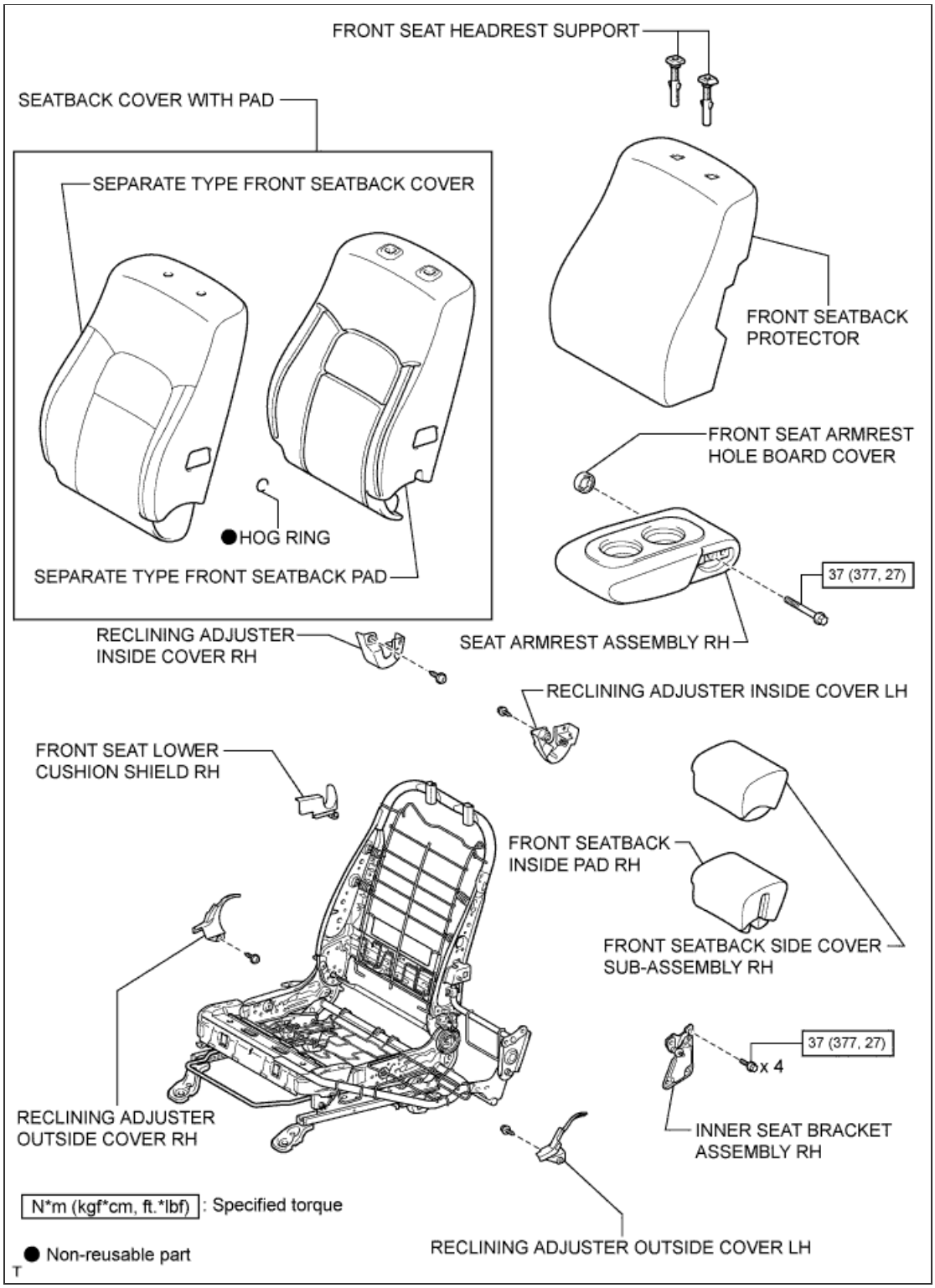
**HINT:**

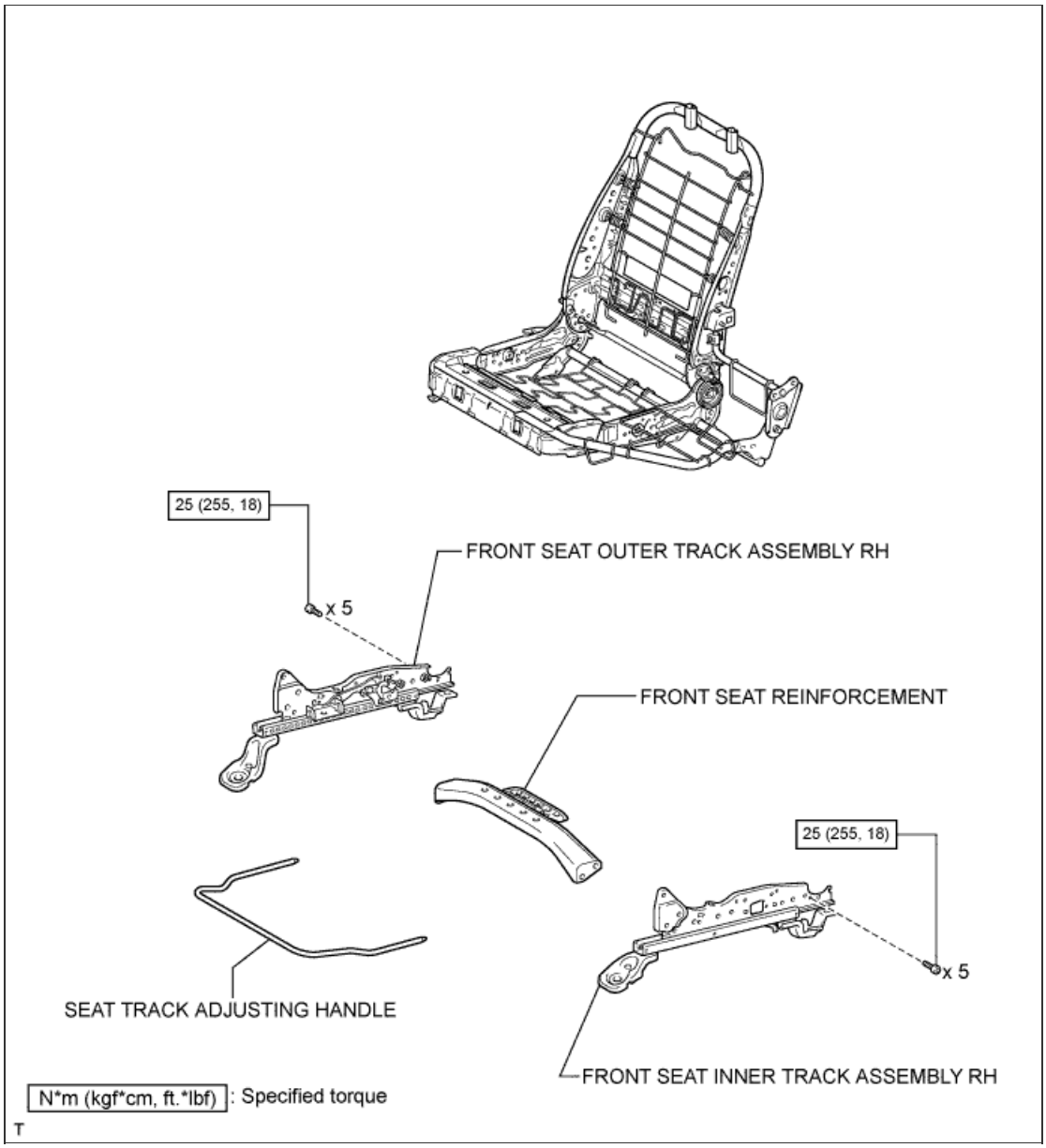
Based on the cabin temperature, seat temperature, etc., the seat heater operation time varies.

**for Preparation** Click here




SEPARATE TYPE FRONT SEAT CUSHION COVER
SEAT CUSHION COVER WITH PAD
HOG RING
SEPARATE TYPE FRONT SEAT CUSHION PAD
RECLINING ADJUSTER RELEASE HANDLE RH
x 2
FRONT SEAT CUSHION SHIELD RH
FRONT SEAT CUSHION EDGE PROTECTOR
x 2
CENTER SEAT HINGE COVER
x 2
SEAT ADJUSTER COVER CAP RH
FRONT SEAT HINGE KNOB
42 (428, 31)
FRONT SEAT INNER BELT ASSEMBLY RH
FRONT SEAT HINGE COVER RH
x 2
FRONT SEAT INNER CUSHION SHIELD RH
x 2
N*m (kgf*cm, ft.*lbf) : Specified torque
FRONT SEAT LOWER CUSHION SHIELD RH
Non-reusable part
T


FRONT SEAT HEADREST SUPPORT
SEATBACK COVER WITH PAD
SEPARATE TYPE FRONT SEATBACK COVER
FRONT SEATBACK PROTECTOR
FRONT SEAT ARMREST HOLE BOARD COVER
HOG RING
SEPARATE TYPE FRONT SEATBACK PAD
37 (377, 27)
RECLINING ADJUSTER INSIDE COVER RH
SEAT ARMREST ASSEMBLY RH
RECLINING ADJUSTER INSIDE COVER LH
FRONT SEAT LOWER CUSHION SHIELD RH
FRONT SEATBACK INSIDE PAD RH
FRONT SEATBACK SIDE COVER SUB-ASSEMBLY RH
37 (377, 27)
x 4
INNER SEAT BRACKET ASSEMBLY RH
RECLINING ADJUSTER OUTSIDE COVER LH
RECLINING ADJUSTER OUTSIDE COVER RH
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
T


25 (255, 18)
x 5
FRONT SEAT OUTER TRACK ASSEMBLY RH
FRONT SEAT REINFORCEMENT
25 (255, 18)
x 5
SEAT TRACK ADJUSTING HANDLE
FRONT SEAT INNER TRACK ASSEMBLY RH
N*m (kgf*cm, ft.*lbf) : Specified torque
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

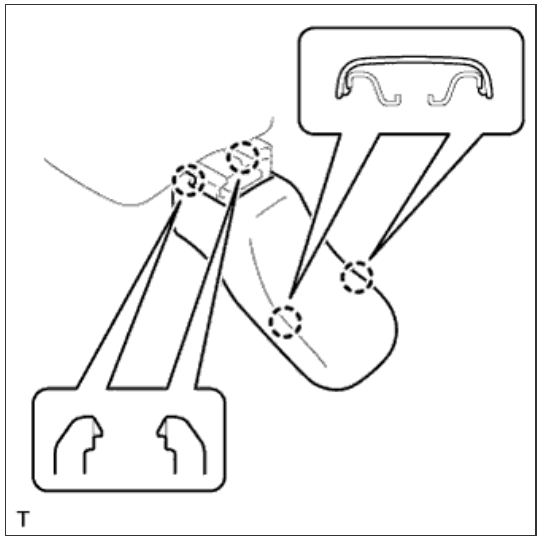
## 1. REMOVE FRONT SEAT HEADREST ASSEMBLY

a. Remove the front seat headrest assembly.

## 2. REMOVE FRONT SEAT OUTER TRACK BRACKET COVER RH

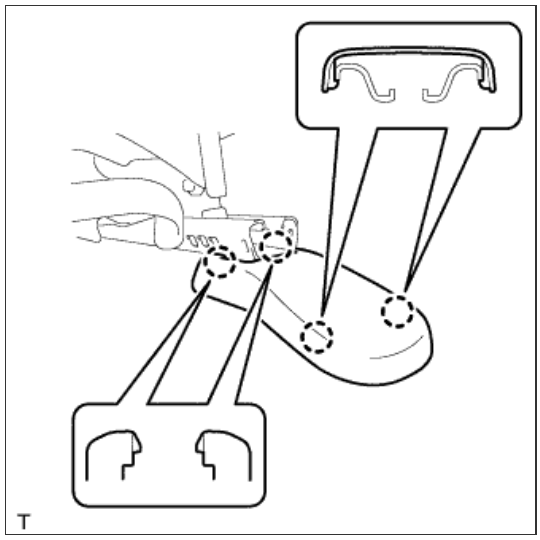
a. Operate the seat track adjusting handle and move the front seat assembly RH to the rearmost position.

b. Detach the 4 claws and remove the front seat outer track bracket cover RH.




## 3. REMOVE FRONT SEAT INNER TRACK BRACKET COVER RH

a. Detach the 4 claws and remove the front seat inner track bracket cover RH.

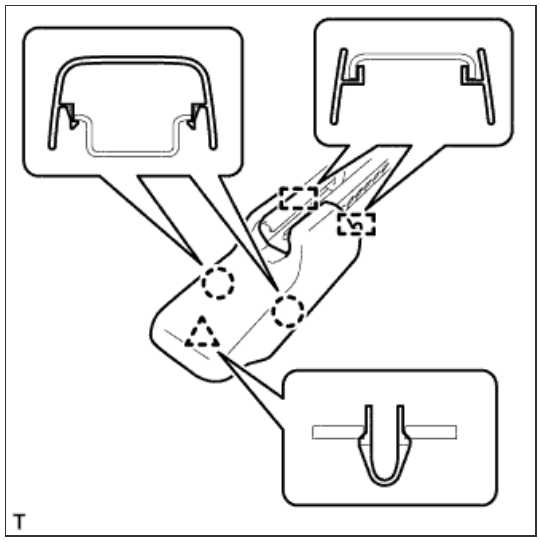



### 4. REMOVE FRONT SEAT OUTER TRACK COVER RH

a. Operate the seat track adjusting handle and move the front seat assembly RH to the foremost position.

b. Detach the 2 claws and clip.

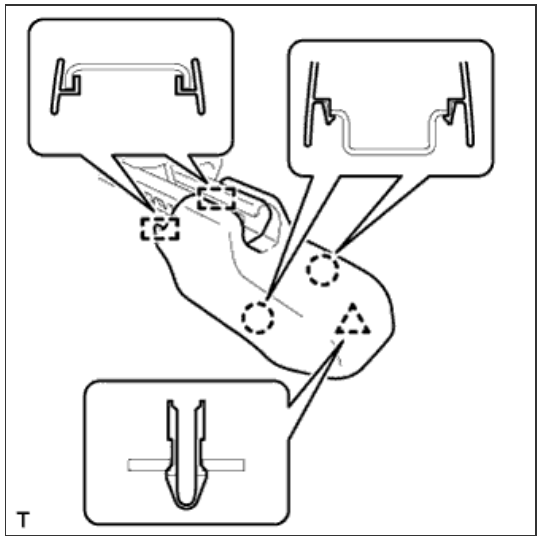
c. Detach the 2 guides and remove the front seat outer track cover RH.




### 5. REMOVE FRONT SEAT INNER TRACK COVER RH

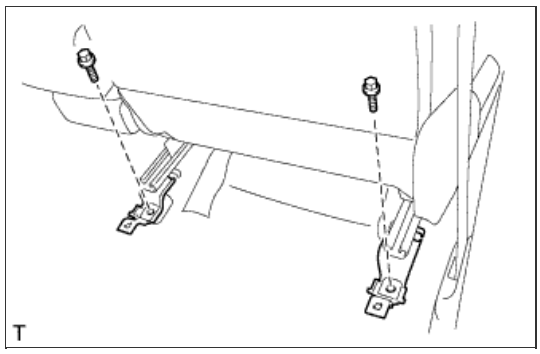
a. Detach the 2 claws and clip.

b. Detach the 2 guides and remove the front seat inner track cover RH.



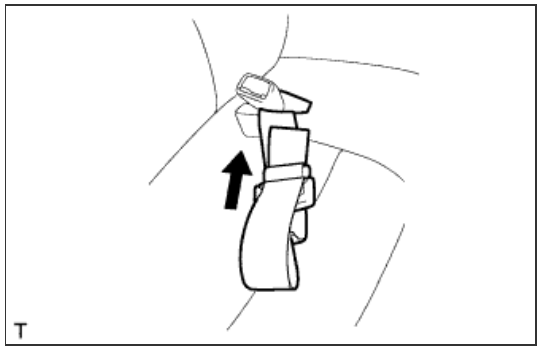
## 6. REMOVE FRONT SEAT ASSEMBLY RH

a. Remove the 2 bolts.




b. Pull out the front seat lap type belt assembly through the hole of the front seat cushion.

c. Operate the seat track adjusting handle and move the front seat assembly RH to the rearmost position.



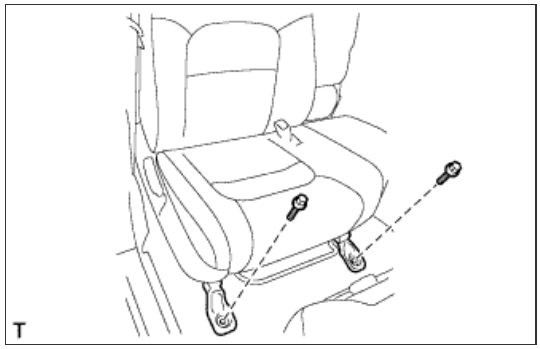

d. Remove the 2 bolts.

e. Operate the seat track adjusting handle and move the front seat assembly RH to the center position, and then operate the reclining adjusting handle and move the front seatback to the upright position.

f. Remove the front seat assembly RH from the vehicle.

**NOTICE:**

Be careful not to damage the vehicle body.



**for Preparation** Click here

**CAUTION:**

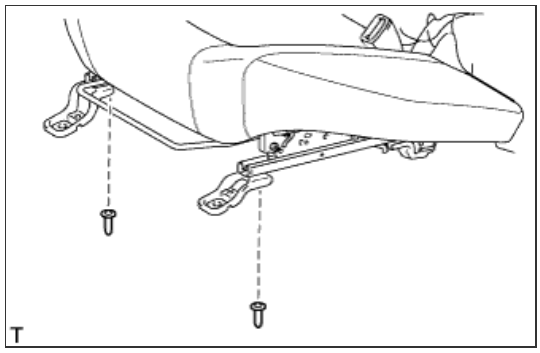
Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

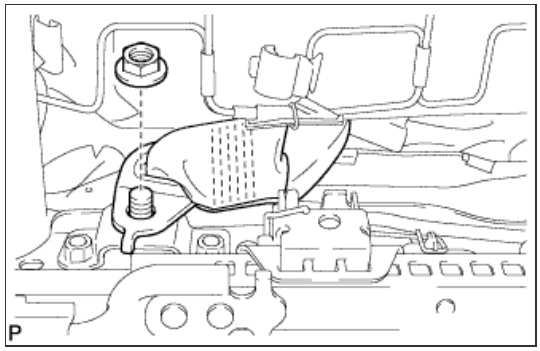
## 1. REMOVE SEAT ADJUSTER COVER CAP RH

a. Remove the 2 seat adjuster cover caps.




## 2. REMOVE FRONT SEAT INNER BELT ASSEMBLY RH

a. Remove the nut and front seat inner belt assembly RH.




## 3. REMOVE RECLINING ADJUSTER RELEASE HANDLE RH

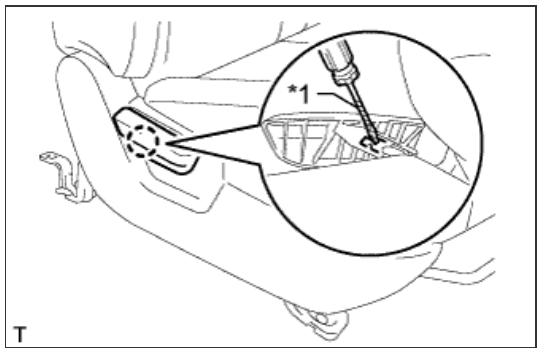
a. Using a screwdriver, detach the claw and remove the reclining adjuster release handle RH.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

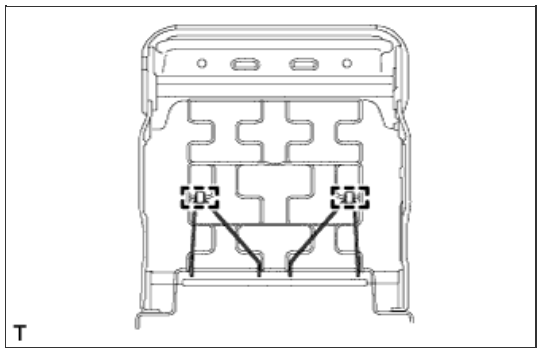
**HINT:**

Tape the screwdriver tip before use.



## 4. REMOVE FRONT SEAT CUSHION SHIELD RH

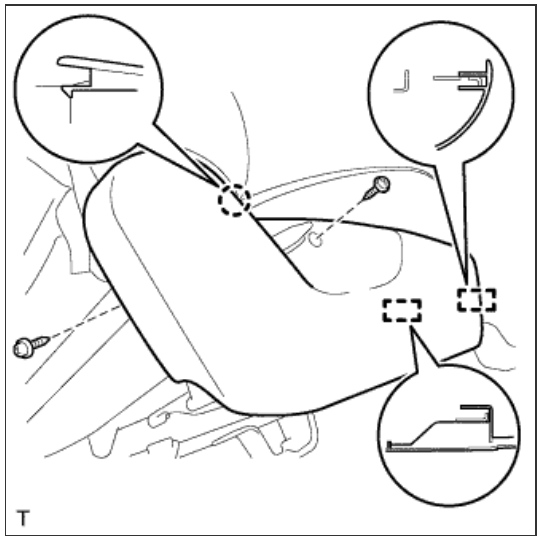
a. Detach the 2 rubber bands.




b. Remove the 2 screws.

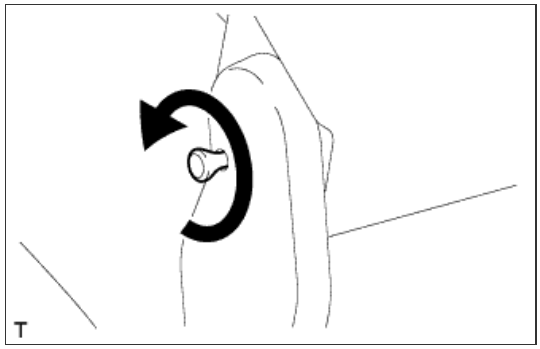
c. Detach the claw.

d. Detach the 2 guides and remove the front seat cushion shield RH.




## 5. REMOVE FRONT SEAT HINGE KNOB

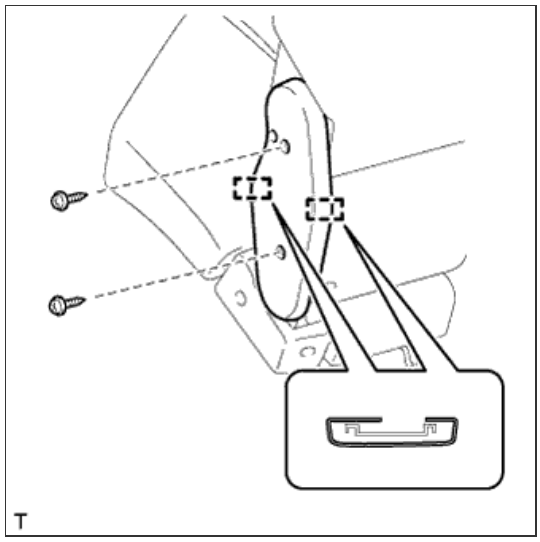
a. Twist the front seat hinge knob in the direction indicated by the arrow and remove it.




## 6. REMOVE FRONT SEAT HINGE COVER RH

a. Remove the 2 screws.

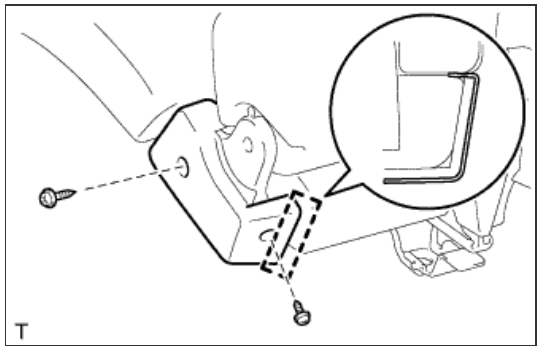
b. Detach the 2 hooks and remove the front seat hinge cover RH.




## 7. REMOVE FRONT SEAT LOWER CUSHION SHIELD RH

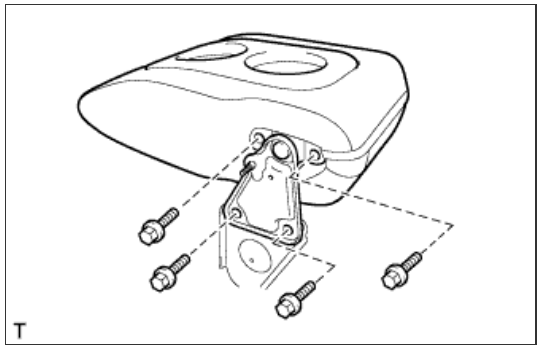
a. Remove the 2 screws.

b. Detach the hook and remove the front seat lower cushion shield RH.



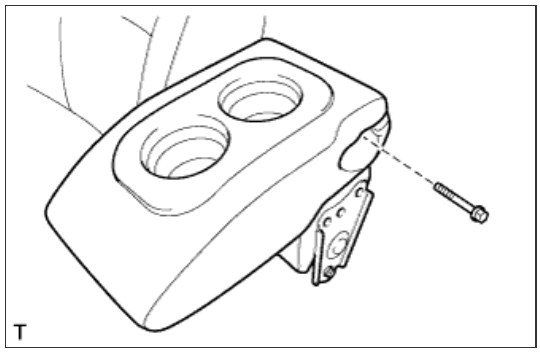

## 8. REMOVE INNER SEAT BRACKET ASSEMBLY RH

a. Remove the 4 bolts and inner seat bracket assembly RH.



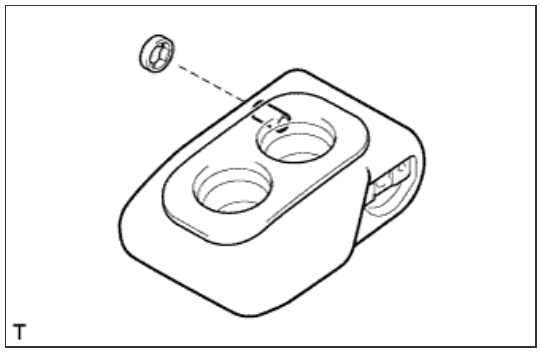

## 9. REMOVE SEAT ARMREST ASSEMBLY RH

a. Remove the bolt and seat armrest assembly RH.



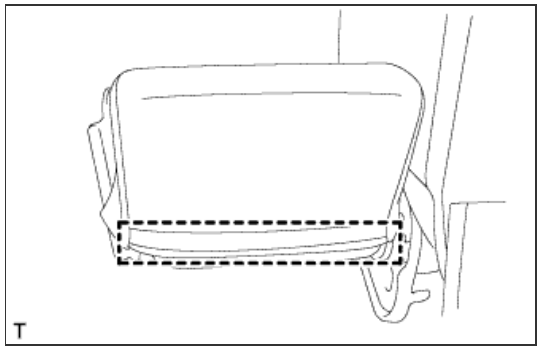

## 10. REMOVE FRONT SEAT ARMREST HOLE BOARD COVER

a. Remove the front seat armrest hole board cover from the seat armrest assembly RH.

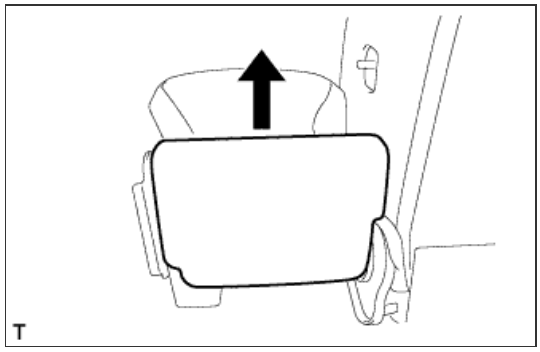



## 11. REMOVE FRONT SEATBACK SIDE COVER SUB-ASSEMBLY RH

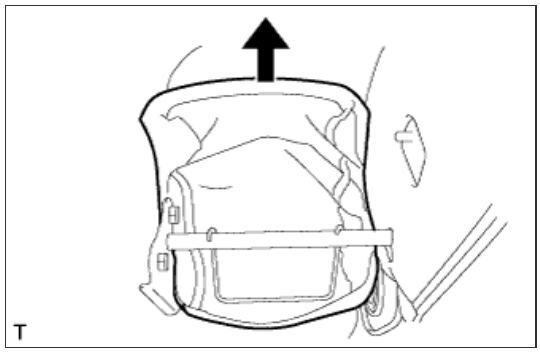
a. Detach the fastening tape and open the front seatback side cover sub-assembly RH.




b. Remove the front seatback inside pad RH.




c. Remove the front seatback side cover sub-assembly RH.




## 12. REMOVE FRONT SEAT CUSHION EDGE PROTECTOR

a. Bend out the 2 cushion edge tabs.

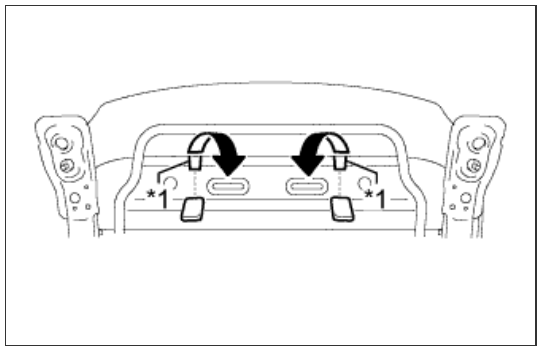
**Text in Illustration**

| | |
|---|---|
| *1 | Cushion Edge Tab |

**NOTICE:**

Be careful not to break the cushion edge tabs.

b. Remove the 2 front seat cushion edge protectors.



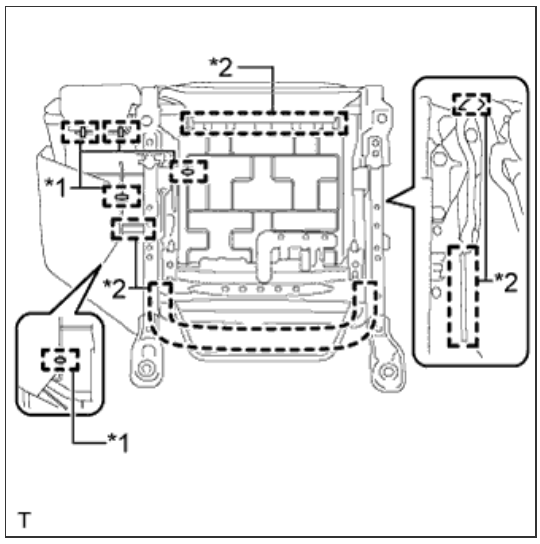

## 13. REMOVE SEAT CUSHION COVER WITH PAD

a. Remove the hog rings and detach the hooks.

**Text in Illustration**

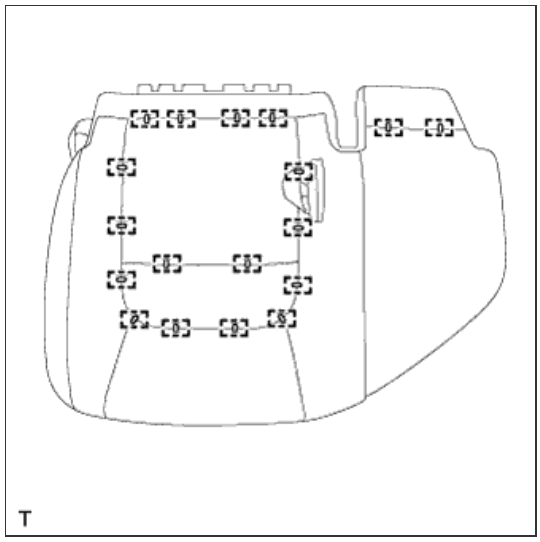
| | |
|---|---|
| *1 | Hog Ring |
| *2 | Hook |

b. Remove the hog ring and seat cushion cover with pad.



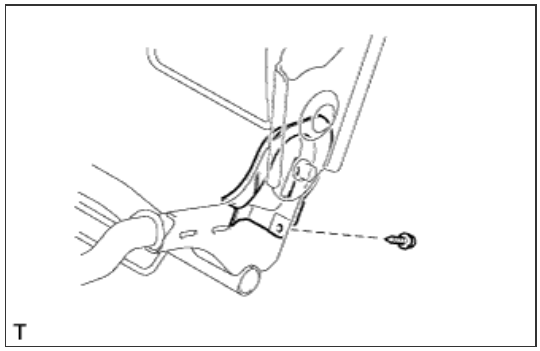

## 14. REMOVE SEPARATE TYPE FRONT SEAT CUSHION COVER

a. Remove the hog rings and separate type front seat cushion cover from the separate type front seat cushion pad.




## 15. REMOVE CENTER SEAT HINGE COVER

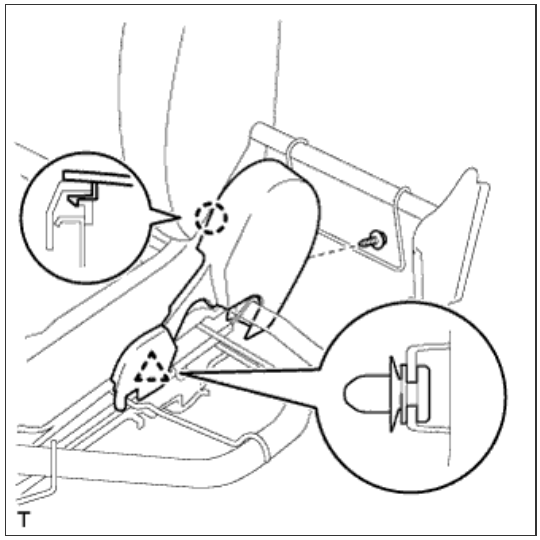
a. Remove the screw and center seat hinge cover.




## 16. REMOVE FRONT SEAT INNER CUSHION SHIELD RH

a. Remove the screw and detach the claw.

b. Detach the clip and remove the front seat inner cushion shield RH.

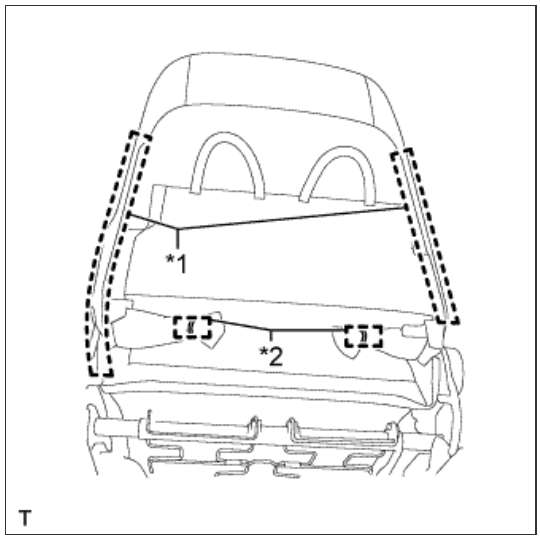



## 17. REMOVE SEATBACK COVER WITH PAD

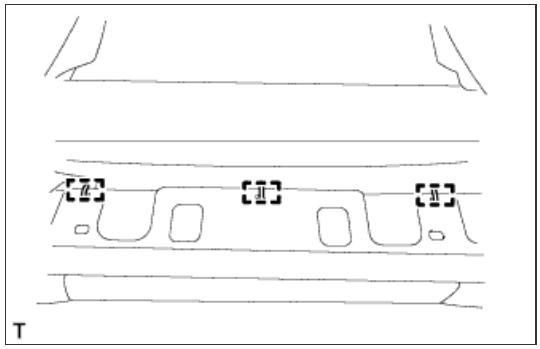
a. Open the 2 fasteners and remove the hog rings.

**Text in Illustration**

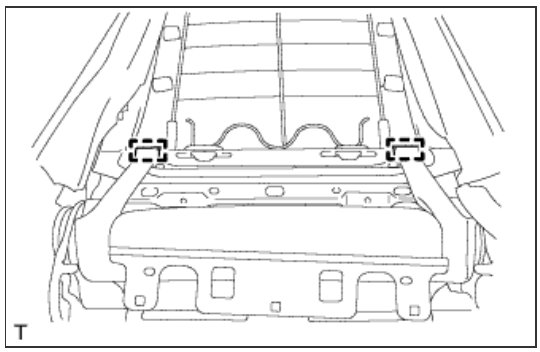
| | |
|---|---|
| *1 | Fastener |
| *2 | Hog Ring |



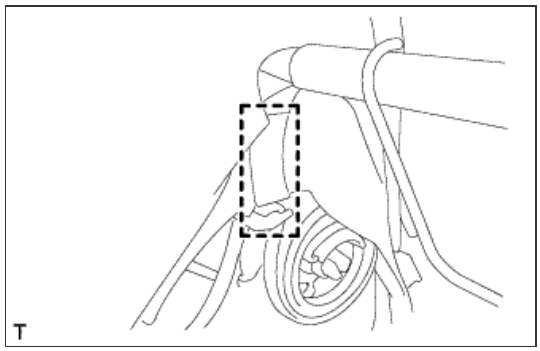

b. Remove the hog rings.




c. Detach the 2 hooks.

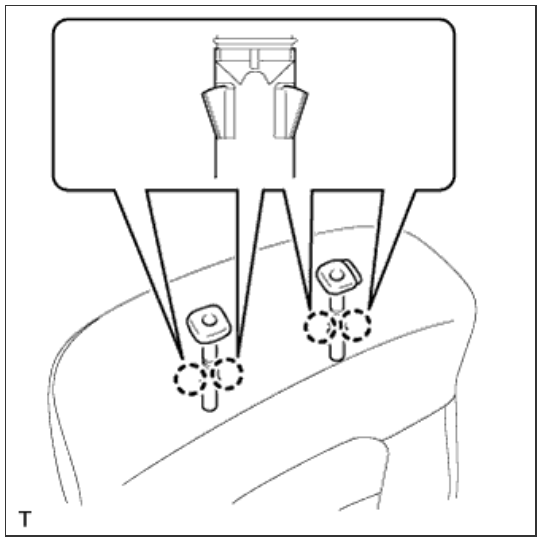



d. Detach the fastening tape.




e. Detach the 4 claws and remove the 2 front seat headrest supports.

f. Remove the seatback cover with pad.

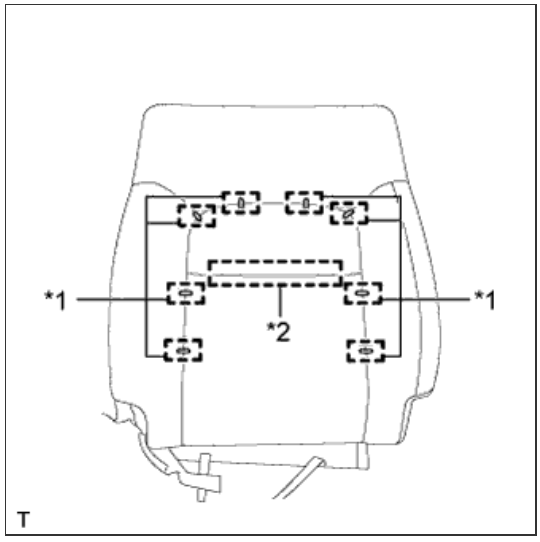



## 18. REMOVE SEPARATE TYPE FRONT SEATBACK COVER

a. Remove the hog rings and detach the fastening tape, and then remove the separate type front seatback cover from the separate type front seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |
| *2 | Fastening Tape |



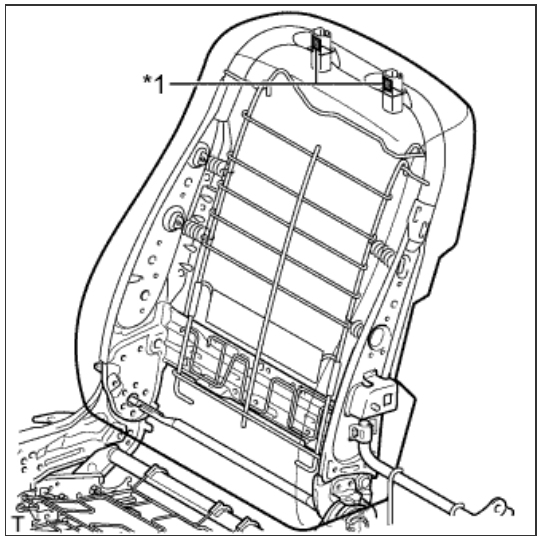

## 19. REMOVE FRONT SEATBACK PROTECTOR

a. Remove the front seatback protector.

b. Remove any remaining double-sided tape.

**Text in Illustration**

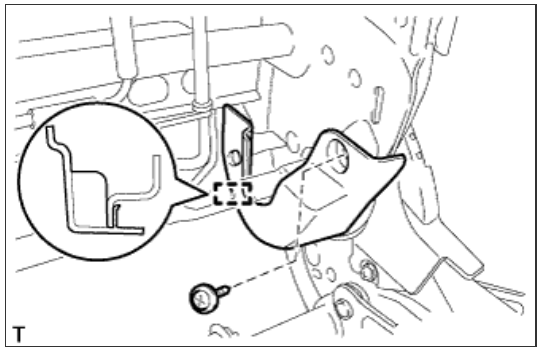
| | |
|---|---|
| *1 | Double-sided Tape |




## 20. REMOVE RECLINING ADJUSTER INSIDE COVER LH

a. Remove the screw.

b. Detach the guide and remove the reclining adjuster inside cover LH.



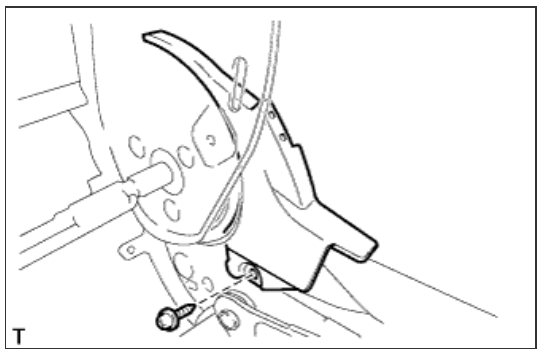

## 21. REMOVE RECLINING ADJUSTER INSIDE COVER RH

**HINT:**

Use the same procedure described for the LH side.

## 22. REMOVE RECLINING ADJUSTER OUTSIDE COVER LH

a. Remove the screw and reclining adjuster outside cover LH.



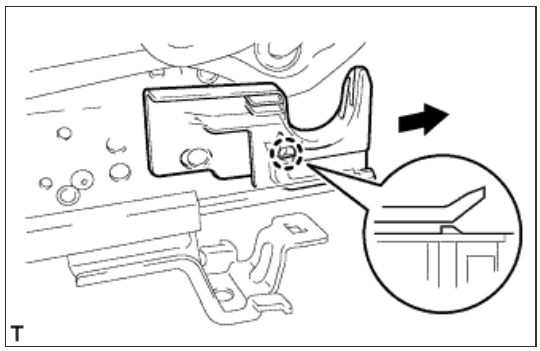

## 23. REMOVE RECLINING ADJUSTER OUTSIDE COVER RH

**HINT:**

Use the same procedure described for the LH side.

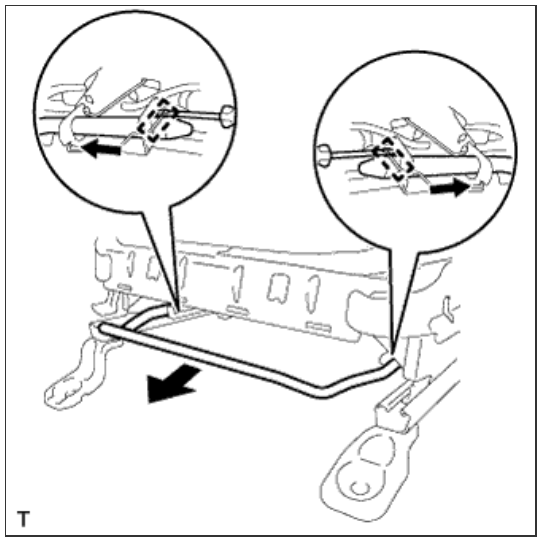
## 24. REMOVE FRONT SEAT LOWER CUSHION SHIELD RH

a. Detach the claw and remove the front seat lower cushion shield RH.

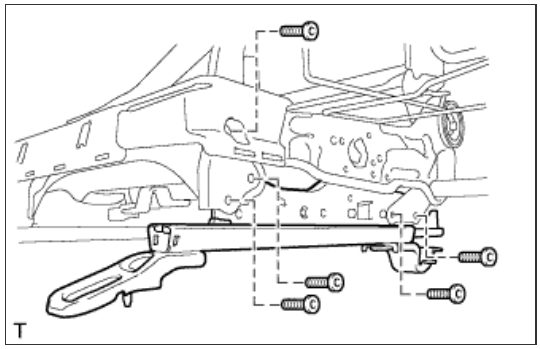



## 25. REMOVE FRONT SEAT INNER TRACK ASSEMBLY RH

a. Using a screwdriver, detach the 2 springs and remove the seat track adjusting handle.

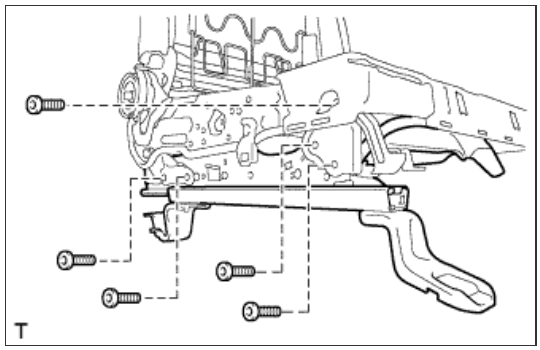



b. Using a T40 "TORX" socket wrench, remove the 5 "TORX" bolts and front seat inner track assembly RH.




## 26. REMOVE FRONT SEAT OUTER TRACK ASSEMBLY RH

a. Using a T40 "TORX" socket wrench, remove the 5 "TORX" bolts and front seat outer track assembly RH together with the front seat reinforcement.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL FRONT SEAT OUTER TRACK ASSEMBLY RH

a. Using a T40 "TORX" socket wrench, install the front seat outer track assembly RH together with the front seat reinforcement with the 5 "TORX" bolts.

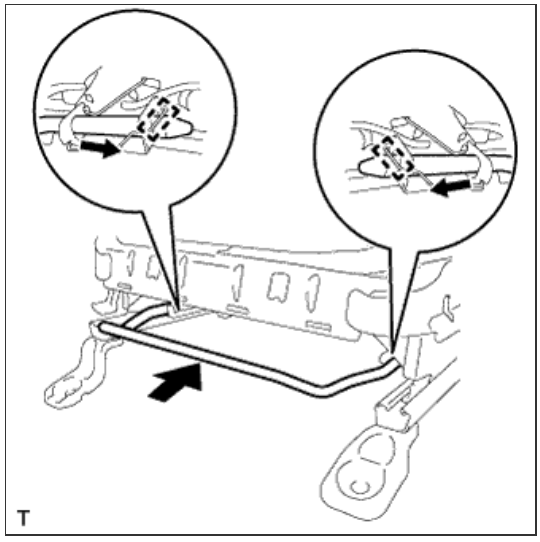
**Torque:**
**25 N*m{ 255 kgf*cm , 18 ft.*lbf }**

## 2. INSTALL FRONT SEAT INNER TRACK ASSEMBLY RH

a. Using a T40 "TORX" socket wrench, install the front seat inner track assembly RH with the 5 "TORX" bolts.

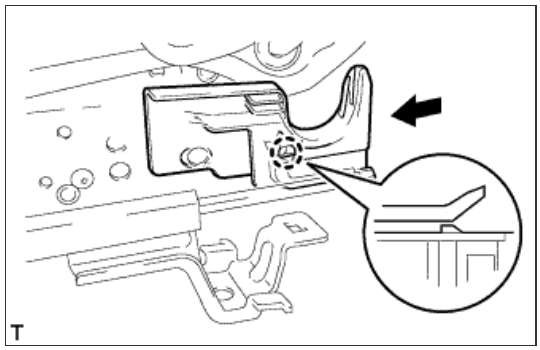
**Torque:**
**25 N*m{ 255 kgf*cm , 18 ft.*lbf }**

b. Attach the 2 springs to install the seat track adjusting handle as shown in the illustration.




## 3. INSTALL FRONT SEAT LOWER CUSHION SHIELD RH

a. Attach the claw to install the front seat lower cushion shield RH.




### 4. INSTALL RECLINING ADJUSTER OUTSIDE COVER LH

a. Install the reclining adjuster outside cover LH with the screw.

### 5. INSTALL RECLINING ADJUSTER OUTSIDE COVER RH

**HINT:**

Use the same procedure described for the LH side.

### 6. INSTALL RECLINING ADJUSTER INSIDE COVER LH

a. Attach the guide.

b. Install the reclining adjuster inside cover LH with the screw.

### 7. INSTALL RECLINING ADJUSTER INSIDE COVER RH

**HINT:**

Use the same procedure described for the LH side.

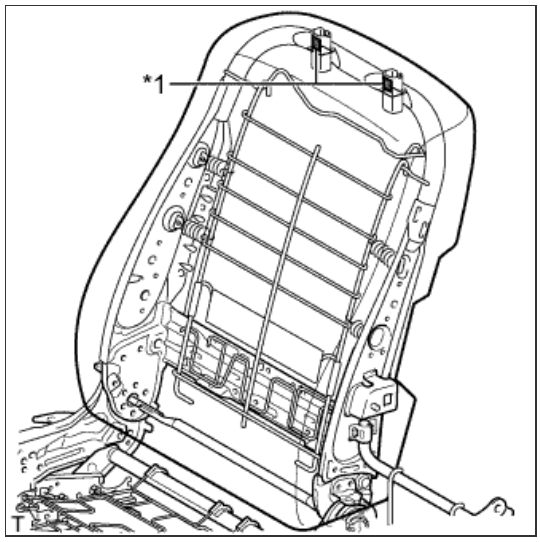
### 8. INSTALL FRONT SEATBACK PROTECTOR

a. Apply double-sided tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided Tape |

b. Install the front seatback protector.




### 9. INSTALL SEPARATE TYPE FRONT SEATBACK COVER

a. Attach the fastening tape to temporarily install the separate type front seatback cover to the separate type front seatback pad.

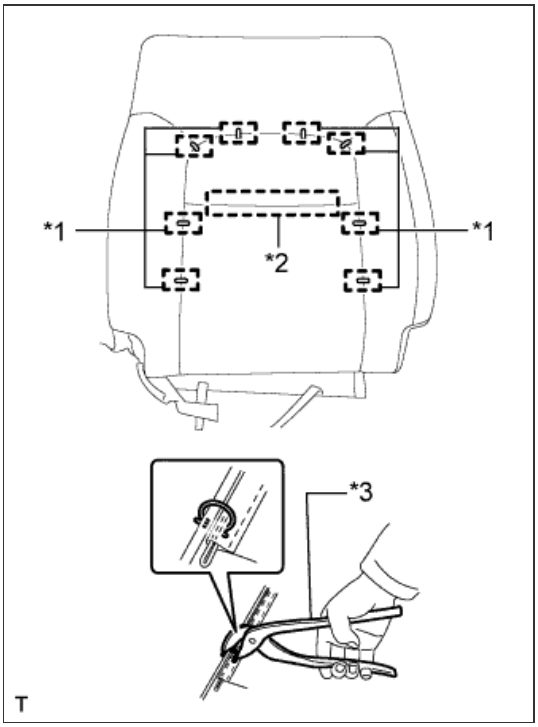
**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |
| *2 | Fastening Tape |
| *3 | Hog Ring Pliers |

b. Using hog ring pliers, install new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




## 10. INSTALL SEATBACK COVER WITH PAD

a. Set the seatback cover with pad in place.

b. Attach the 4 claws to install the 2 front seat headrest supports.

c. Attach the fastening tape.

d. Attach the 2 hooks.

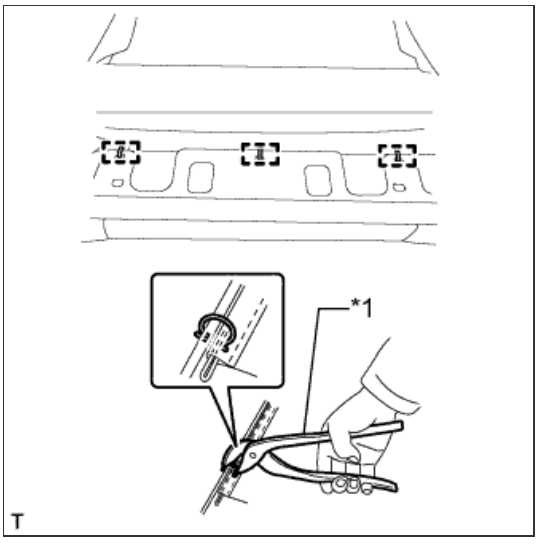
e. Using hog ring pliers, install new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




f. Using hog ring pliers, install new hog rings.

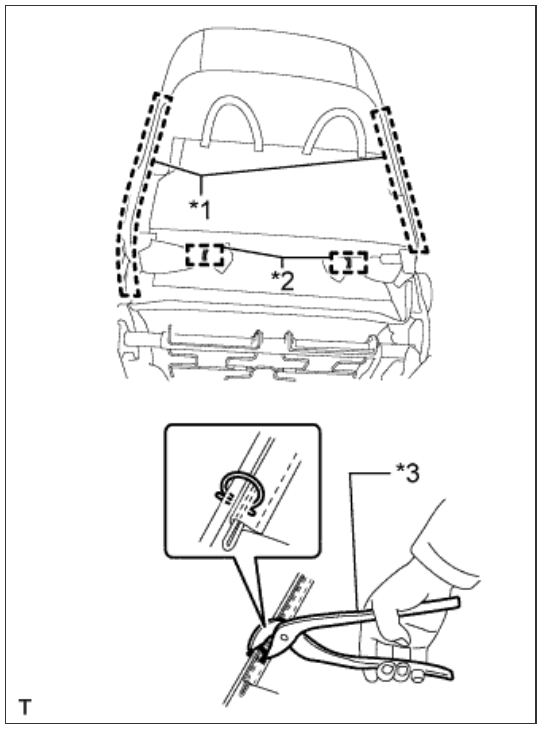
**Text in Illustration**

| | |
|---|---|
| *1 | Fastener |
| *2 | Hog Ring |
| *3 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

g. Close the 2 fasteners to install the seatback cover with pad.




## 11. INSTALL FRONT SEAT INNER CUSHION SHIELD RH

a. Attach the claw and clip to install the front seat inner cushion shield RH.

b. Install the screw.

## 12. INSTALL CENTER SEAT HINGE COVER

a. Install the center seat hinge cover with the screw.

## 13. INSTALL SEPARATE TYPE FRONT SEAT CUSHION COVER

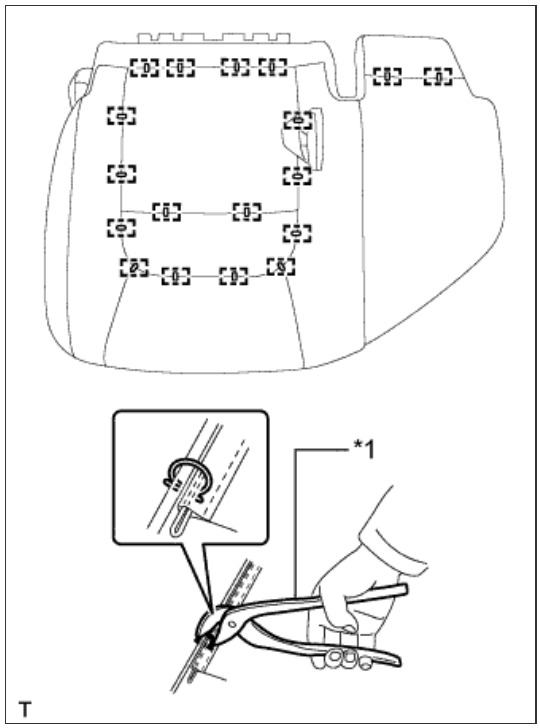
a. Using hog ring pliers, install the separate type front seat cushion cover to the separate type front seat cushion pad with new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



## 14. INSTALL SEAT CUSHION COVER WITH PAD

a. Set the seat cushion cover with pad in place.

b. Using hog ring pliers, install new hog rings.

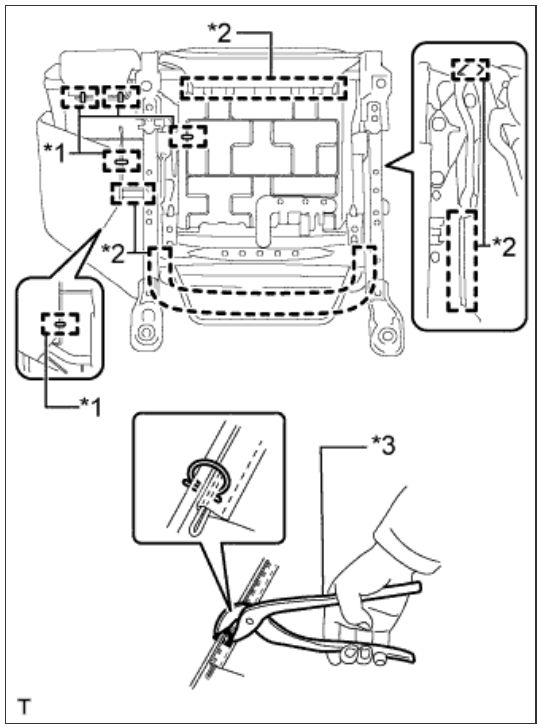
**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |
| *2 | Hook |
| *3 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

c. Attach the hooks to install the seat cushion cover with pad.




## 15. INSTALL FRONT SEAT CUSHION EDGE PROTECTOR

a. Install the 2 front seat cushion edge protectors.

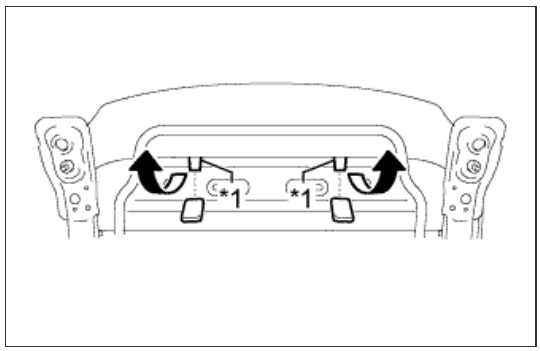
b. Return the 2 cushion edge tabs to their original positions.

**Text in Illustration**

| | |
|---|---|
| *1 | Cushion Edge Tab |

**NOTICE:**

Be careful not to break the cushion edge tabs.

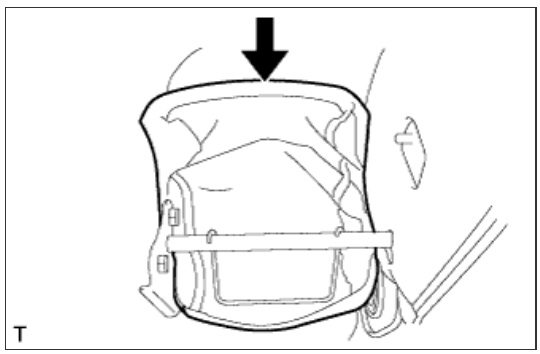



## 16. INSTALL FRONT SEATBACK SIDE COVER SUB-ASSEMBLY RH

a. Set the front seatback side cover sub-assembly RH in place.

**NOTICE:**

Be careful not to damage the cover.



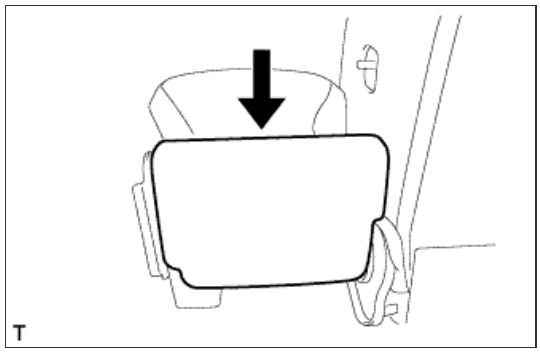

b. Install the front seatback inside pad RH.

c. Attach the fastening tape to install the front seatback side cover sub-assembly

RH.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When attaching the fastening tape, avoid wrinkling the cover.**




### 17. INSTALL FRONT SEAT ARMREST HOLE BOARD COVER

a. Install the front seat armrest hole board cover to the seat armrest assembly RH.

### 18. INSTALL SEAT ARMREST ASSEMBLY RH

a. Install the seat armrest assembly RH with the bolt.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

### 19. INSTALL INNER SEAT BRACKET ASSEMBLY RH

a. Install the inner seat bracket assembly RH with the 4 bolts.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

### 20. INSTALL FRONT SEAT LOWER CUSHION SHIELD RH

a. Attach the hook to install the front seat lower cushion shield RH.

b. Install the screw.

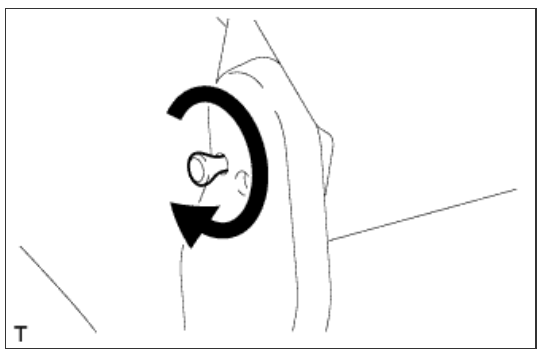
### 21. INSTALL FRONT SEAT HINGE COVER RH

a. Attach the 2 hooks to install the front seat hinge cover RH.

b. Install the 2 screws.

### 22. INSTALL FRONT SEAT HINGE KNOB

a. Twist the front seat hinge knob in the direction indicated by the arrow to install it.




### 23. INSTALL FRONT SEAT CUSHION SHIELD RH

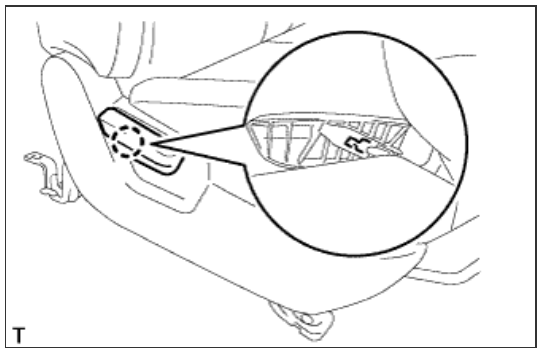
a. Attach the 2 guides and claw to install the front seat cushion shield RH.

b. Install the 2 screws.

c. Attach the 2 rubber bands.

## 24. INSTALL RECLINING ADJUSTER RELEASE HANDLE RH

a. Attach the claw to install the reclining adjuster release handle RH.




## 25. INSTALL FRONT SEAT INNER BELT ASSEMBLY RH

a. Install the front seat inner belt assembly RH with the nut.

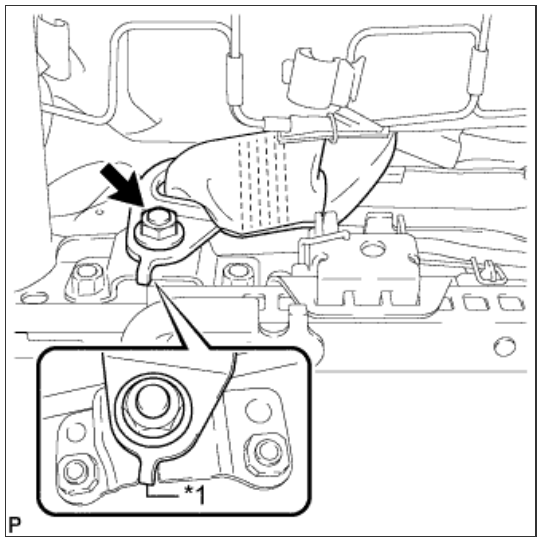
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding part of the front seat.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 26. INSTALL SEAT ADJUSTER COVER CAP RH

a. Install the 2 seat adjuster cover caps.

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL FRONT SEAT ASSEMBLY RH

a. Place the front seat assembly RH in the cabin.

**NOTICE:**

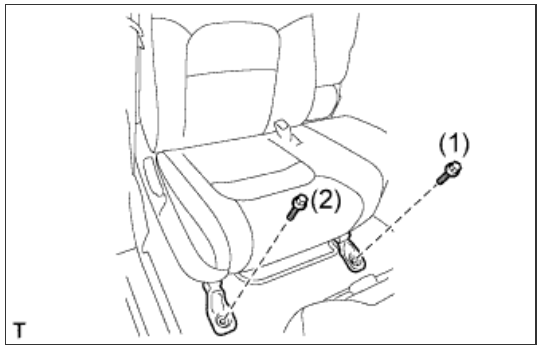
Be careful not to damage the vehicle body.

b. Temporarily install the front seat assembly RH with the 4 bolts.

c. Operate the seat track adjusting handle and move the front seat assembly RH to the rearmost position.

d. Tighten the 2 bolts in the order shown in the illustration.

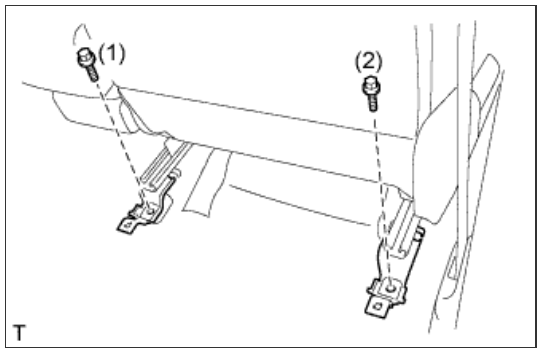
**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**



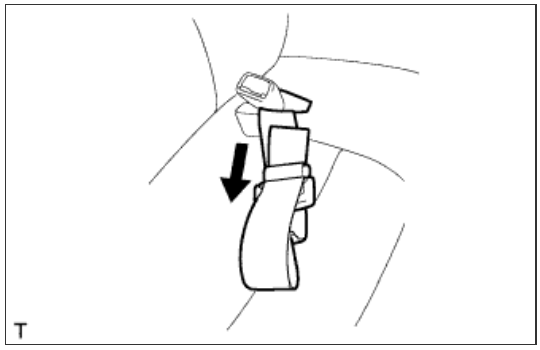

e. Operate the seat track adjusting handle and move the front seat assembly RH to the foremost position.

f. Tighten the 2 bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




g. Pass the front seat lap type belt assembly through the hole of the front seat cushion to the surface.



### 2. INSTALL FRONT SEAT INNER TRACK COVER RH

a. Attach the 2 guides.

b. Attach the 2 claws and clip to install the front seat inner track cover RH.

### 3. INSTALL FRONT SEAT OUTER TRACK COVER RH

a. Attach the 2 guides.

b. Attach the 2 claws and clip to install the front seat outer track cover RH.

### 4. INSTALL FRONT SEAT INNER TRACK BRACKET COVER RH

a. Operate the seat track adjusting handle and move the front seat assembly RH to the rearmost position.

b. Attach the 4 claws to install the front seat inner track bracket cover RH.

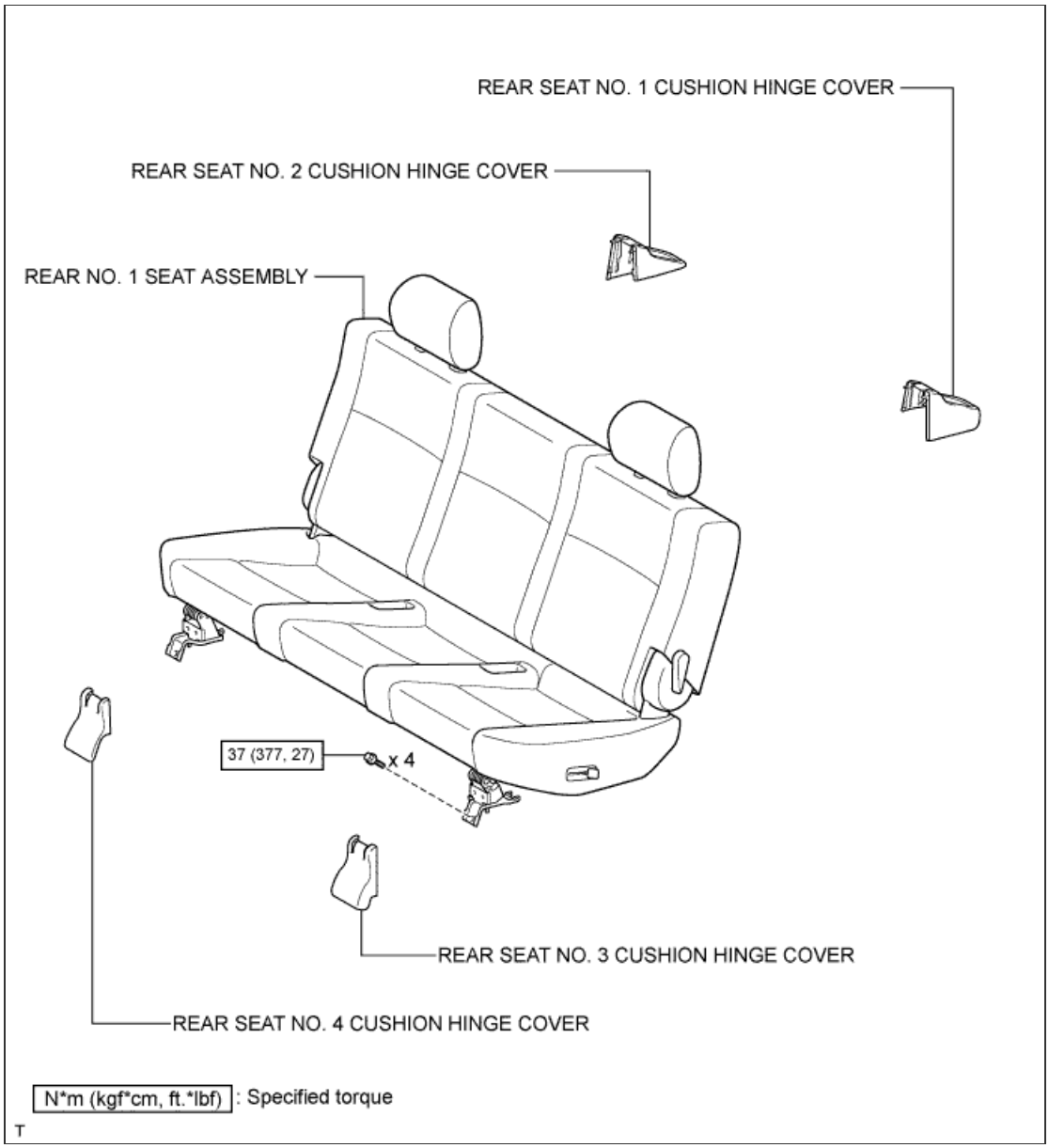
### 5. INSTALL FRONT SEAT OUTER TRACK BRACKET COVER RH

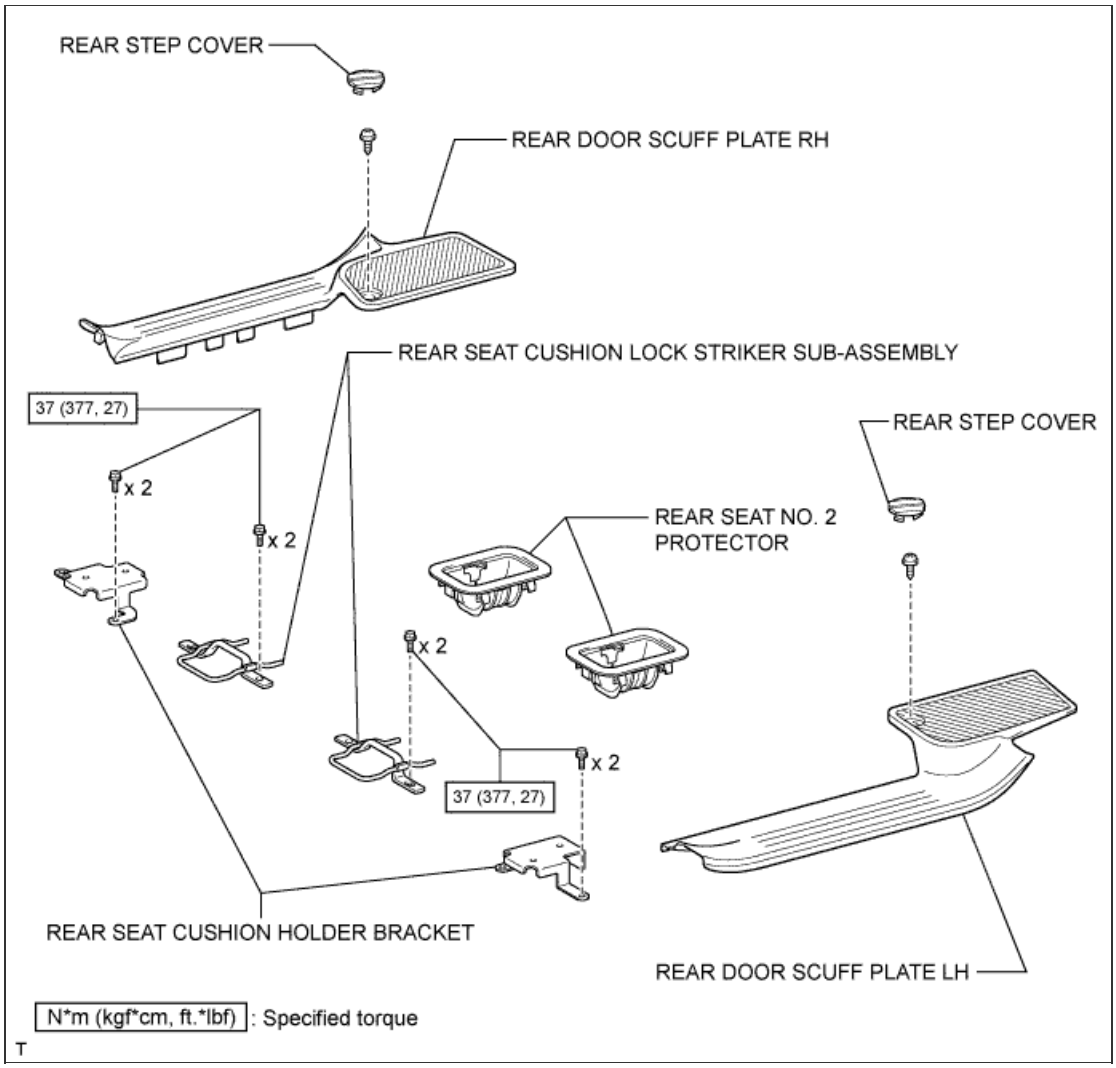
a. Attach the 4 claws to install the front seat outer track bracket cover RH.

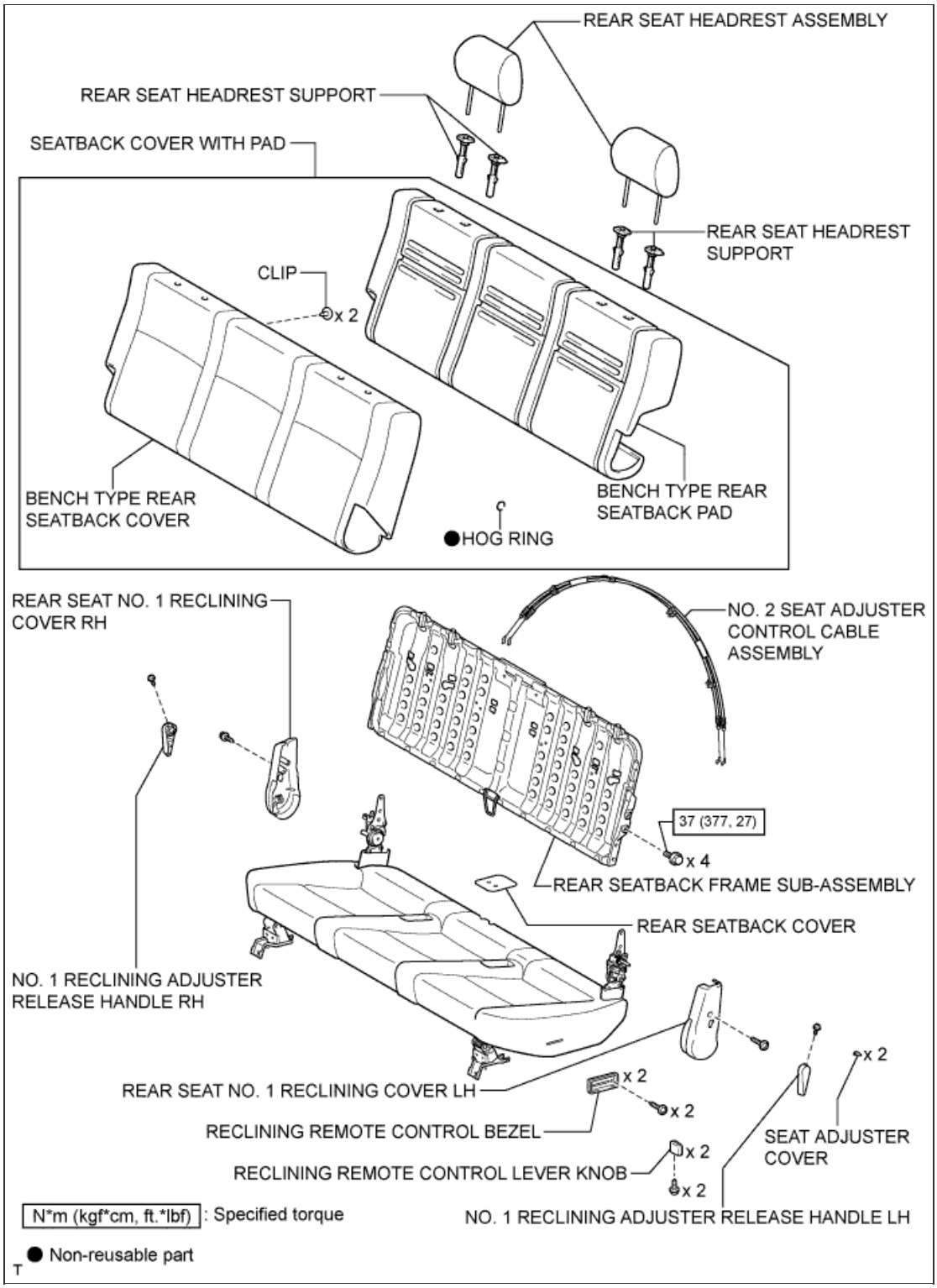
### 6. INSTALL FRONT SEAT HEADREST ASSEMBLY

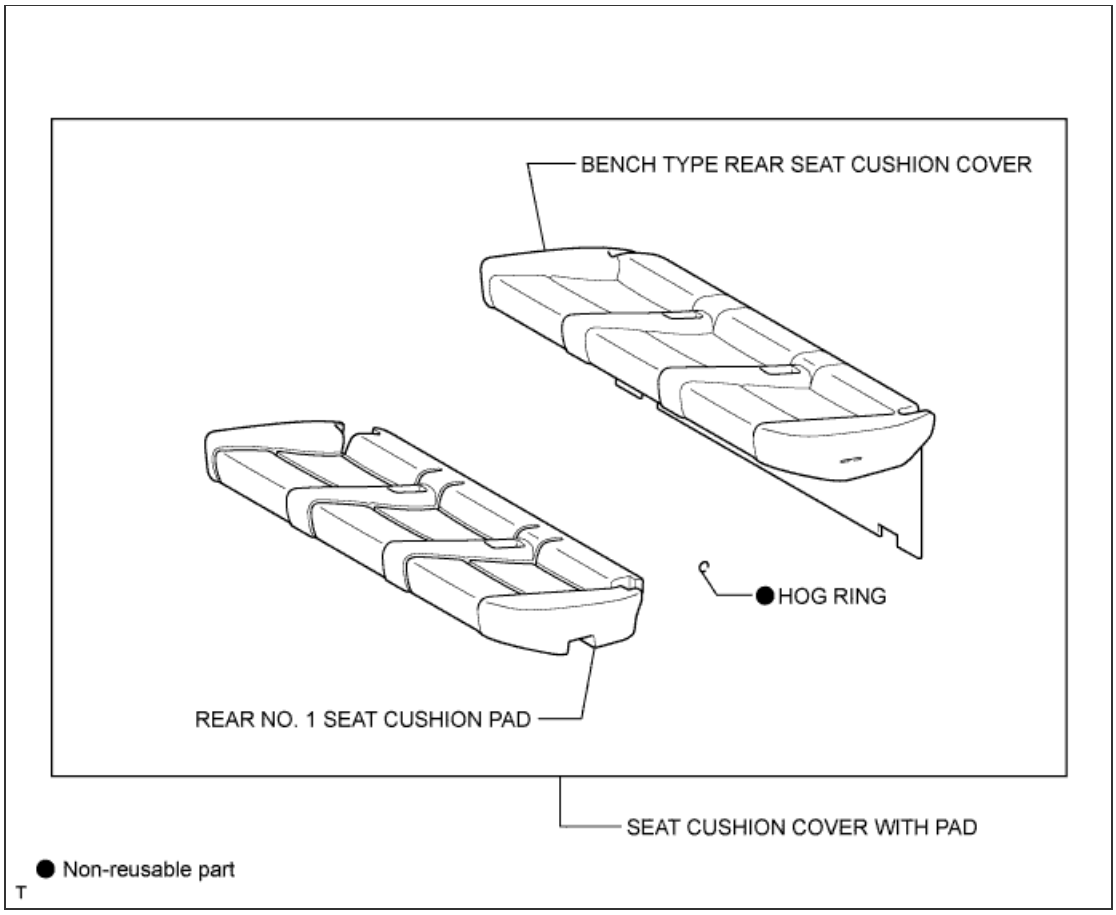
a. Install the front seat headrest assembly.

**for Preparation** Click here

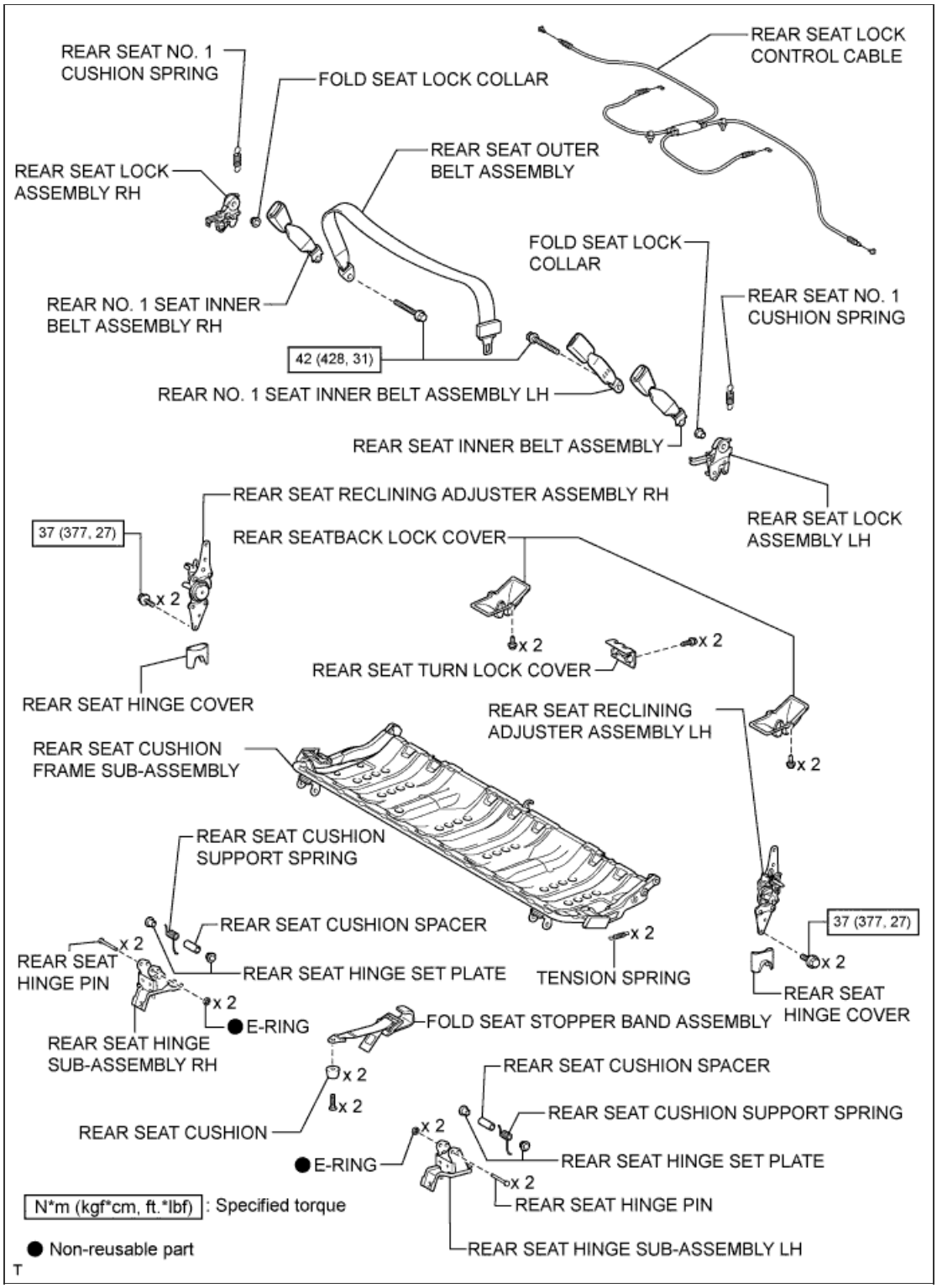



REAR STEP COVER
REAR DOOR SCUFF PLATE RH
REAR SEAT CUSHION LOCK STRIKER SUB-ASSEMBLY
37 (377, 27)
x 2
x 2
REAR STEP COVER
REAR SEAT NO. 2
PROTECTOR
x 2
x 2
37 (377, 27)
REAR SEAT CUSHION HOLDER BRACKET
REAR DOOR SCUFF PLATE LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T


REAR SEAT HEADREST ASSEMBLY
REAR SEAT HEADREST SUPPORT
SEATBACK COVER WITH PAD
REAR SEAT HEADREST SUPPORT
CLIP
x 2
BENCH TYPE REAR SEATBACK COVER
BENCH TYPE REAR SEATBACK PAD
HOG RING
REAR SEAT NO. 1 RECLINING COVER RH
NO. 2 SEAT ADJUSTER CONTROL CABLE ASSEMBLY
37 (377, 27)
x 4
REAR SEATBACK FRAME SUB-ASSEMBLY
REAR SEATBACK COVER
NO. 1 RECLINING ADJUSTER RELEASE HANDLE RH
REAR SEAT NO. 1 RECLINING COVER LH
x 2
x 2
RECLINING REMOTE CONTROL BEZEL
x 2
RECLINING REMOTE CONTROL LEVER KNOB
x 2
x 2
SEAT ADJUSTER COVER
NO. 1 RECLINING ADJUSTER RELEASE HANDLE LH
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part


BENCH TYPE REAR SEAT CUSHION COVER
HOG RING
REAR NO. 1 SEAT CUSHION PAD
SEAT CUSHION COVER WITH PAD
Non-reusable part

T


REAR SEAT NO. 1 CUSHION SPRING
FOLD SEAT LOCK COLLAR
REAR SEAT LOCK CONTROL CABLE
REAR SEAT LOCK ASSEMBLY RH
REAR SEAT OUTER BELT ASSEMBLY
FOLD SEAT LOCK COLLAR
REAR NO. 1 SEAT INNER BELT ASSEMBLY RH
REAR SEAT NO. 1 CUSHION SPRING
42 (428, 31)
REAR NO. 1 SEAT INNER BELT ASSEMBLY LH
REAR SEAT INNER BELT ASSEMBLY
REAR SEAT RECLINING ADJUSTER ASSEMBLY RH
REAR SEAT LOCK ASSEMBLY LH
37 (377, 27)
REAR SEATBACK LOCK COVER
x 2
x 2
x 2
REAR SEAT TURN LOCK COVER
REAR SEAT HINGE COVER
REAR SEAT RECLINING ADJUSTER ASSEMBLY LH
REAR SEAT CUSHION FRAME SUB-ASSEMBLY
x 2
REAR SEAT CUSHION SUPPORT SPRING
REAR SEAT CUSHION SPACER
37 (377, 27)
x 2
REAR SEAT HINGE PIN
x 2
REAR SEAT HINGE SET PLATE
TENSION SPRING
x 2
REAR SEAT HINGE COVER
x 2
E-RING
FOLD SEAT STOPPER BAND ASSEMBLY
REAR SEAT HINGE SUB-ASSEMBLY RH
x 2
REAR SEAT CUSHION SPACER
x 2
REAR SEAT CUSHION SUPPORT SPRING
REAR SEAT CUSHION
x 2
E-RING
REAR SEAT HINGE SET PLATE
x 2
REAR SEAT HINGE PIN
N*m (kgf*cm, ft.*lbf) : Specified torque
REAR SEAT HINGE SUB-ASSEMBLY LH
Non-reusable part
T

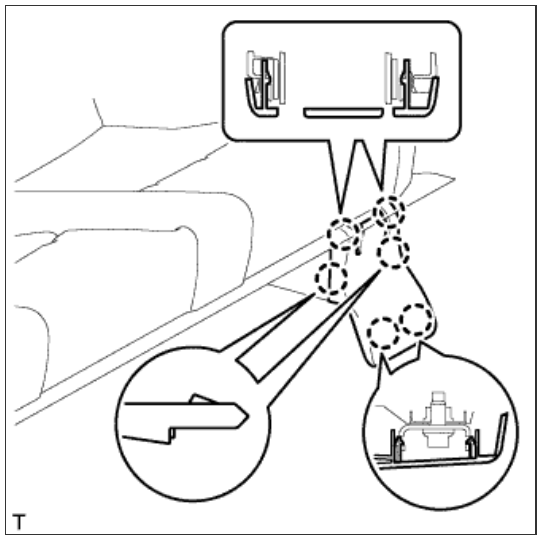
**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

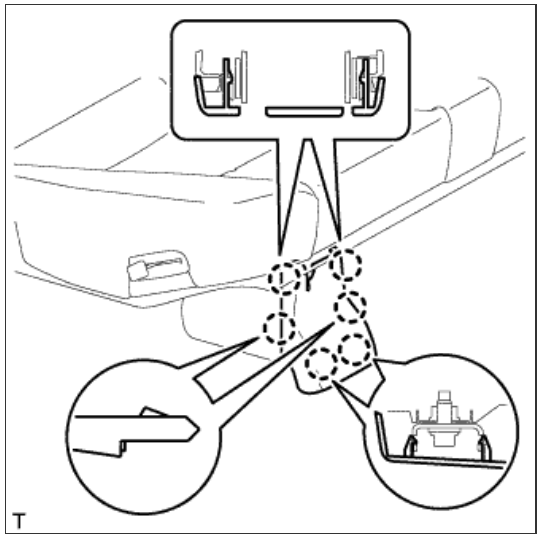
## 1. REMOVE REAR SEAT NO. 3 CUSHION HINGE COVER

a. Detach the 6 claws and remove the rear seat No. 3 cushion hinge cover.




## 2. REMOVE REAR SEAT NO. 4 CUSHION HINGE COVER

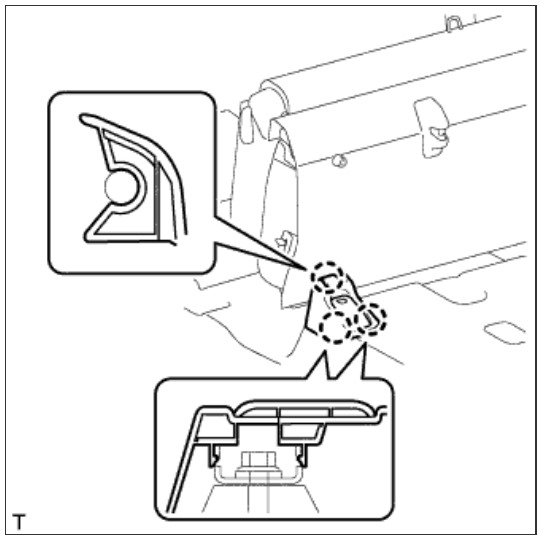
a. Detach the 6 claws and remove the rear seat No. 4 cushion hinge cover.




## 3. REMOVE REAR SEAT NO. 1 CUSHION HINGE COVER

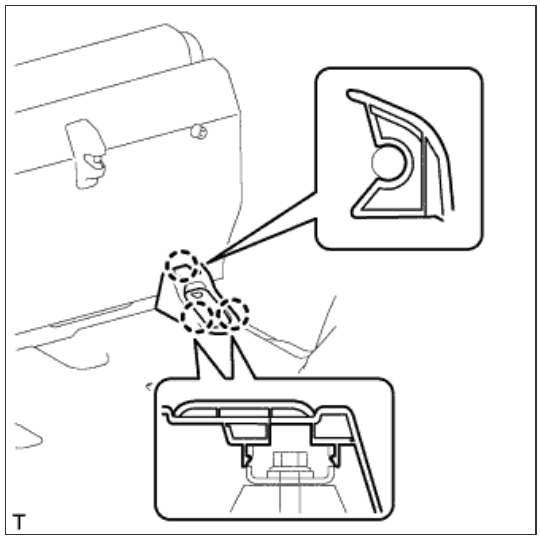
a. Operate the reclining remote control lever knob and fold down the rear No. 1 seat assembly.

b. Detach the 3 claws and remove the rear seat No. 1 cushion hinge cover.




### 4. REMOVE REAR SEAT NO. 2 CUSHION HINGE COVER

a. Detach the 3 claws and remove the rear seat No. 2 cushion hinge cover.

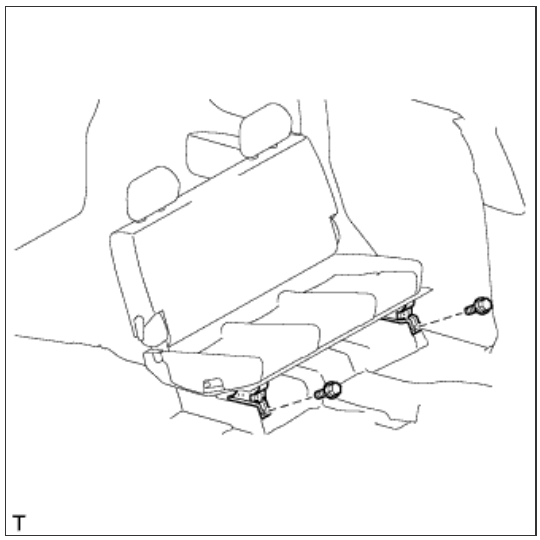



### 5. REMOVE REAR NO. 1 SEAT ASSEMBLY

a. Return the rear No. 1 seat assembly to its original position.

b. Remove the 2 bolts.

c. Operate the reclining remote control lever knob and fold down the rear No. 1 seat assembly.

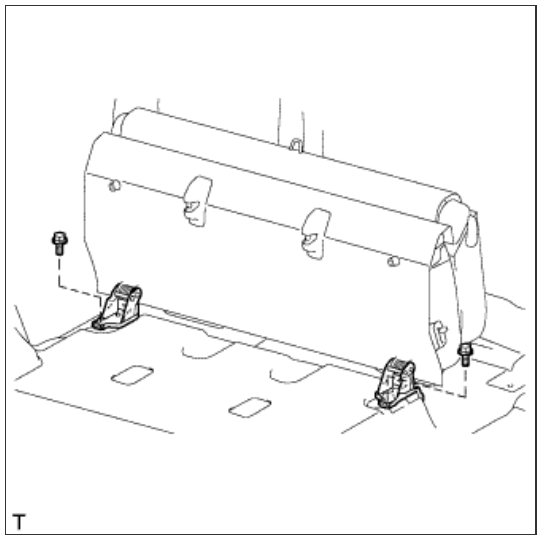



d. Remove the 2 bolts and rear No. 1 seat assembly from the vehicle.

d. Remove the 2 bolts and rear No. 1 seat assembly from the vehicle.

**NOTICE:**

Be careful not to damage the vehicle body.

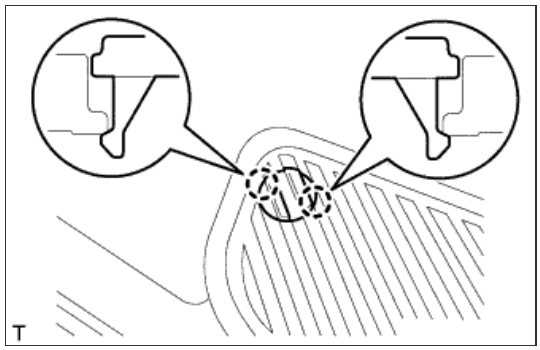



## 6. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

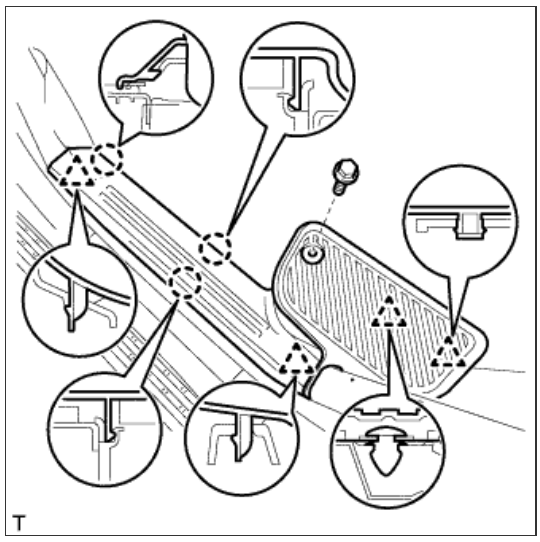
a. Detach the 2 claws and remove the step cover.




## 7. REMOVE REAR DOOR SCUFF PLATE LH

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




## 8. REMOVE REAR DOOR SCUFF PLATE RH

**HINT:**

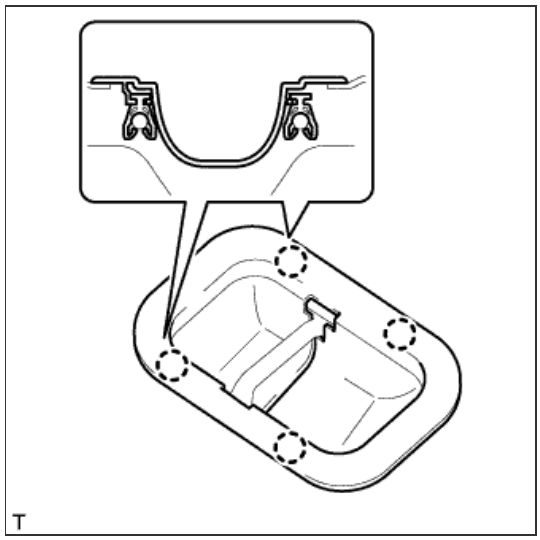
Use the same procedures described for the LH side.

## 9. REMOVE REAR SEAT NO. 2 PROTECTOR

**HINT:**

Use the same procedure to remove the rear seat No. 2 protector on the other side.

a. Detach the 4 claws and remove the rear seat No. 2 protector from the rear seat cushion lock striker sub-assembly.

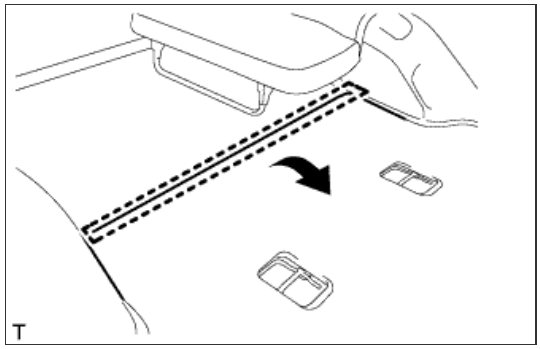



## 10. REMOVE REAR SEAT CUSHION LOCK STRIKER SUB-ASSEMBLY

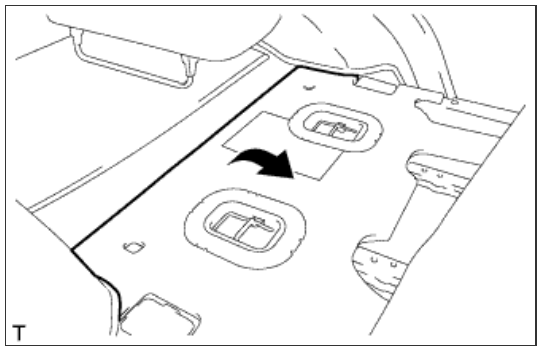
**HINT:**

Use the same procedure to remove the rear seat cushion lock striker sub-assembly on the other side.

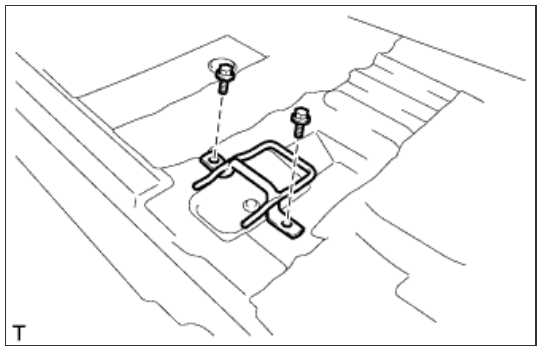
a. Detach the fastener and fold back the front floor carpet.




b. Fold back the rear floor silencer.




c. Remove the 2 bolts and rear seat cushion lock striker sub-assembly.

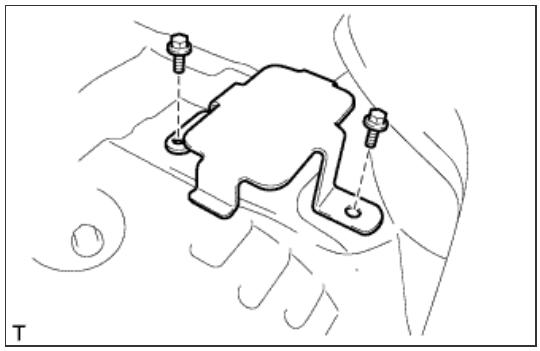



### 11. REMOVE REAR SEAT CUSHION HOLDER BRACKET

**HINT:**

Use the same procedure to remove the rear seat cushion holder bracket on the other side.

a. Remove the 2 bolts and rear seat cushion holder bracket.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

## 1. REMOVE REAR SEAT HEADREST ASSEMBLY

**HINT:**

Use the same procedure to remove the rear seat headrest assembly on the other side.

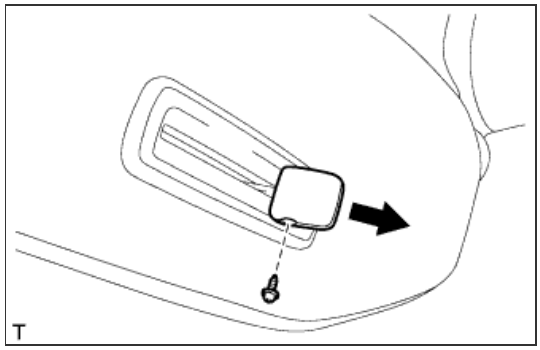
a. Remove the rear seat headrest assembly.

## 2. REMOVE RECLINING REMOTE CONTROL LEVER KNOB

**HINT:**

Use the same procedure to remove the reclining remote control lever knob on the other side.

a. Remove the screw and reclining remote control lever knob.



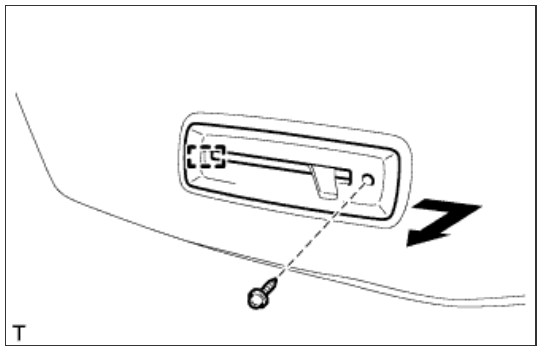

## 3. REMOVE RECLINING REMOTE CONTROL BEZEL

**HINT:**

Use the same procedure to remove the reclining remote control bezel on the other side.

a. Remove the screw.

b. Detach the hook and remove the reclining remote control bezel.




## 4. REMOVE SEAT ADJUSTER COVER

**HINT:**

Use the same procedure to remove the seat adjuster cover on the other side.

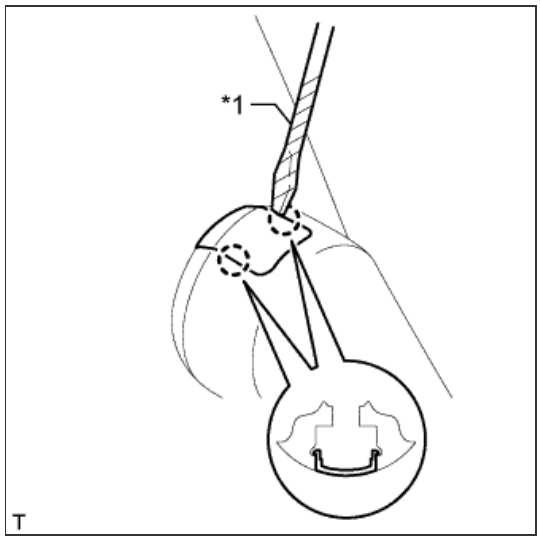
a. Using a screwdriver, detach the 2 claws and remove the seat adjuster cover from the No. 1 reclining adjuster release handle LH.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

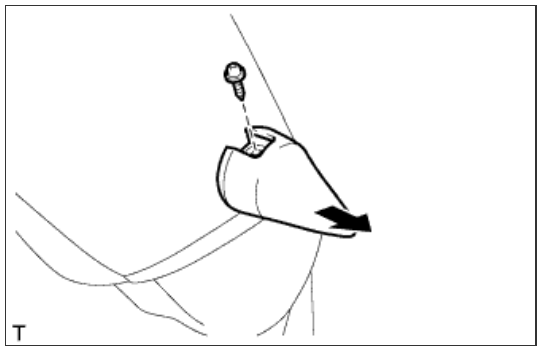
**HINT:**

Tape the screwdriver tip before use.




## 5. REMOVE NO. 1 RECLINING ADJUSTER RELEASE HANDLE LH

a. Remove the screw and No. 1 reclining adjuster release handle LH.




## 6. REMOVE NO. 1 RECLINING ADJUSTER RELEASE HANDLE RH

**HINT:**

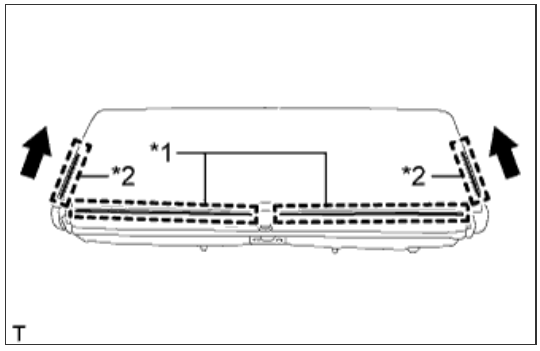
Use the same procedure described for the LH side.

## 7. REMOVE SEATBACK COVER WITH PAD

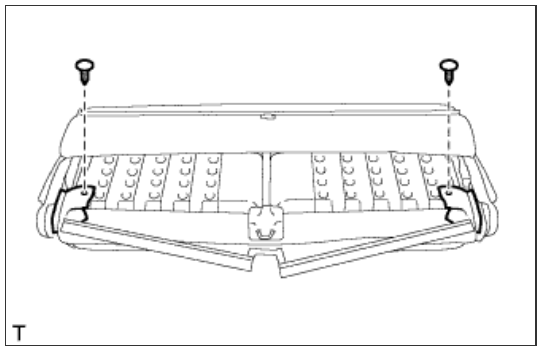
a. Detach the 2 hooks and open the 2 fasteners.

**Text in Illustration**

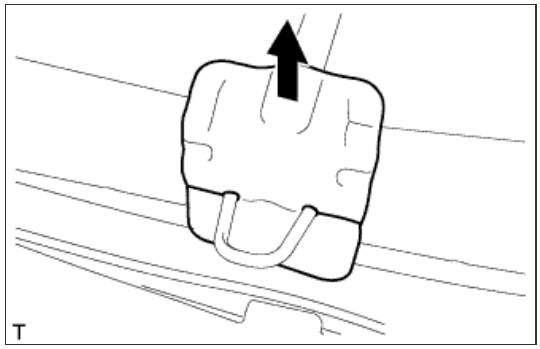
| | |
|---|---|
| *1 | Hook |
| *2 | Fastener |




b. Using a clip remover, remove the 2 clips.




c. Remove the rear seatback cover.

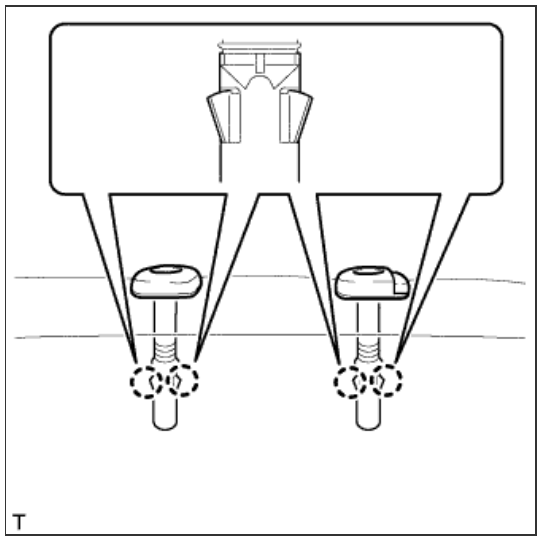



d. Detach the 4 claws and remove the 2 rear seat headrest supports.

**HINT:**

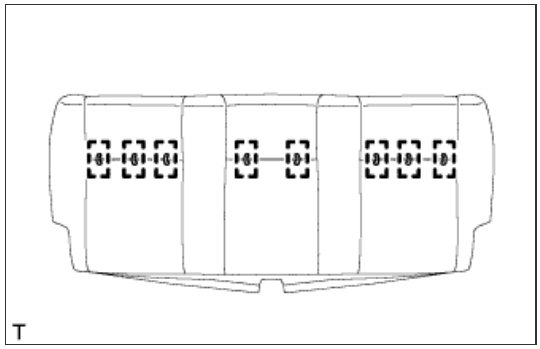
Use the same procedure to remove the 2 rear seat headrest supports on the other side.

e. Remove the seatback cover with pad from the rear seatback frame sub-assembly.




## 8. REMOVE BENCH TYPE REAR SEATBACK COVER

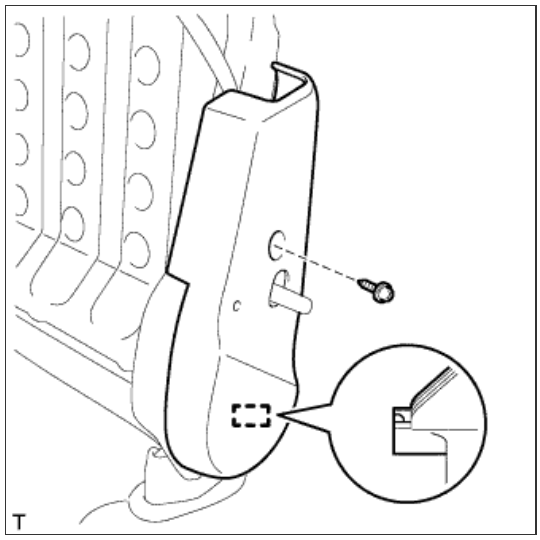
a. Remove the hog rings and bench type rear seatback cover from the bench type rear seatback pad.




## 9. REMOVE REAR SEAT NO. 1 RECLINING COVER LH

a. Remove the screw.

b. Detach the guide and remove the rear seat No. 1 reclining cover LH.

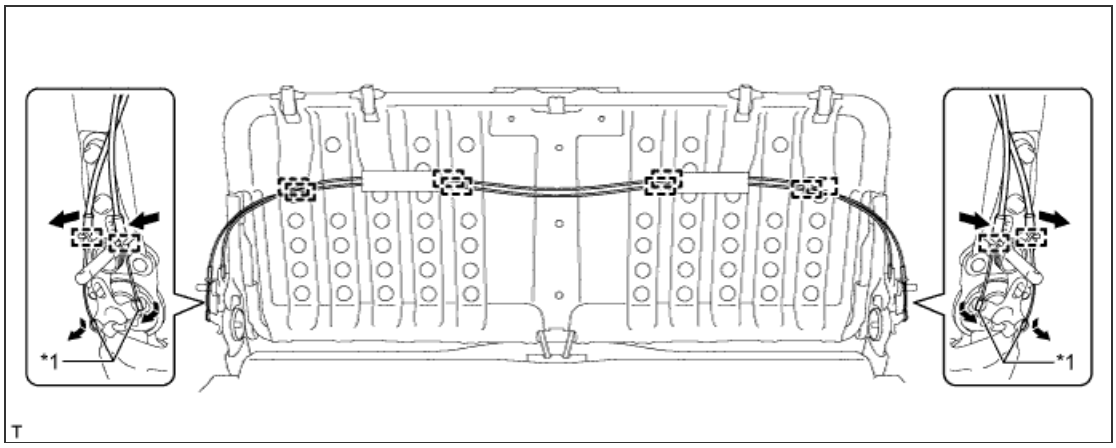



## 10. REMOVE REAR SEAT NO. 1 RECLINING COVER RH

**HINT:**

Use the same procedure described for the LH side.

## 11. REMOVE NO. 2 SEAT ADJUSTER CONTROL CABLE ASSEMBLY




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Cable End | - | - |

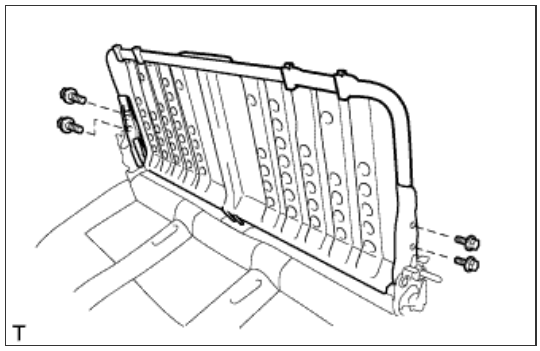
a. Detach the 4 cable clamps from both sides of the rear seat reclining adjuster assembly as shown in the illustration.

b. Disconnect the 4 cable ends from both sides of the rear seat reclining adjuster assembly as shown in the illustration.

c. Detach the 8 cable clamps and remove the No. 2 seat adjuster control cable assembly.

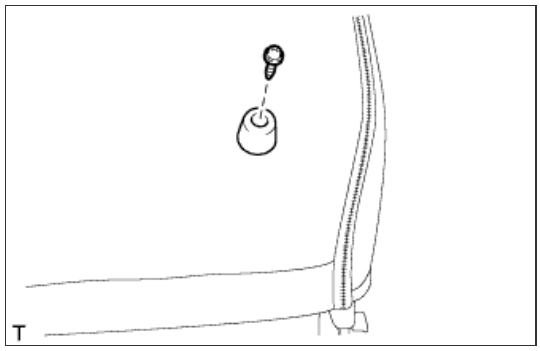
## 12. REMOVE REAR SEATBACK FRAME SUB-ASSEMBLY

a. Remove the 4 bolts and rear seatback frame sub-assembly.



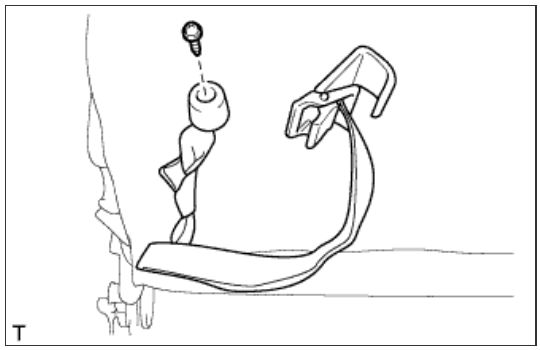

## 13. REMOVE REAR SEAT CUSHION

a. Remove the screw and rear seat cushion.



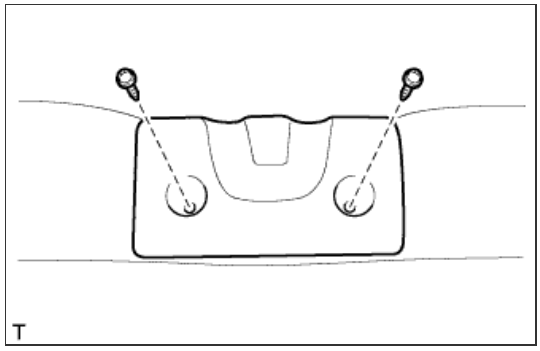

## 14. REMOVE FOLD SEAT STOPPER BAND ASSEMBLY

a. Remove the screw and rear seat cushion together with the fold seat stopper band assembly.




## 15. REMOVE REAR SEAT TURN LOCK COVER

a. Remove the 2 screws and rear seat turn lock cover.

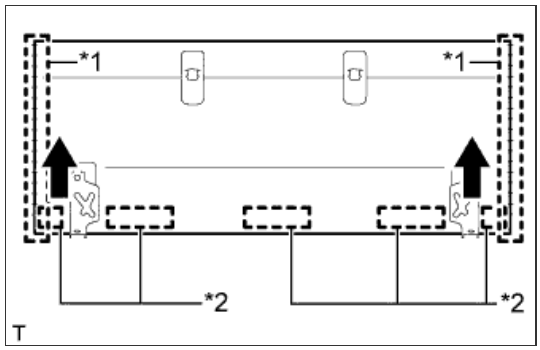



## 16. REMOVE SEAT CUSHION COVER WITH PAD

a. Open the 2 fasteners and detach the fastening tape.

**Text in Illustration**

| | |
|---|---|
| *1 | Fastener |
| *2 | Fastening Tape |

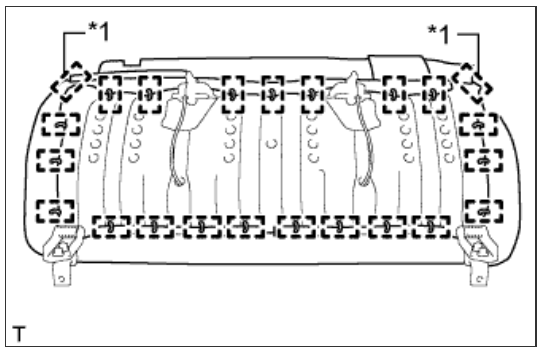



b. Detach the 2 hooks.

**Text in Illustration**

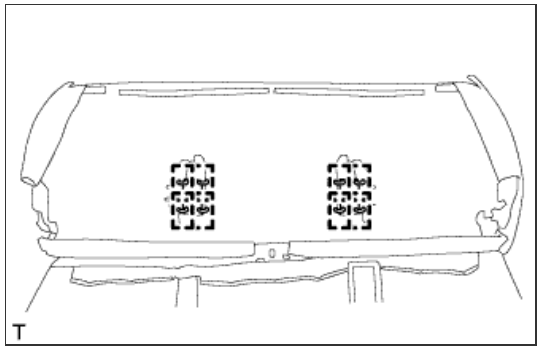
| | |
|---|---|
| *1 | Hook |

c. Remove the hog rings and seat cushion cover with pad from the rear seat cushion frame sub-assembly.

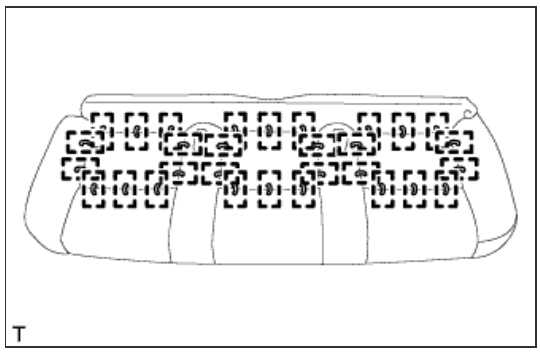



## 17. REMOVE BENCH TYPE REAR SEAT CUSHION COVER

a. Remove the hog rings.




b. Remove the hog rings and bench type rear seat cushion cover from the rear No. 1 seat cushion pad.

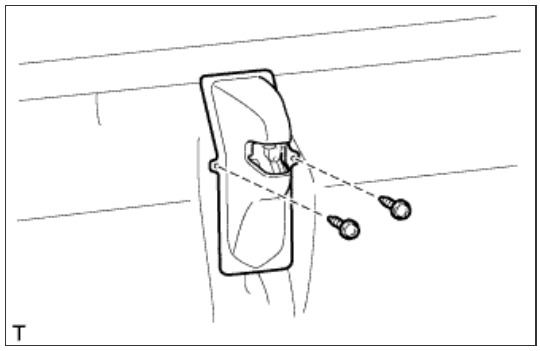



## 18. REMOVE REAR SEATBACK LOCK COVER

**HINT:**

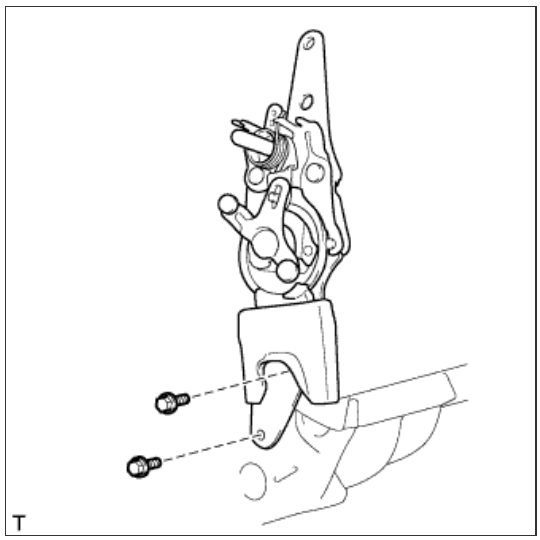
Use the same procedure to remove the rear seatback lock cover on the other side.

a. Remove the 2 screws and rear seatback lock cover from the rear seat lock assembly LH.




## 19. REMOVE REAR SEAT RECLINING ADJUSTER ASSEMBLY LH

a. Remove the 2 bolts and rear seat reclining adjuster assembly LH from the rear seat cushion frame sub-assembly.




## 20. REMOVE REAR SEAT RECLINING ADJUSTER ASSEMBLY RH

**HINT:**

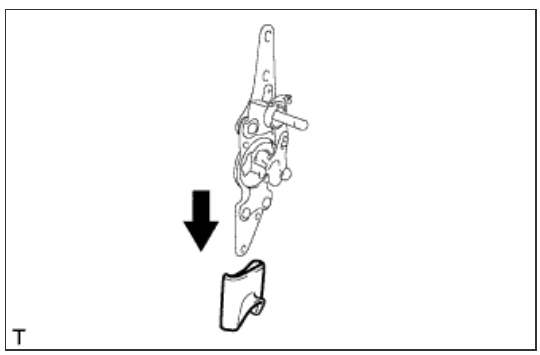
Use the same procedure described for the LH side.

## 21. REMOVE REAR SEAT HINGE COVER

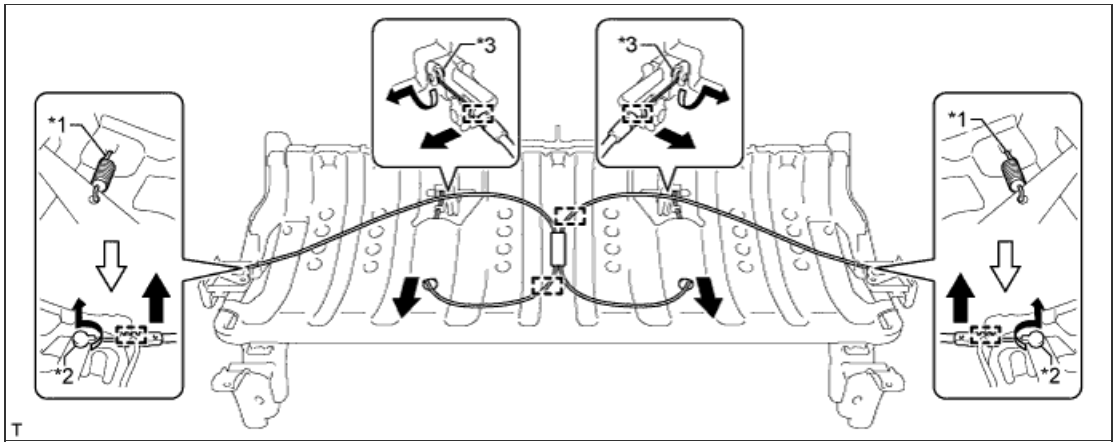
**HINT:**

Use the same procedure to remove the rear seat hinge cover on the other side.

a. Remove the rear seat hinge cover from the rear seat reclining adjuster assembly LH.




## 22. REMOVE REAR SEAT LOCK CONTROL CABLE




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tension Spring | *2 | Cable End A |
| *3 | Cable End B | - | - |

a. Remove the 2 tension springs from both sides of the rear seat cushion frame sub-assembly as shown in the illustration.

b. Detach the 2 cable clamps.

c. Twist the 2 cable ends A and disconnect them from both sides of the rear seat cushion frame sub-assembly as shown in the illustration.

d. Detach the 2 cable clamps.

e. Twist the 2 cable ends B and disconnect them from both sides of the rear seat lock assembly as shown in the illustration.

f. Pull out the 2 cable ends B from the 2 holes of the rear seat cushion frame sub-assembly as shown in the illustration.

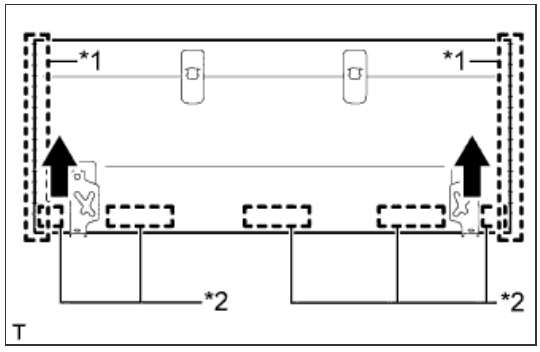
g. Detach the 2 cable clamps and remove the rear seat lock control cable from the rear seat cushion frame sub-assembly.

## 23. REMOVE REAR SEAT INNER BELT ASSEMBLY

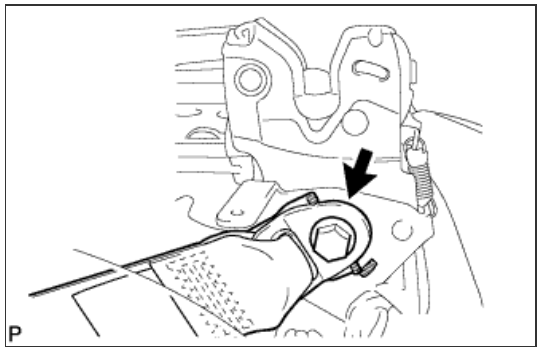
a. Open the 2 fasteners and detach the fastening tape.

**Text in Illustration**

| | |
|---|---|
| *1 | Fastener |
| *2 | Fastening Tape |

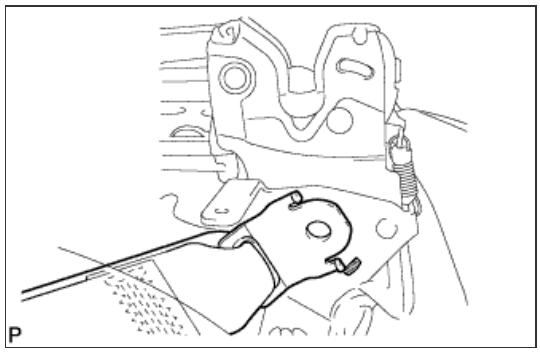



b. Remove the bolt and rear seat inner belt assembly.



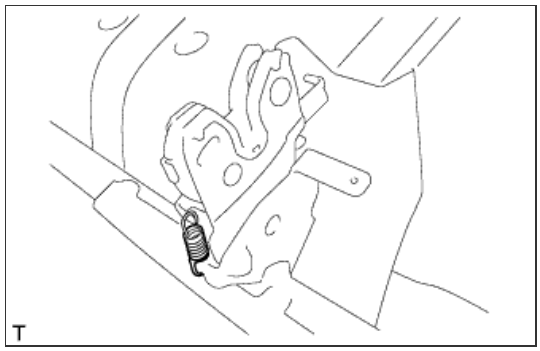

## 24. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Remove the rear No. 1 seat inner belt assembly LH.

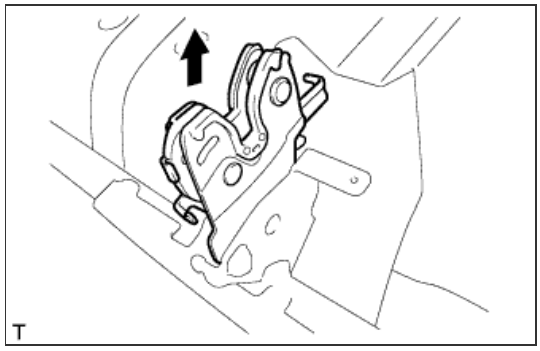



## 25. REMOVE REAR SEAT LOCK ASSEMBLY LH

a. Remove the rear seat No. 1 cushion spring.




b. Remove the rear seat lock assembly LH from the rear seat cushion frame sub-assembly.

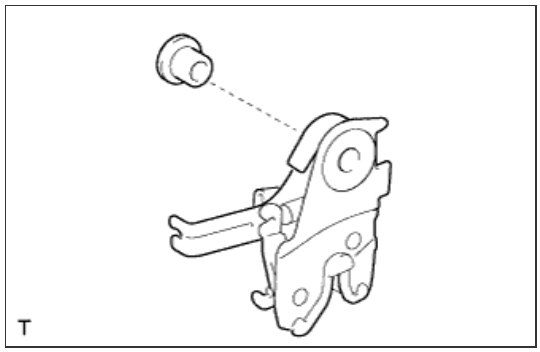



## 26. REMOVE FOLD SEAT LOCK COLLAR

**HINT:**

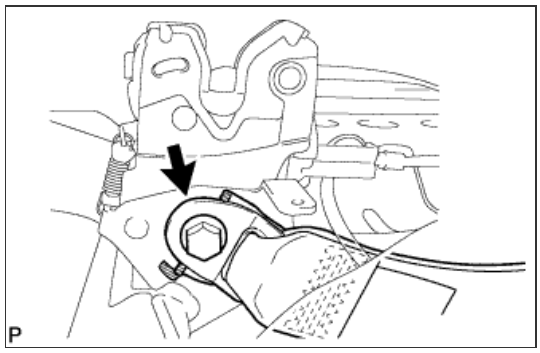
Use the same procedure to remove the fold seat lock collar on the other side.

a. Remove the fold seat lock collar from the rear seat lock assembly LH.



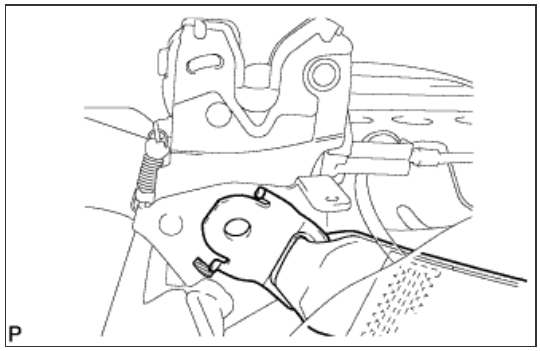

## 27. REMOVE REAR SEAT OUTER BELT ASSEMBLY

a. Remove the bolt and rear seat outer belt assembly.




## 28. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY RH

a. Remove the rear No. 1 seat inner belt assembly RH.




## 29. REMOVE REAR SEAT LOCK ASSEMBLY RH

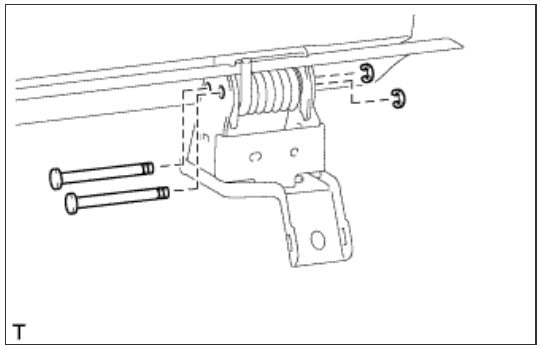
**HINT:**

Use the same procedure described for the LH side.

## 30. REMOVE REAR SEAT HINGE SUB-ASSEMBLY LH

a. Remove the 2 E-rings.

b. Remove the 2 rear seat hinge pins and rear seat hinge sub-assembly LH from the rear seat cushion frame sub-assembly.




## 31. REMOVE REAR SEAT HINGE SUB-ASSEMBLY RH

**HINT:**

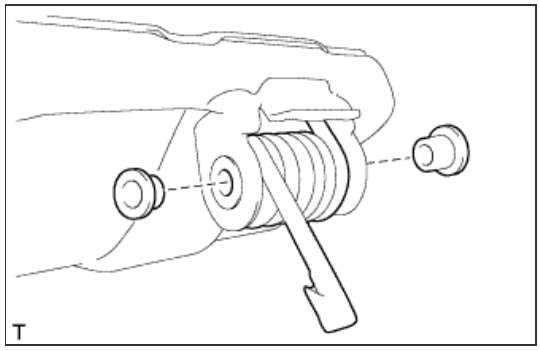
Use the same procedure described for the LH side.

## 32. REMOVE REAR SEAT CUSHION SUPPORT SPRING

**HINT:**

Use the same procedure to remove the rear seat cushion support spring on the other side.

a. Remove the 2 rear seat hinge set plates and rear seat cushion support spring from the rear seat cushion frame sub-assembly.

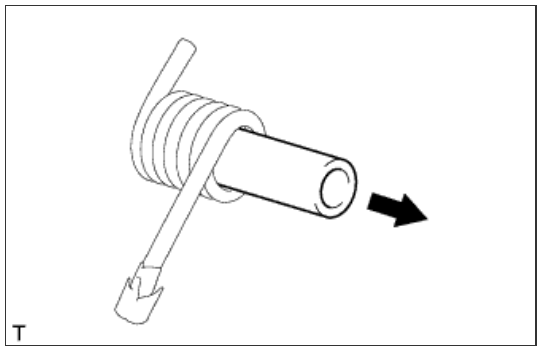



## 33. REMOVE REAR SEAT CUSHION SPACER

**HINT:**

Use the same procedure to remove the rear seat cushion spacer on the other side.

a. Remove the rear seat cushion spacer from the rear seat cushion support spring.



**for Preparation** Click here

**CAUTION:**

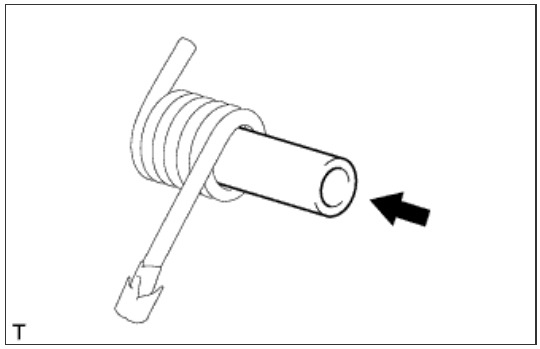
Wear protective gloves. Sharp areas on the parts may injure your hands.

## 1. INSTALL REAR SEAT CUSHION SPACER

**HINT:**

Use the same procedure to install the rear seat cushion spacer on the other side.

a. Install the rear seat cushion spacer to the rear seat cushion support spring.




## 2. INSTALL REAR SEAT CUSHION SUPPORT SPRING

**HINT:**

Use the same procedure to install the rear seat cushion support spring on the other side.

a. Install the rear seat cushion support spring to the rear seat cushion frame sub-assembly with the 2 rear seat hinge set plates.

## 3. INSTALL REAR SEAT HINGE SUB-ASSEMBLY LH

a. Install the rear seat hinge sub-assembly LH to the rear seat cushion frame sub-assembly with the 2 rear seat hinge pins.

b. Install 2 new E-rings.

## 4. INSTALL REAR SEAT HINGE SUB-ASSEMBLY RH

**HINT:**

Use the same procedure described for the LH side.

## 5. INSTALL FOLD SEAT LOCK COLLAR

**HINT:**

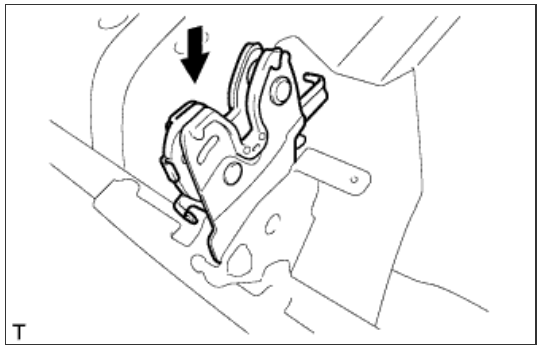
Use the same procedure to install the fold seat lock collar on the other side.

a. Install the fold seat lock collar to the rear seat lock assembly LH.

## 6. INSTALL REAR SEAT LOCK ASSEMBLY LH

a. Install the rear seat lock assembly LH to the rear seat cushion frame sub-assembly.

b. Install the rear seat No. 1 cushion spring.




## 7. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

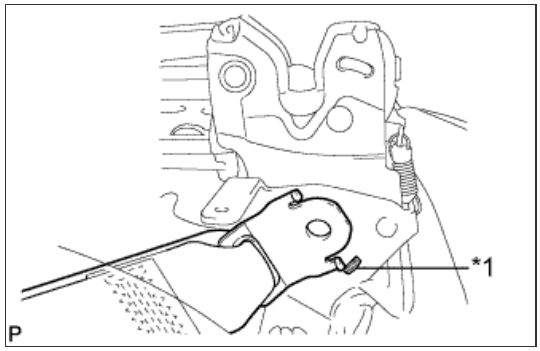
a. Temporarily install the rear No. 1 seat inner belt assembly LH.

**NOTICE:**

Do not allow the anchor part of the rear No. 1 seat inner belt assembly LH to overlap the protruding parts of the rear seat.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 8. INSTALL REAR SEAT INNER BELT ASSEMBLY

a. Install the rear seat inner belt assembly with the bolt.

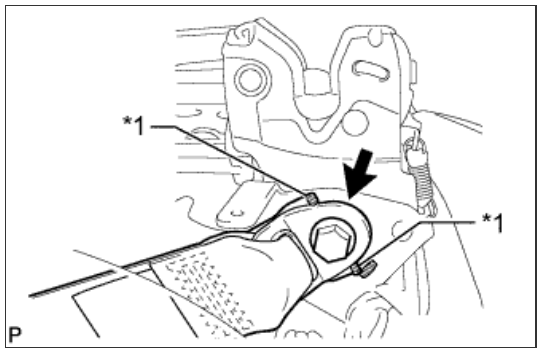
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the rear seat inner belt assembly to overlap the protruding parts of the rear No. 1 seat inner belt assembly LH.

**Text in Illustration**

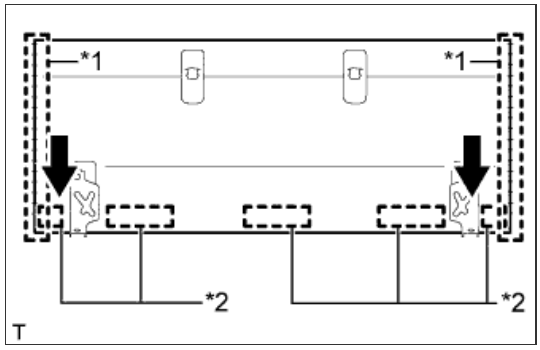
| | |
|---|---|
| *1 | Protruding Part |




b. Close the 2 fasteners and attach the fastening tape.

**Text in Illustration**

| | |
|---|---|
| *1 | Fastener |
| *2 | Fastening Tape |




## 9. INSTALL REAR SEAT LOCK ASSEMBLY RH

**HINT:**

Use the same procedure described for the LH side.

## 10. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY RH

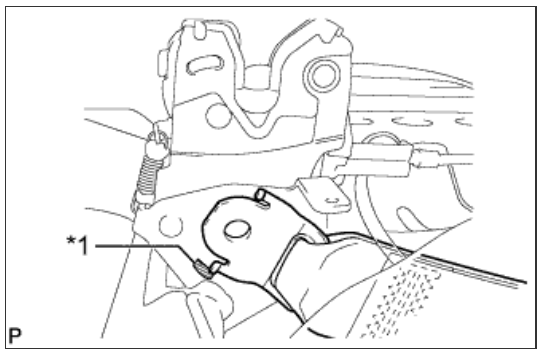
a. Temporarily install the rear No. 1 seat inner belt assembly RH.

**NOTICE:**

Do not allow the anchor part of the rear No. 1 seat inner belt assembly RH to overlap the protruding parts of the rear seat.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 11. INSTALL REAR SEAT OUTER BELT ASSEMBLY

a. Install the rear seat outer belt assembly with the bolt.

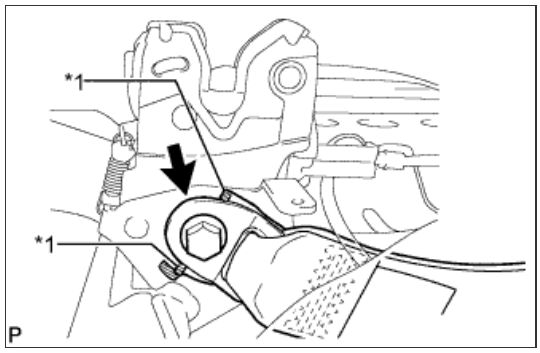
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

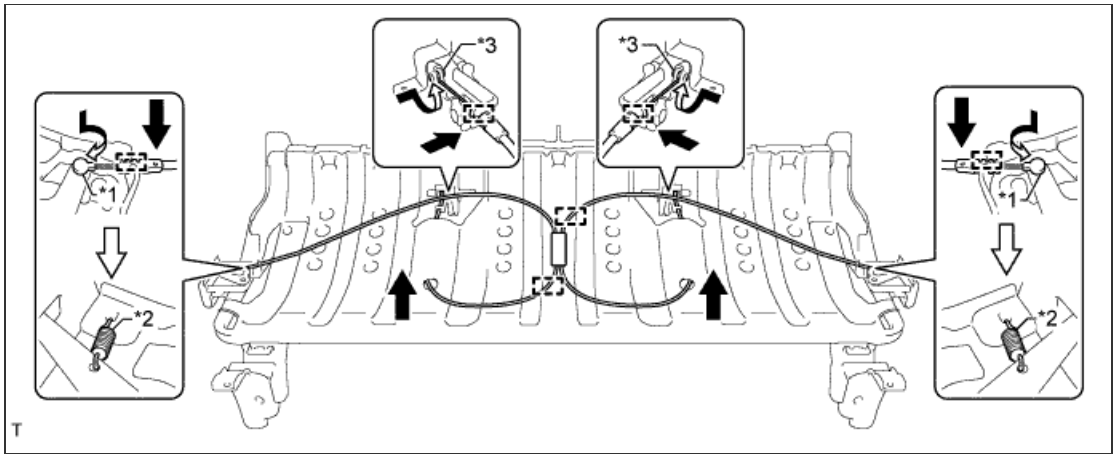
Do not allow the anchor part of the rear No. 1 seat outer belt assembly to overlap the protruding parts of the rear seat inner belt assembly RH.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 12. INSTALL REAR SEAT LOCK CONTROL CABLE




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Cable End A | *2 | Tension Spring |
| *3 | Cable End B | - | - |

a. Attach the 2 cable clamps to install the rear seat lock control cable to the rear seat cushion frame sub-assembly.

b. Pass the 2 cable ends B through the 2 holes of the rear seat cushion frame sub-assembly as shown in the illustration.

c. Insert and twist the 2 cable ends B to connect them to both sides of the rear seat lock assembly as shown in the illustration.

d. Attach the 2 cable clamps.

e. Insert and twist the 2 cable ends A to connect them to both sides of the rear seat cushion frame sub-assembly as shown in the illustration.

f. Attach the 2 cable clamps.

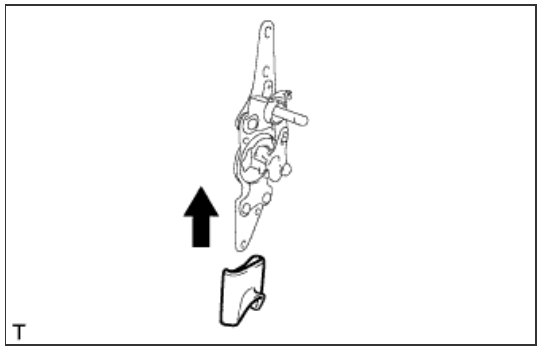
g. Install the 2 tension springs to both sides of the rear seat cushion frame sub-assembly as shown in the illustration.

## 13. INSTALL REAR SEAT HINGE COVER

**HINT:**

Use the same procedure to install the rear seat hinge cover on the other side.

a. Install the rear seat hinge cover to the rear seat reclining adjuster assembly LH.




## 14. INSTALL REAR SEAT RECLINING ADJUSTER ASSEMBLY LH

a. Install the rear seat reclining adjuster assembly LH to the rear seat cushion frame sub-assembly with the 2 bolts.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

## 15. INSTALL REAR SEAT RECLINING ADJUSTER ASSEMBLY RH

**HINT:**

Use the same procedure described for the LH side.

## 16. INSTALL REAR SEATBACK LOCK COVER

**HINT:**

Use the same procedure to install the rear seatback lock cover on the other side.

a. Install the rear seatback lock cover to the rear seat lock assembly LH with the 2 screws.

## 17. INSTALL BENCH TYPE REAR SEAT CUSHION COVER

a. Temporarily install the bench type rear seat cushion cover to the rear No. 1 seat cushion pad.

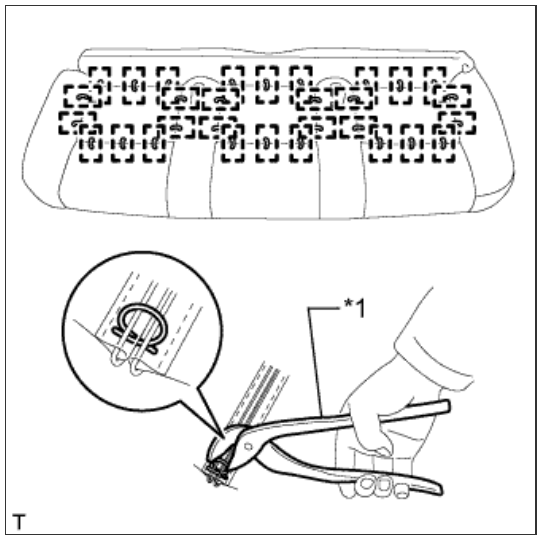
b. Using hog ring pliers, install new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



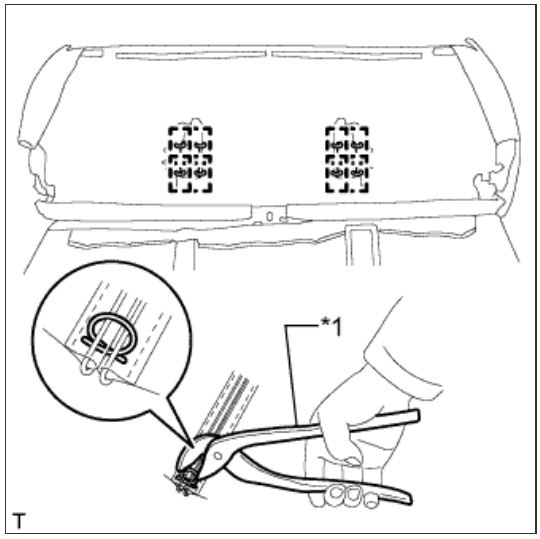

c. Using hog ring pliers, install new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




## 18. INSTALL SEAT CUSHION COVER WITH PAD

a. Set the seat cushion cover with pad in place.

b. Using hog ring pliers, install the seat cushion cover with pad to the rear seat cushion frame sub-assembly with new hog rings.

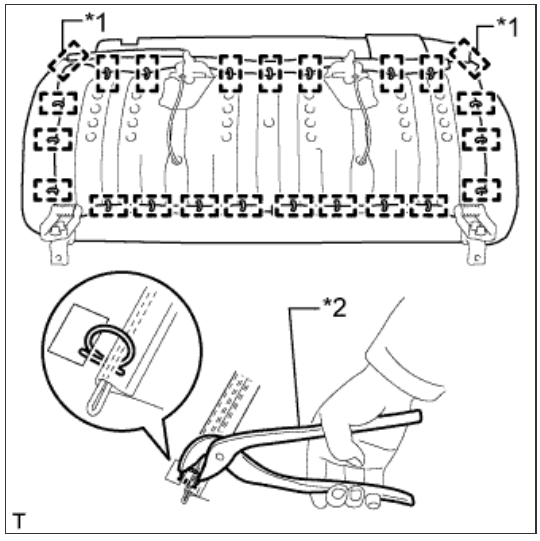
**Text in Illustration**

| | |
|---|---|
| *1 | Hook |
| *2 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

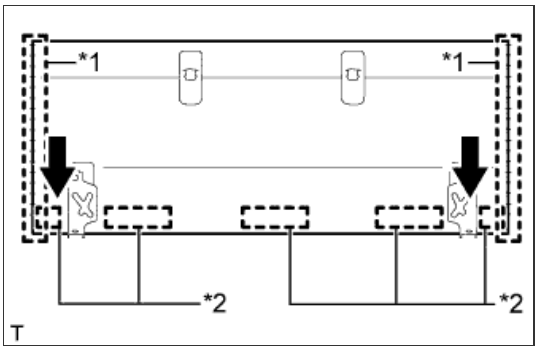
c. Attach the 2 hooks.




d. Attach the fastening tape and close the 2 fasteners.

**Text in Illustration**

| | |
|---|---|
| *1 | Fastener |
| *2 | Fastening Tape |




### 19. INSTALL REAR SEAT TURN LOCK COVER

a. Install the rear seat turn lock cover with the 2 screws.

### 20. INSTALL FOLD SEAT STOPPER BAND ASSEMBLY

a. Install the fold seat stopper band assembly together with the rear seat cushion with the screw.

### 21. INSTALL REAR SEAT CUSHION

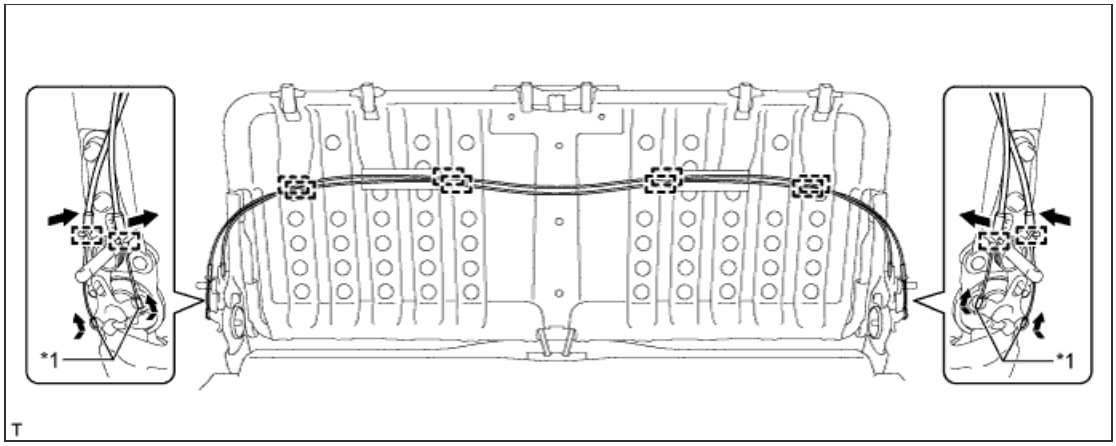
a. Install the rear seat cushion with the screw.

### 22. INSTALL REAR SEATBACK FRAME SUB-ASSEMBLY

a. Install the rear seatback frame sub-assembly with the 4 bolts.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

### 23. INSTALL NO. 2 SEAT ADJUSTER CONTROL CABLE ASSEMBLY




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Cable End | - | - |

a. Attach the 8 cable clamps to install the No. 2 seat adjuster control cable assembly.

b. Connect the 4 cable ends to both sides of the rear seat reclining adjuster assembly as shown in the illustration.

c. Attach the 4 cable clamps to both sides of the rear seat reclining adjuster assembly as shown in the illustration.

## 24. INSTALL REAR SEAT NO. 1 RECLINING COVER LH

a. Attach the guide to install the rear seat No. 1 reclining cover LH.

b. Install the screw.

## 25. INSTALL REAR SEAT NO. 1 RECLINING COVER RH

**HINT:**

Use the same procedure described for the LH side.

## 26. INSTALL BENCH TYPE REAR SEATBACK COVER

a. Temporarily install the bench type rear seatback cover to the bench type rear seatback pad.

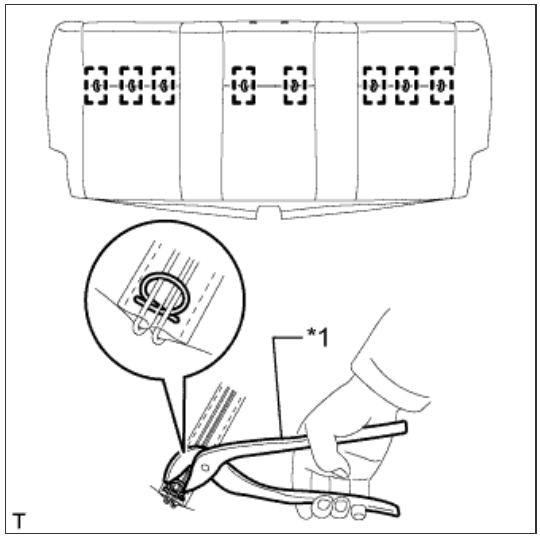
b. Using hog ring pliers, install new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




## 27. INSTALL SEATBACK COVER WITH PAD

a. Set the seatback cover with pad in place.

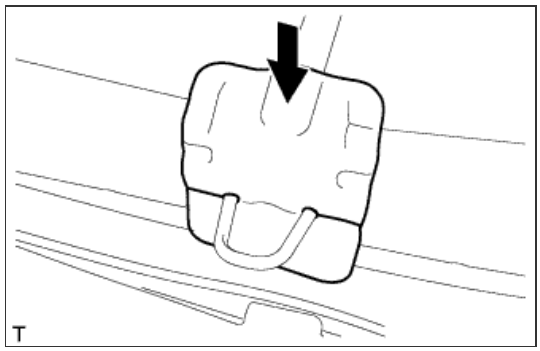
b. Install the seatback cover.

c. Install the 2 clips.

d. Attach the 4 claws to install the 2 rear seat headrest supports.

**HINT:**

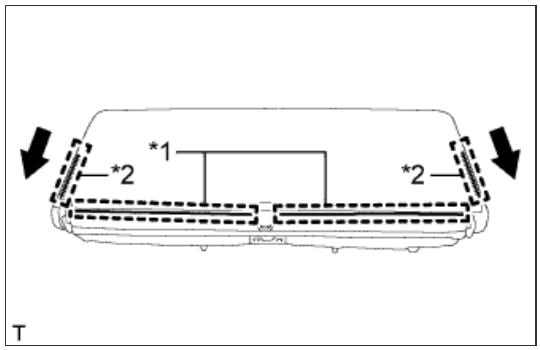
Use the same procedure to install the 2 rear seat headrest supports on the other side.




e. Close the 2 fasteners and attach the 2 hooks.

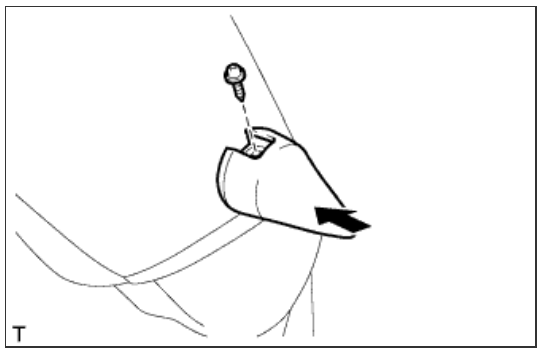
**Text in Illustration**

| | |
|---|---|
| *1 | Hook |
| *2 | Fastener |




## 28. INSTALL NO. 1 RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the No. 1 reclining adjuster release handle LH with the screw.




## 29. INSTALL NO. 1 RECLINING ADJUSTER RELEASE HANDLE RH

**HINT:**

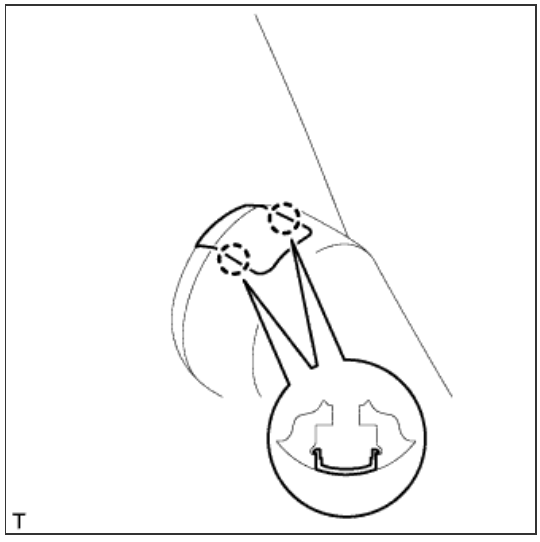
Use the same procedure described for the LH side.

## 30. INSTALL SEAT ADJUSTER COVER

**HINT:**

Use the same procedure to install the seat adjuster cover on the other side.

a. Attach the 2 claws to install the seat adjuster cover to the No. 1 reclining adjuster release handle LH.



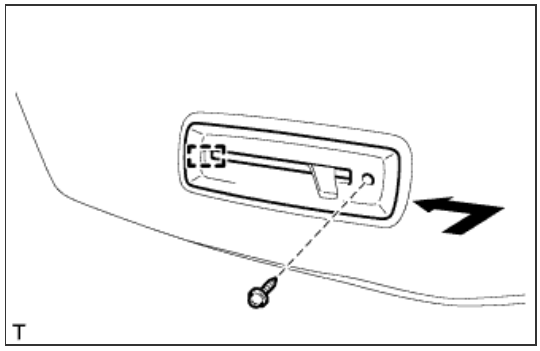

## 31. INSTALL RECLINING REMOTE CONTROL BEZEL

**HINT:**

Use the same procedure to install the reclining remote control bezel on the other side.

a. Attach the hook to install the reclining remote control bezel.

b. Install the screw.

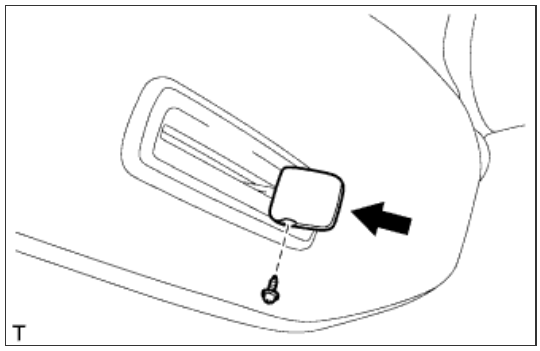



## 32. INSTALL RECLINING REMOTE CONTROL LEVER KNOB

**HINT:**

Use the same procedure to install the reclining remote control lever knob on the other side.

a. Install the reclining remote control lever knob with the screw.




## 33. INSTALL REAR SEAT HEADREST ASSEMBLY

**HINT:**

Use the same procedure to install the rear seat headrest assembly on the other side.

a. Install the rear seat headrest assembly.

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

## 1. INSTALL REAR SEAT CUSHION HOLDER BRACKET

**HINT:**

Use the same procedure to install the rear seat cushion holder bracket on the other side.

a. Install the rear seat cushion holder bracket with the 2 bolts.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

## 2. INSTALL REAR SEAT CUSHION LOCK STRIKER SUB-ASSEMBLY

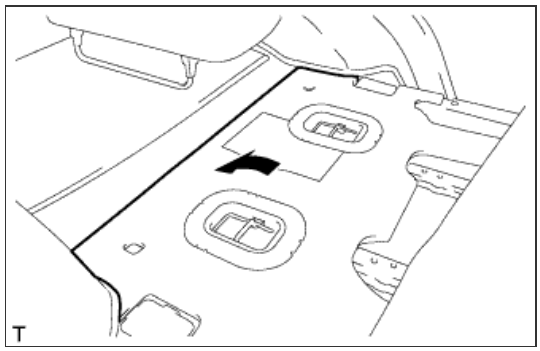
**HINT:**

Use the same procedure to install the rear seat cushion lock striker sub-assembly on the other side.

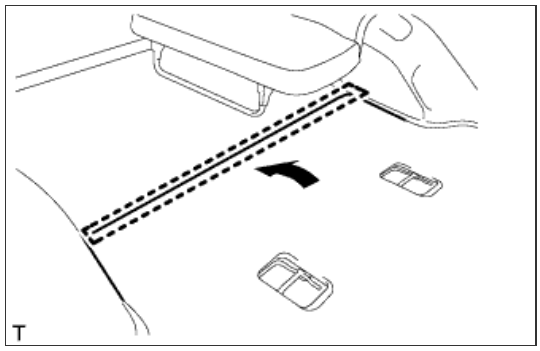
a. Install the rear seat cushion lock striker with the 2 bolts.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

b. Return the rear floor silencer to its original position.




c. Return the front floor carpet to its original position and attach the fastener.




## 3. INSTALL REAR SEAT NO. 2 PROTECTOR

**HINT:**

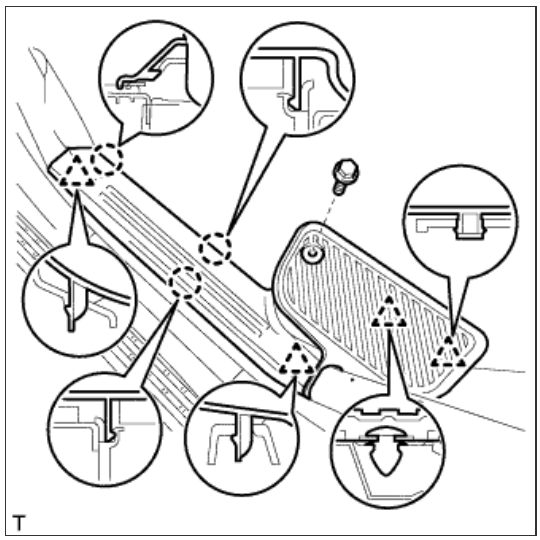
Use the same procedure to install the rear seat No. 2 protector on the other side.

a. Attach the 4 claws to install the rear seat No. 2 protector to the rear seat cushion lock striker sub-assembly.

## 4. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.




## 5. INSTALL REAR DOOR SCUFF PLATE RH

**HINT:**

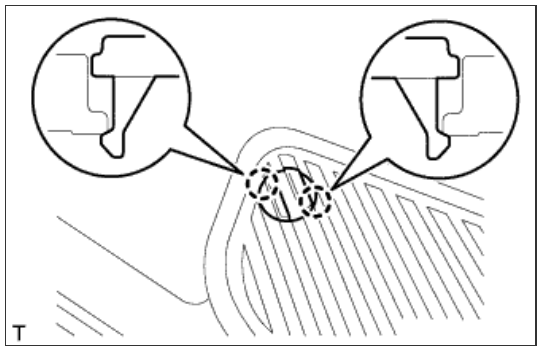
Use the same procedures described for the LH side.

## 6. INSTALL REAR STEP COVER

**HINT:**

Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 7. INSTALL REAR NO. 1 SEAT ASSEMBLY

a. Place the rear No. 1 seat assembly in the cabin.

**NOTICE:**

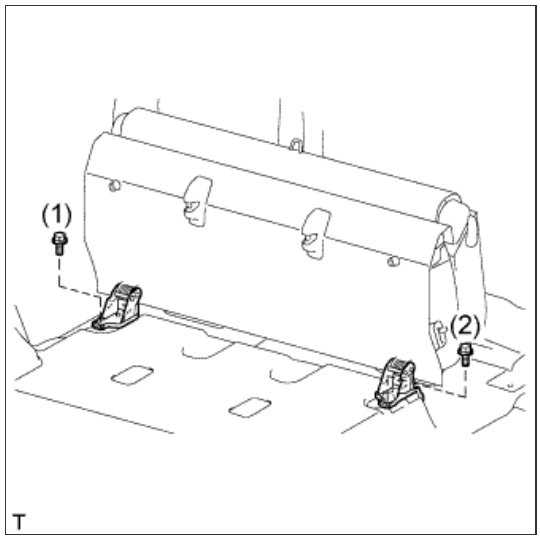
Be careful not to damage the vehicle body.

b. Temporarily install the rear No. 1 seat assembly with the 4 bolts.

c. Tighten the 2 bolts in the order shown in the illustration.

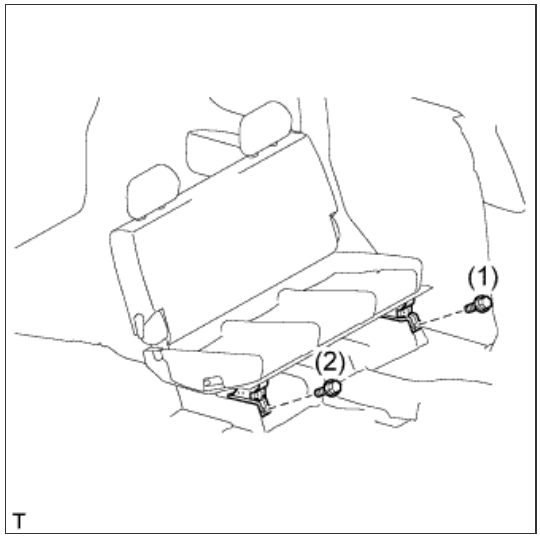
**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

d. Return the rear No. 1 seat assembly to its original position.




e. Tighten the 2 bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




### 8. INSTALL REAR SEAT NO. 2 CUSHION HINGE COVER

a. Operate the reclining remote control lever knob and fold down the rear No. 1 seat assembly.

b. Attach the 3 claws to install the rear seat No. 2 cushion hinge cover.

### 9. INSTALL REAR SEAT NO. 1 CUSHION HINGE COVER

a. Attach the 3 claws to install the rear seat No. 1 cushion hinge cover.

### 10. INSTALL REAR SEAT NO. 4 CUSHION HINGE COVER

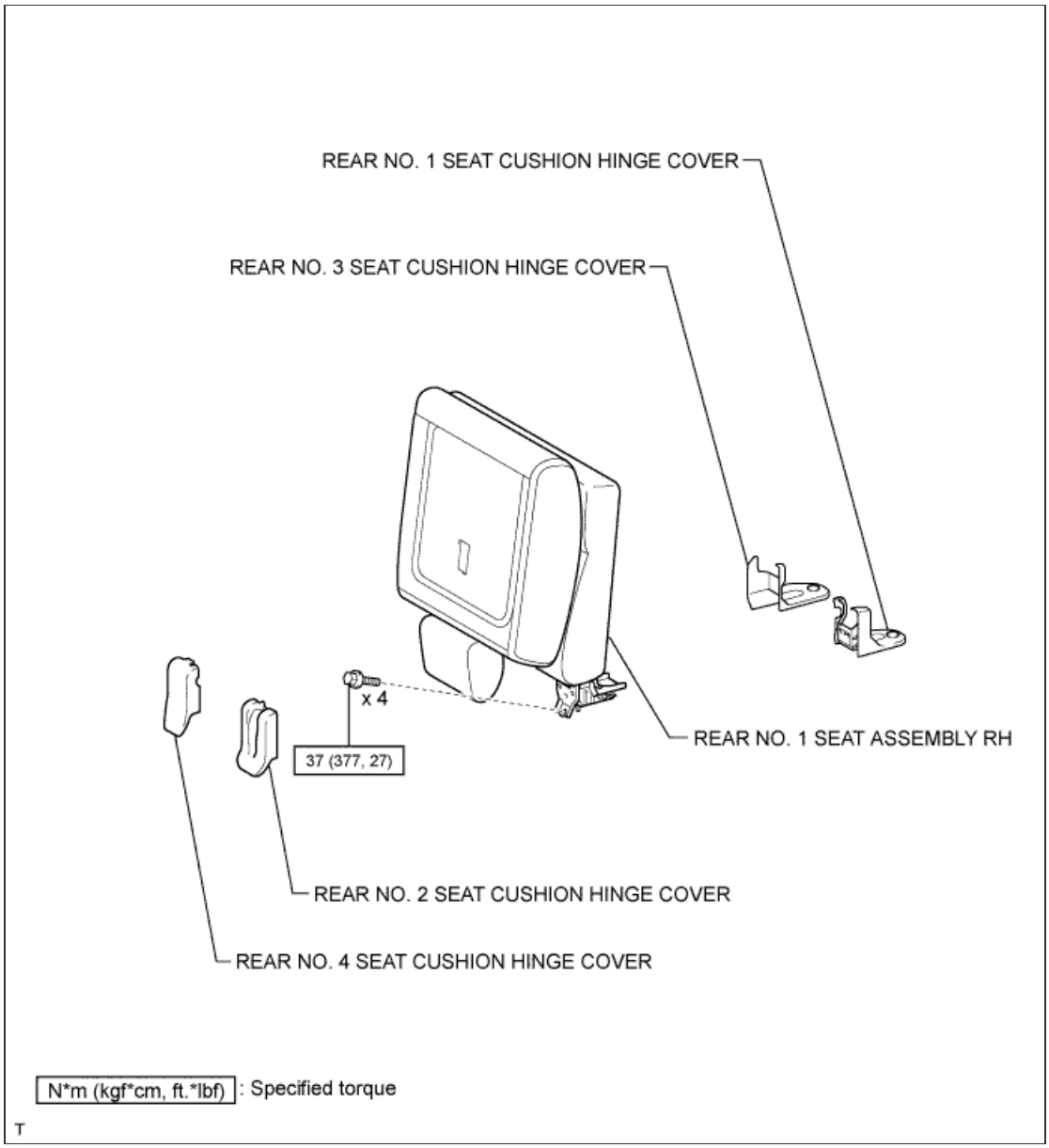
a. Return the rear No. 1 seat assembly to its original position.

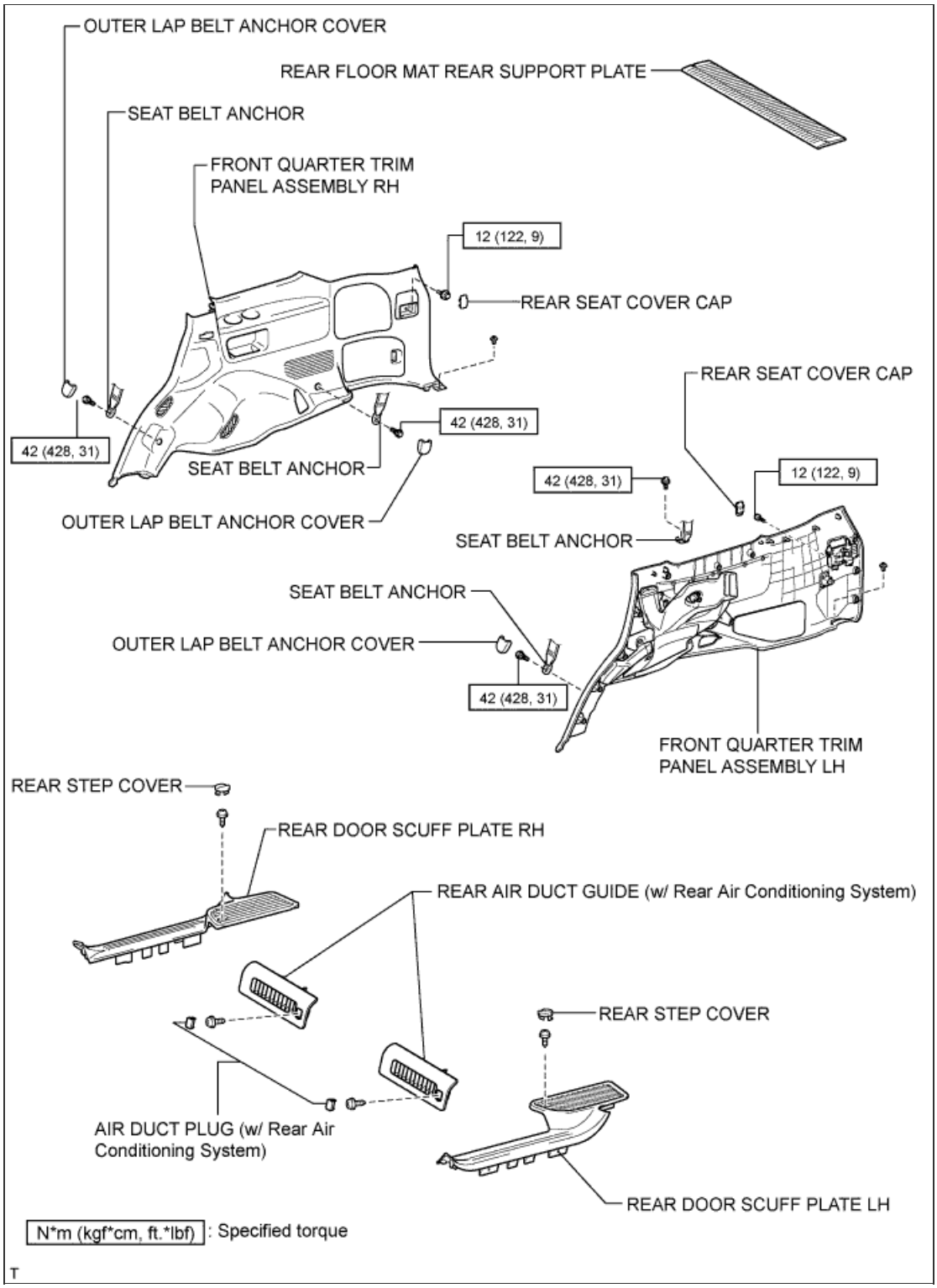
b. Attach the 6 claws to install the rear seat No. 4 cushion hinge cover.

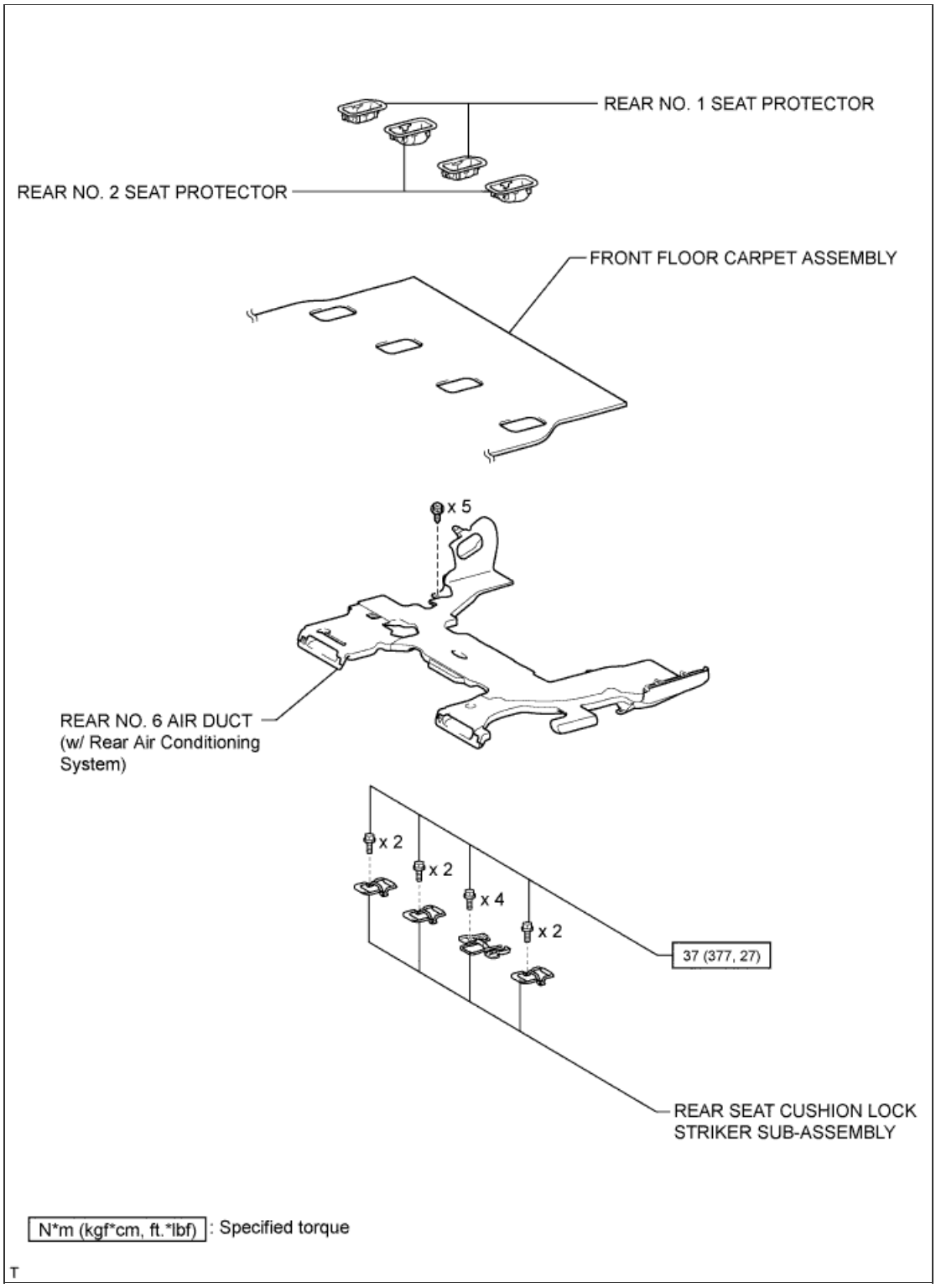
### 11. INSTALL REAR SEAT NO. 3 CUSHION HINGE COVER

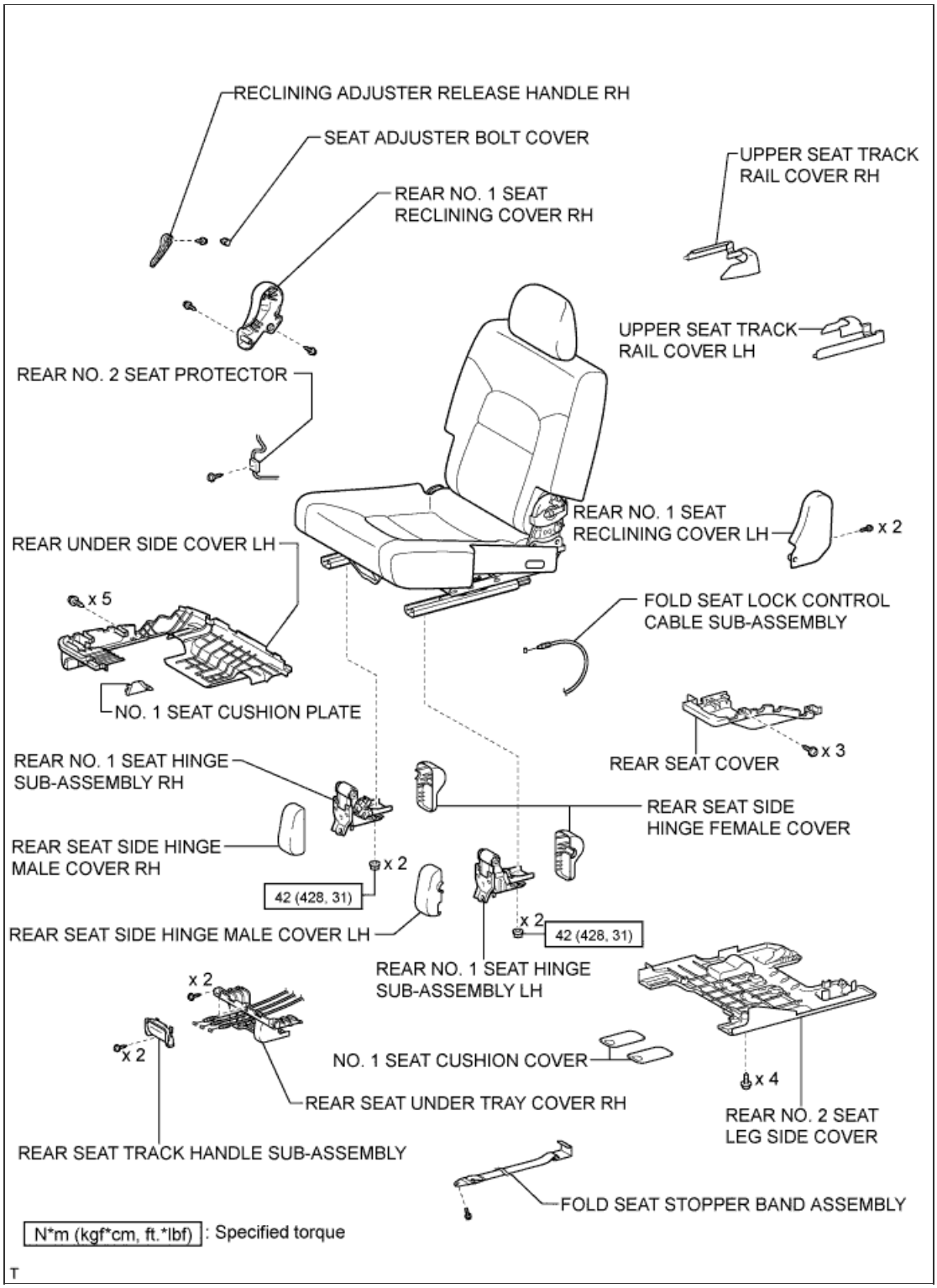
a. Attach the 6 claws to install the rear seat No. 3 cushion hinge cover.

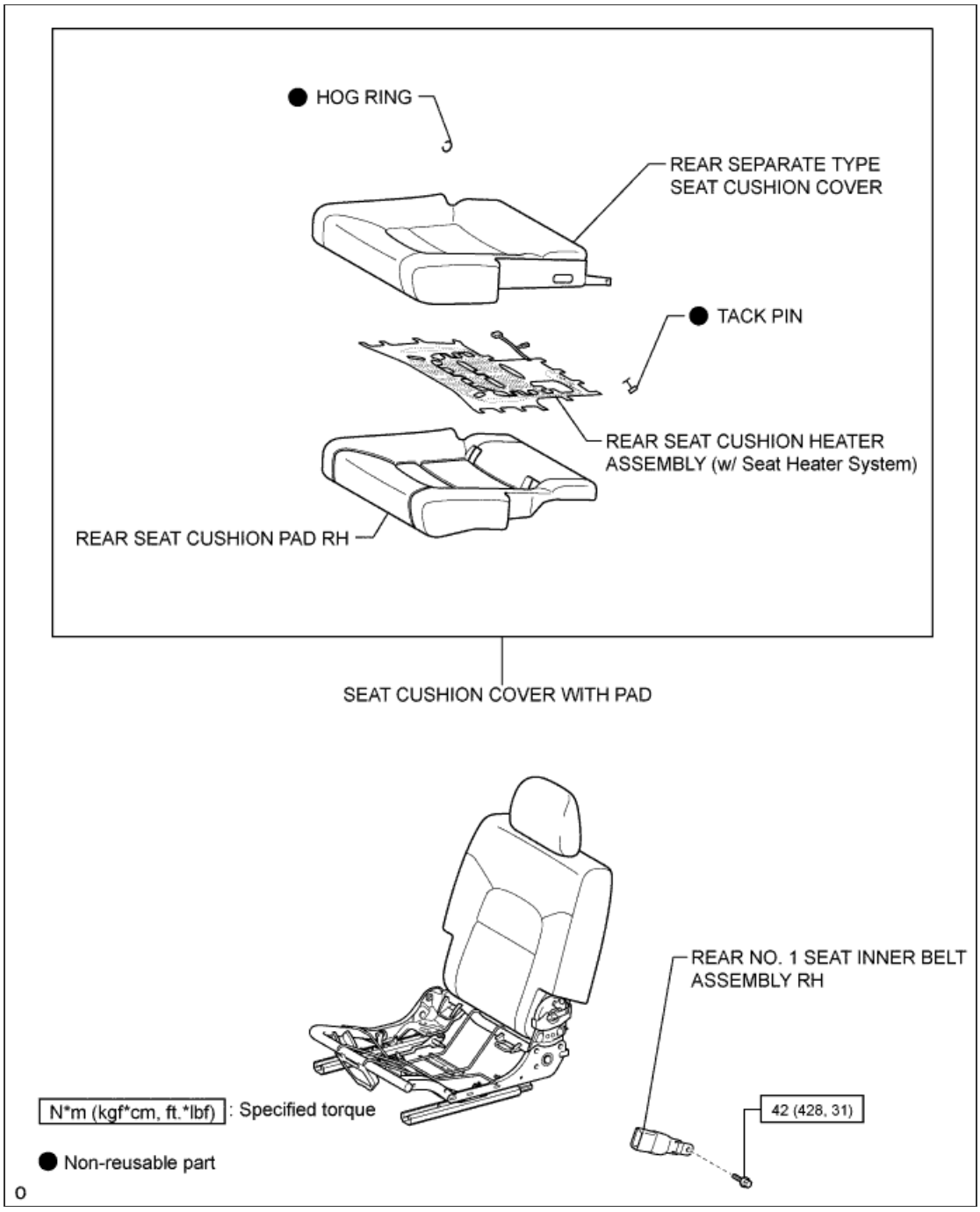
**for Preparation** Click here

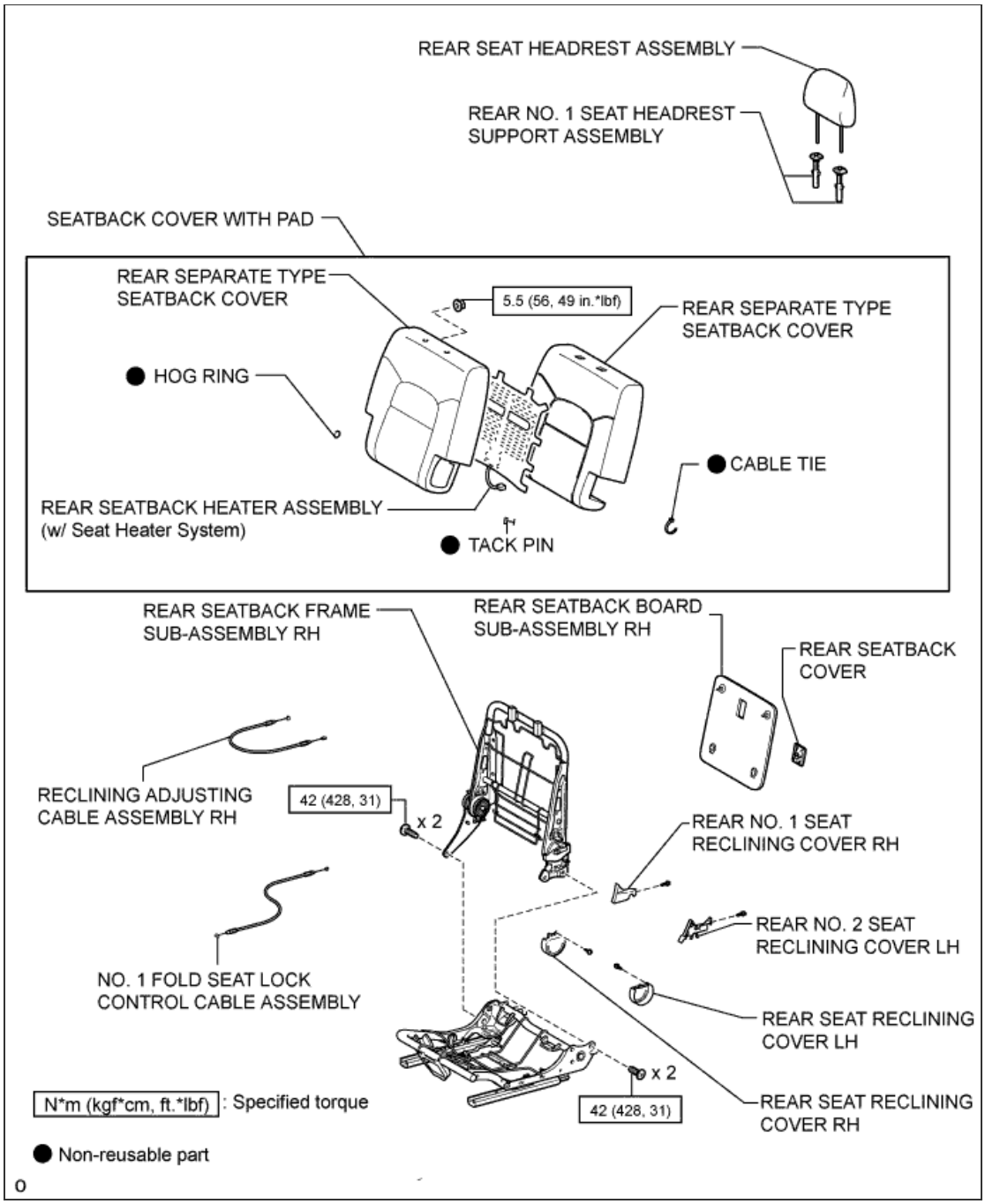


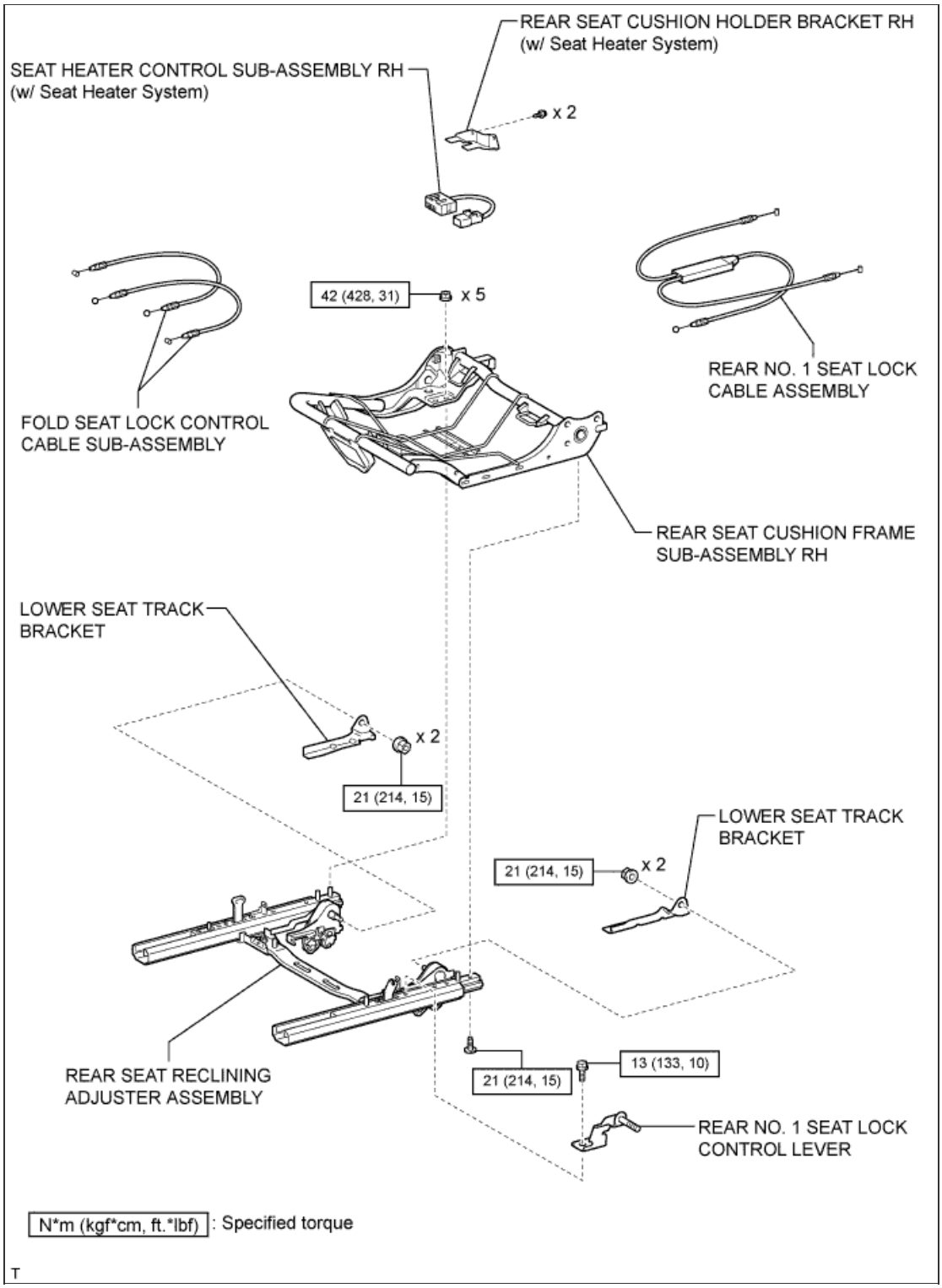

OUTER LAP BELT ANCHOR COVER
REAR FLOOR MAT REAR SUPPORT PLATE
SEAT BELT ANCHOR
FRONT QUARTER TRIM PANEL ASSEMBLY RH
12 (122, 9)
REAR SEAT COVER CAP
42 (428, 31)
42 (428, 31)
SEAT BELT ANCHOR
OUTER LAP BELT ANCHOR COVER
REAR SEAT COVER CAP
42 (428, 31)
12 (122, 9)
SEAT BELT ANCHOR
SEAT BELT ANCHOR
OUTER LAP BELT ANCHOR COVER
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY LH
REAR STEP COVER
REAR DOOR SCUFF PLATE RH
REAR AIR DUCT GUIDE (w/ Rear Air Conditioning System)
REAR STEP COVER
AIR DUCT PLUG (w/ Rear Air Conditioning System)
REAR DOOR SCUFF PLATE LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T


REAR NO. 1 SEAT PROTECTOR
REAR NO. 2 SEAT PROTECTOR
FRONT FLOOR CARPET ASSEMBLY
x 5
REAR NO. 6 AIR DUCT
(w/ Rear Air Conditioning
System)
x 2
x 2
x 4
x 2
37 (377, 27)
REAR SEAT CUSHION LOCK
STRIKER SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
T


RECLINING ADJUSTER RELEASE HANDLE RH
SEAT ADJUSTER BOLT COVER
REAR NO. 1 SEAT RECLINING COVER RH
UPPER SEAT TRACK RAIL COVER RH
UPPER SEAT TRACK RAIL COVER LH
REAR NO. 2 SEAT PROTECTOR
REAR NO. 1 SEAT RECLINING COVER LH
x 2
REAR UNDER SIDE COVER LH
x 5
FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY
NO. 1 SEAT CUSHION PLATE
REAR SEAT COVER
x 3
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH
REAR SEAT SIDE HINGE FEMALE COVER
REAR SEAT SIDE HINGE MALE COVER RH
x 2
42 (428, 31)
REAR SEAT SIDE HINGE MALE COVER LH
x 2
42 (428, 31)
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH
x 2
x 2
NO. 1 SEAT CUSHION COVER
x 4
REAR SEAT UNDER TRAY COVER RH
REAR NO. 2 SEAT LEG SIDE COVER
REAR SEAT TRACK HANDLE SUB-ASSEMBLY
FOLD SEAT STOPPER BAND ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
T


HOG RING
REAR SEPARATE TYPE SEAT CUSHION COVER
TACK PIN
REAR SEAT CUSHION HEATER ASSEMBLY (w/ Seat Heater System)
REAR SEAT CUSHION PAD RH
SEAT CUSHION COVER WITH PAD
REAR NO. 1 SEAT INNER BELT ASSEMBLY RH
42 (428, 31)
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
o


REAR SEAT HEADREST ASSEMBLY
REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY
SEATBACK COVER WITH PAD
REAR SEPARATE TYPE SEATBACK COVER
5.5 (56, 49 in.*lbf)
REAR SEPARATE TYPE SEATBACK COVER
HOG RING
CABLE TIE
REAR SEATBACK HEATER ASSEMBLY (w/ Seat Heater System)
TACK PIN
REAR SEATBACK FRAME SUB-ASSEMBLY RH
REAR SEATBACK BOARD SUB-ASSEMBLY RH
REAR SEATBACK COVER
RECLINING ADJUSTING CABLE ASSEMBLY RH
42 (428, 31)
x 2
REAR NO. 1 SEAT RECLINING COVER RH
REAR NO. 2 SEAT RECLINING COVER LH
NO. 1 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY
REAR SEAT RECLINING COVER LH
x 2
42 (428, 31)
REAR SEAT RECLINING COVER RH
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
o


REAR SEAT CUSHION HOLDER BRACKET RH
(w/ Seat Heater System)
SEAT HEATER CONTROL SUB-ASSEMBLY RH
(w/ Seat Heater System)
x 2
42 (428, 31)
x 5
REAR NO. 1 SEAT LOCK
CABLE ASSEMBLY
FOLD SEAT LOCK CONTROL
CABLE SUB-ASSEMBLY
REAR SEAT CUSHION FRAME
SUB-ASSEMBLY RH
LOWER SEAT TRACK
BRACKET
x 2
21 (214, 15)
LOWER SEAT TRACK
BRACKET
21 (214, 15)
x 2
REAR SEAT RECLINING
ADJUSTER ASSEMBLY
21 (214, 15)
13 (133, 10)
REAR NO. 1 SEAT LOCK
CONTROL LEVER
N*m (kgf*cm, ft.*lbf) : Specified torque
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

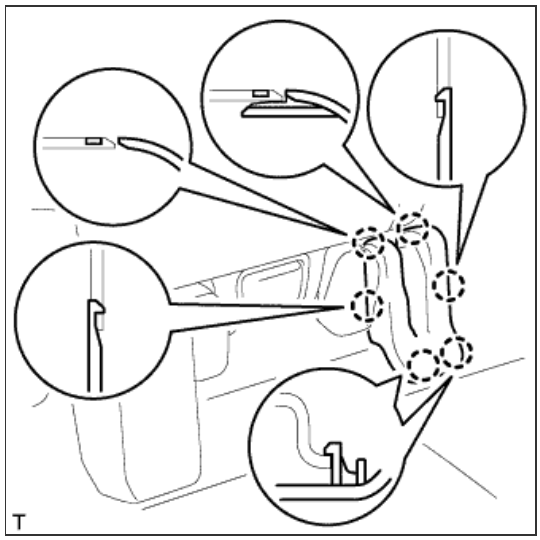
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE REAR NO. 2 SEAT CUSHION HINGE COVER

a. Using a screwdriver, detach the 6 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

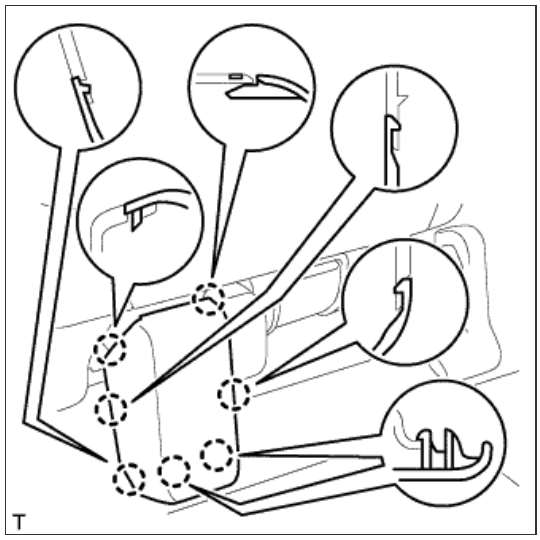



## 4. REMOVE REAR NO. 4 SEAT CUSHION HINGE COVER

a. Using a screwdriver, detach the 7 claws and remove the cover.

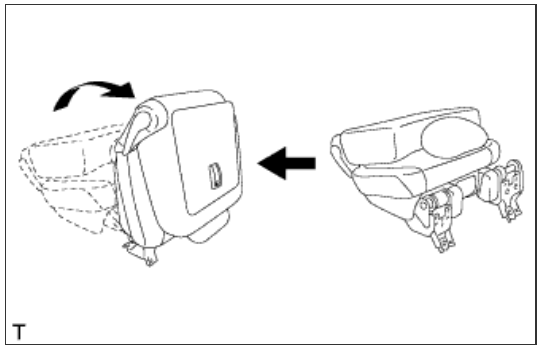
**HINT:**

Tape the screwdriver tip before use.




## 5. REMOVE REAR NO. 1 SEAT CUSHION HINGE COVER

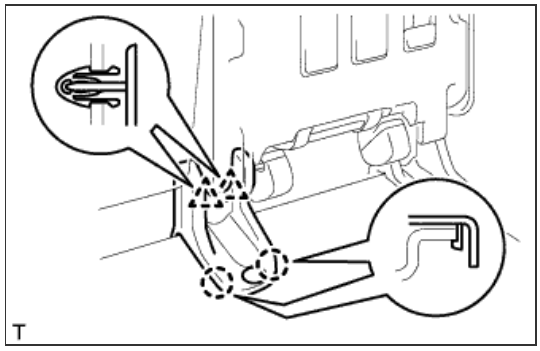
a. Operate the reclining adjuster release handle to move the seat into the position shown in the illustration.




b. Using a screwdriver, detach the 2 claws and 2 clips, and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

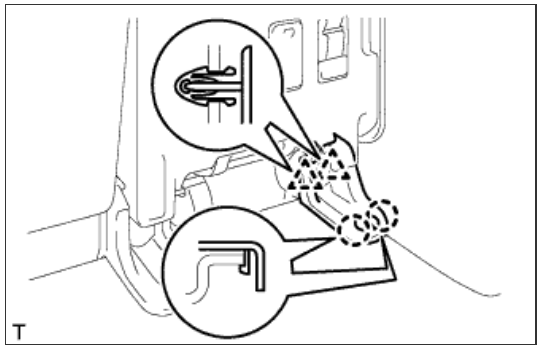



## 6. REMOVE REAR NO. 3 SEAT CUSHION HINGE COVER

a. Using a screwdriver, detach the 2 claws and 2 clips, and remove the cover.

**HINT:**

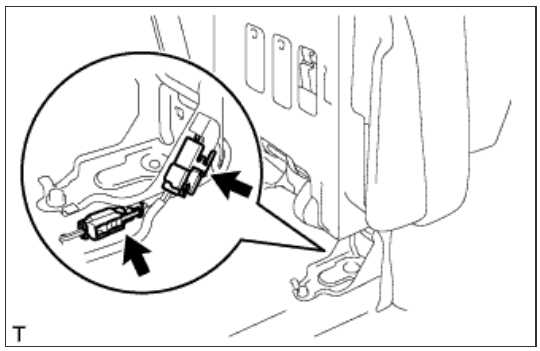
Tape the screwdriver tip before use.



## 7. REMOVE REAR NO. 1 SEAT ASSEMBLY RH

a. w/ Rear Seat Side Airbag:
Disconnect the connector.

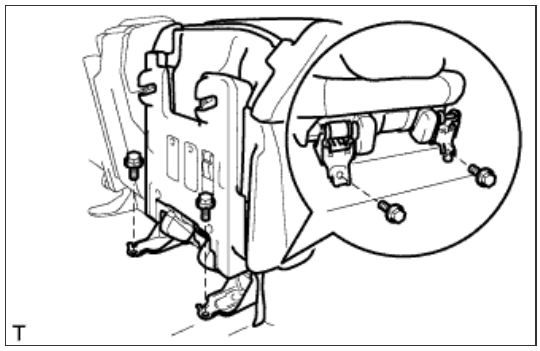
b. w/ Seat Heater System:
Disconnect the connector.




c. Remove the 4 bolts and seat assembly.

**NOTICE:**

Be careful not to damage the vehicle body.

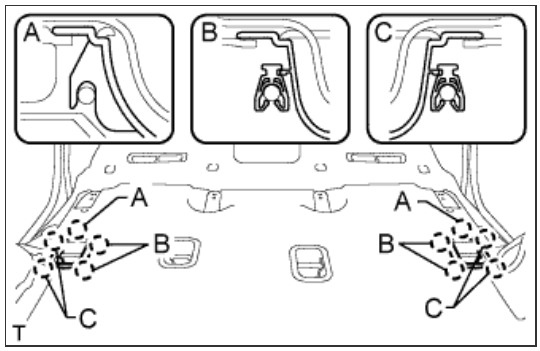



## 8. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

a. Remove the rear No. 1 seat assembly LH ( Click here).

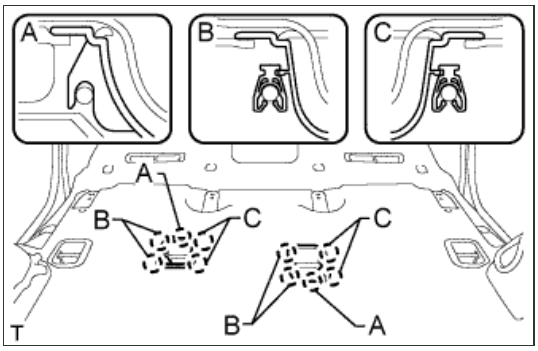
## 9. REMOVE REAR NO. 1 SEAT PROTECTOR

a. Detach the 10 claws and remove the 2 seat protectors.




## 10. REMOVE REAR NO. 2 SEAT PROTECTOR

a. Detach the 10 claws and remove the 2 seat protectors.

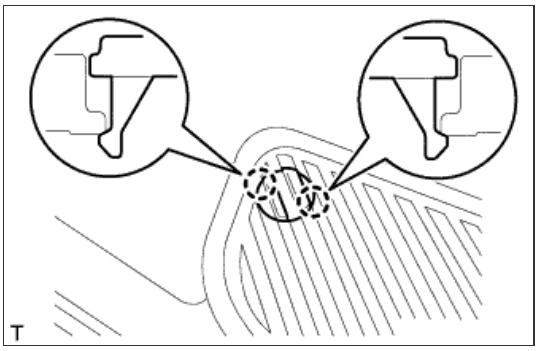



## 11. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

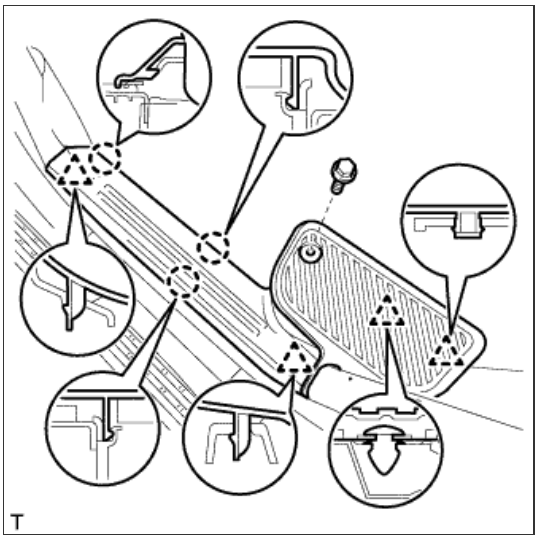
a. Detach the 2 claws and remove the step cover.




## 12. REMOVE REAR DOOR SCUFF PLATE LH

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




## 13. REMOVE REAR DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

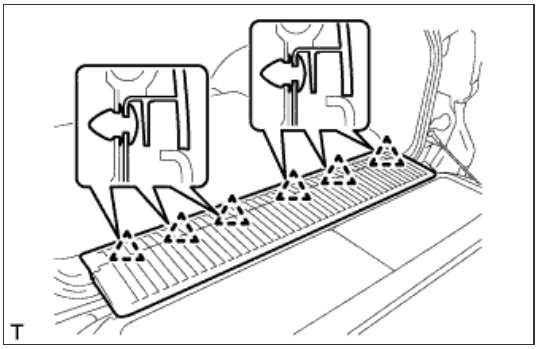
## 14. REMOVE REAR NO. 2 SEAT ASSEMBLY

a. for Face to Face Seat Type:
Remove the rear No. 2 seat assembly ( Click here).

b. except Face to Face Seat Type:
Remove the rear No. 2 seat assembly ( Click here).

## 15. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.




## 16. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

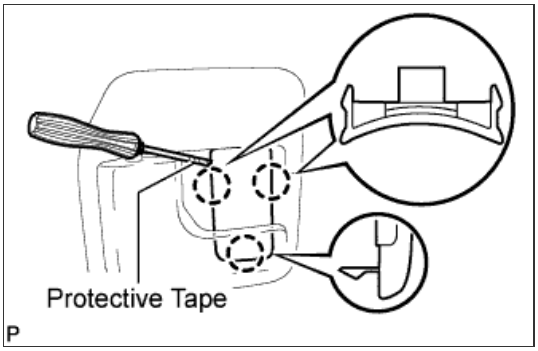
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

Tape the screwdriver tip before use.




## 17. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
Remove the front quarter trim panel assembly LH ( Click here).

b. w/o Sliding Roof:
Remove the front quarter trim panel assembly LH ( Click here).

## 18. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. w/ Sliding Roof:
Remove the front quarter trim panel assembly RH ( Click here).

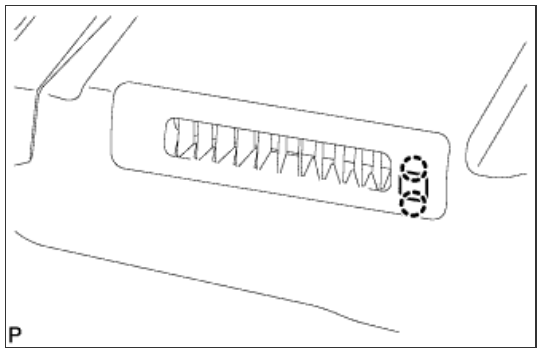
b. w/o Sliding Roof:
Remove the front quarter trim panel assembly RH ( Click here).

## 19. REMOVE AIR DUCT PLUG (w/ Rear Air Conditioning System)

a. Detach the 2 claws and remove the plug.

**HINT:**

Use the same procedures for both sides.



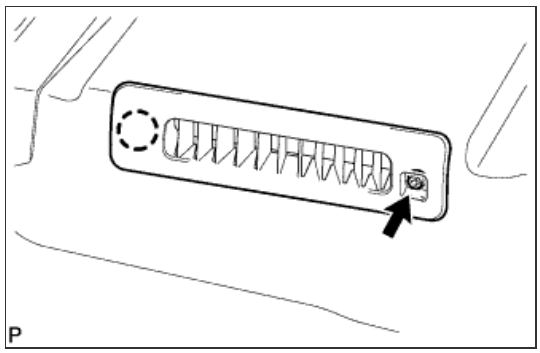

## 20. REMOVE REAR AIR DUCT GUIDE (w/ Rear Air Conditioning System)

a. Remove the screw.

b. Detach the claw and remove the guide.

**HINT:**

Use the same procedures for both sides.

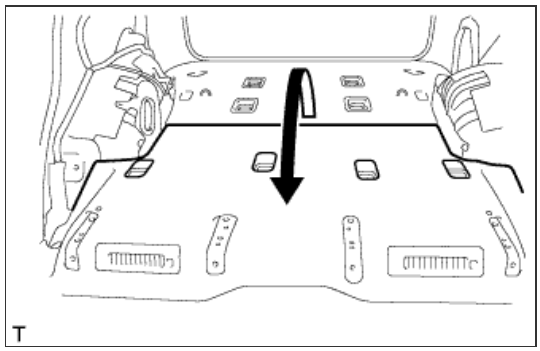



## 21. REMOVE FRONT FLOOR CARPET ASSEMBLY

a. Fold back the floor carpet.

**HINT:**

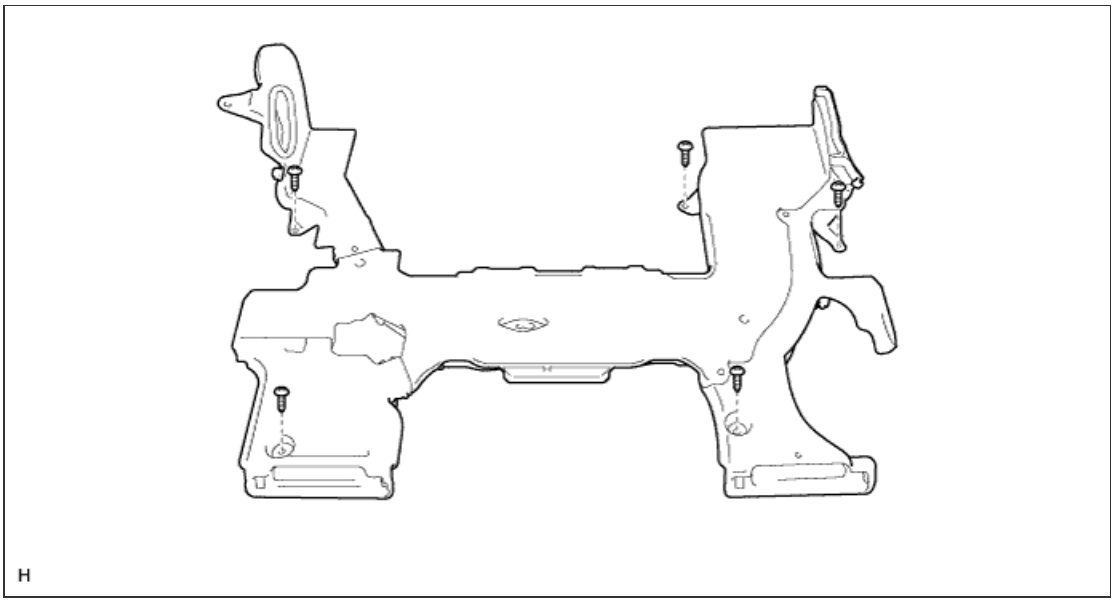
Fold back the carpet until it is possible to remove the rear No. 6 air duct.




## 22. REMOVE REAR NO. 6 AIR DUCT (w/ Rear Air Conditioning System)

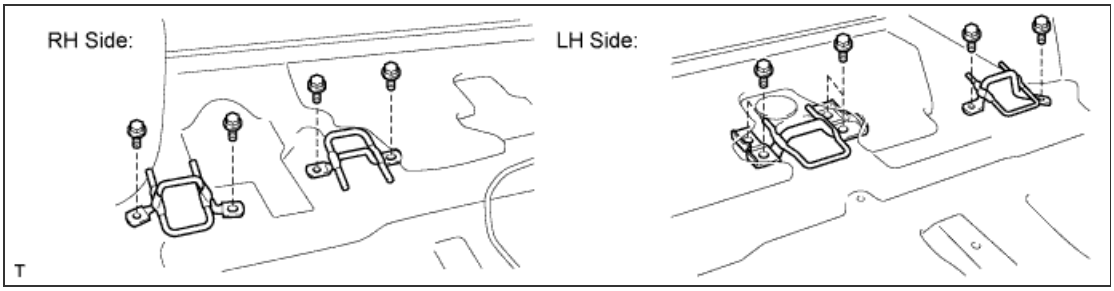
a. Disconnect the 2 connectors.

b. Remove the 5 screws and duct.




### 23. REMOVE REAR SEAT CUSHION LOCK STRIKER SUB-ASSEMBLY

a. Remove the 10 bolts and 4 lock strikers.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

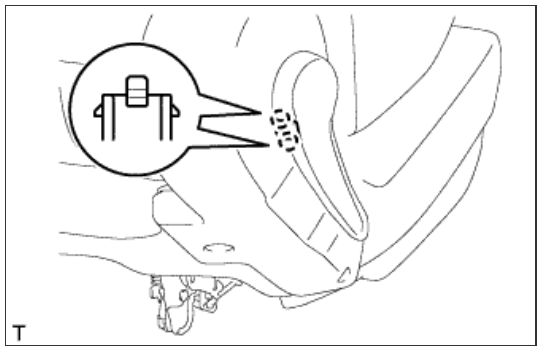
- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE SEAT ADJUSTER BOLT COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

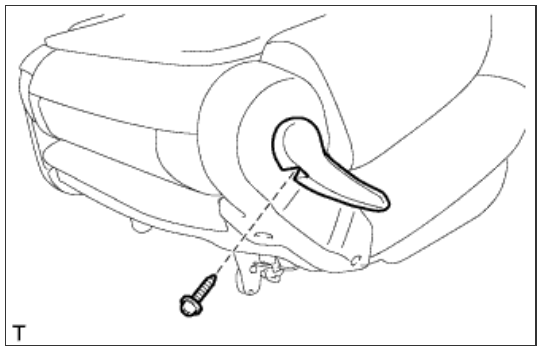
**HINT:**

Tape the screwdriver tip before use.




## 2. REMOVE RECLINING ADJUSTER RELEASE HANDLE RH

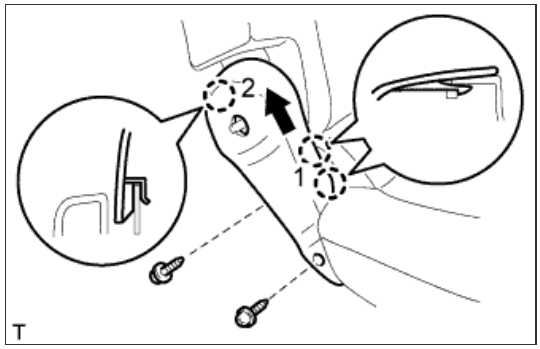
a. Remove the screw and release handle.




## 3. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the 2 screws.

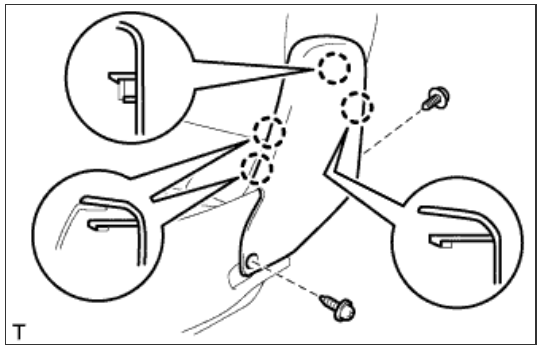
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.




## 4. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

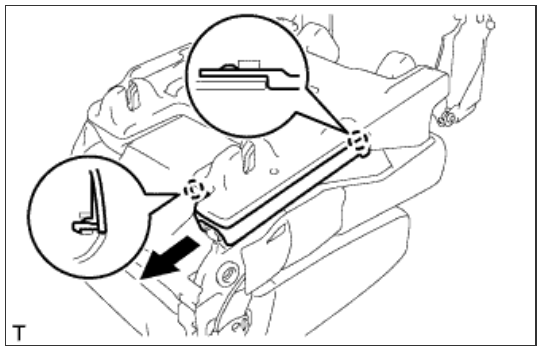



## 5. REMOVE UPPER SEAT TRACK RAIL COVER LH

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

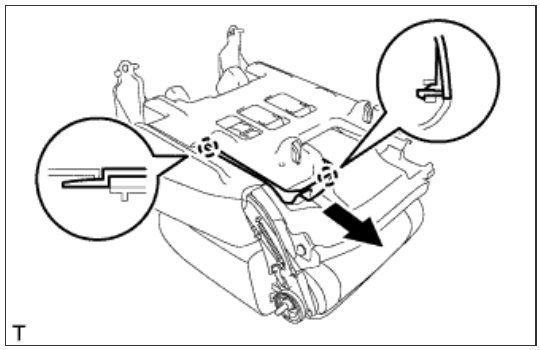



## 6. REMOVE UPPER SEAT TRACK RAIL COVER RH

a. Using a screwdriver, detach the 2 claws and remove the cover.

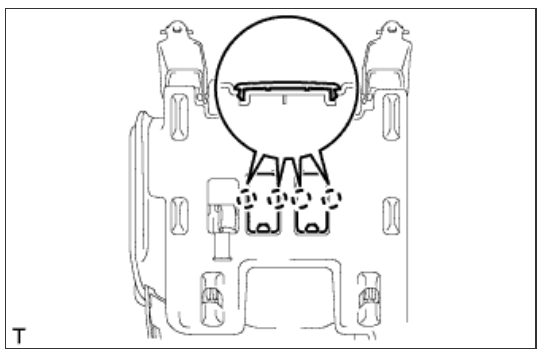
**HINT:**

Tape the screwdriver tip before use.



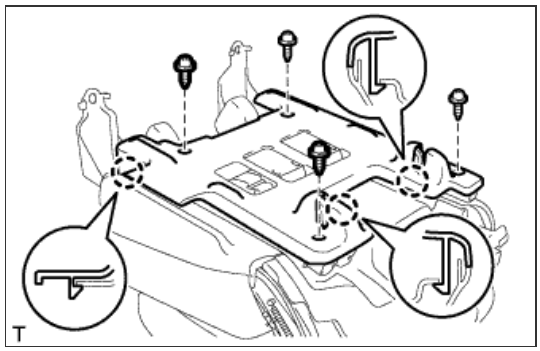

## 7. REMOVE NO. 1 SEAT CUSHION COVER

a. Detach the 4 claws and remove the 2 covers.

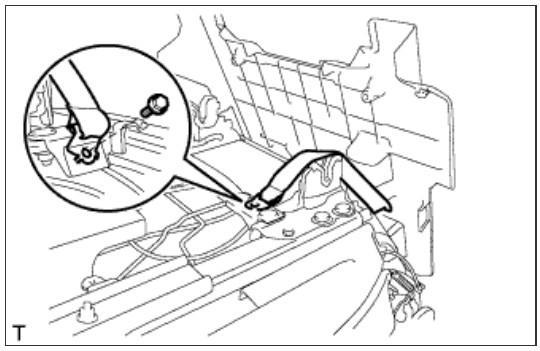



## 8. REMOVE REAR NO. 2 SEAT LEG SIDE COVER

a. Remove the 4 screws and detach the 3 claws.




b. Remove the bolt that is securing the fold seat stopper band and remove the seat leg side cover together with the fold seat stopper band.




## 9. REMOVE FOLD SEAT STOPPER BAND ASSEMBLY

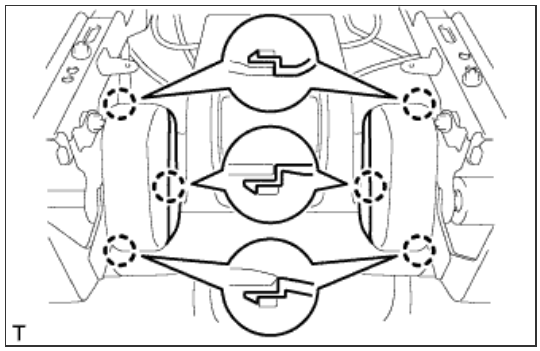
a. Remove the fold seat stopper band from the seat leg side cover.

## 10. REMOVE REAR SEAT SIDE HINGE FEMALE COVER

a. Using a screwdriver, detach the 6 claws and remove the 2 covers.

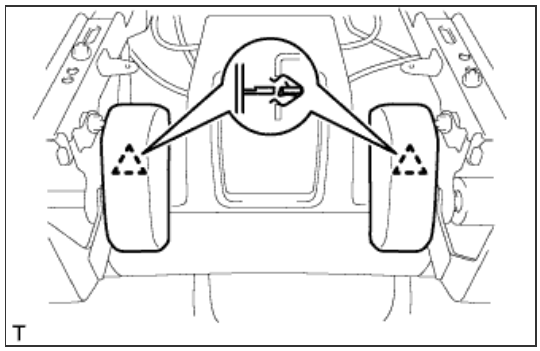
**HINT:**

Tape the screwdriver tip before use.




## 11. REMOVE REAR SEAT SIDE HINGE MALE COVER LH

a. Detach the clip and remove the cover.



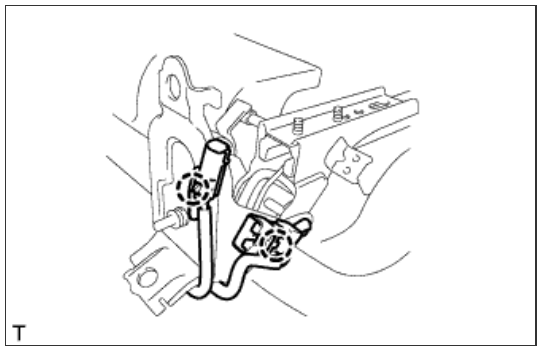
## 12. REMOVE REAR SEAT SIDE HINGE MALE COVER RH

a. Detach the clip and remove the cover.

## 13. REMOVE REAR NO. 2 SEAT PROTECTOR

a. w/ Rear Seat Side Airbag:
Detach the claw and remove the wire harness connector.

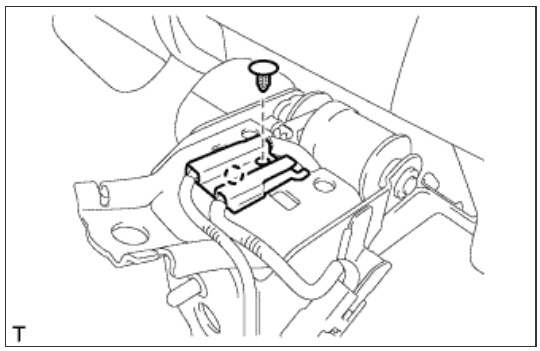
b. w/ Seat Heater System:
Detach the claw and remove the wire harness connector.




c. Using a clip remover, remove the clip.

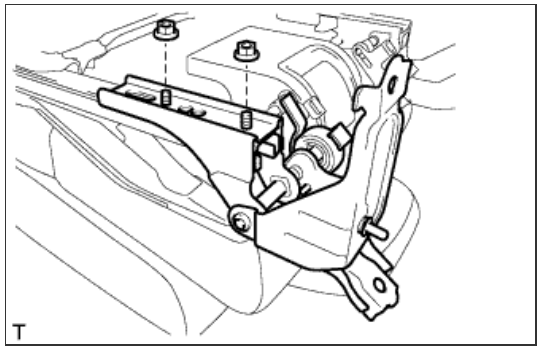
d. Detach the claw and remove the seat protector from the seat hinge.

e. Detach the 2 claws, open the protector and remove the wire harness.




## 14. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Remove the 2 nuts and hinge.

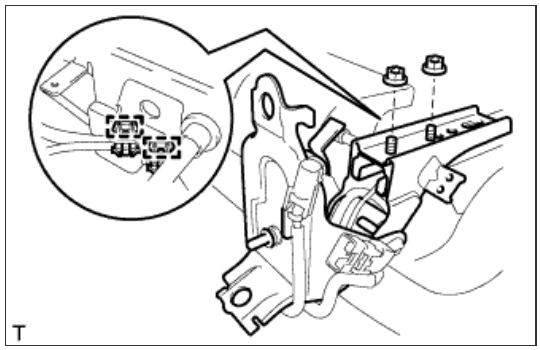



## 15. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

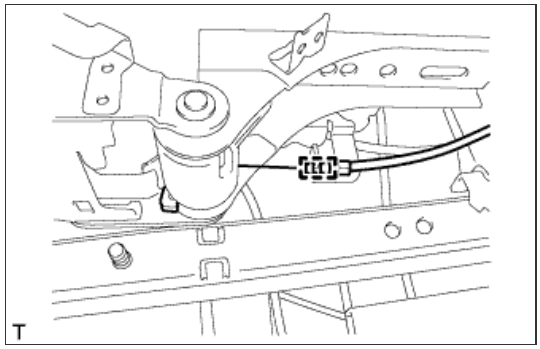
a. w/ Rear Seat Side Airbag:
Detach the wire harness clamp.

b. w/ Seat Heater System:
Detach the wire harness clamp.

c. Remove the 2 nuts and hinge.

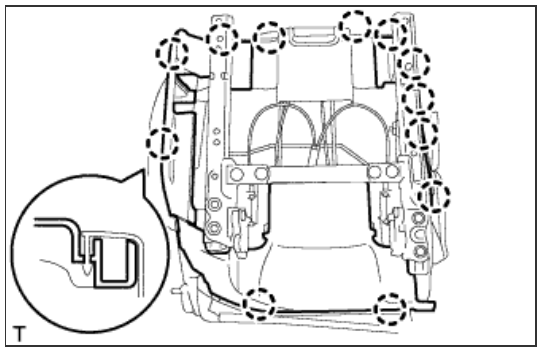



d. Detach the cable clamp and disconnect the cable.



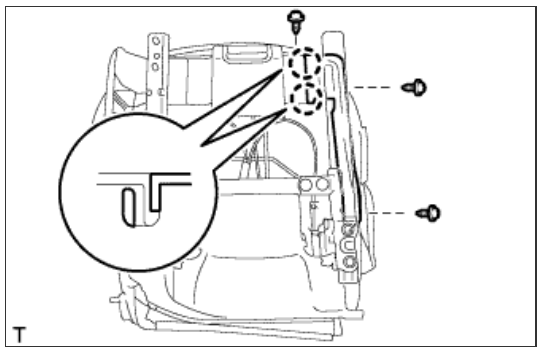

## 16. REMOVE REAR SEAT COVER

a. Detach the 12 claws.




b. Remove the 3 screws.

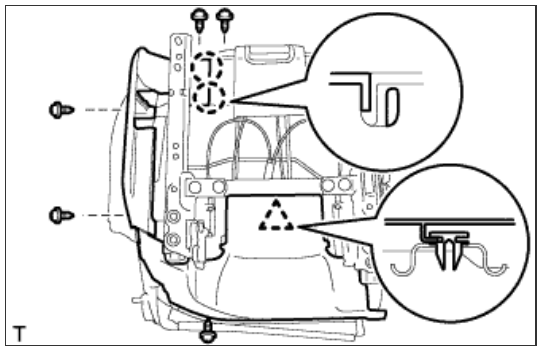
c. Detach the 2 claws and remove the cover.




## 17. REMOVE REAR UNDER SIDE COVER LH

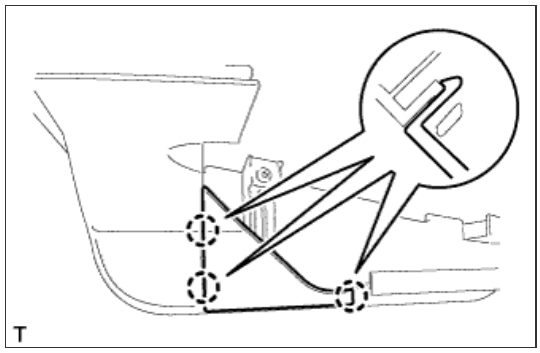
a. Remove the 5 screws.

b. Detach the clip and 2 claws, and remove the cover.




## 18. REMOVE NO. 1 SEAT CUSHION PLATE

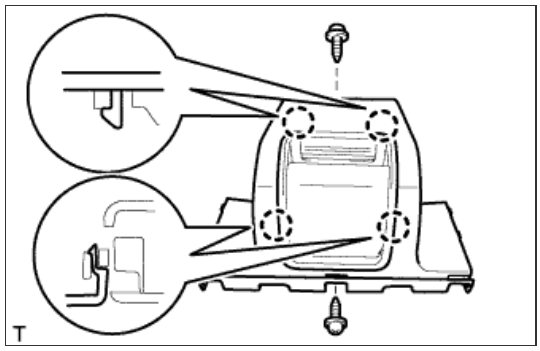
a. Detach the 3 claws and remove the seat cushion plate.




## 19. REMOVE REAR SEAT UNDER TRAY COVER RH

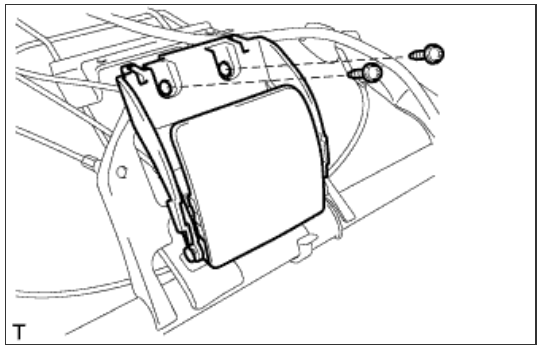
a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

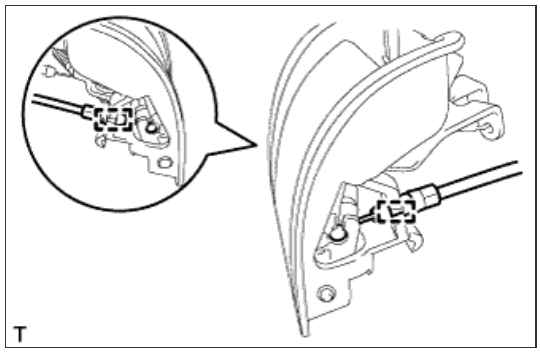



## 20. REMOVE REAR SEAT TRACK HANDLE SUB-ASSEMBLY

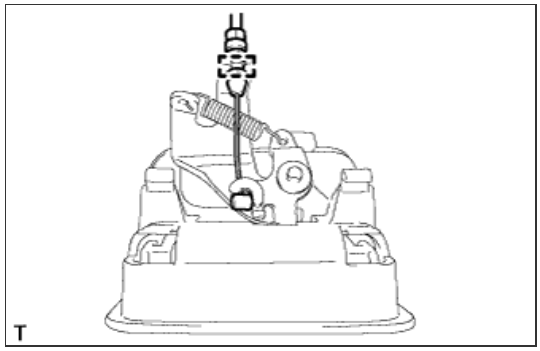
a. Remove the 2 screws and seat track handle.




b. Detach the 2 cable clamps and disconnect the 2 cables.




c. Detach the cable clamp and disconnect the cable.




## 21. REMOVE FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY

## 22. REMOVE SEAT CUSHION COVER WITH PAD

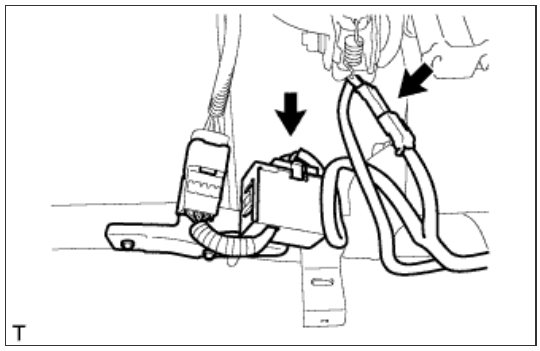
a. w/ Rear Seat Side Airbag:

i. Detach the side airbag wire harness clamps.

ii. Remove the side airbag wire harness through the hole in the seat cushion.

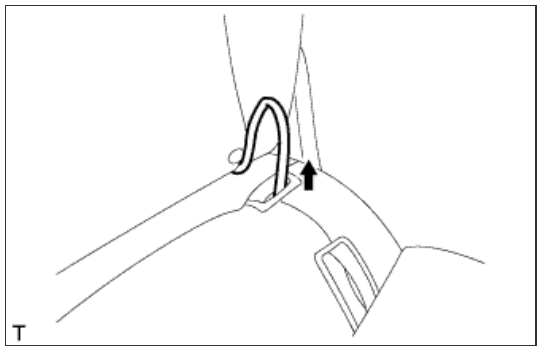
b. w/ Seat Heater System:

i. Disconnect the 2 seat heater connectors.



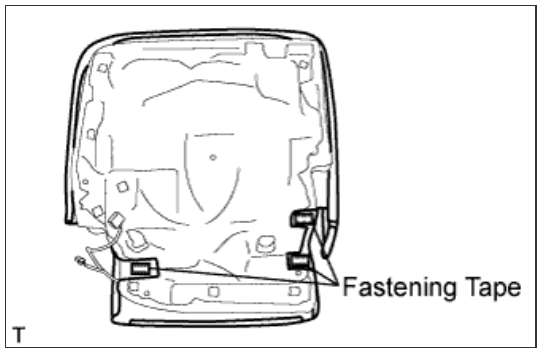

ii. Remove the seatback heater wire harness through the hole in the seat cushion.

c. Remove the seat cushion cover with pad.

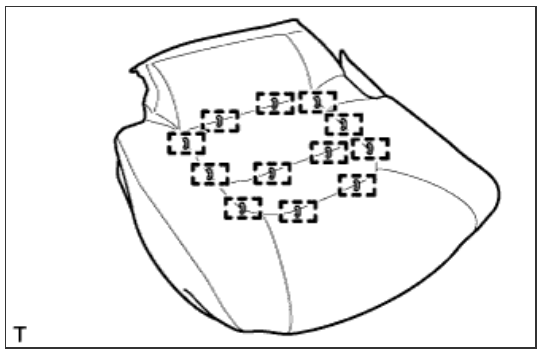



### 23. REMOVE REAR SEPARATE TYPE SEAT CUSHION COVER

a. Detach the 3 pieces of fastening tape.

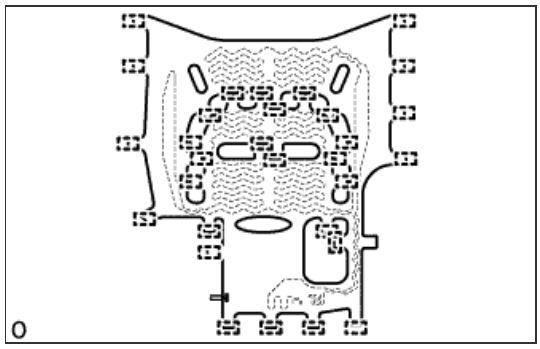



b. Remove the hog rings and cover.




### 24. REMOVE REAR SEAT CUSHION HEATER ASSEMBLY (w/ Seat Heater System)

a. Cut off the tack pins which fasten the seat heater to the seat cushion cover, and then remove the seat cushion heater from the seat cushion cover.

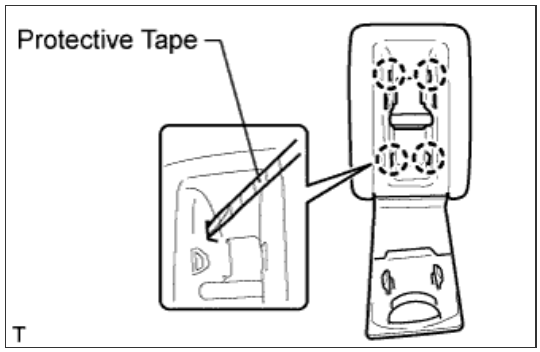



### 25. REMOVE REAR SEATBACK COVER

a. Using a screwdriver, detach the 4 claws and remove the cover.

**HINT:**

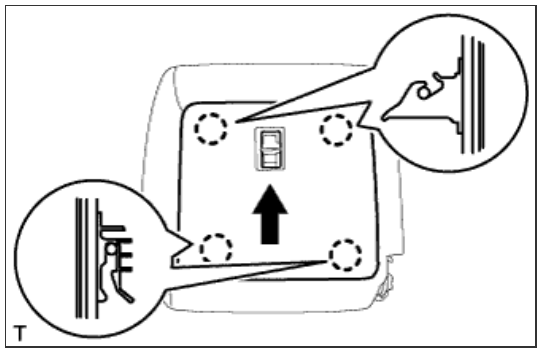
Tape the screwdriver tip before use.




## 26. REMOVE REAR SEATBACK BOARD SUB-ASSEMBLY RH

a. Detach the 2 claws on the top of the board.

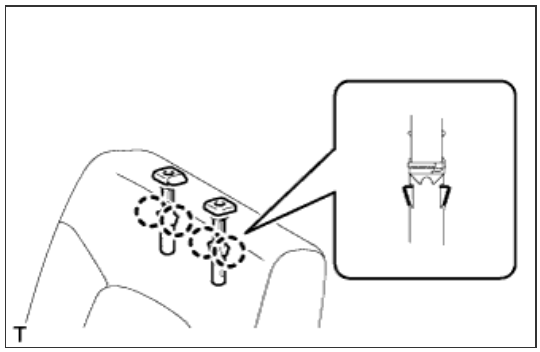
b. Pull up the board to detach the 2 claws on the bottom of the board and remove it.




## 27. REMOVE REAR SEAT HEADREST ASSEMBLY

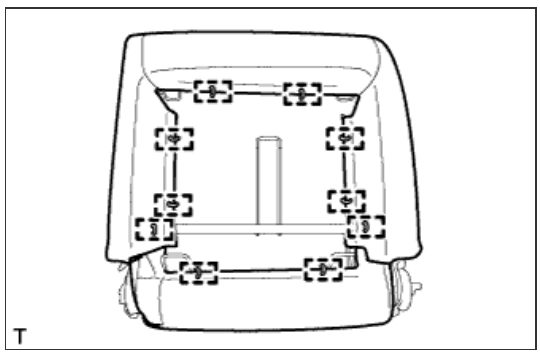
## 28. REMOVE REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. Detach the 4 claws and remove the 2 supports.




## 29. REMOVE SEATBACK COVER WITH PAD

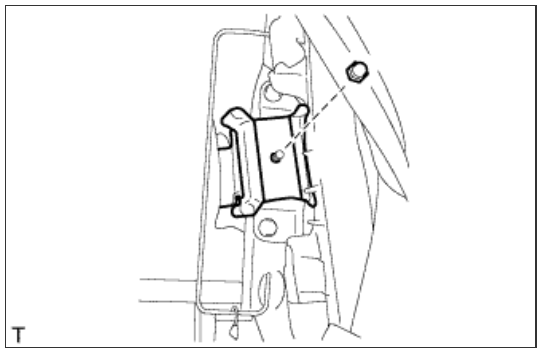
a. Remove the hog rings.



b. w/ Rear Seat Side Airbag:

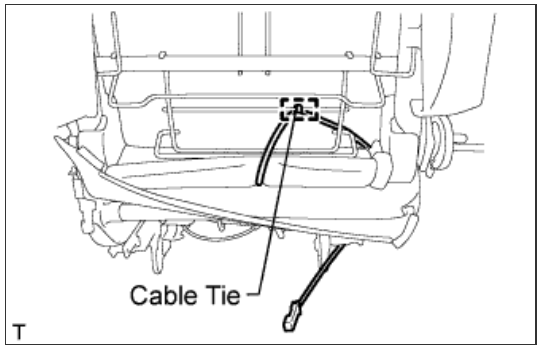
i. Remove the cap nut and seatback cover bracket from the seat frame.

ii. Remove the side airbag wire harness through the hole in the seatback.

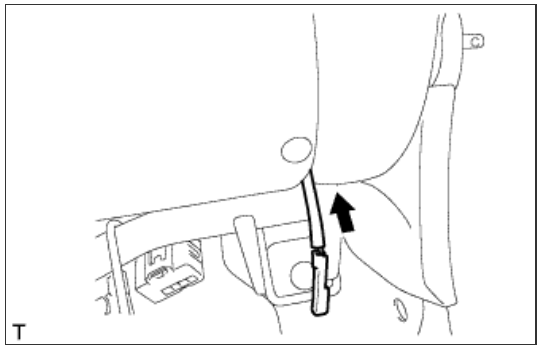



c. w/ Seat Heater System:

i. Cut the cable tie and disconnect the seatback heater wire harness.



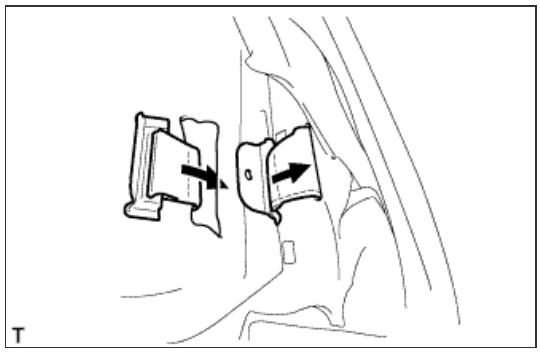

ii. Remove the seatback heater wire harness through the hole in the seatback.



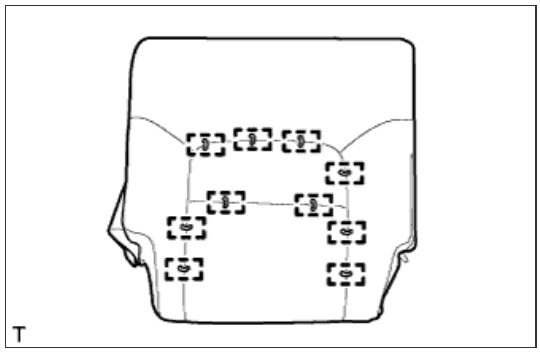

d. Remove the seatback cover with pad.

## 30. REMOVE REAR SEPARATE TYPE SEATBACK COVER

a. w/ Rear Seat Side Airbag:
Disconnect the seatback cover bracket from the seatback pad.

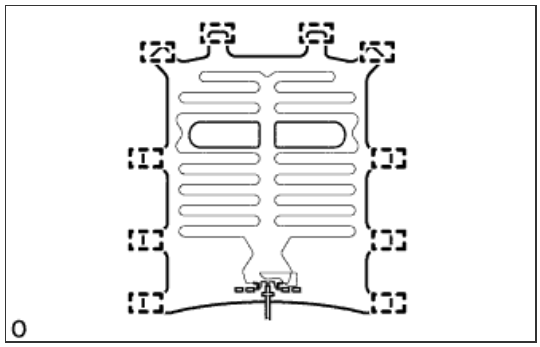



b. Remove the hog rings and rear seatback cover.




### 31. REMOVE REAR SEATBACK HEATER ASSEMBLY (w/ Seat Heater System)

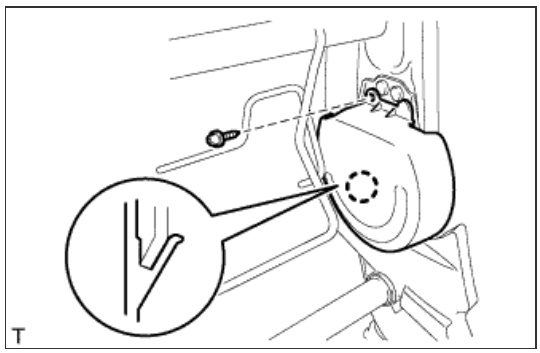
a. Cut off the tack pins which fasten the seatback heater to the seatback cover, and then remove the seatback heater from the seatback cover.




### 32. REMOVE REAR SEAT RECLINING COVER LH

a. Remove the screw.

b. Detach the claw and remove the cover.




### 33. REMOVE REAR SEAT RECLINING COVER RH

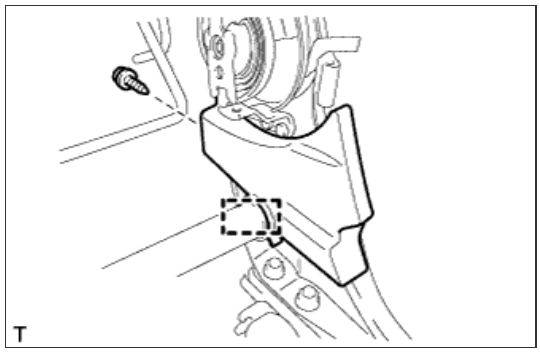
a. Remove the screw.

b. Detach the claw and remove the cover.

### 34. REMOVE REAR NO. 2 SEAT RECLINING COVER LH

a. Remove the screw.

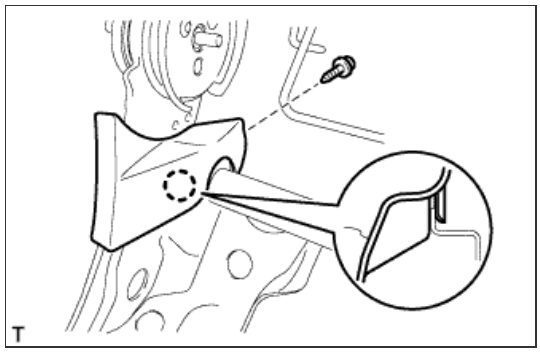
b. Detach the clamp and remove the cover.




## 35. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the screw.

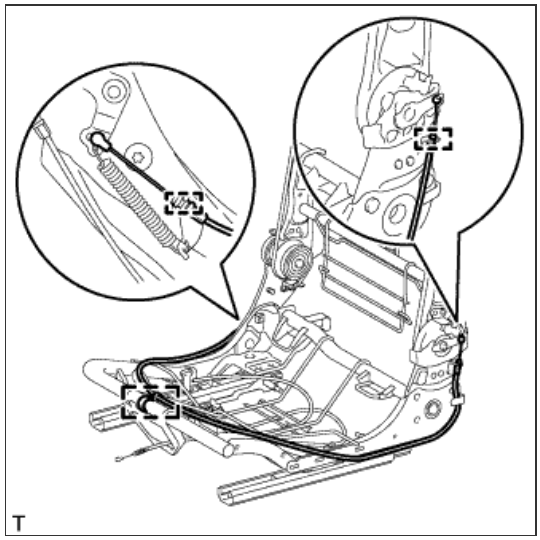
b. Detach the claw and remove the cover.




## 36. REMOVE RECLINING ADJUSTING CABLE ASSEMBLY RH

a. Detach the 2 cable clamps and disconnect the cable.

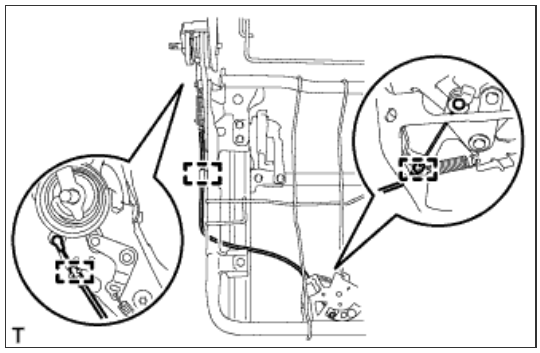
b. Detach the clamp and remove the adjusting cable.




## 37. REMOVE NO. 1 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY

a. Detach the 2 cable clamps and disconnect the cable.

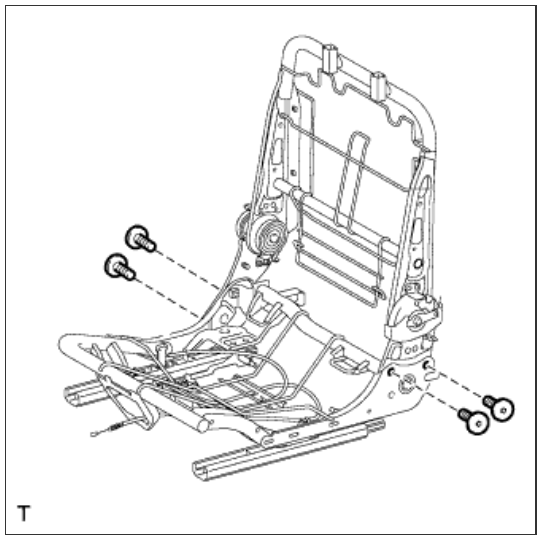
b. Detach the clamp and remove the lock control cable.




## 38. REMOVE REAR SEATBACK FRAME SUB-ASSEMBLY RH

a. Using a T40 "TORX" socket, remove the 4 bolts.

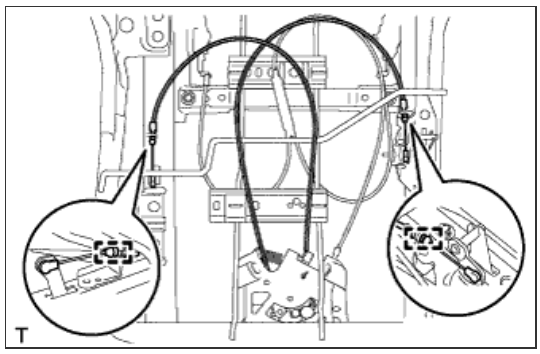
b. Remove the seatback frame.




## 39. REMOVE FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY

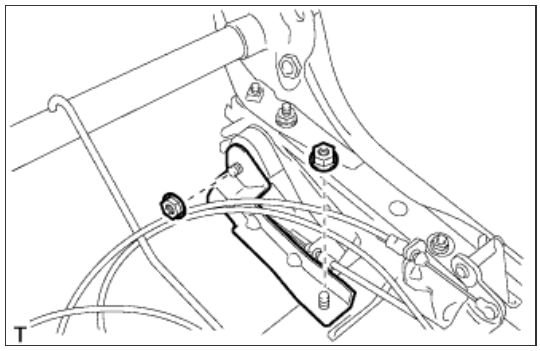
a. Detach the 2 cable clamps and disconnect the 2 cables.

b. Remove the 2 fold seat lock control cables.

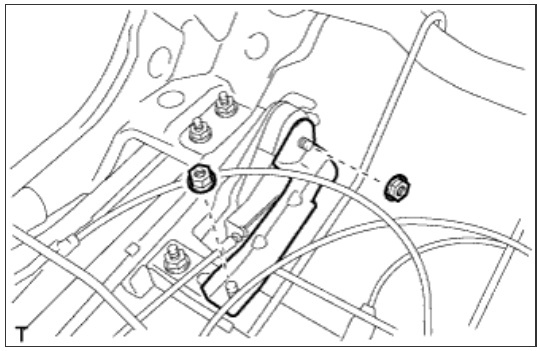



## 40. REMOVE REAR NO. 1 SEAT LOCK CABLE ASSEMBLY

a. Remove the 2 nuts and lower seat track bracket.

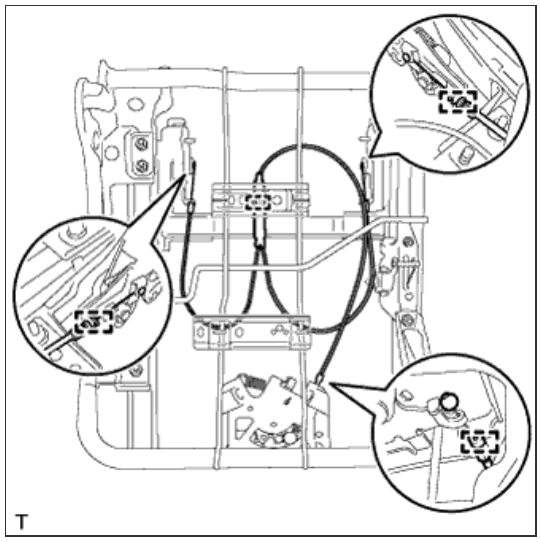



b. Remove the 2 nuts and lower seat track bracket.




c. Detach the 3 cable clamps and disconnect the 3 cables.

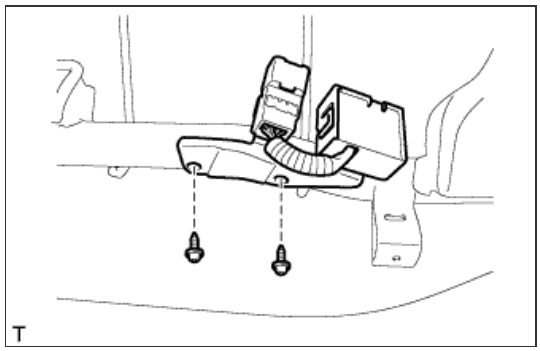
d. Detach the clamp and remove the seat lock cable.




**41. REMOVE REAR SEAT CUSHION HOLDER BRACKET RH (w/ Seat Heater System)**

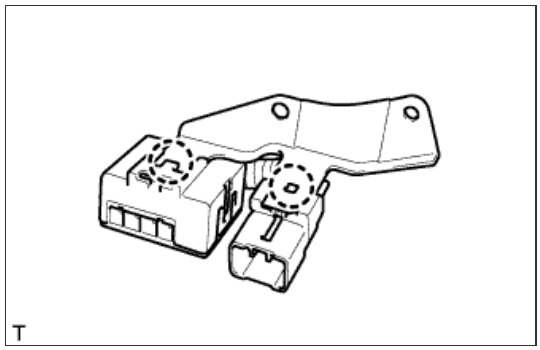
a. Disconnect the seat wire connector.

b. Remove the 2 screws and holder bracket.



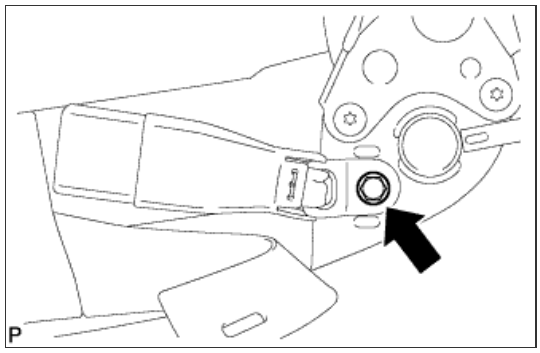

**42. REMOVE SEAT HEATER CONTROL SUB-ASSEMBLY RH (w/ Seat Heater System)**

a. Detach the 2 claws and remove the seat heater control.




### 43. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY RH

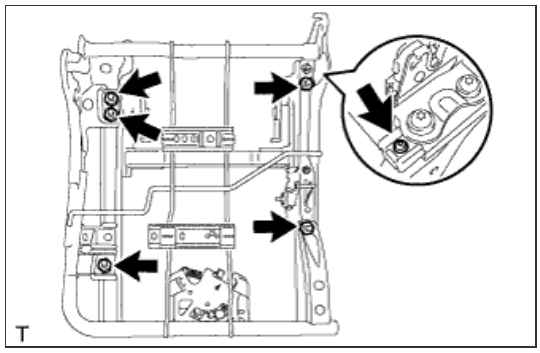
a. Remove the bolt and belt.




### 44. REMOVE REAR SEAT CUSHION FRAME SUB-ASSEMBLY RH

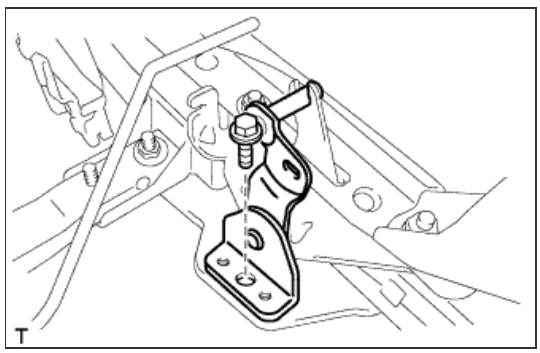
a. Using a T40 "TORX" socket, remove the bolt.

b. Remove the 5 nuts and seat cushion frame.




### 45. REMOVE REAR NO. 1 SEAT LOCK CONTROL LEVER

a. Remove the bolt and lock control lever.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

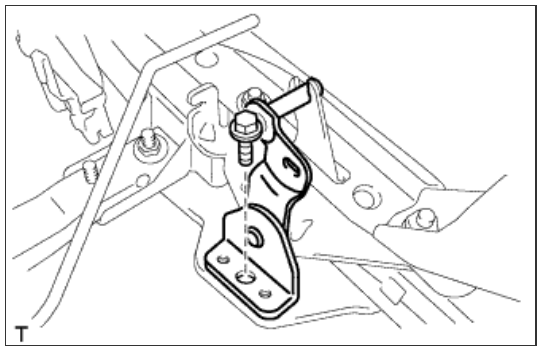
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL REAR NO. 1 SEAT LOCK CONTROL LEVER

a. Install the lock control lever with the bolt.

**Torque:**
**13 N*m{ 133 kgf*cm , 10 ft.*lbf }**




## 2. INSTALL REAR SEAT CUSHION FRAME SUB-ASSEMBLY RH

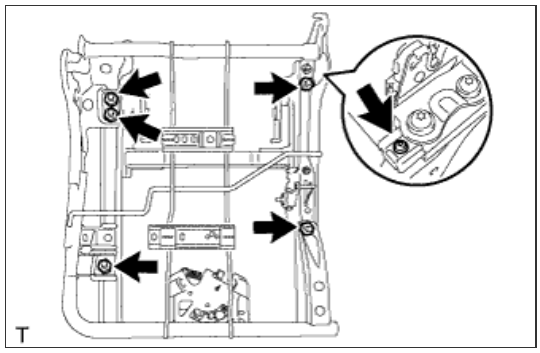
a. Temporarily install the seat cushion frame with the 5 nuts and bolt.

b. Tighten the 5 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. Using a T40 "TORX" socket, tighten the bolt.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**



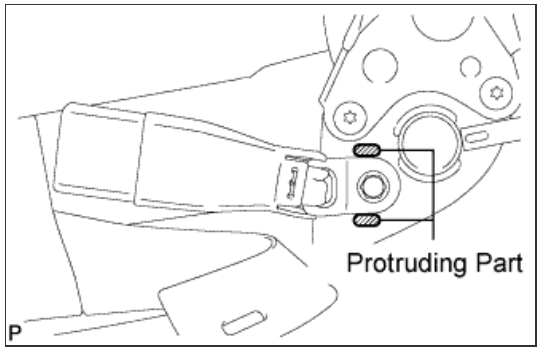

## 3. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY RH

a. Install the belt with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

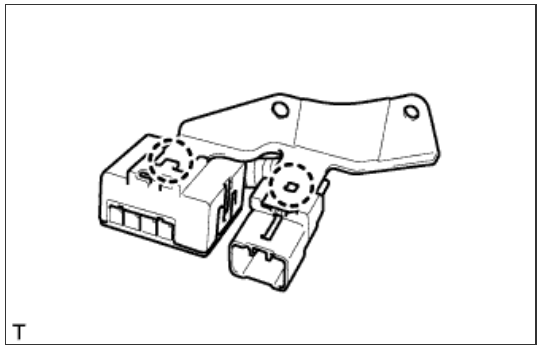
**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the seat.




## 4. INSTALL SEAT HEATER CONTROL SUB-ASSEMBLY RH (w/ Seat Heater System)

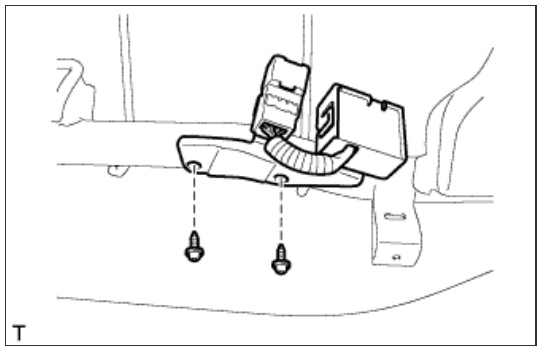
a. Attach the 2 claws to install the seat heater control.




## 5. INSTALL REAR SEAT CUSHION HOLDER BRACKET RH (w/ Seat Heater System)

a. Install the holder bracket with the 2 screws.

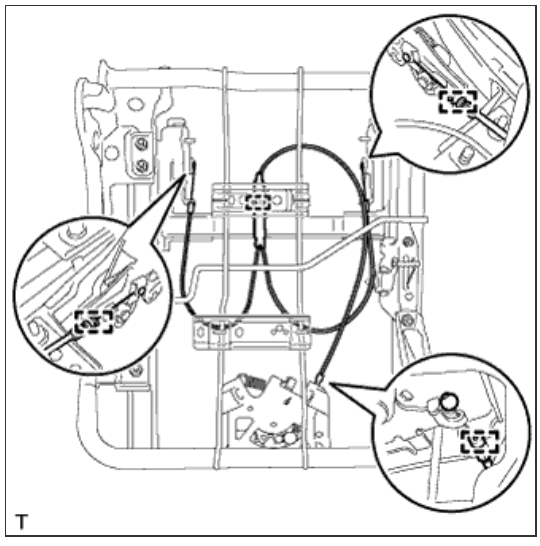
b. Connect the seat wire connector.




## 6. INSTALL REAR NO. 1 SEAT LOCK CABLE ASSEMBLY

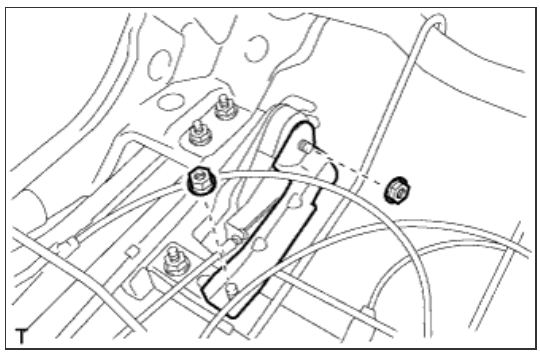
a. Attach the clamp to install the seat lock cable.

b. Attach the 3 cable clamps to connect the 3 cables.



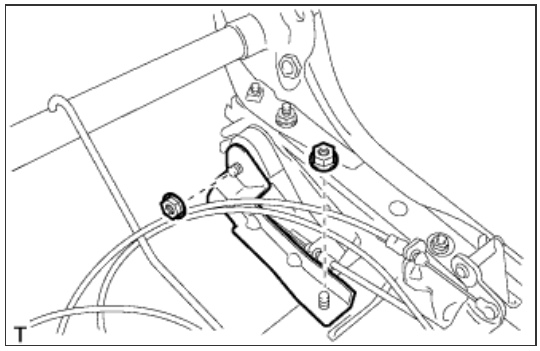

c. Install the lower seat track bracket with the 2 nuts.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**



d. Install the lower seat track bracket with the 2 nuts.

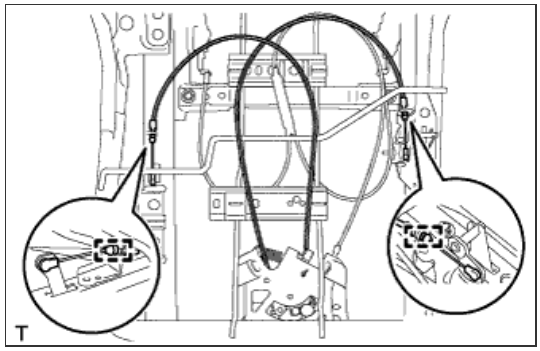
**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**




## 7. INSTALL FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY

a. Install the 2 fold seat lock control cables.

b. Attach the 2 cable clamps to connect the 2 cables.

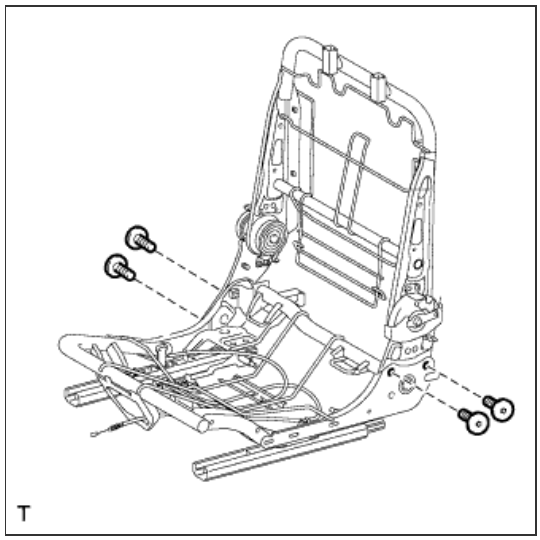



## 8. INSTALL REAR SEATBACK FRAME SUB-ASSEMBLY RH

a. Temporarily install the seatback frame with the 4 bolts.

b. Using a T40 "TORX" socket, tighten the 4 bolts.

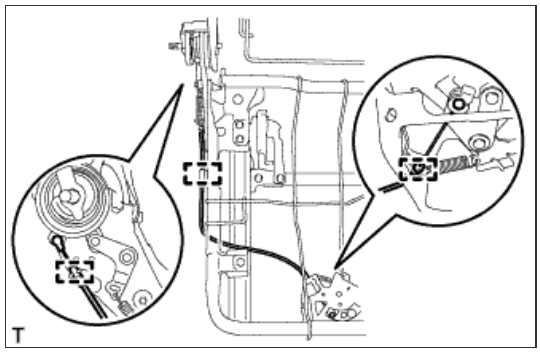
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 9. INSTALL NO. 1 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY

a. Attach the clamp to install the lock control cable.

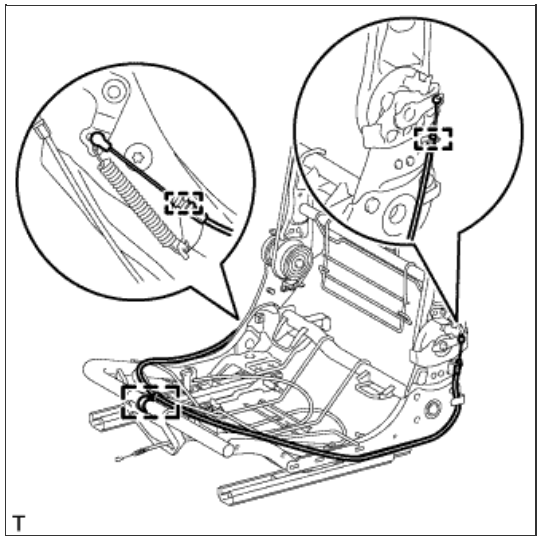
b. Attach the 2 cable clamps to connect the cable.




## 10. INSTALL RECLINING ADJUSTING CABLE ASSEMBLY RH

a. Attach the clamp to install the adjusting cable.

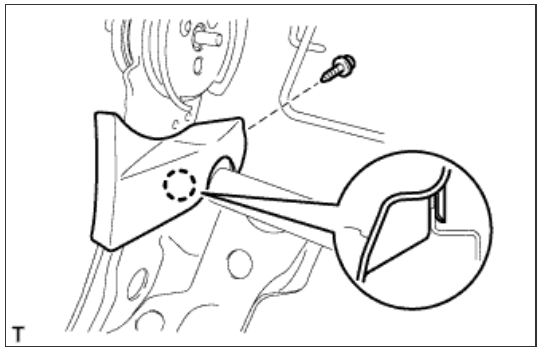
b. Attach the 2 cable clamps to connect the cable.




## 11. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

a. Attach the claw to install the cover.

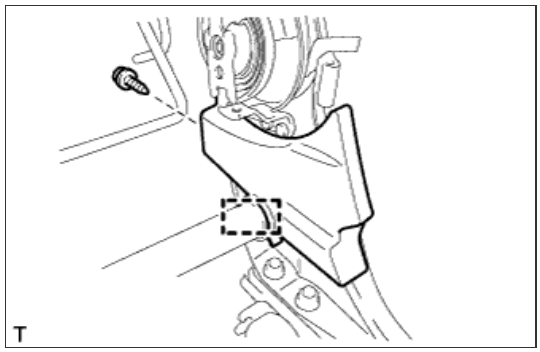
b. Install the screw.




## 12. INSTALL REAR NO. 2 SEAT RECLINING COVER LH

a. Attach the clamp to install the cover.

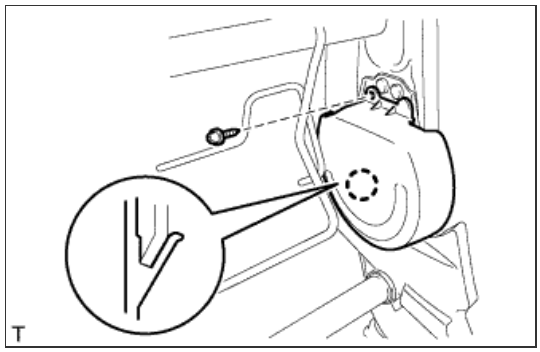
b. Install the screw.




### 13. INSTALL REAR SEAT RECLINING COVER RH

a. Attach the claw to install the cover.

b. Install the screw.




### 14. INSTALL REAR SEAT RECLINING COVER LH

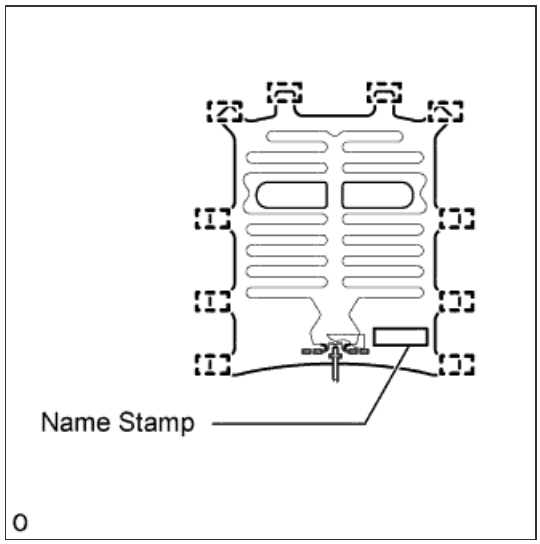
a. Attach the claw to install the cover.

b. Install the screw.

### 15. INSTALL REAR SEATBACK HEATER ASSEMBLY (w/ Seat Heater System)

a. Set the seatback heater with the name stamp side facing the seatback cover.

b. Install the seatback heater with new tack pins.

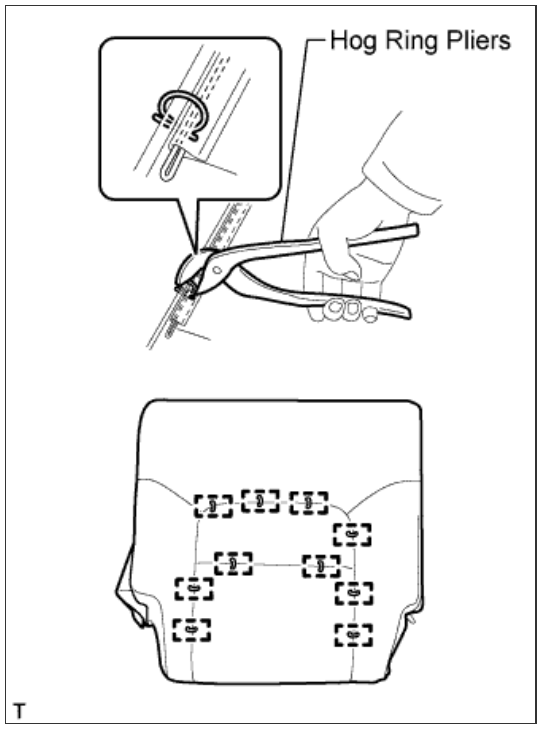



### 16. INSTALL REAR SEPARATE TYPE SEATBACK COVER

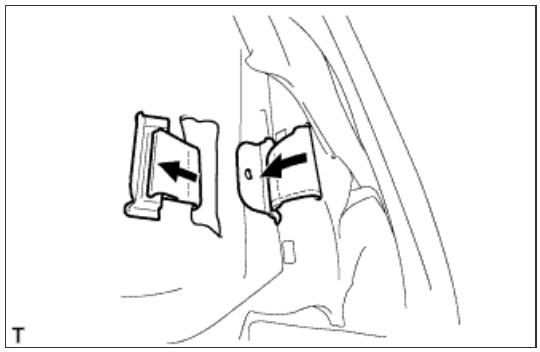
a. Using hog ring pliers, install the seatback cover with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




b. w/ Rear Seat Side Airbag:
Connect the seatback cover bracket to the seatback pad.



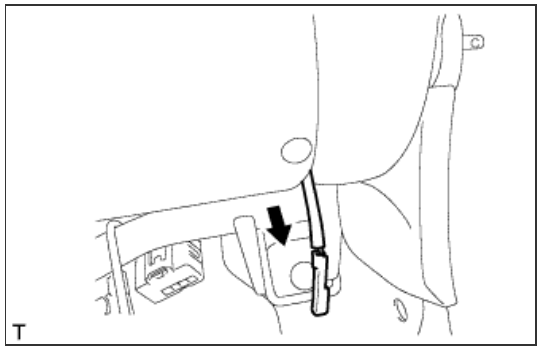

## 17. INSTALL SEATBACK COVER WITH PAD

a. Install the seatback cover with pad.

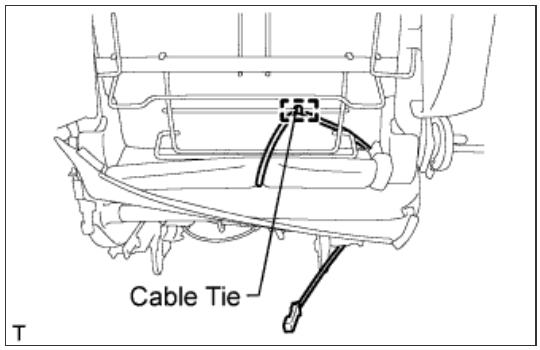
b. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seatback.

c. w/ Seat Heater System:

i. Pass the seatback heater wire harness through the hole in the seatback.




ii. Connect the seatback heater wire harness and install a new cable tie.

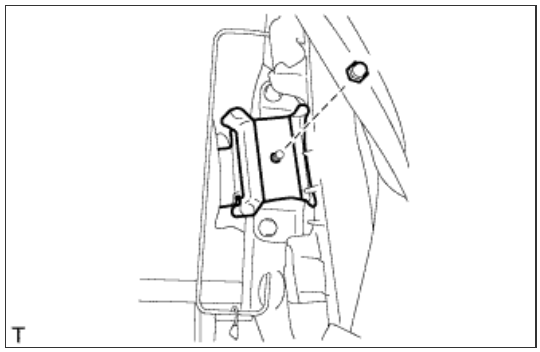



d. w/ Rear Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the cap nut.

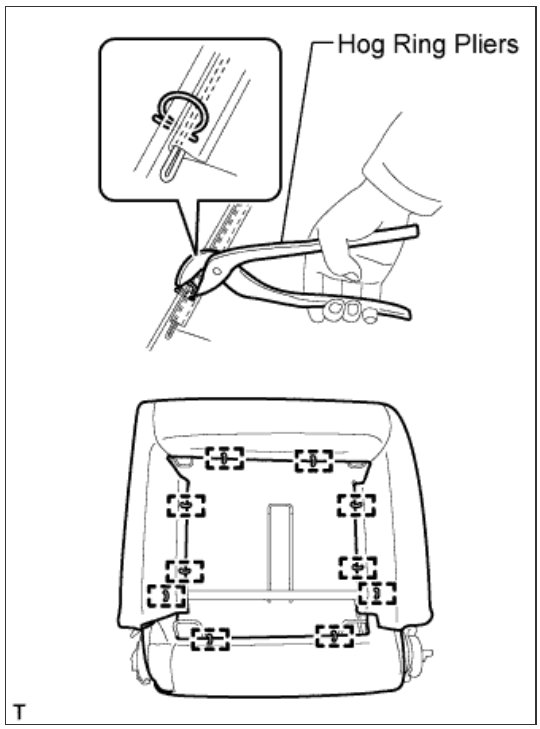
**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

**CAUTION:**

After the seatback trim cover is assembled, make sure the side airbag strap is not twisted.

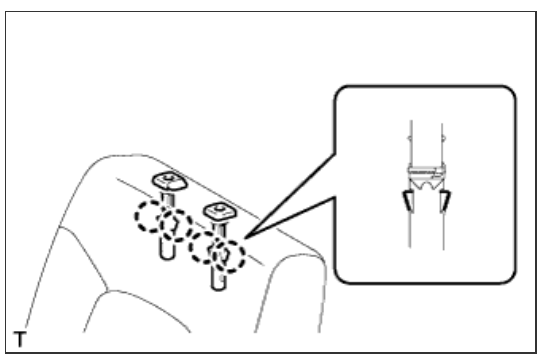



e. Using hog ring pliers, install new hog rings to the seatback frame.




## 18. INSTALL REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. Attach the 4 claws to install the 2 supports.

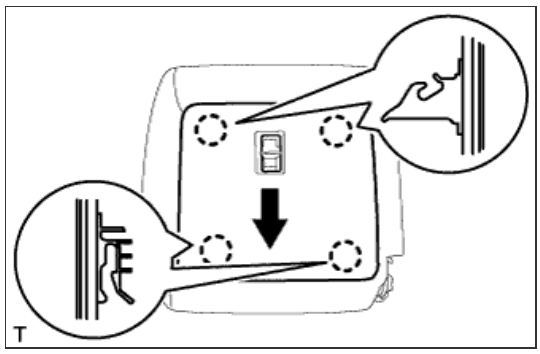


## 19. INSTALL REAR SEAT HEADREST ASSEMBLY

## 20. INSTALL REAR SEATBACK BOARD SUB-ASSEMBLY RH

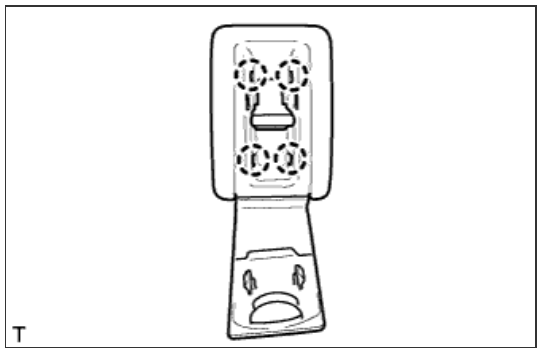
a. Push the board down to attach the 2 claws on the bottom.

b. Attach the 2 claws on the top of the board to install it.




## 21. INSTALL REAR SEATBACK COVER

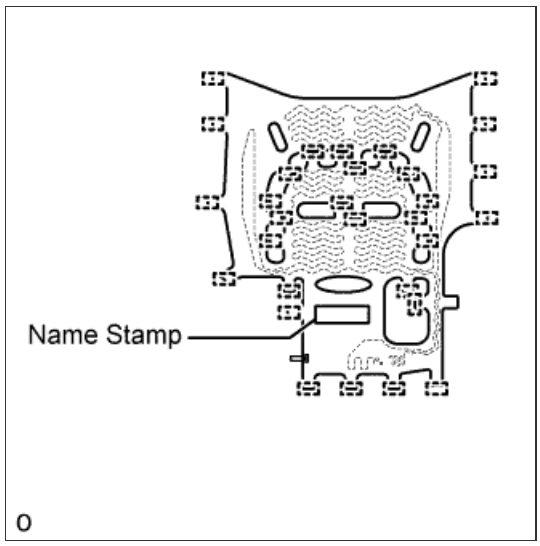
a. Attach the 4 claws to install the cover.




## 22. INSTALL REAR SEAT CUSHION HEATER ASSEMBLY (w/ Seat Heater System)

a. Set the seat cushion heater with the name stamp side facing the seat cushion cover.

b. Install the seat cushion heater with new tack pins.

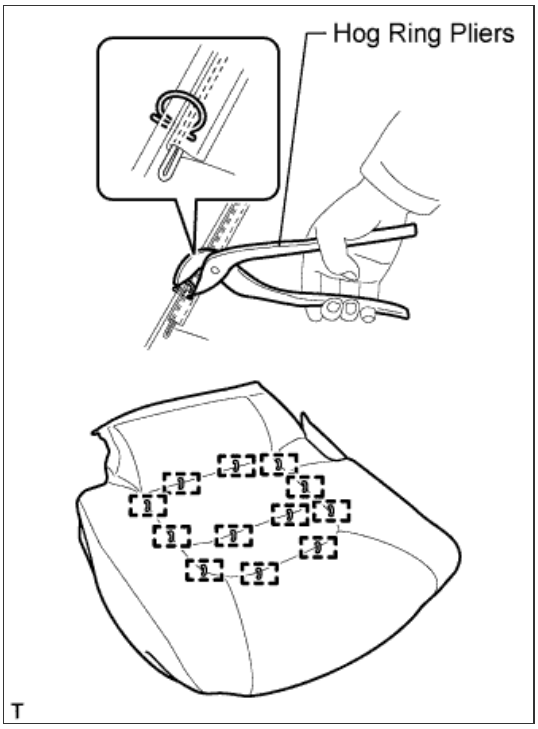



## 23. INSTALL REAR SEPARATE TYPE SEAT CUSHION COVER

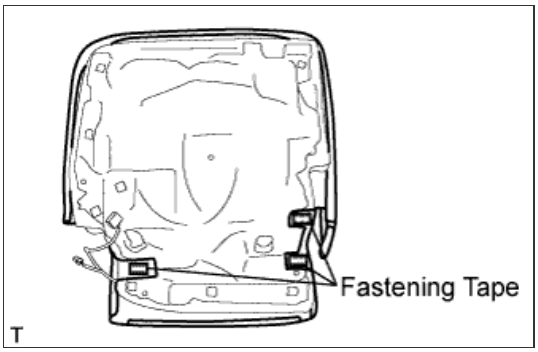
a. Using hog ring pliers, install the seat cushion cover to the seat cushion pad with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




b. Attach the 3 pieces of fastening tape.



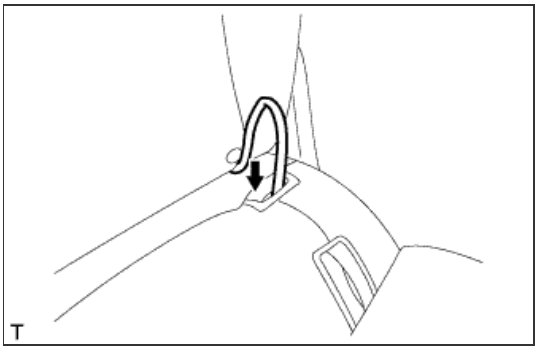

## 24. INSTALL SEAT CUSHION COVER WITH PAD

a. Install the seat cushion cover with pad.

b. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seat cushion.

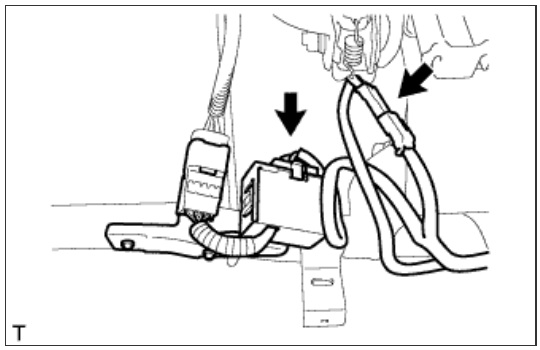
c. w/ Seat Heater System:

i. Pass the seatback heater wire harness through the hole in the seat cushion.




ii. Connect the 2 seat heater connectors.

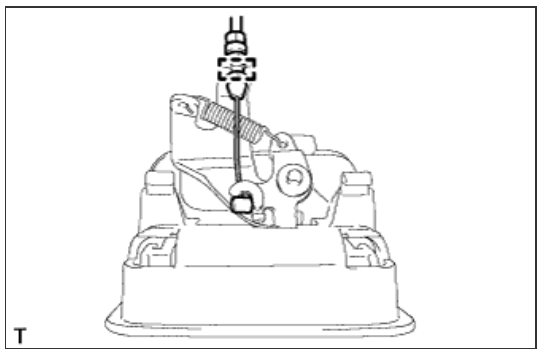
d. w/ Rear Seat Side Airbag:
Attach the side airbag wire harness clamps.



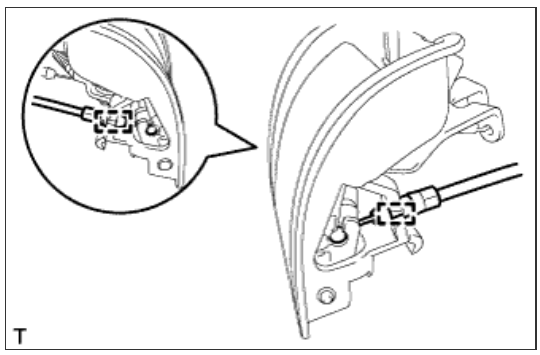

## 25. INSTALL FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY

## 26. INSTALL REAR SEAT TRACK HANDLE SUB-ASSEMBLY

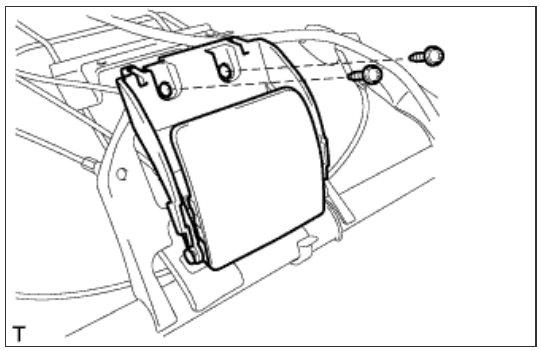
a. Attach the cable clamp to connect the cable.




b. Attach the 2 cable clamps to connect the 2 cables.



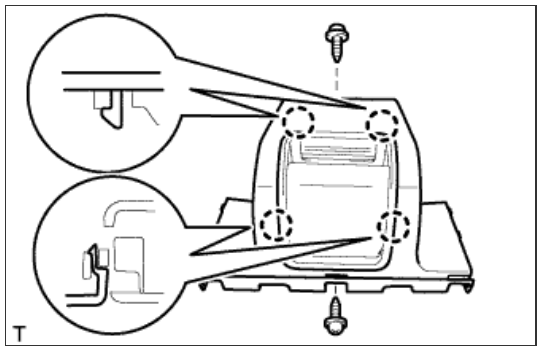

c. Install the seat track handle with the 2 screws.




## 27. INSTALL REAR SEAT UNDER TRAY COVER RH

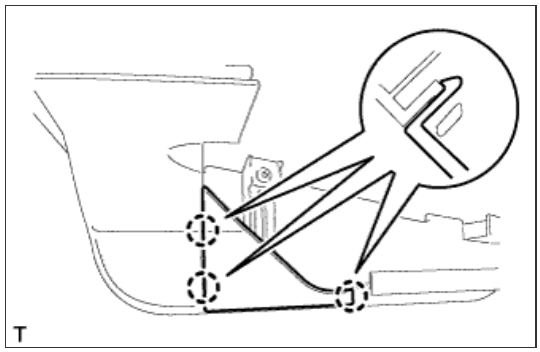
a. Attach the 4 claws to install the cover.

b. Install the 2 screws.




## 28. INSTALL NO. 1 SEAT CUSHION PLATE

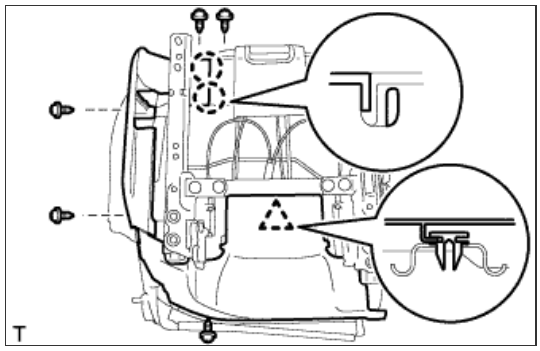
a. Attach the 3 claws to install the seat cushion plate.




## 29. INSTALL REAR UNDER SIDE COVER LH

a. Attach the 2 claws and clip to install the cover.

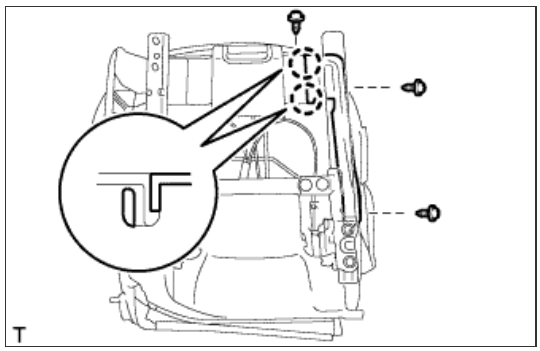
b. Install the 5 screws.



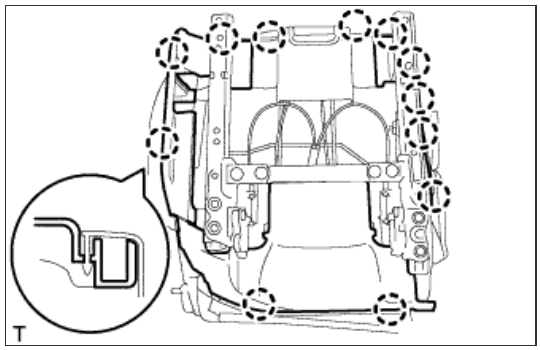

## 30. INSTALL REAR SEAT COVER

a. Attach the 2 claws to install the cover.

b. Install the 3 screws.

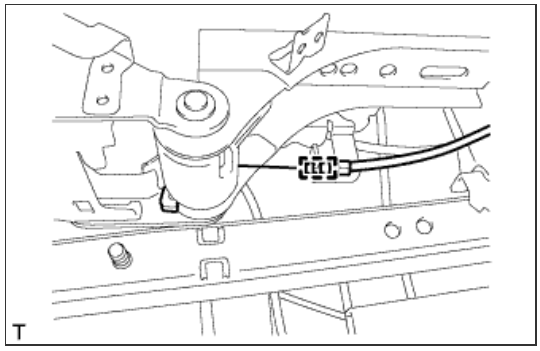



c. Attach the 12 claws.




## 31. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

a. Attach the cable clamp to connect the cable.

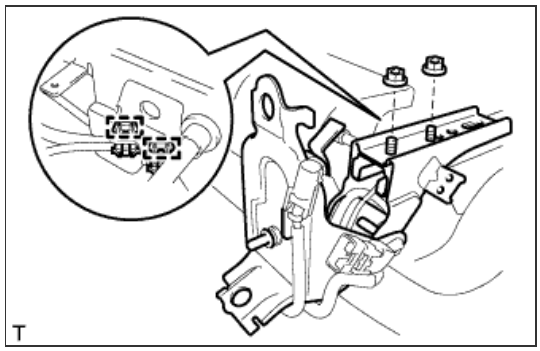



b. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. w/ Rear Seat Side Airbag:
Attach the wire harness clamp.

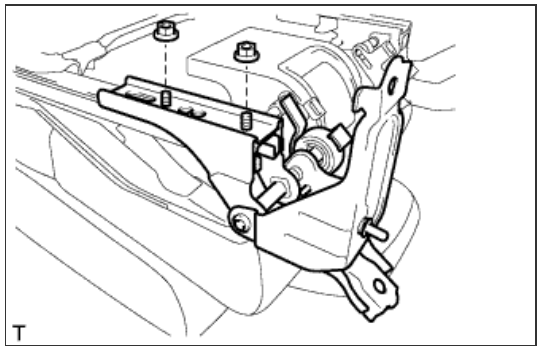
d. w/ Seat Heater System:
Attach the wire harness clamp.




## 32. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

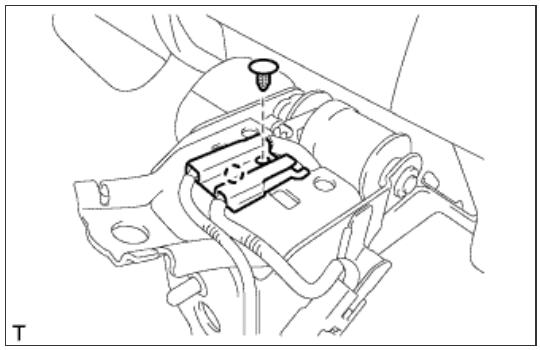



## 33. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Install the wire harness, and attach the 2 claws to close the protector.

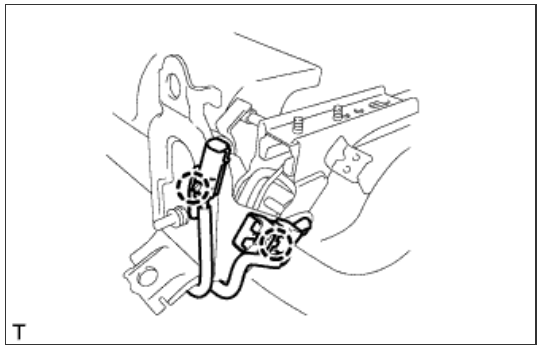
b. Attach the claw to install the protector to the seat hinge.

c. Install the clip.



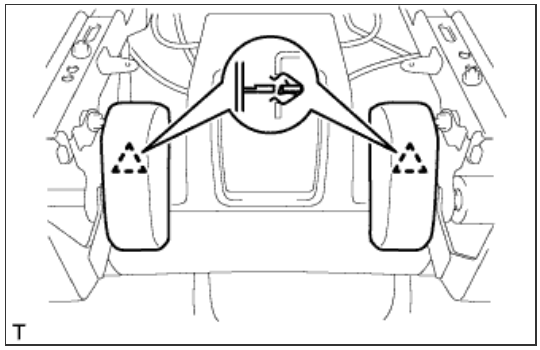

d. w/ Rear Seat Side Airbag:
Attach the claw to install the wire harness connector.

e. w/ Seat Heater System:
Attach the claw to install the wire harness connector.




## 34. INSTALL REAR SEAT SIDE HINGE MALE COVER RH

a. Attach the clip to install the cover.

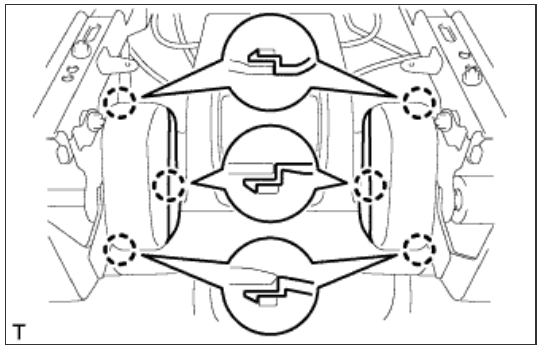



## 35. INSTALL REAR SEAT SIDE HINGE MALE COVER LH

a. Attach the clip to install the cover.

## 36. INSTALL REAR SEAT SIDE HINGE FEMALE COVER

a. Attach the 6 claws to install the 2 covers.

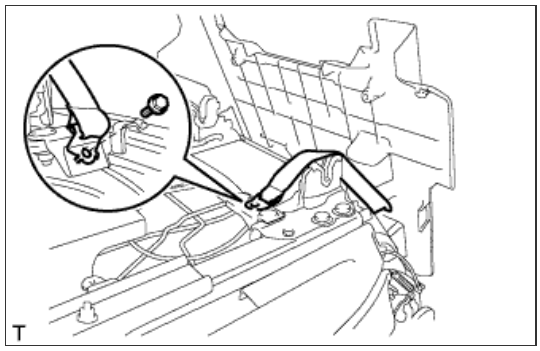



## 37. INSTALL FOLD SEAT STOPPER BAND ASSEMBLY

a. Install the fold seat stopper band to the seat leg side cover.

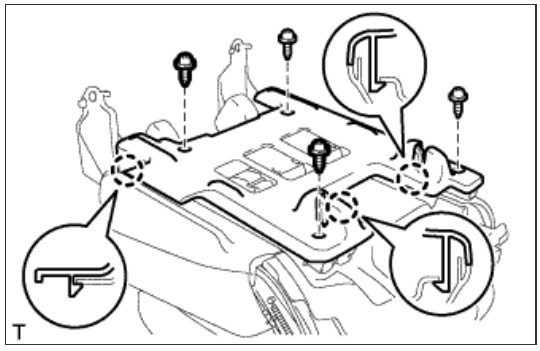
## 38. INSTALL REAR NO. 2 SEAT LEG SIDE COVER

a. Pass the fold seat stopper band through the seat leg side cover and attach it to the seat cushion frame with the bolt.



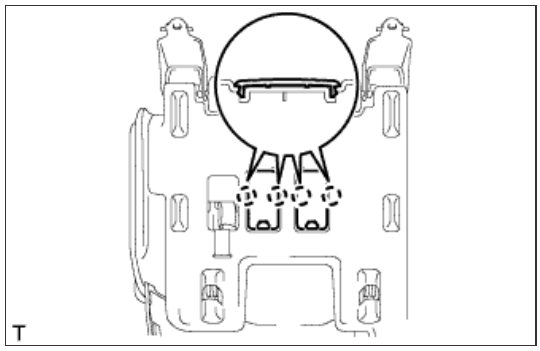

b. Attach the 3 claws to install the seat leg side cover.

c. Install the 4 screws.



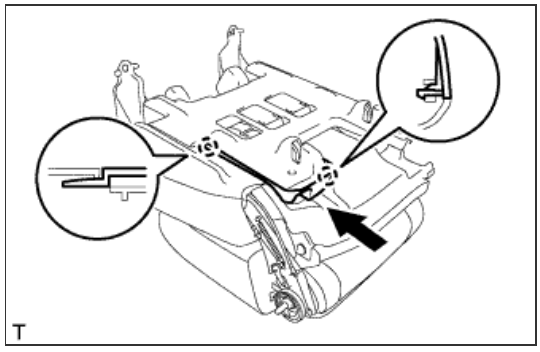

## 39. INSTALL NO. 1 SEAT CUSHION COVER

a. Attach the 4 claws to install the 2 covers.



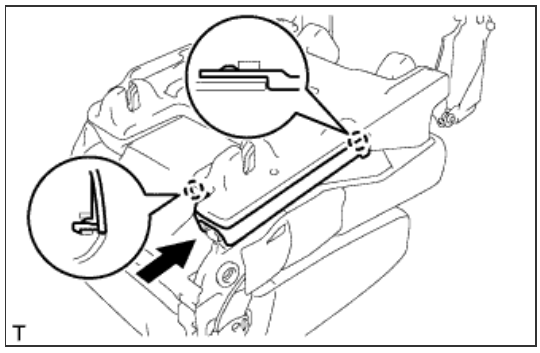

## 40. INSTALL UPPER SEAT TRACK RAIL COVER RH

a. Attach the 2 claws to install the cover.



## 41. INSTALL UPPER SEAT TRACK RAIL COVER LH

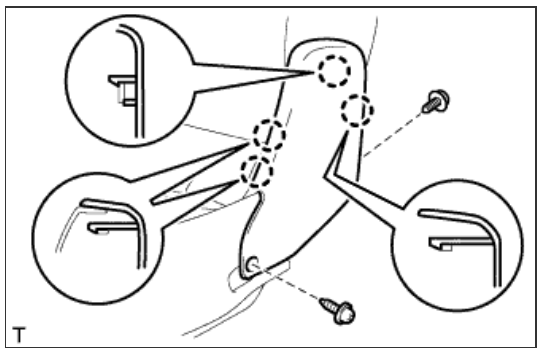
a. Attach the 2 claws to install the cover.




## 42. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

a. Attach the 4 claws to install the cover.

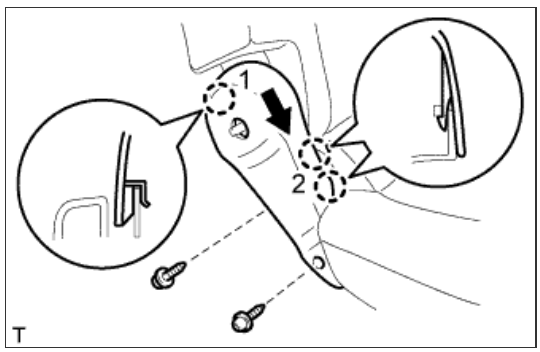
b. Install the 2 screws.




## 43. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

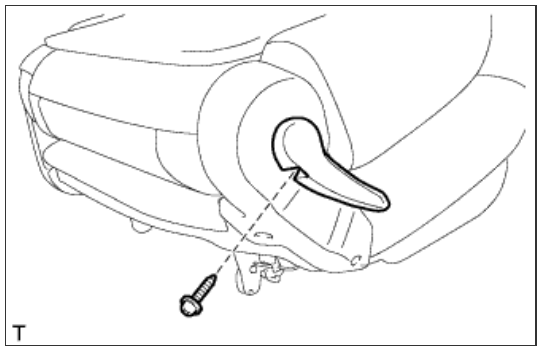
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the 2 screws.



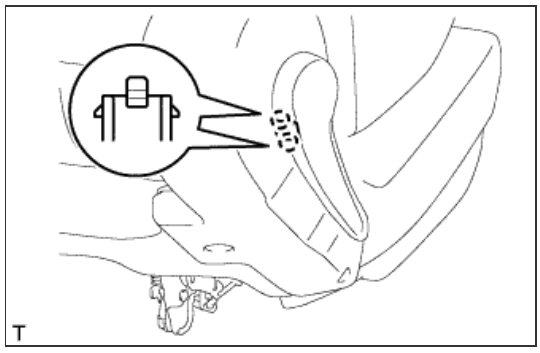

## 44. INSTALL RECLINING ADJUSTER RELEASE HANDLE RH

a. Install the release handle with the screw.



## 45. INSTALL SEAT ADJUSTER BOLT COVER

a. Attach the 2 claws to install the cover.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

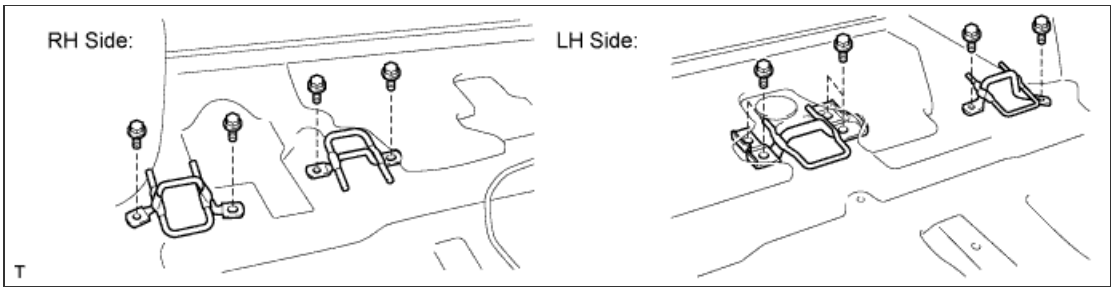
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL REAR SEAT CUSHION LOCK STRIKER SUB-ASSEMBLY

a. Install the 4 strikers with the 10 bolts.

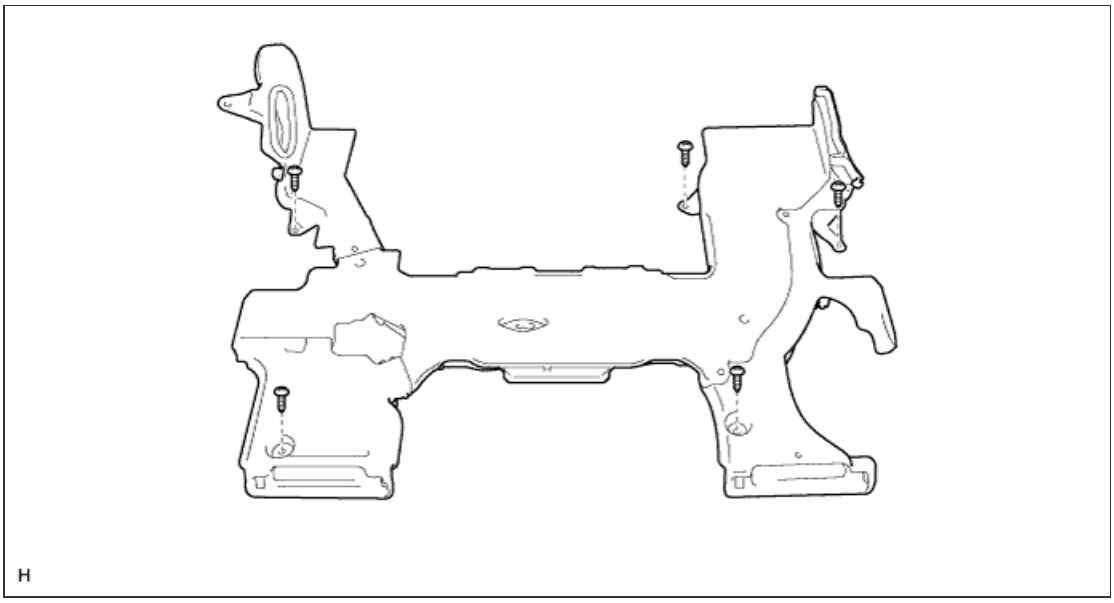
**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




## 2. INSTALL REAR NO. 6 AIR DUCT (w/ Rear Air Conditioning System)

a. Install the duct with the 5 screws.

b. Connect the 2 connectors.




### 3. INSTALL FRONT FLOOR CARPET ASSEMBLY

a. Install the floor carpet.

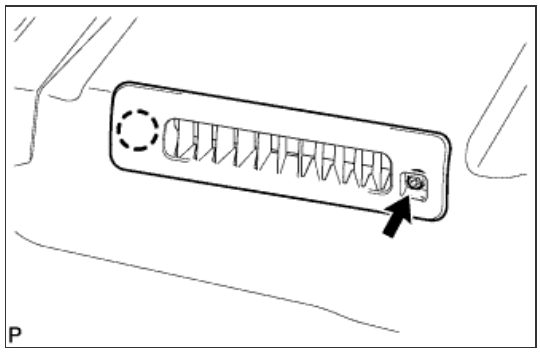
### 4. INSTALL REAR AIR DUCT GUIDE (w/ Rear Air Conditioning System)

a. Attach the claw to install the guide.

b. Install the screw.

**HINT:**

Use the same procedures for both sides.

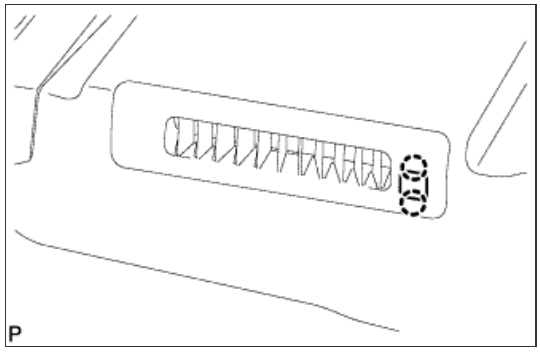



### 5. INSTALL AIR DUCT PLUG (w/ Rear Air Conditioning System)

a. Attach the 2 claws to install the plug.

**HINT:**

Use the same procedures for both sides.




### 6. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
Install the front quarter trim panel assembly LH ( Click here).

b. w/o Sliding Roof:
Install the front quarter trim panel assembly LH ( Click here).

## 7. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. w/ Sliding Roof:
Install the front quarter trim panel assembly RH ( Click here).

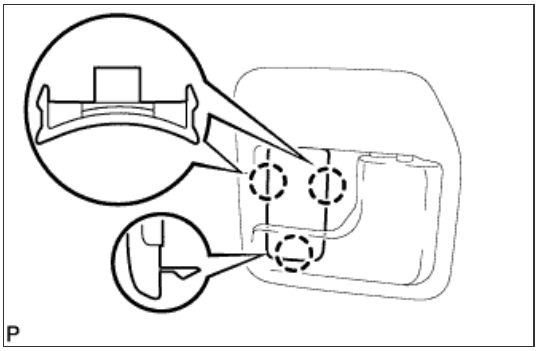
b. w/o Sliding Roof:
Install the front quarter trim panel assembly RH ( Click here).

## 8. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

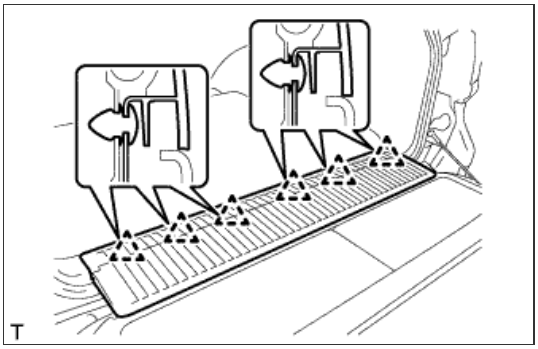
Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.




## 9. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. Attach the 6 clips to install the support plate.




## 10. INSTALL REAR NO. 2 SEAT ASSEMBLY

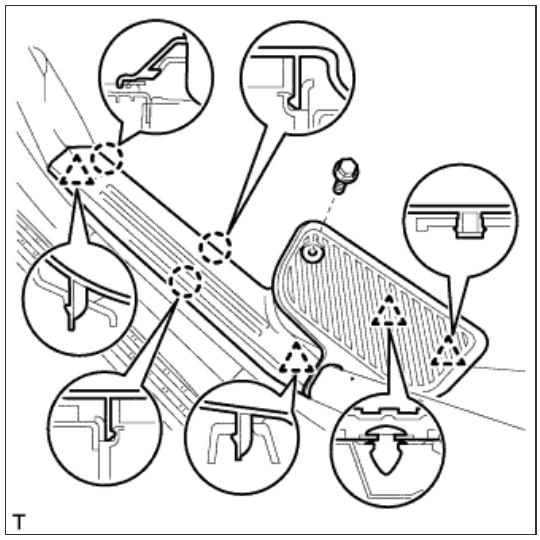
a. for Face to Face Seat Type:
Install the rear No. 2 seat assembly ( Click here).

b. except Face to Face Seat Type:
Install the rear No. 2 seat assembly ( Click here).

## 11. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.




### 12. INSTALL REAR DOOR SCUFF PLATE RH

**HINT:**

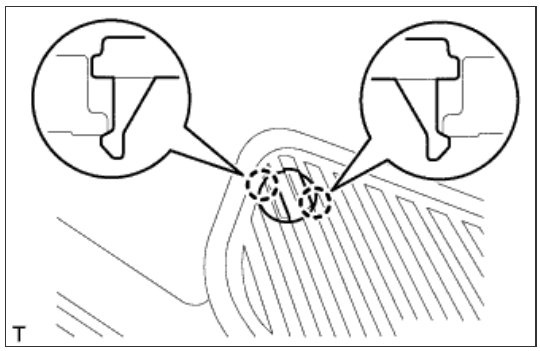
Use the same procedures described for the LH side.

### 13. INSTALL REAR STEP COVER

**HINT:**

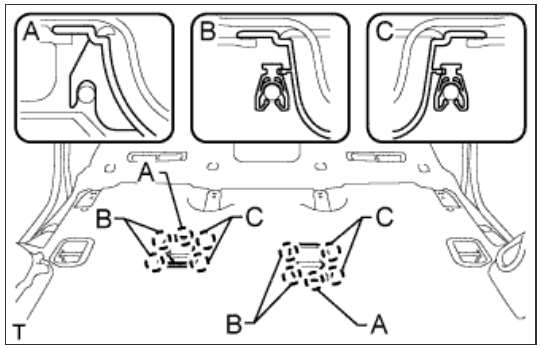
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.



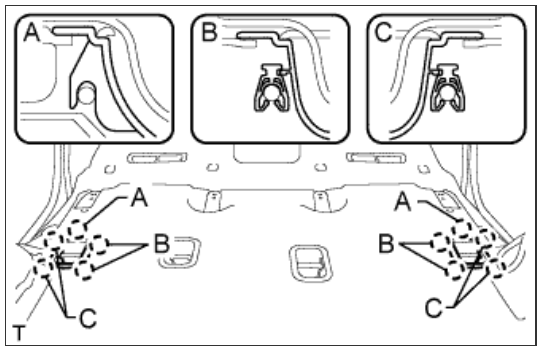

### 14. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Attach the 10 claws to install the 2 seat protectors.




### 15. INSTALL REAR NO. 1 SEAT PROTECTOR

a. Attach the 10 claws to install the 2 seat protectors.




## 16. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

a. Install the rear No. 1 seat assembly LH ( Click here).

## 17. INSTALL REAR NO. 1 SEAT ASSEMBLY RH

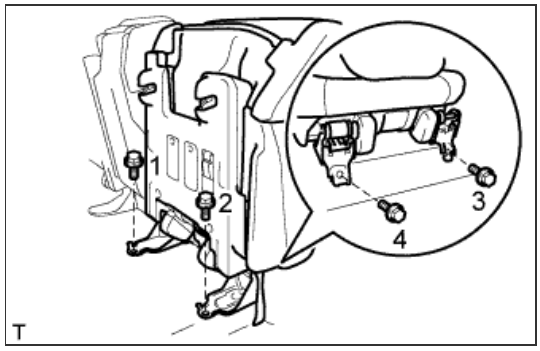
a. Temporarily install the seat assembly with the 4 bolts.

**NOTICE:**

Be careful not to damage the vehicle body.

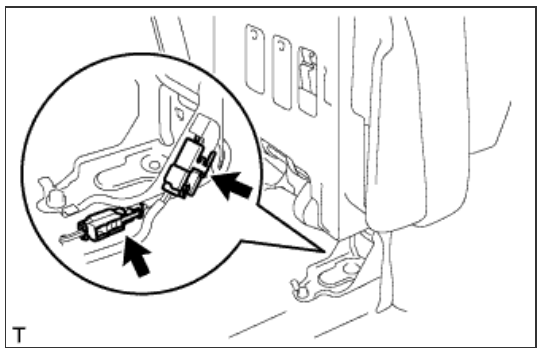
b. Tighten the bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**



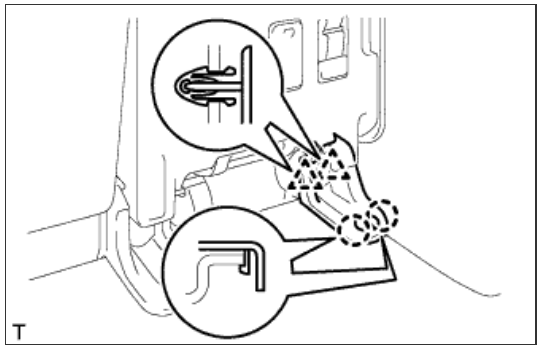

c. w/ Rear Seat Side Airbag:
Connect the connector.

d. w/ Seat Heater System:
Connect the connector.



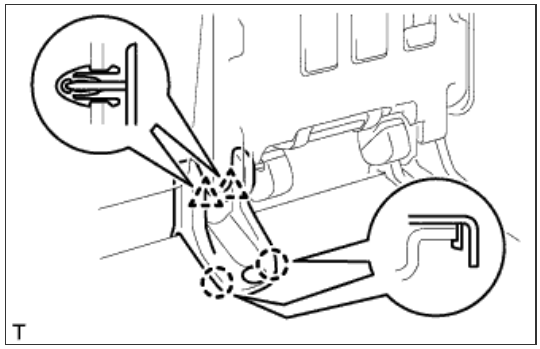

## 18. INSTALL REAR NO. 3 SEAT CUSHION HINGE COVER

a. Attach the 2 clips and 2 claws to install the cover.




## 19. INSTALL REAR NO. 1 SEAT CUSHION HINGE COVER

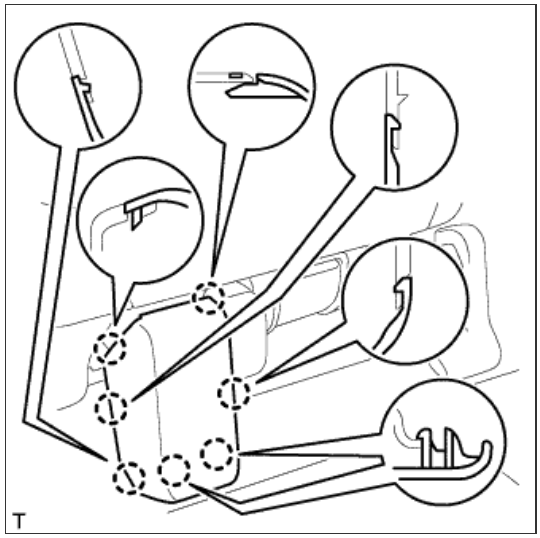
a. Attach the 2 clips and 2 claws to install the cover.




## 20. INSTALL REAR NO. 4 SEAT CUSHION HINGE COVER

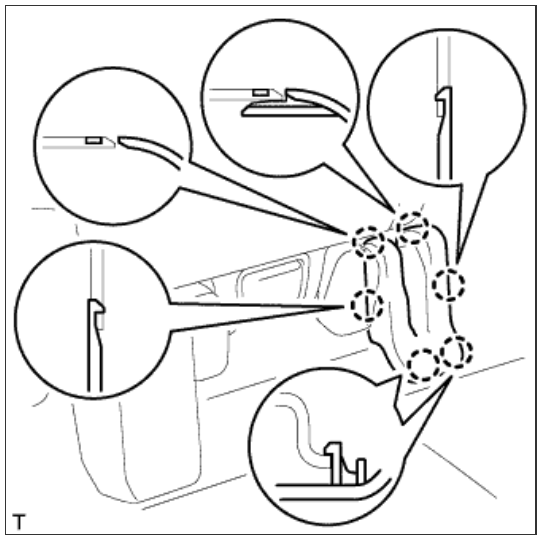
a. Return the seat to the upright position.

b. Attach the 7 claws to install the cover.




## 21. INSTALL REAR NO. 2 SEAT CUSHION HINGE COVER

a. Attach the 6 claws to install the cover.




## 22. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 23. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

### 24. INSPECT REAR NO. 1 SEAT ASSEMBLY RH

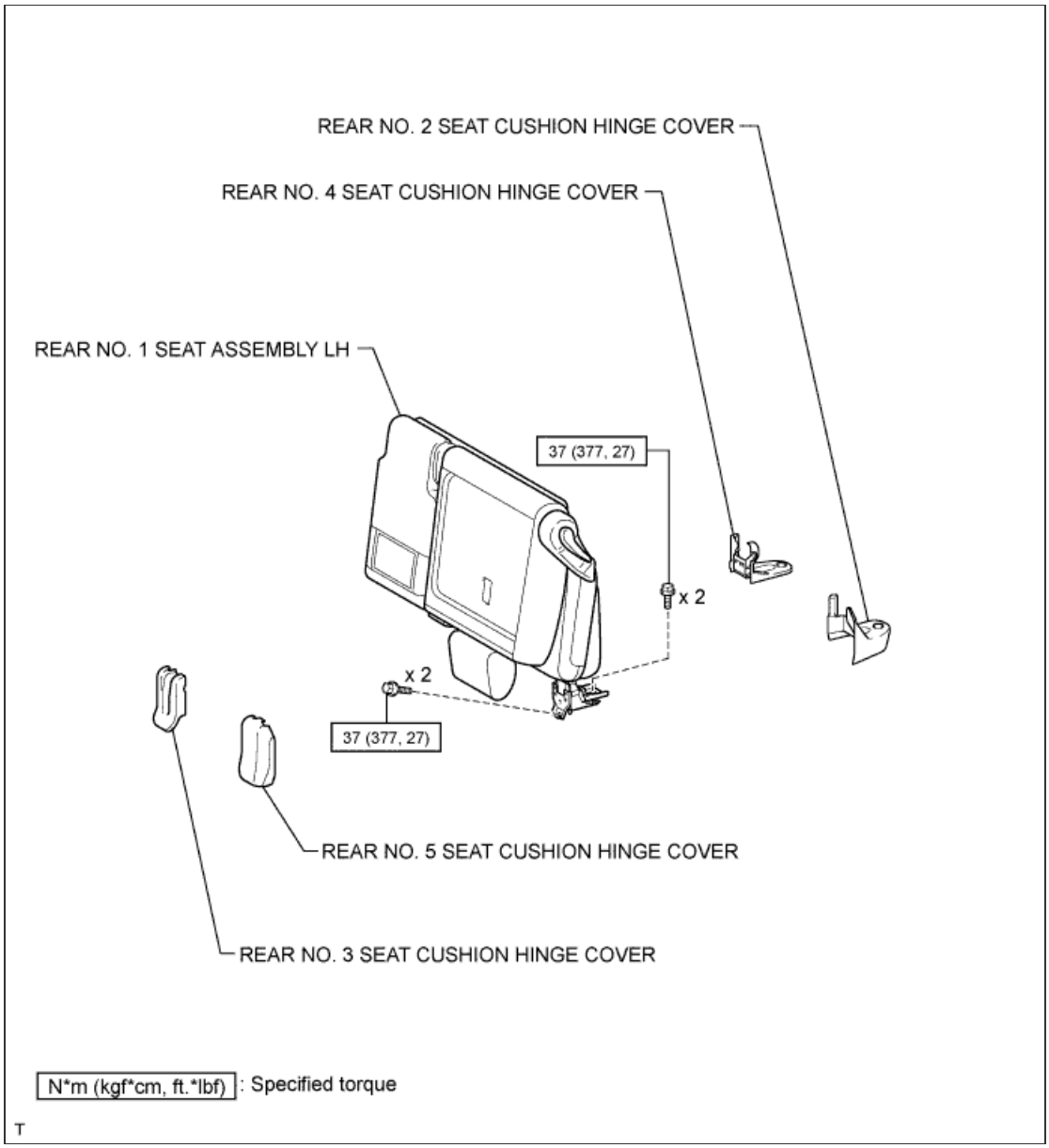
a. w/ Seat Heater System:
Check the seat heater operation.

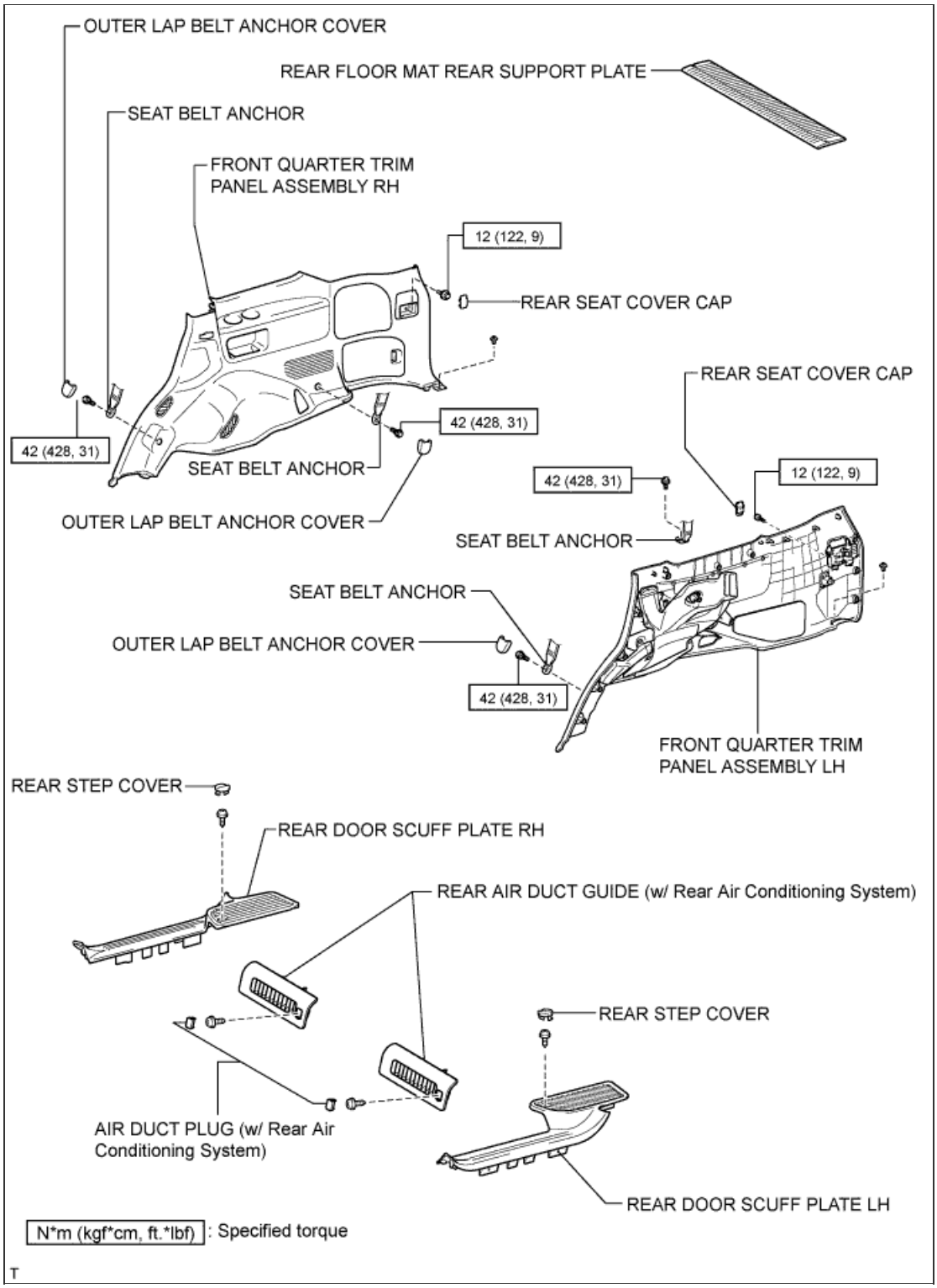
i. Turn the ignition switch to ON.

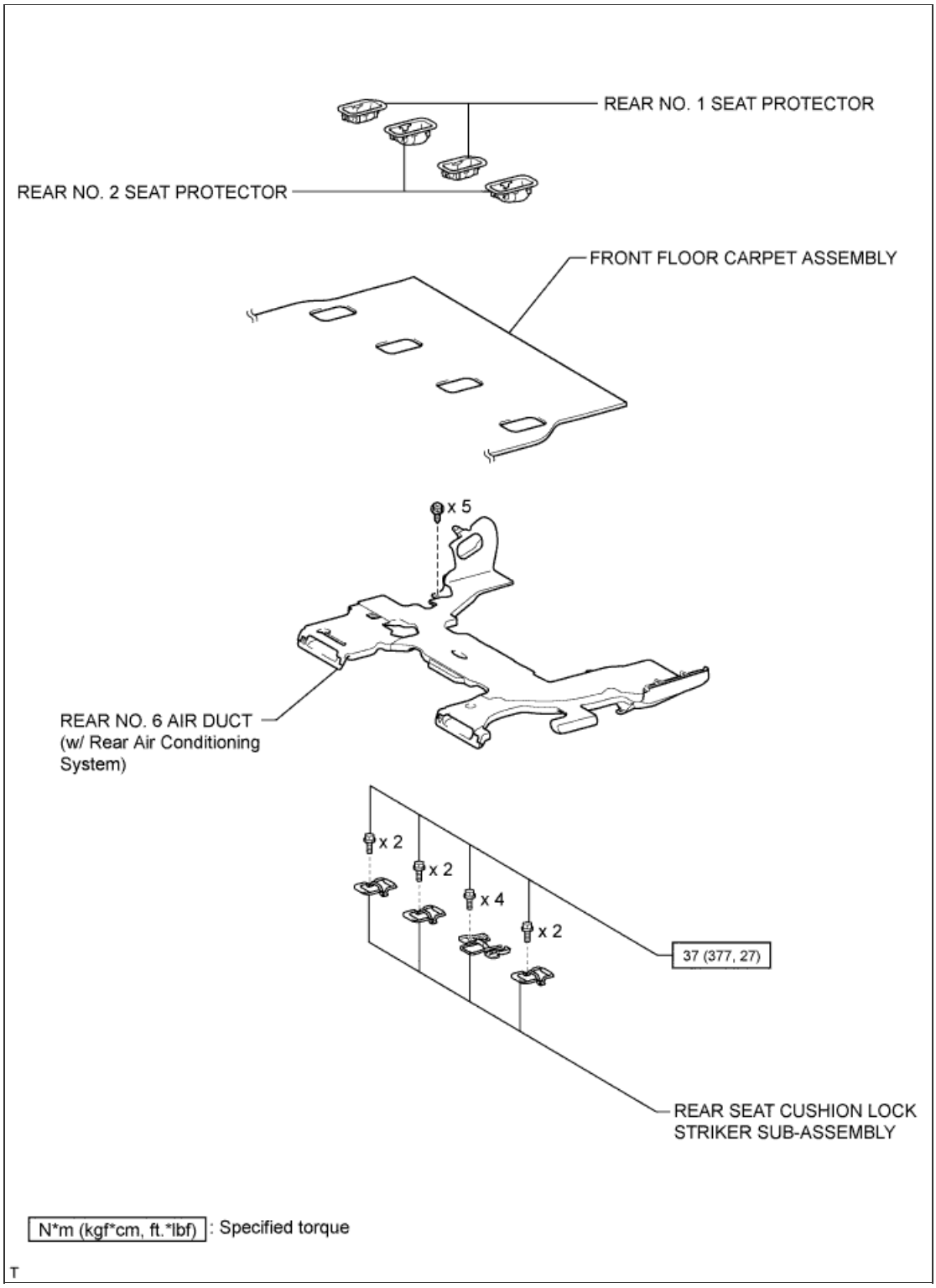
ii. Turn the seat heater switch on.

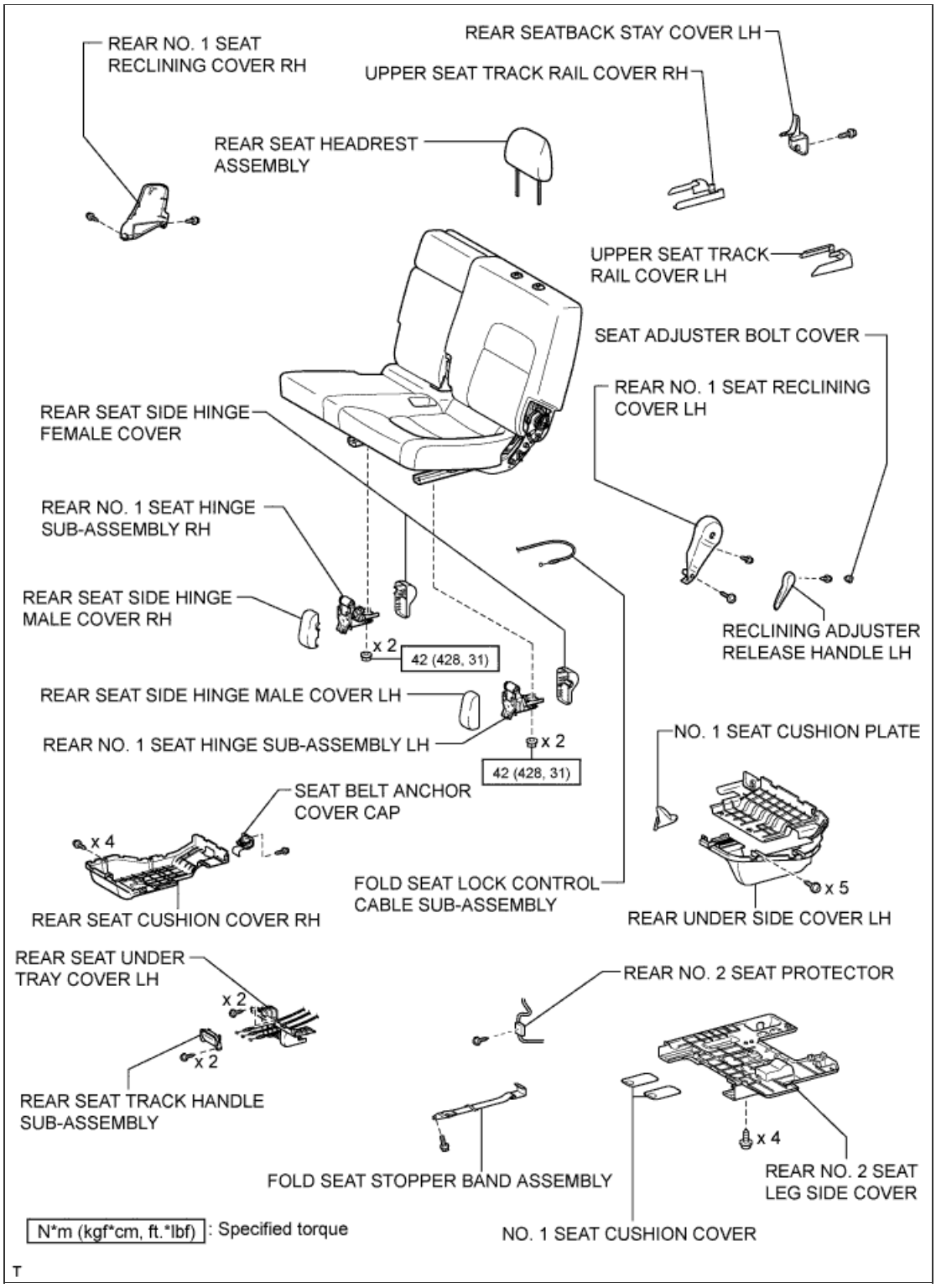
iii. Wait 5 minutes or more and confirm that the seat surface becomes warm.

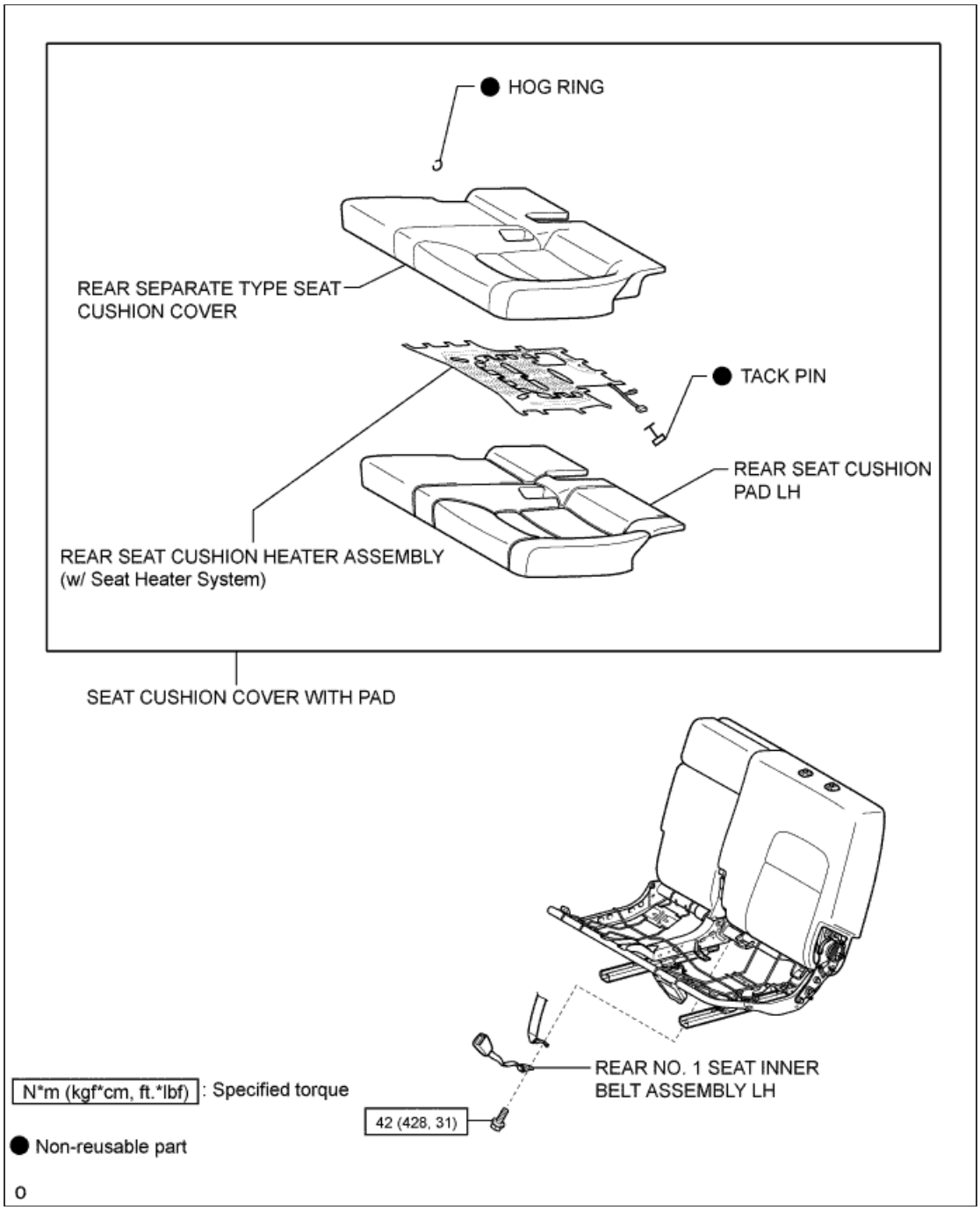
**for Preparation** Click here

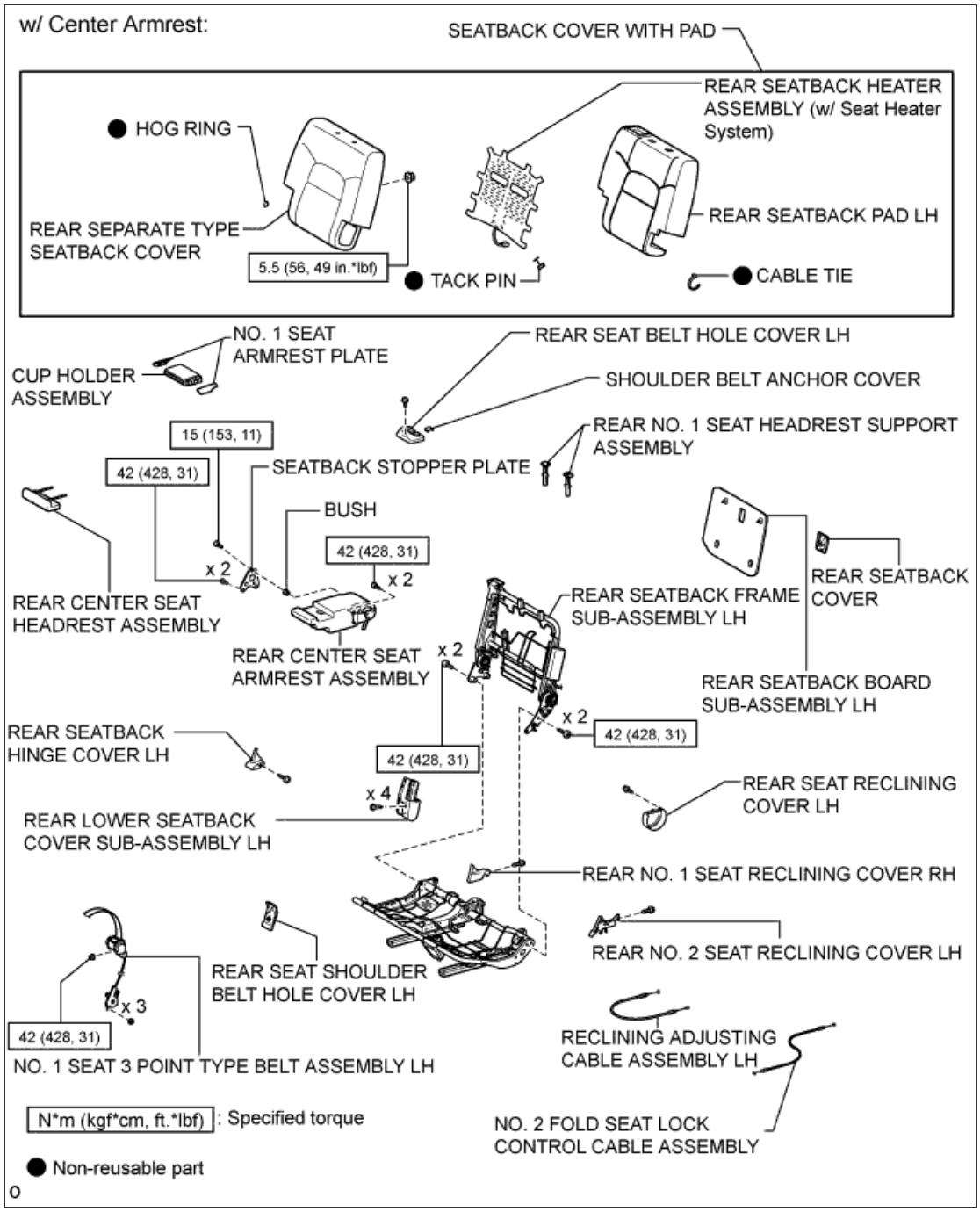


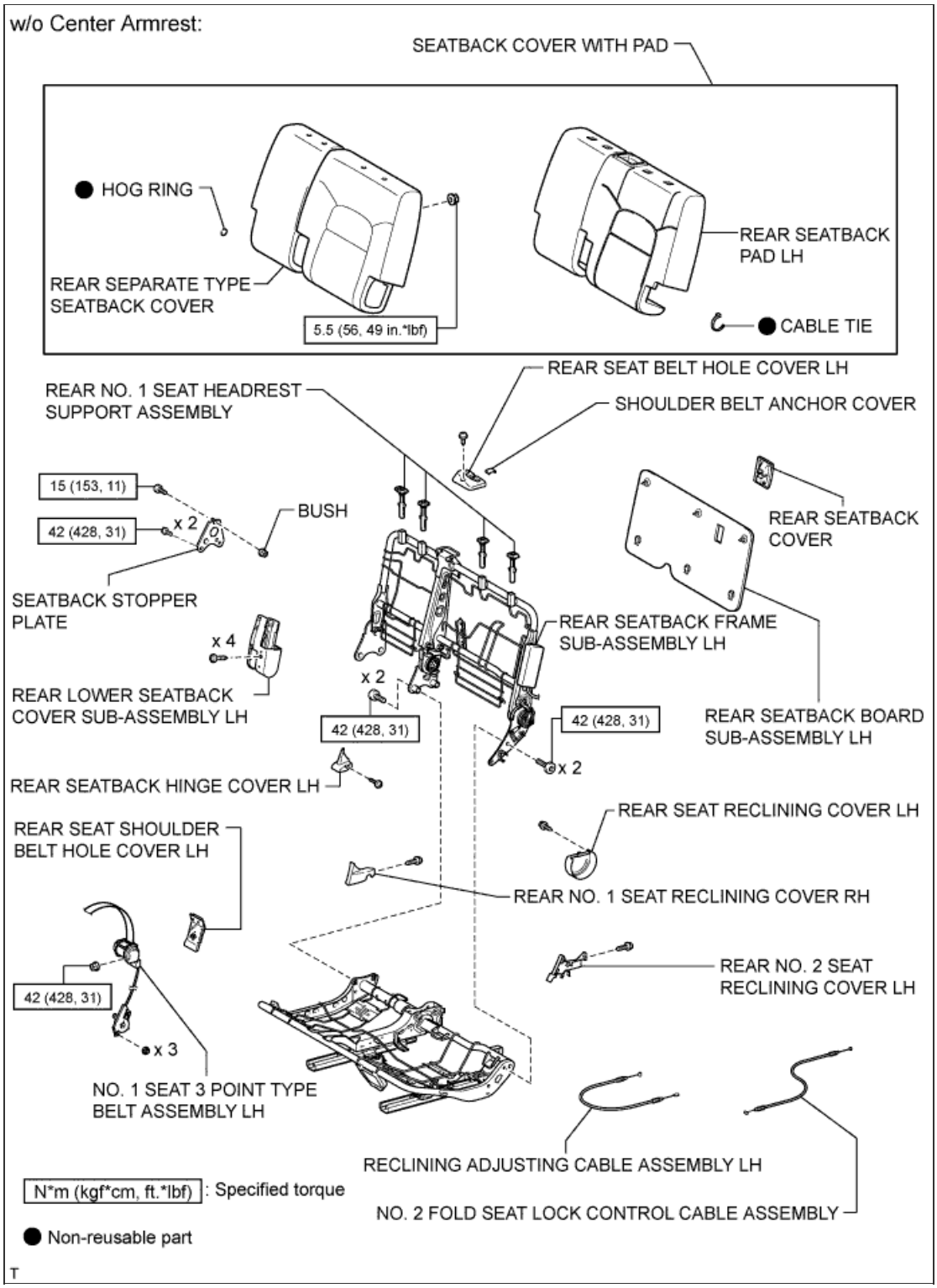

OUTER LAP BELT ANCHOR COVER
REAR FLOOR MAT REAR SUPPORT PLATE
SEAT BELT ANCHOR
FRONT QUARTER TRIM PANEL ASSEMBLY RH
12 (122, 9)
REAR SEAT COVER CAP
42 (428, 31)
42 (428, 31)
SEAT BELT ANCHOR
OUTER LAP BELT ANCHOR COVER
REAR SEAT COVER CAP
42 (428, 31)
12 (122, 9)
SEAT BELT ANCHOR
SEAT BELT ANCHOR
OUTER LAP BELT ANCHOR COVER
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY LH
REAR STEP COVER
REAR DOOR SCUFF PLATE RH
REAR AIR DUCT GUIDE (w/ Rear Air Conditioning System)
REAR STEP COVER
AIR DUCT PLUG (w/ Rear Air Conditioning System)
REAR DOOR SCUFF PLATE LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T

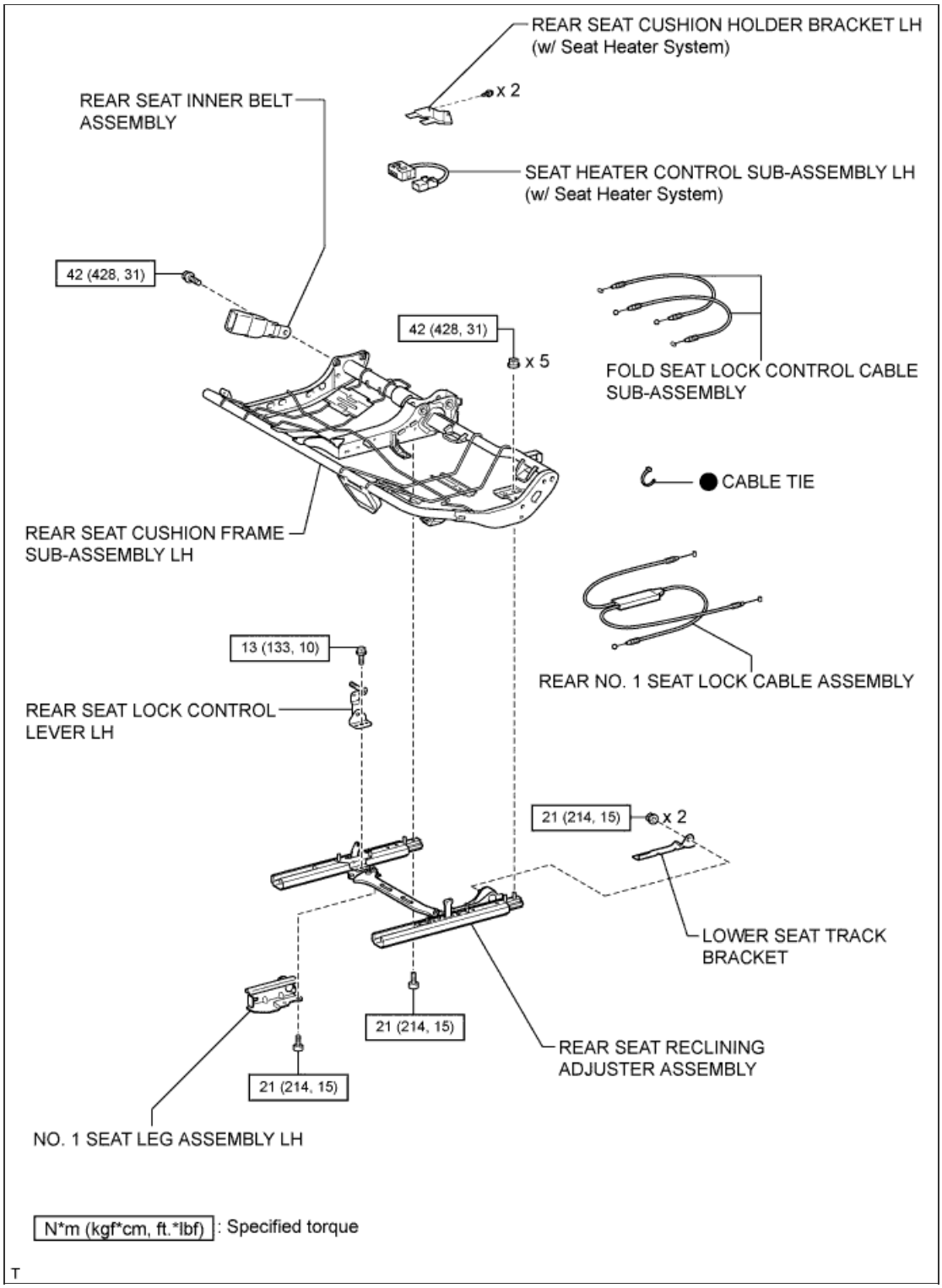

REAR NO. 1 SEAT PROTECTOR
REAR NO. 2 SEAT PROTECTOR
FRONT FLOOR CARPET ASSEMBLY
x 5
REAR NO. 6 AIR DUCT
(w/ Rear Air Conditioning
System)
x 2
x 2
x 4
x 2
37 (377, 27)
REAR SEAT CUSHION LOCK
STRIKER SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
T


REAR NO. 1 SEAT RECLINING COVER RH
REAR SEATBACK STAY COVER LH
UPPER SEAT TRACK RAIL COVER RH
REAR SEAT HEADREST ASSEMBLY
UPPER SEAT TRACK RAIL COVER LH
SEAT ADJUSTER BOLT COVER
REAR NO. 1 SEAT RECLINING COVER LH
REAR SEAT SIDE HINGE FEMALE COVER
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH
REAR SEAT SIDE HINGE MALE COVER RH
x 2
42 (428, 31)
RECLINING ADJUSTER RELEASE HANDLE LH
REAR SEAT SIDE HINGE MALE COVER LH
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH
x 2
42 (428, 31)
NO. 1 SEAT CUSHION PLATE
SEAT BELT ANCHOR COVER CAP
x 4
x 5
FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY
REAR SEAT CUSHION COVER RH
REAR UNDER SIDE COVER LH
REAR SEAT UNDER TRAY COVER LH
x 2
x 2
REAR NO. 2 SEAT PROTECTOR
REAR SEAT TRACK HANDLE SUB-ASSEMBLY
x 4
FOLD SEAT STOPPER BAND ASSEMBLY
REAR NO. 2 SEAT LEG SIDE COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
NO. 1 SEAT CUSHION COVER
T


HOG RING
REAR SEPARATE TYPE SEAT CUSHION COVER
TACK PIN
REAR SEAT CUSHION PAD LH
REAR SEAT CUSHION HEATER ASSEMBLY (w/ Seat Heater System)
SEAT CUSHION COVER WITH PAD
REAR NO. 1 SEAT INNER BELT ASSEMBLY LH
42 (428, 31)
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
o


w/ Center Armrest:
SEATBACK COVER WITH PAD
REAR SEATBACK HEATER ASSEMBLY (w/ Seat Heater System)
HOG RING
REAR SEPARATE TYPE SEATBACK COVER
5.5 (56, 49 in.*lbf)
TACK PIN
REAR SEATBACK PAD LH
CABLE TIE
NO. 1 SEAT ARMREST PLATE
CUP HOLDER ASSEMBLY
REAR SEAT BELT HOLE COVER LH
SHOULDER BELT ANCHOR COVER
REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY
15 (153, 11)
42 (428, 31)
SEATBACK STOPPER PLATE
BUSH
x 2
REAR CENTER SEAT HEADREST ASSEMBLY
REAR CENTER SEAT ARMREST ASSEMBLY
REAR SEATBACK FRAME SUB-ASSEMBLY LH
REAR SEATBACK COVER
REAR SEATBACK BOARD SUB-ASSEMBLY LH
REAR SEATBACK HINGE COVER LH
x 4
REAR LOWER SEATBACK COVER SUB-ASSEMBLY LH
REAR SEAT RECLINING COVER LH
REAR NO. 1 SEAT RECLINING COVER RH
REAR NO. 2 SEAT RECLINING COVER LH
REAR SEAT SHOULDER BELT HOLE COVER LH
x 3
NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH
RECLINING ADJUSTING CABLE ASSEMBLY LH
NO. 2 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part


w/o Center Armrest:
SEATBACK COVER WITH PAD
HOG RING
REAR SEPARATE TYPE SEATBACK COVER
5.5 (56, 49 in.*lbf)
REAR SEATBACK PAD LH
CABLE TIE
REAR SEAT BELT HOLE COVER LH
REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY
SHOULDER BELT ANCHOR COVER
15 (153, 11)
42 (428, 31)
x 2
BUSH
REAR SEATBACK COVER
SEATBACK STOPPER PLATE
x 4
REAR SEATBACK FRAME SUB-ASSEMBLY LH
REAR LOWER SEATBACK COVER SUB-ASSEMBLY LH
x 2
42 (428, 31)
42 (428, 31)
x 2
REAR SEATBACK BOARD SUB-ASSEMBLY LH
REAR SEATBACK HINGE COVER LH
REAR SEAT RECLINING COVER LH
REAR SEAT SHOULDER BELT HOLE COVER LH
REAR NO. 1 SEAT RECLINING COVER RH
REAR NO. 2 SEAT RECLINING COVER LH
42 (428, 31)
x 3
NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH
RECLINING ADJUSTING CABLE ASSEMBLY LH
NO. 2 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
T


REAR SEAT CUSHION HOLDER BRACKET LH
(w/ Seat Heater System)
x 2
REAR SEAT INNER BELT
ASSEMBLY
SEAT HEATER CONTROL SUB-ASSEMBLY LH
(w/ Seat Heater System)
42 (428, 31)
42 (428, 31)
x 5
FOLD SEAT LOCK CONTROL CABLE
SUB-ASSEMBLY
CABLE TIE
REAR SEAT CUSHION FRAME
SUB-ASSEMBLY LH
13 (133, 10)
REAR NO. 1 SEAT LOCK CABLE ASSEMBLY
REAR SEAT LOCK CONTROL
LEVER LH
21 (214, 15)
x 2
LOWER SEAT TRACK
BRACKET
21 (214, 15)
REAR SEAT RECLINING
ADJUSTER ASSEMBLY
21 (214, 15)
NO. 1 SEAT LEG ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

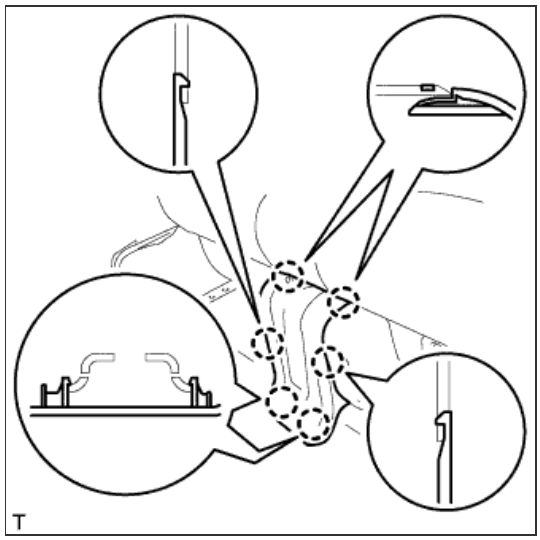
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE REAR NO. 3 SEAT CUSHION HINGE COVER

a. Using a screwdriver, detach the 6 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

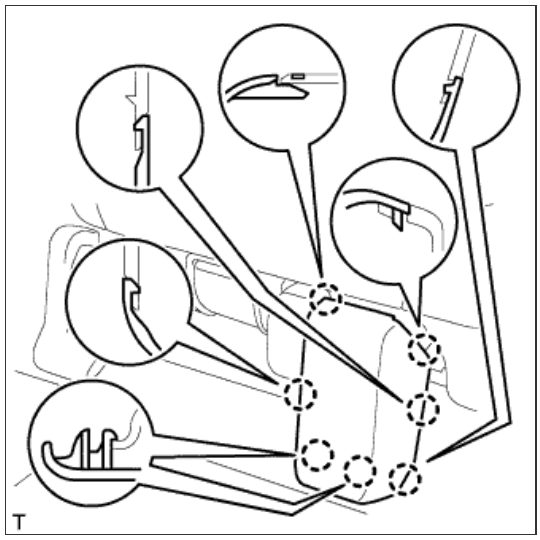



## 4. REMOVE REAR NO. 5 SEAT CUSHION HINGE COVER

a. Using a screwdriver, detach the 7 claws and remove the cover.

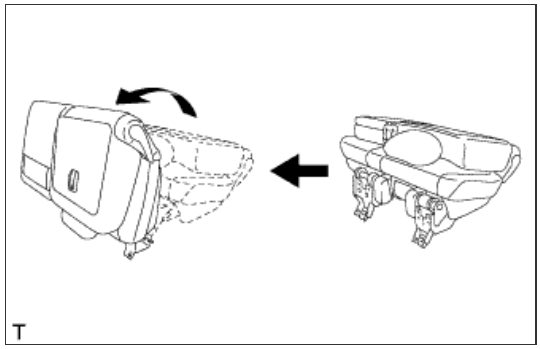
**HINT:**

Tape the screwdriver tip before use.




## 5. REMOVE REAR NO. 2 SEAT CUSHION HINGE COVER

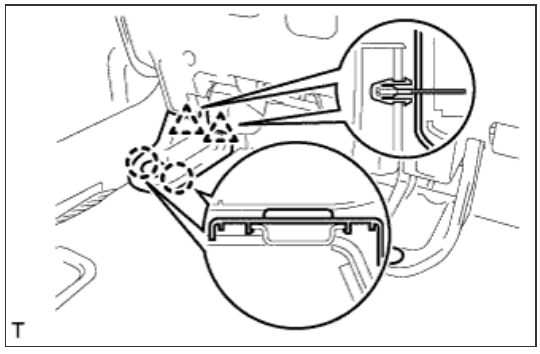
a. Operate the reclining adjuster release handle to move the seat into the position shown in the illustration.




b. Using a screwdriver, detach the 2 claws and 2 clips, and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

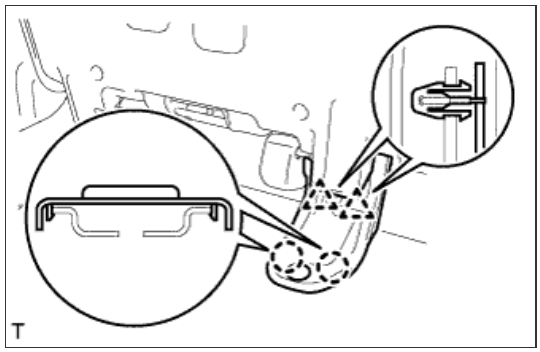



## 6. REMOVE REAR NO. 4 SEAT CUSHION HINGE COVER

a. Using a screwdriver, detach the 2 claws and 2 clips, and remove the cover.

**HINT:**

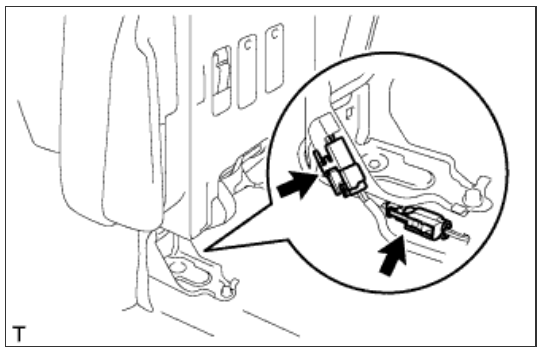
Tape the screwdriver tip before use.



## 7. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

a. w/ Rear Seat Side Airbag:
Disconnect the connector.

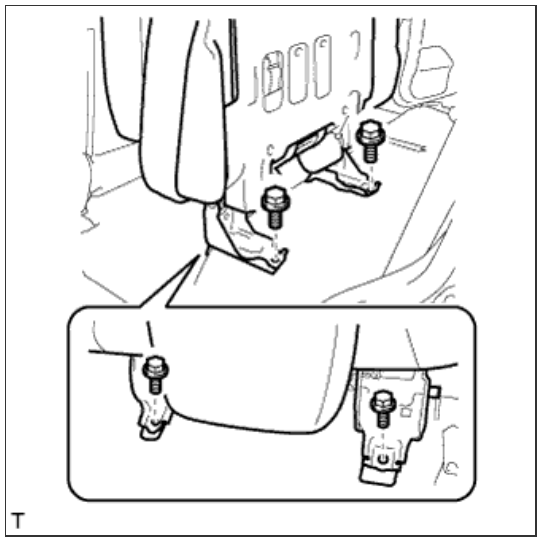
b. w/ Seat Heater System:
Disconnect the connector.




c. Remove the 4 bolts and seat assembly.

**NOTICE:**

Be careful not to damage the vehicle body.

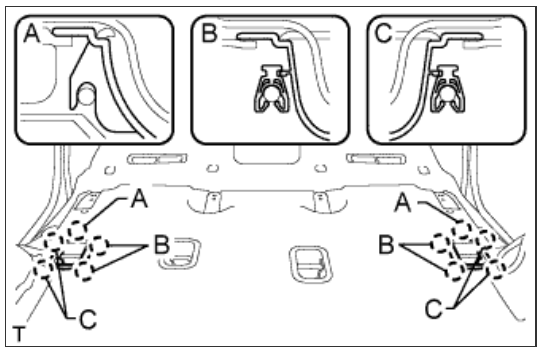



## 8. REMOVE REAR NO. 1 SEAT ASSEMBLY RH

a. Remove the rear No. 1 seat assembly RH ( Click here).

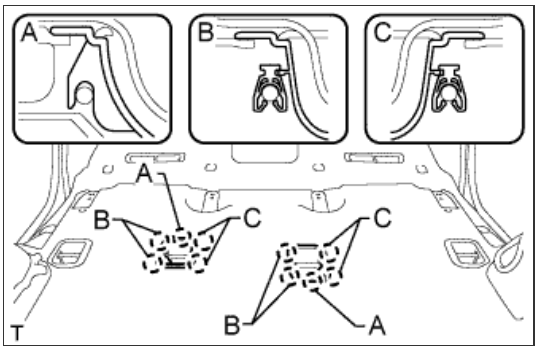
## 9. REMOVE REAR NO. 1 SEAT PROTECTOR

a. Detach the 10 claws and remove the 2 seat protectors.




## 10. REMOVE REAR NO. 2 SEAT PROTECTOR

a. Detach the 10 claws and remove the 2 seat protectors.

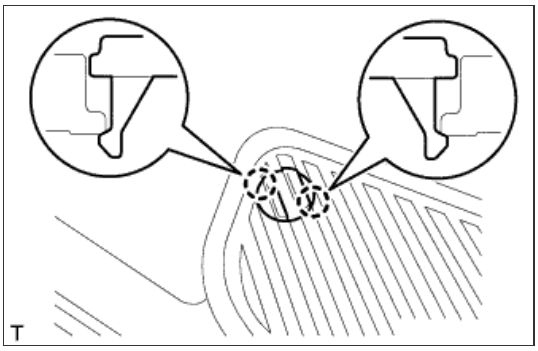



## 11. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

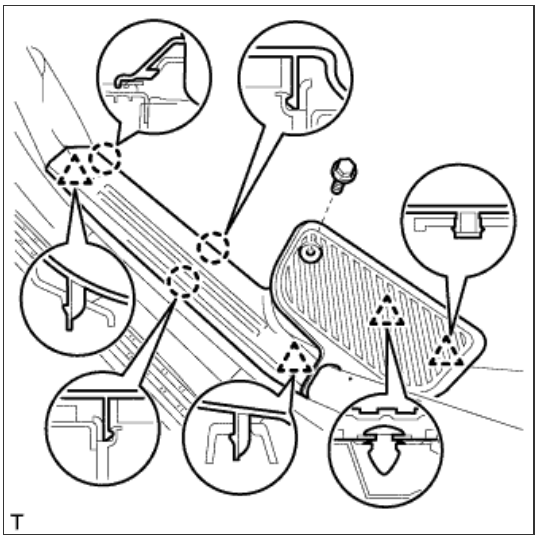
a. Detach the 2 claws and remove the step cover.




## 12. REMOVE REAR DOOR SCUFF PLATE LH

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




## 13. REMOVE REAR DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

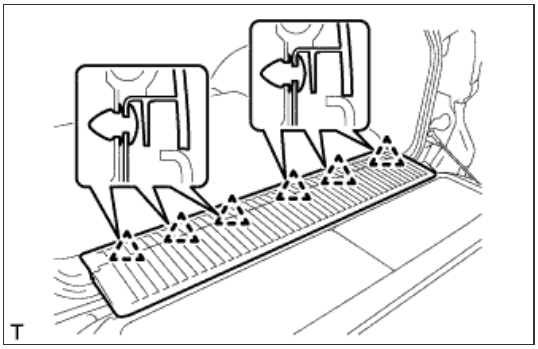
## 14. REMOVE REAR NO. 2 SEAT ASSEMBLY

a. for Face to Face Seat Type:
Remove the rear No. 2 seat assembly ( Click here).

b. except Face to Face Seat Type:
Remove the rear No. 2 seat assembly ( Click here).

## 15. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.




## 16. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

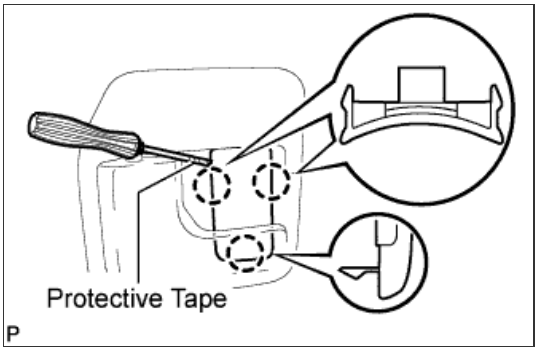
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

Tape the screwdriver tip before use.




## 17. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
Remove the front quarter trim panel assembly LH ( Click here).

b. w/o Sliding Roof:
Remove the front quarter trim panel assembly LH ( Click here).

## 18. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. w/ Sliding Roof:
Remove the front quarter trim panel assembly RH ( Click here).

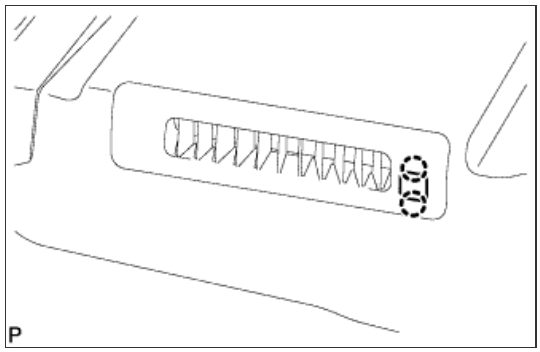
b. w/o Sliding Roof:
Remove the front quarter trim panel assembly RH ( Click here).

## 19. REMOVE AIR DUCT PLUG (w/ Rear Air Conditioning System)

a. Detach the 2 claws and remove the plug.

**HINT:**

Use the same procedures for both sides.



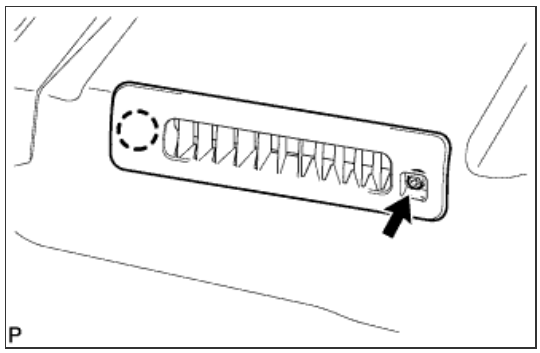

## 20. REMOVE REAR AIR DUCT GUIDE (w/ Rear Air Conditioning System)

a. Remove the screw.

b. Detach the claw and remove the guide.

**HINT:**

Use the same procedures for both sides.

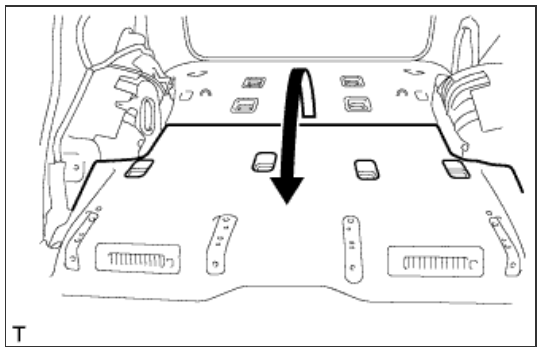



## 21. REMOVE FRONT FLOOR CARPET ASSEMBLY

a. Fold back the floor carpet.

**HINT:**

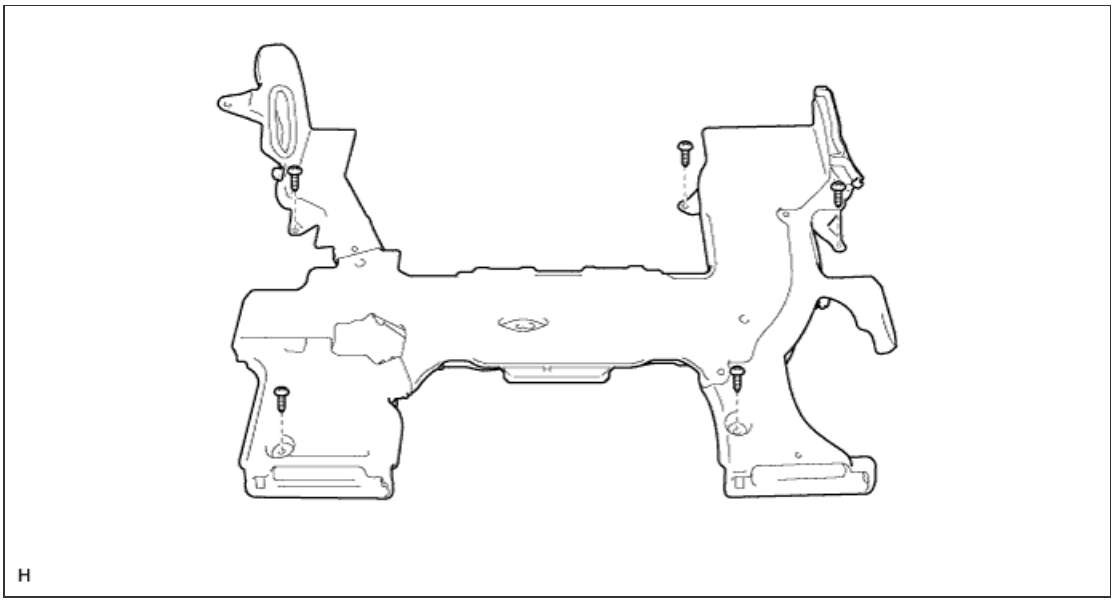
Fold back the carpet until it is possible to remove the rear No. 6 air duct.



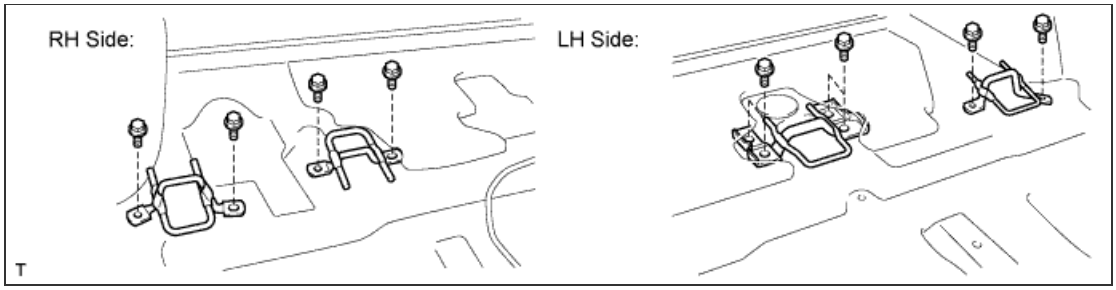

## 22. REMOVE REAR NO. 6 AIR DUCT (w/ Rear Air Conditioning System)

a. Disconnect the 2 connectors.

b. Remove the 5 screws and duct.




## 23. REMOVE REAR SEAT CUSHION LOCK STRIKER SUB-ASSEMBLY




a. Remove the 10 bolts and 4 lock strikers.

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

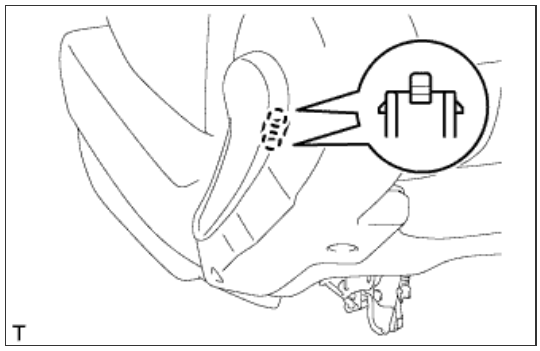
- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE SEAT ADJUSTER BOLT COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

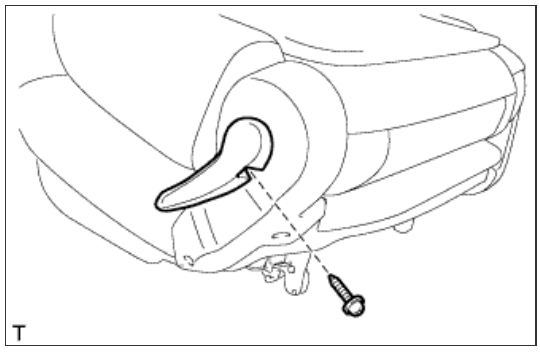
**HINT:**

Tape the screwdriver tip before use.




## 2. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

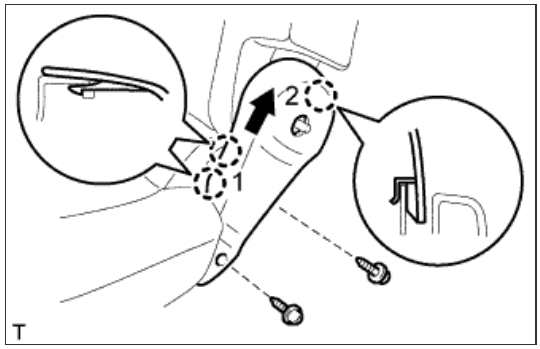
a. Remove the screw and release handle.




## 3. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

a. Remove the 2 screws.

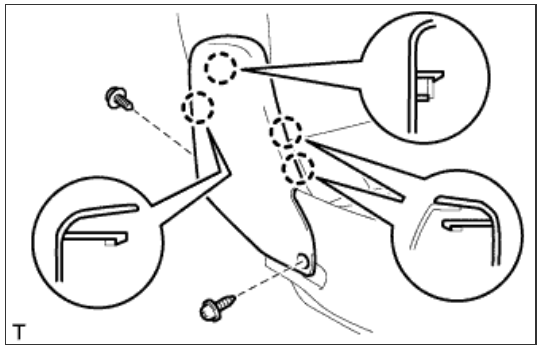
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.




## 4. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

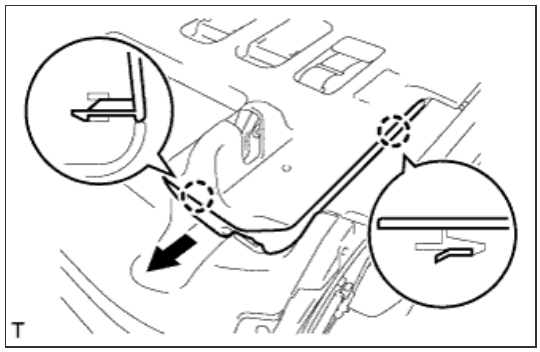



## 5. REMOVE UPPER SEAT TRACK RAIL COVER LH

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

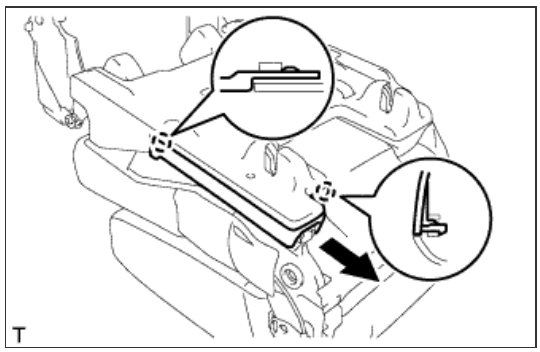



## 6. REMOVE UPPER SEAT TRACK RAIL COVER RH

a. Using a screwdriver, detach the 2 claws and remove the cover.

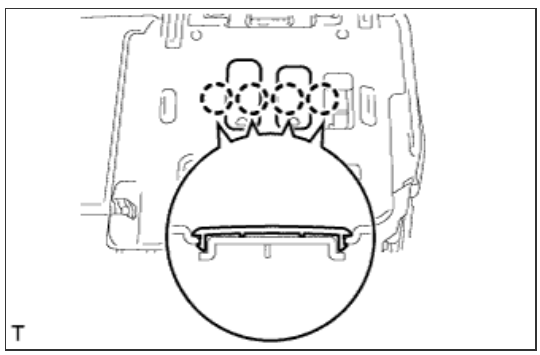
**HINT:**

Tape the screwdriver tip before use.



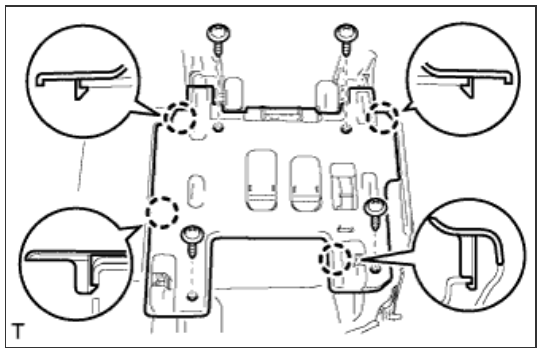

## 7. REMOVE NO. 1 SEAT CUSHION COVER

a. Detach the 4 claws and remove the 2 covers.

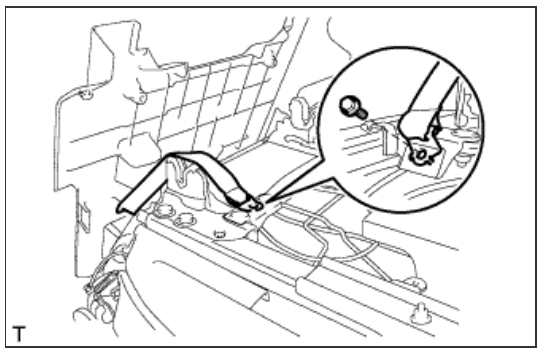



## 8. REMOVE REAR NO. 2 SEAT LEG SIDE COVER

a. Remove the 4 screws and detach the 4 claws.




b. Remove the bolt that is securing the fold seat stopper band and remove the seat leg side cover together with the fold seat stopper band.




## 9. REMOVE FOLD SEAT STOPPER BAND ASSEMBLY

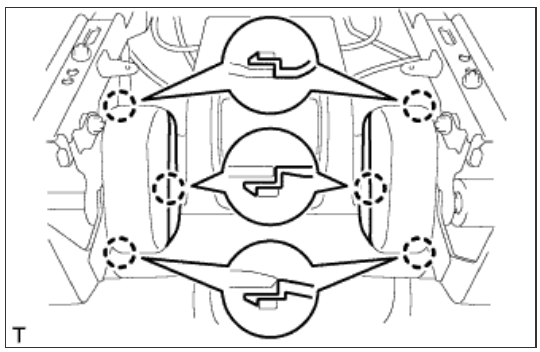
a. Remove the fold seat stopper band from the seat leg side cover.

## 10. REMOVE REAR SEAT SIDE HINGE FEMALE COVER

a. Using a screwdriver, detach the 6 claws and remove the 2 covers.

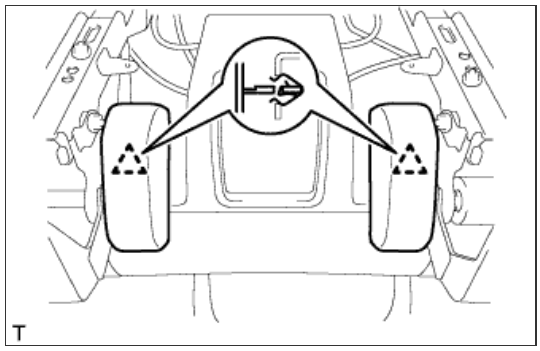
**HINT:**

Tape the screwdriver tip before use.




## 11. REMOVE REAR SEAT SIDE HINGE MALE COVER LH

a. Detach the clip and remove the cover.



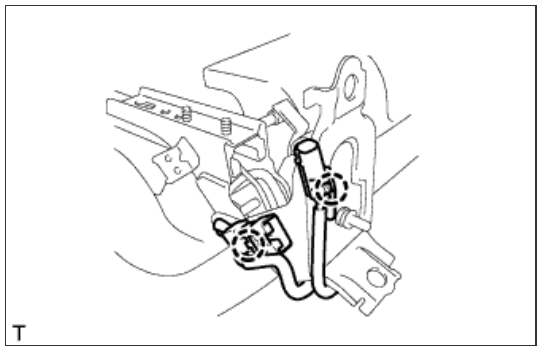
## 12. REMOVE REAR SEAT SIDE HINGE MALE COVER RH

a. Detach the clip and remove the cover.

## 13. REMOVE REAR NO. 2 SEAT PROTECTOR

a. w/ Rear Seat Side Airbag:
Detach the claw and remove the wire harness connector.

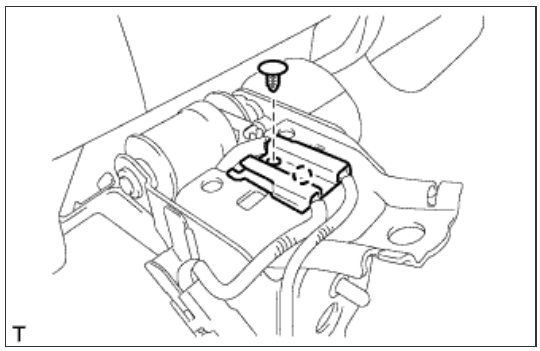
b. w/ Seat Heater System:
Detach the claw and remove the wire harness connector.




c. Using a clip remover, remove the clip.

d. Detach the claw and remove the seat protector from the seat hinge.

e. Detach the 2 claws, open the protector and remove wire harness.

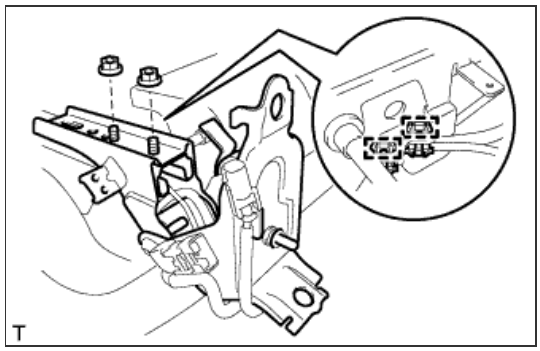



## 14. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

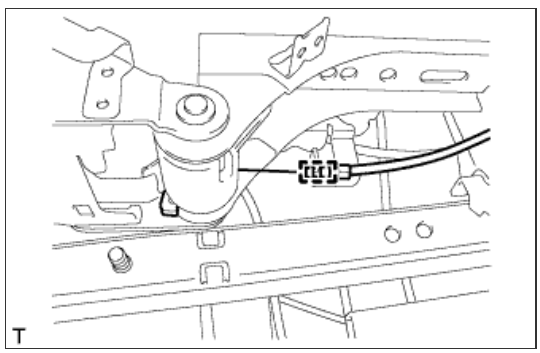
a. w/ Rear Seat Side Airbag:
Detach the wire harness clamp.

b. w/ Seat Heater System:
Detach the wire harness clamp.

c. Remove the 2 nuts and hinge.

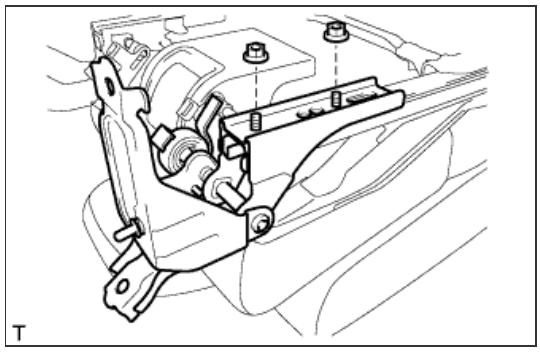



d. Detach the cable clamp and disconnect the cable.



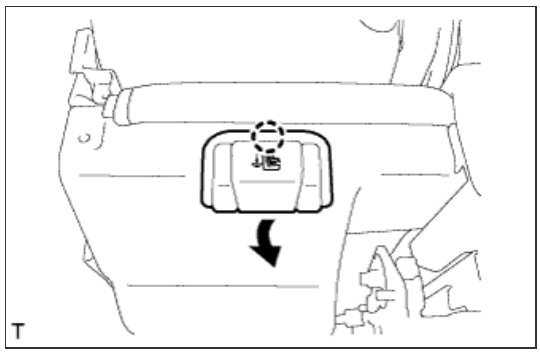
## 15. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

a. Remove the 2 nuts and hinge.

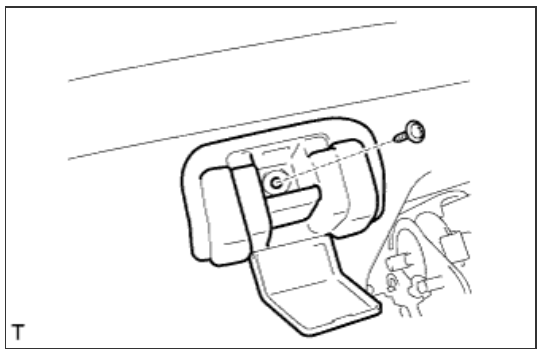



## 16. REMOVE SEAT BELT ANCHOR COVER CAP

a. Detach the claw and open the cap.



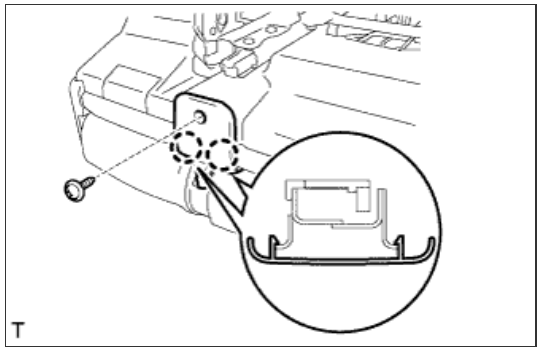

b. Remove the screw and anchor cover cap.




## 17. REMOVE REAR SEATBACK STAY COVER LH

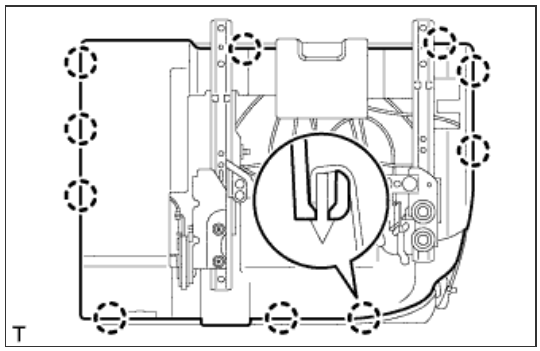
a. Remove the screw.

b. Detach the 2 claws and remove the cover.



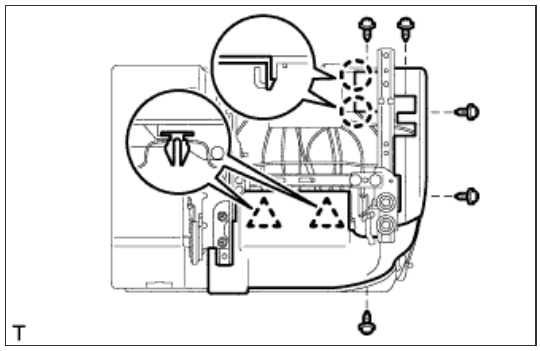

## 18. REMOVE REAR UNDER SIDE COVER LH

a. Detach the 10 claws.



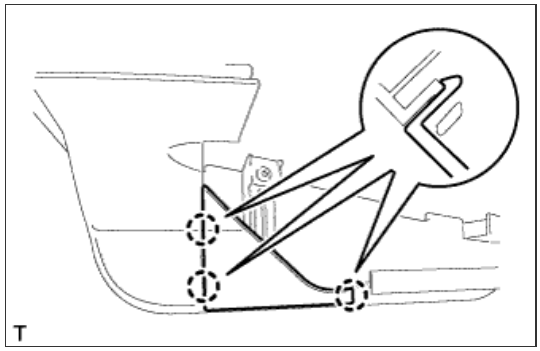

b. Remove the 5 screws.

c. Detach the 2 clips and 2 claws, and remove the cover.




## 19. REMOVE NO. 1 SEAT CUSHION PLATE

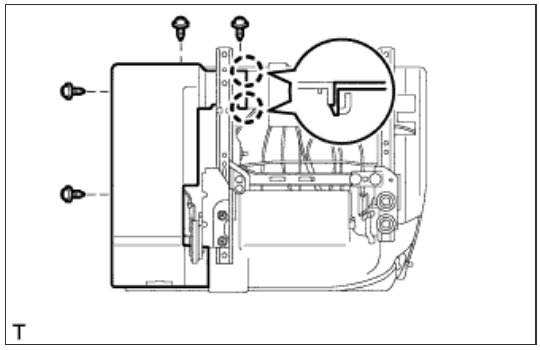
a. Detach the 3 claws and remove the seat cushion plate.




## 20. REMOVE REAR SEAT CUSHION COVER RH

a. Remove the 4 screws.

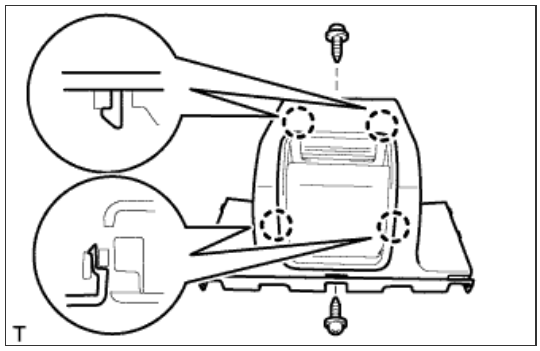
b. Detach the 2 claws and remove the cover.




## 21. REMOVE REAR SEAT UNDER TRAY COVER LH

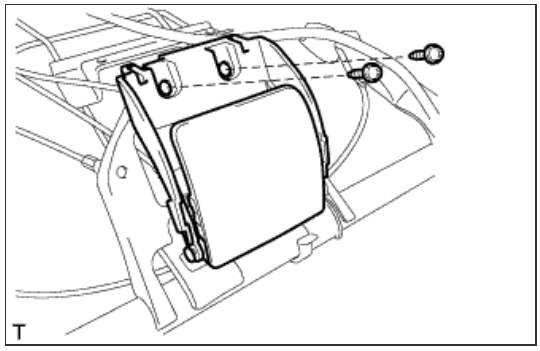
a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

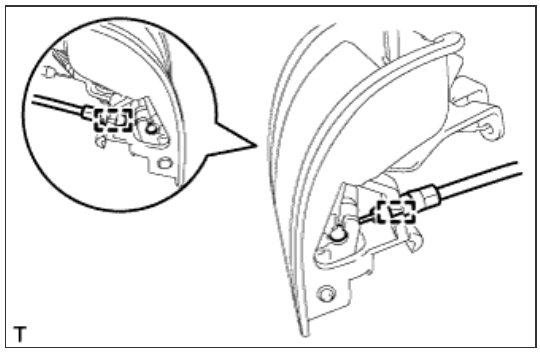



## 22. REMOVE REAR SEAT TRACK HANDLE SUB-ASSEMBLY

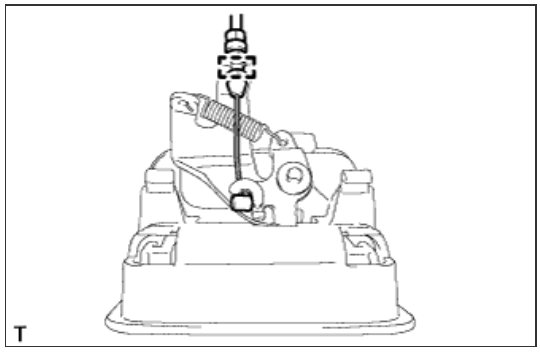
a. Remove the 2 screws and seat track handle.




b. Detach the 2 cable clamps and disconnect the 2 cables.




c. Detach the cable clamp and disconnect the cable.



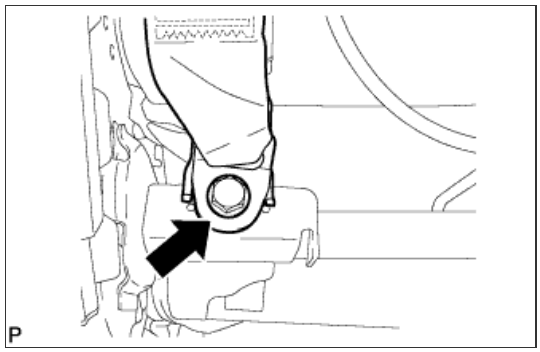

## 23. REMOVE FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY

## 24. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Remove the bolt and belt.

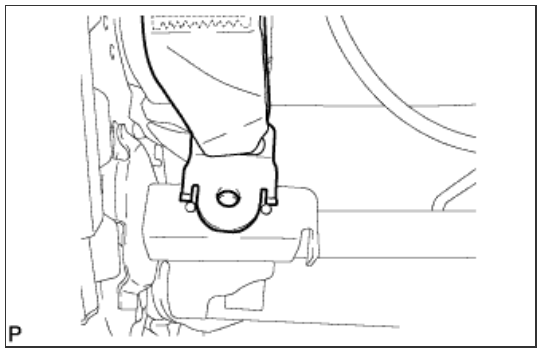
**HINT:**

The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, it becomes disconnected when the bolt is removed.




### 25. DISCONNECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Disconnect the belt anchor.




### 26. REMOVE SEAT CUSHION COVER WITH PAD

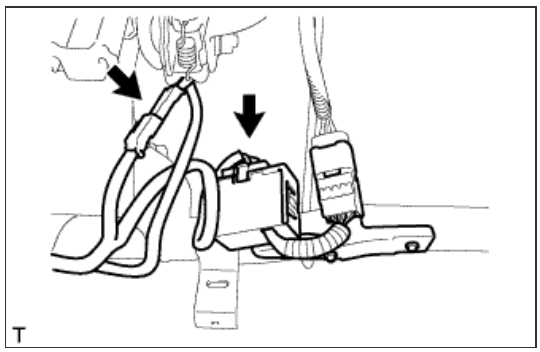
a. w/ Rear Seat Side Airbag:

i. Detach the side airbag wire harness clamps.

ii. Remove the side airbag wire harness through the hole in the seat cushion.

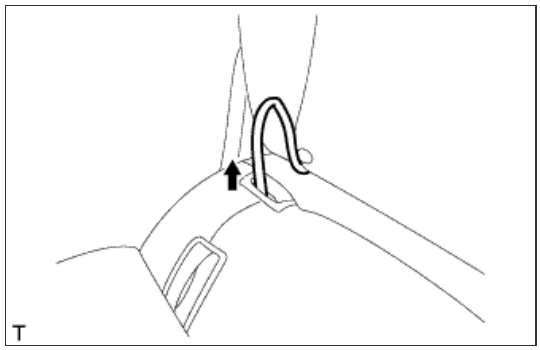
b. w/ Seat Heater System:

i. Disconnect the 2 seat heater connectors.



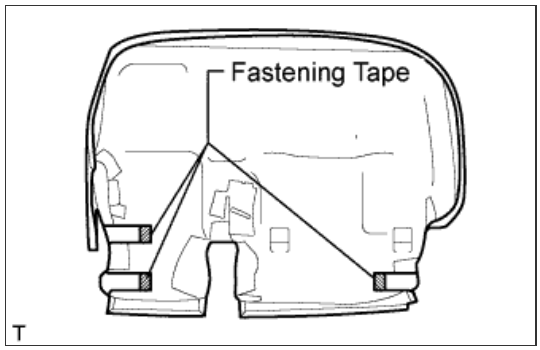

ii. Remove the seatback heater wire harness through the hole in the seat cushion.

c. Remove the seat cushion cover with pad.

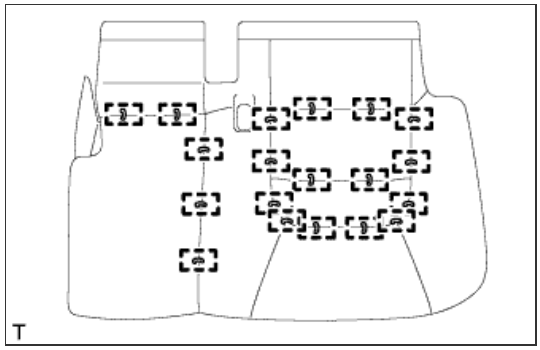



### 27. REMOVE REAR SEPARATE TYPE SEAT CUSHION COVER

a. Detach the 3 pieces of fastening tape.

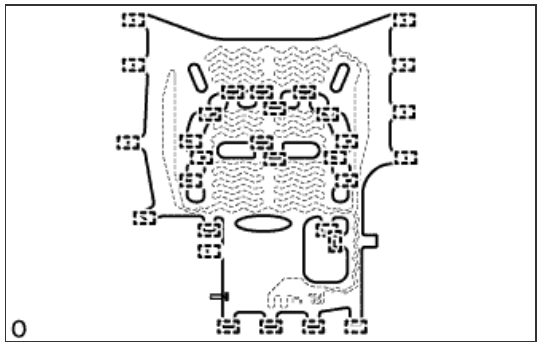



b. Remove the hog rings and cover.




### 28. REMOVE REAR SEAT CUSHION HEATER ASSEMBLY (w/ Seat Heater System)

a. Cut off the tack pins which fasten the seat heater to the seat cushion cover, and then remove the seat cushion heater from the seat cushion cover.

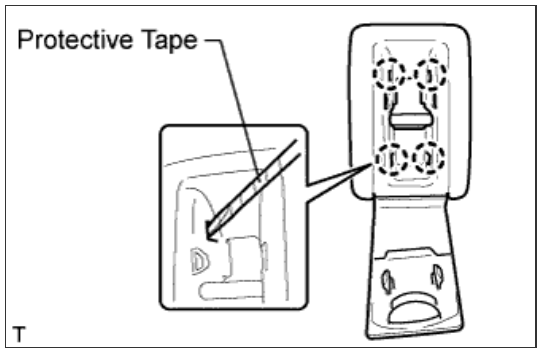



### 29. REMOVE REAR SEATBACK COVER

a. Using a screwdriver, detach the 4 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

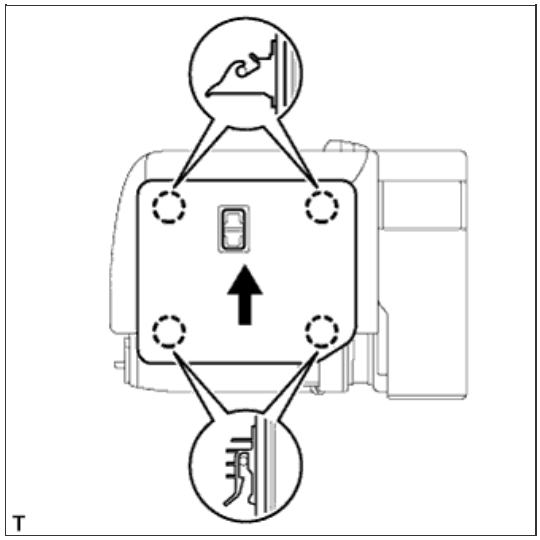



## 30. REMOVE REAR SEATBACK BOARD SUB-ASSEMBLY LH

a. w/ Center Armrest:

i. Detach the 2 claws on the top of the board.

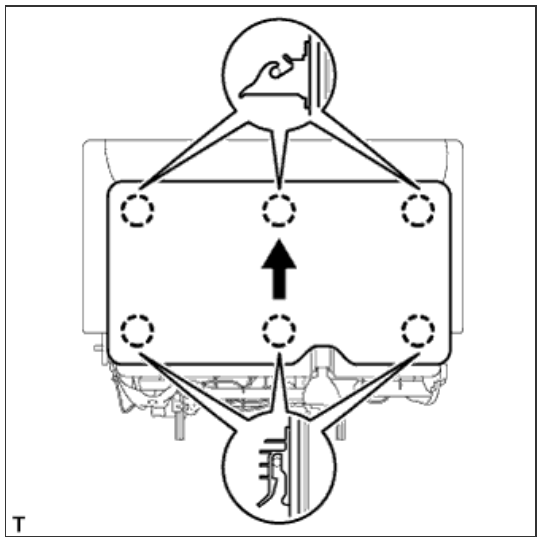
ii. Pull up the board to detach the 2 claws on the bottom of the board and remove it.




b. w/o Center Armrest:

i. Detach the 3 claws on the top of the board.

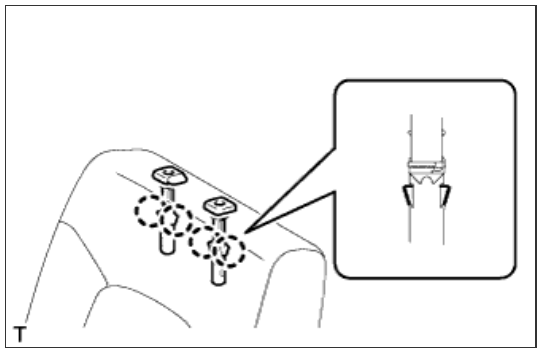
ii. Pull up the board to detach the 3 claws on the bottom of the board and remove it.



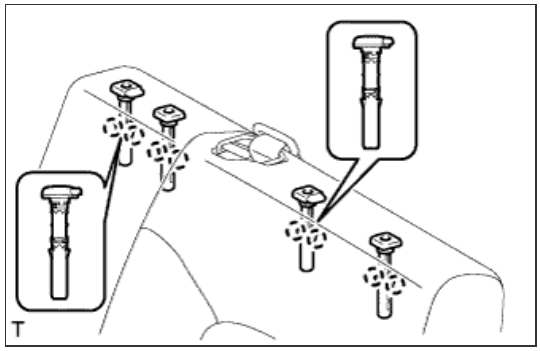

## 31. REMOVE REAR SEAT HEADREST ASSEMBLY

## 32. REMOVE REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. w/ Center Armrest:
Detach the 4 claws and remove the 2 supports.




b. w/o Center Armrest:
Detach the 8 claws and remove the 4 supports.

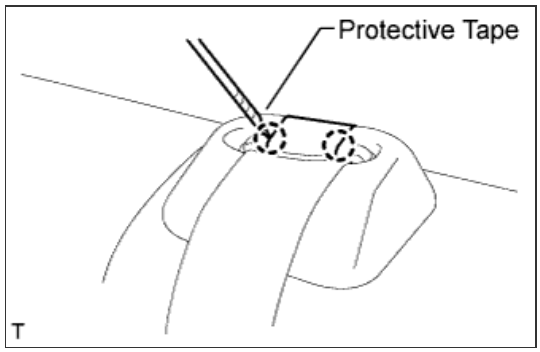



## 33. REMOVE SHOULDER BELT ANCHOR COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

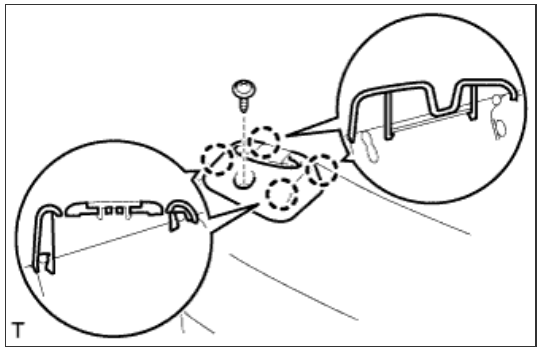
Tape the screwdriver tip before use.




## 34. REMOVE REAR SEAT BELT HOLE COVER LH

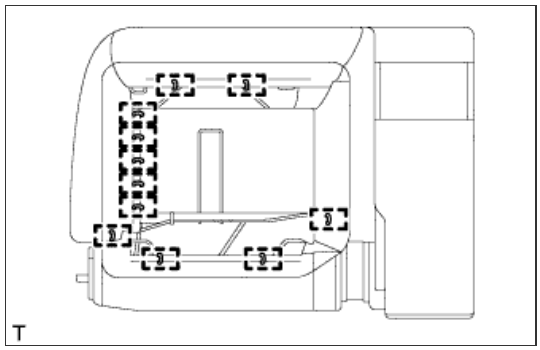
a. Remove the screw.

b. Detach the 4 claws and remove the cover.

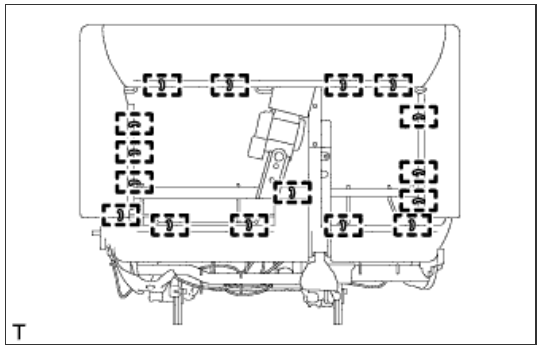



## 35. REMOVE SEATBACK COVER WITH PAD

a. w/ Center Armrest:
Remove the hog rings.



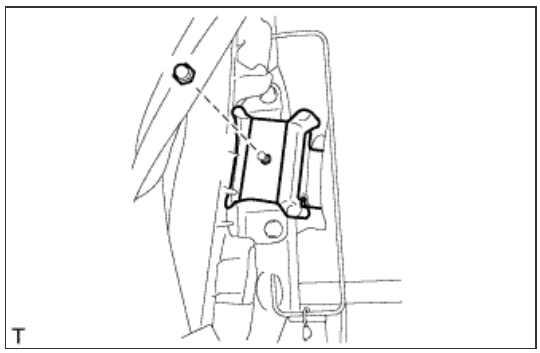

**b.** w/o Center Armrest:
Remove the hog rings.




**c.** w/ Rear Seat Side Airbag:

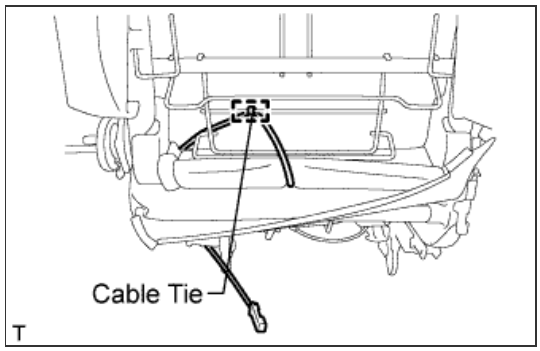
**i.** Remove the cap nut and seatback cover bracket from the seat frame.

**ii.** Remove the side airbag wire harness through the hole in the seatback.

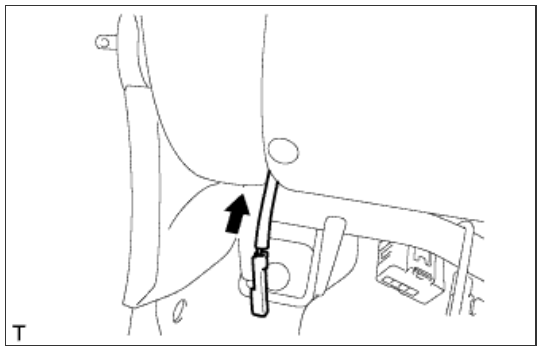



**d.** w/ Seat Heater System:

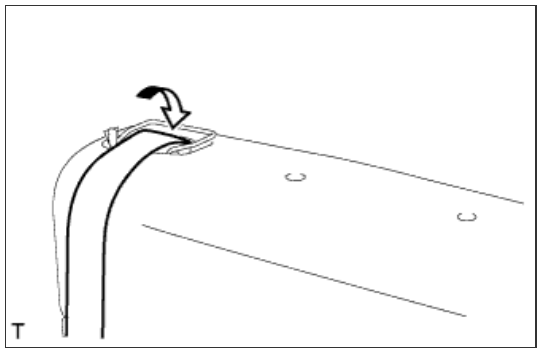
**i.** Cut the cable tie and disconnect the seatback heater wire harness.




**ii.** Remove the seatback heater wire harness through the hole in the seatback.

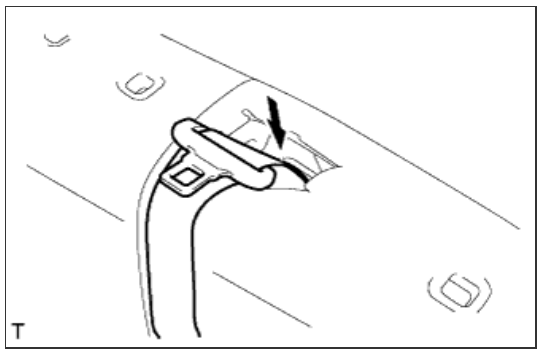



e. w/ Center Armrest:
Pull the seat belt into the inside of the seat.



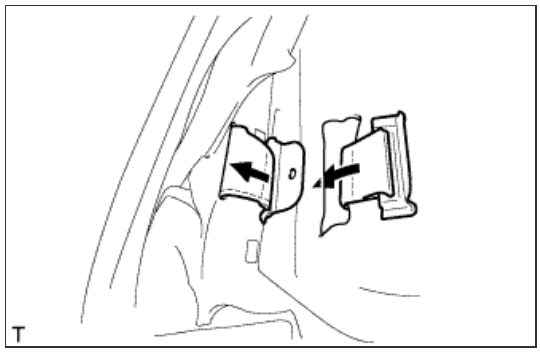

f. w/o Center Armrest:
Pull the seat belt into the inside of the seat.

g. Remove the seatback cover with pad.

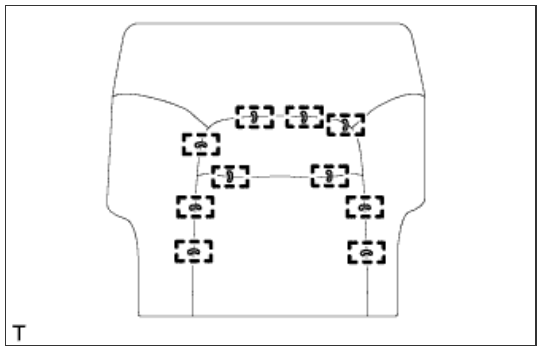



## 36. REMOVE REAR SEPARATE TYPE SEATBACK COVER

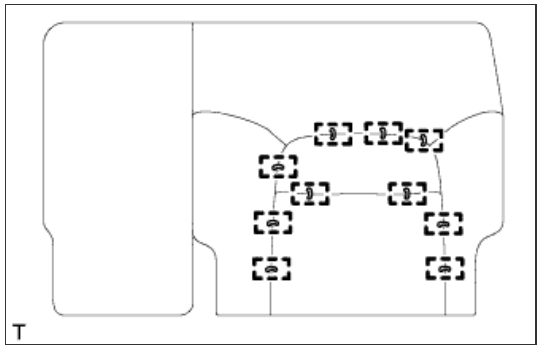
a. w/ Rear Seat Side Airbag:
Disconnect the seatback cover bracket from the seatback pad.




b. w/ Center Armrest:
Remove the hog rings and rear seatback cover.

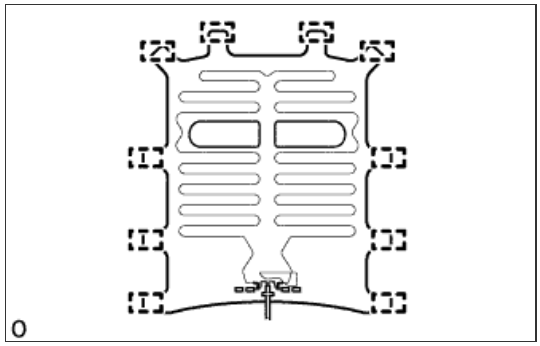



c. w/o Center Armrest:
Remove the hog rings and rear seatback cover.




## 37. REMOVE REAR SEATBACK HEATER ASSEMBLY (w/ Seat Heater System)

a. Cut off the tack pins which fasten the seatback heater to the seatback cover, and then remove the seatback heater from the seatback cover.



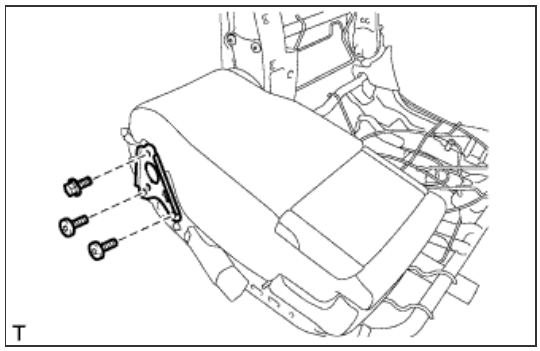

## 38. REMOVE SEATBACK STOPPER PLATE

a. w/ Center Armrest:

i. Using a T40 "TORX" socket, remove the 2 bolts.

ii. Remove the bolt and stopper plate.

iii. Remove the bush from the stopper plate.

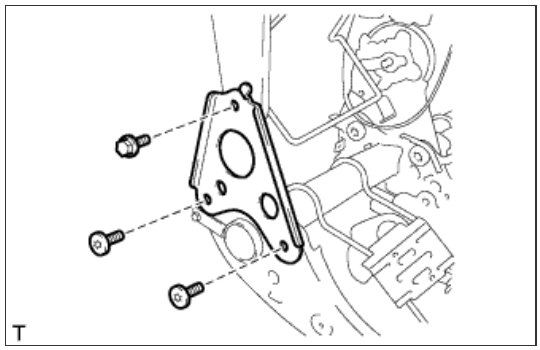



b. w/o Center Armrest:

i. Using a T40 "TORX" socket, remove the 2 bolts.

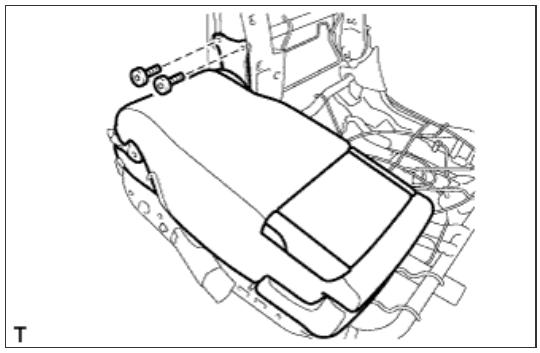
ii. Remove the bolt and stopper plate.

iii. Remove the bush from the stopper plate.




### 39. REMOVE REAR CENTER SEAT ARMREST ASSEMBLY (w/ Center Armrest)

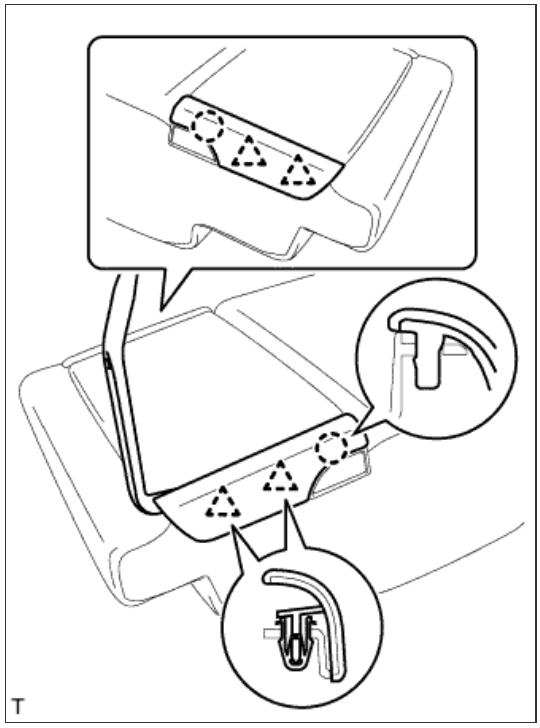
a. Using a T40 "TORX" socket, remove the 2 bolts and center seat armrest.




### 40. REMOVE REAR CENTER SEAT HEADREST ASSEMBLY (w/ Center Armrest)

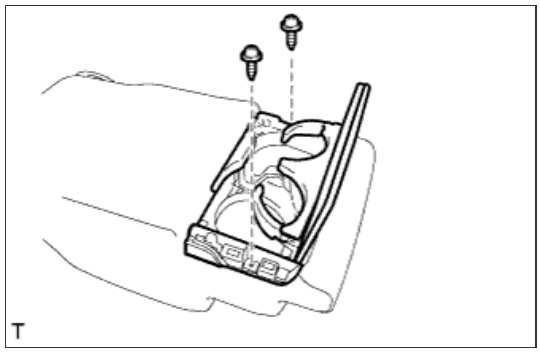
### 41. REMOVE NO. 1 SEAT ARMREST PLATE (w/ Center Armrest)

a. Using a moulding remover, detach the 4 clips and 2 claws, and then remove the 2 armrest plates.

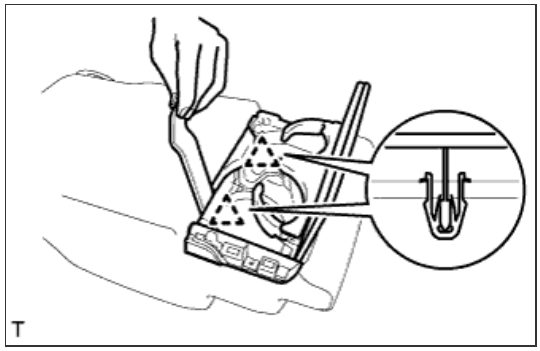



### 42. REMOVE CUP HOLDER ASSEMBLY (w/ Center Armrest)

a. Remove the 2 screws.



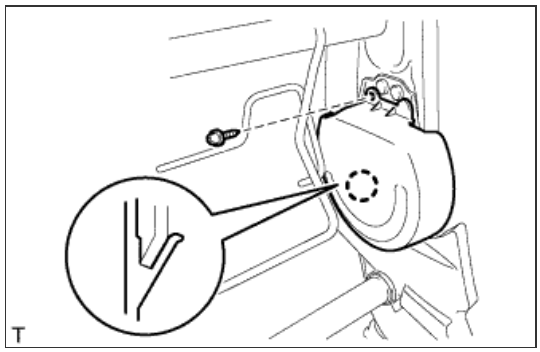

b. Using a moulding remover, detach the 2 clips and remove the cup holder.




## 43. REMOVE REAR SEAT RECLINING COVER LH

a. Remove the screw.

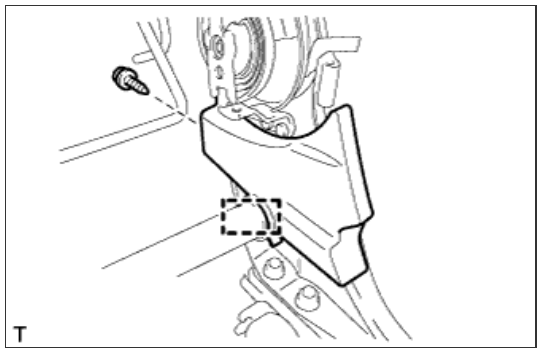
b. Detach the claw and remove the cover.




## 44. REMOVE REAR NO. 2 SEAT RECLINING COVER LH

a. Remove the screw.

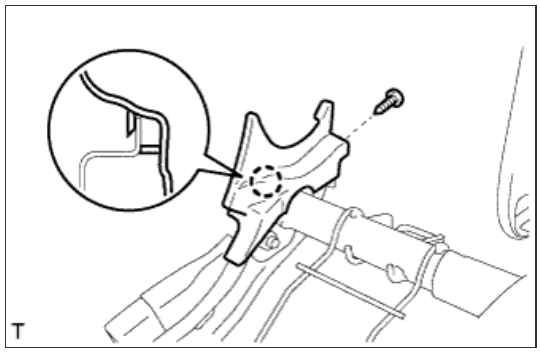
b. Detach the clamp and remove the cover.




## 45. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the screw.

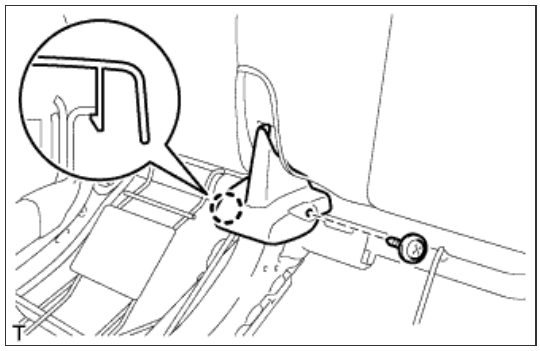
b. Detach the claw and remove the cover.




## 46. REMOVE REAR SEATBACK HINGE COVER LH

a. Remove the screw.

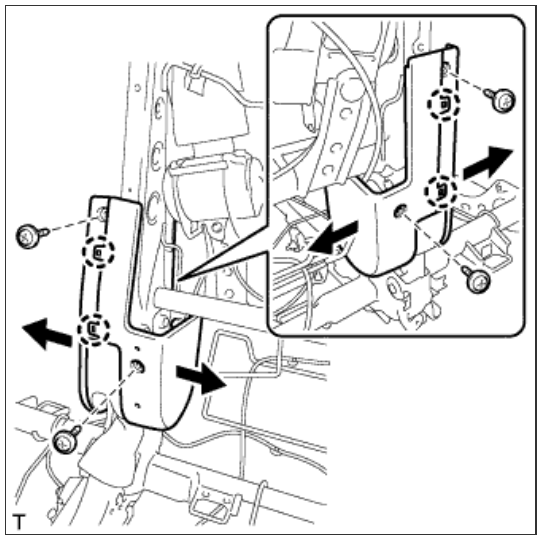
b. Detach the claw and remove the cover.




## 47. REMOVE REAR LOWER SEATBACK COVER SUB-ASSEMBLY LH

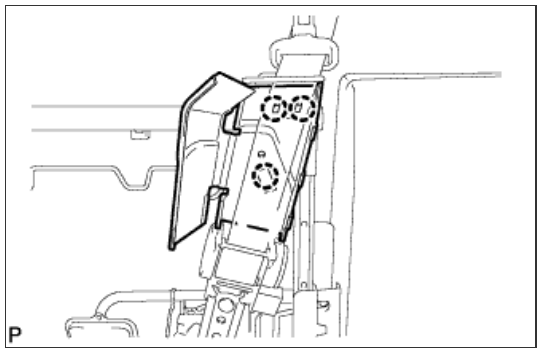
a. Remove the 4 screws.

b. Detach the 4 claws and remove the cover.




## 48. REMOVE REAR SEAT SHOULDER BELT HOLE COVER LH

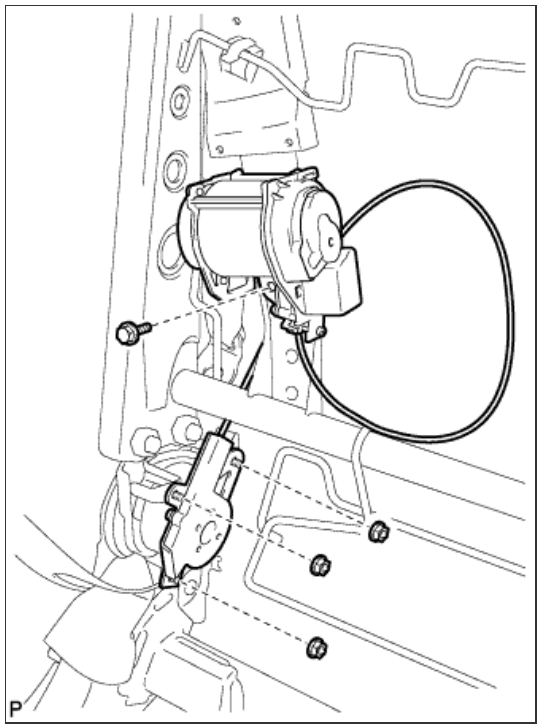
a. Using a screwdriver, detach the 3 claws and remove the shoulder belt hole cover.




## 49. REMOVE NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Remove the 3 nuts and belt sensor.

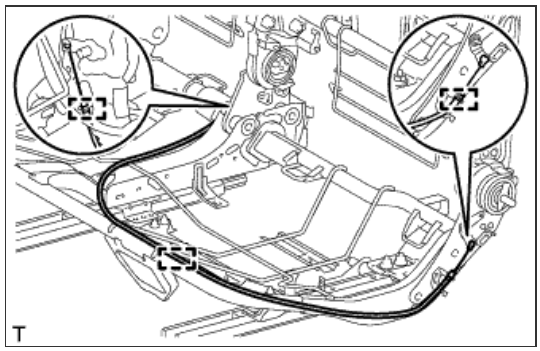
b. Remove the nut and then remove the outer belt.




## 50. REMOVE RECLINING ADJUSTING CABLE ASSEMBLY LH

a. Detach the 2 cable clamps and disconnect the cable.

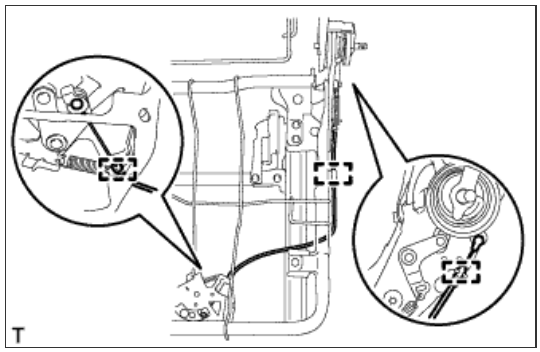
b. Detach the clamp and remove the adjusting cable.




## 51. REMOVE NO. 2 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY

a. Detach the 2 cable clamps and disconnect the cable.

b. Detach the clamp and remove the lock control cable.

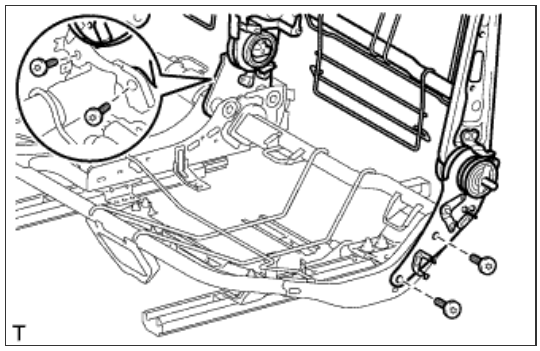



## 52. REMOVE REAR SEATBACK FRAME SUB-ASSEMBLY LH

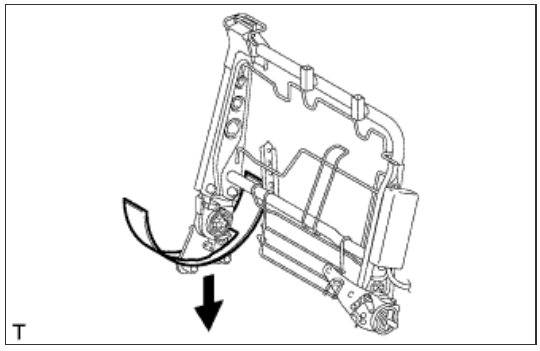
a. LH Side:
Using a T40 "TORX" socket, remove the 2 bolts.

b. RH Side:
Using a T55 "TORX" socket, remove the 2 bolts.

c. Remove the seatback frame sub-assembly.



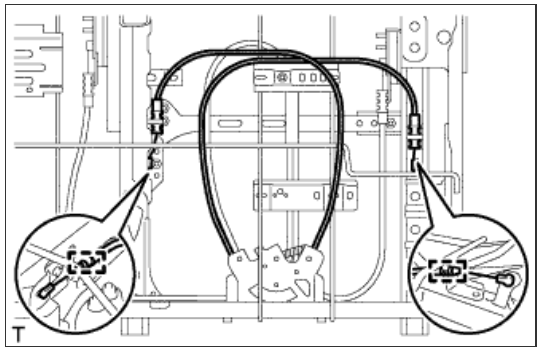

d. Remove the lower seatback cover.




## 53. REMOVE FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY

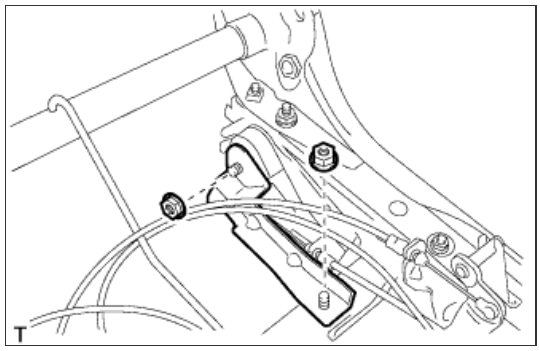
a. Detach the 2 cable clamps and disconnect the 2 cables.

b. Remove the 2 fold seat lock cables.




## 54. REMOVE REAR NO. 1 SEAT LOCK CABLE ASSEMBLY

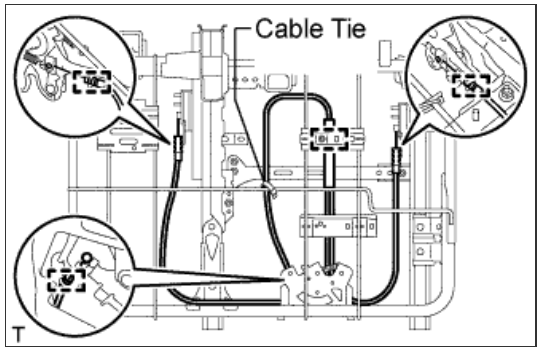
a. Remove the 2 nuts and lower seat track bracket.




b. Cut the cable tie and disconnect the cable.

c. Detach the 3 cable clamps and disconnect the 3 cables.

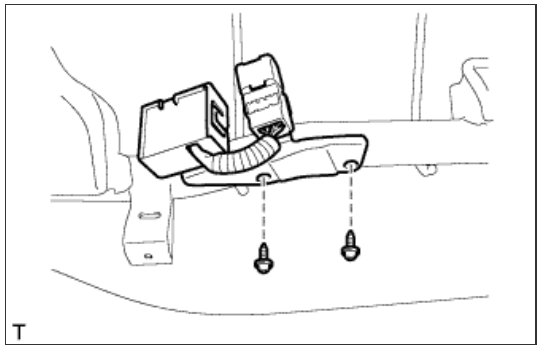
d. Detach the clamp and remove the seat lock cable.




### 55. REMOVE REAR SEAT CUSHION HOLDER BRACKET LH (w/ Seat Heater System)

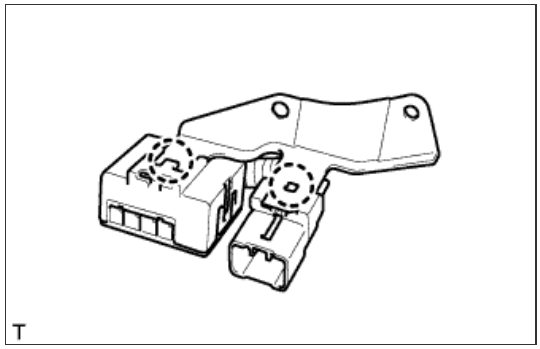
a. Disconnect the seat wire connector.

b. Remove the 2 screws and holder bracket.



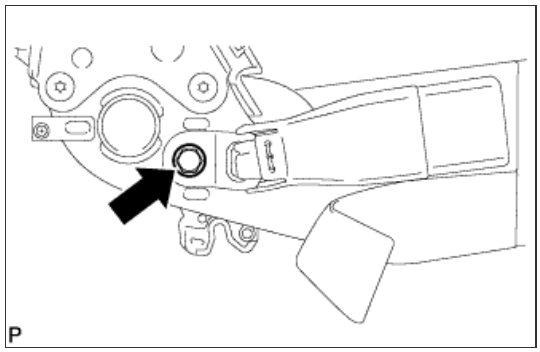

### 56. REMOVE SEAT HEATER CONTROL SUB-ASSEMBLY LH (w/ Seat Heater System)

a. Detach the 2 claws and remove the seat heater control.



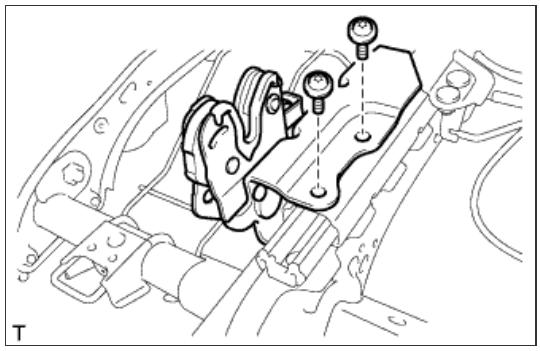

### 57. REMOVE REAR SEAT INNER BELT ASSEMBLY

a. Remove the bolt and belt.




### 58. REMOVE NO. 1 SEAT LEG ASSEMBLY LH

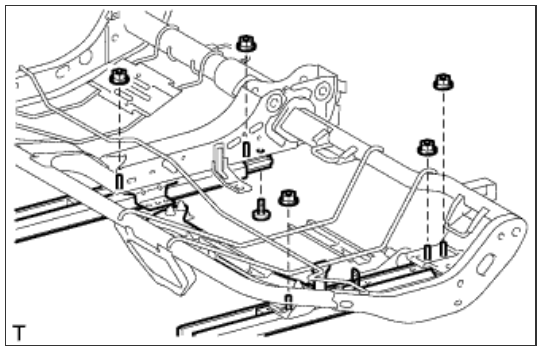
a. Using a T40 "TORX" socket, remove the 2 bolts and seat leg assembly.




### 59. REMOVE REAR SEAT CUSHION FRAME SUB-ASSEMBLY LH

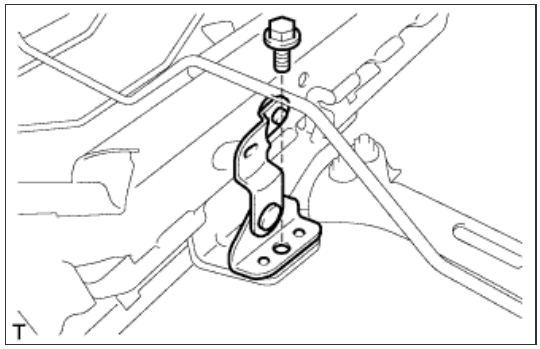
a. Using a T40 "TORX" socket, remove the bolt.

b. Remove the 5 nuts and seat cushion frame.




### 60. REMOVE REAR SEAT LOCK CONTROL LEVER LH

a. Remove the bolt and lock control lever.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

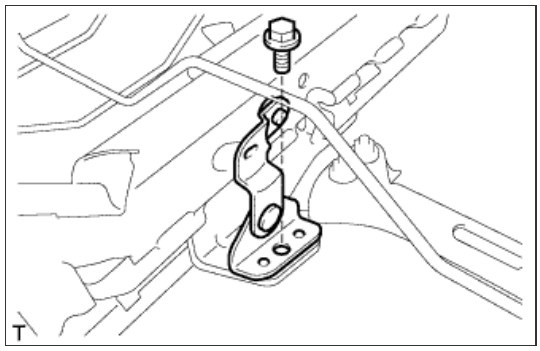
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL REAR SEAT LOCK CONTROL LEVER LH

a. Install the lock control lever with the bolt.

**Torque:**
**13 N*m{ 133 kgf*cm , 10 ft.*lbf }**




## 2. INSTALL REAR SEAT CUSHION FRAME SUB-ASSEMBLY LH

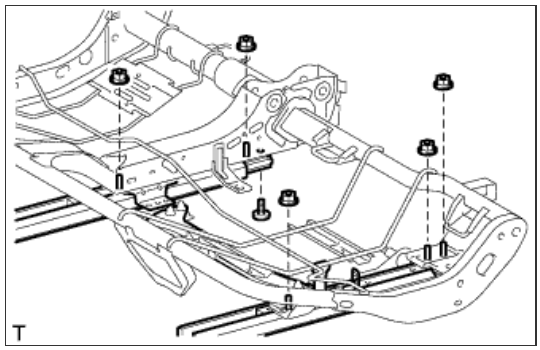
a. Temporarily install the seat cushion frame with the 5 nuts and bolt.

b. Tighten the 5 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. Using a T40 "TORX" socket, tighten the bolt.

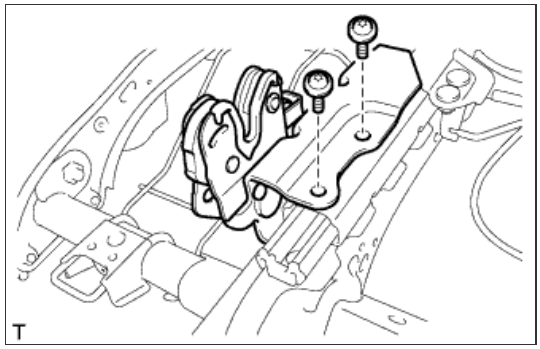
**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**




## 3. INSTALL NO. 1 SEAT LEG ASSEMBLY LH

a. Using a T40 "TORX" socket, install the seat leg assembly with the 2 bolts.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**



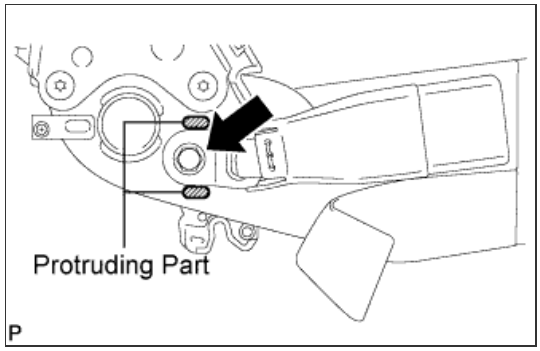

## 4. INSTALL REAR SEAT INNER BELT ASSEMBLY

a. Install the seat belt with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

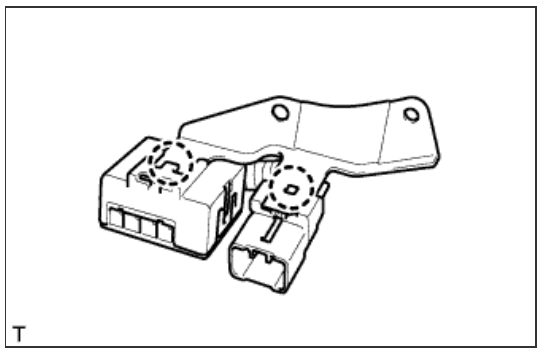
**NOTICE:**

The anchor part of the seat belt must not overlap the protruding part.




## 5. INSTALL SEAT HEATER CONTROL SUB-ASSEMBLY LH (w/ Seat Heater System)

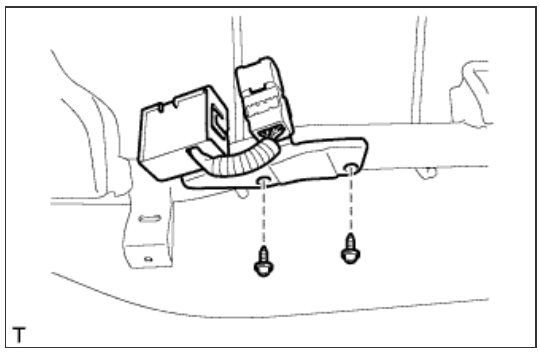
a. Attach the 2 claws to install the seat heater control.




## 6. INSTALL REAR SEAT CUSHION HOLDER BRACKET LH (w/ Seat Heater System)

a. Install the holder bracket with the 2 screws.

b. Connect the seat wire connector.

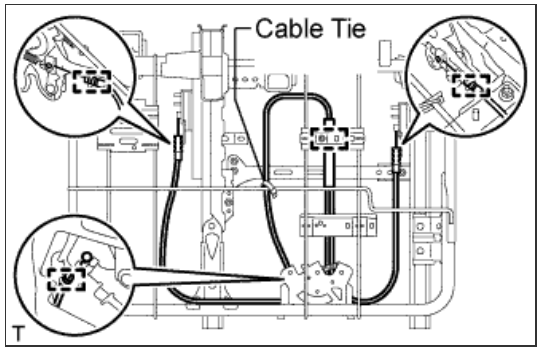



## 7. INSTALL REAR NO. 1 SEAT LOCK CABLE ASSEMBLY

a. Attach the clamp to install the seat lock cable.

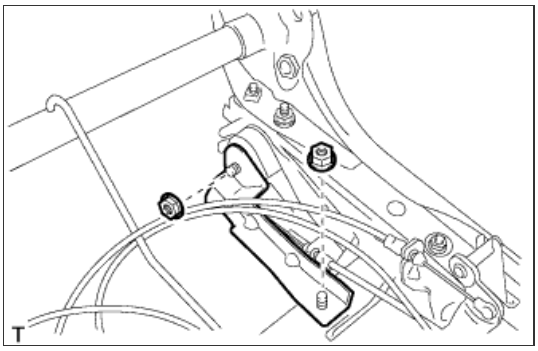
b. Attach the 3 cable clamps to connect the 3 cables.

c. Connect the cable and install a new cable tie.




d. Install the lower seat track bracket with the 2 nuts.

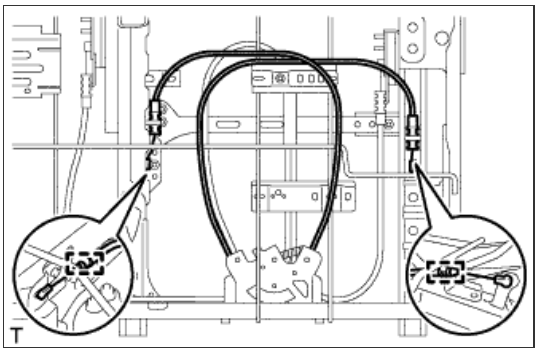
**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**




## 8. INSTALL FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY

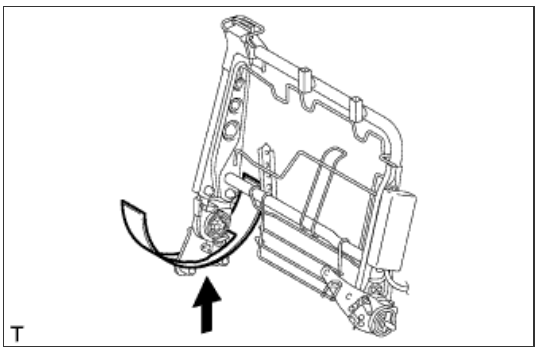
a. Install the 2 fold seat lock control cables.

b. Attach the 2 cable clamps to connect the 2 cables.




## 9. INSTALL REAR SEATBACK FRAME SUB-ASSEMBLY LH

a. Install the lower seatback cover.



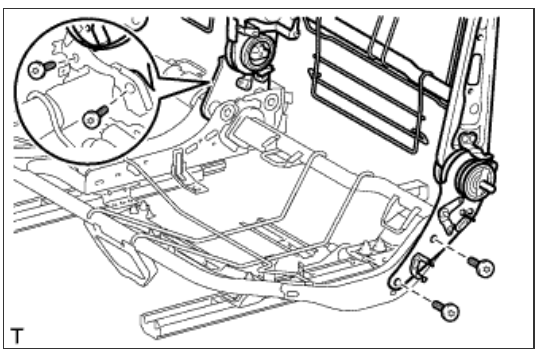

b. Temporarily install the seatback frame with the 4 bolts.

c. LH Side:
Using a T40 "TORX" socket, tighten the 2 bolts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

d. RH Side:
Using a T55 "TORX" socket, tighten the 2 bolts.

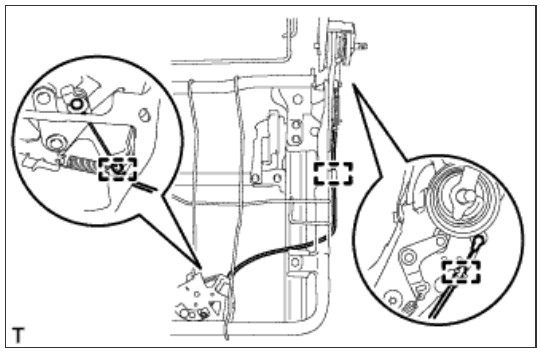
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 10. INSTALL NO. 2 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY

a. Attach the clamp to install the lock control cable.

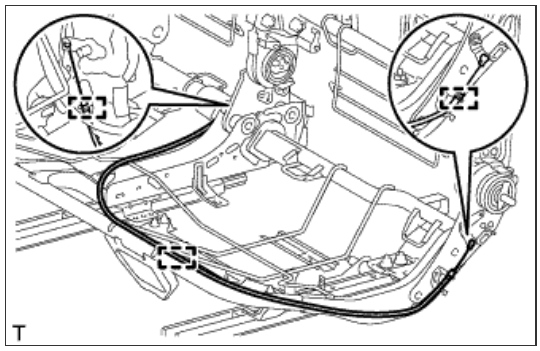
b. Attach the 2 cable clamps to connect the cable.




## 11. INSTALL RECLINING ADJUSTING CABLE ASSEMBLY LH

a. Attach the clamp to install the adjusting cable.

b. Attach the 2 cable clamps to connect the cable.

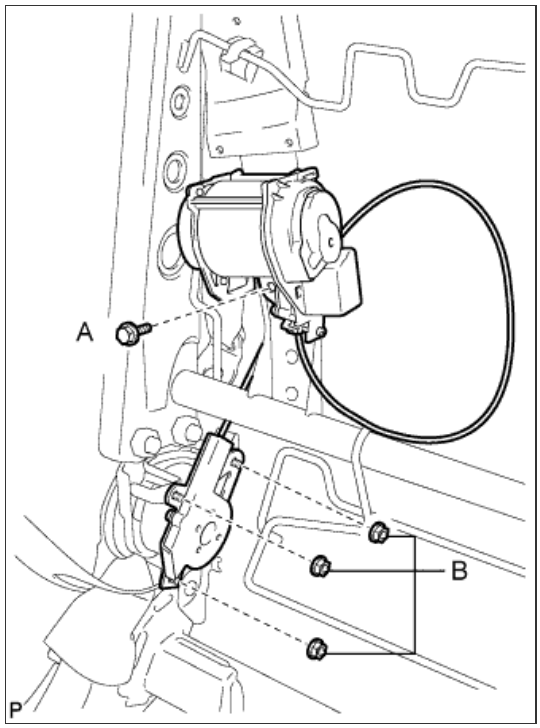



## 12. INSTALL NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Install the belt with the nut labeled A.

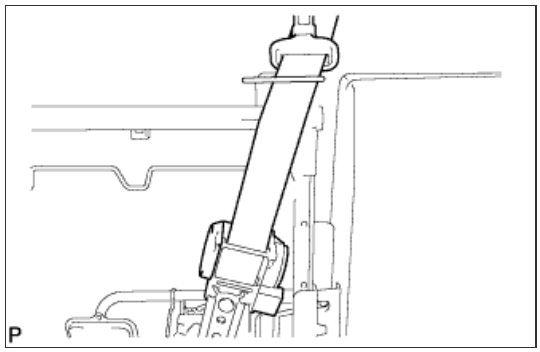
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

b. Install the belt sensor with the 3 nuts labeled B.

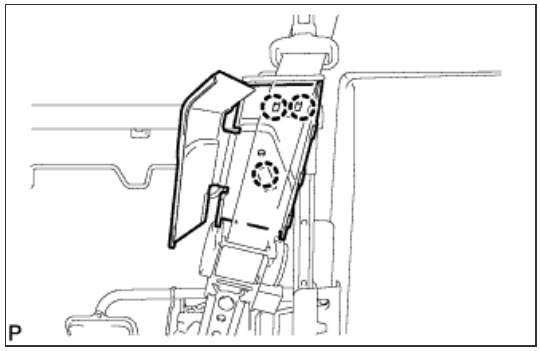



## 13. INSTALL REAR SEAT SHOULDER BELT HOLE COVER LH

a. Install the seat belt as shown in the illustration.



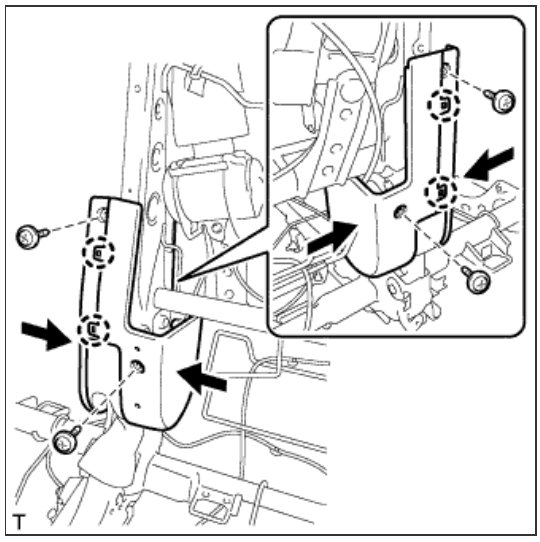

b. Attach the 3 claws to install the shoulder belt hole cover.




## 14. INSTALL REAR LOWER SEATBACK COVER SUB-ASSEMBLY LH

a. Attach the 4 claws to install the cover.

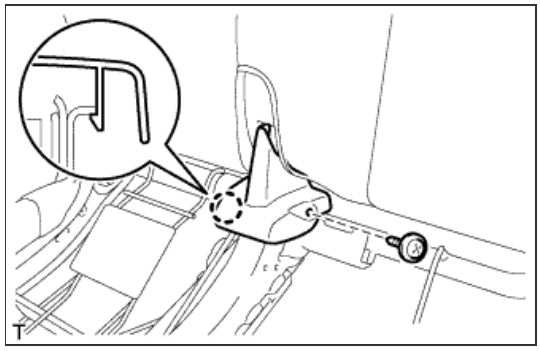
b. Install the 4 screws.




## 15. INSTALL REAR SEATBACK HINGE COVER LH

a. Attach the claw to install the cover.

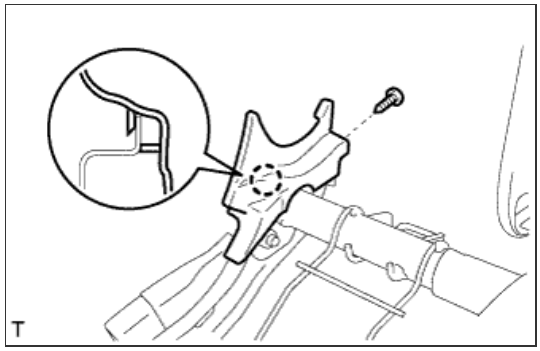
b. Install the screw.




## 16. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

a. Attach the claw to install the cover.

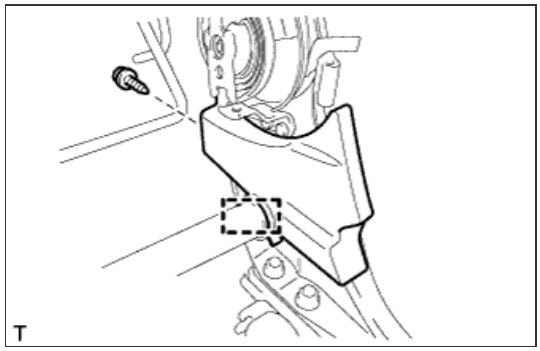
b. Install the screw.




## 17. INSTALL REAR NO. 2 SEAT RECLINING COVER LH

a. Attach the clamp to install the cover.

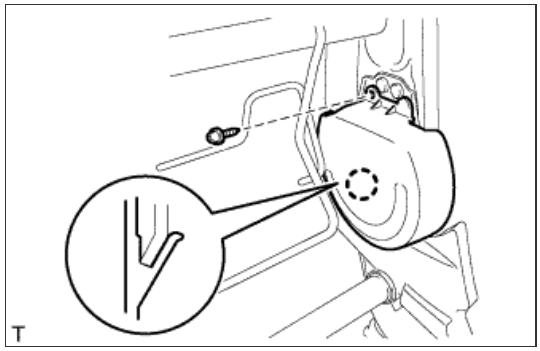
b. Install the screw.




## 18. INSTALL REAR SEAT RECLINING COVER LH

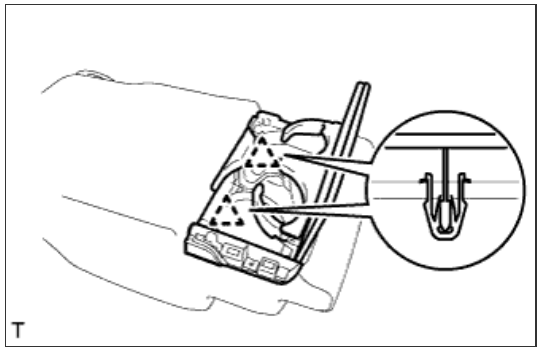
a. Attach the claw to install the cover.

b. Install the screw.

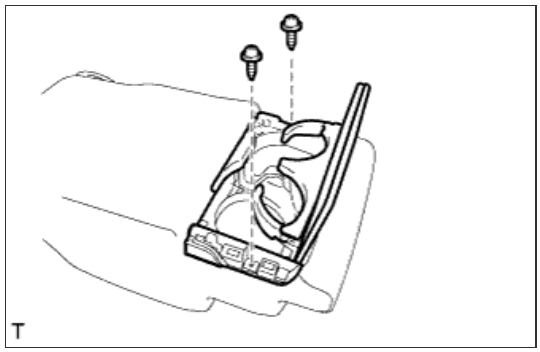



## 19. INSTALL CUP HOLDER ASSEMBLY (w/ Center Armrest)

a. Attach the 2 clips to install the cup holder.

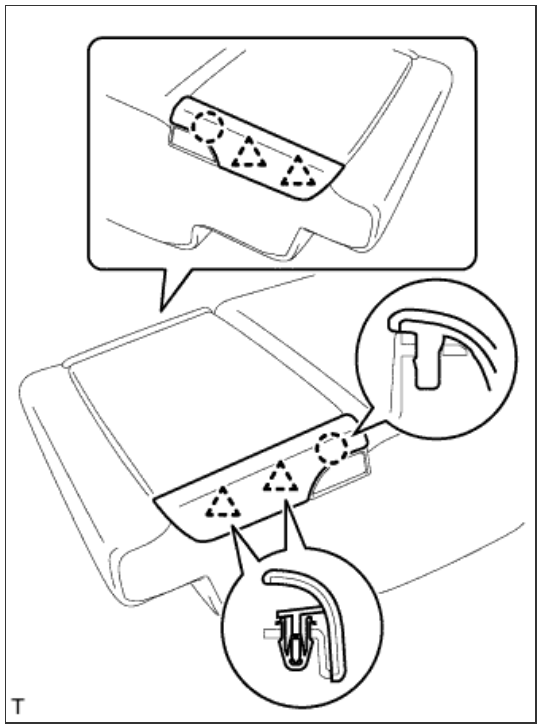



b. Install the 2 screws.




### 20. INSTALL NO. 1 SEAT ARMREST PLATE (w/ Center Armrest)

a. Attach the 2 claws and 4 clips to install the 2 armrest plates.

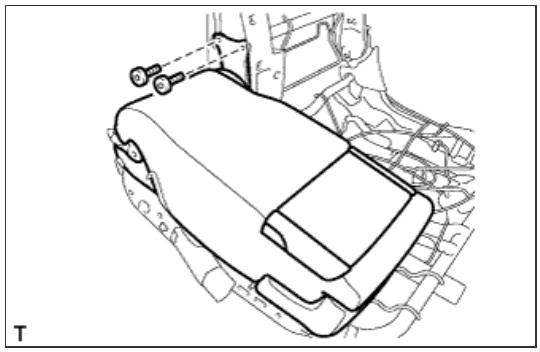



### 21. INSTALL REAR CENTER SEAT HEADREST ASSEMBLY (w/ Center Armrest)

### 22. INSTALL REAR CENTER SEAT ARMREST ASSEMBLY (w/ Center Armrest)

a. Using a T40 "TORX" socket, install the center seat armrest with the 2 bolts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




### 23. INSTALL SEATBACK STOPPER PLATE

a. w/ Center Armrest:

i. Install the bush to the stopper plate.

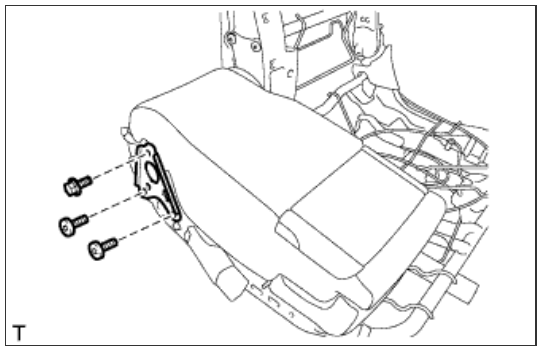
ii. Temporarily install the stopper plate with the 3 bolts.

iii. Using a T40 "TORX" socket, tighten the 2 bolts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

iv. Tighten the bolt.

**Torque:**
**15 N*m{ 153 kgf*cm , 11 ft.*lbf }**




b. w/o Center Armrest:

i. Install the bush to the stopper plate.

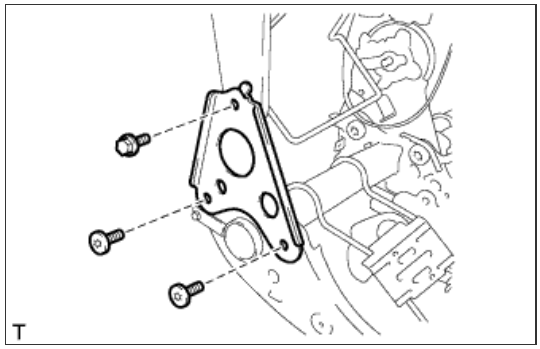
ii. Temporarily install the stopper plate with the 3 bolts.

iii. Using a T40 "TORX" socket, tighten the 2 bolts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

iv. Tighten the bolt.

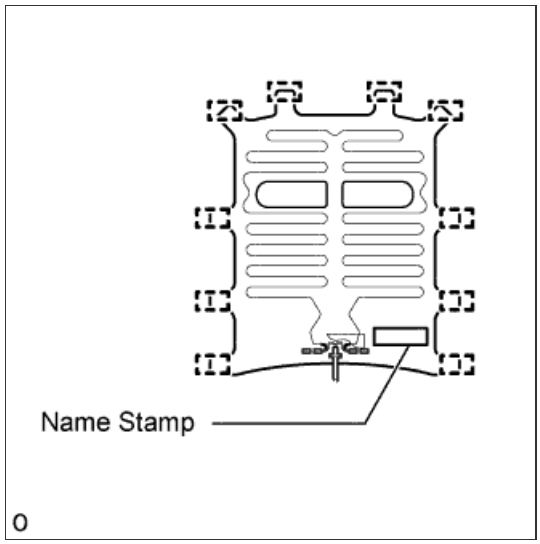
**Torque:**
**15 N*m{ 153 kgf*cm , 11 ft.*lbf }**




## 24. INSTALL REAR SEATBACK HEATER ASSEMBLY (w/ Seat Heater System)

a. Set the seatback heater with the name stamp side facing the seatback cover.

b. Install the seatback heater with new tack pins.



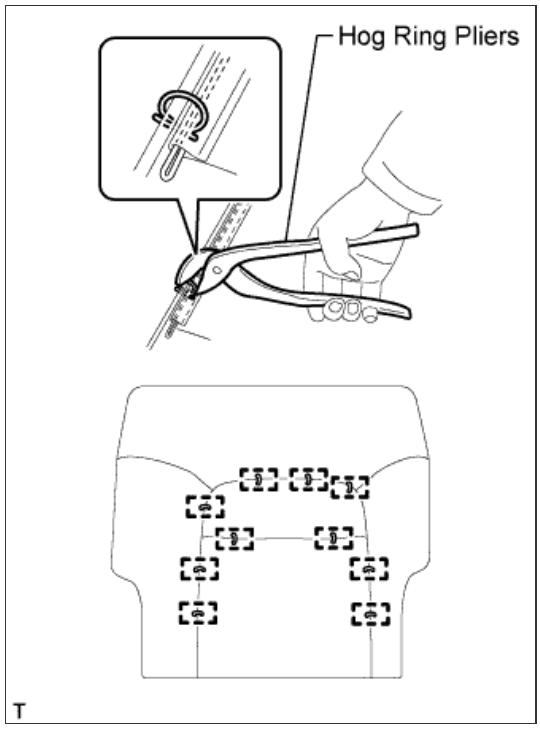

## 25. INSTALL REAR SEPARATE TYPE SEATBACK COVER

a. w/ Center Armrest:

Using hog ring pliers, install the seatback cover with new hog rings.

**NOTICE:**

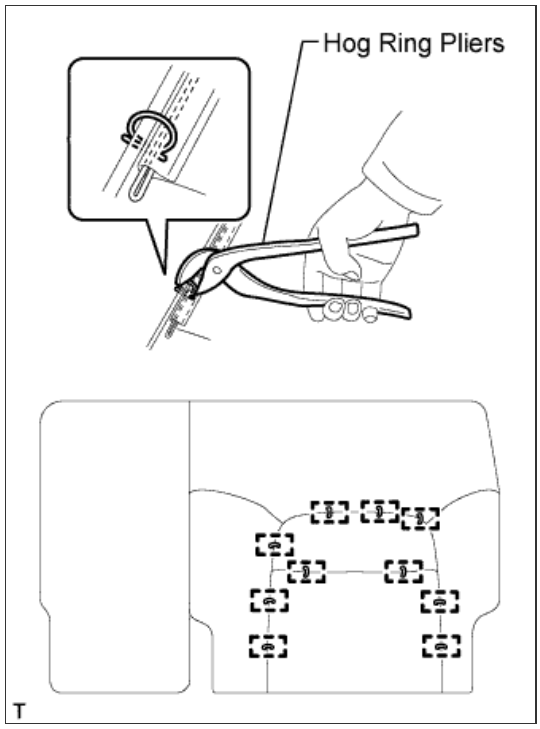
- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



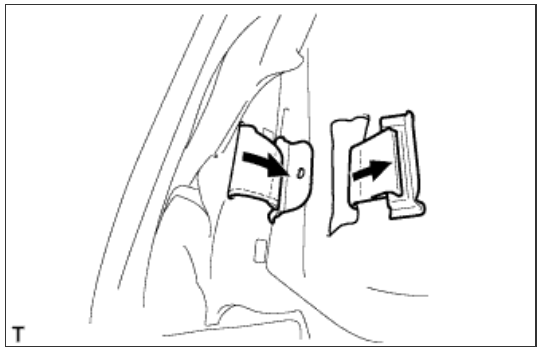

**b.** w/o Center Armrest:
Using hog ring pliers, install the seatback cover with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



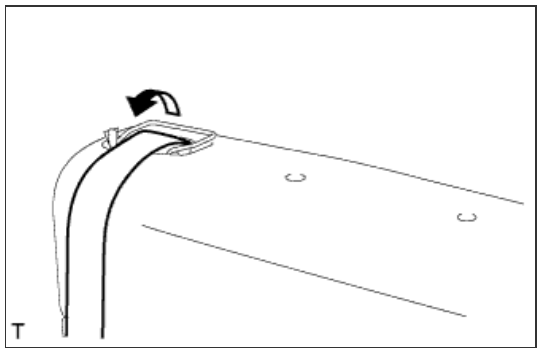

**c.** w/ Rear Seat Side Airbag:
Connect the seatback cover bracket to the seatback pad.




## 26. INSTALL SEATBACK COVER WITH PAD

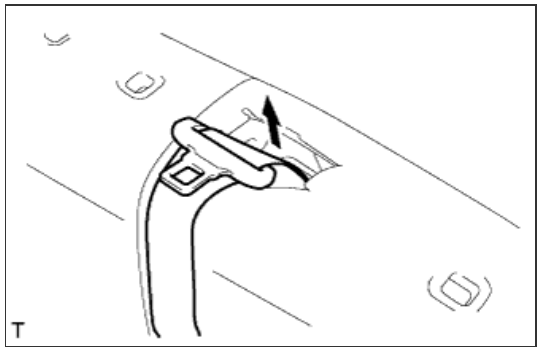
**a.** Install the seatback cover with pad.

b. w/ Center Armrest:
Pull out the seat belt.



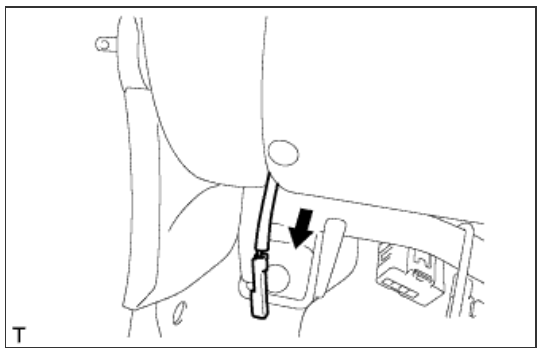

c. w/o Center Armrest:
Pull out the seat belt.

d. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seatback.

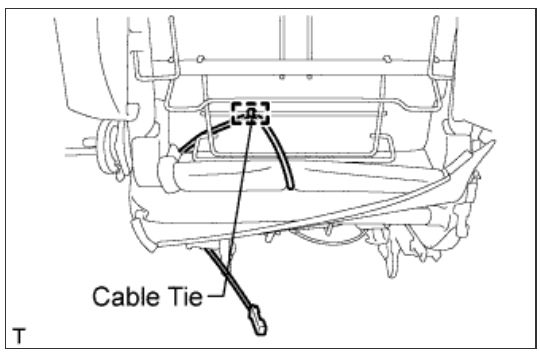



e. w/ Seat Heater System:
Pass the seatback heater wire harness through the hole in the seatback.

i.




ii. Connect the seatback heater wire harness and install a new cable tie.

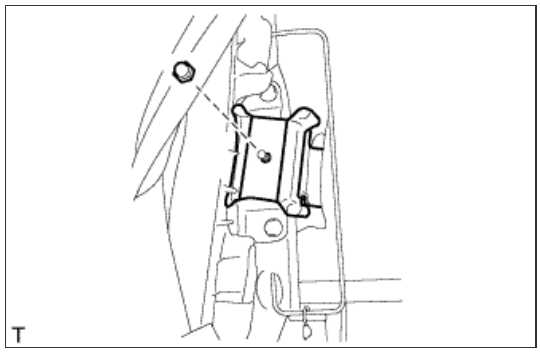



f. w/ Rear Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the cap nut.

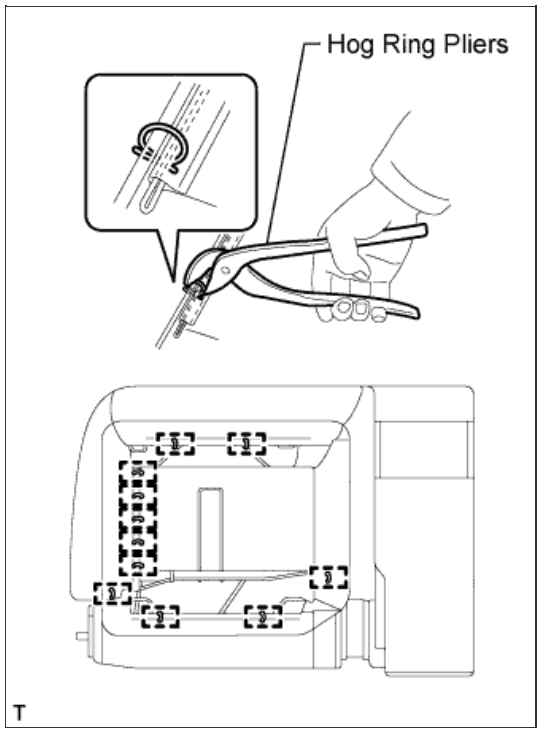
**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

**NOTICE:**

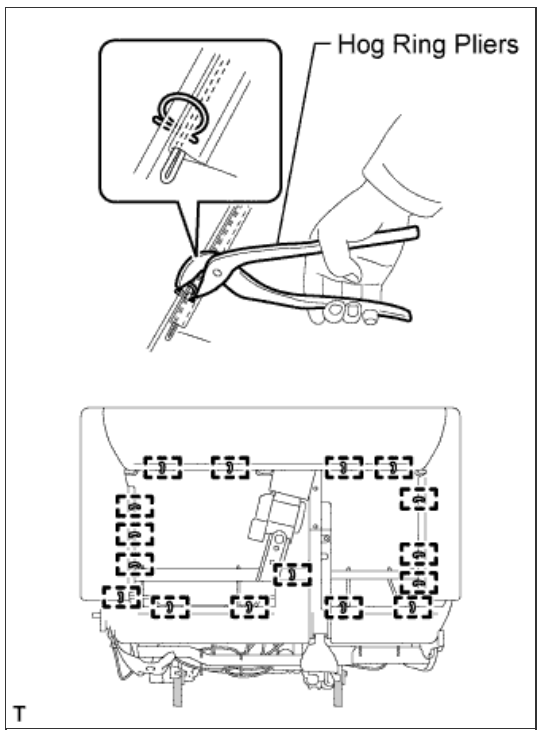
After the seatback trim cover is assembled, make sure the side airbag strap is not twisted.




g. w/ Center Armrest:
Using hog ring pliers, install new hog rings to the seatback frame.



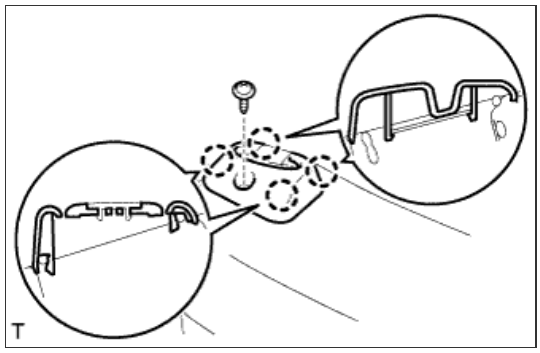

h. w/o Center Armrest:
Using hog ring pliers, install new hog rings to the seatback frame.




**27. INSTALL REAR SEAT SHOULDER BELT HOLE COVER LH**

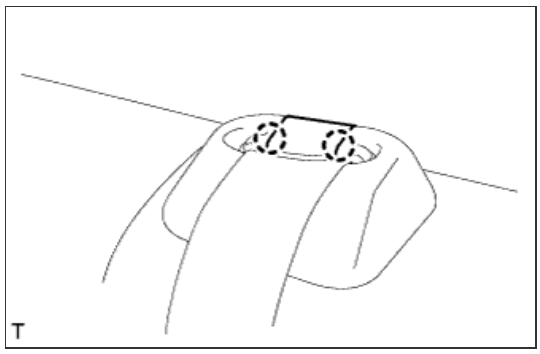
a. Attach the 4 claws to install the cover.

b. Install the screw.



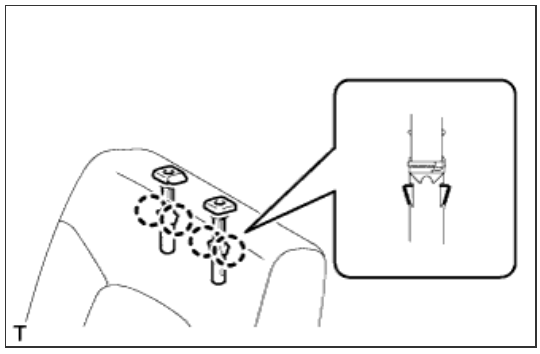

## 28. INSTALL SHOULDER BELT ANCHOR COVER

a. Attach the 2 claws to install the cover.

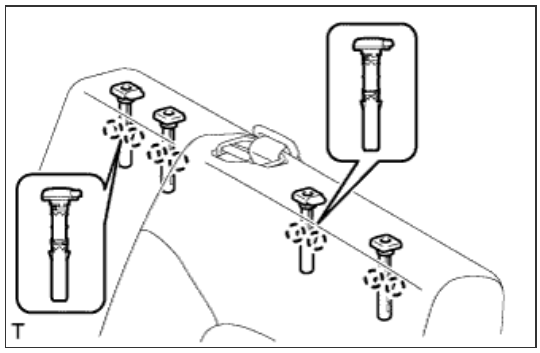



## 29. INSTALL REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. w/ Center Armrest:
Attach the 4 claws to install the 2 supports.




b. w/o Center Armrest:
Attach the 8 claws to install the 4 supports.



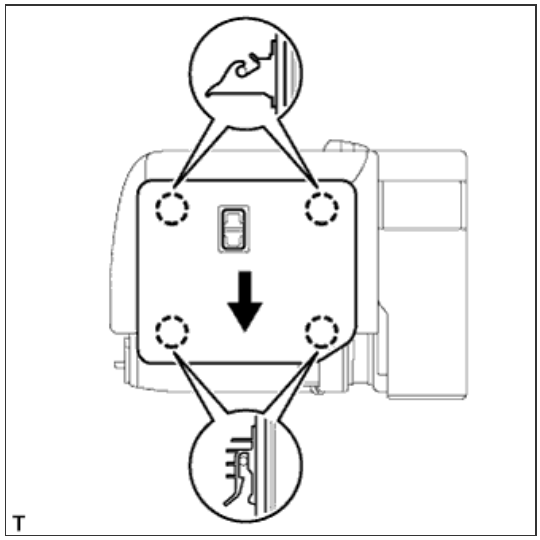

## 30. INSTALL REAR SEAT HEADREST ASSEMBLY

## 31. INSTALL REAR SEATBACK BOARD SUB-ASSEMBLY LH

a. w/ Center Armrest:

i. Push the board down to attach the 2 claws on the bottom.

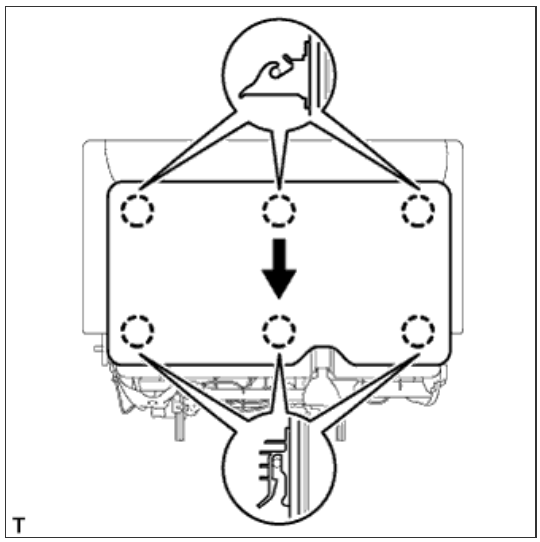
ii. Attach the 2 claws on the top of the board to install it.




b. w/o Center Armrest:

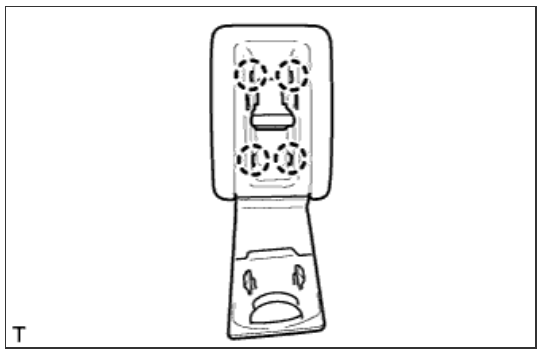
i. Push the board down to attach the 3 claws on the bottom.

ii. Attach the 3 claws on the top of the board to install it.




## 32. INSTALL REAR SEATBACK COVER

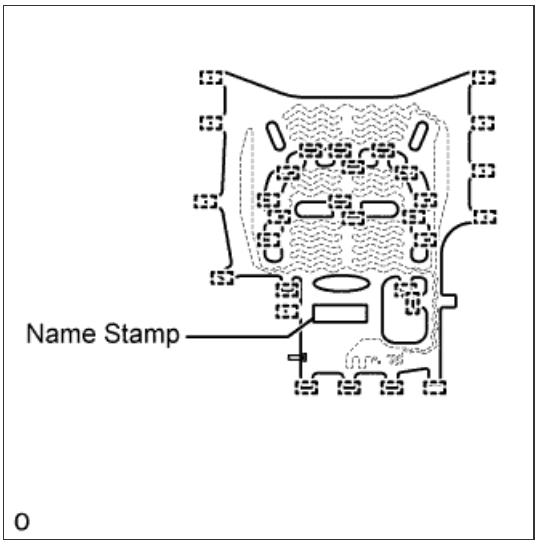
a. Attach the 4 claws to install the cover.




## 33. INSTALL REAR SEAT CUSHION HEATER ASSEMBLY (w/ Seat Heater System)

a. Set the seat cushion heater with the name stamp side facing the seat cushion cover.

b. Install the seat cushion heater with new tack pins.

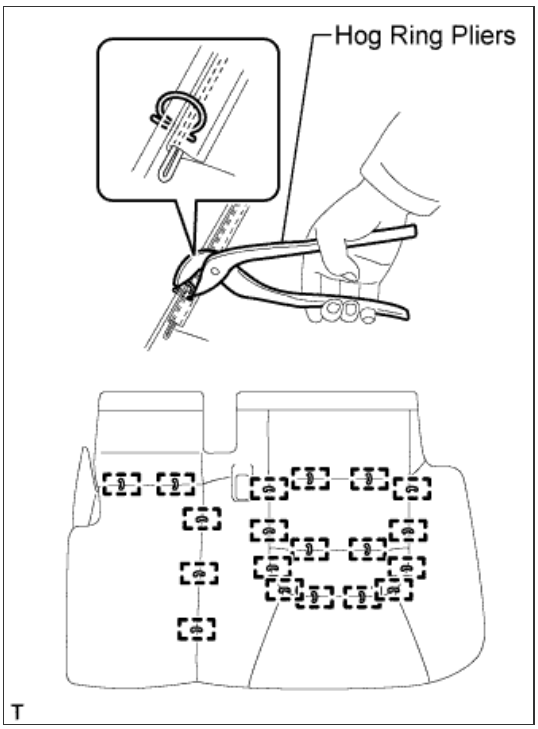



## 34. INSTALL REAR SEPARATE TYPE SEAT CUSHION COVER

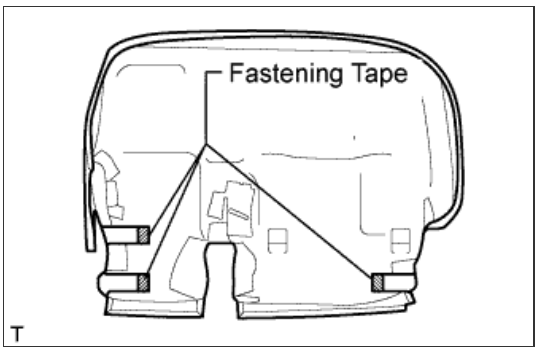
a. Using hog ring pliers, install the seat cushion cover to the seat cushion pad with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




b. Attach the 3 pieces of fastening tape.



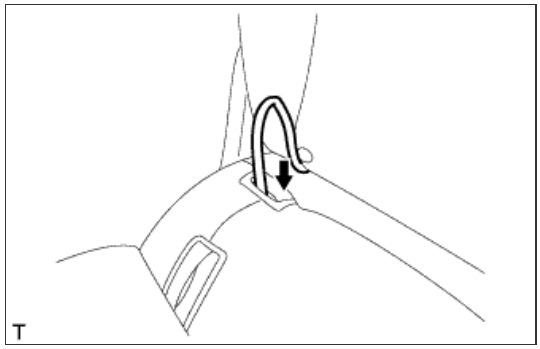

## 35. INSTALL SEAT CUSHION COVER WITH PAD

a. Install the seat cushion cover with pad.

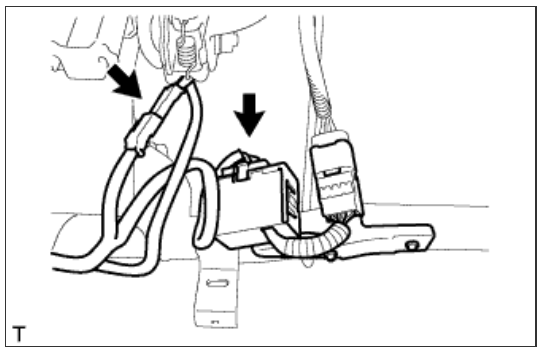
b. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seat cushion.

c. w/ Seat Heater System:

i. Pass the seatback heater wire harness through the hole in the seat cushion.




ii. Connect the 2 seat heater connectors.



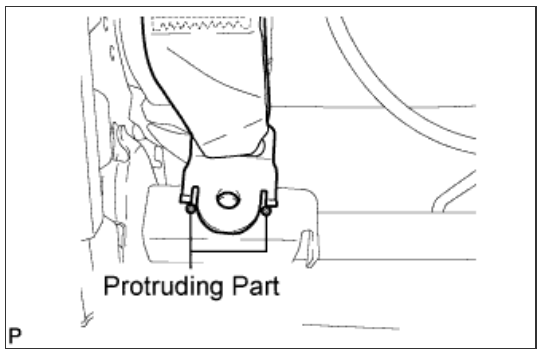

d. w/ Rear Seat Side Airbag:
Attach the side airbag wire harness clamps.

## 36. CONNECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Connect the belt anchor.

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.




## 37. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Install the belt with the bolt.

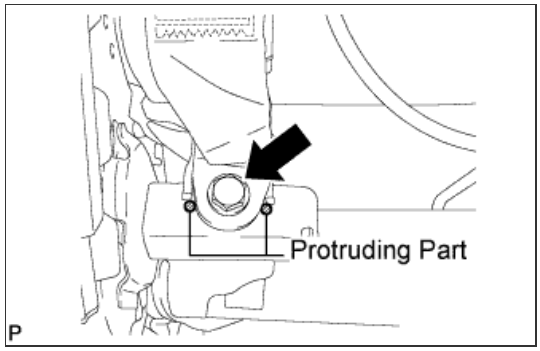
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

**HINT:**

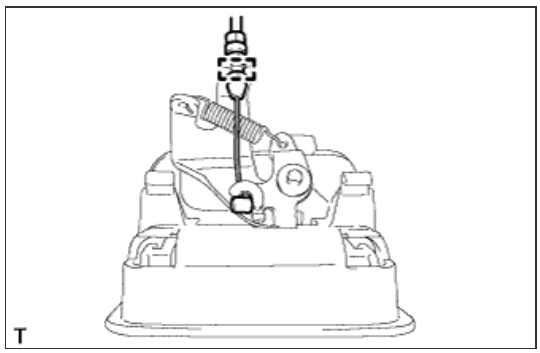
The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, connect it when installing the rear No. 1 seat inner belt LH.



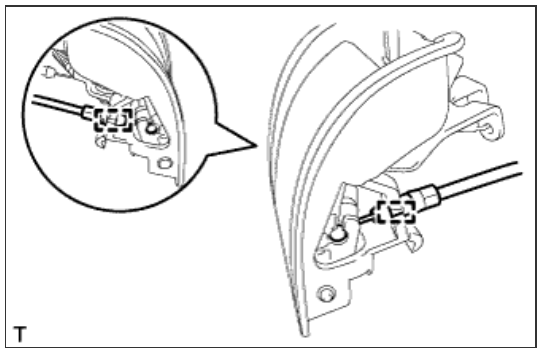
## 38. INSTALL FOLD SEAT LOCK CONTROL CABLE SUB-ASSEMBLY

## 39. INSTALL REAR SEAT TRACK HANDLE SUB-ASSEMBLY

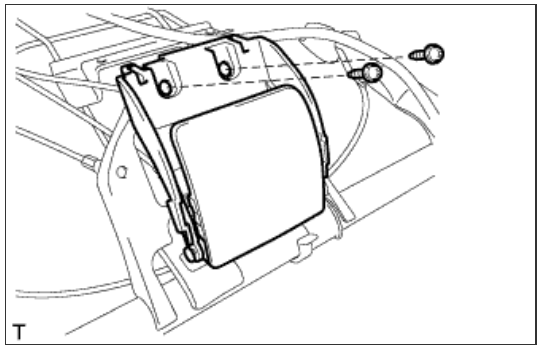
a. Attach the cable clamp to connect the cable.




b. Attach the 2 cable clamps to connect the 2 cables.



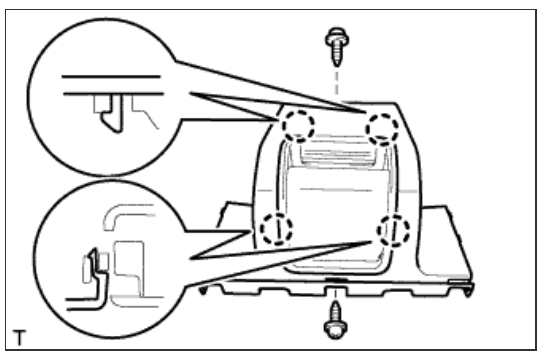

c. Install the seat track handle with the 2 screws.




## 40. INSTALL REAR SEAT UNDER TRAY COVER LH

a. Attach the 4 claws to install the cover.

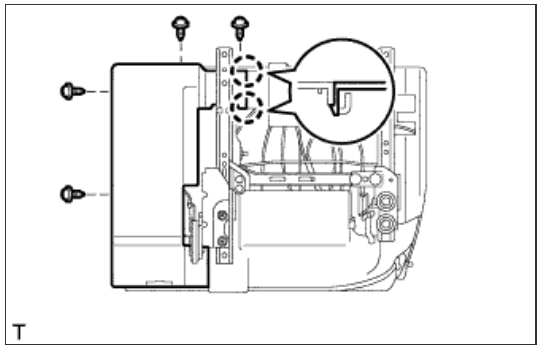
b. Install the 2 screws.




## 41. INSTALL REAR SEAT CUSHION COVER RH

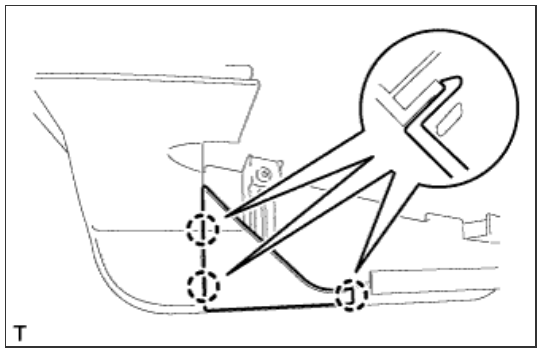
a. Attach the 2 claws to install the cover.

b. Install the 4 screws.




## 42. INSTALL NO. 1 SEAT CUSHION PLATE

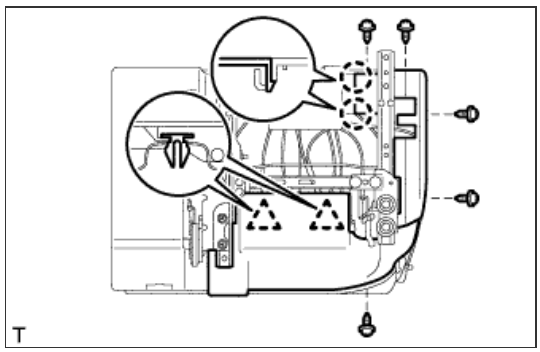
a. Attach the 3 claws to install the seat cushion plate.



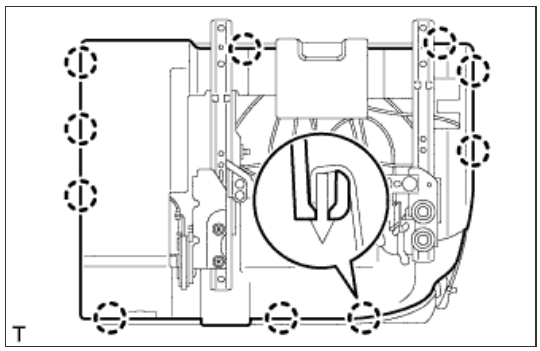

## 43. INSTALL REAR UNDER SIDE COVER LH

a. Attach the 2 claws and 2 clips to install the cover.

b. Install the 5 screws.



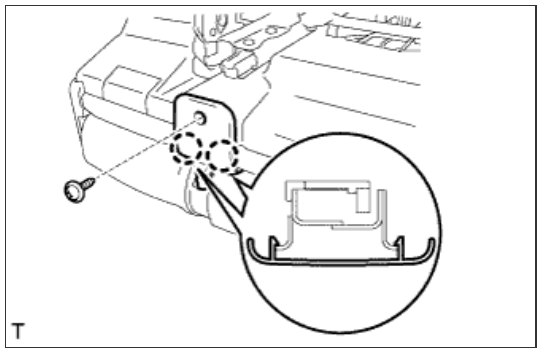

c. Attach the 10 claws.




## 44. INSTALL REAR SEATBACK STAY COVER LH

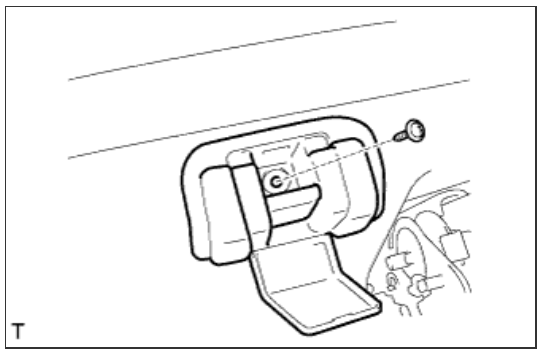
a. Attach the 2 claws to install the cover.

b. Install the screw.

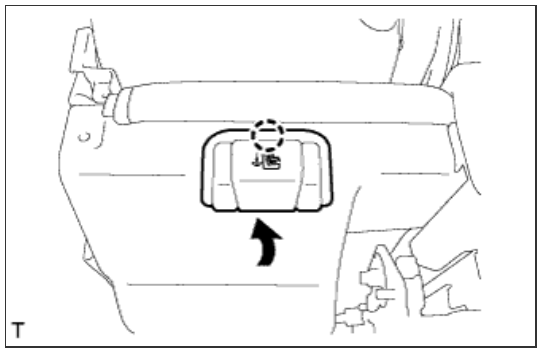



## 45. INSTALL SEAT BELT ANCHOR COVER CAP

a. Install the anchor cover cap with the screw.



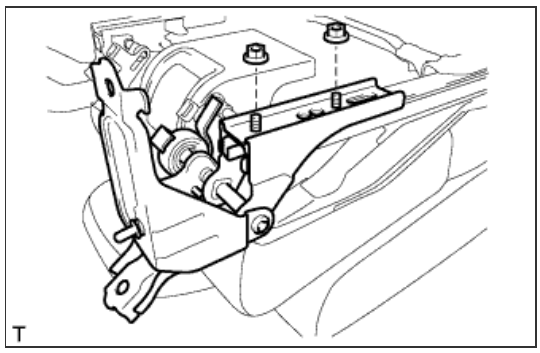

b. Attach the claw to close the cap.




## 46. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

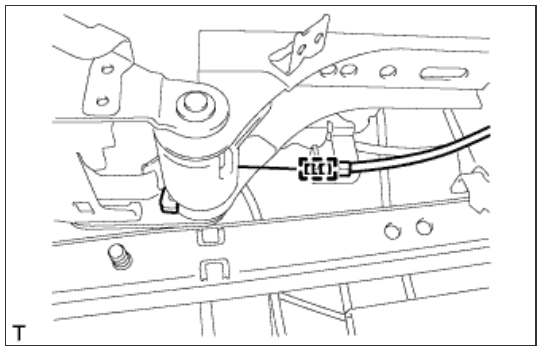
a. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 47. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Attach the cable clamp to connect the cable.

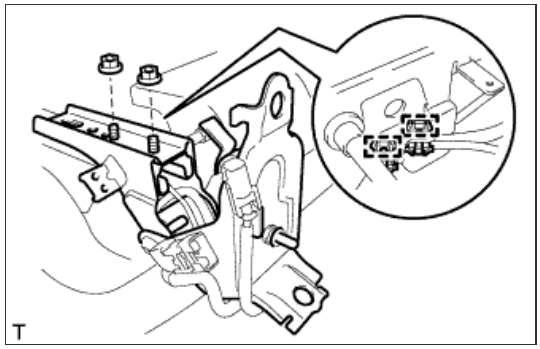



b. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. w/ Rear Seat Side Airbag:
Attach the wire harness clamp.

d. w/ Seat Heater System:
Attach the wire harness clamp.

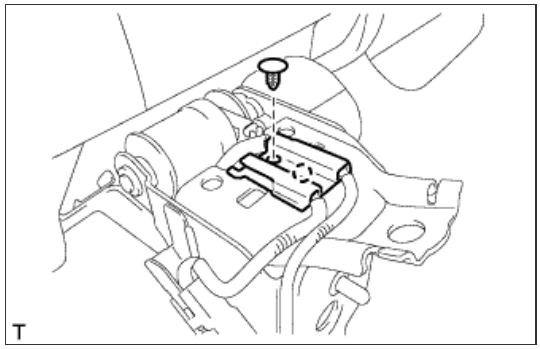



## 48. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Install the wire harness, and attach 2 claws to close the protector.

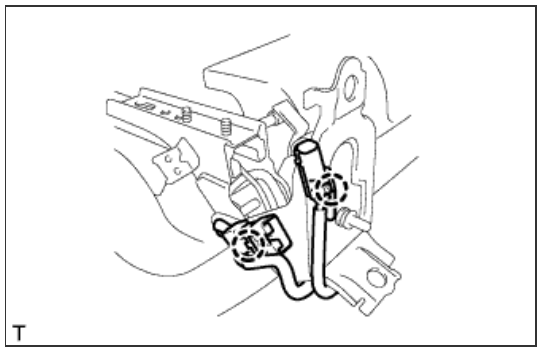
b. Attach the claw to install the protector to the seat hinge.

c. Install the clip.



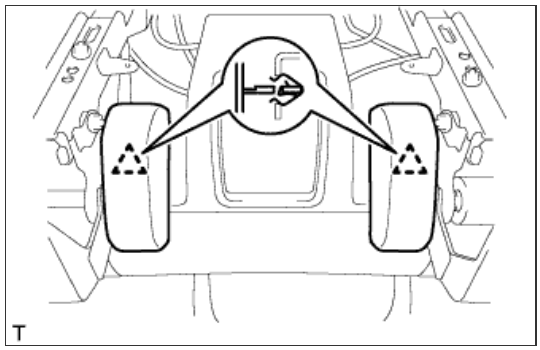

d. w/ Rear Seat Side Airbag:
Attach the claw to install the wire harness connector.

e. w/ Seat Heater System:
Attach the claw to install the wire harness connector.




## 49. INSTALL REAR SEAT SIDE HINGE MALE COVER RH

a. Attach the clip to install the cover.

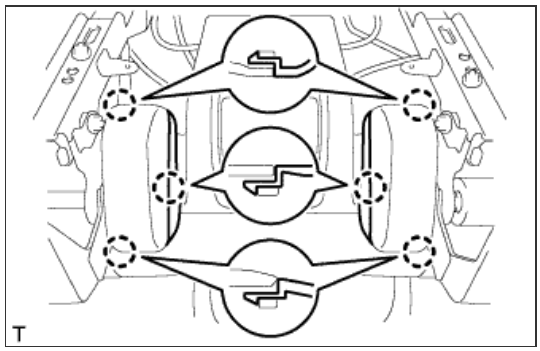


## 50. INSTALL REAR SEAT SIDE HINGE MALE COVER LH

a. Attach the clip to install the cover.

## 51. INSTALL REAR SEAT SIDE HINGE FEMALE COVER

a. Attach the 6 claws to install the 2 covers.

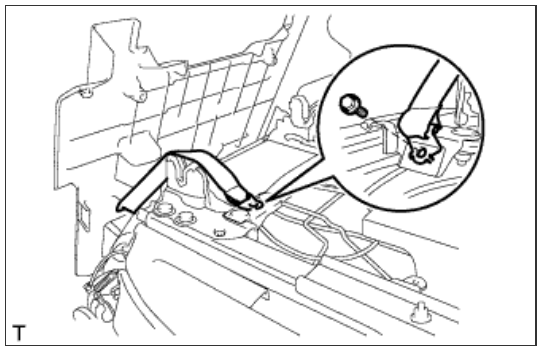


## 52. INSTALL FOLD SEAT STOPPER BAND ASSEMBLY

a. Install the fold seat stopper band to the seat leg side cover.

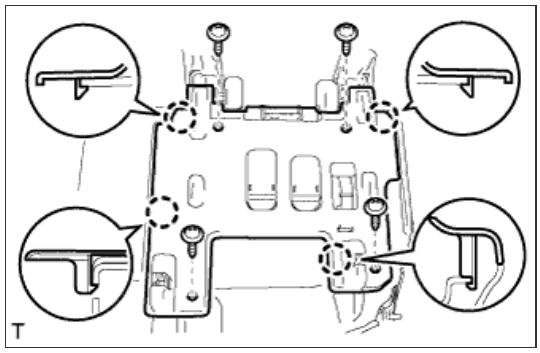
## 53. INSTALL REAR NO. 2 SEAT LEG SIDE COVER

a. Pass the fold seat stopper band through the seat leg side cover and attach it to the seat cushion frame with the bolt.



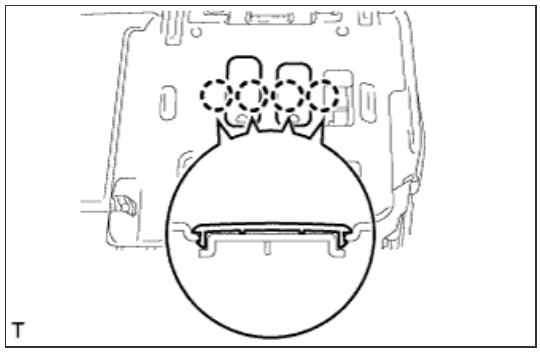
b. Attach the 4 claws to install the seat leg side cover.

c. Install the 4 screws.



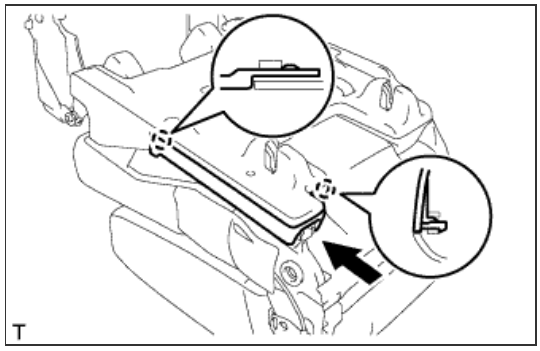

### 54. INSTALL NO. 1 SEAT CUSHION COVER

a. Attach the 4 claws to install the 2 covers.



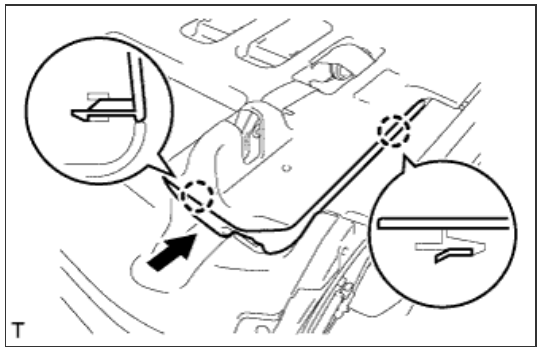

### 55. INSTALL UPPER SEAT TRACK RAIL COVER RH

a. Attach the 2 claws to install the cover.




### 56. INSTALL UPPER SEAT TRACK RAIL COVER LH

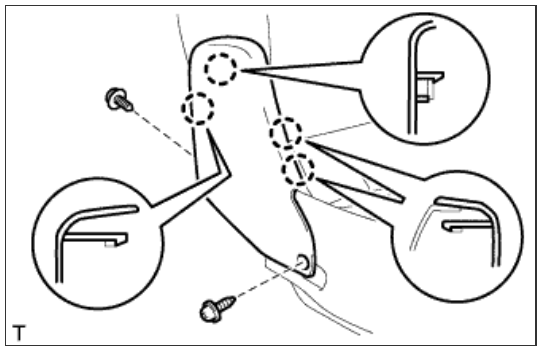
a. Attach the 2 claws to install the cover.




### 57. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

a. Attach the 4 claws to install the cover.

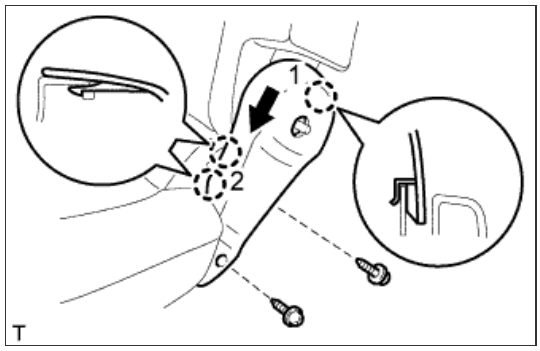
b. Install the 2 screws.




## 58. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

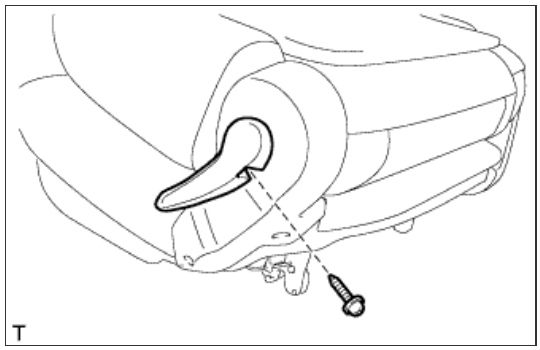
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the 2 screws.



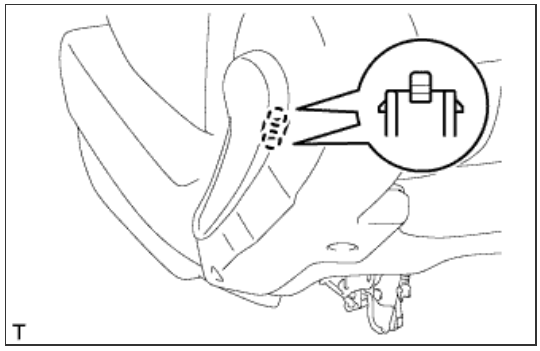

## 59. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the release handle with the screw.




## 60. INSTALL SEAT ADJUSTER BOLT COVER

a. Attach the 2 claws to install the cover.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

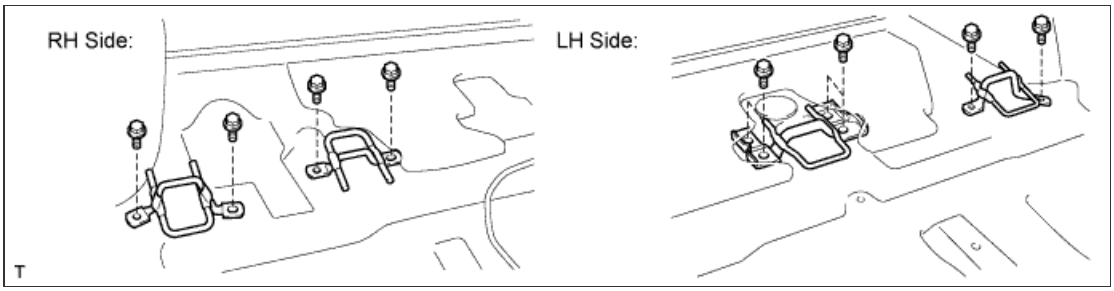
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL REAR SEAT CUSHION LOCK STRIKER SUB-ASSEMBLY

a. Install the 4 lock strikers with the 10 bolts.

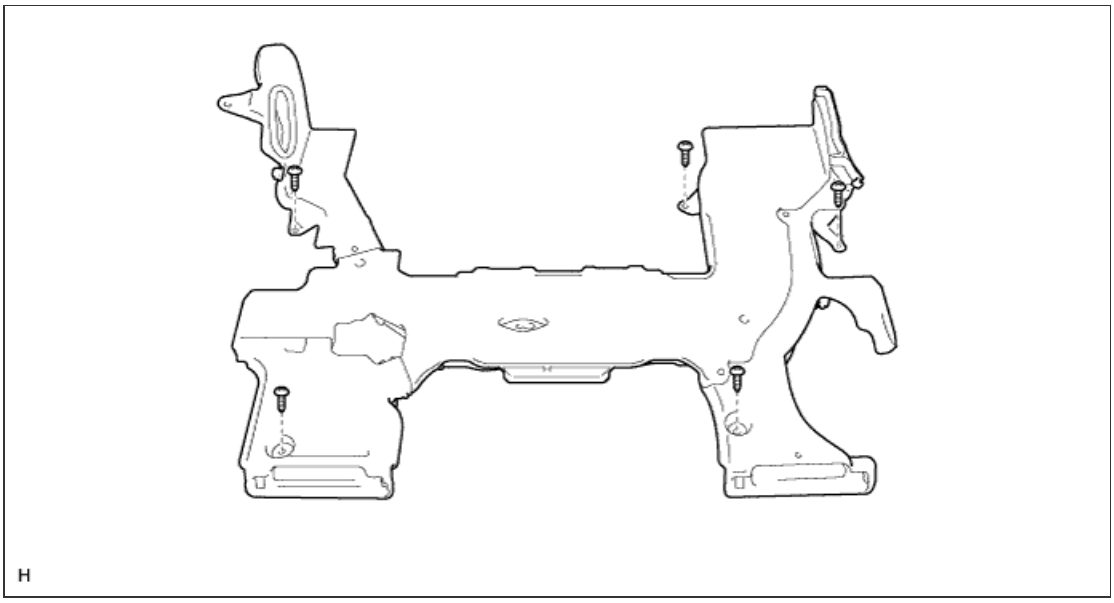
**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




## 2. INSTALL REAR NO. 6 AIR DUCT (w/ Rear Air Conditioning System)

a. Install the duct with the 5 screws.

b. Connect the 2 connectors.




### 3. INSTALL FRONT FLOOR CARPET ASSEMBLY

a. Install the floor carpet.

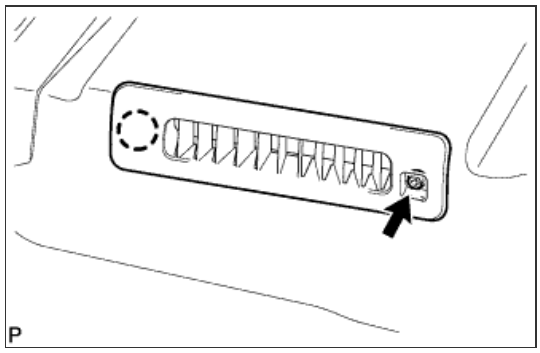
### 4. INSTALL REAR AIR DUCT GUIDE (w/ Rear Air Conditioning System)

a. Attach the claw to install the guide.

b. Install the screw.

**HINT:**

Use the same procedures for both sides.

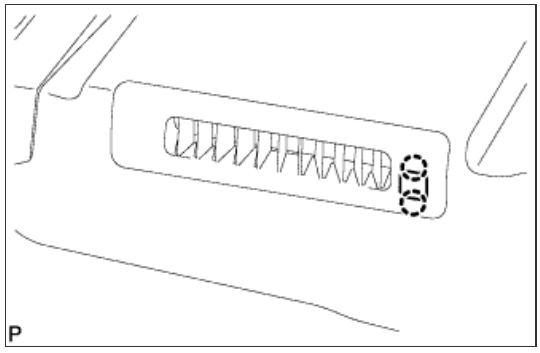



### 5. INSTALL AIR DUCT PLUG (w/ Rear Air Conditioning System)

a. Attach the 2 claws to install the plug.

**HINT:**

Use the same procedures for both sides.




### 6. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
Install the front quarter trim panel assembly LH ( Click here).

b. w/o Sliding Roof:
Install the front quarter trim panel assembly LH ( Click here).

## 7. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. w/ Sliding Roof:
Install the front quarter trim panel assembly RH ( Click here).

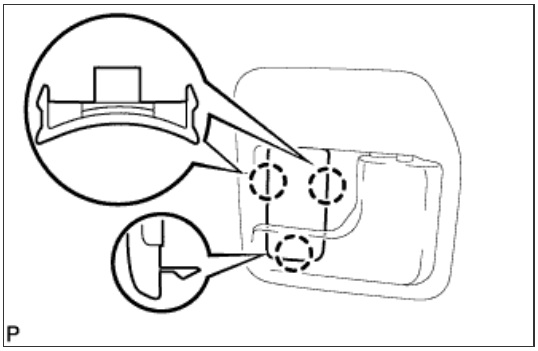
b. w/o Sliding Roof:
Install the front quarter trim panel assembly RH ( Click here).

## 8. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

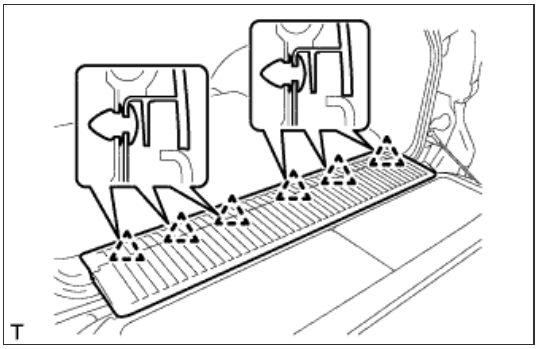
Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.




## 9. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. Attach the 6 clips to install the support plate.




## 10. INSTALL REAR NO. 2 SEAT ASSEMBLY

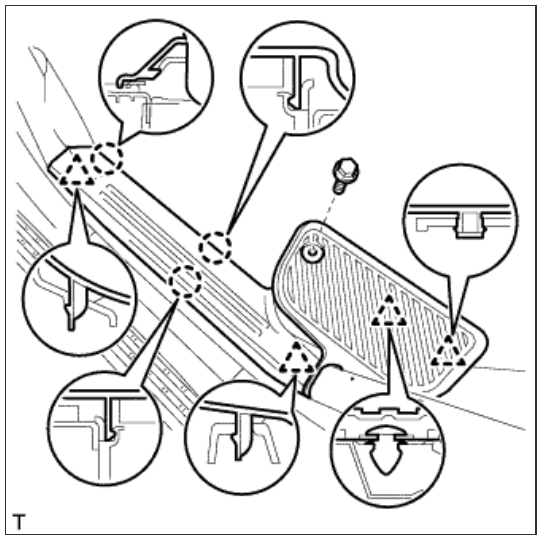
a. for Face to Face Seat Type:
Install the rear No. 2 seat assembly ( Click here).

b. except Face to Face Seat Type:
Install the rear No. 2 seat assembly ( Click here).

## 11. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.




### 12. INSTALL REAR DOOR SCUFF PLATE RH

**HINT:**

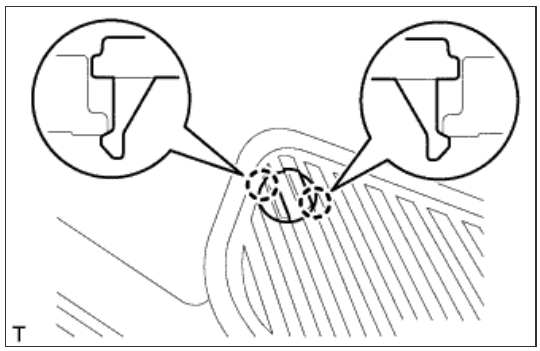
Use the same procedures described for the LH side.

### 13. INSTALL REAR STEP COVER

**HINT:**

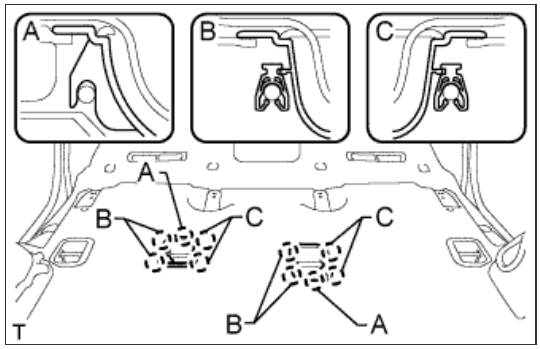
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.



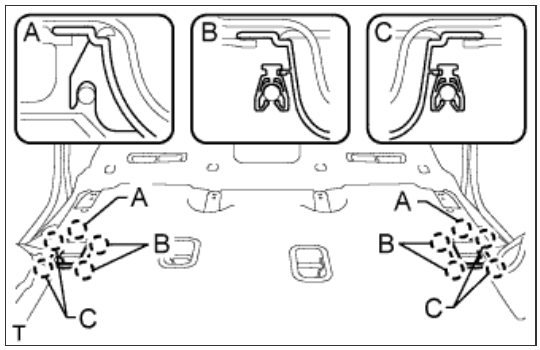

### 14. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Attach the 10 claws to install the 2 seat protectors.




### 15. INSTALL REAR NO. 1 SEAT PROTECTOR

a. Attach the 10 claws to install the 2 seat protectors.




## 16. INSTALL REAR NO. 1 SEAT ASSEMBLY RH

a. Install the rear No. 1 seat assembly RH ( Click here).

## 17. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

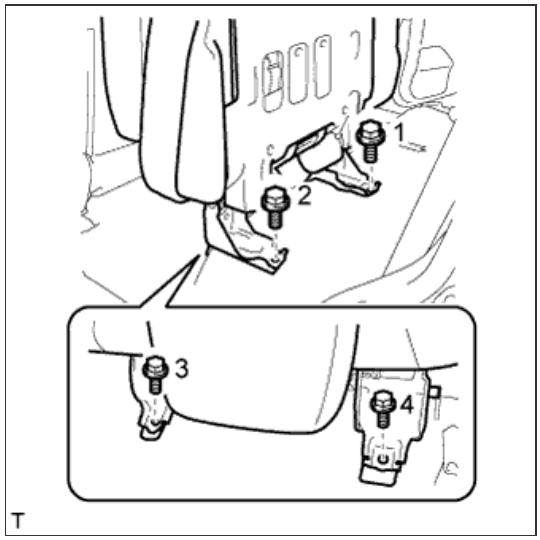
a. Temporarily install the seat assembly with the 4 bolts.

**NOTICE:**

Be careful not to damage the vehicle body.

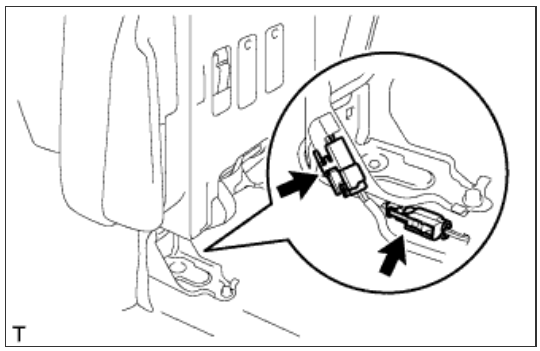
b. Tighten the bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**



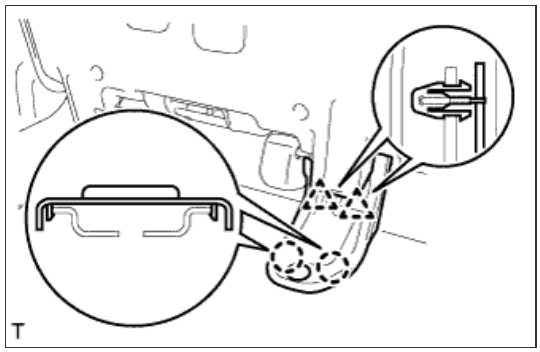

c. w/ Rear Seat Side Airbag:
Connect the connector.

d. w/ Seat Heater System:
Connect the connector.



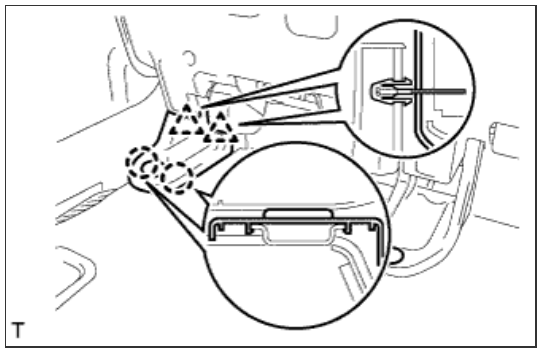

## 18. INSTALL REAR NO. 4 SEAT CUSHION HINGE COVER

a. Attach the 2 clips and 2 claws to install the cover.




### 19. INSTALL REAR NO. 2 SEAT CUSHION HINGE COVER

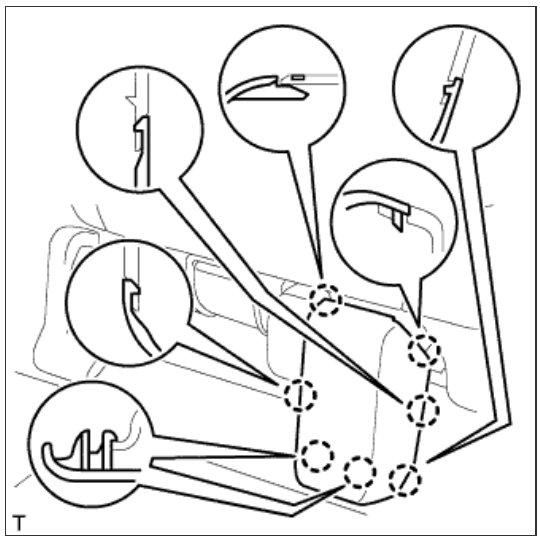
a. Attach the 2 clips and 2 claws to install the cover.




### 20. INSTALL REAR NO. 5 SEAT CUSHION HINGE COVER

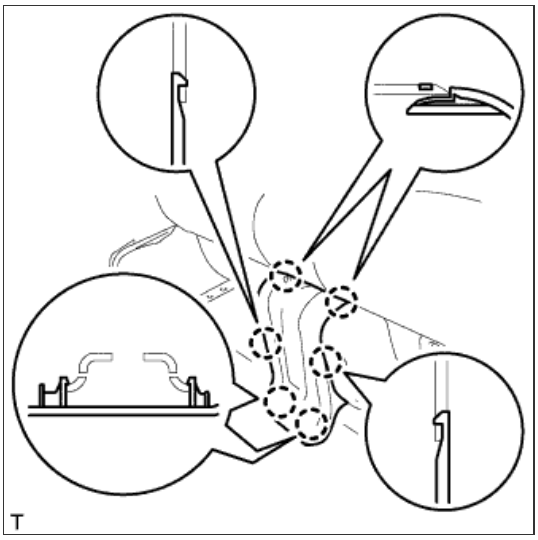
a. Return the seat to the upright position.

b. Attach the 7 claws to install the cover.




### 21. INSTALL REAR NO. 3 SEAT CUSHION HINGE COVER

a. Attach the 6 claws to install the cover.




## 22. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 23. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

## 24. INSPECT REAR NO. 1 SEAT ASSEMBLY LH

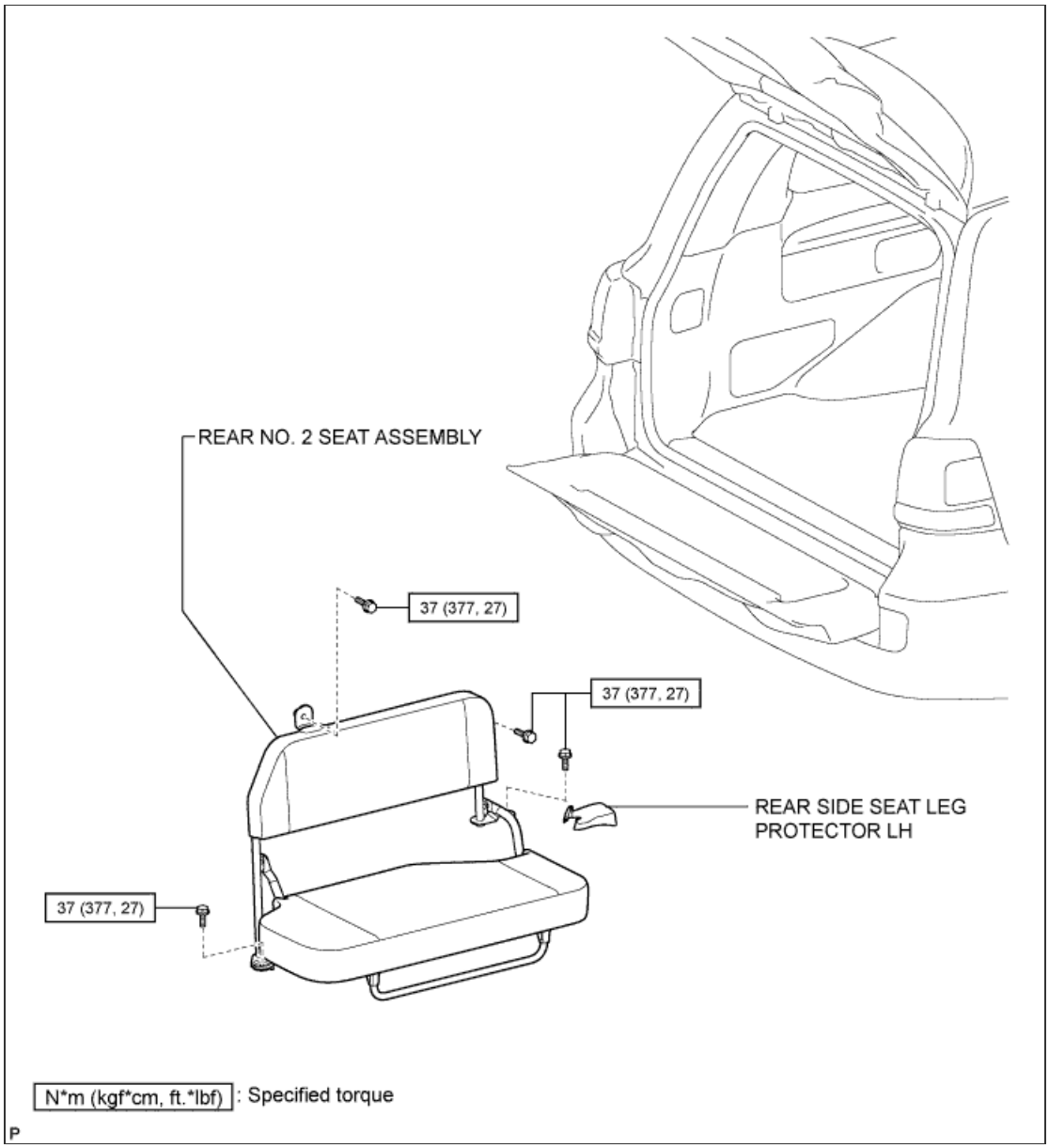
a. w/ Seat Heater System:
Check the seat heater operation.

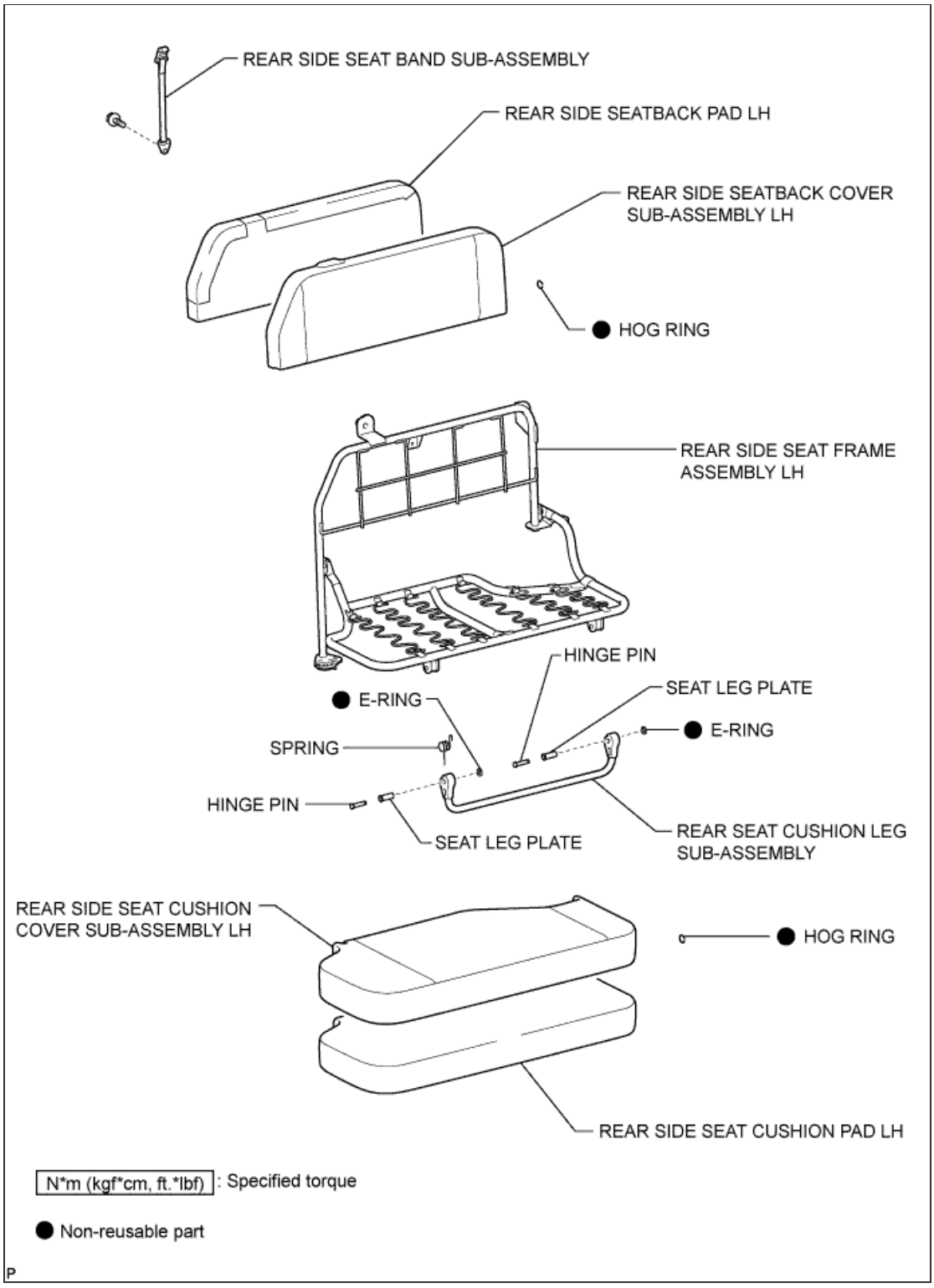
i. Turn the ignition switch to ON.

ii. Turn the seat heater switch on.

iii. Wait 5 minutes or more and confirm that the seat surface becomes warm.

**for Preparation** Click here




REAR SIDE SEAT BAND SUB-ASSEMBLY
REAR SIDE SEATBACK PAD LH
REAR SIDE SEATBACK COVER SUB-ASSEMBLY LH
HOG RING
REAR SIDE SEAT FRAME ASSEMBLY LH
HINGE PIN
E-RING
SEAT LEG PLATE
E-RING
SPRING
HINGE PIN
SEAT LEG PLATE
REAR SEAT CUSHION LEG SUB-ASSEMBLY
REAR SIDE SEAT CUSHION COVER SUB-ASSEMBLY LH
HOG RING
REAR SIDE SEAT CUSHION PAD LH
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
P

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

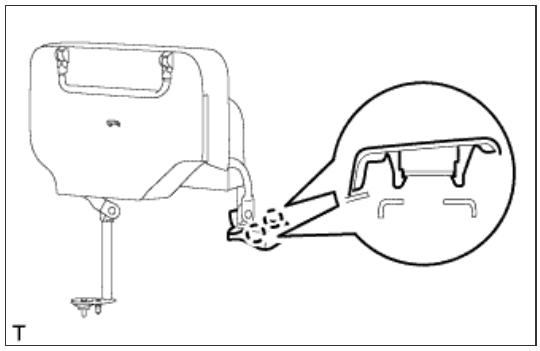
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE REAR SIDE SEAT LEG PROTECTOR LH

a. Using a screwdriver, detach the 2 claws and remove the protector.

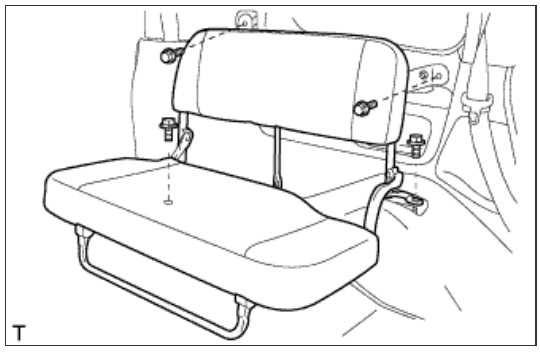
**HINT:**

Tape the screwdriver tip before use.




## 2. REMOVE REAR NO. 2 SEAT ASSEMBLY

a. Remove the 4 bolts and rear No. 2 seat.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

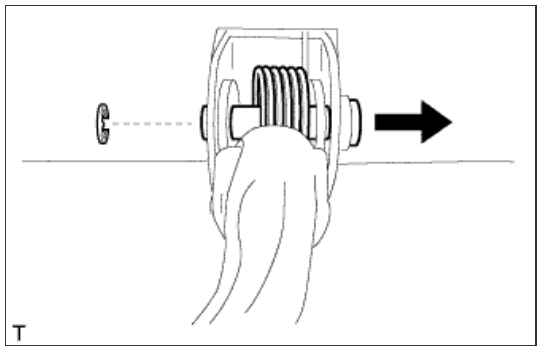
**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE REAR SEAT CUSHION LEG SUB-ASSEMBLY

a. Using a screwdriver, remove the 2 E-rings.

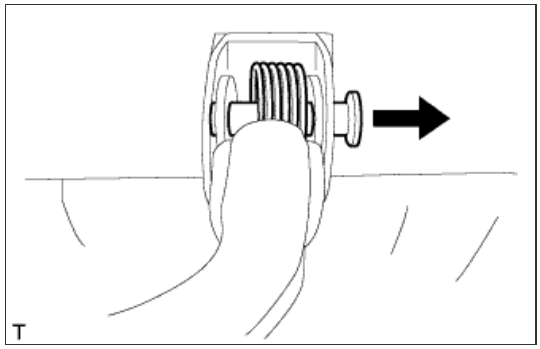
b. Remove the 2 hinge pins.




c. Remove the 2 seat leg plates.

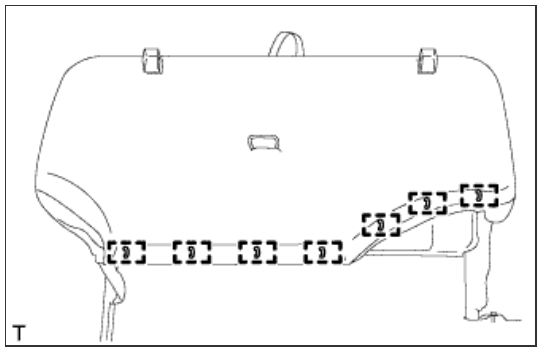
d. Remove the seat cushion leg with the spring.

e. Remove the spring from the seat cushion leg.

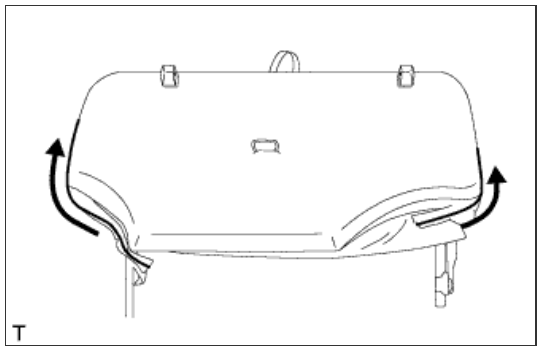



## 2. REMOVE REAR SIDE SEAT CUSHION COVER SUB-ASSEMBLY LH

a. Remove the hog rings.




b. Open the 2 fasteners, and then remove the seat cushion cover.



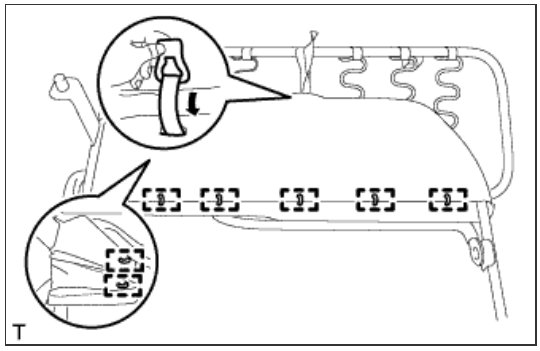

### 3. REMOVE REAR SIDE SEAT CUSHION PAD LH

### 4. REMOVE REAR SIDE SEATBACK COVER SUB-ASSEMBLY LH

a. Remove the hog rings.

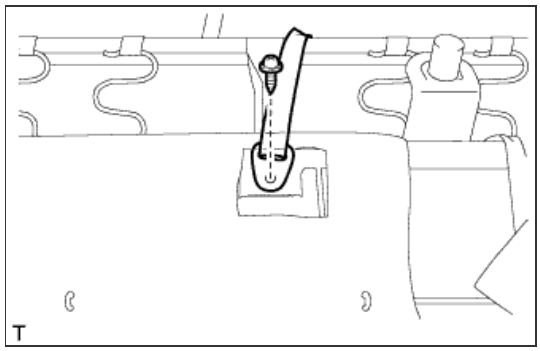
b. Pass the side seat band into the seatback cover.

c. Remove the seatback cover.



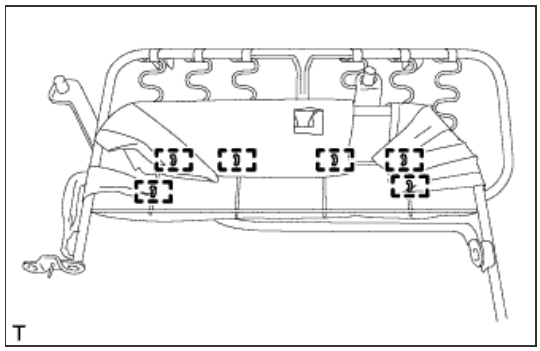

### 5. REMOVE REAR SIDE SEAT BAND SUB-ASSEMBLY

a. Remove the screw and seat band.




### 6. REMOVE REAR SIDE SEATBACK PAD LH

a. Remove the hog rings and seatback pad.



**for Preparation** Click here

**CAUTION:**

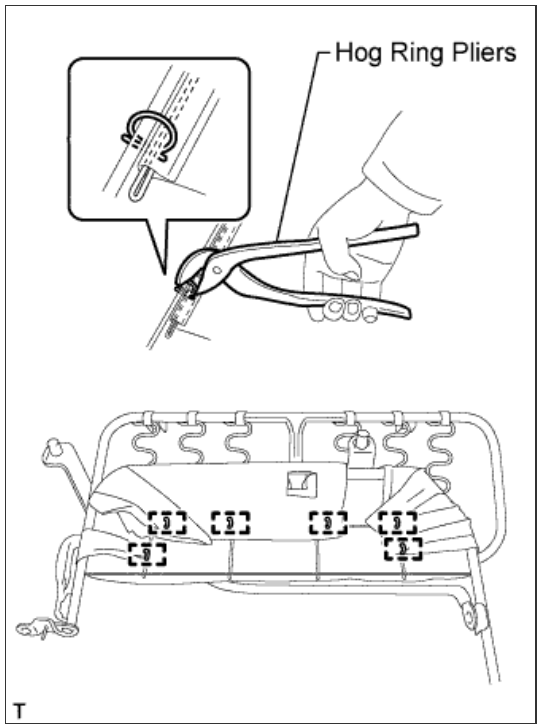
Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

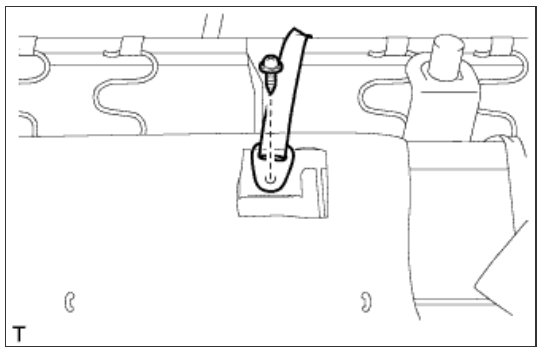
## 1. INSTALL REAR SIDE SEATBACK PAD LH

a. Using hog ring pliers, install the seatback pad with new hog rings.




## 2. INSTALL REAR SIDE SEAT BAND SUB-ASSEMBLY

a. Install the seat band with the screw.




## 3. INSTALL REAR SIDE SEATBACK COVER SUB-ASSEMBLY LH

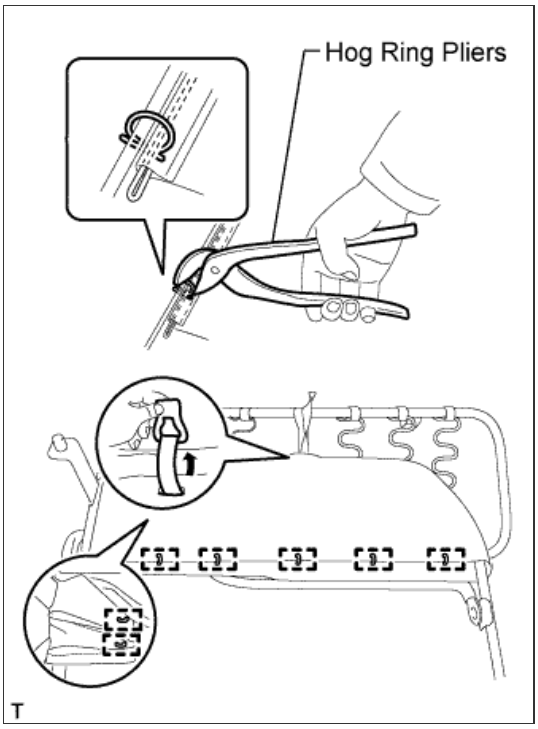
a. Install the seatback cover.

b. Pull out the seat band.

c. Using hog ring pliers, install new hog rings to the seatback cover.

NOTICE:

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

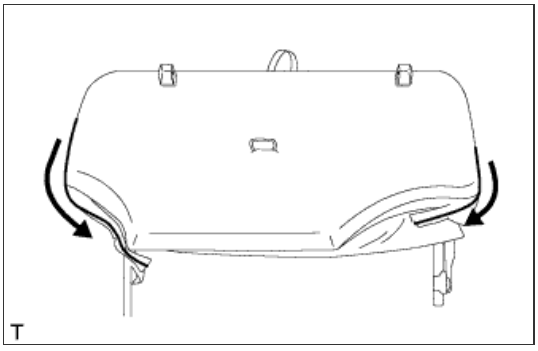



## 4. INSTALL REAR SIDE SEAT CUSHION PAD LH

## 5. INSTALL REAR SIDE SEAT CUSHION COVER SUB-ASSEMBLY LH

a. Install the seat cushion cover.

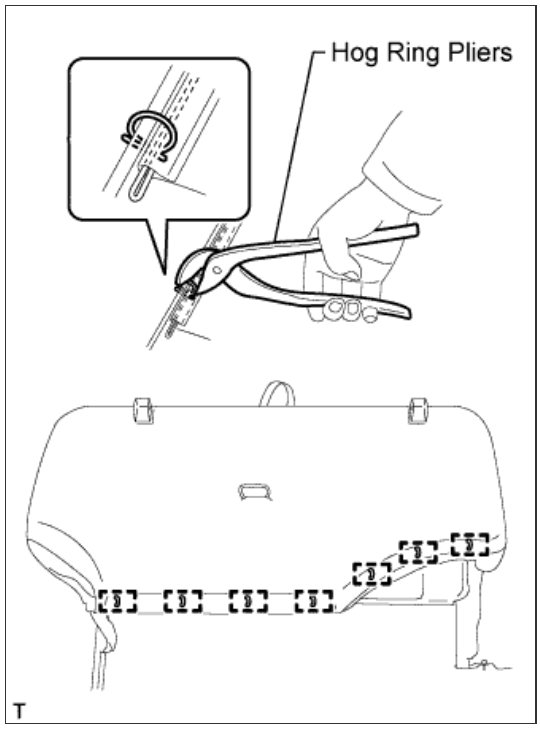
b. Close the 2 fasteners, and then close the cushion cover.




c. Using hog ring pliers, install new hog rings to the seat cushion cover.

NOTICE:

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

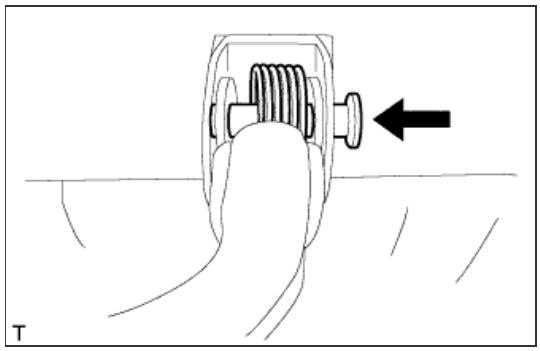



## 6. INSTALL REAR SEAT CUSHION LEG SUB-ASSEMBLY

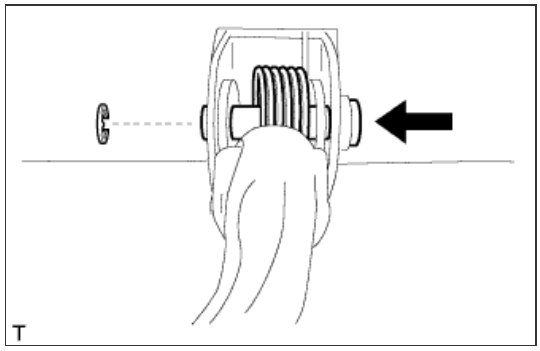
a. Install the spring to the seat cushion leg.

b. Install the seat cushion leg.

c. Install the 2 seat leg plates.




d. Install the 2 hinge pins and 2 new E-rings.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

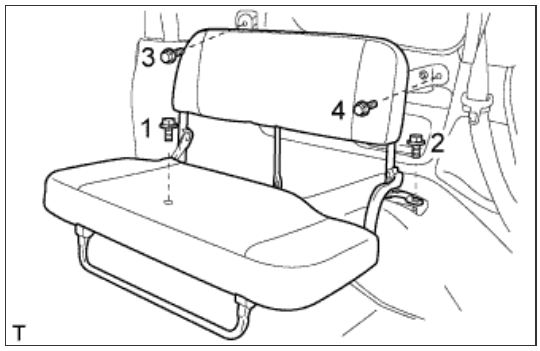
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL REAR NO. 2 SEAT ASSEMBLY

a. Temporarily install the rear No. 2 seat with the 4 bolts.

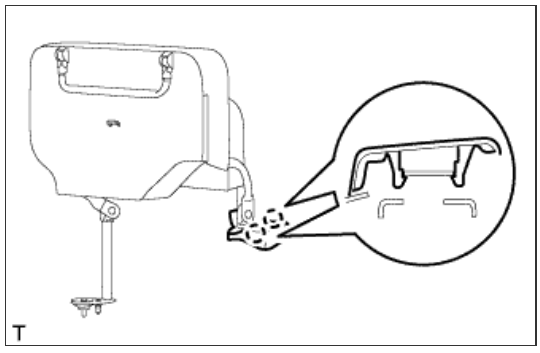
b. Tighten the bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

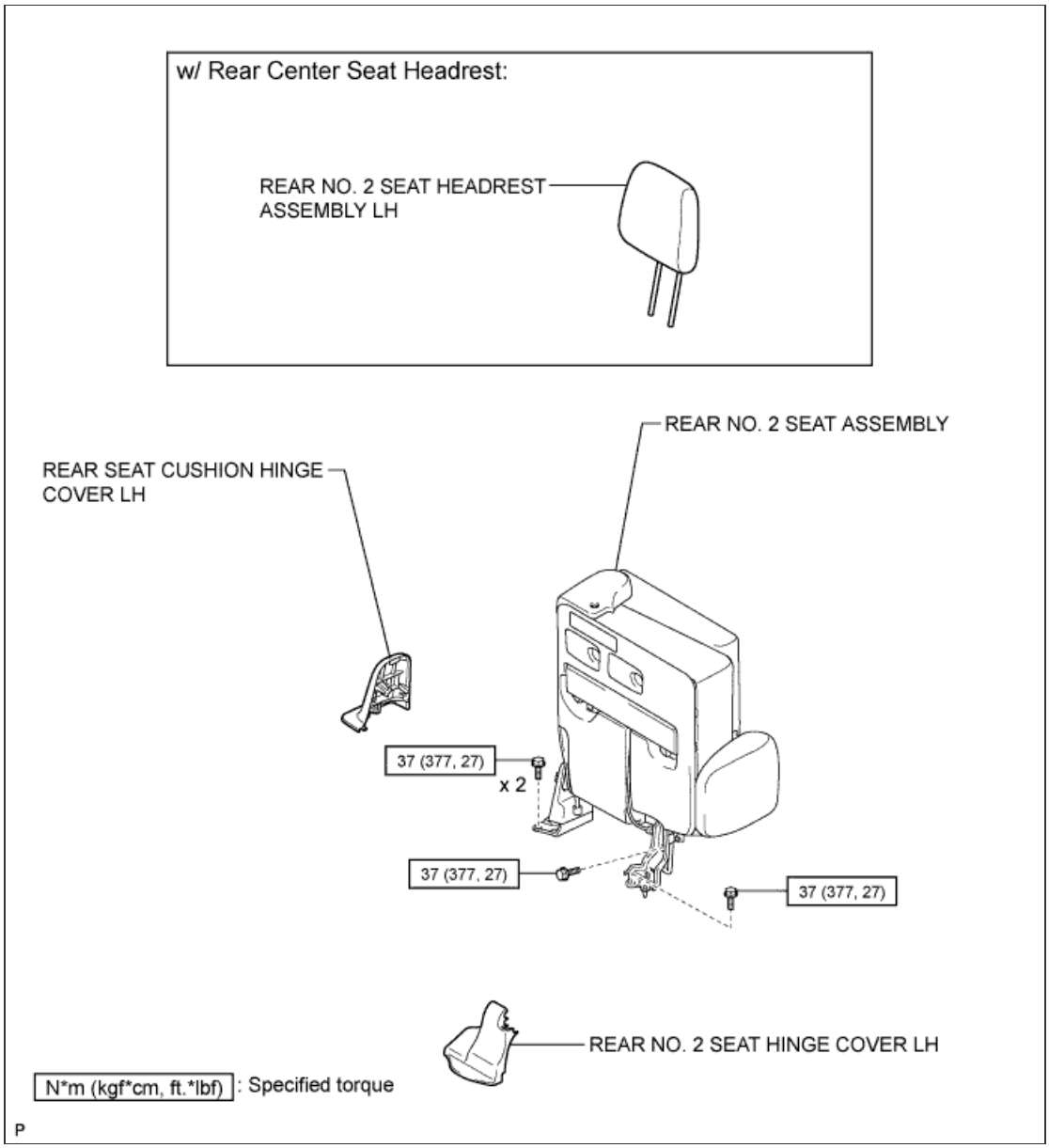


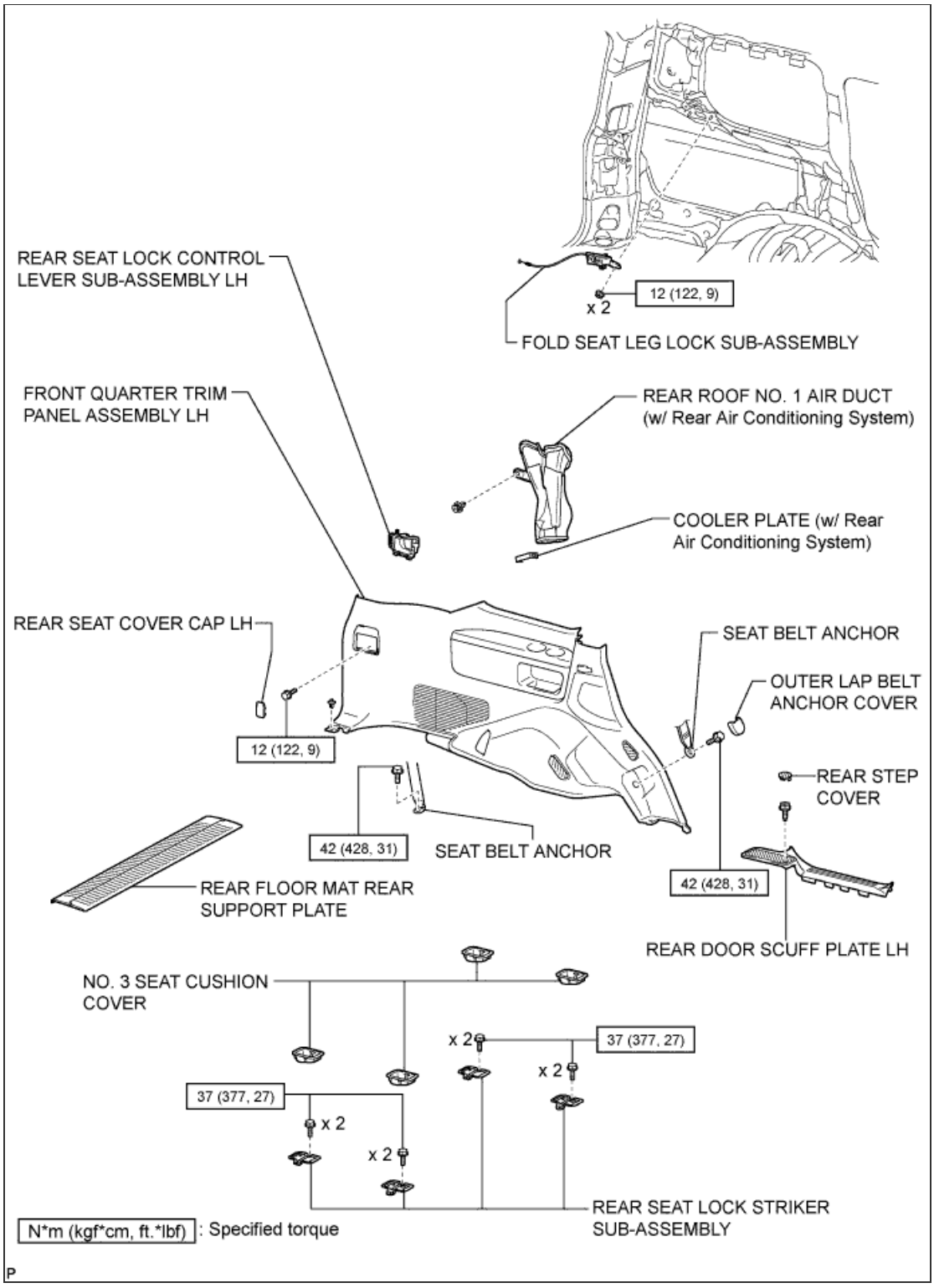

## 2. INSTALL REAR SIDE SEAT LEG PROTECTOR LH

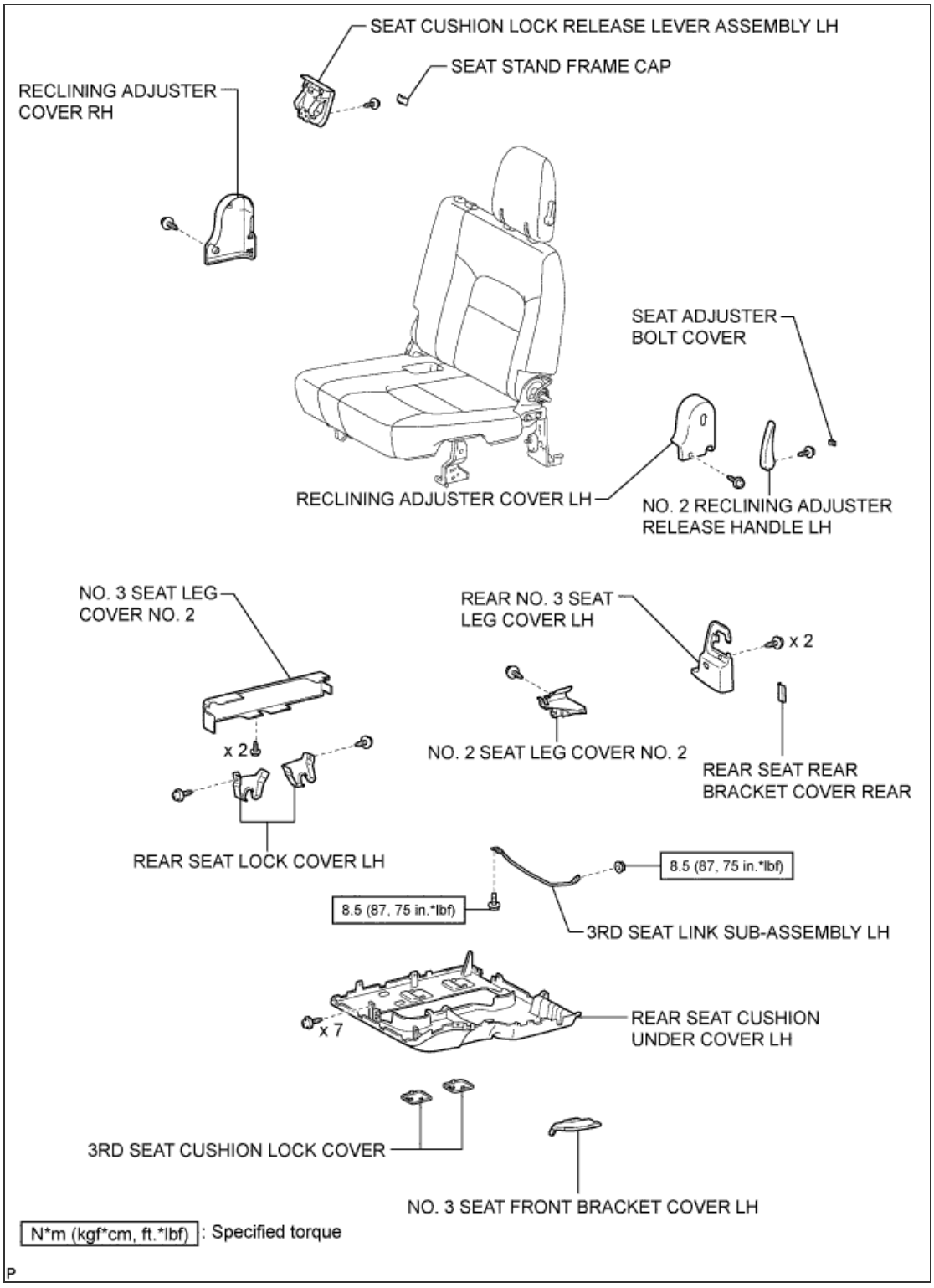
a. Attach the 2 claws to install the protector.

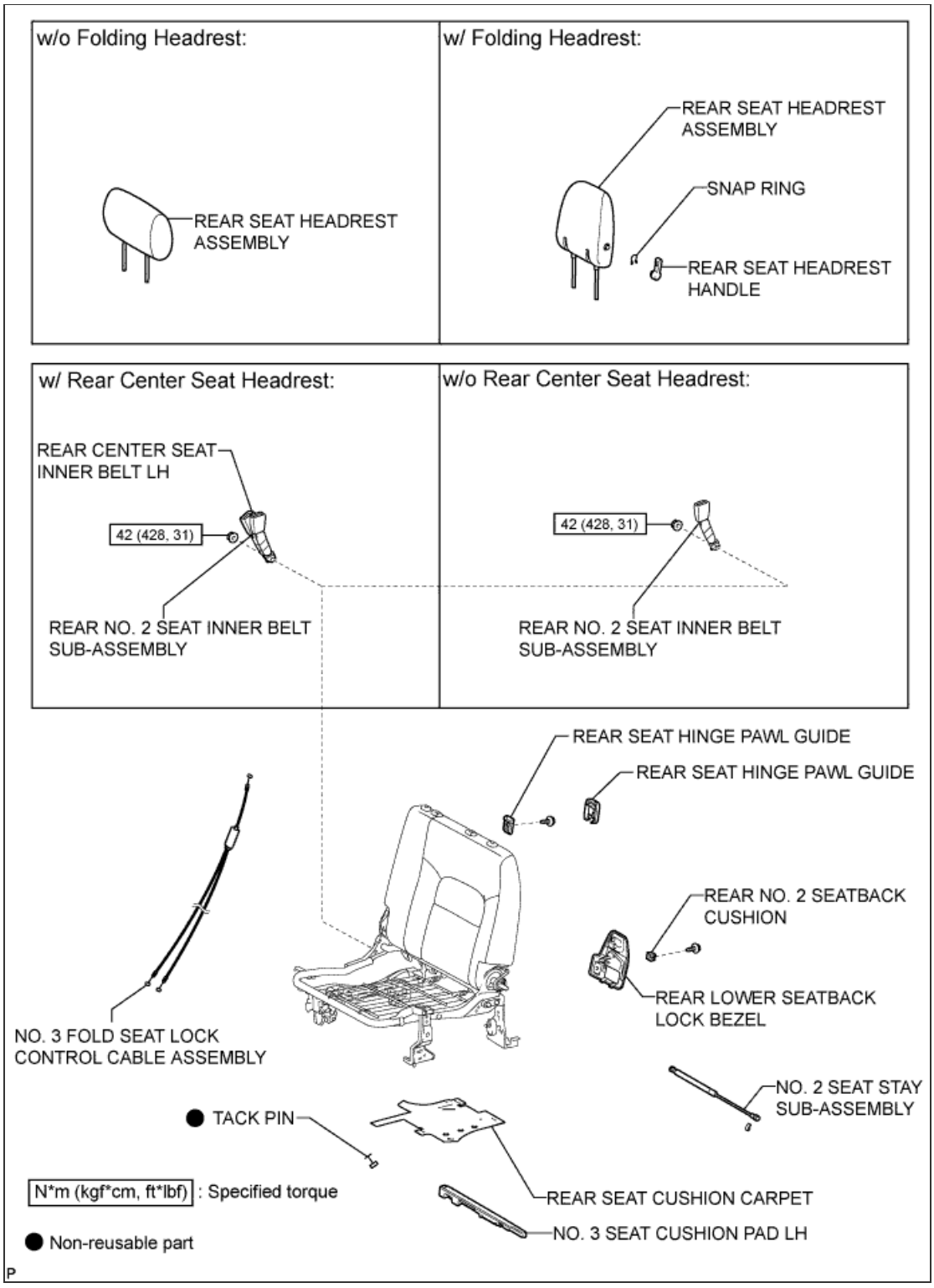


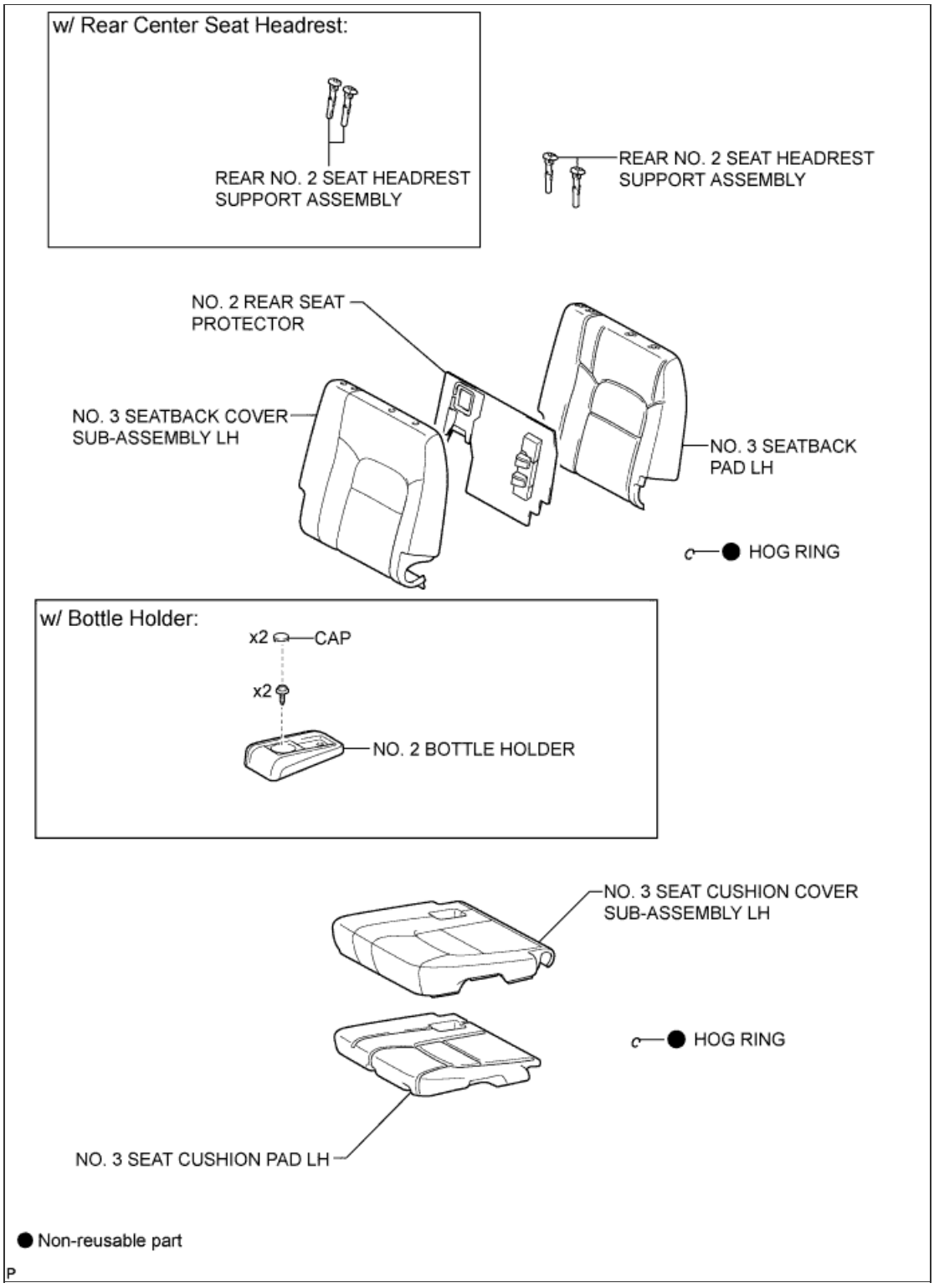
**for Preparation** Click here

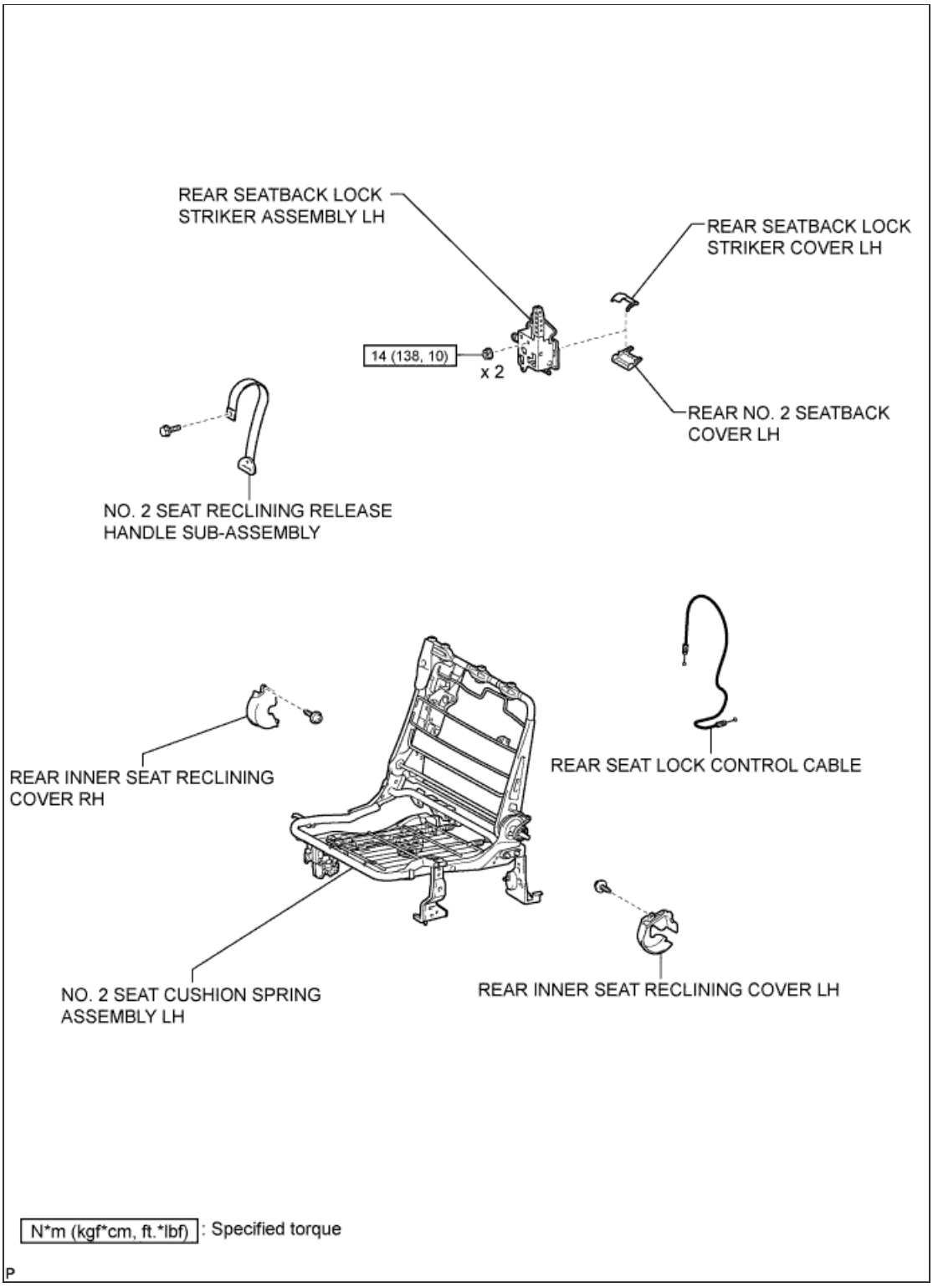



REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY LH
12 (122, 9)
x 2
FOLD SEAT LEG LOCK SUB-ASSEMBLY
FRONT QUARTER TRIM PANEL ASSEMBLY LH
REAR ROOF NO. 1 AIR DUCT (w/ Rear Air Conditioning System)
COOLER PLATE (w/ Rear Air Conditioning System)
REAR SEAT COVER CAP LH
SEAT BELT ANCHOR
OUTER LAP BELT ANCHOR COVER
12 (122, 9)
REAR STEP COVER
42 (428, 31)
SEAT BELT ANCHOR
42 (428, 31)
REAR FLOOR MAT REAR SUPPORT PLATE
REAR DOOR SCUFF PLATE LH
NO. 3 SEAT CUSHION COVER
x 2
37 (377, 27)
x 2
37 (377, 27)
x 2
x 2
REAR SEAT LOCK STRIKER SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
P


SEAT CUSHION LOCK RELEASE LEVER ASSEMBLY LH
SEAT STAND FRAME CAP
RECLINING ADJUSTER COVER RH
SEAT ADJUSTER BOLT COVER
RECLINING ADJUSTER COVER LH
NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH
NO. 3 SEAT LEG COVER NO. 2
x 2
REAR SEAT LOCK COVER LH
REAR NO. 3 SEAT LEG COVER LH
x 2
NO. 2 SEAT LEG COVER NO. 2
REAR SEAT REAR BRACKET COVER REAR
8.5 (87, 75 in.*lbf)
8.5 (87, 75 in.*lbf)
3RD SEAT LINK SUB-ASSEMBLY LH
x 7
REAR SEAT CUSHION UNDER COVER LH
3RD SEAT CUSHION LOCK COVER
NO. 3 SEAT FRONT BRACKET COVER LH
N*m (kgf*cm, ft.*lbf) : Specified torque
P


w/o Folding Headrest:
REAR SEAT HEADREST ASSEMBLY
w/ Folding Headrest:
REAR SEAT HEADREST ASSEMBLY
SNAP RING
REAR SEAT HEADREST HANDLE
w/ Rear Center Seat Headrest:
REAR CENTER SEAT INNER BELT LH
42 (428, 31)
REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY
w/o Rear Center Seat Headrest:
42 (428, 31)
REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY
REAR SEAT HINGE PAWL GUIDE
REAR SEAT HINGE PAWL GUIDE
REAR NO. 2 SEATBACK CUSHION
REAR LOWER SEATBACK LOCK BEZEL
NO. 3 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY
NO. 2 SEAT STAY SUB-ASSEMBLY
TACK PIN
N*m (kgf*cm, ft*lbf) : Specified torque
REAR SEAT CUSHION CARPET
NO. 3 SEAT CUSHION PAD LH
Non-reusable part
P


w/ Rear Center Seat Headrest:
REAR NO. 2 SEAT HEADREST SUPPORT ASSEMBLY
REAR NO. 2 SEAT HEADREST SUPPORT ASSEMBLY
NO. 2 REAR SEAT PROTECTOR
NO. 3 SEATBACK COVER SUB-ASSEMBLY LH
NO. 3 SEATBACK PAD LH
HOG RING
w/ Bottle Holder:
x2
CAP
x2
NO. 2 BOTTLE HOLDER
NO. 3 SEAT CUSHION COVER SUB-ASSEMBLY LH
HOG RING
NO. 3 SEAT CUSHION PAD LH
Non-reusable part
P


REAR SEATBACK LOCK STRIKER ASSEMBLY LH
REAR SEATBACK LOCK STRIKER COVER LH
14 (138, 10)
x 2
REAR NO. 2 SEATBACK COVER LH
NO. 2 SEAT RECLINING RELEASE HANDLE SUB-ASSEMBLY
REAR INNER SEAT RECLINING COVER RH
REAR SEAT LOCK CONTROL CABLE
NO. 2 SEAT CUSHION SPRING ASSEMBLY LH
REAR INNER SEAT RECLINING COVER LH
N*m (kgf*cm, ft.*lbf) : Specified torque
P

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

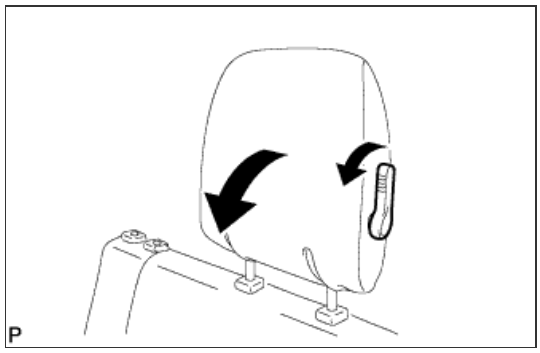
**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

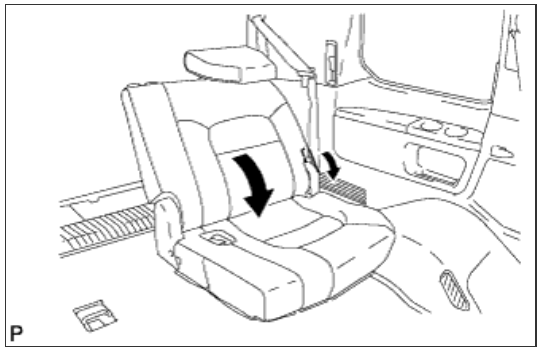
## 1. REMOVE REAR NO. 2 SEAT HEADREST ASSEMBLY LH (w/ Rear Center Seat Headrest)

## 2. REMOVE REAR SEAT CUSHION HINGE COVER LH

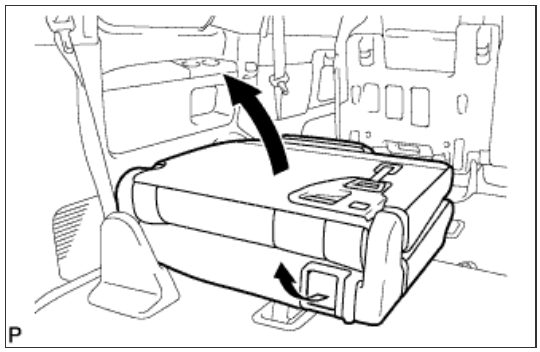
a. Operate the rear seat headrest handle and lower the headrest.




b. Operate the reclining adjuster release handle and fold down the seat.



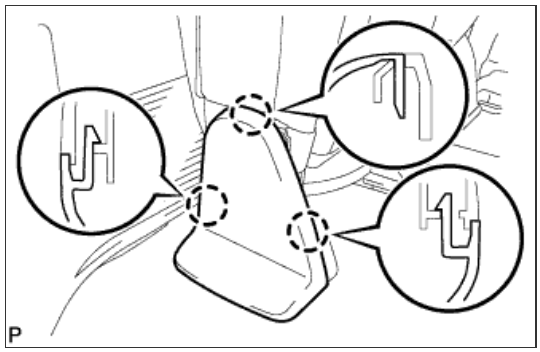

c. Operate the seat cushion lock release lever and move the seat to the storage position.




d. Using a screwdriver, detach the 3 claws and remove the cover.

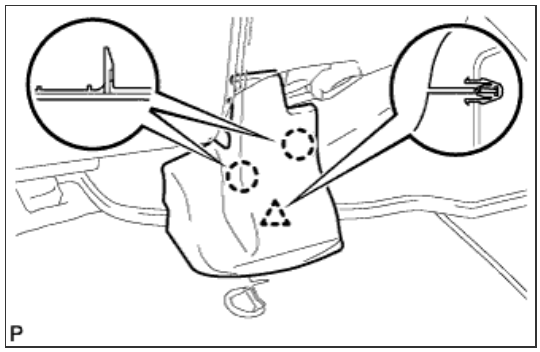
**HINT:**

Tape the screwdriver tip before use.




### 3. REMOVE REAR NO. 2 SEAT HINGE COVER LH

a. Detach the 2 claws and clip, and then remove the cover.

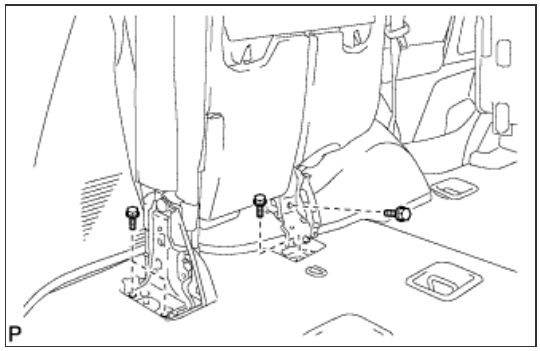



### 4. REMOVE REAR NO. 2 SEAT ASSEMBLY

a. Remove the 4 bolts and seat assembly.

**NOTICE:**

Be careful not to damage the vehicle body.

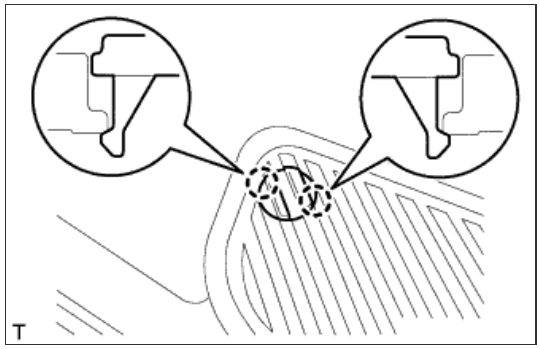



### 5. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

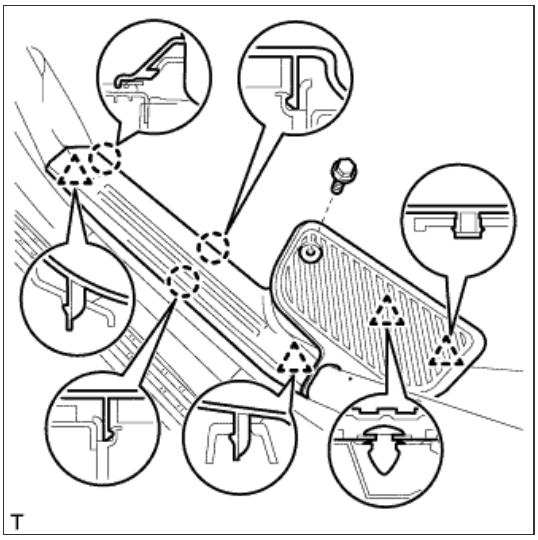
a. Detach the 2 claws and remove the step cover.




### 6. REMOVE REAR DOOR SCUFF PLATE LH

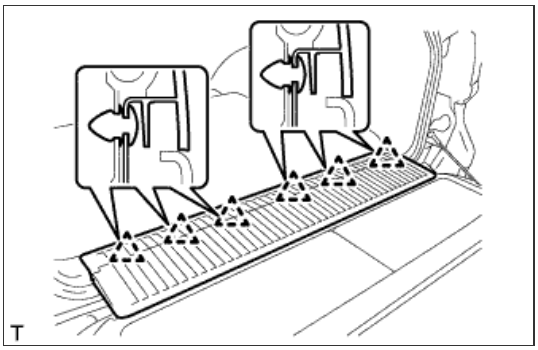
a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




## 7. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.




## 8. REMOVE REAR SEAT COVER CAP

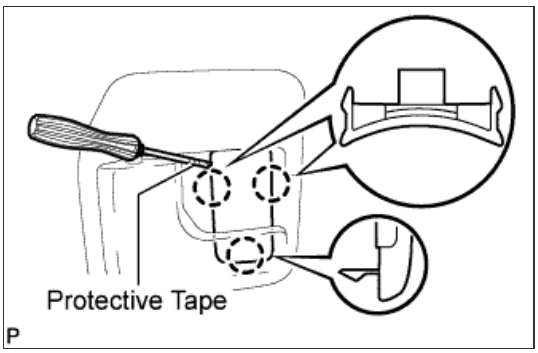
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

Tape the screwdriver tip before use.




## 9. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
Remove the front quarter trim panel assembly LH ( Click here).

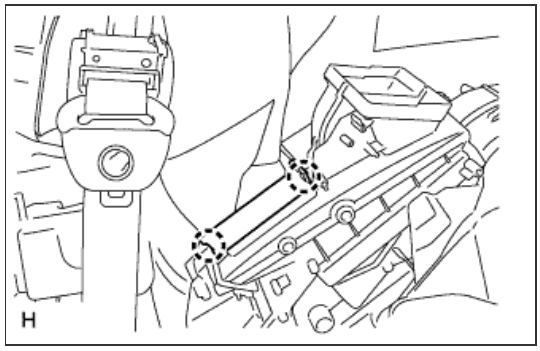
b. w/o Sliding Roof:
Remove the front quarter trim panel assembly LH ( Click here).

## 10. REMOVE REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY LH

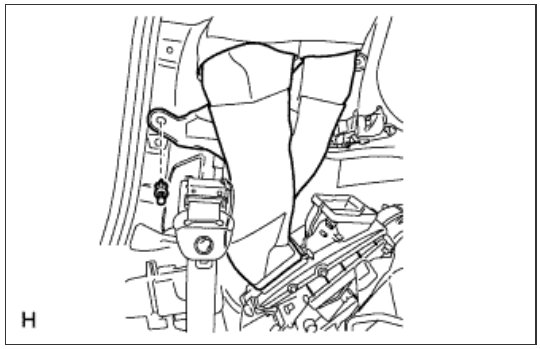
a. Detach the 4 claws and remove the seat lock control lever.

## 11. REMOVE REAR ROOF NO. 1 AIR DUCT (w/ Rear Air Conditioning System)

a. Detach the 2 claws and remove the cooler plate.



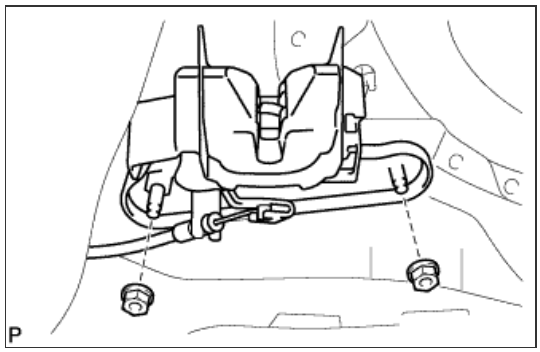

b. Remove the clip and duct.




## 12. REMOVE FOLD SEAT LEG LOCK SUB-ASSEMBLY

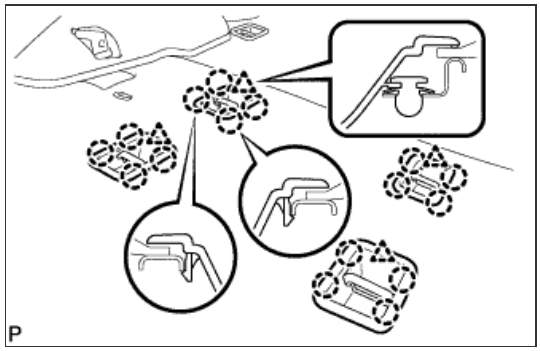
a. Detach the 2 cable clamps.

b. Remove the 2 nuts and fold seat leg lock.




## 13. REMOVE NO. 3 SEAT CUSHION COVER

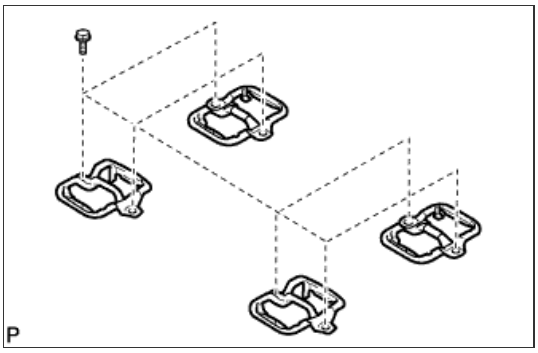
a. Detach the 4 clips and 16 claws, and then remove the 4 seat cushion covers.




## 14. REMOVE REAR SEAT LOCK STRIKER SUB-ASSEMBLY

a. Fold back the floor carpet.

b. Remove the 8 bolts and 4 seat lock strikers.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE SEAT ADJUSTER BOLT COVER

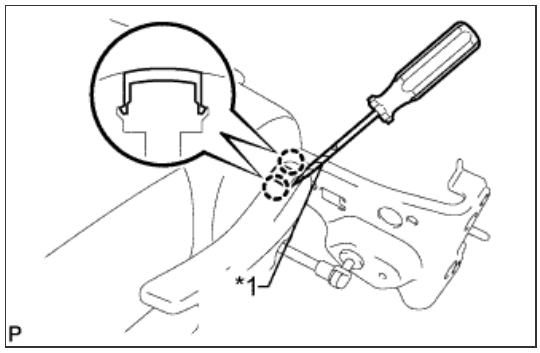
a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

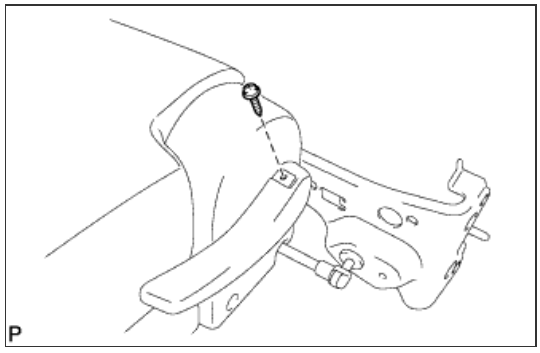
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 2. REMOVE NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH

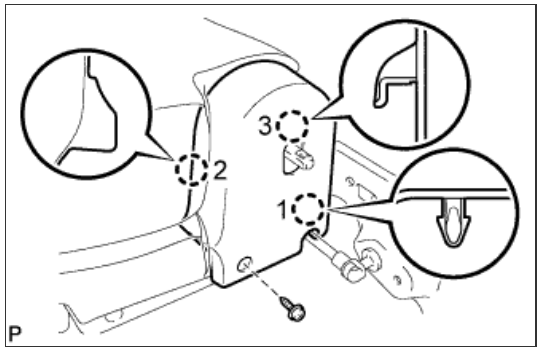
a. Remove the screw and release handle.




## 3. REMOVE RECLINING ADJUSTER COVER LH

a. Remove the screw.

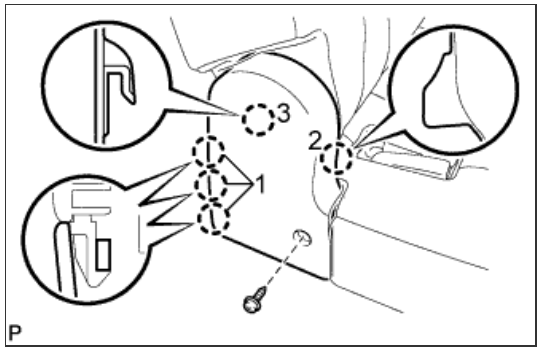
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.




## 4. REMOVE RECLINING ADJUSTER COVER RH

a. Remove the screw.

b. Detach the 5 claws in the order shown in the illustration, and then remove the cover.



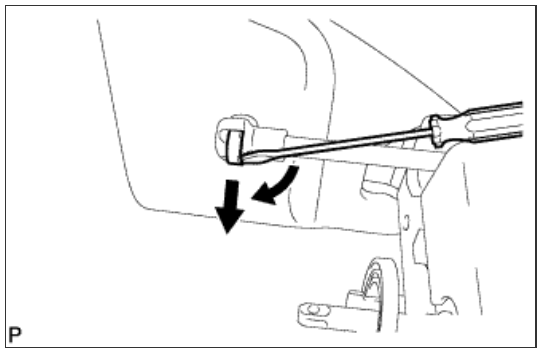

## 5. REMOVE REAR SEAT REAR BRACKET COVER REAR

a. Detach the 2 claws and cover.

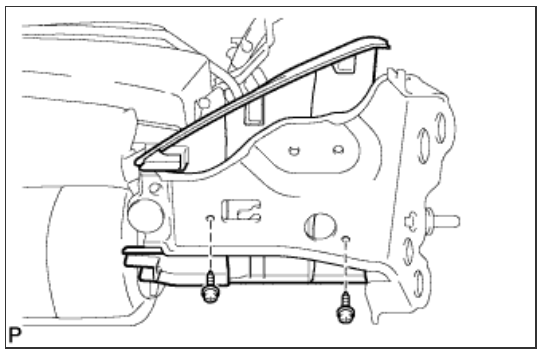
## 6. REMOVE REAR NO. 3 SEAT LEG COVER LH

a. Using a screwdriver, remove the spring of the seat stay ball-joint.

b. Disconnect the seat stay.

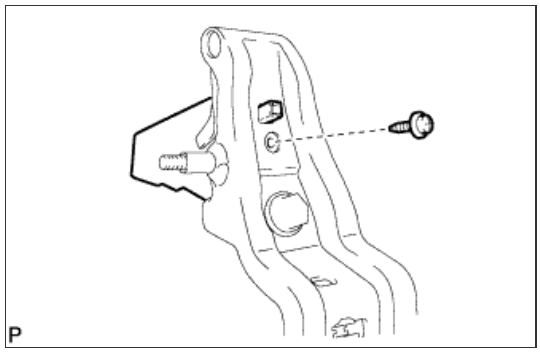



c. Remove the 2 screws and cover.



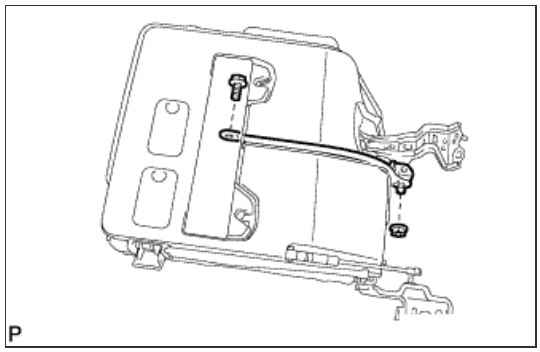

## 7. REMOVE NO. 2 SEAT LEG COVER NO. 2

a. Remove the screw and seat leg cover.



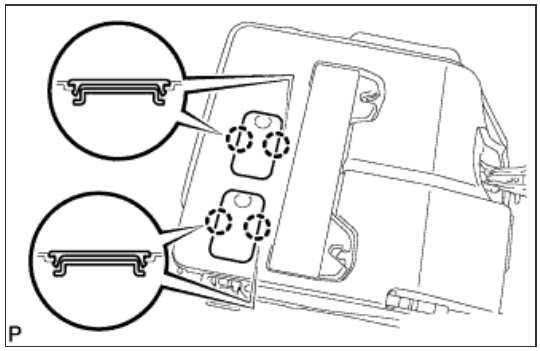

### 8. REMOVE 3RD SEAT LINK SUB-ASSEMBLY LH

a. Remove the bolt, nut and seat link.



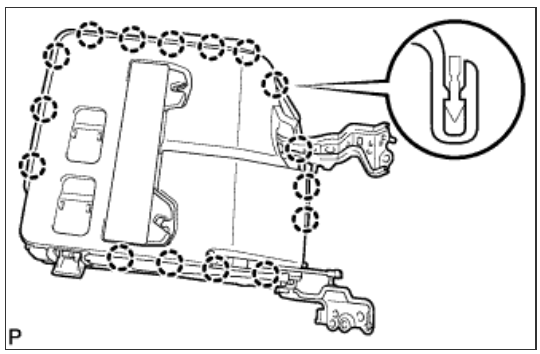

### 9. REMOVE 3RD SEAT CUSHION LOCK COVER

a. Detach the 4 claws and remove the 2 covers.

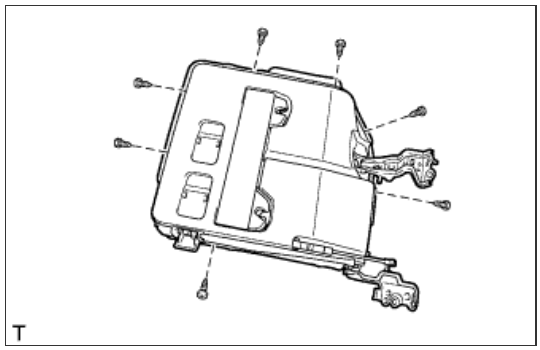



### 10. REMOVE REAR SEAT CUSHION UNDER COVER LH

a. Detach the 16 claws.

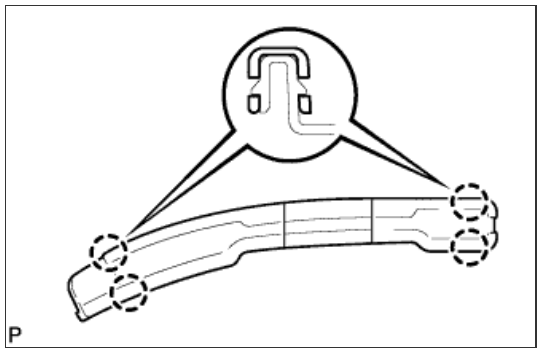



b. Remove the 7 screws and cover.




### 11. REMOVE NO. 3 SEAT FRONT BRACKET COVER LH

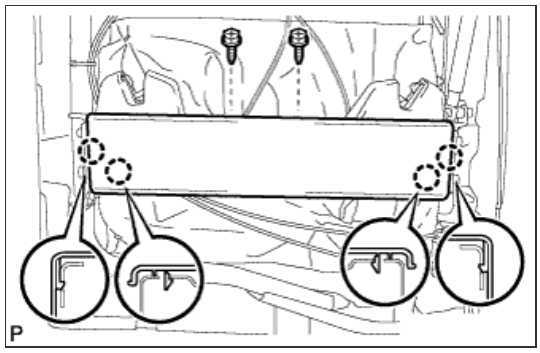
a. Detach the 4 claws and remove the cover.




### 12. REMOVE NO. 3 SEAT LEG COVER NO. 2

a. Remove the 2 screws.

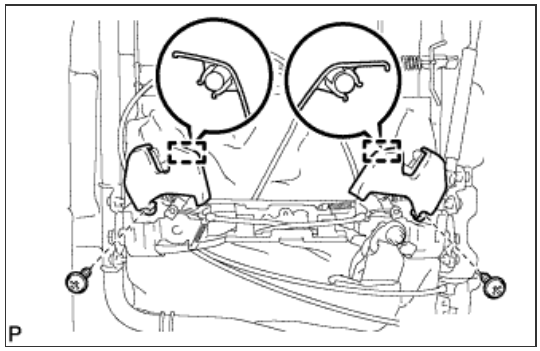
b. Detach the 4 claws and remove the cover.




### 13. REMOVE REAR SEAT LOCK COVER LH

a. Remove the 2 screws.

b. Detach the 2 clamps and remove the 2 covers.




### 14. REMOVE SEAT STAND FRAME CAP

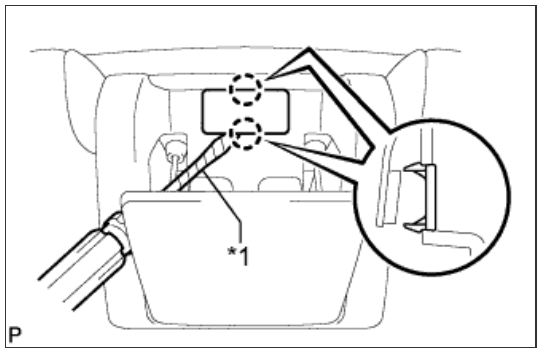
a. Using a screwdriver, detach the 2 claws and remove the stand frame cap.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

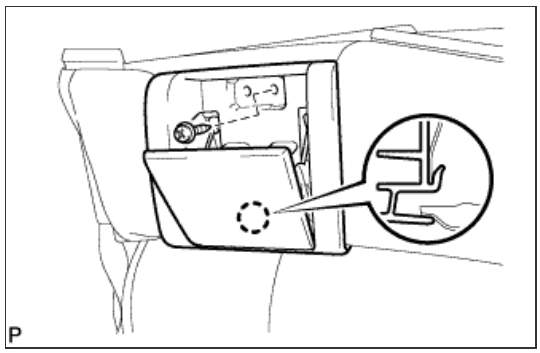
| | |
|---|---|
| *1 | Protective Tape |



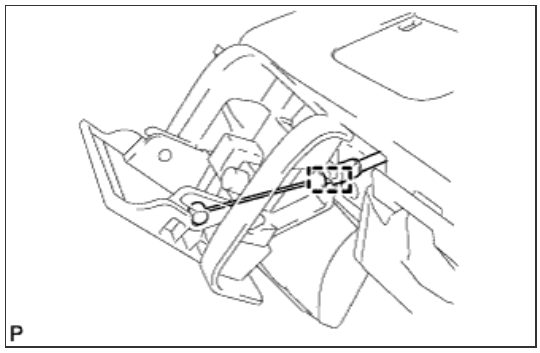

## 15. REMOVE SEAT CUSHION LOCK RELEASE LEVER ASSEMBLY LH

a. Remove the screw.

b. Detach the claw and remove the release lever.




c. Detach the cable clamp and disconnect the cable.

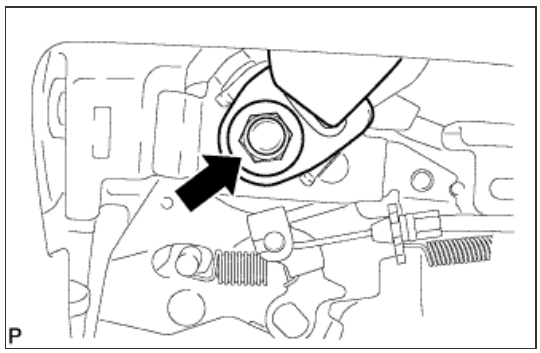



## 16. REMOVE REAR CENTER SEAT INNER BELT LH (w/ Rear Center Seat Headrest)

a. Remove the nut and belt.

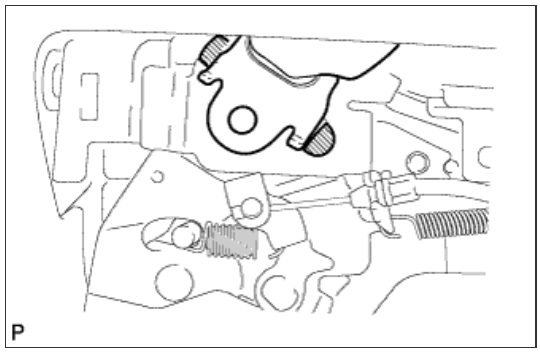
**HINT:**

The rear No. 2 seat inner belt is fixed with the same nut as the rear seat inner belt. Therefore, it becomes disconnected when the nut is removed.




## 17. REMOVE REAR CENTER SEAT INNER BELT RH (w/ Rear Center Seat Headrest)

a. Remove the belt.

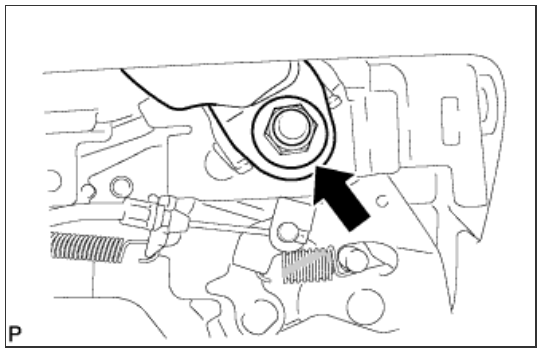



## 18. REMOVE REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY

a. Remove the nut and belt.

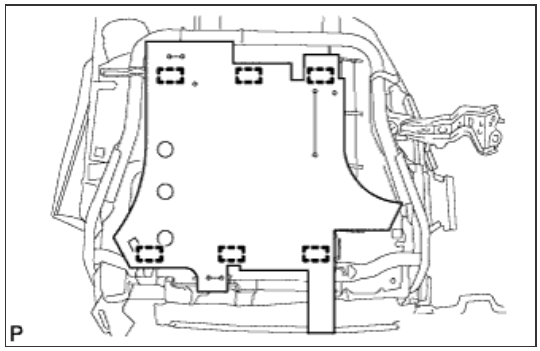
**HINT:**

The rear No. 2 seat inner belt is fixed with the same nut as the rear seat outer belt. Therefore, it becomes disconnected when the nut is removed.



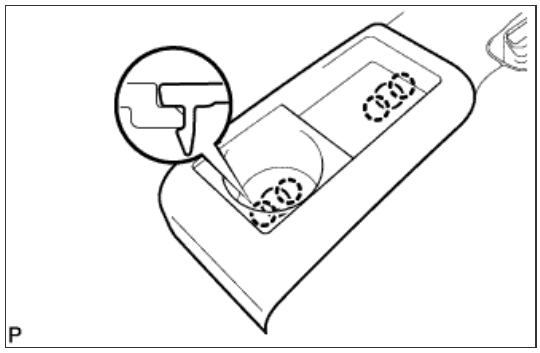

## 19. REMOVE REAR SEAT CUSHION CARPET

a. Cut off the tack pins which fasten the seat cushion carpet to the seat cushion pad, and then remove the seat cushion carpet from the seat cushion pad.



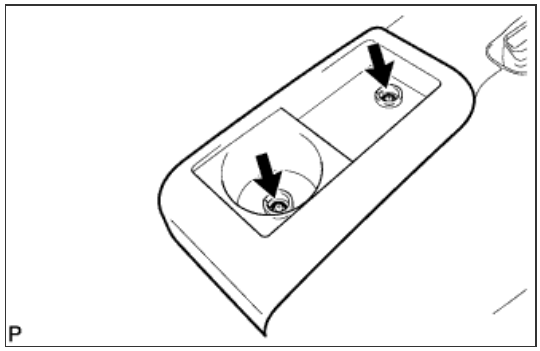

## 20. REMOVE CAP

a. Detach the 4 claws and remove the 2 caps.




## 21. REMOVE NO. 2 BOTTLE HOLDER

a. Remove the 2 screws and No. 2 bottle holder.




## 22. REMOVE SEAT CUSHION COVER WITH PAD

## 23. REMOVE NO. 3 SEAT CUSHION PAD LH

## 24. REMOVE NO. 3 SEAT CUSHION COVER SUB-ASSEMBLY LH

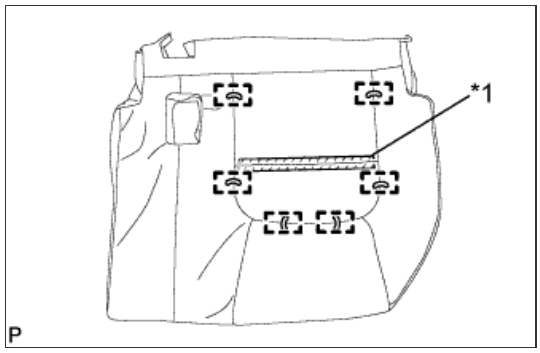
a. w/o Bottle Holder:

i. Remove the hog rings.

ii. Detach the fastening tape and remove the seat cushion cover.

**Text in Illustration**

| | |
|---|---|
| *1 | Fastening Tape |



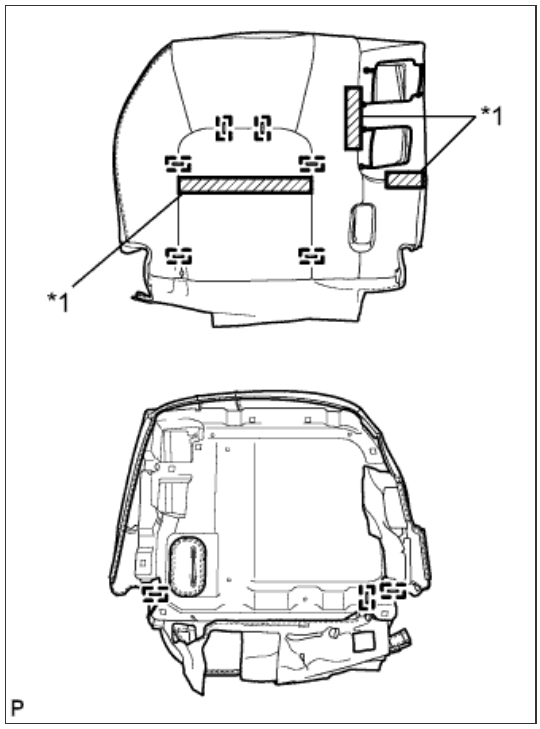

b. w/ Bottle Holder:

i. Remove the hog rings.

ii. Detach the 3 fastening tapes and remove the seat cushion cover.

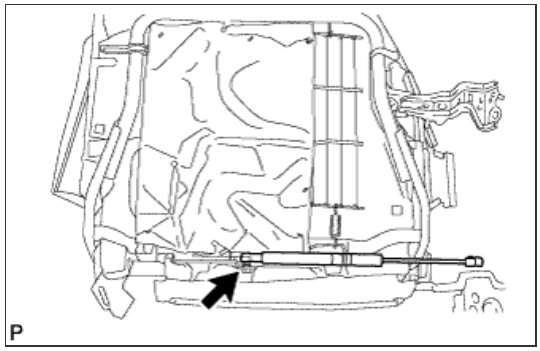
**Text in Illustration**

| | |
|---|---|
| *1 | Fastening Tape |



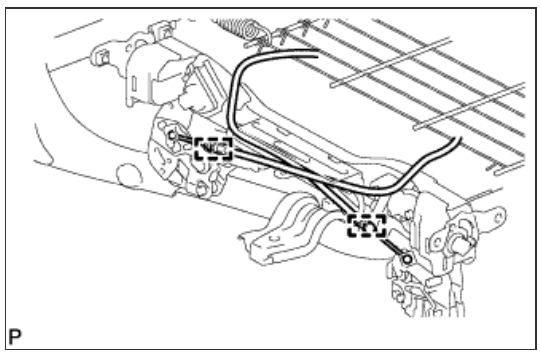

### 25. REMOVE NO. 2 SEAT STAY SUB-ASSEMBLY

a. Remove the bolt and seat stay.

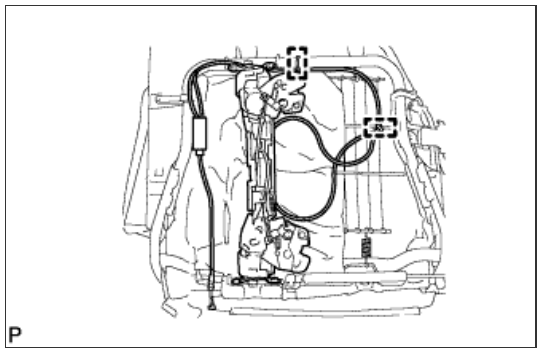



### 26. REMOVE NO. 3 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY

a. Detach the 2 cable clamps and disconnect the 2 cables.

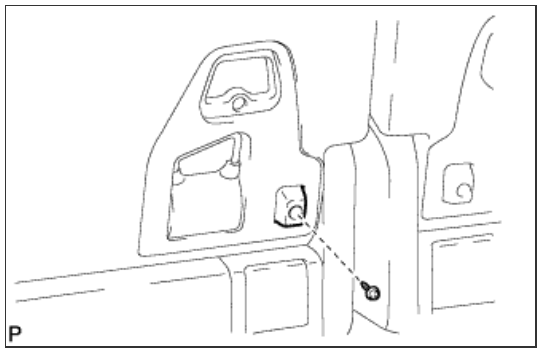



b. Detach the 2 clamps and remove the cable.



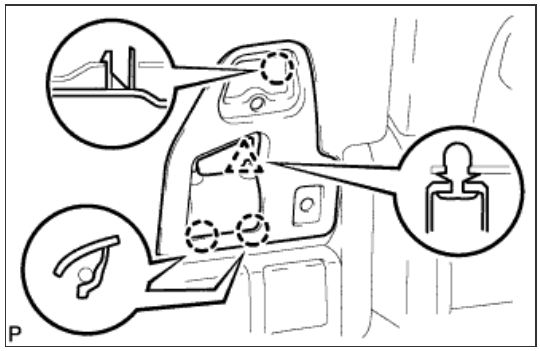

### 27. REMOVE REAR NO. 2 SEATBACK CUSHION

a. Remove the screw and seatback cushion.



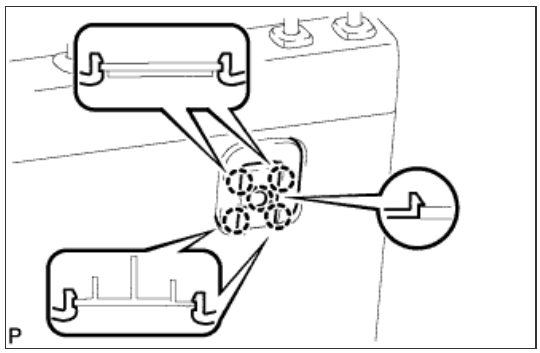

### 28. REMOVE REAR LOWER SEATBACK LOCK BEZEL

a. Detach the 3 claws and clip, and then remove the seatback lock bezel.



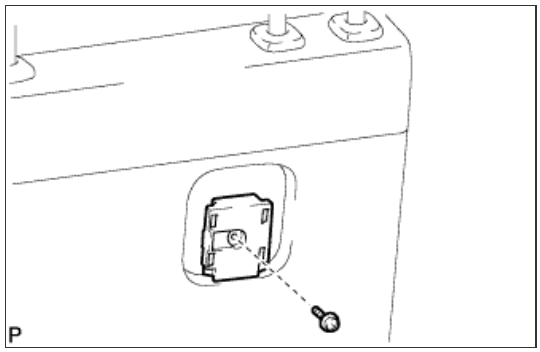

### 29. REMOVE REAR SEAT HINGE PAWL GUIDE

a. Detach the 5 claws and remove the guide.




### 30. REMOVE REAR SEAT HINGE PAWL GUIDE

a. Remove the screw and guide.




## 31. REMOVE REAR SEAT HEADREST ASSEMBLY (w/ Folding Headrest)

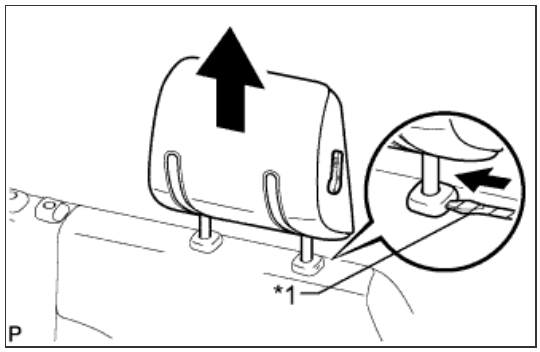
a. While releasing the lock inside the headrest support with a screwdriver, remove the headrest.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

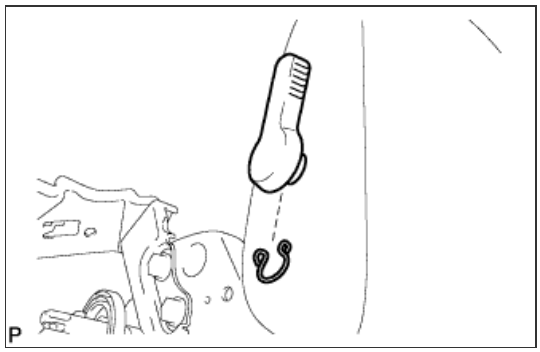
| | |
|---|---|
| *1 | Protective Tape |




## 32. REMOVE REAR SEAT HEADREST ASSEMBLY (w/o Folding Headrest)

## 33. REMOVE REAR SEAT HEADREST HANDLE

a. Remove the snap ring and headrest handle.

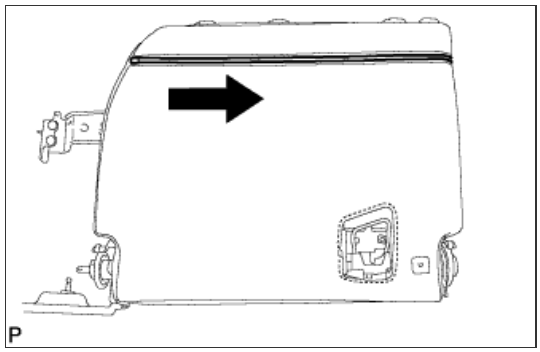



## 34. REMOVE SEATBACK COVER WITH PAD

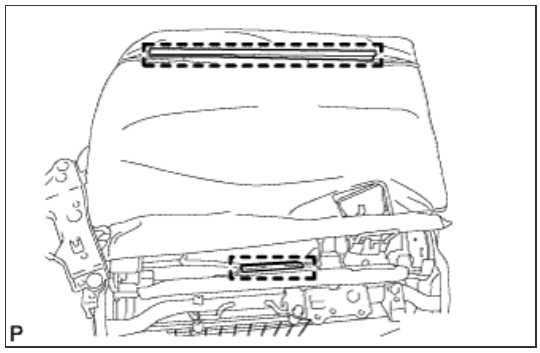
a. LH Side:

i. w/ Rear Center Headrest:

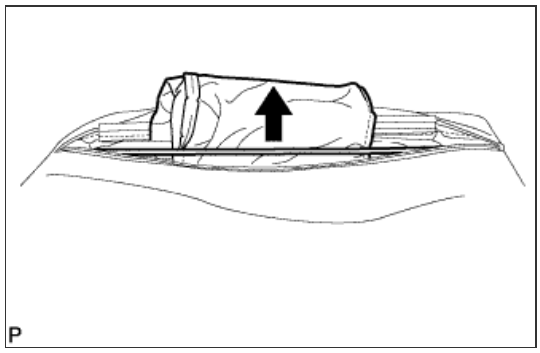
1. Open the fastener.




2. Detach the 2 hooks.

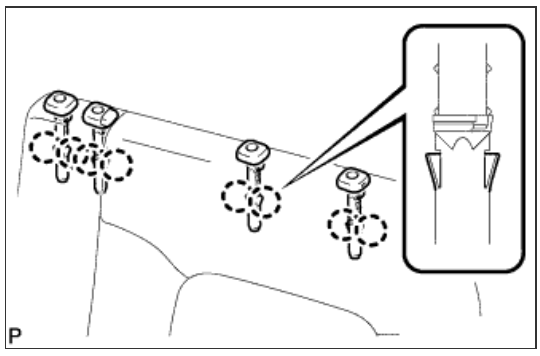



3. Pull out the center headrest storage bag.
4. Remove the rear seat protector.

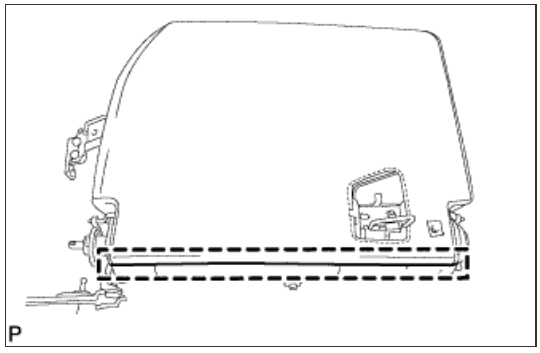



5. Detach the 8 claws and remove the 4 headrest supports.

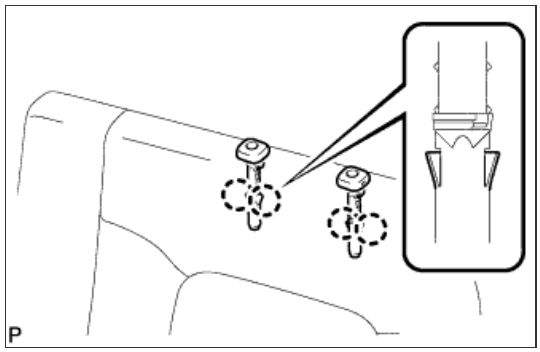
ii. w/o Rear Center Headrest:




1. Detach the hook.
2. Remove the rear seat protector.



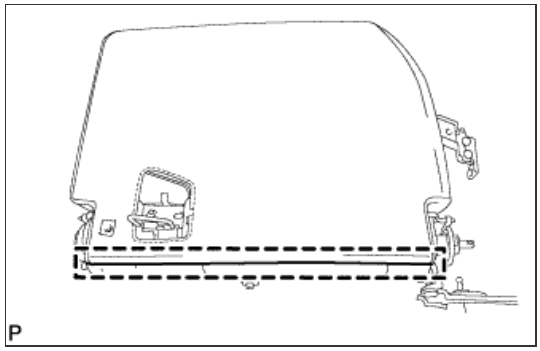

3. Detach the 4 claws and remove the 2 headrest supports.



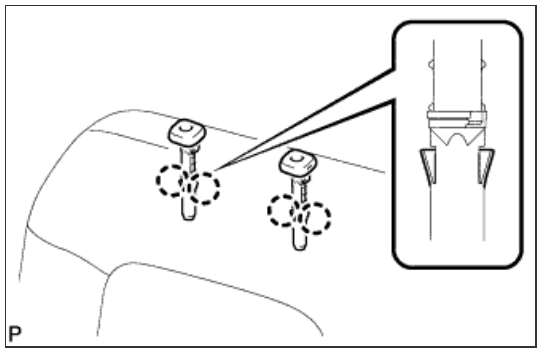

b. RH Side:

i. Detach the hook.

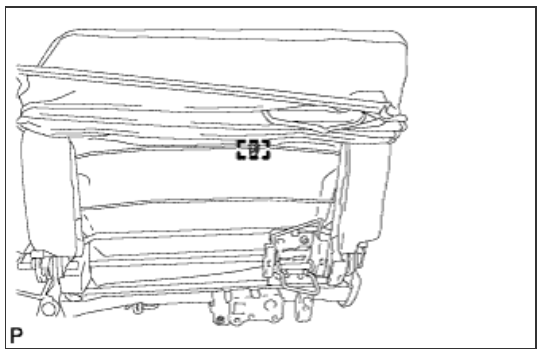
ii. Remove the rear seat protector.




iii. Detach the 4 claws and remove the 2 headrest supports.

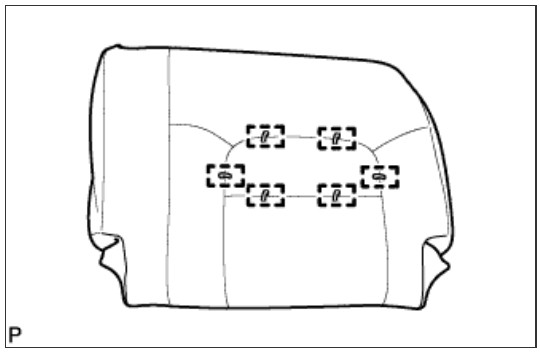



c. Remove the hog ring and seatback cover with pad.




## 35. REMOVE NO. 3 SEATBACK COVER SUB-ASSEMBLY LH

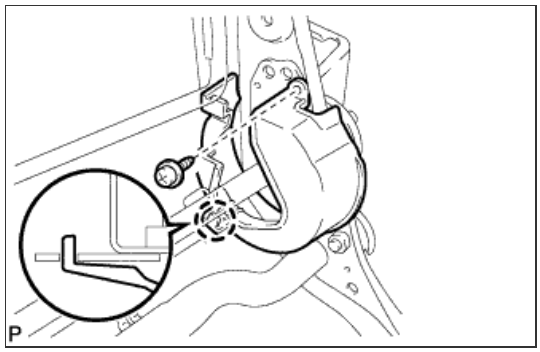
a. Remove the hog rings and seatback cover.




### 36. REMOVE REAR INNER SEAT RECLINING COVER LH

a. Remove the screw.

b. Detach the claw and remove the cover.




### 37. REMOVE REAR INNER SEAT RECLINING COVER RH

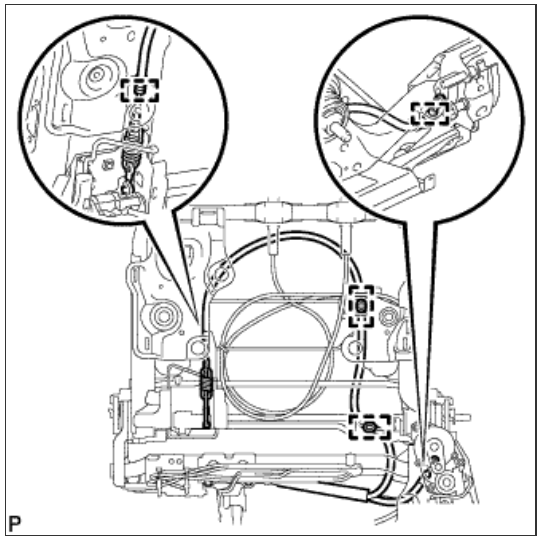
a. Remove the screw.

b. Detach the claw and remove the cover.

### 38. REMOVE REAR SEAT LOCK CONTROL CABLE

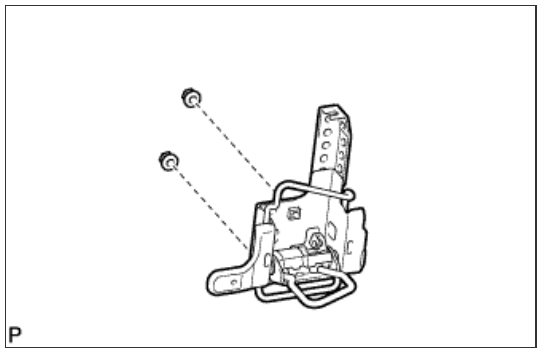
a. Detach the 2 cable clamps and disconnect the 2 cables.

b. Detach the 2 clamps and remove the lock control cable.




### 39. REMOVE REAR SEATBACK LOCK STRIKER ASSEMBLY LH

a. Remove the 2 nuts and lock striker.




### 40. REMOVE REAR NO. 2 SEATBACK COVER LH

a. Detach the 3 claws and remove the cover.

### 41. REMOVE REAR SEATBACK LOCK STRIKER COVER LH

a. Detach the 2 clamps and remove the cover.

### 42. REMOVE NO. 2 SEAT RECLINING RELEASE HANDLE SUB-ASSEMBLY

a. Remove the bolt and release handle.

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL NO. 2 SEAT RECLINING RELEASE HANDLE SUB-ASSEMBLY

a. Install the release handle with the bolt.

## 2. INSTALL REAR SEATBACK LOCK STRIKER COVER LH

a. Attach the 2 clamps to install the cover.

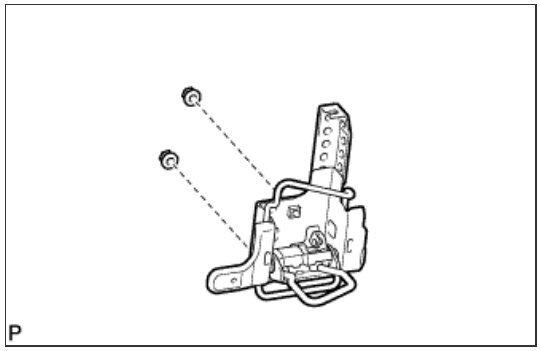
## 3. INSTALL REAR NO. 2 SEATBACK COVER LH

a. Attach the 3 claws to install the cover.

## 4. INSTALL REAR SEATBACK LOCK STRIKER ASSEMBLY LH

a. Install the lock striker with the 2 nuts.

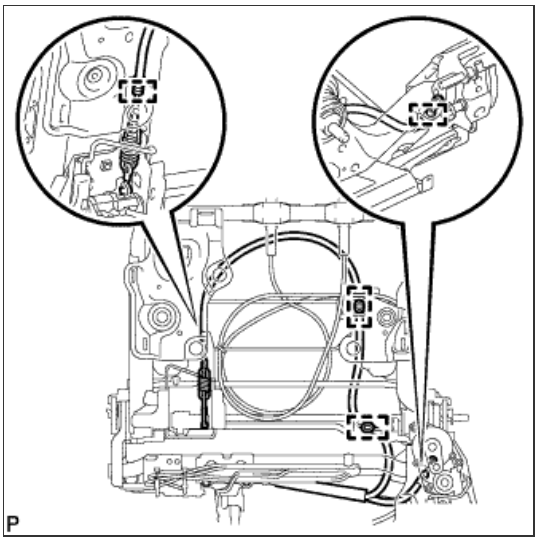
**Torque:**
**14 N*m{ 138 kgf*cm , 10 ft.*lbf }**




## 5. INSTALL REAR SEAT LOCK CONTROL CABLE

a. Attach the 2 clamps to install the lock control cable.

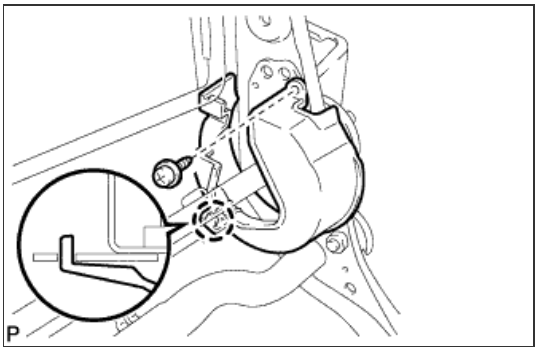
b. Attach the 2 cable clamps to connect the 2 cables.




## 6. INSTALL REAR INNER SEAT RECLINING COVER RH

a. Attach the claw to install the cover.

b. Install the screw.




## 7. INSTALL REAR INNER SEAT RECLINING COVER LH

a. Attach the claw to install the cover.

b. Install the screw.

## 8. INSTALL NO. 3 SEATBACK COVER SUB-ASSEMBLY LH

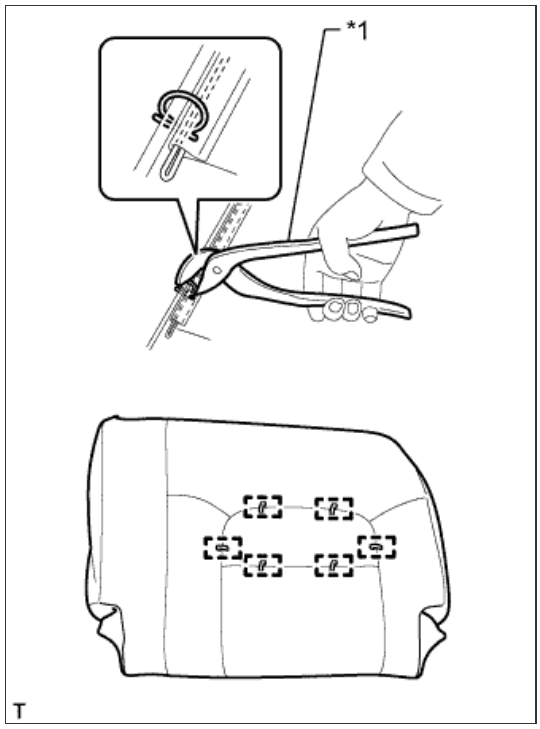
a. Using hog ring pliers, install the seatback cover to the seatback pad with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

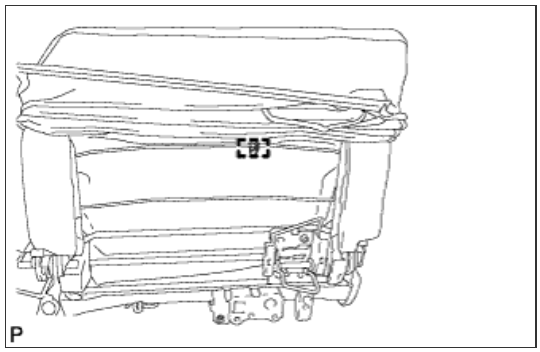



## 9. INSTALL SEATBACK COVER WITH PAD

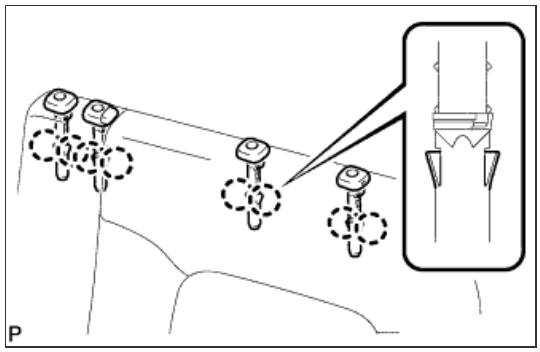
a. Using hog ring pliers, install the seatback cover with pad to the seatback frame with a new hog rings.

b. LH Side:

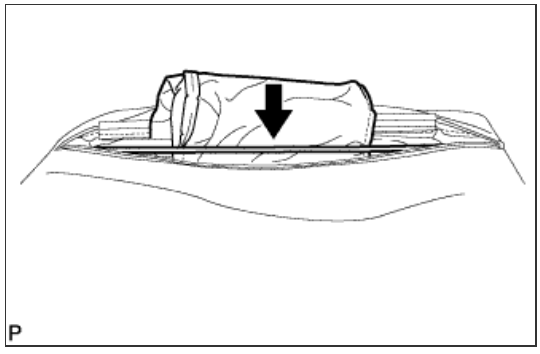
i. w/ Rear Center Seat Headrest:



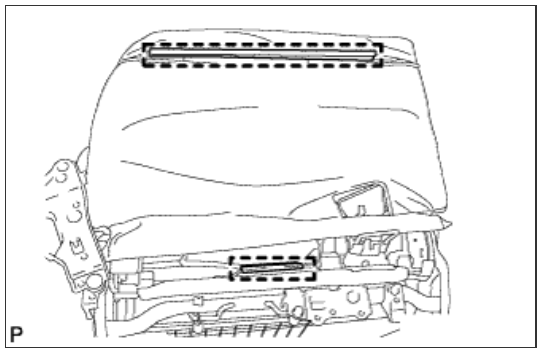

1. Attach the 8 claws to install the 4 headrest supports.
2. Install the rear seat protector.




3. Insert the center headrest storage bag.

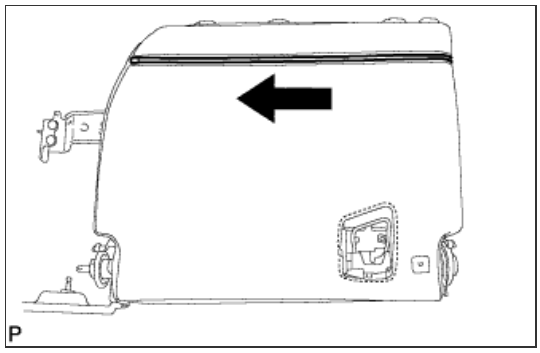



4. Attach the 2 hooks.

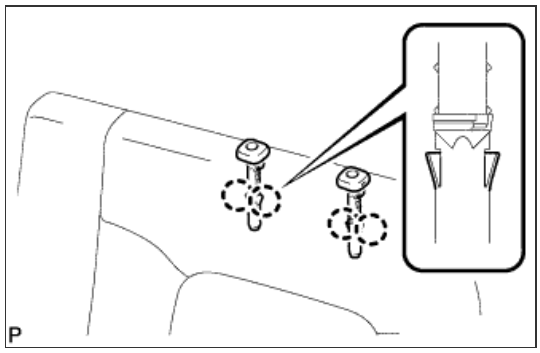



5. Close the fastener.

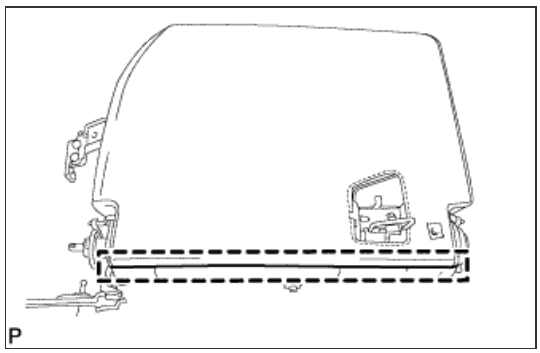
ii. w/o Rear Center Seat Headrest:




1. Attach the 4 claws to install the 2 headrest supports.
2. Install the rear seat protector.



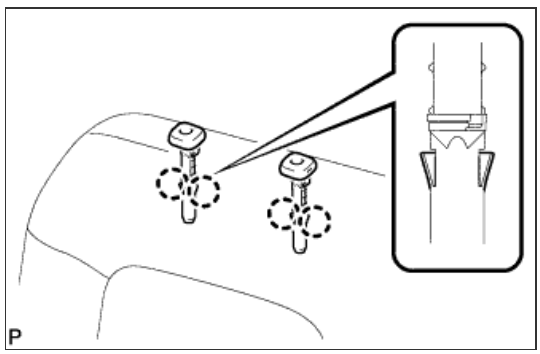

3. Attach the hook.



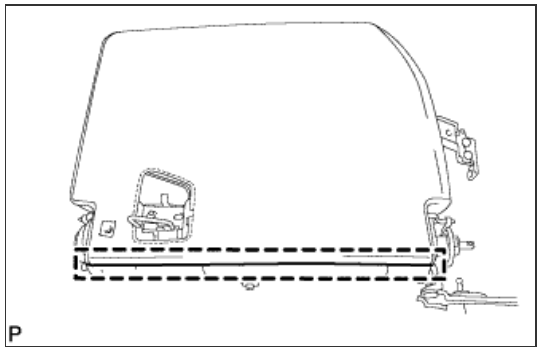

c. RH Side:

i. Attach the 4 claws to install the 2 headrest supports.

ii. Install the rear seat protector.



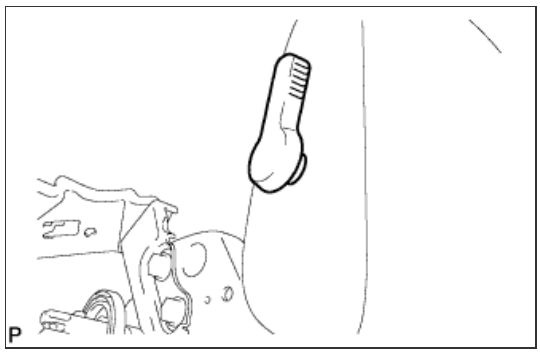
iii. Attach the hook.




## 10. INSTALL REAR SEAT HEADREST HANDLE

a. Install the snap ring to the headrest handle.

b. Install the headrest handle to the headrest.




## 11. INSTALL REAR SEAT HEADREST ASSEMBLY (w/ Folding Headrest)

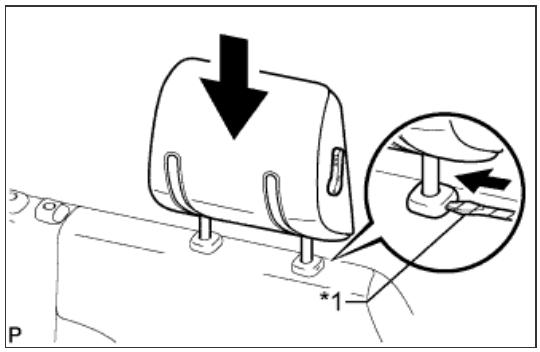
a. While releasing the lock inside the headrest support with a screwdriver, install the headrest.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

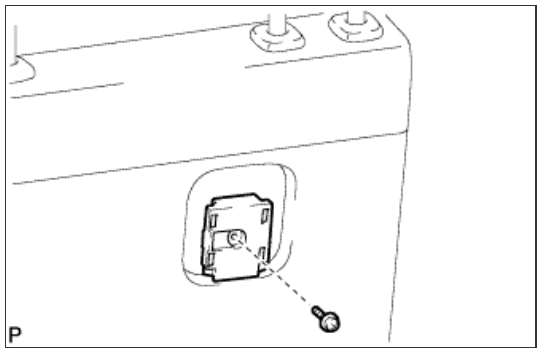
| | |
|---|---|
| *1 | Protective Tape |




## 12. INSTALL REAR SEAT HEADREST ASSEMBLY (w/o Folding Headrest)

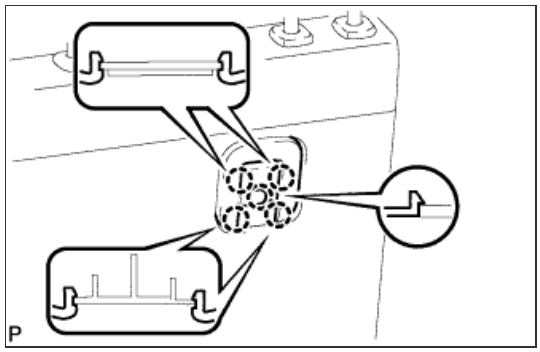
## 13. INSTALL REAR SEAT HINGE PAWL GUIDE

a. Install the guide with the screw.



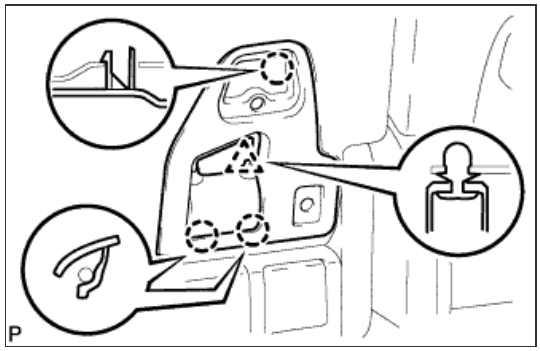

## 14. INSTALL REAR SEAT HINGE PAWL GUIDE

a. Attach the 5 claws to install the guide.



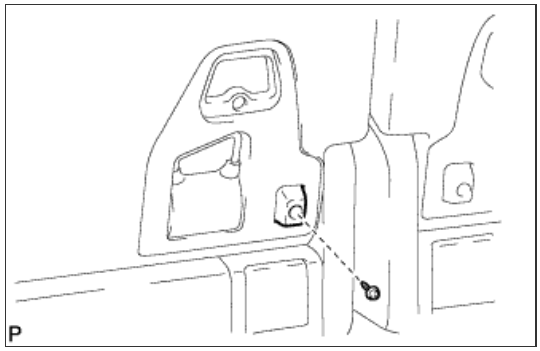

## 15. INSTALL REAR LOWER SEATBACK LOCK BEZEL

a. Attach the 3 claws and clip to install the seatback lock bezel.



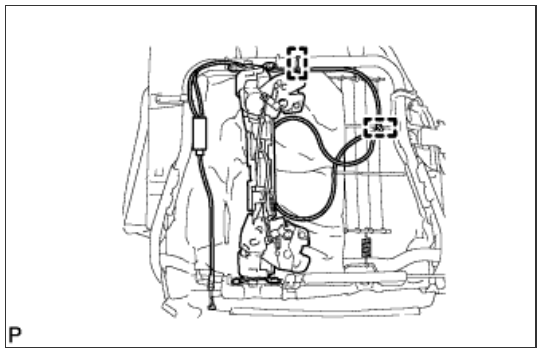

## 16. INSTALL REAR NO. 2 SEATBACK CUSHION

a. Install the seatback cushion with the screw.

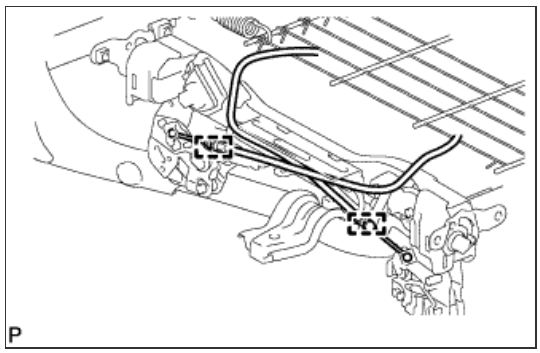



## 17. INSTALL NO. 3 FOLD SEAT LOCK CONTROL CABLE ASSEMBLY

a. Attach the 2 clamps to install the 2 cables.

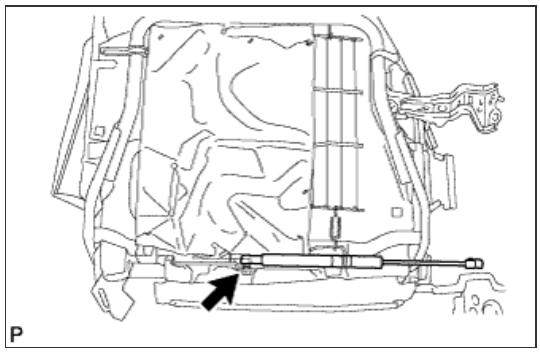



b. Attach the 2 cable clamps to connect the 2 cables.




## 18. INSTALL NO. 2 SEAT STAY SUB-ASSEMBLY

a. Install the seat stay with the bolt.




## 19. INSTALL NO. 3 SEAT CUSHION COVER SUB-ASSEMBLY LH

a. w/o Bottle Holder:

i. Attach the fastening tape to install the seatback cover.

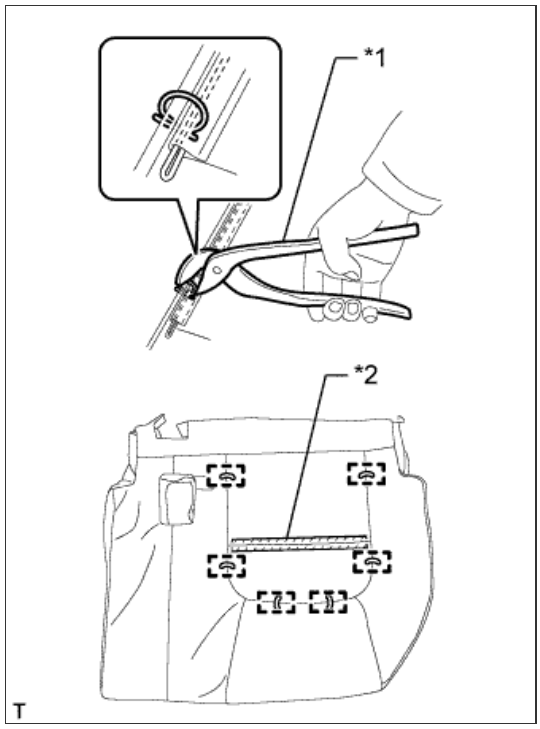
ii. Using hog ring pliers, install the seat cushion cover to the seat cushion pad with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |
| *2 | Fastening Tape |




b. w/ Bottle Holder:

i. Attach the 3 fastening tapes to install the seatback cover.

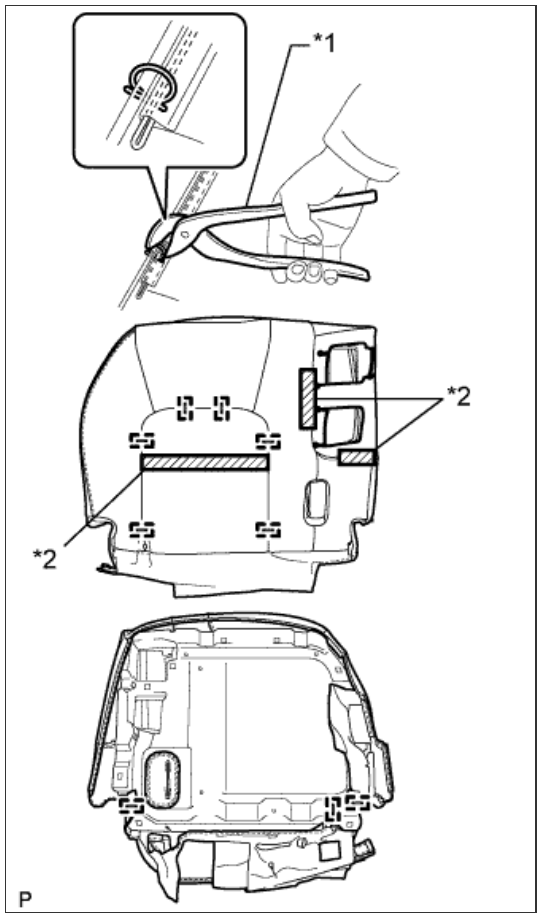
ii. Using hog ring pliers, install the seat cushion cover to the seat cushion pad with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |
| *2 | Fastening Tape |

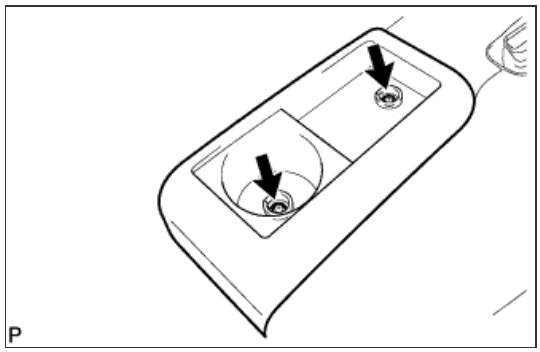



## 20. INSTALL NO. 3 SEAT CUSHION PAD LH

## 21. INSTALL SEAT CUSHION COVER WITH PAD

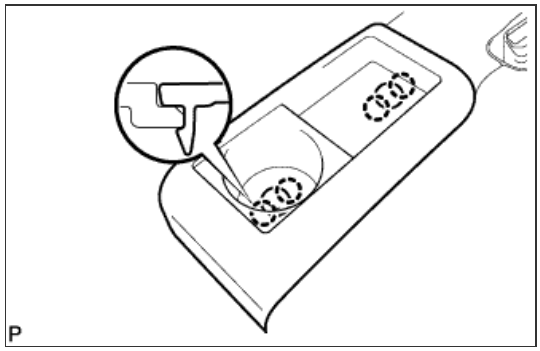
## 22. INSTALL NO. 2 BOTTLE HOLDER

a. Install the No. 2 bottle holder with the 2 screws.



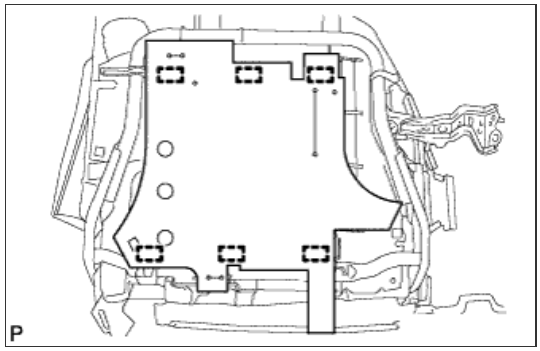

## 23. INSTALL CAP

a. Attach the 4 claws to install the 2 caps.



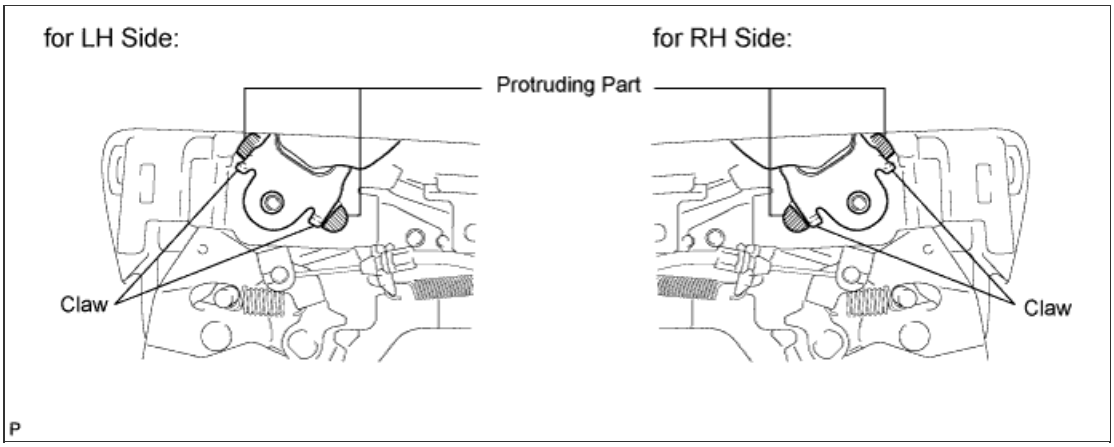

## 24. INSTALL REAR SEAT CUSHION CARPET

a. Install the seat cushion carpet with new tack pins.




## 25. INSTALL REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY

a. Install the 2 belts.




**NOTICE:**

- **Make sure the claws are facing away from the seat.**
- **Do not overlap the anchor part of the seat belt and protruding parts of the seat.**

## 26. INSTALL REAR CENTER SEAT INNER BELT LH (w/ Rear Center Seat Headrest)

a. Install the belt with the nut.

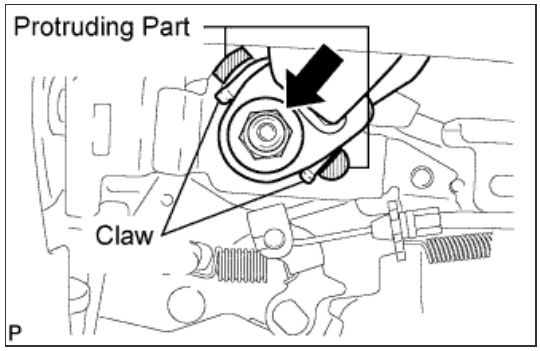
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the seat.

**HINT:**

The rear No. 2 seat inner belt is fixed with the same nut as the rear seat inner belt. Therefore, connect it when installing the rear seat inner belt.




## 27. INSTALL REAR CENTER SEAT INNER BELT RH (w/ Rear Center Seat Headrest)

a. Install the belt with the nut.

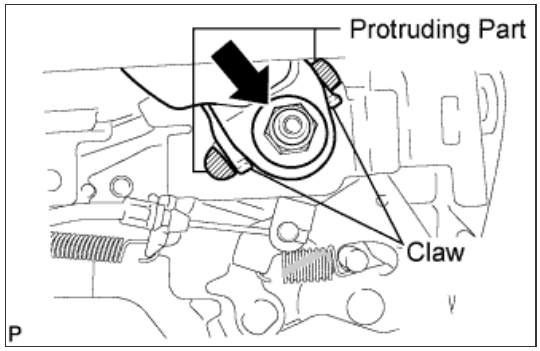
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the seat.

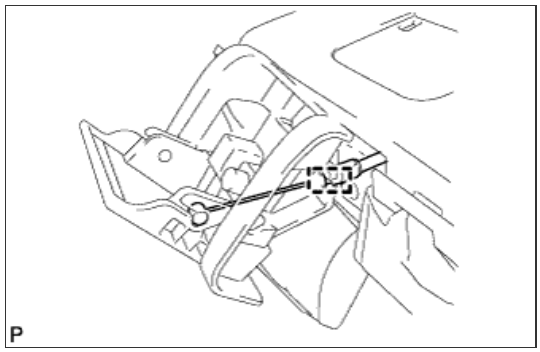
**HINT:**

The rear No. 2 seat inner belt is fixed with the same nut as the rear seat outer belt. Therefore, connect it when installing the rear seat outer belt.



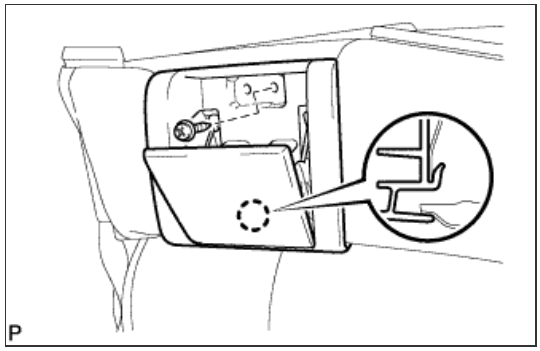

## 28. INSTALL SEAT CUSHION LOCK RELEASE LEVER ASSEMBLY LH

a. Attach the cable clamp to connect the cable.



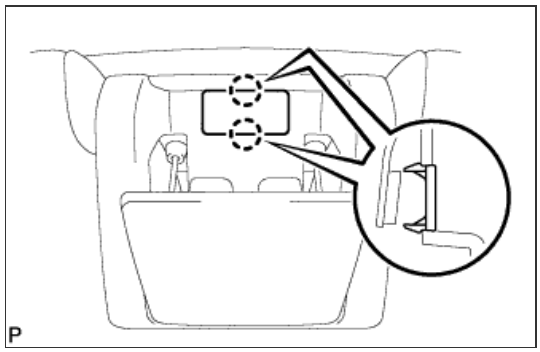

b. Attach the claw to install the release lever.

c. Install the screw.




## 29. INSTALL SEAT STAND FRAME CAP

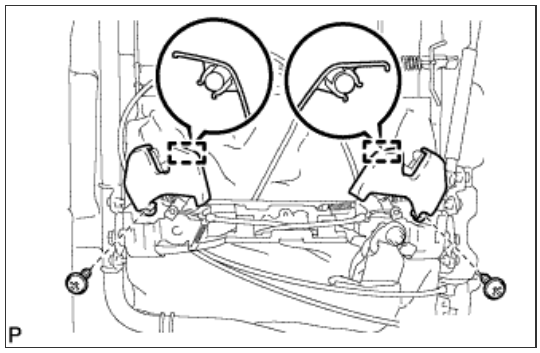
a. Attach the 2 claws to install the stand frame cap.




## 30. INSTALL REAR SEAT LOCK COVER LH

a. Attach the 2 clamps to install the cover.

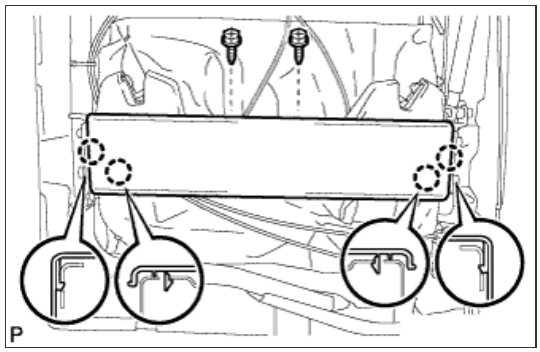
b. Install the 2 screws.




## 31. INSTALL NO. 3 SEAT LEG COVER NO. 2

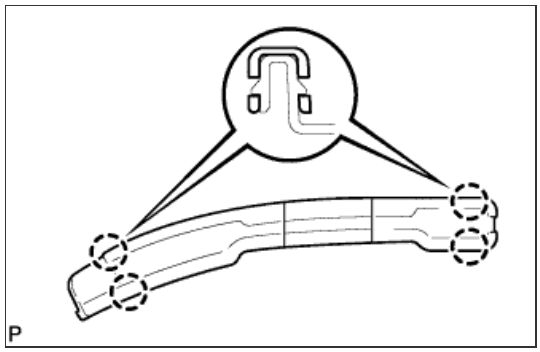
a. Attach the 4 claws to install the cover.

b. Install the 2 screws.



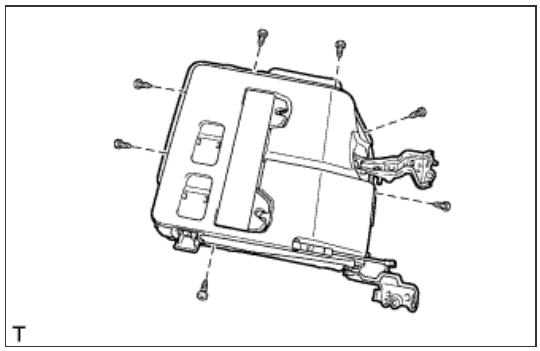

### 32. INSTALL NO. 3 SEAT FRONT BRACKET COVER LH

a. Attach the 4 claws to install the cover.

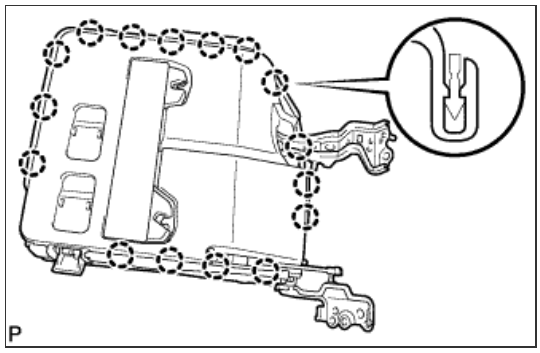



### 33. INSTALL REAR SEAT CUSHION UNDER COVER LH

a. Install the cover with the 7 screws.

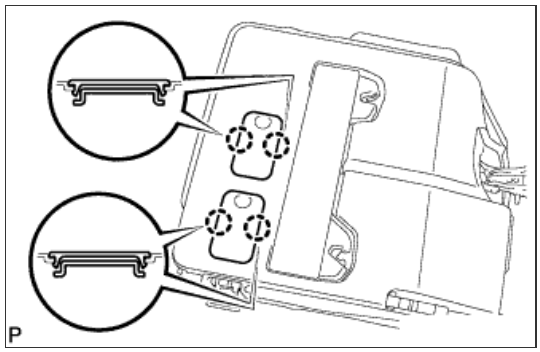



b. Attach the 16 claws.




### 34. INSTALL 3RD SEAT CUSHION LOCK COVER

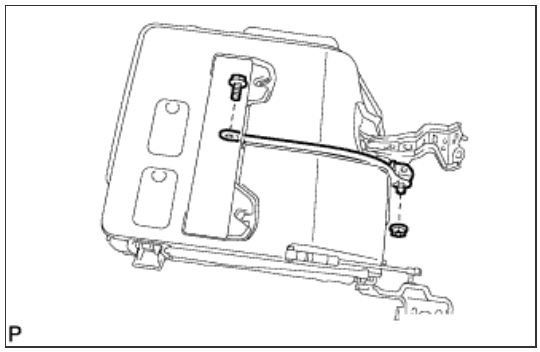
a. Attach the 4 claws to install the 2 covers.




## 35. INSTALL 3RD SEAT LINK SUB-ASSEMBLY LH

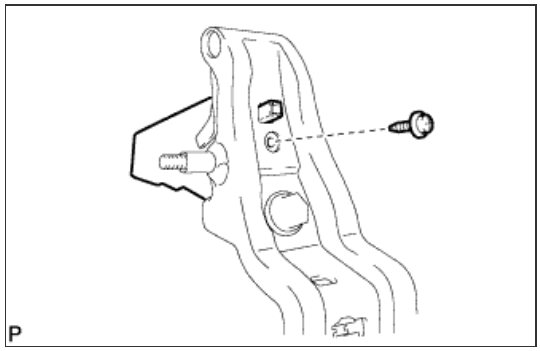
a. Install the seat link with the bolt and nut.

**Torque:**
**8.5 N*m{ 87 kgf*cm , 75 in.*lbf }**



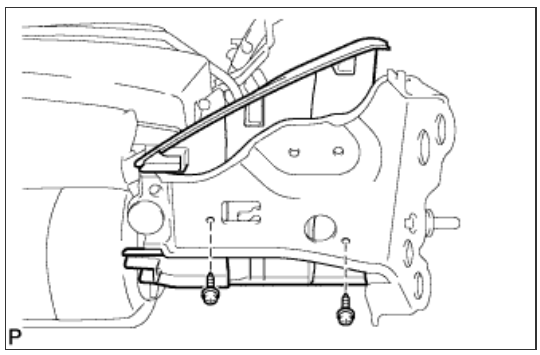

## 36. INSTALL NO. 2 SEAT LEG COVER NO. 2

a. Install the seat leg cover with the screw.



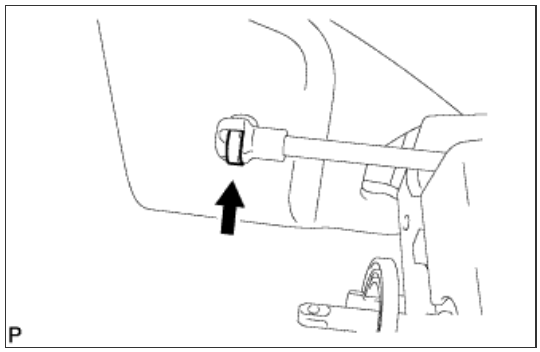

## 37. INSTALL REAR NO. 3 SEAT LEG COVER LH

a. Install the seat leg cover with the 2 screws.




b. Install the spring of the seat stay ball-joint.

c. Connect the seat stay to the seat frame.



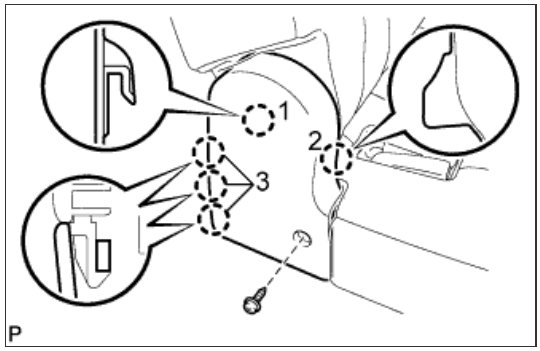

## 38. INSTALL REAR SEAT REAR BRACKET COVER REAR

a. Attach the 2 claws to install the cover.

## 39. INSTALL RECLINING ADJUSTER COVER RH

a. Attach the 5 claws in the order shown in the illustration to install the cover.

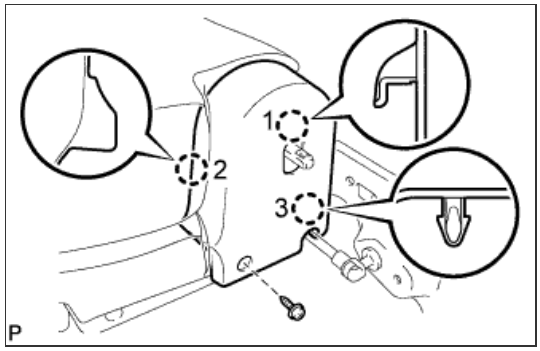
b. Install the screw.




## 40. INSTALL RECLINING ADJUSTER COVER LH

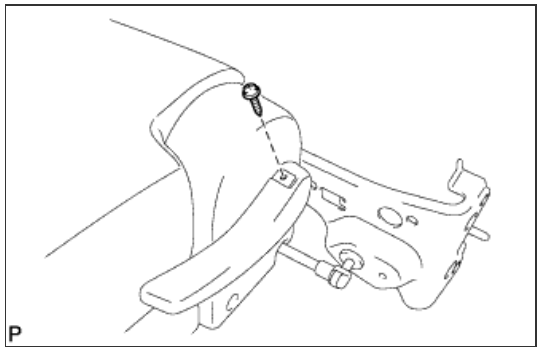
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the screw.



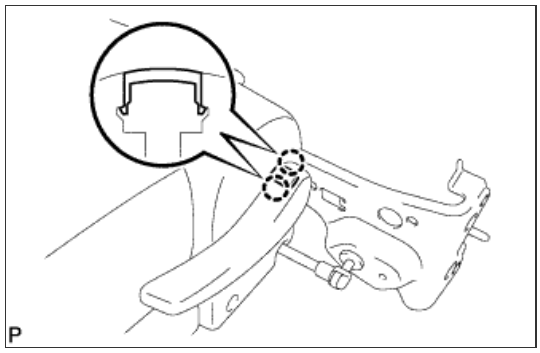

## 41. INSTALL NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the release handle with the screw.



## 42. INSTALL SEAT ADJUSTER BOLT COVER

a. Attach the 2 claws to install the cover.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL REAR SEAT LOCK STRIKER SUB-ASSEMBLY

a. Install the 4 seat lock strikers with 8 bolts.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**

b. Return the floor carpet to its original position.

## 2. INSTALL NO. 3 SEAT CUSHION COVER

a. Attach the 16 claws and 4 clips to install the 4 seat cushion covers.

## 3. INSTALL FOLD SEAT LEG LOCK SUB-ASSEMBLY

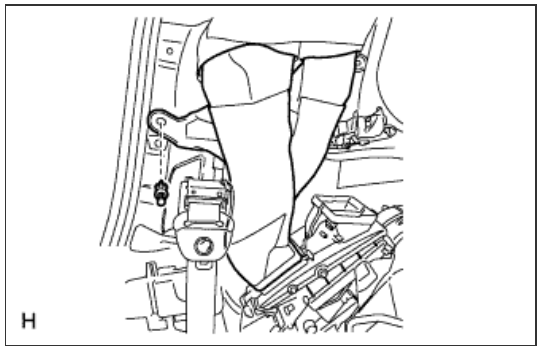
a. Install the fold seat leg lock with the 2 nuts.

**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**

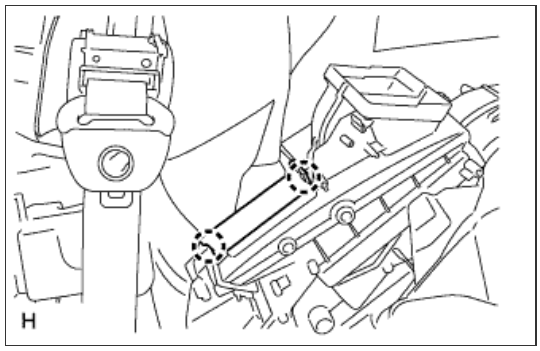
b. Attach the 2 cable clamps.

## 4. INSTALL REAR ROOF NO. 1 AIR DUCT (w/ Rear Air Conditioning System)

a. Install the duct with the clip.




b. Attach the 2 claws to install the cooler plate.




### 5. INSTALL REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY LH

a. Attach the 4 claws to install the seat lock control lever.

### 6. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
Install the front quarter trim panel assembly LH ( Click here).

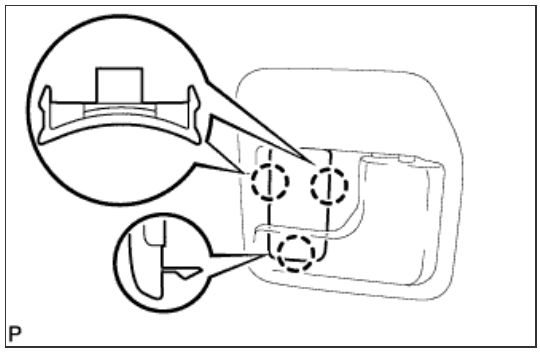
b. w/o Sliding Roof:
Install the front quarter trim panel assembly LH ( Click here).

### 7. INSTALL REAR SEAT COVER CAP

**HINT:**

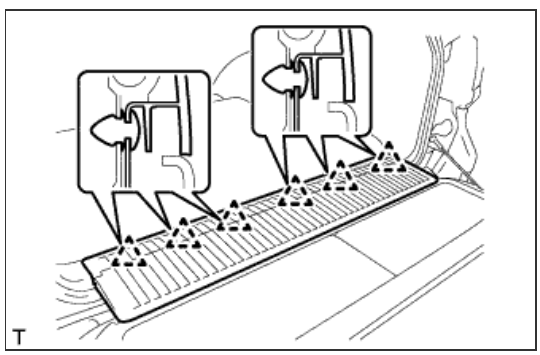
Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.




### 8. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

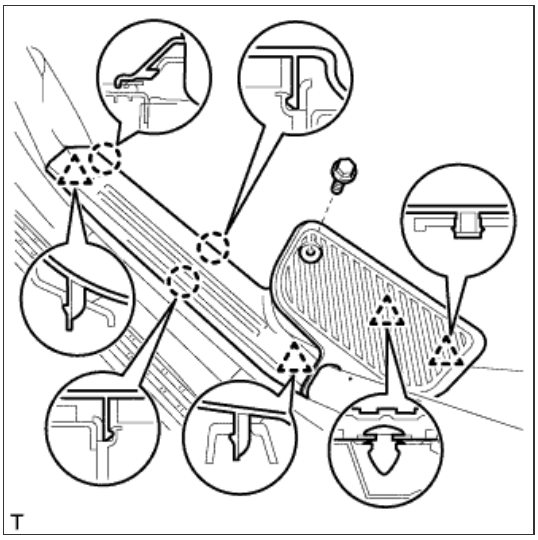
a. Attach the 6 clips to install the support plate.




### 9. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

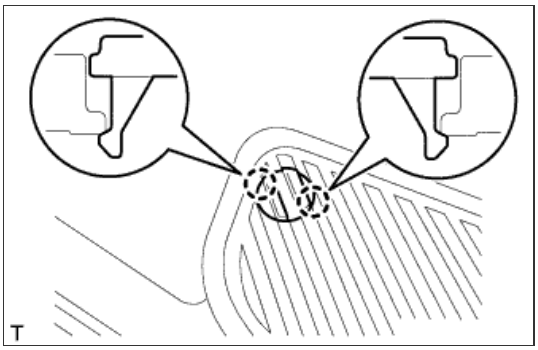



## 10. INSTALL REAR STEP COVER

**HINT:**

Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 11. INSTALL REAR NO. 2 SEAT ASSEMBLY

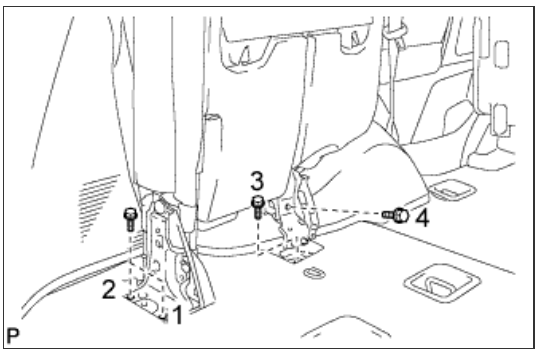
a. Temporarily install the seat assembly with the 4 bolts.

**NOTICE:**

Be careful not to damage the vehicle body.

b. Tighten the bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




## 12. INSTALL REAR NO. 2 SEAT HINGE COVER LH

a. Attach the clip and 2 claws to install the cover.

## 13. INSTALL REAR SEAT CUSHION HINGE COVER LH

a. Attach the 3 claws to install the cover.

b. Return the seat to the upright position.

## 14. INSTALL REAR NO. 2 SEAT HEADREST ASSEMBLY LH (w/ Rear Center Seat Headrest)

**for Preparation** Click here

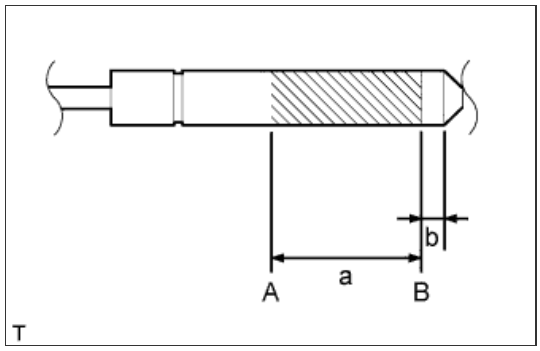
**HINT:**

- **Use the same procedures for the LH side and RH side**
- **The procedures listed below are for the LH side.**

## 1. DISPOSE OF NO. 2 SEAT STAY SUB-ASSEMBLY

a. Horizontally fix the seat stay in a vise with the piston-rod pulled out.

b. Wear safety glasses. Gradually cut a part between A and B shown in the illustration using a metal saw and gradually release the gas.




**Standard:**

| Area | Specified Condition |
|---|---|
| a | 80 mm (3.15 in.) |
| b | 10 mm (0.394 in.) |

**CAUTION:**

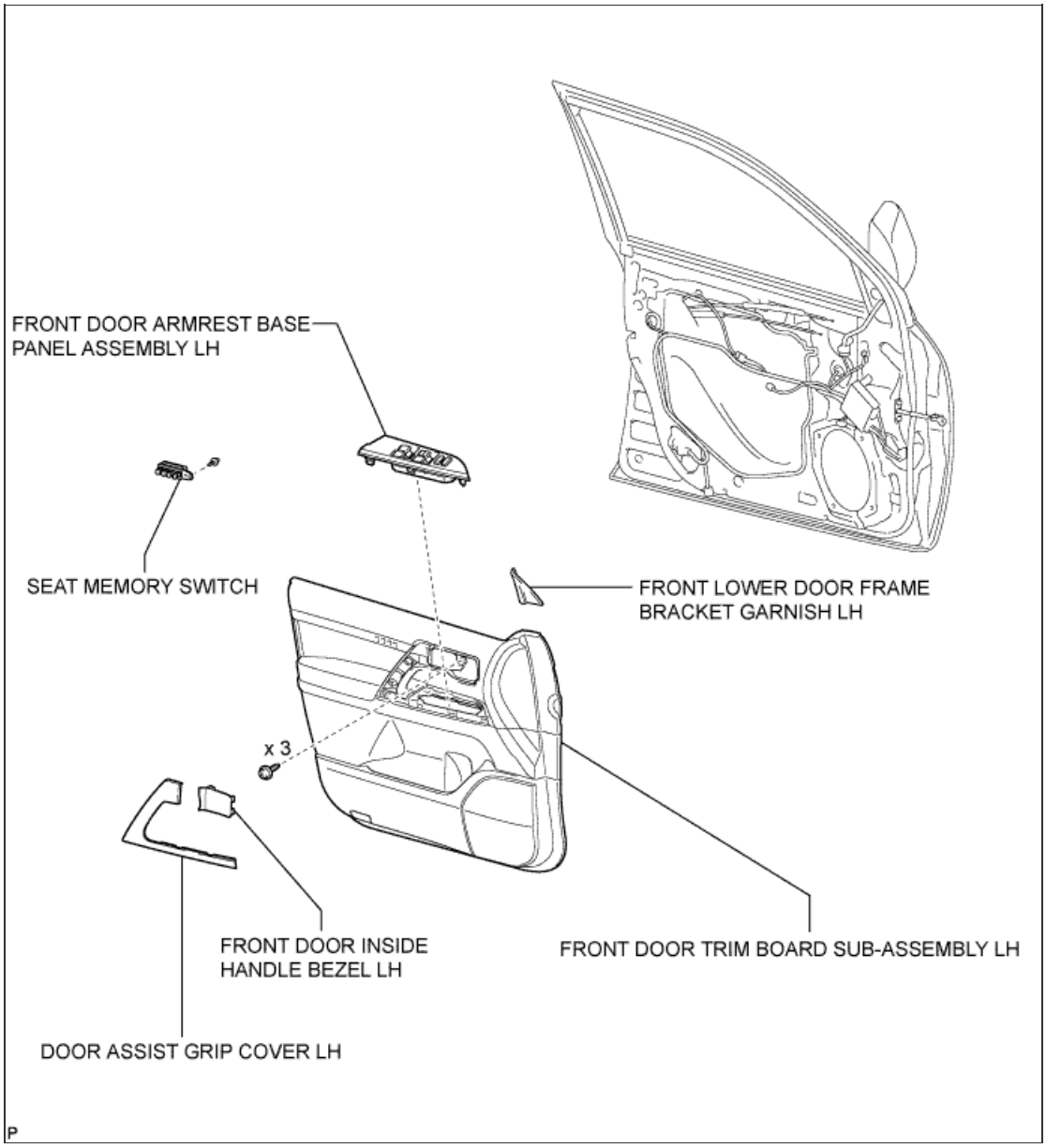
As metal debris may be blown outward by the gas, you must:

- **Wear protective glasses.**
- **Cover the area being cut.**

**NOTICE:**

The gas inside the seat stay is colorless, odorless and harmless. There is a possibility that metal debris could scatter, so cover the part with a piece of cloth or other material.

**for Preparation** Click here



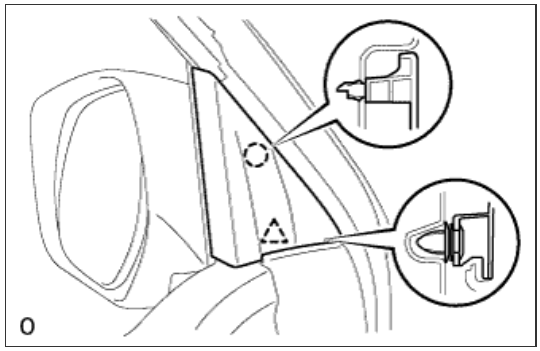
**for Preparation** Click here

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. REMOVE FRONT LOWER DOOR FRAME BRACKET GARNISH LH

a. Detach the clip and claw, and remove the front door lower frame bracket garnish LH.



## 2. REMOVE FRONT DOOR INSIDE HANDLE BEZEL LH

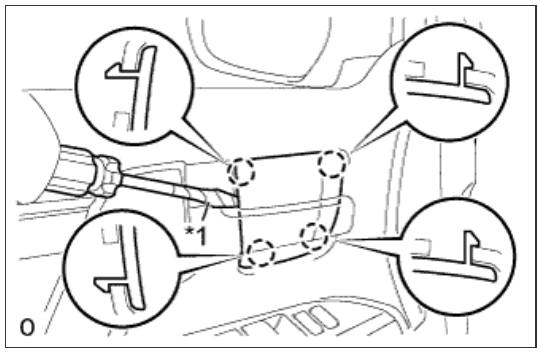
a. Using a screwdriver, detach the 4 claws and remove the front door inside handle bezel LH.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

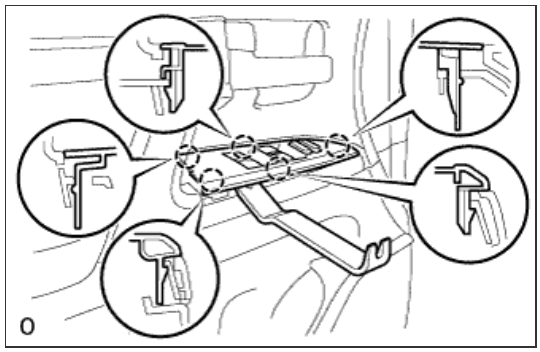
| | |
|---|---|
| *1 | Protective Tape |




## 3. REMOVE FRONT DOOR ARMREST BASE PANEL ASSEMBLY LH

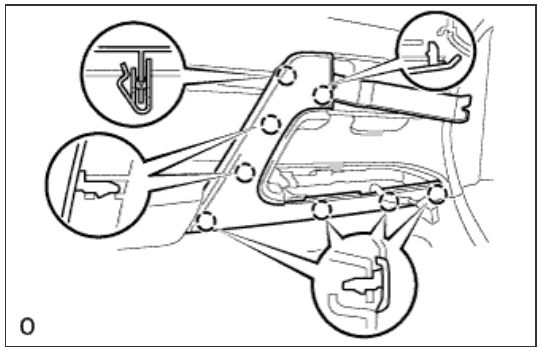
a. Using a moulding remover, detach the 5 claws.

b. Disconnect the connector and remove the armrest base panel.



## 4. REMOVE DOOR ASSIST GRIP COVER LH

a. Using a moulding remover, detach the 8 claws and remove the door assist grip cover LH.



## 5. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

a. Remove the 3 screws.

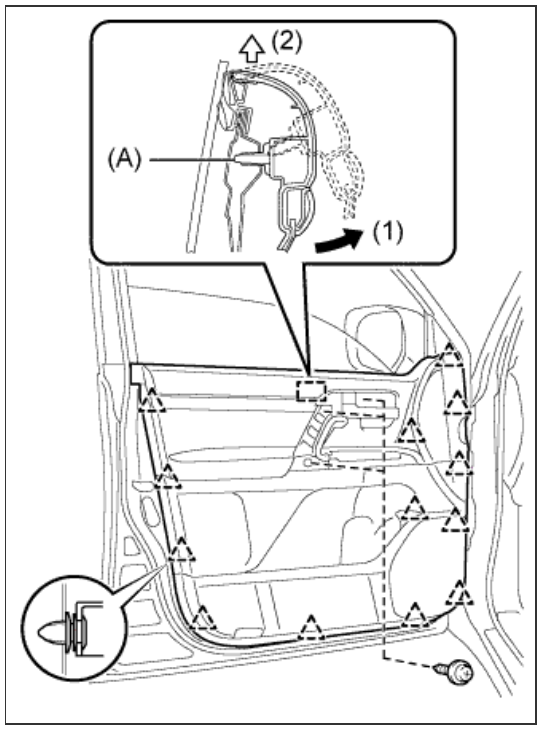
b. Remove the 13 clips.

c. Remove the front inner door glass weatherstrip LH together with the front door trim board sub-assembly LH by pulling them upward in the order shown in the illustration.

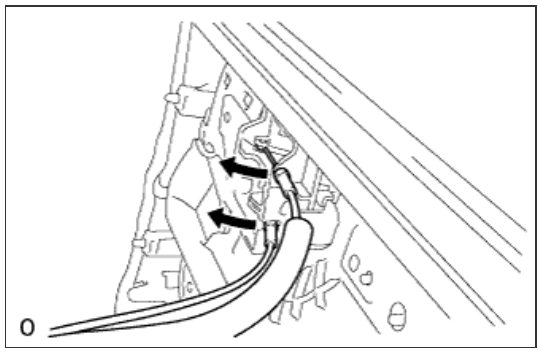
**HINT:**

Make sure that the pin labeled A in the illustration is detached from the door panel.

d. Disconnect the connector.



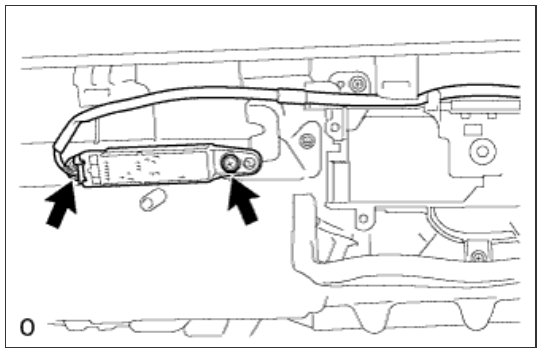

e. Disconnect the 2 cables from the front door inside handle sub-assembly LH.



## 6. REMOVE SEAT MEMORY SWITCH

a. Disconnect the connector.

b. Remove the screw and seat memory switch.


0

**for Preparation** Click here

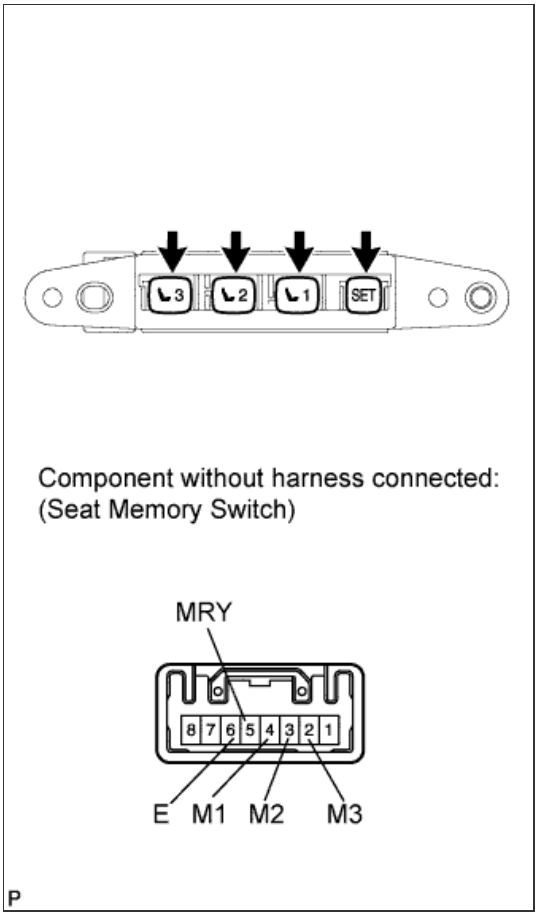
## 1. INSPECT SEAT MEMORY SWITCH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 4 (M1) - 6 (E) | 1 switch pressed | Below 1 Ω |
| 3 (M2) - 6 (E) | 2 switch pressed | |
| 2 (M3) - 6 (E) | 3 switch pressed | |
| 5 (MRY) - 6 (E) | SET switch pressed | |

If the result is not as specified, replace the seat memory switch.



**for Preparation** Click here

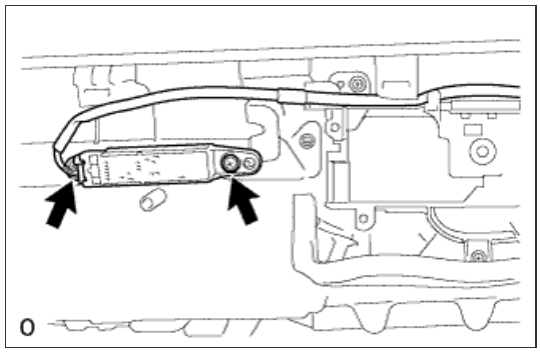
**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. INSTALL SEAT MEMORY SWITCH

a. Install the seat memory switch the screw.

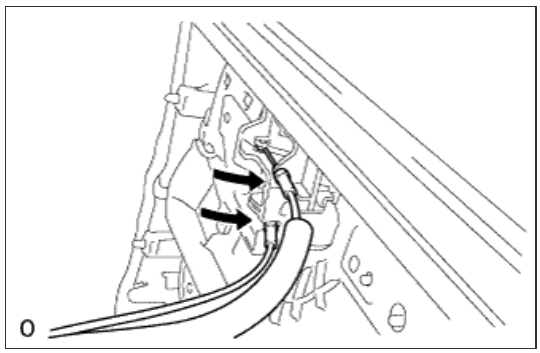
b. Connect the connector.



## 2. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

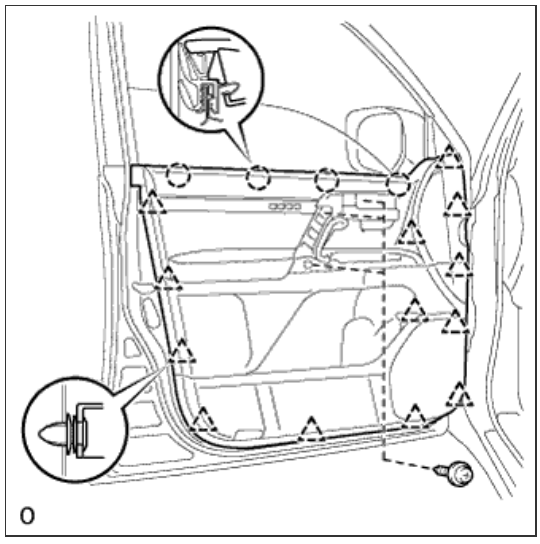
a. Connect the connector.

b. Connect the front door lock remote control cable assembly LH and front door inside locking cable assembly LH to the front door inside handle sub-assembly LH.



c. Attach the 4 claws and 13 clips to install the front door trim board sub-assembly LH.

d. Install the 3 screws.



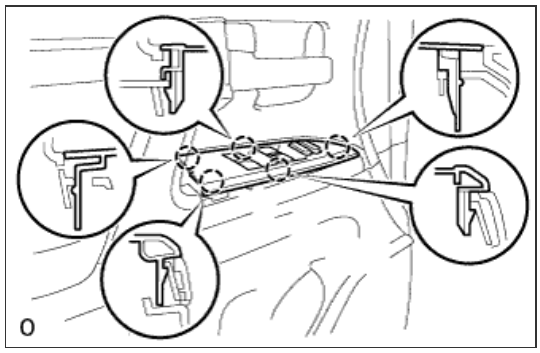
## 3. INSTALL DOOR ASSIST GRIP COVER LH

a. Attach the 8 claws to install the door assist grip cover LH to the front door trim board sub-assembly LH.

## 4. INSTALL FRONT DOOR ARMREST BASE PANEL ASSEMBLY LH

a. Connect the connector.

b. Attach the 5 claws to install the armrest base panel.



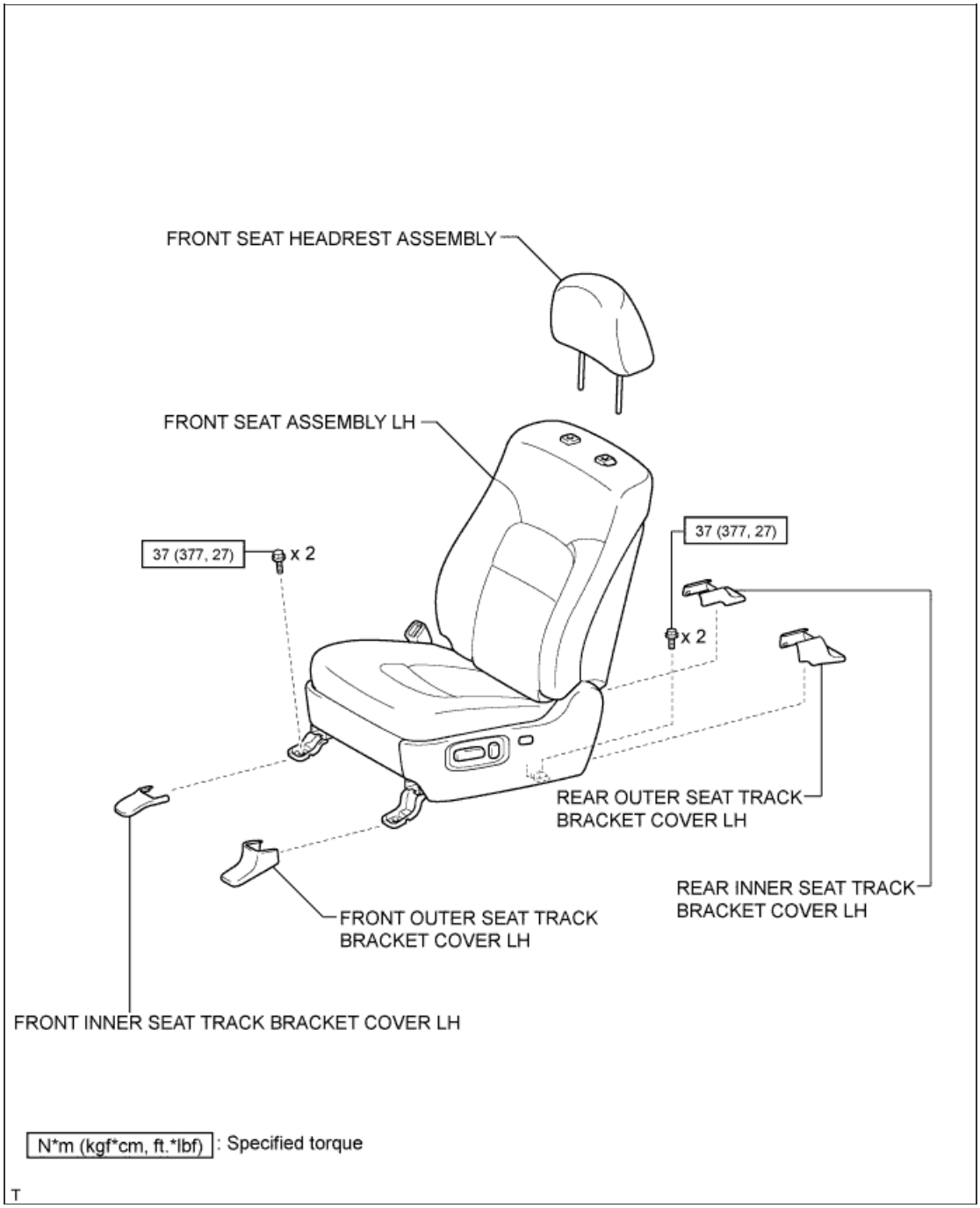
## 5. INSTALL FRONT DOOR INSIDE HANDLE BEZEL LH

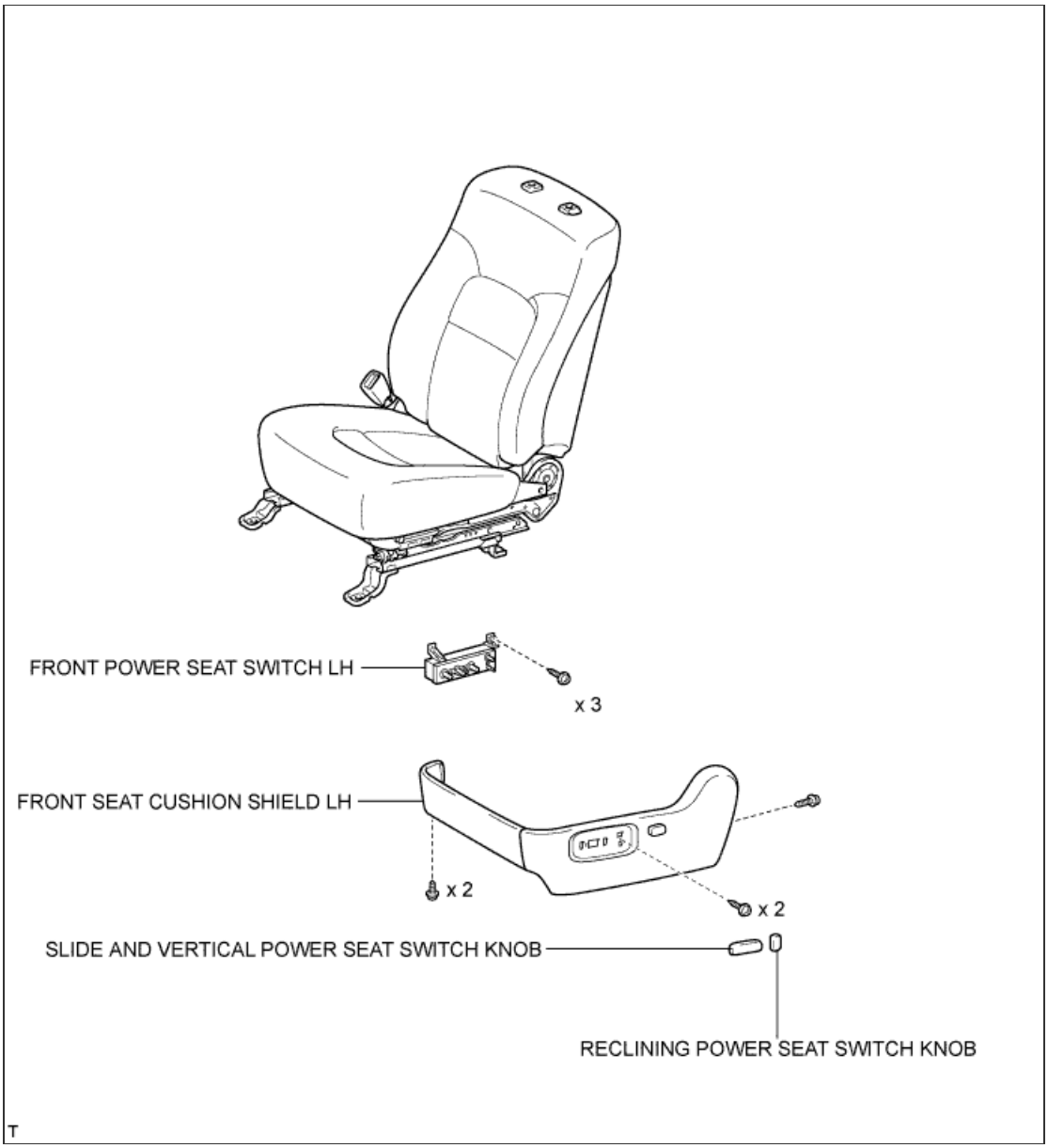
a. Install the front door inside handle bezel LH to the trim board with the 7 screws.

## 6. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH LH

a. Attach the clip and claw, and install the front door lower frame bracket garnish LH.

**for Preparation** Click here




FRONT POWER SEAT SWITCH LH
x 3
FRONT SEAT CUSHION SHIELD LH
x 2
x 2
SLIDE AND VERTICAL POWER SEAT SWITCH KNOB
RECLINING POWER SEAT SWITCH KNOB
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

a. Remove the front seat assembly (Click here).

## 2. REMOVE SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Apply protective tape as shown in the illustration.

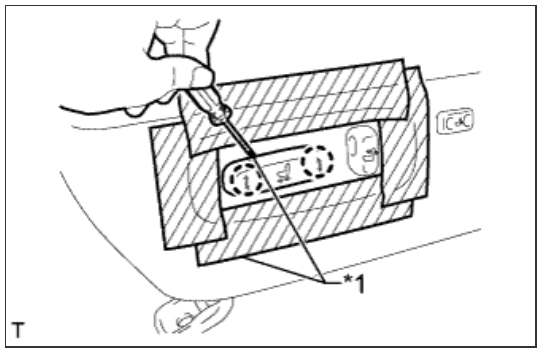
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a screwdriver, detach the 2 claws and remove the slide and vertical power seat switch knob.

**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING POWER SEAT SWITCH KNOB

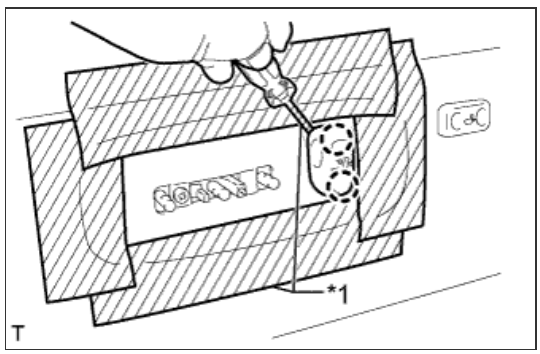
a. Using a screwdriver, detach the 2 claws and remove the reclining power seat switch knob.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

**HINT:**

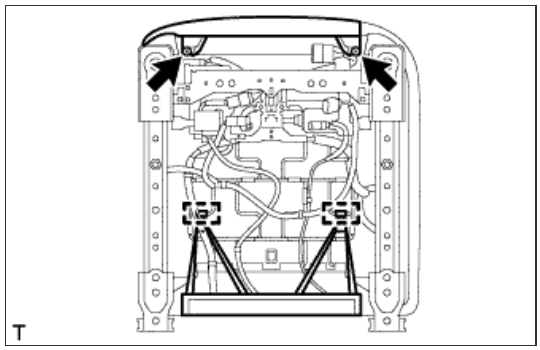
Tape the screwdriver tip before use.




## 4. REMOVE FRONT SEAT CUSHION SHIELD LH

a. Remove the 2 screws.

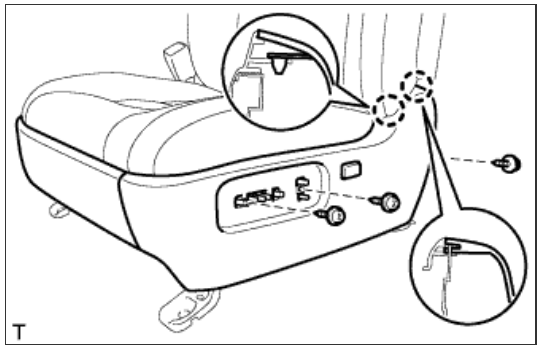
b. Disconnect the 2 rubber bands.




c. Remove the 3 screws.

d. Detach the 2 claws and remove the front seat cushion shield LH together with the front inner No. 1 seat cushion shield LH.

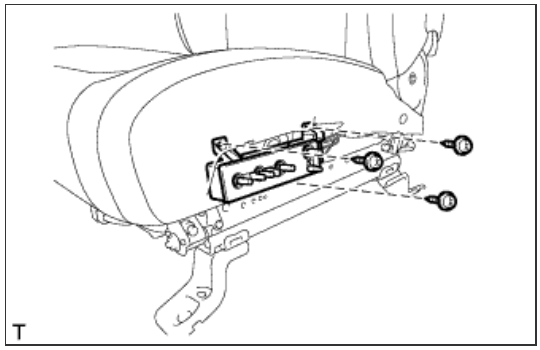
e. for Driver Side:
Disconnect the connector.




## 5. REMOVE FRONT POWER SEAT SWITCH LH

a. Disconnect the switch connector.

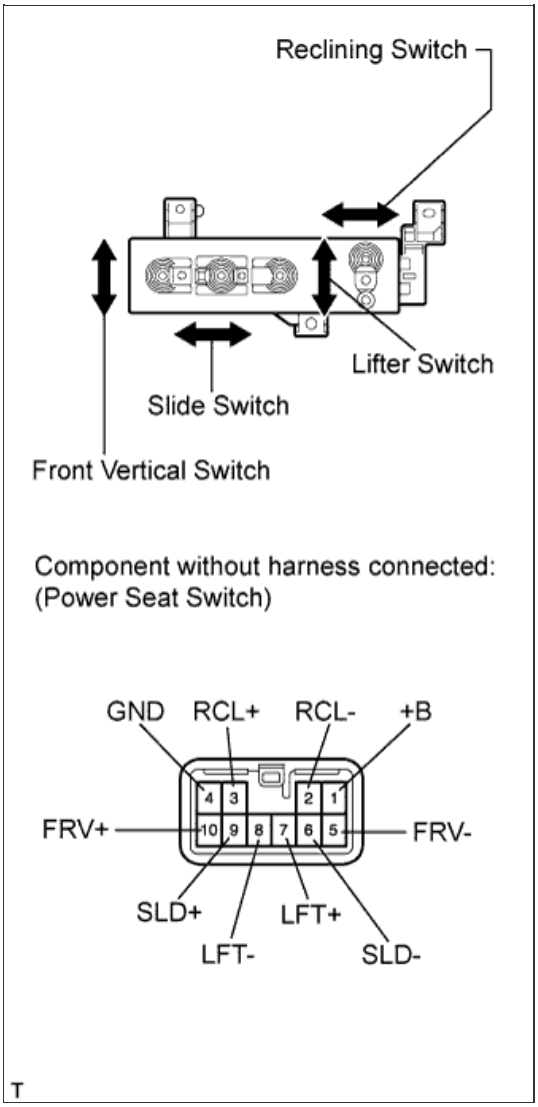
b. Remove the 3 screws and switch.



**for Preparation** Click here

## 1. INSPECT FRONT POWER SEAT SWITCH LH

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**Slide Switch:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 9 (SLD+) - 1 (+B) | Front | Below 1 Ω |
| 6 (SLD-) - 4 (GND) | | |
| 9 (SLD+) - 4 (GND) | Off | |
| 6 (SLD-) - 4 (GND) | | |
| 9 (SLD+) - 4 (GND) | Rear | |
| 6 (SLD-) - 1 (+B) | | |

**Front Vertical Switch:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 10 (FRV+) - 1 (+B) | Up | |
| 5 (FRV-) - 4 (GND) | | |
| 10 (FRV+) - 4 (GND) | Off | |

| | | |
|---|---|---|
| 5 (FRV-) - 4 (GND) | | Below 1 Ω |
| 10 (FRV+) - 4 (GND) | Down | |
| 5 (FRV-) - 1 (+B) | | |

**Lifter Switch:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 7 (LFT+) - 1 (+B) | Up | Below 1 Ω |
| 8 (LFT-) - 4 (GND) | | |
| 7 (LFT+) - 4 (GND) | Off | |
| 8 (LFT-) - 4 (GND) | | |
| 7 (LFT+) - 4 (GND) | Down | |
| 8 (LFT-) - 1 (+B) | | |

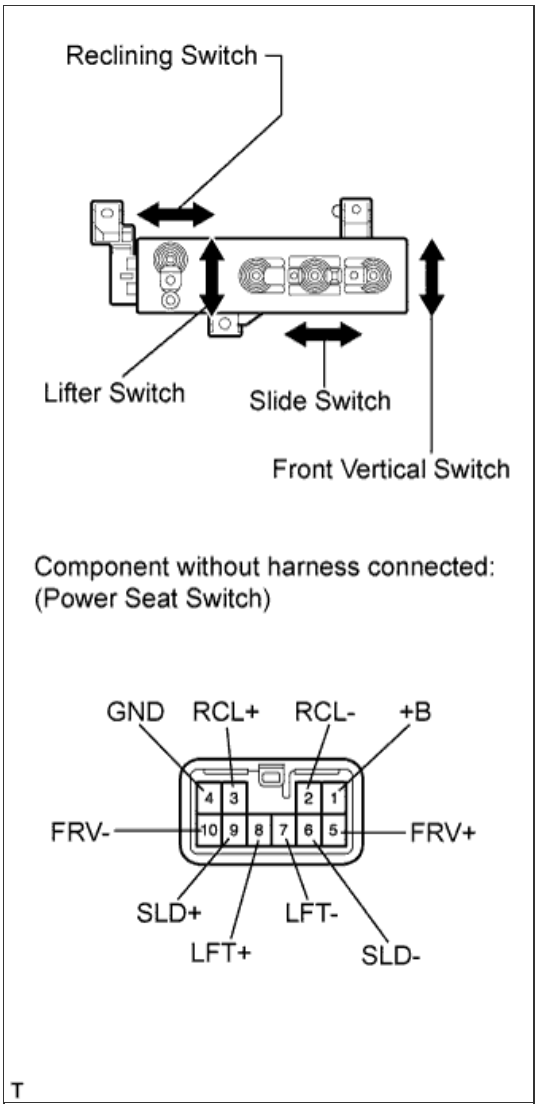
**Reclining Switch:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (RCL+) - 1 (+B) | Front | Below 1 Ω |
| 2 (RCL-) - 4 (GND) | | |
| 3 (RCL+) - 4 (GND) | Off | |
| 2 (RCL-) - 4 (GND) | | |
| 3 (RCL+) - 4 (GND) | Rear | |
| 2 (RCL-) - 1 (+B) | | |

If the result is not as specified, replace the front power seat switch.

## 2. INSPECT FRONT POWER SEAT SWITCH RH

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**Slide Switch:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 9 (SLD+) - 1 (+B) | Front | Below 1 Ω |
| 6 (SLD-) - 4 (GND) | | |
| 9 (SLD+) - 4 (GND) | Off | |
| 6 (SLD-) - 4 (GND) | | |
| 9 (SLD+) - 4 (GND) | Rear | |
| 6 (SLD-) - 1 (+B) | | |

**Front Vertical Switch:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 5 (FRV+) - 1 (+B) | Up | Below 1 Ω |
| 10 (FRV-) - 4 (GND) | | |
| 5 (FRV+) - 4 (GND) | Off | |
| 10 (FRV-) - 4 (GND) | | |
| 5 (FRV+) - 4 (GND) | Down | |
| 10 (FRV-) - 1 (+B) | | |

**Lifter Switch:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 8 (LFT+) - 1 (+B) | Up | |

| | | |
|---|---|---|
| 7 (LFT-) - 4 (GND) | | Below 1 Ω |
| 8 (LFT+) - 4 (GND) | Off | |
| 7 (LFT-) - 4 (GND) | | |
| 8 (LFT+) - 4 (GND) | Down | |
| 7 (LFT-) - 1 (+B) | | |

**Reclining Switch:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (RCL+) - 1 (+B) | Front | Below 1 Ω |
| 2 (RCL-) - 4 (GND) | | |
| 3 (RCL+) - 4 (GND) | Off | |
| 2 (RCL-) - 4 (GND) | | |
| 3 (RCL+) - 4 (GND) | Rear | |
| 2 (RCL-) - 1 (+B) | | |

If the result is not as specified, replace the front power seat switch.

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

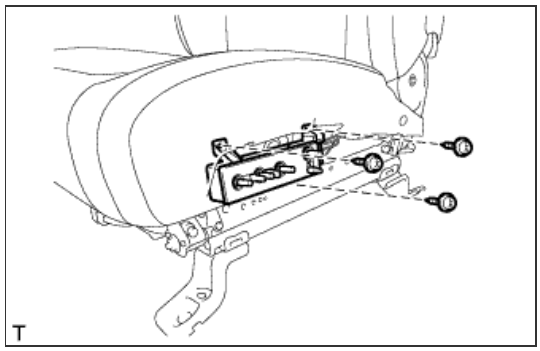
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL FRONT POWER SEAT SWITCH LH

a. Install the switch with the 3 screws.

b. Connect the switch connector.

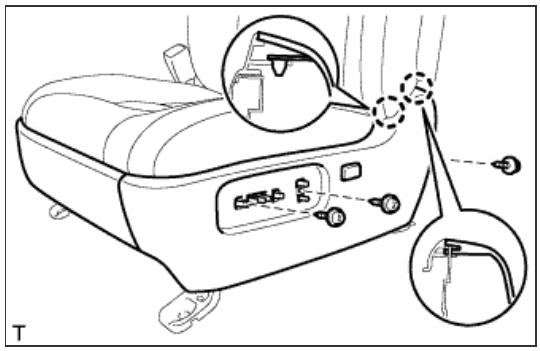



## 2. INSTALL FRONT SEAT CUSHION SHIELD LH

a. for Driver Side:
Connect the connector.

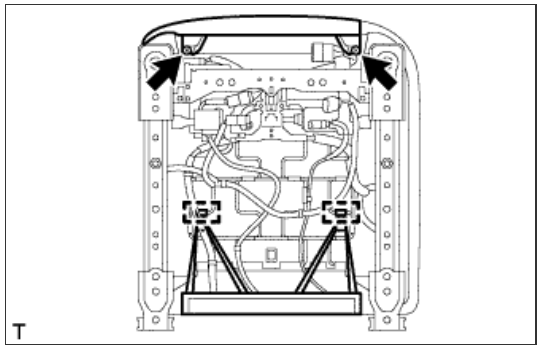
b. Attach the 2 claws to install the front seat cushion shield LH together with the front inner No. 1 cushion shield LH.

c. Install the 3 screws.



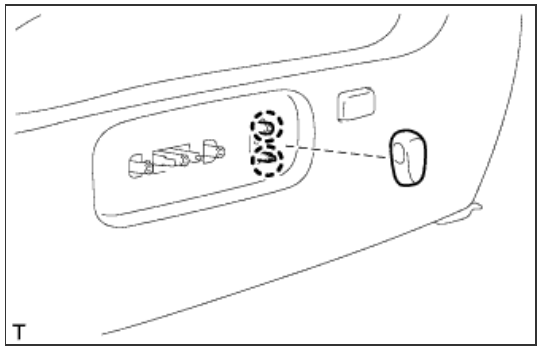

d. Connect the 2 rubber bands.

e. Install the 2 screws.



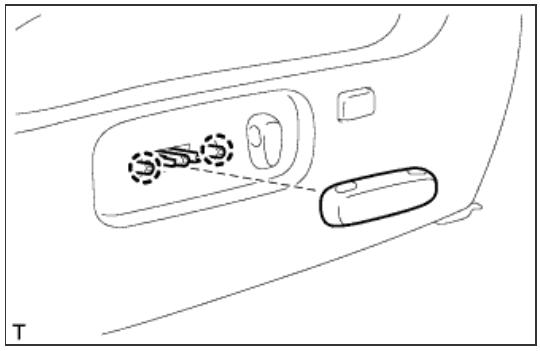
### 3. INSTALL RECLINING POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the reclining power seat switch knob.




### 4. INSTALL SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the slide and vertical power seat switch knob.




### 5. INSTALL FRONT SEAT ASSEMBLY LH

a. Install the front seat assembly ( Click here).

**for Preparation** Click here

## 1. INSPECT POWER SEAT MOTOR ASSEMBLY

a. Check the PTC operation inside the power seat motor.

**HINT:**

The resistance of the PTC thermistor increases when the power seat switch is held down even after the power seat has been moved to the maximum in one direction. If the resistance increases beyond a specified level, current is cut to prevent a short circuit.

**NOTICE:**

- **The inspection should be performed with the seat installed in the vehicle.**
- **Perform the 4 steps below for each power seat function.**

i. Choose a power seat function. Operate the power seat switch and move the seat as much as possible in one direction. Keep the seat in that position for approximately 60 seconds.

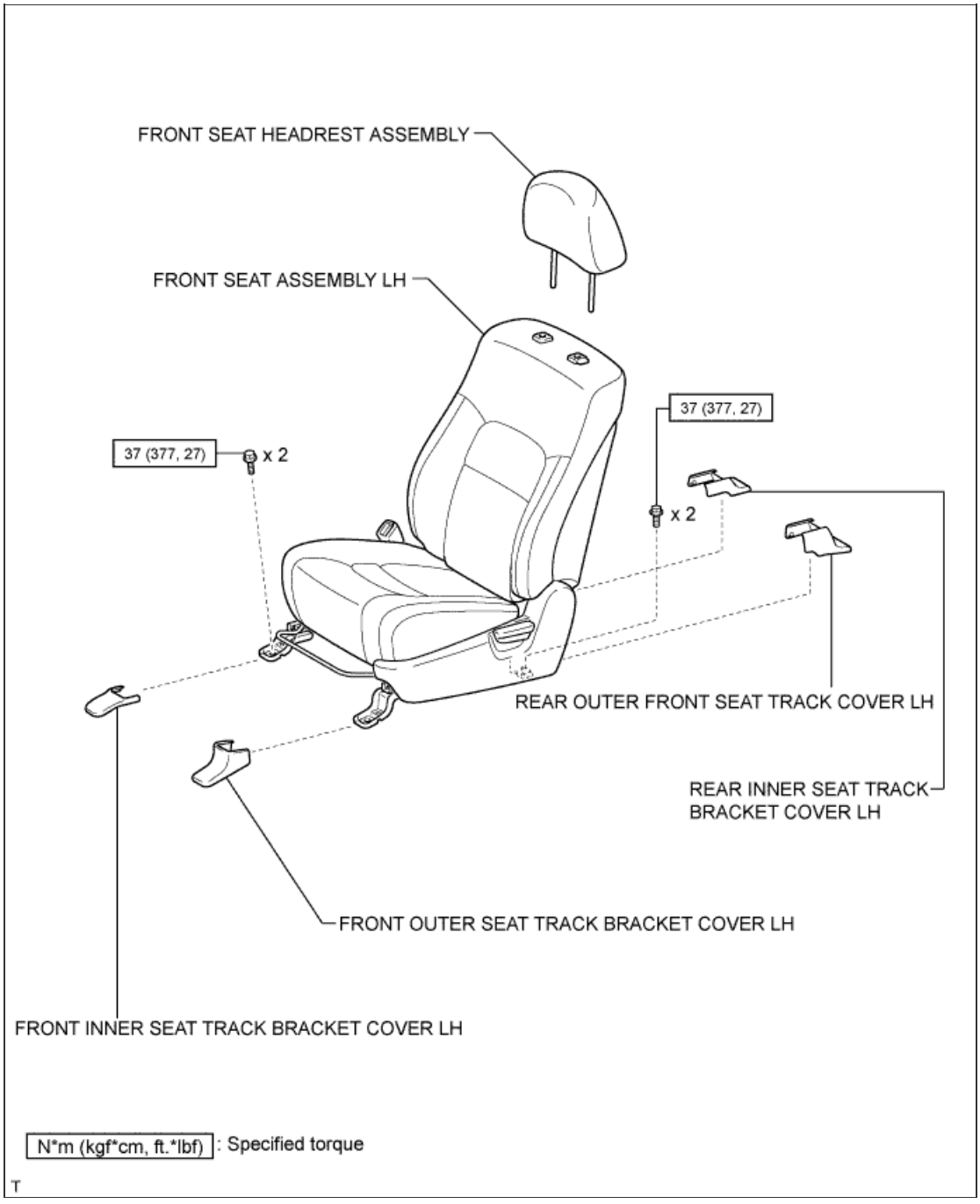
ii. Operate the power seat switch again and continue to try to move the seat in the same direction as in the previous step. Measure the amount of time elapsed before current is automatically cut (the sound of the motor has stopped).

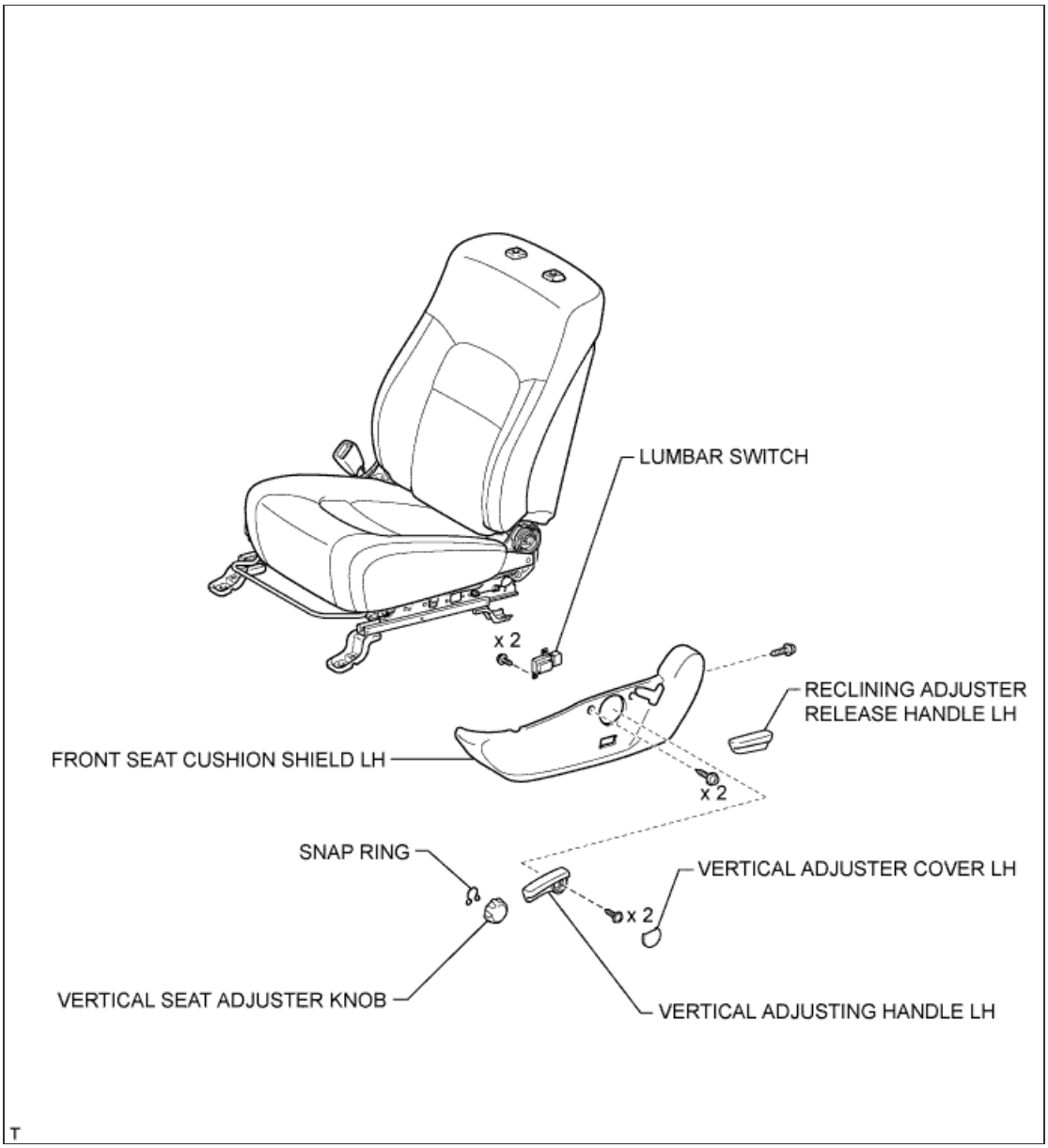
**Standard:**
**4 to 90 seconds**

iii. After current has been cut, release the power seat switch and wait for approximately 60 seconds.

iv. Operate the same power seat switch and move the seat in the opposite direction. Check that the motor operates.

**for Preparation** Click here




LUMBAR SWITCH
x 2
RECLINING ADJUSTER
RELEASE HANDLE LH
FRONT SEAT CUSHION SHIELD LH
x 2
SNAP RING
VERTICAL ADJUSTER COVER LH
x 2
VERTICAL SEAT ADJUSTER KNOB
VERTICAL ADJUSTING HANDLE LH
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

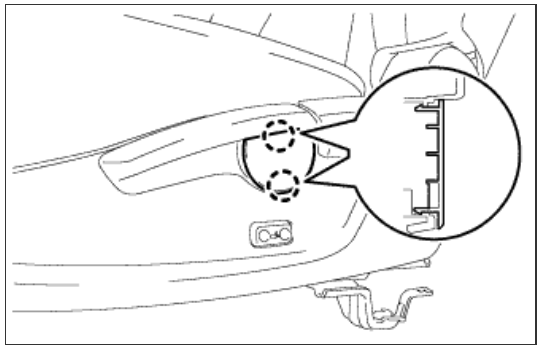
a. Remove the front seat assembly ( Click here).

## 2. REMOVE VERTICAL ADJUSTER COVER LH (for 8 Way Seat Type)

a. Using a screwdriver, detach the 2 claws and remove the vertical adjuster cover LH.

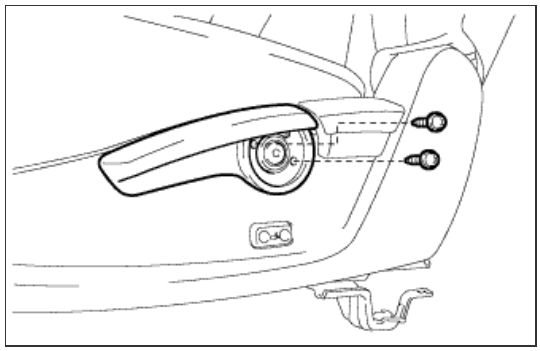
**HINT:**

Tape the screwdriver tip before use.



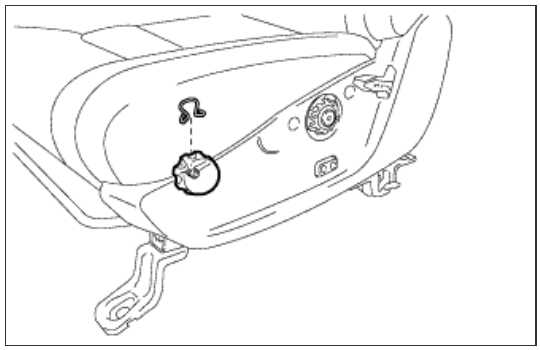
## 3. REMOVE VERTICAL ADJUSTING HANDLE LH (for 8 Way Seat Type)

a. Remove the 2 screws and vertical adjusting handle LH.



## 4. REMOVE VERTICAL SEAT ADJUSTER KNOB (for 8 Way Seat Type)

a. Remove the snap ring and vertical seat adjuster knob.



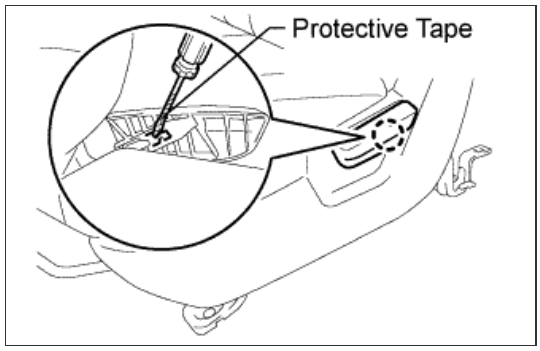
## 5. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

a. Lift the reclining adjuster release handle LH.

b. Using a screwdriver, detach the claw and remove the reclining adjuster release handle LH.

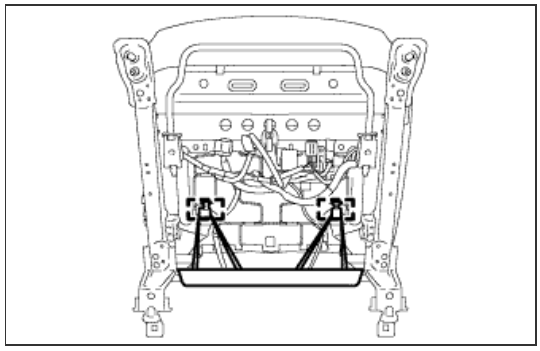
**HINT:**

Tape the screwdriver tip before use.

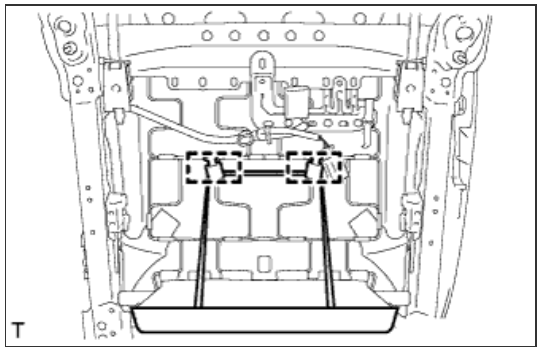



## 6. REMOVE FRONT SEAT CUSHION SHIELD LH

a. w/ Seatback Board:
Disconnect the 2 rubber bands from the 2 hooks.



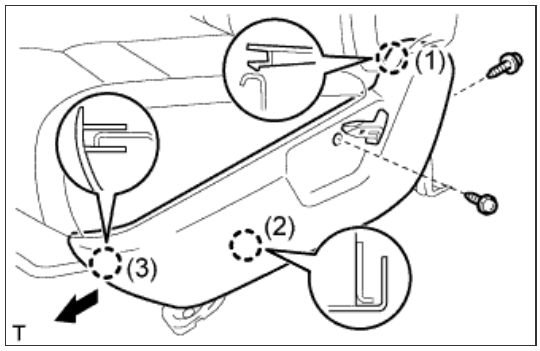
b. w/o Seatback Board:
Disconnect the rubber band from the 2 hooks.




c. for 4 Way Seat Type:

i. Remove the 2 screws.

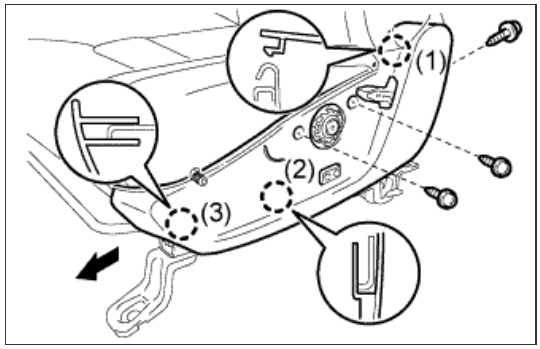
ii. Detach the 3 claws in the order shown in the illustration, and then remove the front seat cushion shield LH.




d. for 8 Way Seat Type:

i. Remove the 3 screws.

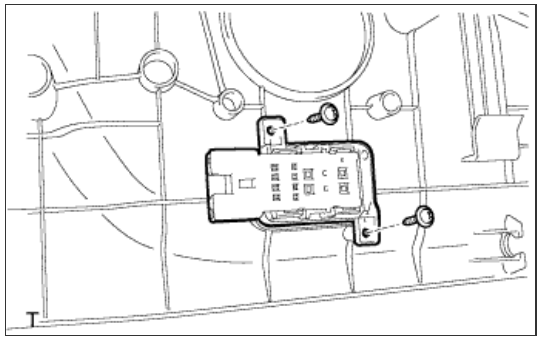
ii. Detach the 3 claws in the order shown in the illustration, and then remove the front seat cushion shield LH.




e. w/ Lumbar Support:
Disconnect the lumbar switch connector.

## 7. REMOVE LUMBAR SWITCH (w/ Lumbar Support)

a. Remove the 2 screws and switch.



**for Preparation** Click here

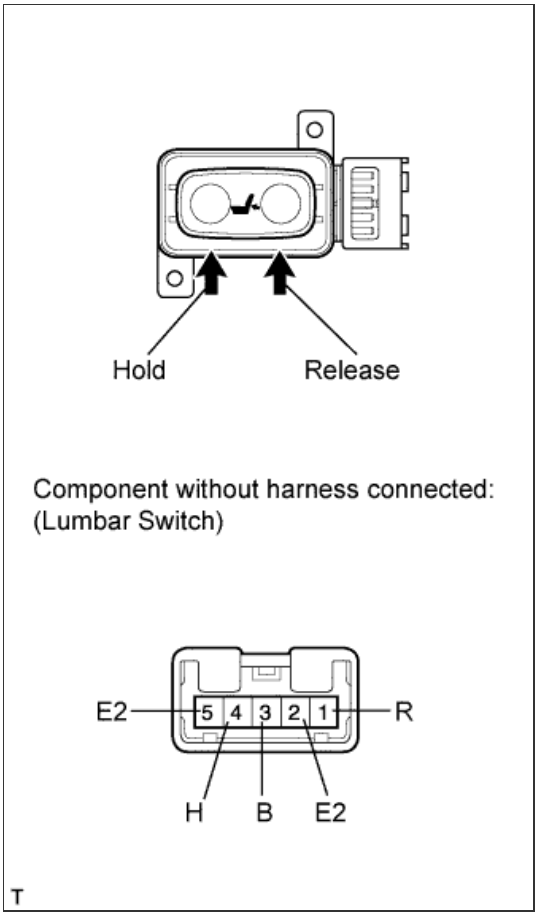
## 1. INSPECT LUMBAR SWITCH LH (for LHD)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (B) - 4 (H) | Hold | Below 1 Ω |
| 1 (R) - 2 (E2) | | |
| 1 (R) - 2 (E2) | Off | |
| 4 (H) - 5 (E2) | | |
| 1 (R) - 3 (B) | Release | |
| 4 (H) - 5 (E2) | | |

If the result is not as specified, replace the lumbar switch.



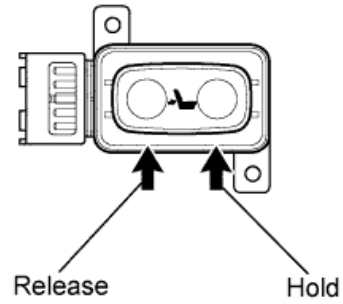

## 2. INSPECT LUMBAR SWITCH RH (for RHD)

a. Measure the resistance according to the value(s) in the table below.

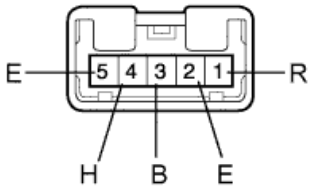
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (B) - 4 (H) | Hold | Below 1 Ω |
| 1 (R) - 2 (E) | | |
| 1 (R) - 2 (E) | Off | |
| 4 (H) - 5 (E) | | |
| 1 (R) - 3 (B) | Release | |
| 4 (H) - 5 (E) | | |

If the result is not as specified, replace the lumbar switch.




Component without harness connected:
(Lumbar Switch)




T

**for Preparation** Click here

**CAUTION:**

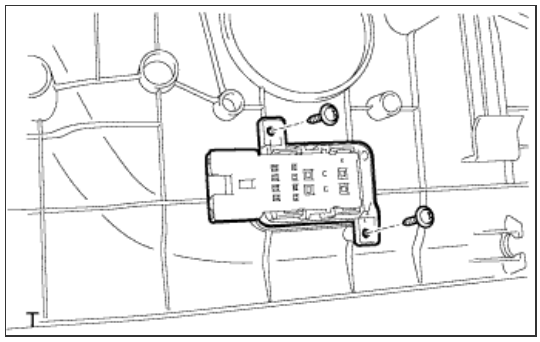
Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL LUMBAR SWITCH (w/ Lumbar Support)

a. Install the switch with the 2 screws.



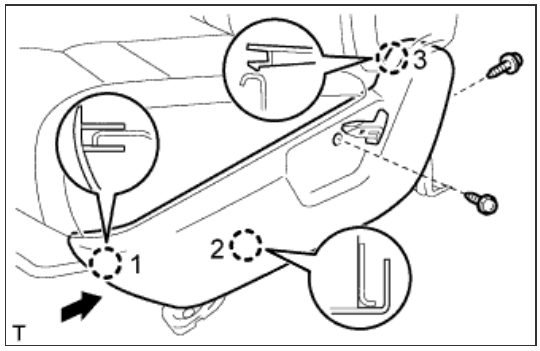
## 2. INSTALL FRONT SEAT CUSHION SHIELD LH

a. w/ Lumbar Support:
Connect the lumbar switch connector.

b. for 4 Way Seat Type:

i. Attach the 3 claws in the order shown in the illustration to install the front seat cushion shield LH.

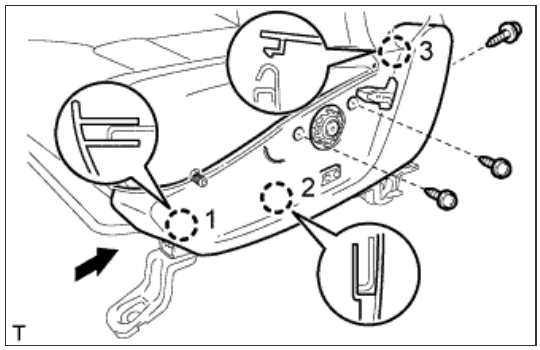
ii. Install the 2 screws.



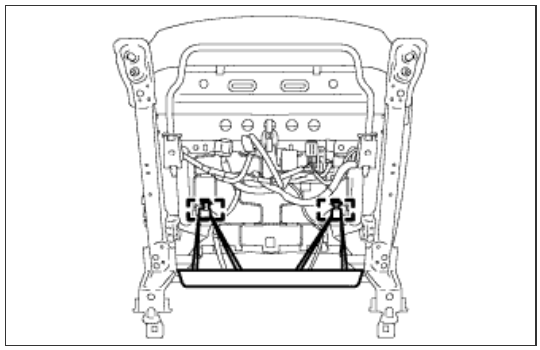

c. for 8 Way Seat Type:

i. Attach the 3 claws in the order shown in the illustration to install the front seat cushion shield LH.

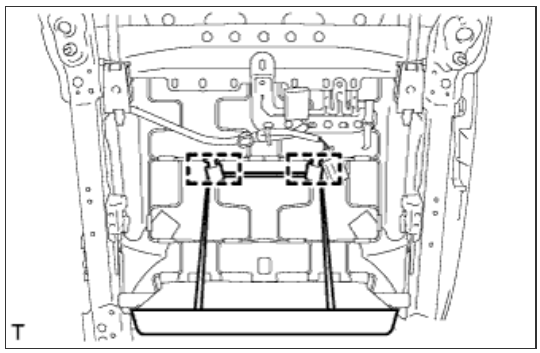
ii. Install the 3 screws.




d. w/ Seatback Board:
Connect the 2 rubber bands to the 2 hooks.

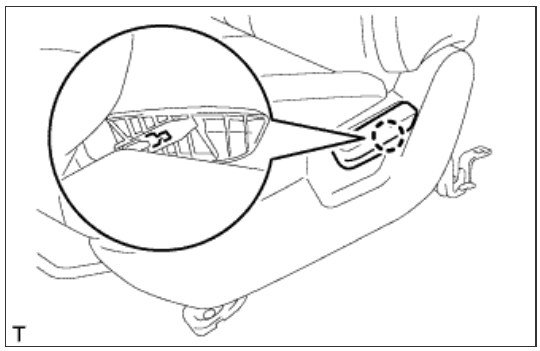


e. w/o Seatback Board:
Connect the rubber band to the 2 hooks.




### 3. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

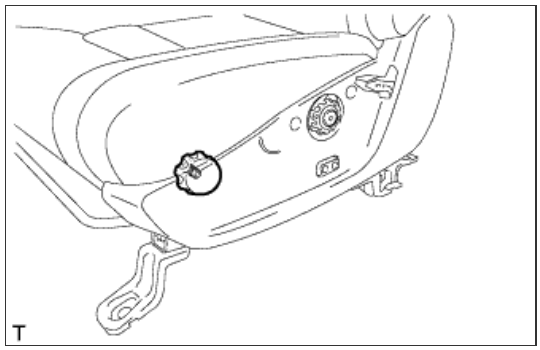
a. Attach the claw to install the reclining adjuster release handle LH.




### 4. INSTALL VERTICAL SEAT ADJUSTER KNOB (for 8 Way Seat Type)

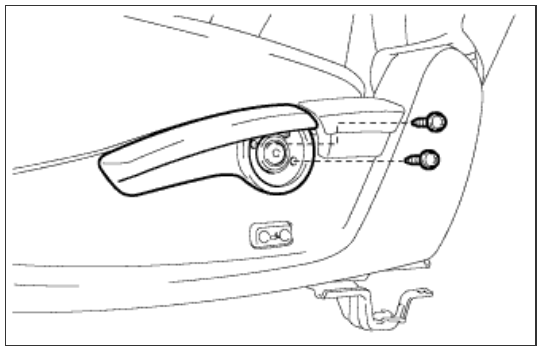
a. Install the snap ring to the vertical seat adjuster knob.

b. Install the vertical seat adjuster knob.



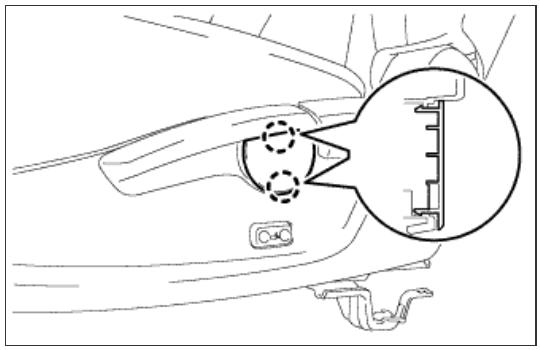

## 5. INSTALL VERTICAL ADJUSTING HANDLE LH (for 8 Way Seat Type)

a. Install the vertical adjusting handle with the 2 screws.



## 6. INSTALL VERTICAL ADJUSTER COVER LH (for 8 Way Seat Type)

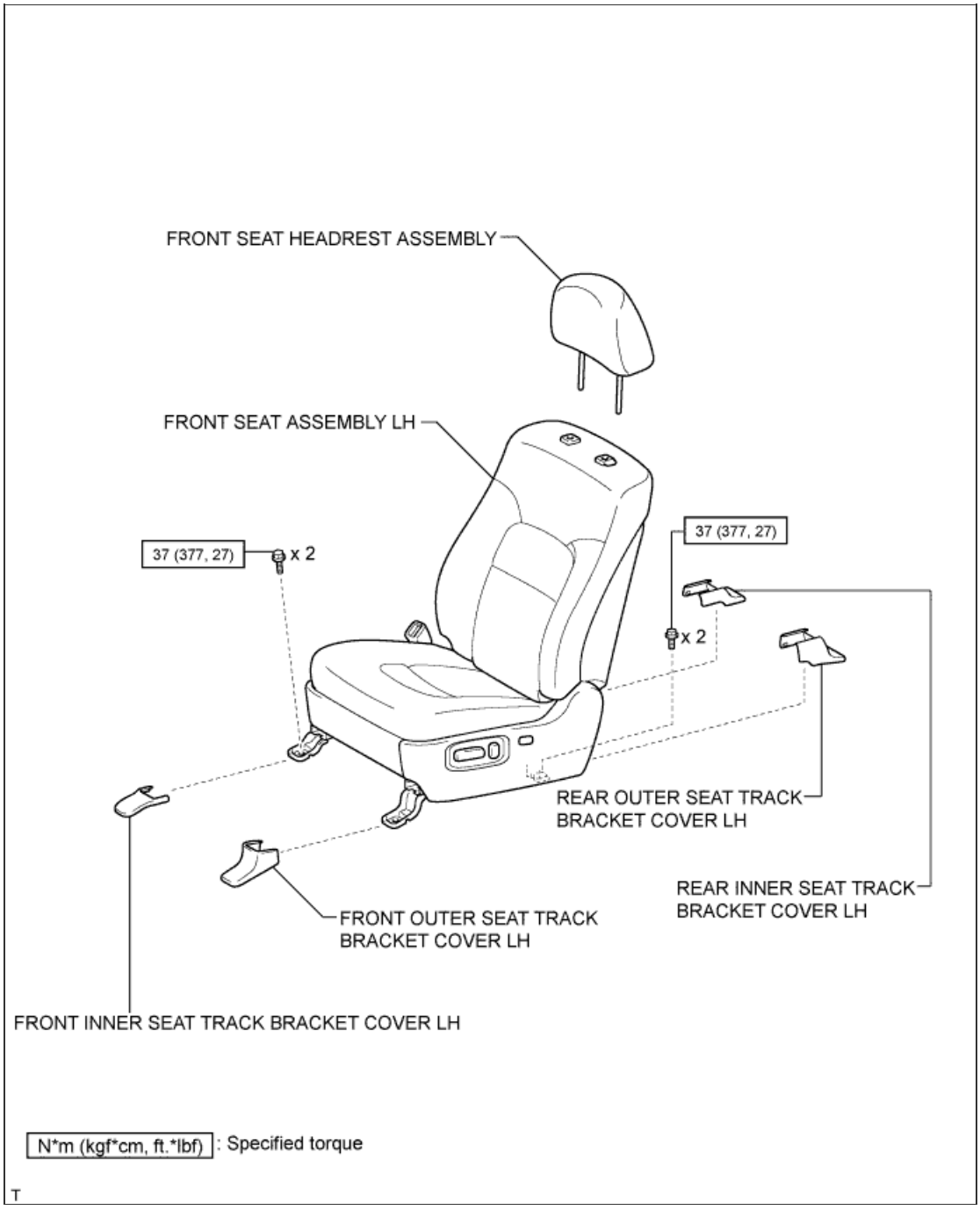
a. Attach the 2 claws to install the vertical adjuster cover LH.

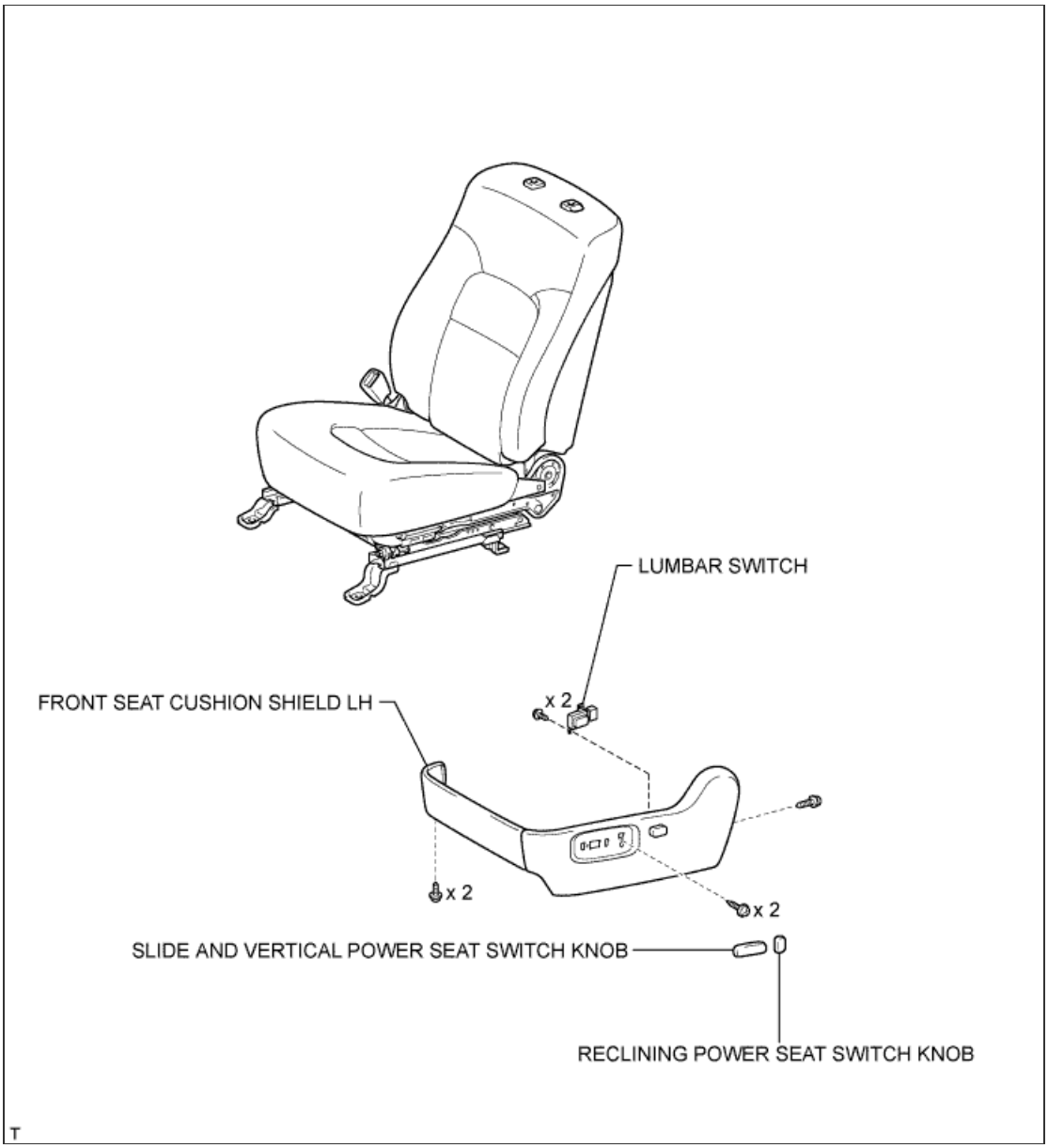


## 7. INSTALL FRONT SEAT ASSEMBLY LH

a. Install the front seat assembly ( Click here).

**for Preparation** Click here




LUMBAR SWITCH
FRONT SEAT CUSHION SHIELD LH
x 2
x 2
x 2
SLIDE AND VERTICAL POWER SEAT SWITCH KNOB
RECLINING POWER SEAT SWITCH KNOB
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

a. Remove the front seat assembly (Click here).

## 2. REMOVE SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Apply protective tape as shown in the illustration.

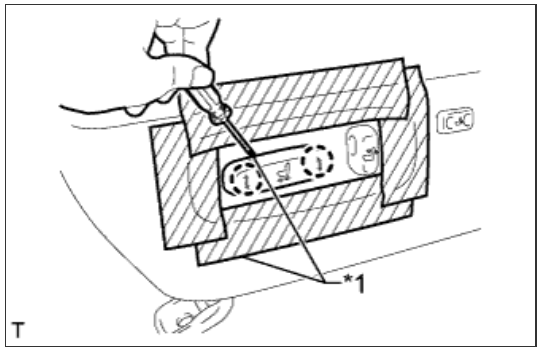
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a screwdriver, detach the 2 claws and remove the slide and vertical power seat switch knob.

**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING POWER SEAT SWITCH KNOB

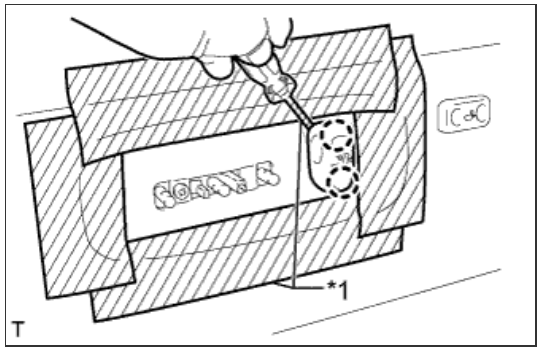
a. Using a screwdriver, detach the 2 claws and remove the reclining power seat switch knob.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

**HINT:**

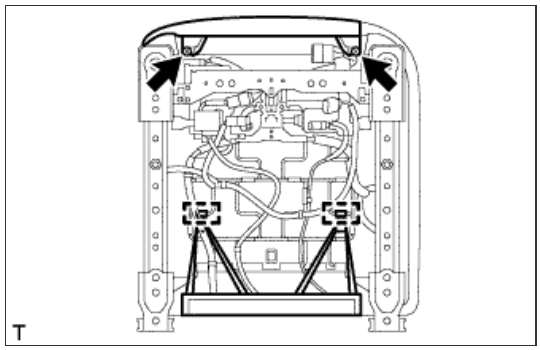
Tape the screwdriver tip before use.




## 4. REMOVE FRONT SEAT CUSHION SHIELD LH

a. Remove the 2 screws.

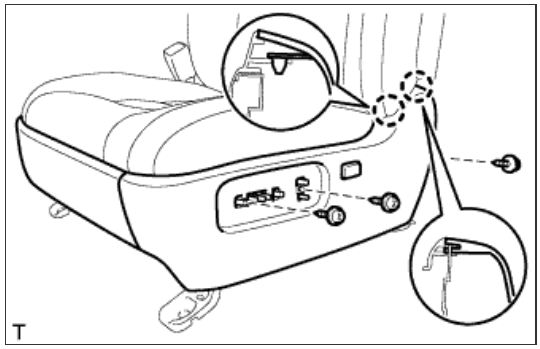
b. Disconnect the 2 rubber bands.




c. Remove the 3 screws.

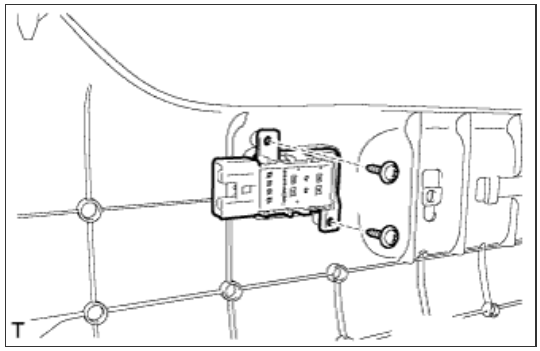
d. Detach the 2 claws and remove the front seat cushion shield LH together with the front inner No. 1 seat cushion shield LH.

e. for Driver Side:
Disconnect the connector.




## 5. REMOVE LUMBAR SWITCH (for Driver Side)

a. Remove the 2 screws and switch.



**for Preparation** Click here

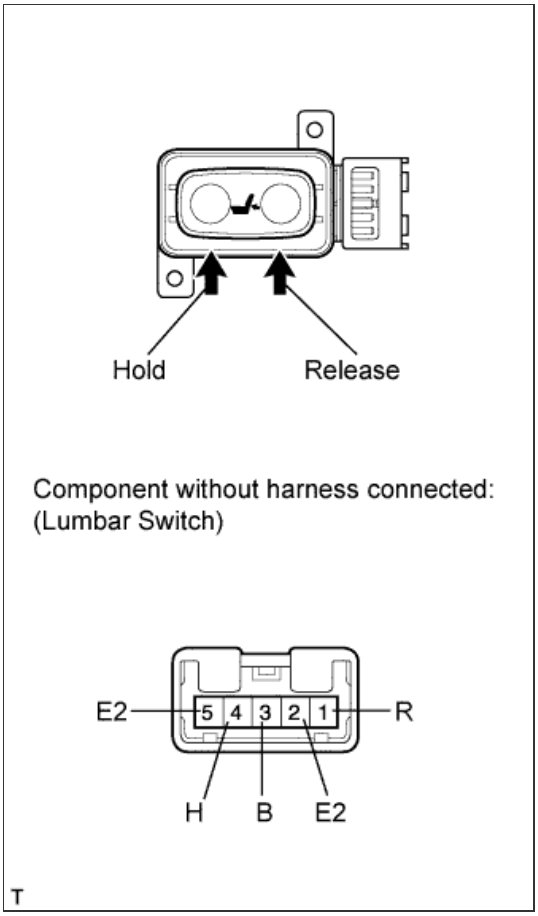
## 1. INSPECT LUMBAR SWITCH LH (for LHD)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (B) - 4 (H) | Hold | Below 1 Ω |
| 1 (R) - 2 (E2) | | |
| 1 (R) - 2 (E2) | Off | |
| 4 (H) - 5 (E2) | | |
| 1 (R) - 3 (B) | Release | |
| 4 (H) - 5 (E2) | | |

If the result is not as specified, replace the lumbar switch.



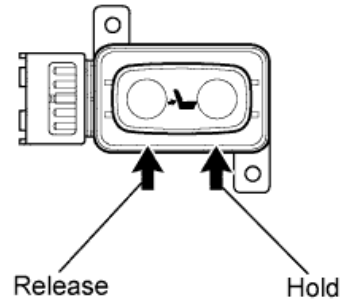

## 2. INSPECT LUMBAR SWITCH RH (for RHD)

a. Measure the resistance according to the value(s) in the table below.

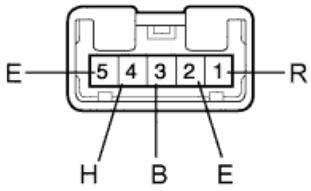
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (B) - 4 (H) | Hold | Below 1 Ω |
| 1 (R) - 2 (E) | | |
| 1 (R) - 2 (E) | Off | |
| 4 (H) - 5 (E) | | |
| 1 (R) - 3 (B) | Release | |
| 4 (H) - 5 (E) | | |

If the result is not as specified, replace the lumbar switch.




Component without harness connected:
(Lumbar Switch)




T

**for Preparation** Click here

**CAUTION:**

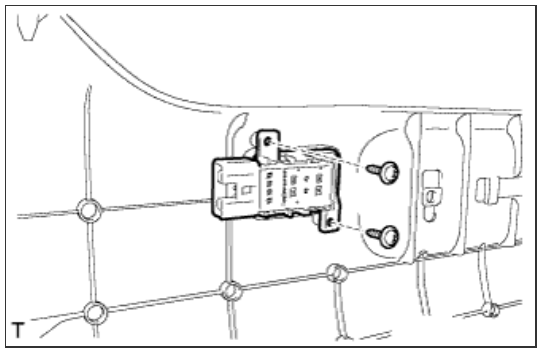
Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL LUMBAR SWITCH (for Driver Side)

a. Install the switch with the 2 screws.

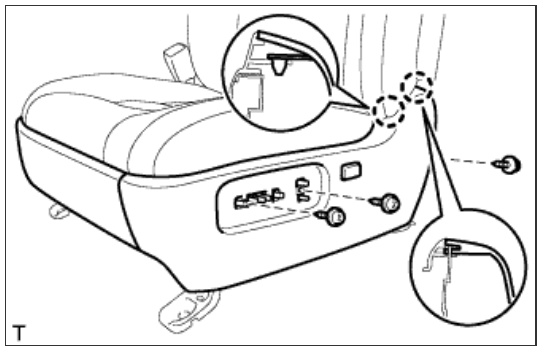



## 2. INSTALL FRONT SEAT CUSHION SHIELD LH

a. for Driver Side:
Connect the connector.

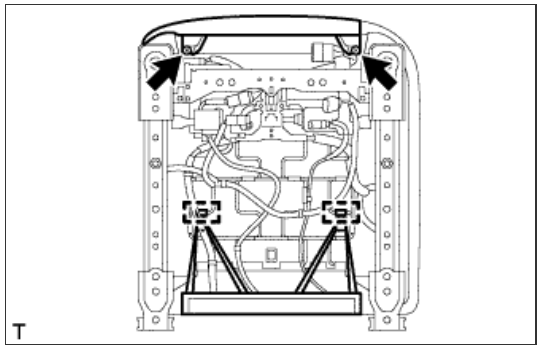
b. Attach the 2 claws to install the front seat cushion shield LH together with the front inner No. 1 cushion shield LH.

c. Install the 3 screws.



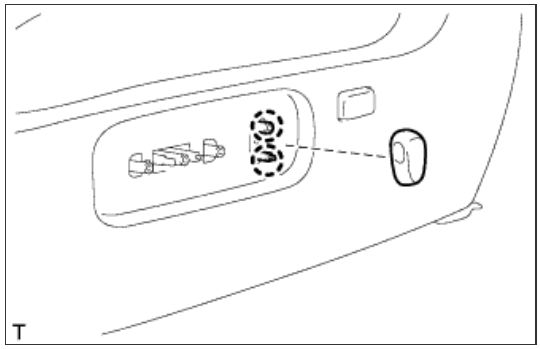

d. Connect the 2 rubber bands.

e. Install the 2 screws.



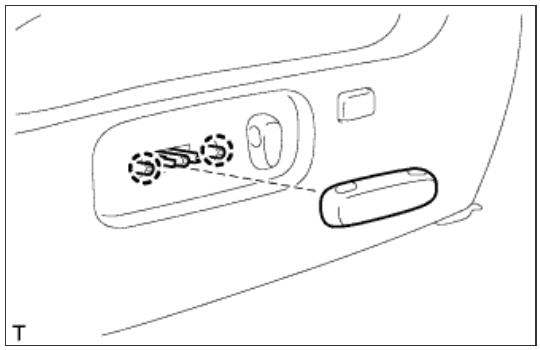

## 3. INSTALL RECLINING POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the reclining power seat switch knob.




## 4. INSTALL SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

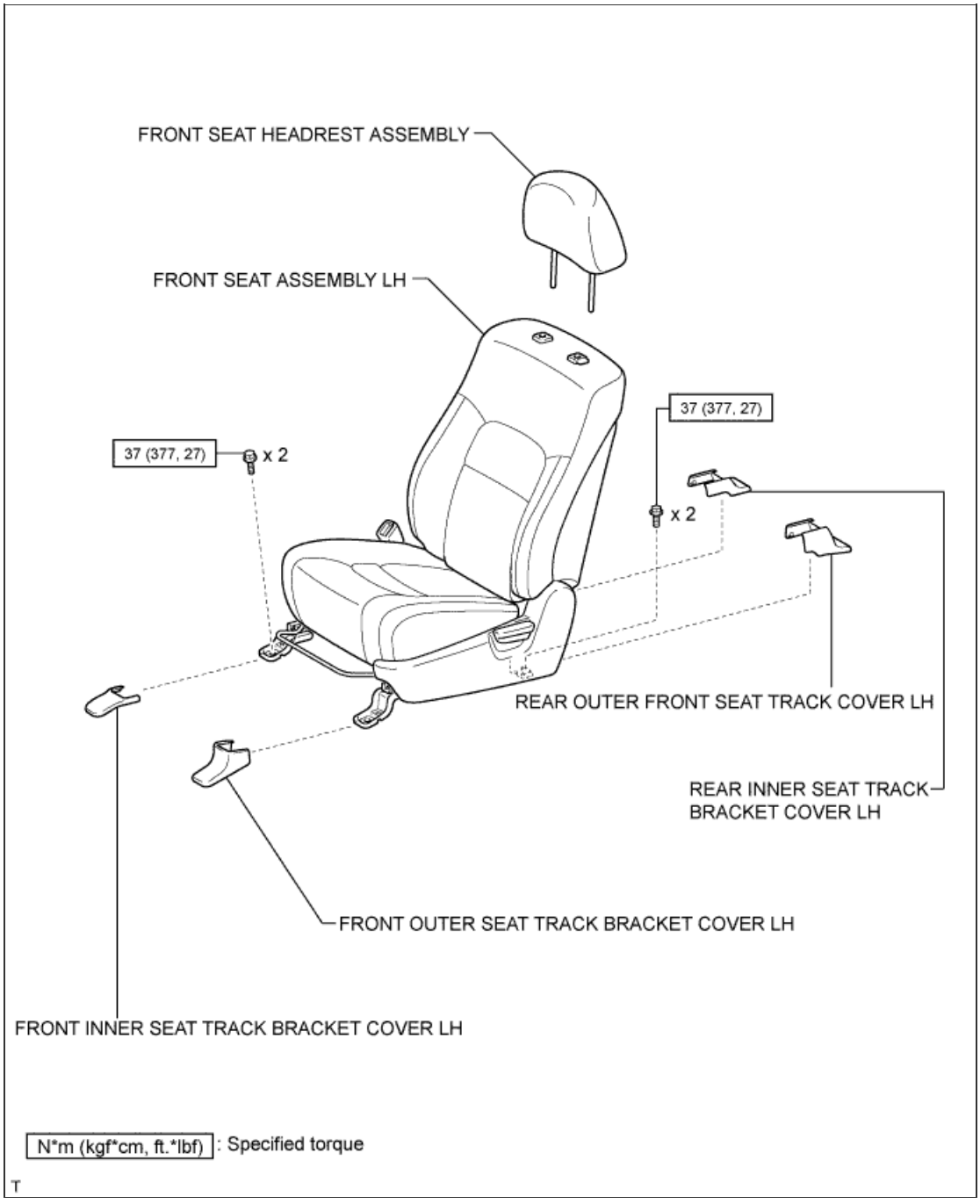
a. Attach the 2 claws to install the slide and vertical power seat switch knob.

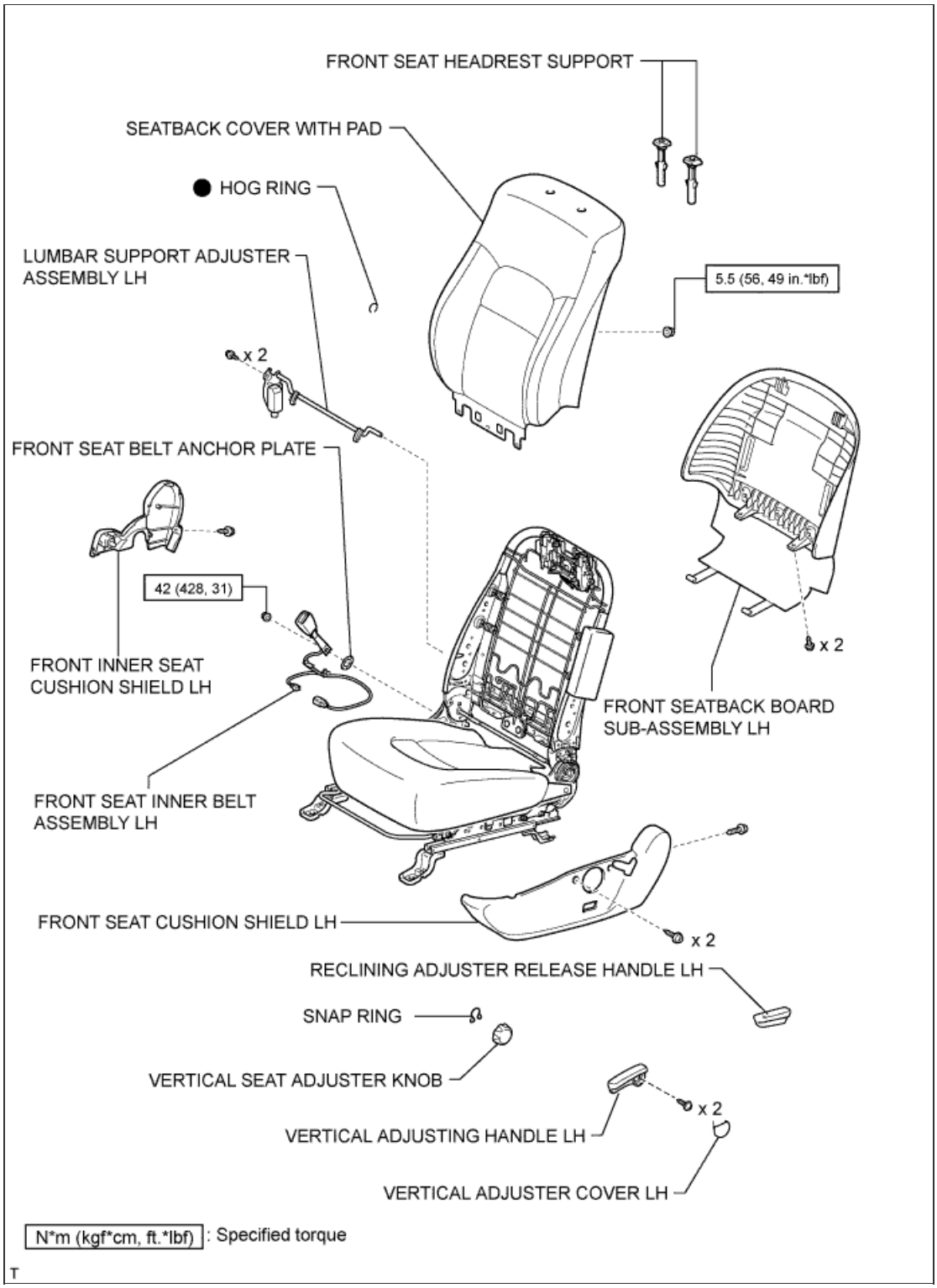



## 5. INSTALL FRONT SEAT ASSEMBLY LH

a. Install the front seat assembly ( Click here).

**for Preparation** Click here




FRONT SEAT HEADREST SUPPORT
SEATBACK COVER WITH PAD
HOG RING
LUMBAR SUPPORT ADJUSTER ASSEMBLY LH
5.5 (56, 49 in.*lbf)
x 2
FRONT SEAT BELT ANCHOR PLATE
42 (428, 31)
x 2
FRONT INNER SEAT CUSHION SHIELD LH
FRONT SEATBACK BOARD SUB-ASSEMBLY LH
FRONT SEAT INNER BELT ASSEMBLY LH
FRONT SEAT CUSHION SHIELD LH
x 2
RECLINING ADJUSTER RELEASE HANDLE LH
SNAP RING
VERTICAL SEAT ADJUSTER KNOB
x 2
VERTICAL ADJUSTING HANDLE LH
VERTICAL ADJUSTER COVER LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

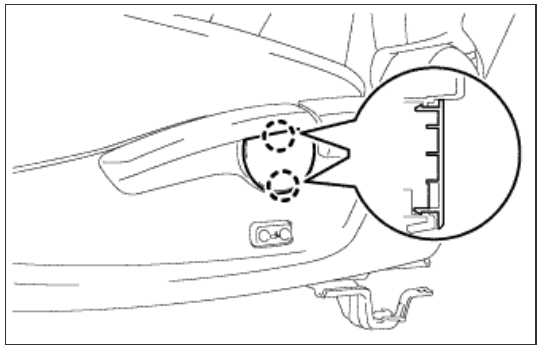
a. Remove the front seat assembly ( Click here).

## 2. REMOVE VERTICAL ADJUSTER COVER LH (for 8 Way Seat Type)

a. Using a screwdriver, detach the 2 claws and remove the vertical adjuster cover LH.

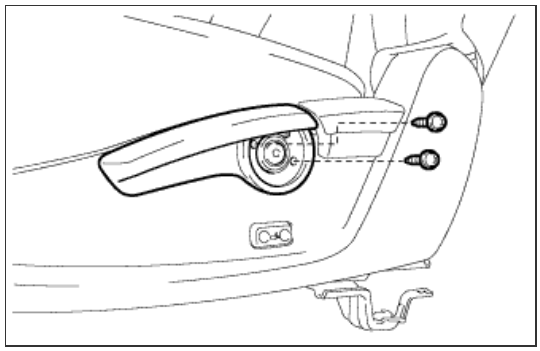
**HINT:**

Tape the screwdriver tip before use.



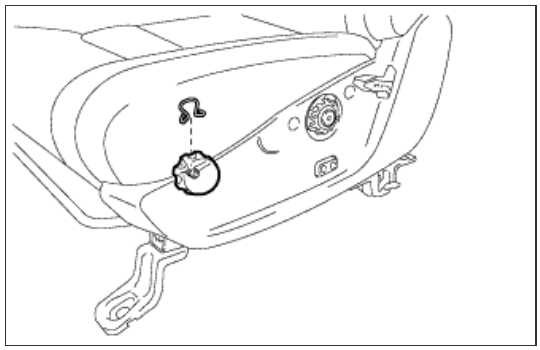
## 3. REMOVE VERTICAL ADJUSTING HANDLE LH (for 8 Way Seat Type)

a. Remove the 2 screws and vertical adjusting handle LH.



## 4. REMOVE VERTICAL SEAT ADJUSTER KNOB (for 8 Way Seat Type)

a. Remove the snap ring and vertical seat adjuster knob.



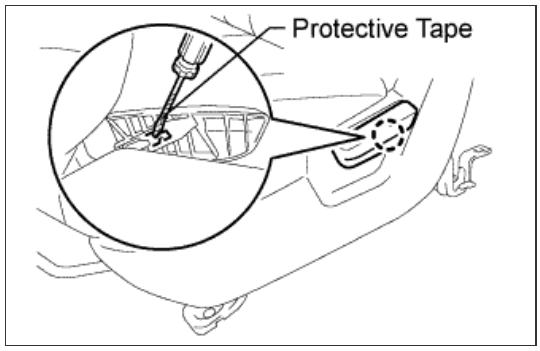
## 5. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

a. Lift the reclining adjuster release handle LH.

b. Using a screwdriver, detach the claw and remove the reclining adjuster release handle LH.

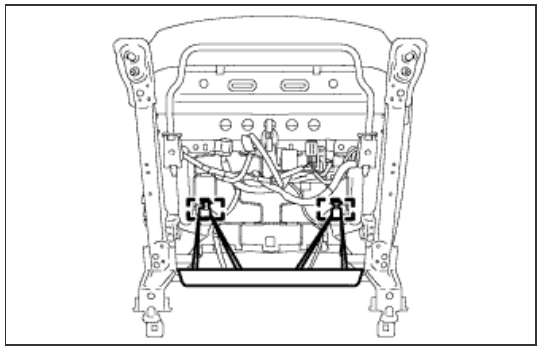
**HINT:**

Tape the screwdriver tip before use.

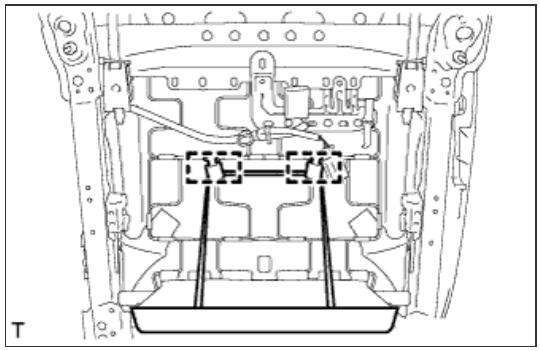



## 6. REMOVE FRONT SEAT CUSHION SHIELD LH

a. w/ Seatback Board:
Disconnect the 2 rubber bands from the 2 hooks.



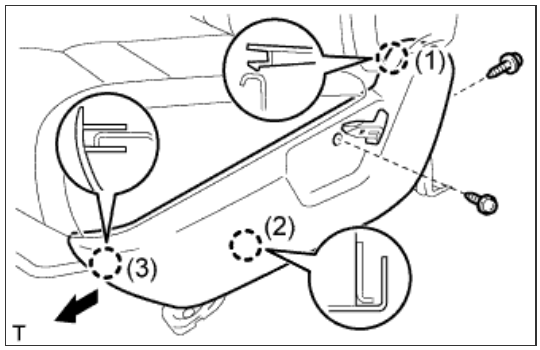
b. w/o Seatback Board:
Disconnect the rubber band from the 2 hooks.




c. for 4 Way Seat Type:

i. Remove the 2 screws.

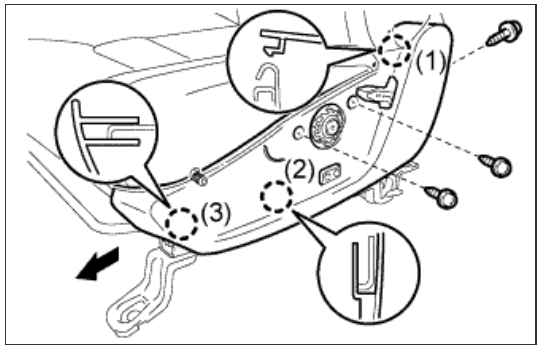
ii. Detach the 3 claws in the order shown in the illustration, and then remove the front seat cushion shield LH.




d. for 8 Way Seat Type:

i. Remove the 3 screws.

ii. Detach the 3 claws in the order shown in the illustration, and then remove the front seat cushion shield LH.



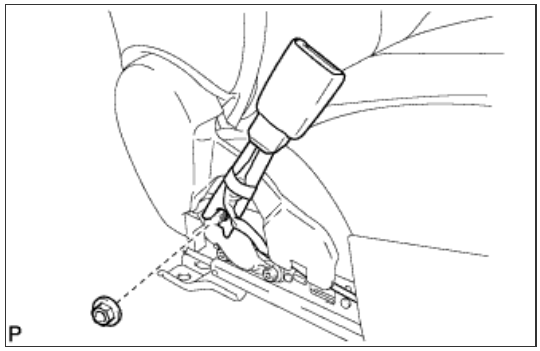

e. w/ Lumbar Support:
Disconnect the lumbar switch connector.

## 7. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

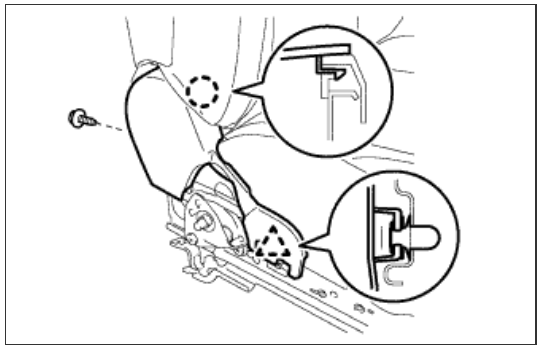
c. Remove the front seat belt anchor plate.




## 8. REMOVE FRONT INNER SEAT CUSHION SHIELD LH

a. Remove the screw.

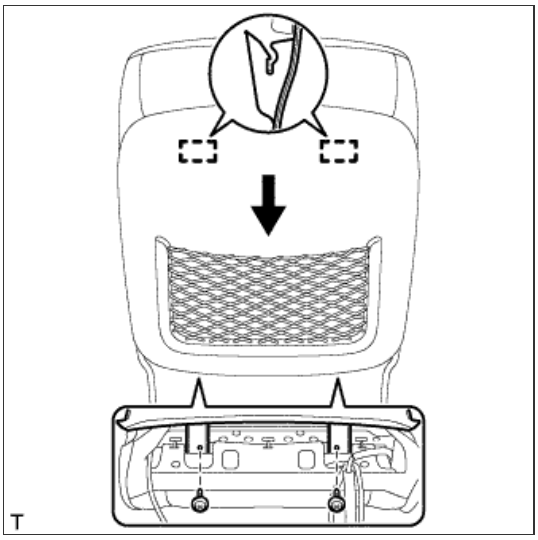
b. Detach the claw and clip, and then remove the front inner seat cushion shield LH.



## 9. REMOVE FRONT SEATBACK BOARD SUB-ASSEMBLY LH (w/ Seatback Board)

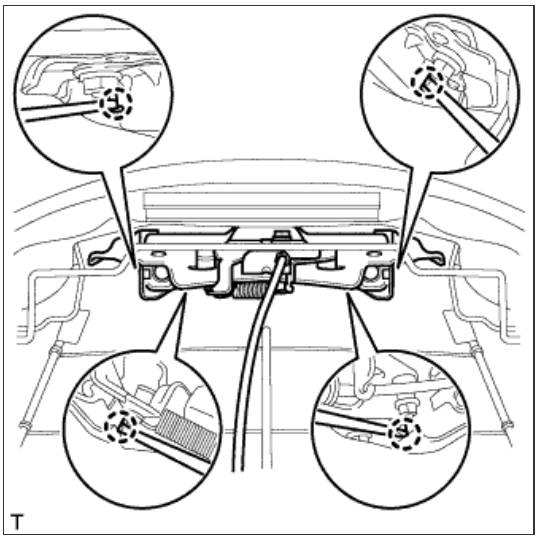
a. Remove the 2 screws.

b. Move the front seatback board sub-assembly LH in the direction of the arrow to detach the 2 hooks and remove it.




## 10. REMOVE FRONT SEAT HEADREST SUPPORT (w/ Active Headrest)

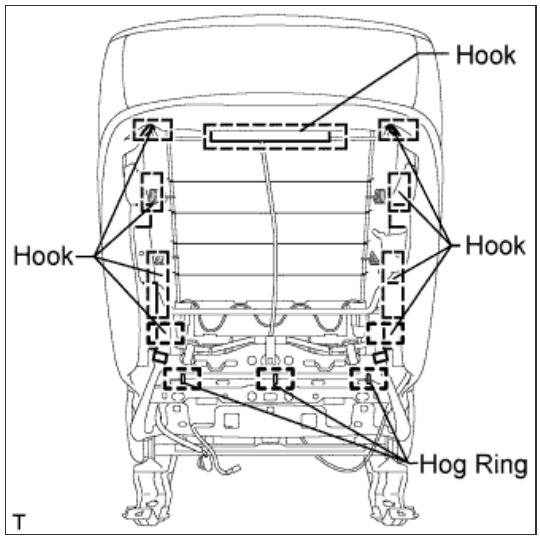
a. Detach the 4 claws and remove the 2 front seat headrest supports.



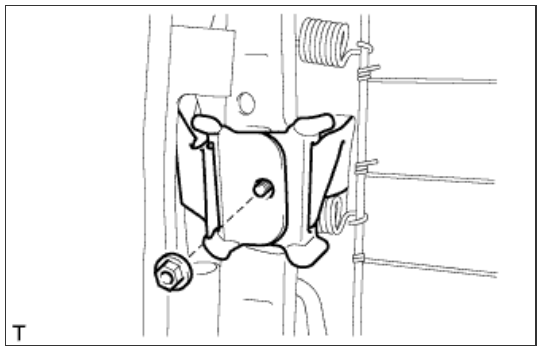

## 11. REMOVE SEATBACK COVER WITH PAD

a. w/ Seatback Board:

i. Remove the 3 hog rings and detach the 9 hooks.

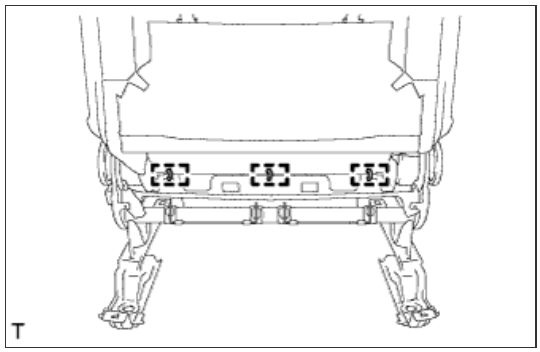



ii. w/ Front Seat Side Airbag:
Remove the nut and seatback cover bracket from the seat frame.

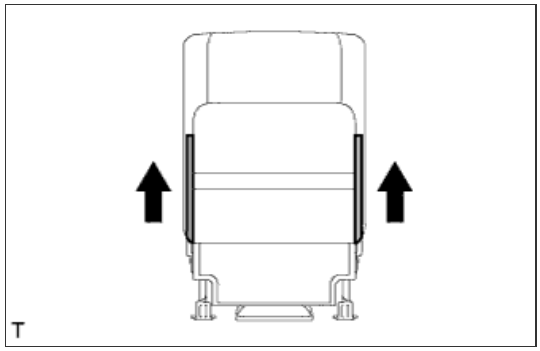



b. w/o Seatback Board:

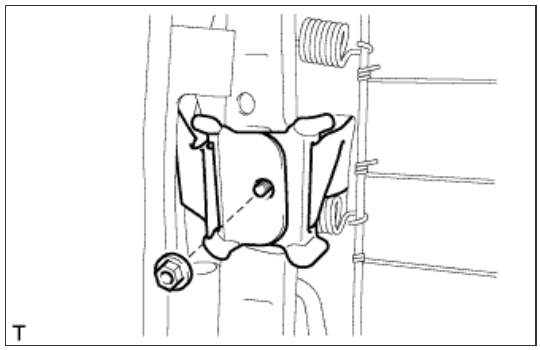
i. Remove the 3 hog rings.




ii. Open the 2 fasteners, and then open the front separate type seatback cover.

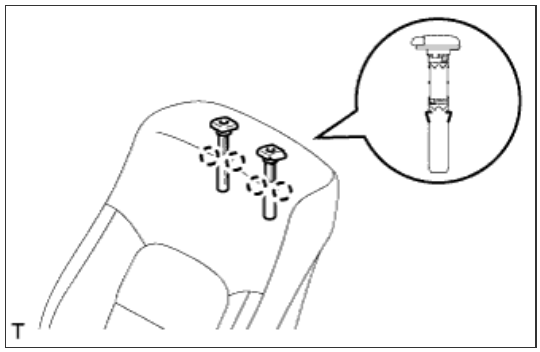



iii. w/ Front Seat Side Airbag:
Remove the nut and seatback cover bracket from the seat frame.




iv. Detach the 4 claws and remove the 2 front seat headrest supports.

c. Remove the seatback cover with pad from the seatback frame.

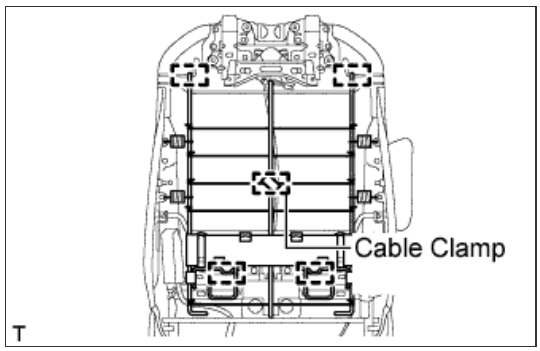



## 12. REMOVE LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (w/ Lumbar Support)

a. Remove the 4 springs.

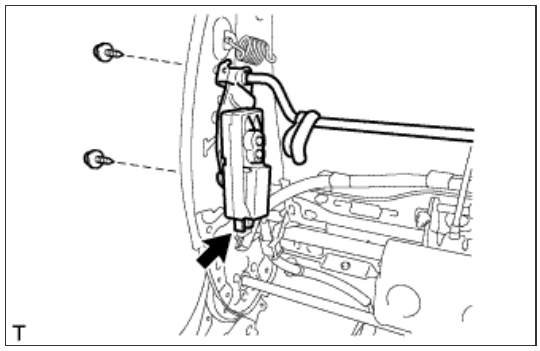
b. Remove the cable clamp and disconnect the active headrest cable from the seatback spring.

c. Detach the 4 hooks and remove the seatback spring.




d. Disconnect the lumbar support adjuster connector.

e. Remove the 2 screws and lumbar support adjuster.



**for Preparation** Click here

## 1. INSPECT LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (for LHD)

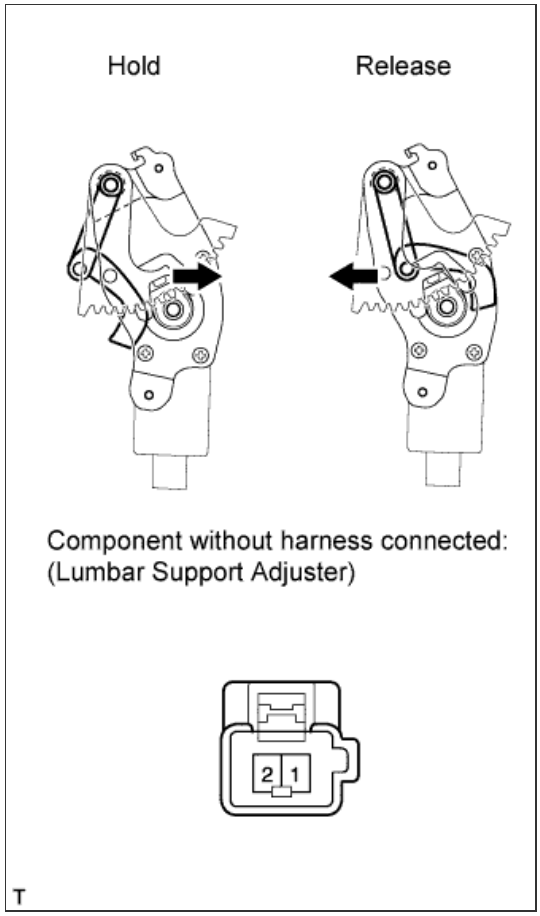
a. Check the operation of the lumbar support adjuster.

i. Check if the lumbar support adjuster moves smoothly when the battery is connected to the lumbar support adjuster motor connector terminals.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Hold |
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Release |

If the result is not as specified, replace the lumbar support adjuster assembly.




## 2. INSPECT LUMBAR SUPPORT ADJUSTER ASSEMBLY RH (for RHD)

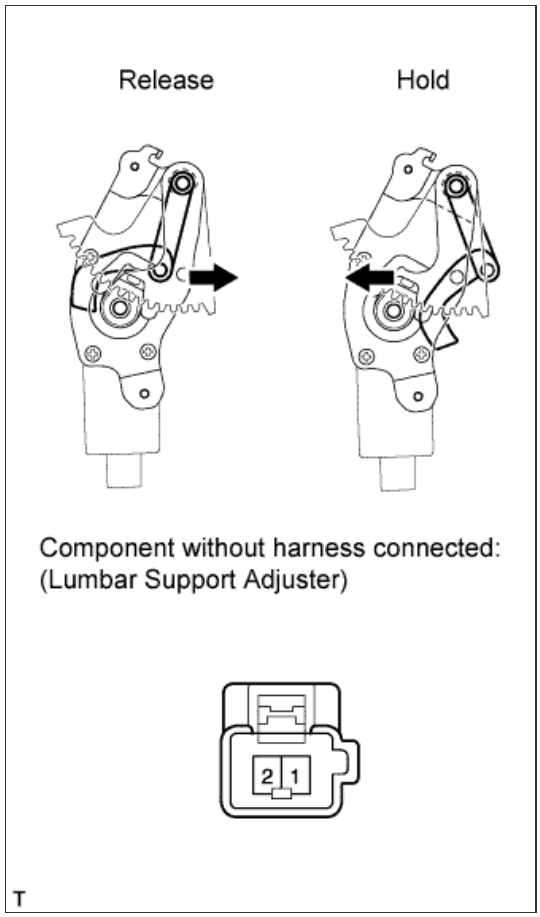
a. Check the operation of the lumbar support adjuster.

i. Check if the lumbar support adjuster moves smoothly when the battery is connected to the lumbar support adjuster motor connector terminals.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Hold |
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Release |

If the result is not as specified, replace the lumbar support adjuster assembly.


Release
Hold
Component without harness connected:
(Lumbar Support Adjuster)
2
1
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

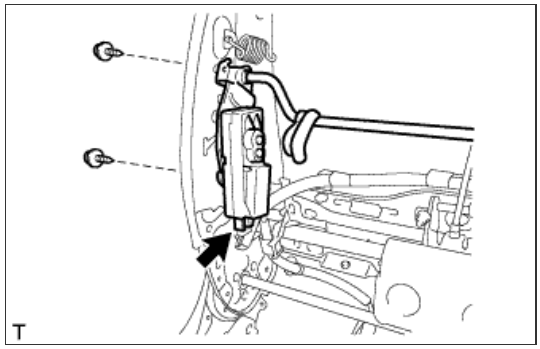
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (w/ Lumbar support)

a. Install the lumbar support adjuster with the 2 screws.

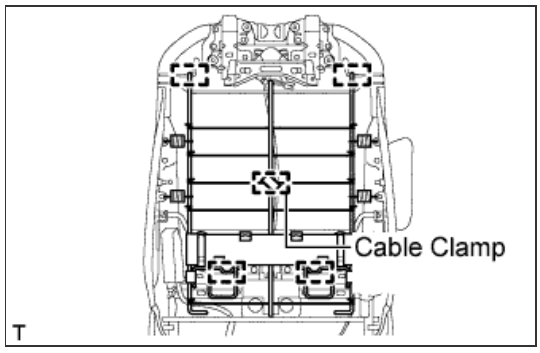
b. Connect the lumbar support adjuster connector.




c. Attach the 4 hooks to install the seatback spring.

d. Connect the active headrest cable with the cable clamp.

e. Install the 4 springs.




## 2. INSTALL SEATBACK COVER WITH PAD

a. Set the seatback cover with pad in place.

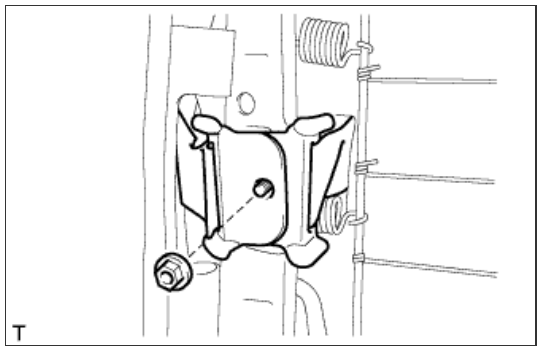
b. w/ Seatback Board:

i. w/ Front Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the nut.

**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.

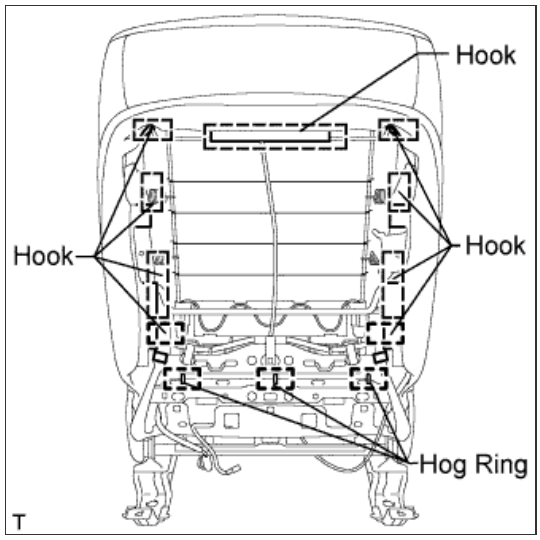



ii. Attach the 9 hooks.

iii. Using hog ring pliers, install new hog rings.

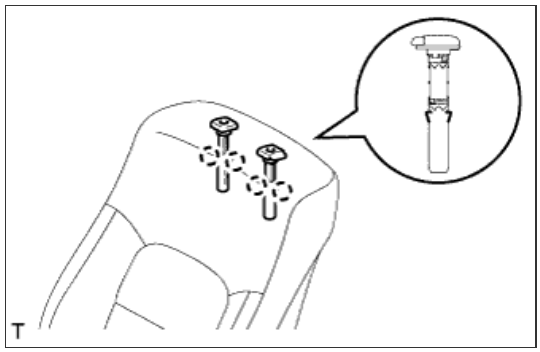
**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




c. w/o Seatback Board:

i. Attach the 4 claws to install the 2 headrest supports.

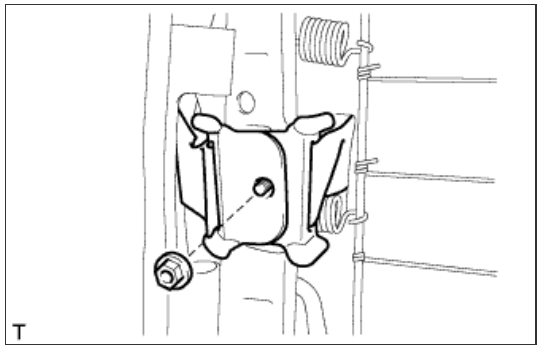



ii. w/ Front Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the nut.

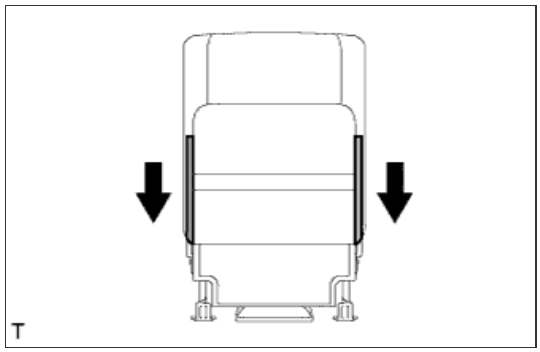
**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.



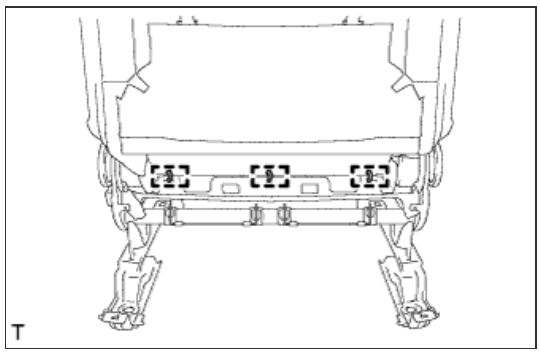

iii. Close the 2 fasteners.




iv. Using hog ring pliers, install new hog rings.

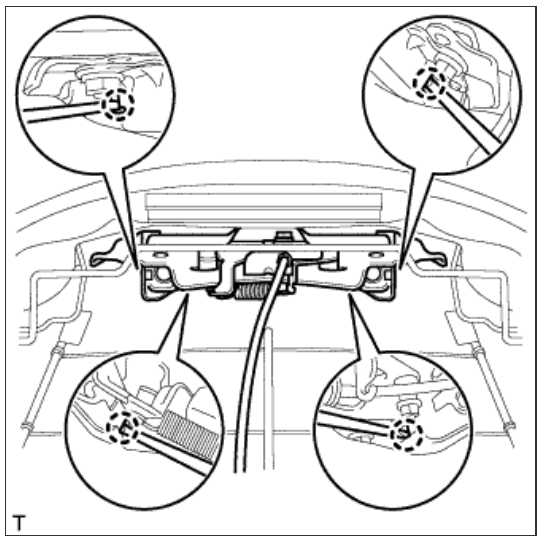
**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




### 3. INSTALL FRONT SEAT HEADREST SUPPORT (w/ Active Headrest)

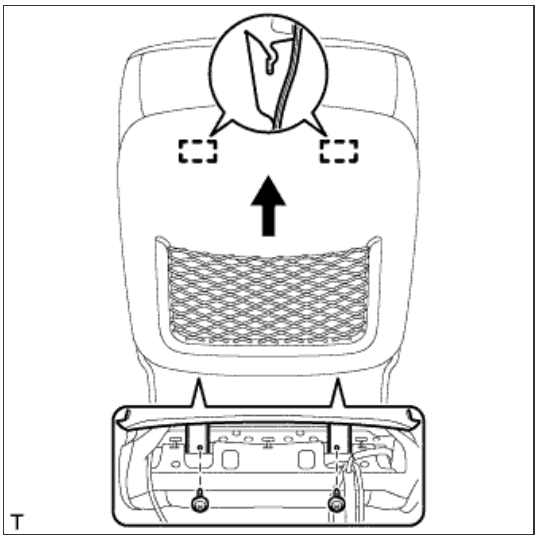
a. Attach the 4 claws to install the 2 front seat headrest supports.




### 4. INSTALL FRONT SEATBACK BOARD SUB-ASSEMBLY LH (w/ Seatback Board)

a. Move the front seatback board sub-assembly in the direction of the arrow to attach the 2 hooks and install it.

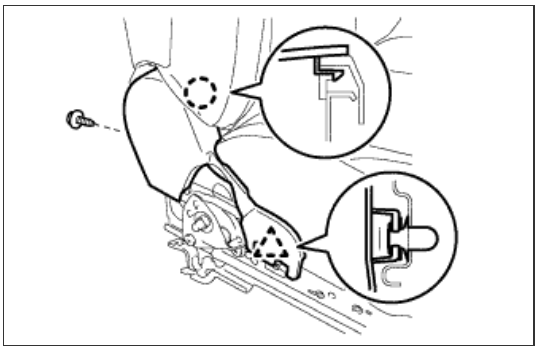
b. Install the 2 screws.




## 5. INSTALL FRONT INNER SEAT CUSHION SHIELD LH

a. Attach the claw and clip to install the front inner seat cushion shield LH.

b. Install the screw.



## 6. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH

a. Install the front seat belt anchor plate.

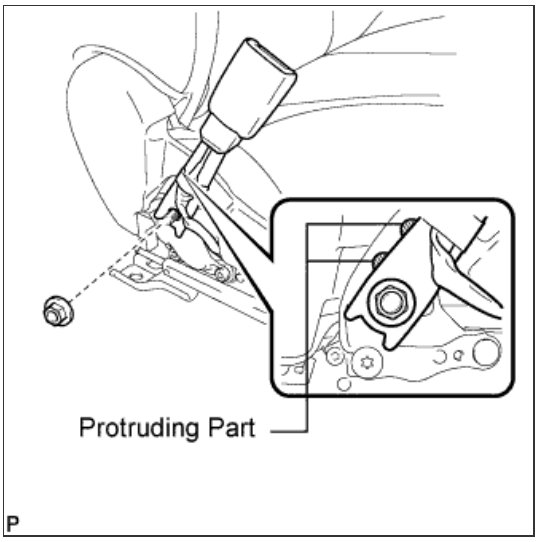
b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding part of the front seat adjuster.

c. Connect the connectors and attach the clamps.



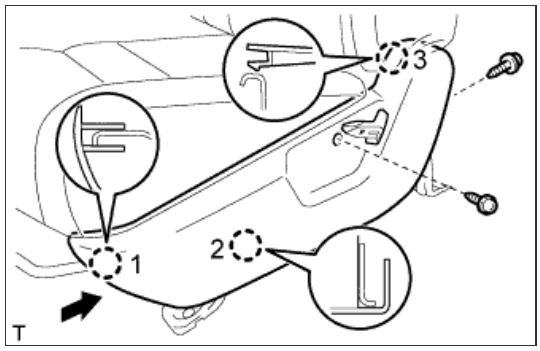

## 7. INSTALL FRONT SEAT CUSHION SHIELD LH

a. w/ Lumbar Support:
Connect the lumbar switch connector.

**b.** for 4 Way Seat Type:

i. Attach the 3 claws in the order shown in the illustration to install the front seat cushion shield LH.

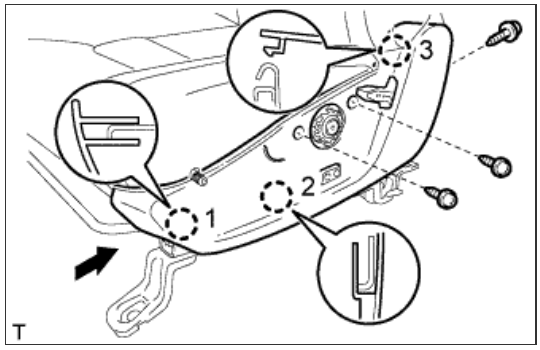
ii. Install the 2 screws.



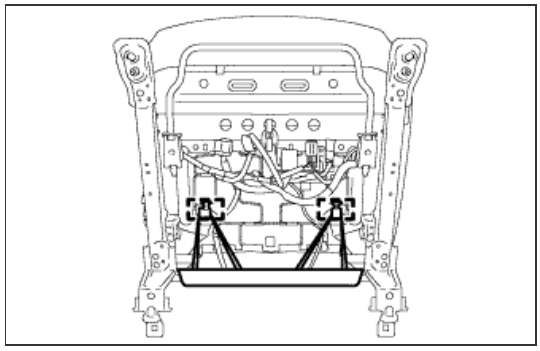

**c.** for 8 Way Seat Type:

i. Attach the 3 claws in the order shown in the illustration to install the front seat cushion shield LH.

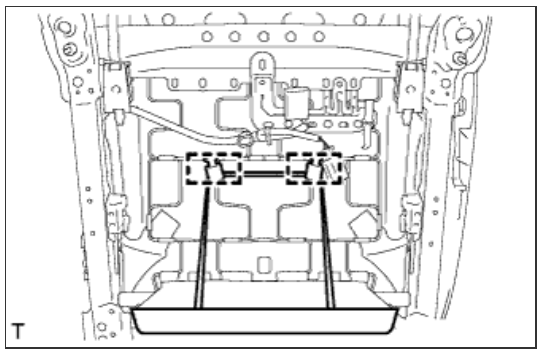
ii. Install the 3 screws.




**d.** w/ Seatback Board:
Connect the 2 rubber bands to the 2 hooks.

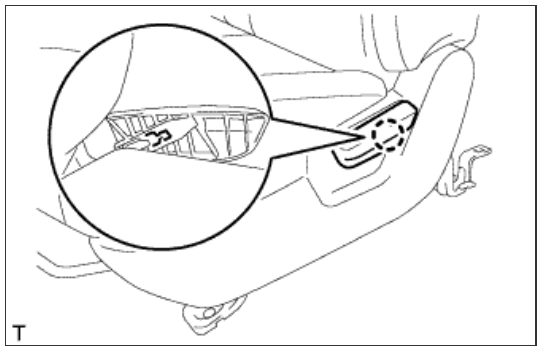


**e.** w/o Seatback Board:
Connect the rubber band to the 2 hooks.




## 8. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

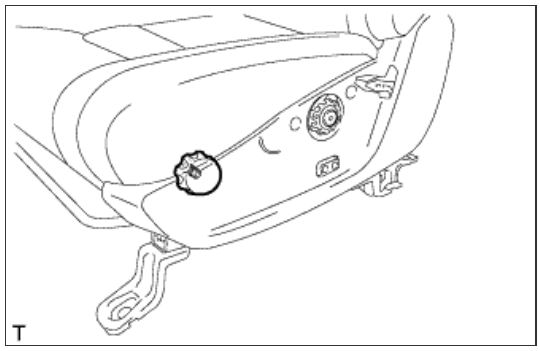
a. Attach the claw to install the reclining adjuster release handle LH.




## 9. INSTALL VERTICAL SEAT ADJUSTER KNOB (for 8 Way Seat Type)

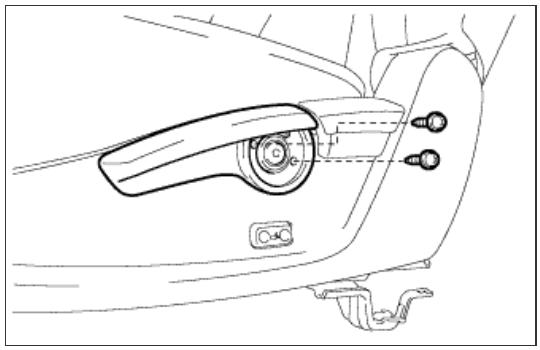
a. Install the snap ring to the vertical seat adjuster knob.

b. Install the vertical seat adjuster knob.



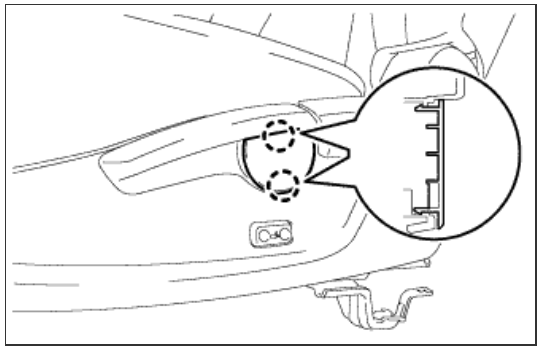

## 10. INSTALL VERTICAL ADJUSTING HANDLE LH (for 8 Way Seat Type)

a. Install the vertical adjusting handle with the 2 screws.



## 11. INSTALL VERTICAL ADJUSTER COVER LH (for 8 Way Seat Type)

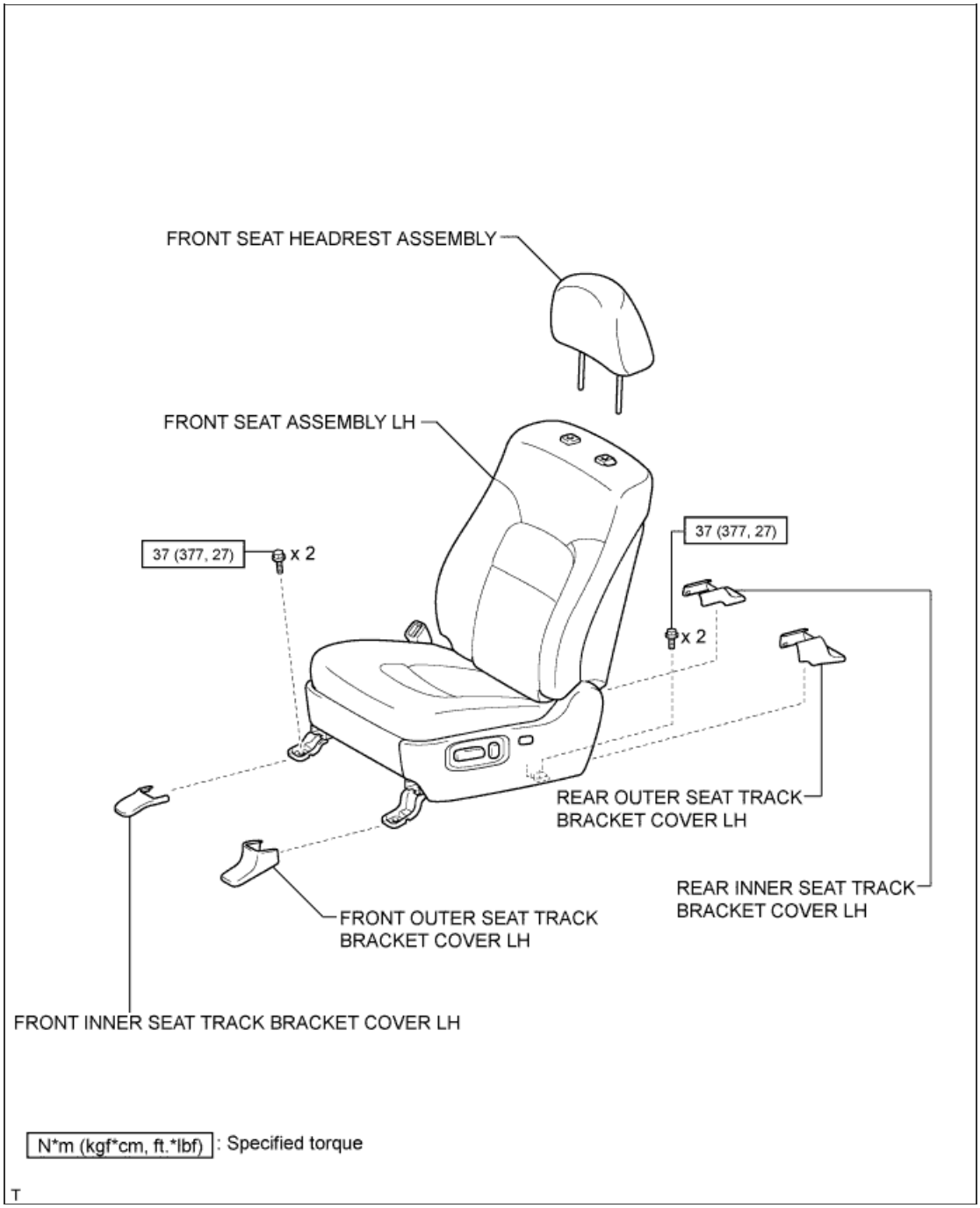
a. Attach the 2 claws to install the vertical adjuster cover LH.

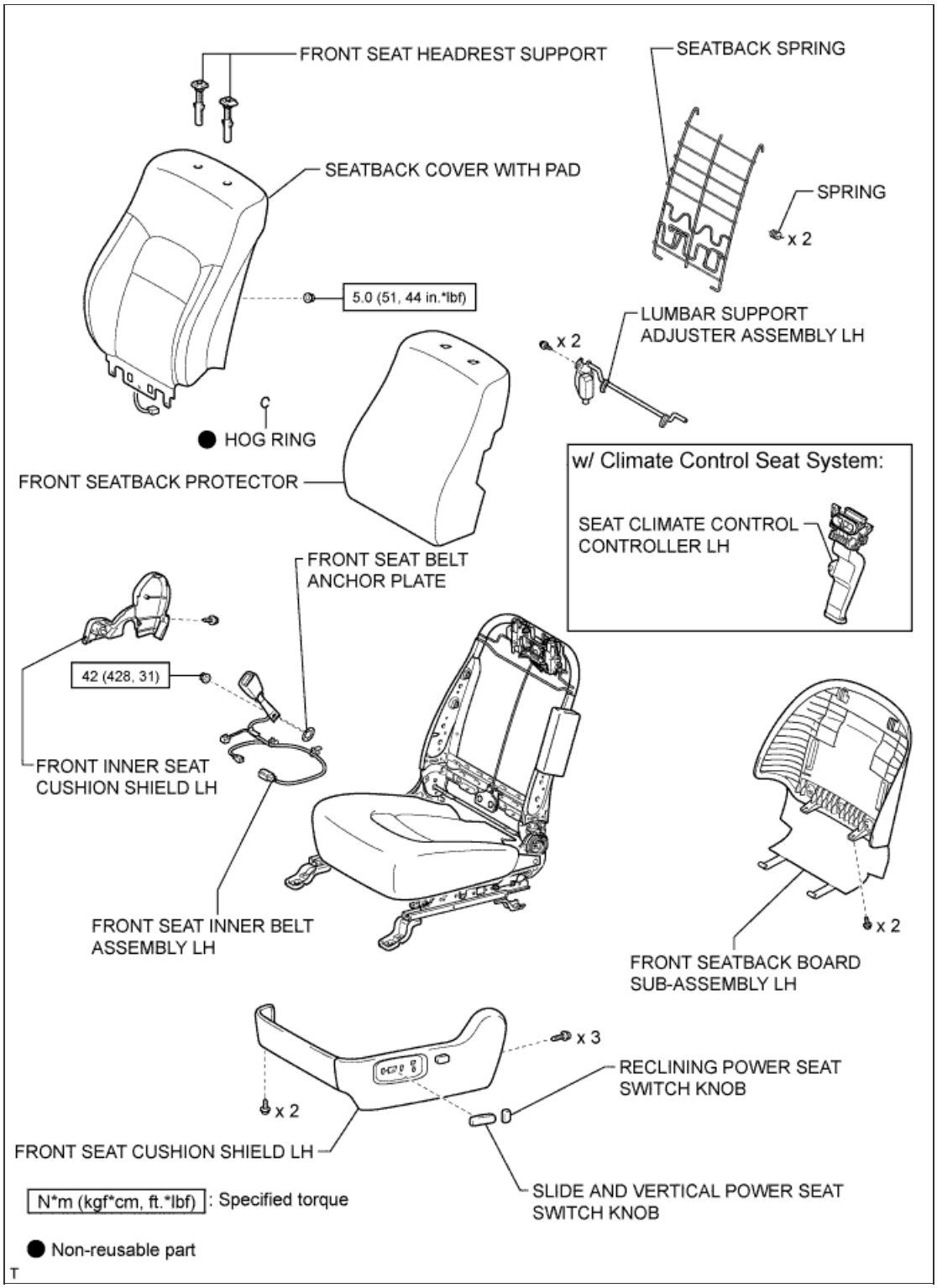


## 12. INSTALL FRONT SEAT ASSEMBLY LH

a. Install the front seat assembly ( Click here).

**for Preparation** Click here




FRONT SEAT HEADREST SUPPORT
SEATBACK SPRING
SEATBACK COVER WITH PAD
SPRING
x 2
5.0 (51, 44 in.*lbf)
LUMBAR SUPPORT ADJUSTER ASSEMBLY LH
x 2
HOG RING
FRONT SEATBACK PROTECTOR
w/ Climate Control Seat System:
SEAT CLIMATE CONTROL CONTROLLER LH
FRONT SEAT BELT ANCHOR PLATE
42 (428, 31)
FRONT INNER SEAT CUSHION SHIELD LH
FRONT SEAT INNER BELT ASSEMBLY LH
x 2
FRONT SEATBACK BOARD SUB-ASSEMBLY LH
x 3
RECLINING POWER SEAT SWITCH KNOB
x 2
FRONT SEAT CUSHION SHIELD LH
SLIDE AND VERTICAL POWER SEAT SWITCH KNOB
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part

T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

(Click here)

## 2. REMOVE SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Apply protective tape as shown in the illustration.

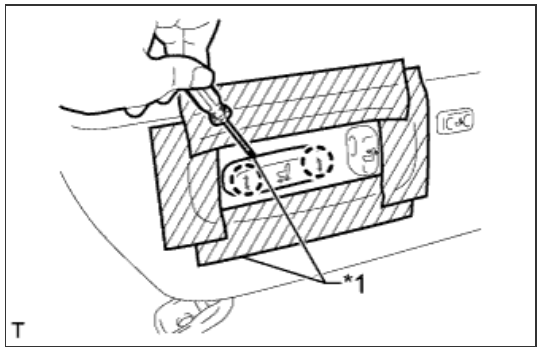
Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

b. Using a screwdriver, detach the 2 claws and remove the slide and vertical power seat switch knob.

**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING POWER SEAT SWITCH KNOB

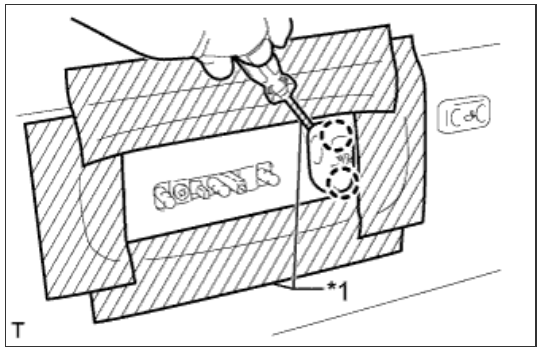
a. Using a screwdriver, detach the 2 claws and remove the reclining power seat switch knob.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

**HINT:**

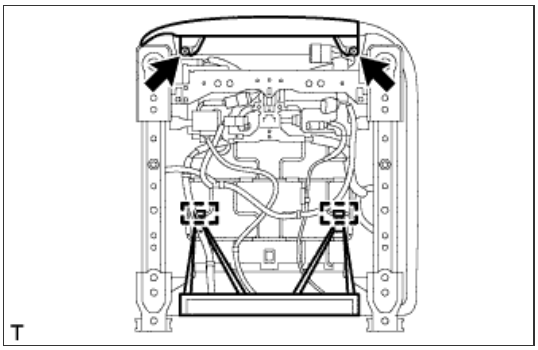
Tape the screwdriver tip before use.




## 4. REMOVE FRONT SEAT CUSHION SHIELD LH

a. Remove the 2 screws.

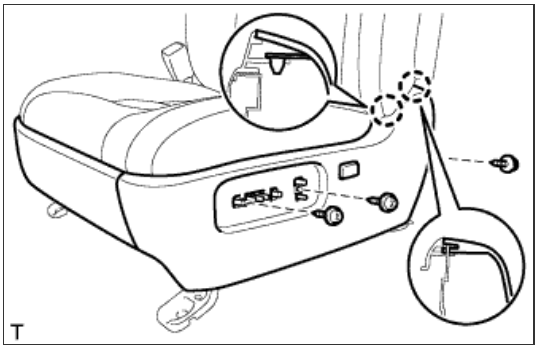
b. Disconnect the 2 rubber bands.




c. Remove the 3 screws.

d. Detach the 2 claws and remove the front seat cushion shield LH together with the front inner No. 1 seat cushion shield LH.

e. for Driver Side:
Disconnect the connector.

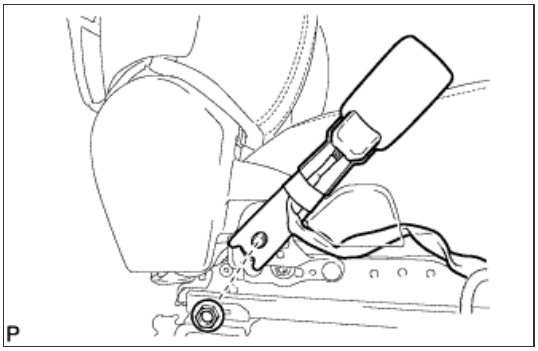



## 5. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

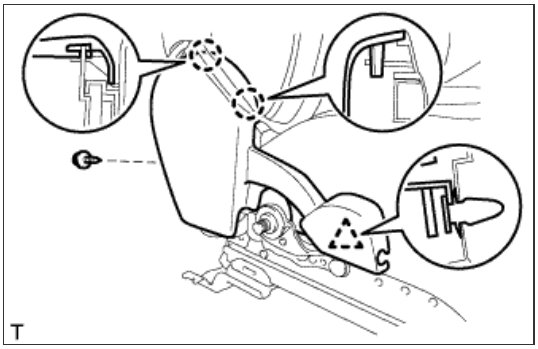
c. Remove the front seat belt anchor plate.




## 6. REMOVE FRONT INNER SEAT CUSHION SHIELD LH

a. Remove the screw.

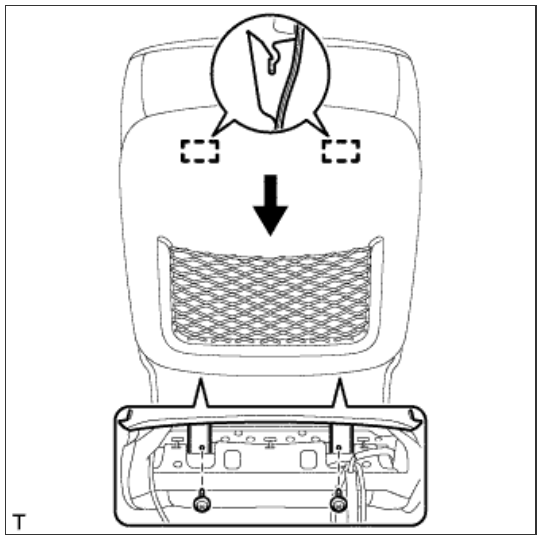
b. Detach the 2 claws and clip, and then remove the front inner seat cushion shield LH.




## 7. REMOVE FRONT SEATBACK BOARD SUB-ASSEMBLY LH

a. Remove the 2 screws.

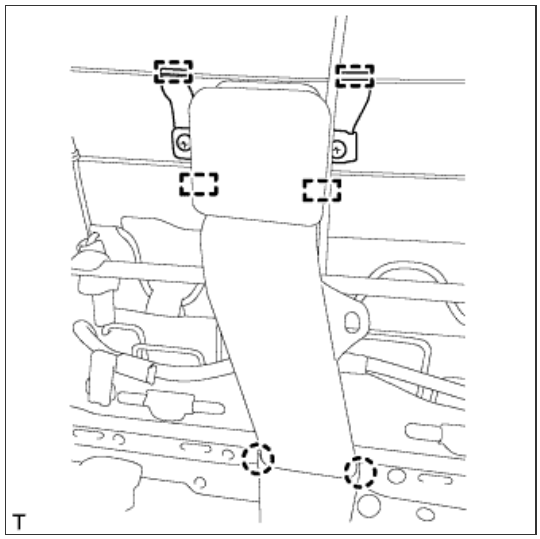
b. Move the front seatback board sub-assembly LH in the direction of the arrow to detach the 2 hooks and remove it.




## 8. REMOVE SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System)

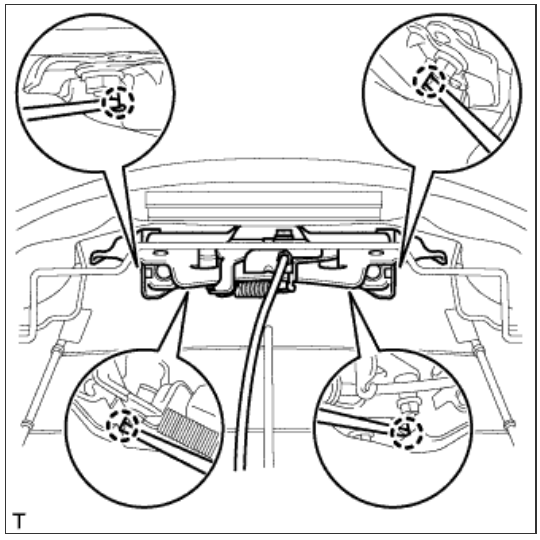
a. Detach the 2 claws and disconnect the seat climate control blower LH.

b. Detach the 4 hooks and remove the seat climate control controller LH.



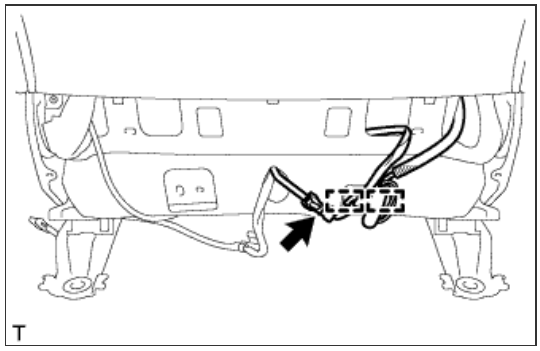

## 9. REMOVE FRONT SEAT HEADREST SUPPORT

a. Detach the 4 claws and remove the 2 front seat headrest supports.

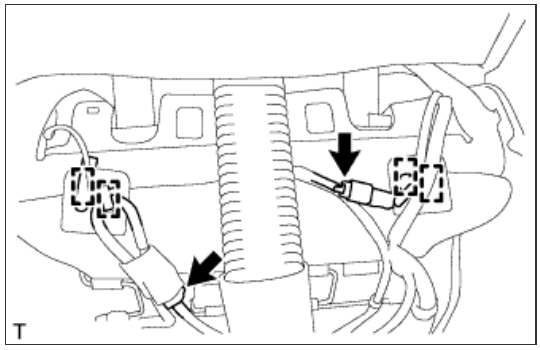



## 10. REMOVE SEATBACK COVER WITH PAD

a. w/o Climate Control Seat System:
Disconnect the connector and detach the 2 wire harness clamps.



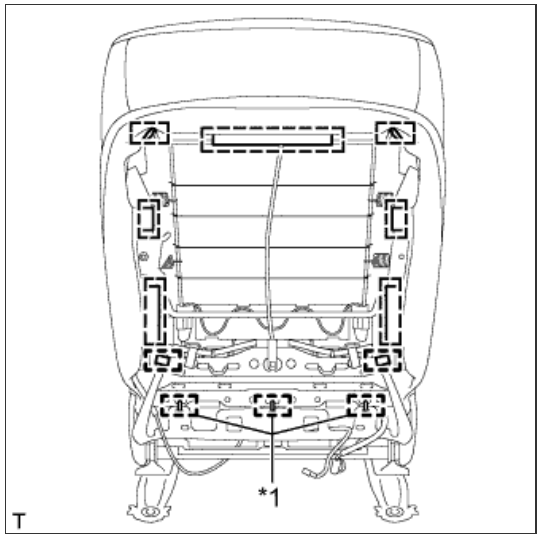

b. w/ Climate Control Seat System:
Disconnect the 2 connectors and detach the 4 wire harness clamps.




c. Remove the hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |

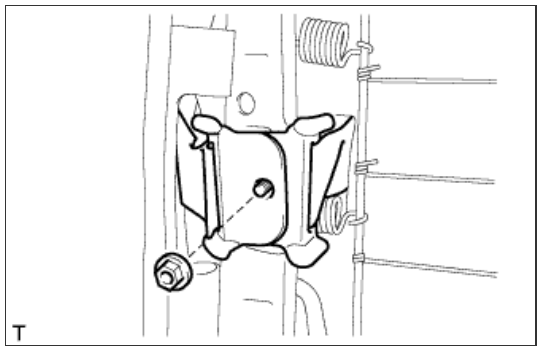



d. Remove the nut and detach the seatback cover bracket.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

e. Detach the hooks and remove the seatback cover with pad.



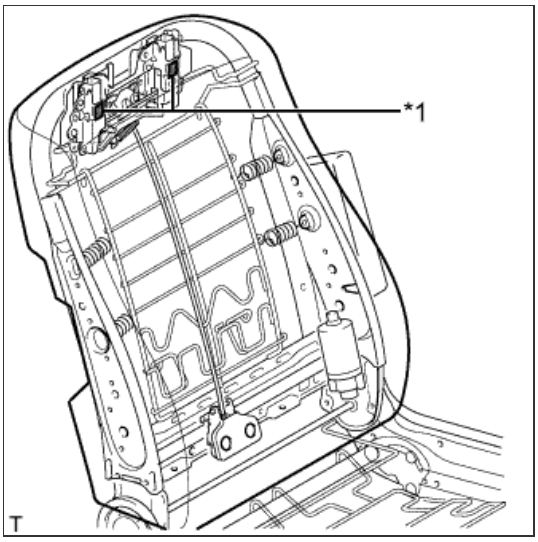

## 11. REMOVE FRONT SEATBACK PROTECTOR

a. Remove the front seatback protector.

b. Remove any remaining double-sided tape.

**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided Tape |

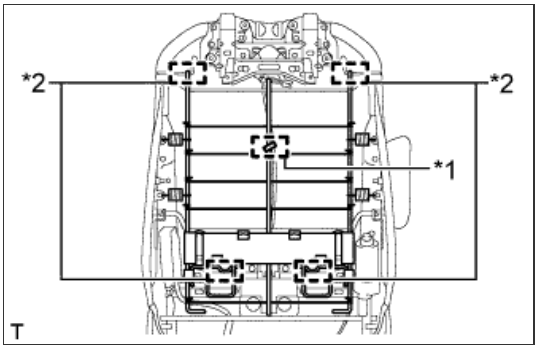



## 12. REMOVE LUMBAR SUPPORT ADJUSTER ASSEMBLY LH

a. Remove the cable clamp and disconnect the active headrest cable from the seatback spring.

**Text in Illustration**

| | |
|---|---|
| *1 | Cable Clamp |
| *2 | Hook |

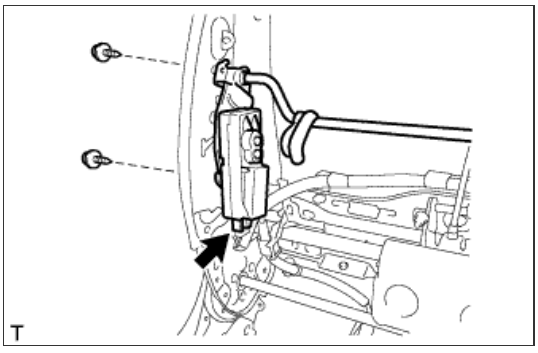



b. Remove the 4 springs.

c. Detach the 4 hooks and remove the seatback spring.

d. Disconnect the connector.

e. Remove the 2 screws and lumbar support adjuster assembly LH.



**for Preparation** Click here

## 1. INSPECT LUMBAR SUPPORT ADJUSTER ASSEMBLY LH (for LHD)

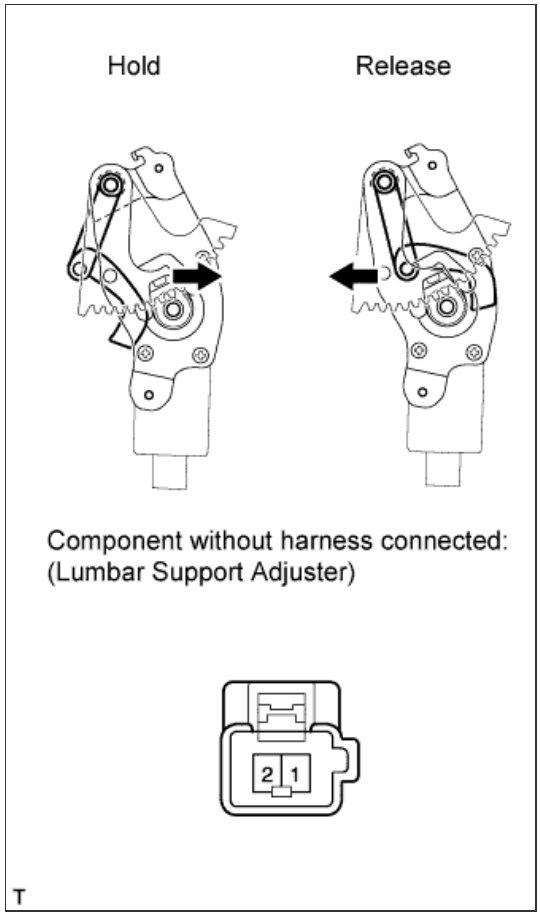
a. Check the operation of the lumbar support adjuster.

i. Check if the lumbar support adjuster moves smoothly when the battery is connected to the lumbar support adjuster motor connector terminals.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Hold |
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Release |

If the result is not as specified, replace the lumbar support adjuster assembly.




## 2. INSPECT LUMBAR SUPPORT ADJUSTER ASSEMBLY RH (for RHD)

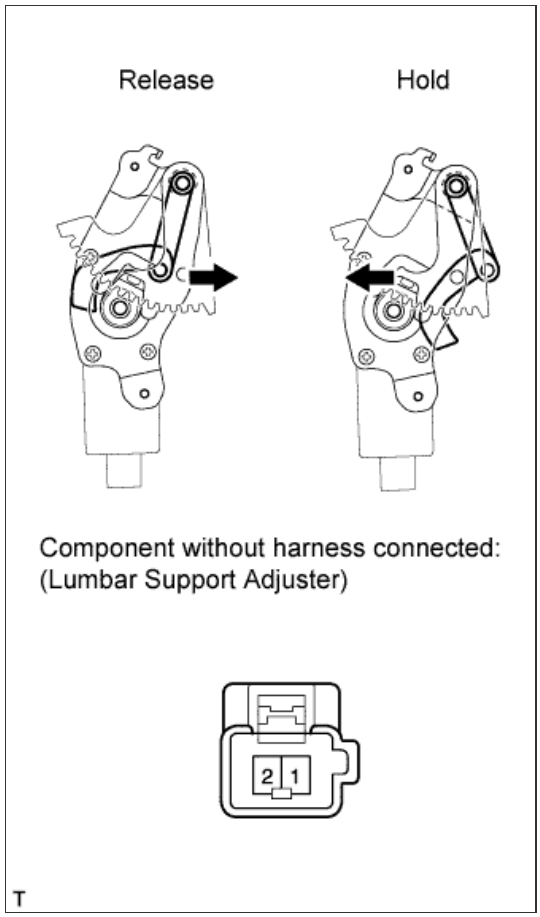
a. Check the operation of the lumbar support adjuster.

i. Check if the lumbar support adjuster moves smoothly when the battery is connected to the lumbar support adjuster motor connector terminals.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 2<br>Battery negative (-) → 1 | Hold |
| Battery positive (+) → 1<br>Battery negative (-) → 2 | Release |

If the result is not as specified, replace the lumbar support adjuster assembly.


Release
Hold
Component without harness connected:
(Lumbar Support Adjuster)
2
1
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

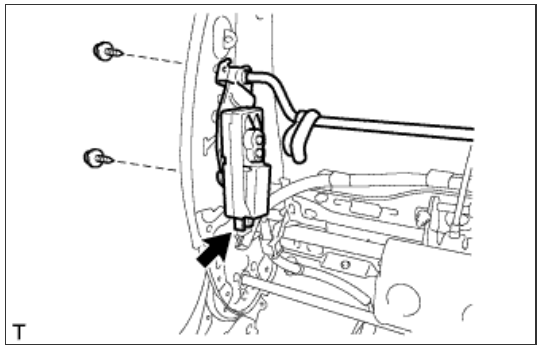
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL LUMBAR SUPPORT ADJUSTER ASSEMBLY LH

a. Install the lumbar support adjuster assembly LH with the 2 screws.

b. Connect the connector.



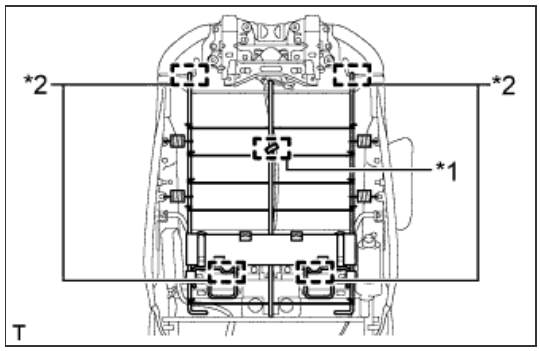

c. Attach the 4 hooks to install the seatback spring.

**Text in Illustration**

| | |
|---|---|
| *1 | Cable Clamp |
| *2 | Hook |

d. Install the 4 springs.

e. Connect the active headrest cable to the seatback spring with the cable clamp.



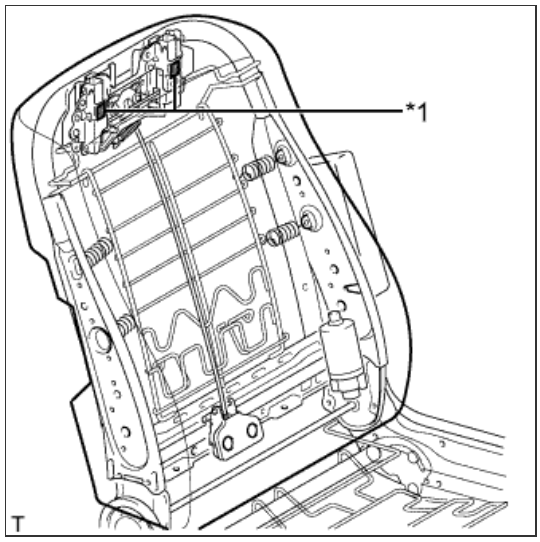

## 2. INSTALL FRONT SEATBACK PROTECTOR

a. Apply double-sided tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided tape |

b. Install the front seatback protector.

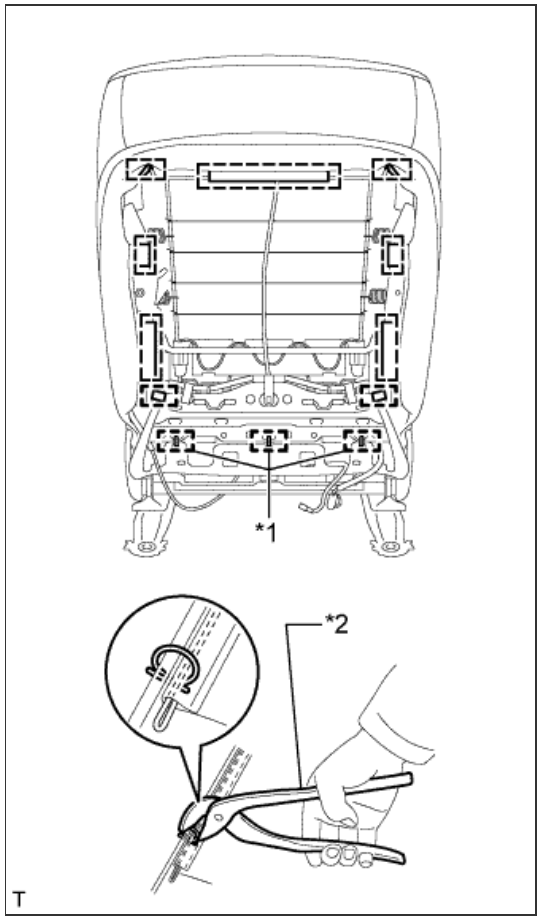



### 3. INSTALL SEATBACK COVER WITH PAD

a. Attach the hooks to install the seatback cover with pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |
| *2 | Hog Ring Pliers |




b. Attach the seatback cover bracket with the nut.

**Text in Illustration**

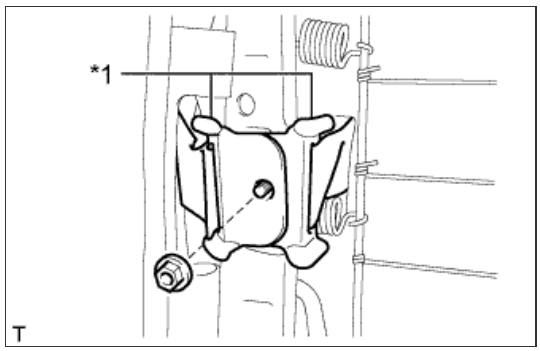
| | |
|---|---|
| *1 | Seatback Cover Bracket |

**Torque:**

**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.

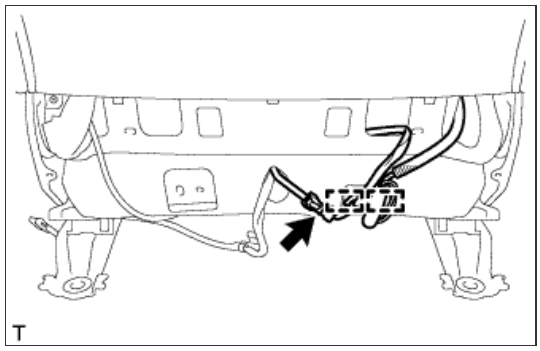



c. Using hog ring pliers, install new hog rings.

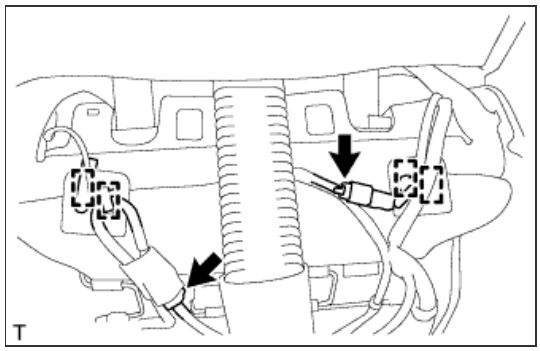
**NOTICE:**

Be careful not to damage the cover.

d. w/o Climate Control Seat System:
Connect the connector and attach the 2 wire harness clamps.

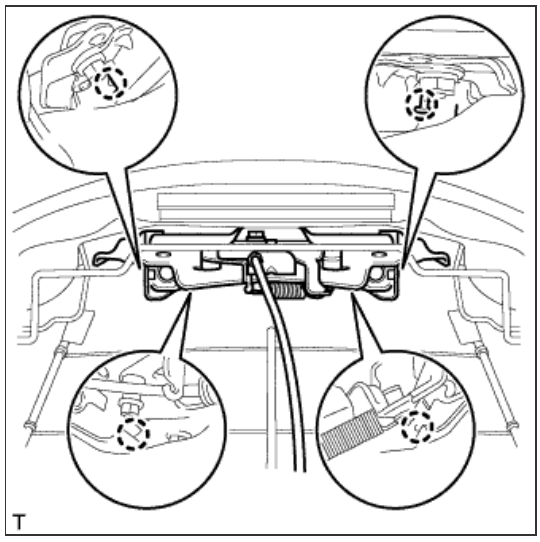



e. w/ Climate Control Seat System:
Connect the 2 connectors and attach the 4 wire harness clamps.




## 4. INSTALL FRONT SEAT HEADREST SUPPORT

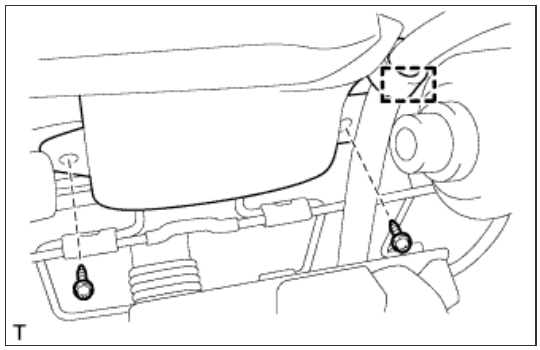
a. Attach the 4 claws to install the 2 front seat headrest supports.



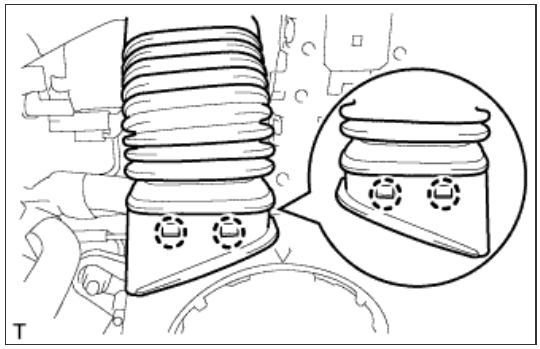

## 5. INSTALL SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System)

a. Install the seat climate control controller LH with the 2 screws.

b. Attach the wire harness clamp.



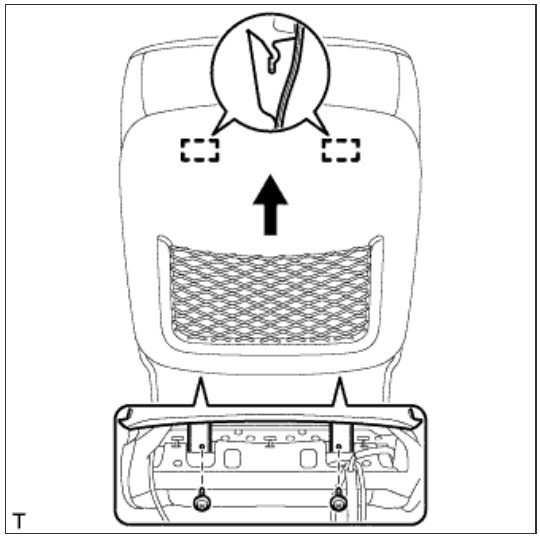

c. Attach the 4 claws to connect the seat climate control blower LH.




## 6. INSTALL FRONT SEATBACK BOARD SUB-ASSEMBLY LH

a. Move the front seatback board sub-assembly in the direction of the arrow to attach the 2 hooks and install it.

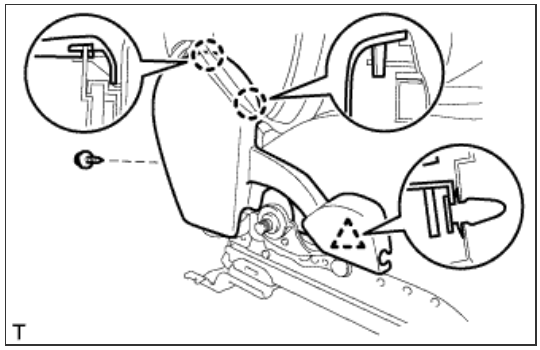
b. Install the 2 screws.




## 7. INSTALL FRONT INNER SEAT CUSHION SHIELD LH

a. Attach the 2 claws and clip to install the front inner seat cushion shield LH.

b. Install the screw.




## 8. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH

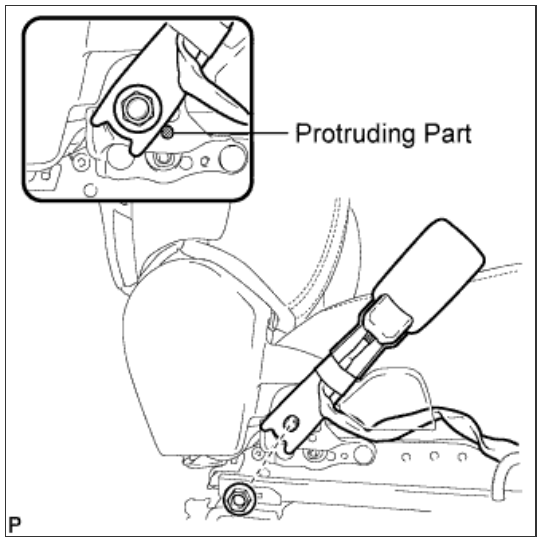
a. Install the front seat belt anchor plate.

b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding parts of the front seat adjuster.



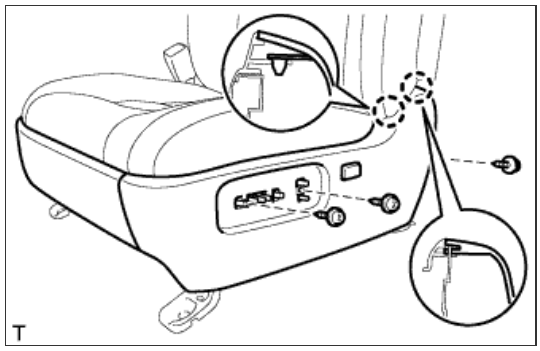

c. Connect the connectors and attach the clamps.

## 9. INSTALL FRONT SEAT CUSHION SHIELD LH

a. for Driver Side:
Connect the connector.

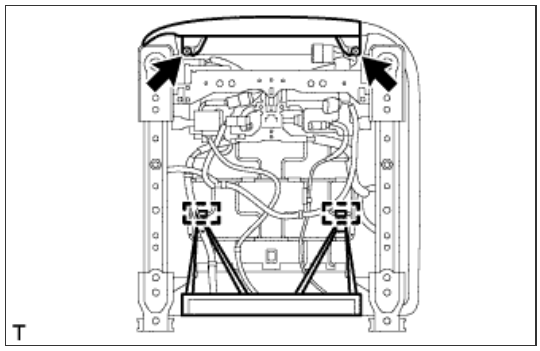
b. Attach the 2 claws to install the front seat cushion shield LH together with the front inner No. 1 cushion shield LH.

c. Install the 3 screws.



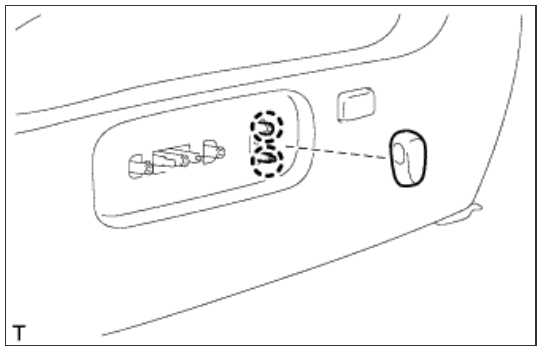

d. Connect the 2 rubber bands.

e. Install the 2 screws.



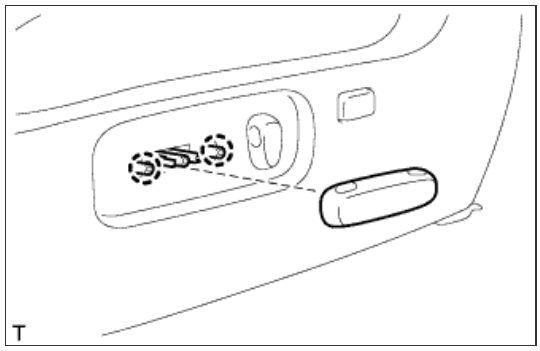

## 10. INSTALL RECLINING POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the reclining power seat switch knob.




## 11. INSTALL SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

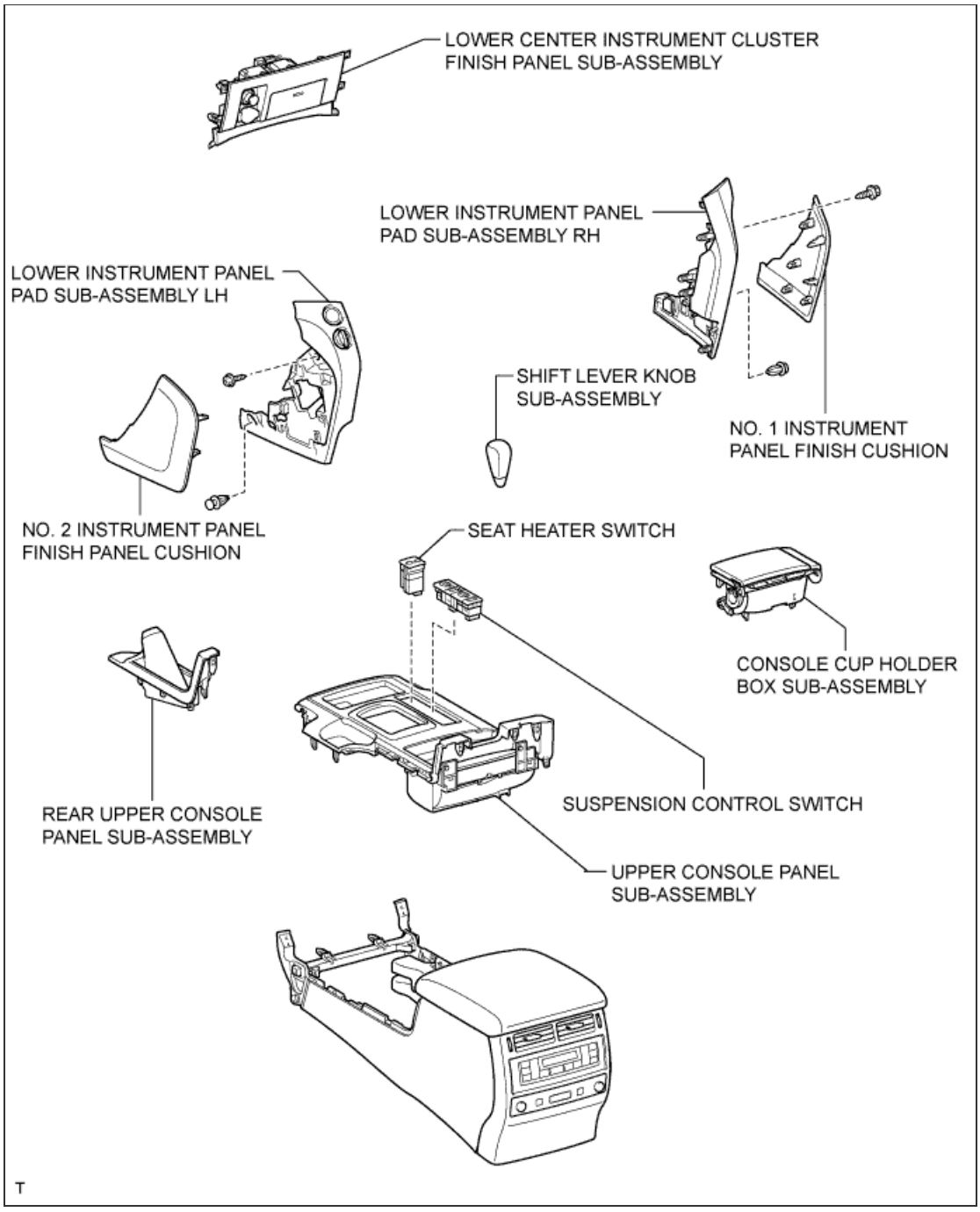
a. Attach the 2 claws to install the slide and vertical power seat switch knob.




## 12. INSTALL FRONT SEAT ASSEMBLY LH

(Click here)

**for Preparation** Click here



**for Preparation** Click here

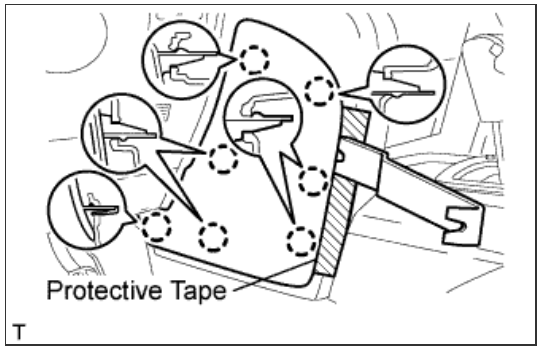
**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.



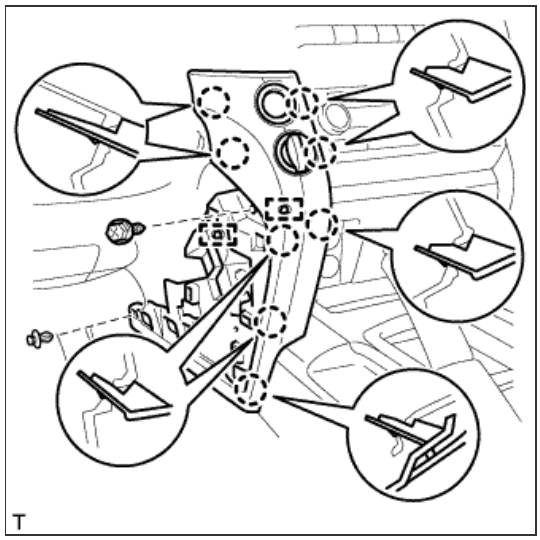

## 2. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip.

b. Remove the screw.

c. Detach the 8 claws.

d. Remove the panel pad and disconnect the connectors and 2 clamps.




## 3. REMOVE NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.

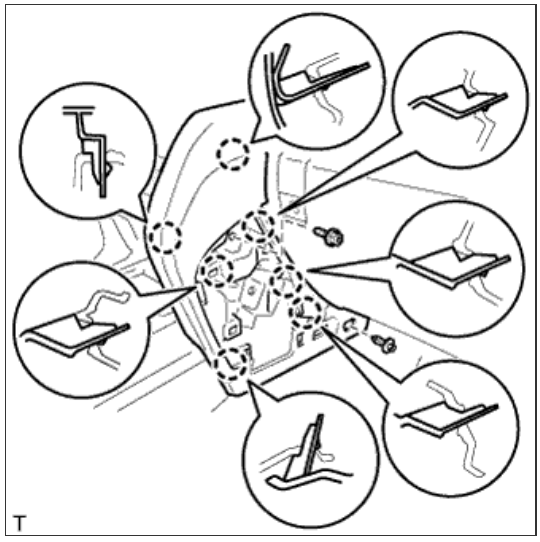



## 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip.

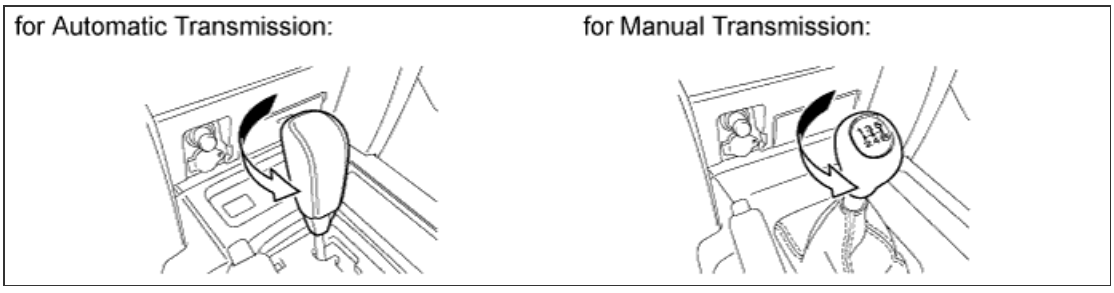
b. Remove the screw.

c. Detach the 7 claws and remove the panel.




## 5. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY

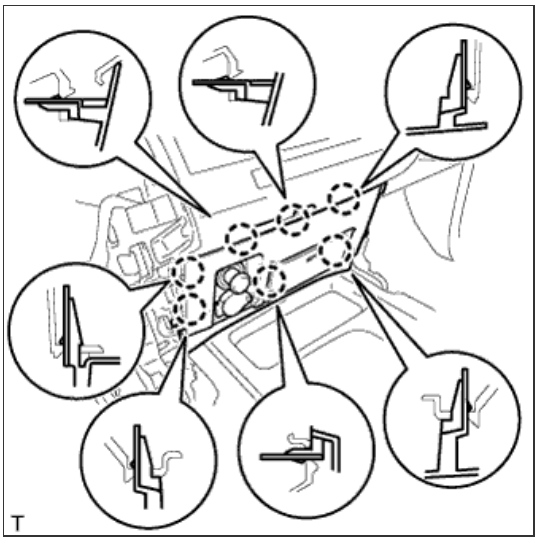
a. Twist the shift lever knob in the direction indicated by the arrow and remove it.




## 6. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

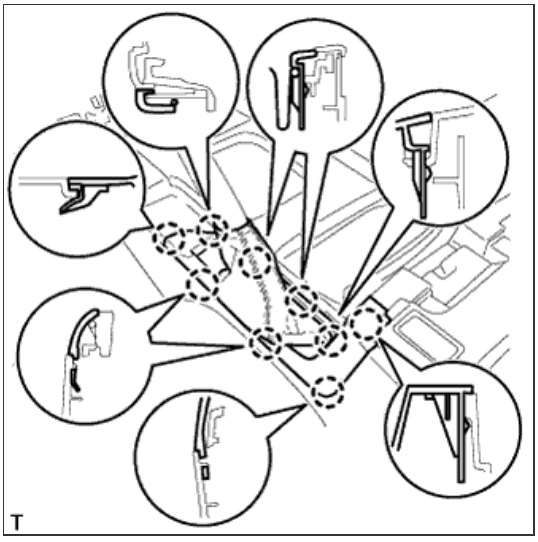
a. Detach the 7 claws.

b. Disconnect the connectors and remove the panel.



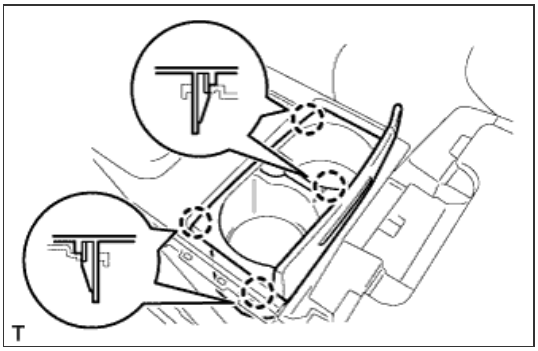

## 7. REMOVE REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 9 claws and remove the panel.




## 8. REMOVE CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

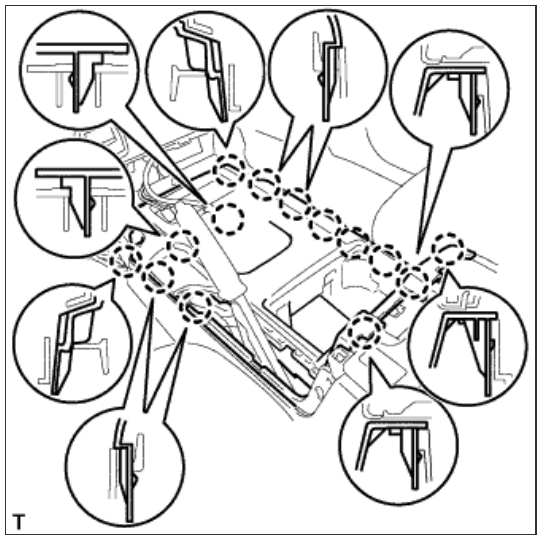
a. Detach the 4 claws and remove the box.




## 9. REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 14 claws.

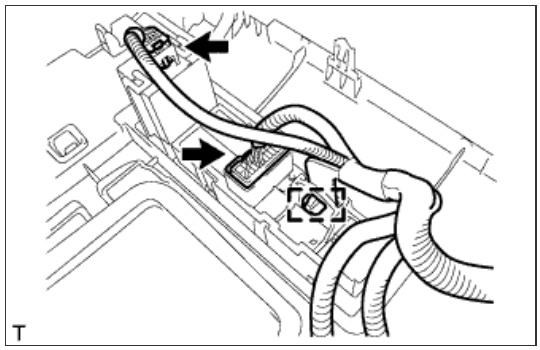
b. Disconnect the connectors and remove the console panel.



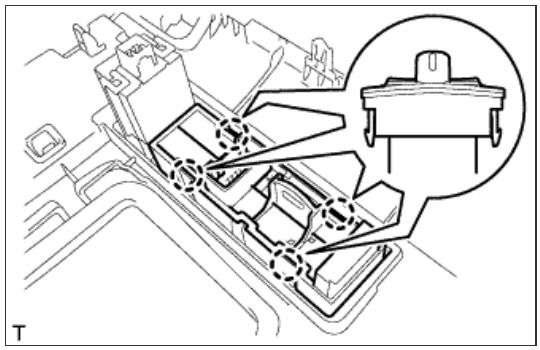

## 10. REMOVE SUSPENSION CONTROL SWITCH

a. Disconnect the 2 connectors.

b. Detach the wire harness clamp.

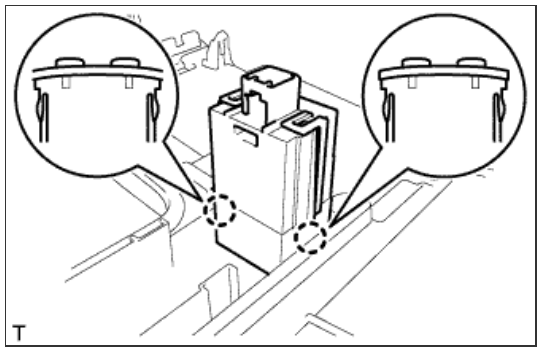



c. Detach the 4 claws and remove the control switch.




## 11. REMOVE SEAT HEATER SWITCH

a. Detach the 2 claws and remove the heater switch.



**for Preparation** Click here

## 1. INSPECT SEAT HEATER SWITCH

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (RV) - 6 (SW)<br>3 (RV) - 4 (SW) | Switch off | 2.7 to 4.1 kΩ |
| | Switch on (Min) | |
| | Switch on (Max) | 0.28 to 0.42 kΩ |

**HINT:**

As the dial is being turned, the resistance changes gradually.

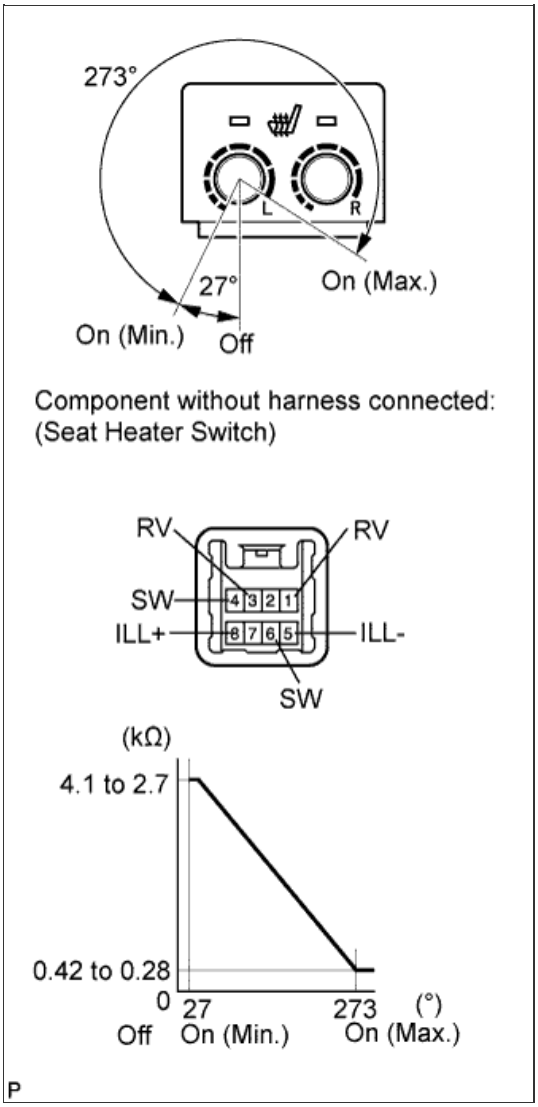
If the result is not as specified, replace the seat heater switch.

b. Apply battery voltage to the switch connector, and check that the seat heater switch illuminates.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 8 (ILL+)<br>Battery negative (-) → 5 (ILL-) | Illuminates |

If the result is not as specified, replace the seat heater switch.



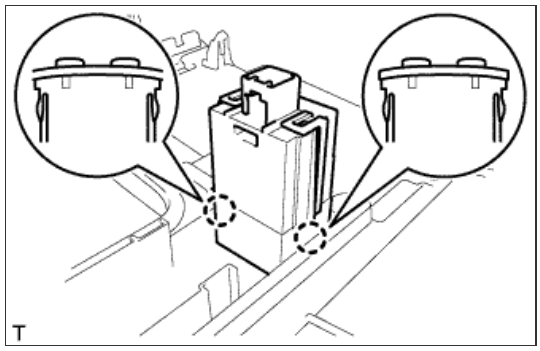
**for Preparation** Click here

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

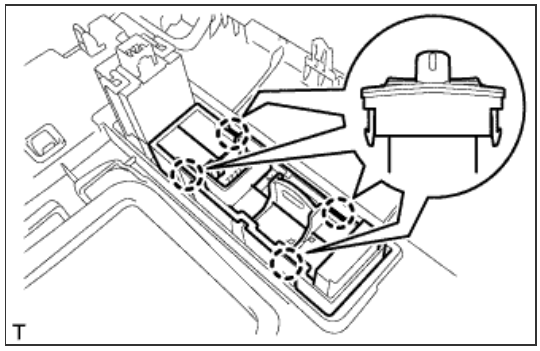
## 1. INSTALL SEAT HEATER SWITCH

a. Attach the 2 claws to install the heater switch.



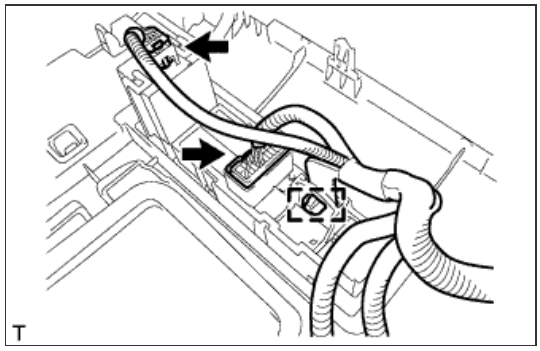

## 2. INSTALL SUSPENSION CONTROL SWITCH

a. Attach the 4 claws to install the control switch.




b. Connect the 2 connectors.

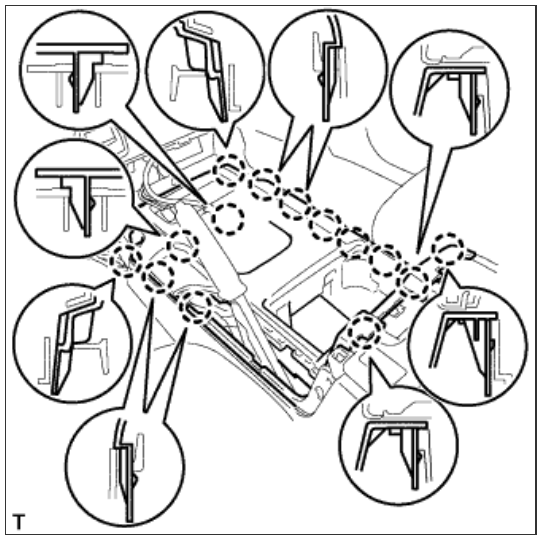
c. Attach the wire harness clamp.




## 3. INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY

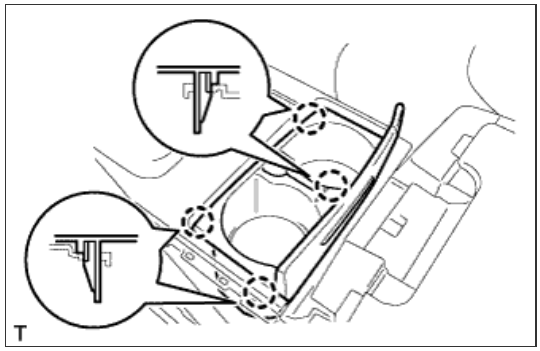
a. Connect the connectors.

b. Attach the 14 claws to install the console panel.



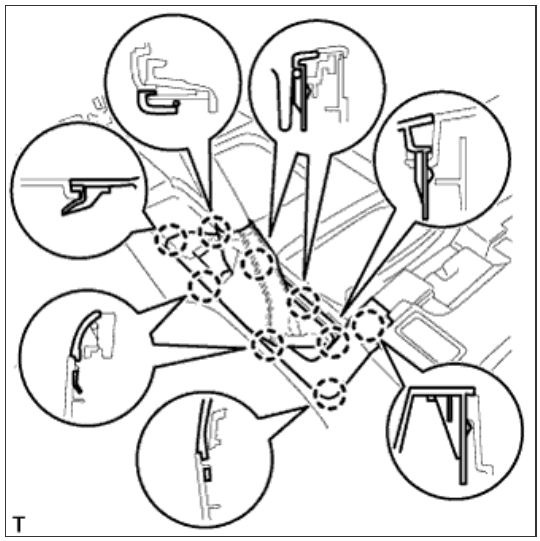

## 4. INSTALL CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

a. Attach the 4 claws to install the box.




## 5. INSTALL REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

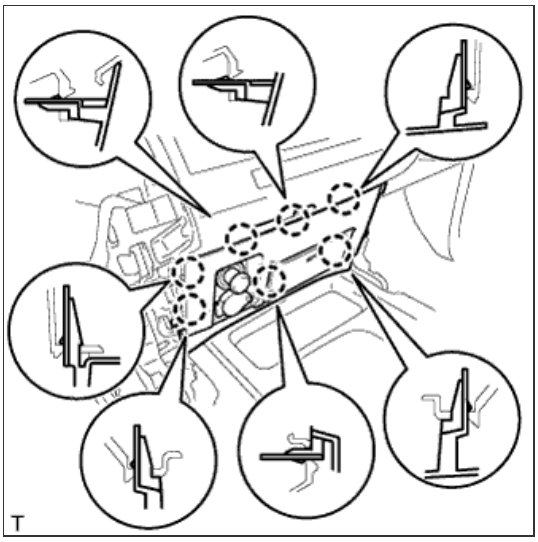
a. Attach the 9 claws to install the panel.




## 6. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

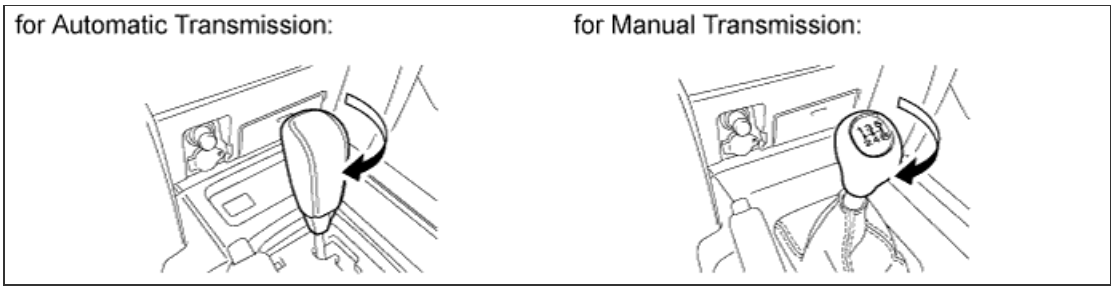
a. Connect the connectors.

b. Attach the 7 claws to install the panel.




### 7. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY

a. Install the shift lever knob and twist it in the direction indicated by the arrow.

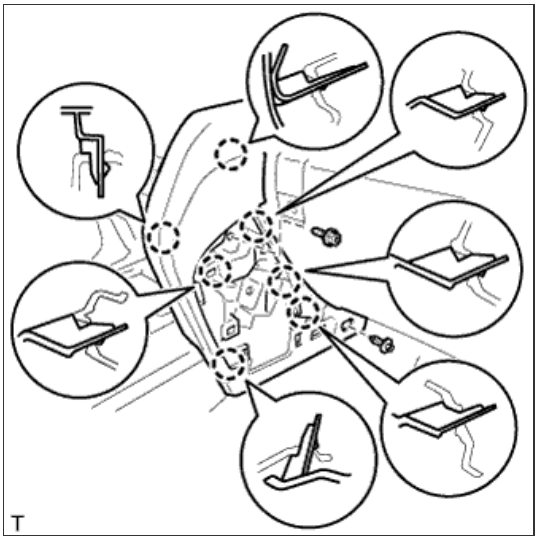



### 8. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 7 claws to install the panel pad.

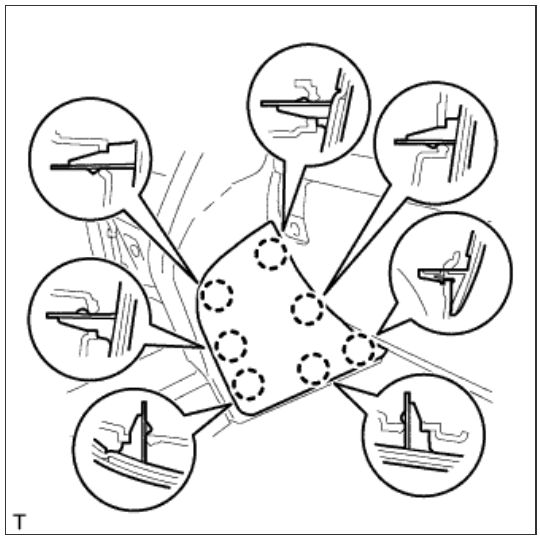
b. Install the screw.

c. Install the clip.




### 9. INSTALL NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Attach the 7 claws to install the panel cushion.



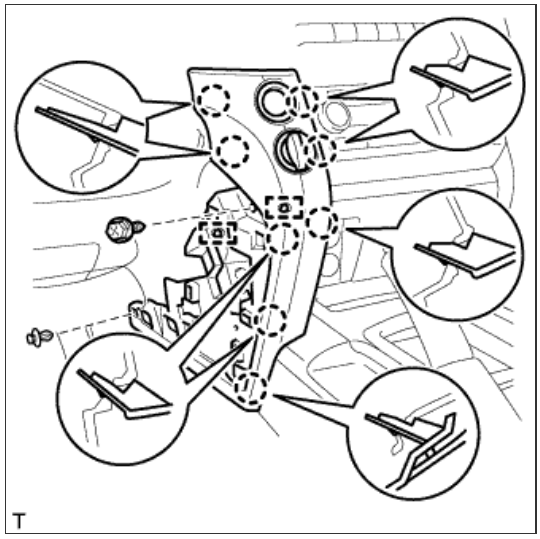

## 10. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the panel pad.

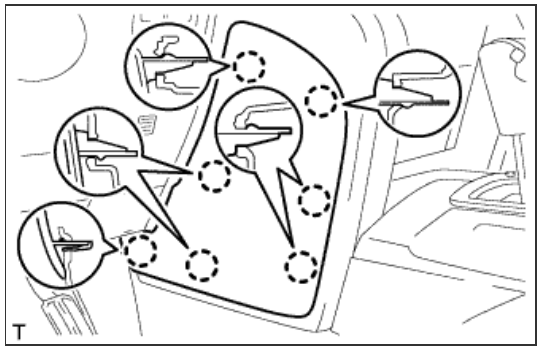
c. Install the screw.

d. Install the clip.

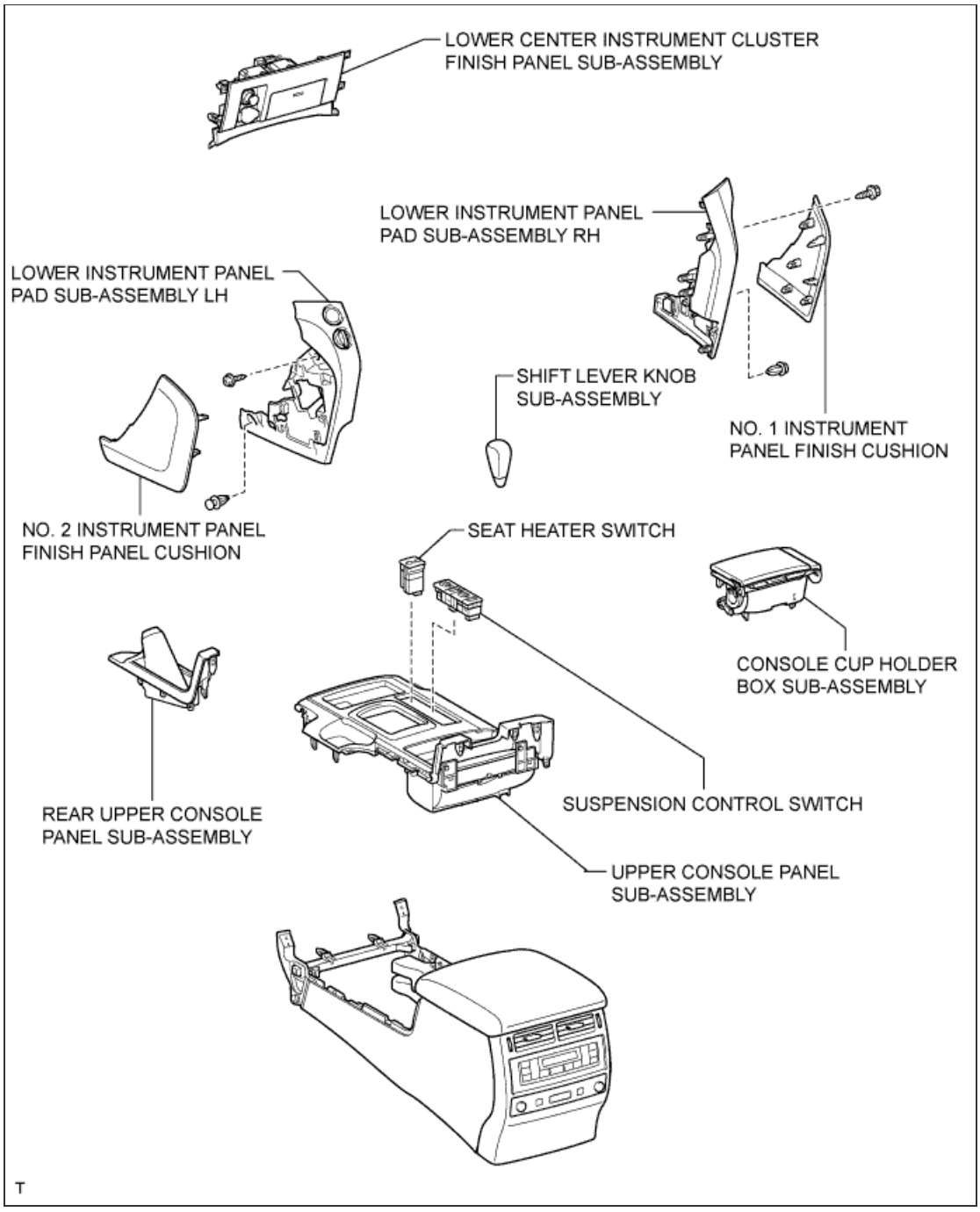



## 11. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the panel cushion.



**for Preparation** Click here



**for Preparation** Click here

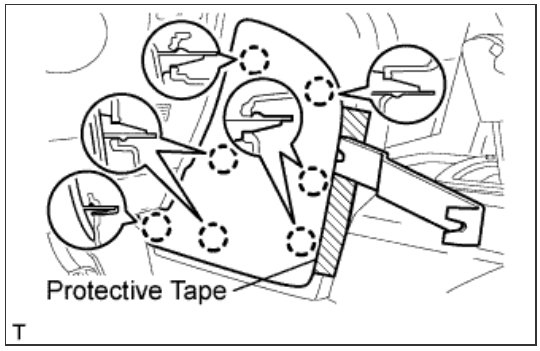
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.



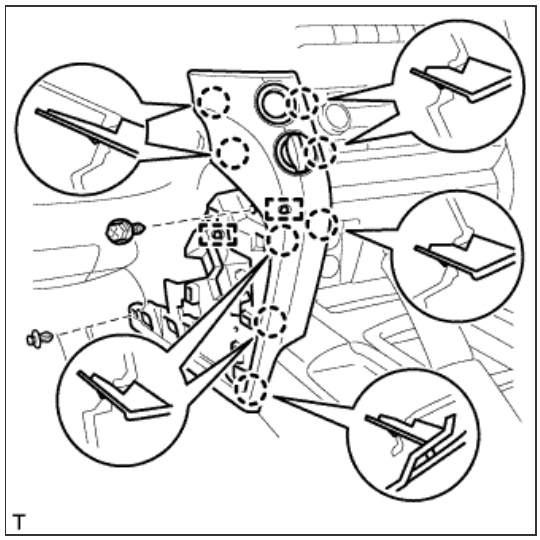

## 2. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip.

b. Remove the screw.

c. Detach the 8 claws.

d. Remove the panel pad and disconnect the connectors and 2 clamps.




## 3. REMOVE NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.

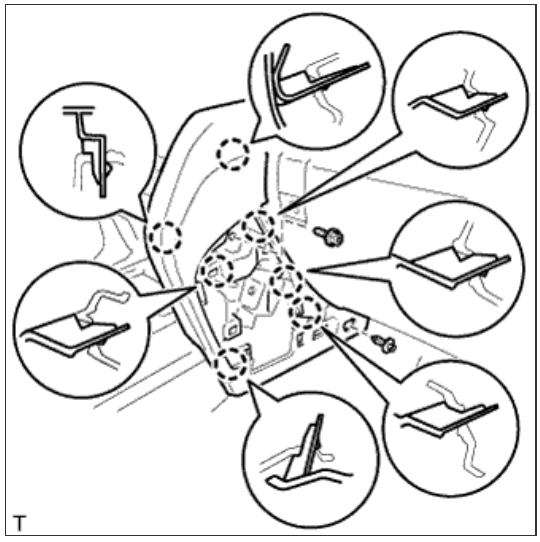



## 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip.

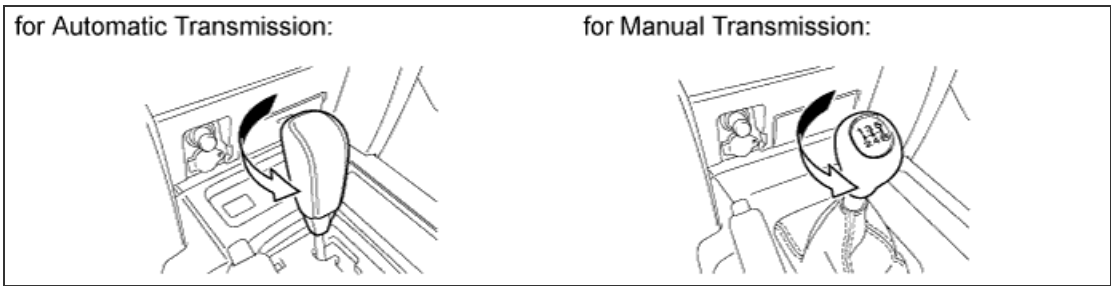
b. Remove the screw.

c. Detach the 7 claws and remove the panel.




## 5. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY

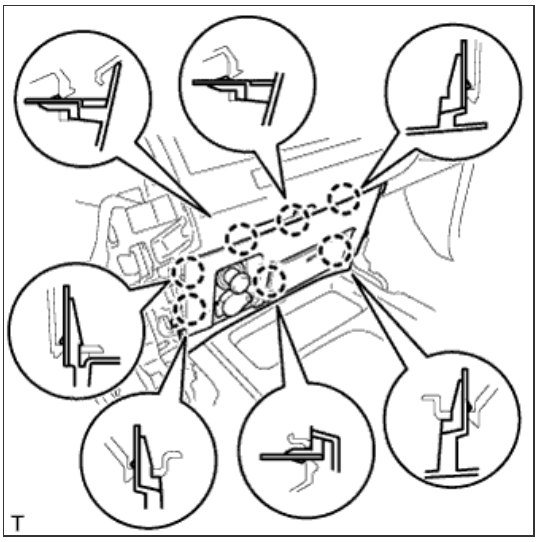
a. Twist the shift lever knob in the direction indicated by the arrow and remove it.




## 6. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

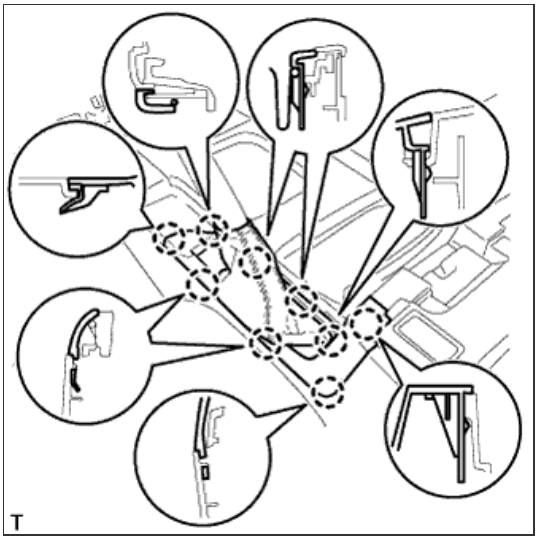
a. Detach the 7 claws.

b. Disconnect the connectors and remove the panel.



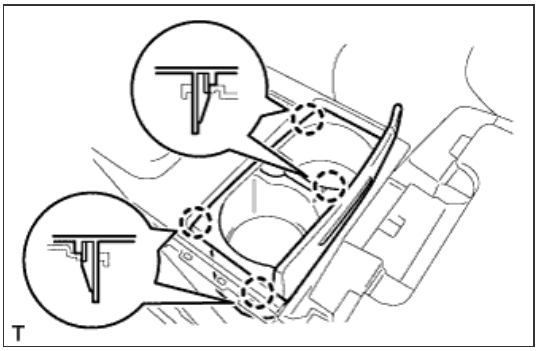

## 7. REMOVE REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 9 claws and remove the panel.




## 8. REMOVE CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

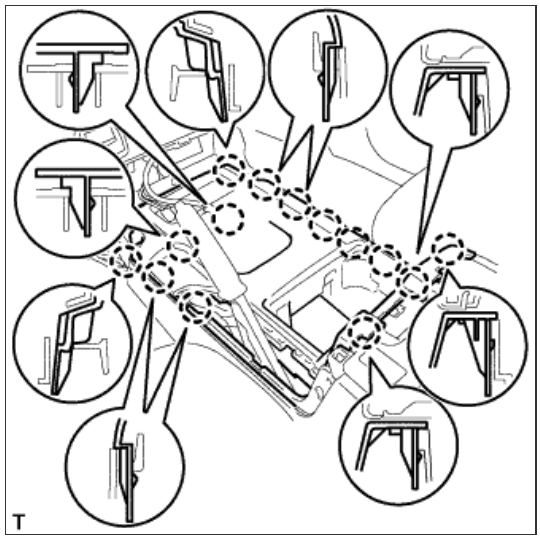
a. Detach the 4 claws and remove the box.




## 9. REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 14 claws.

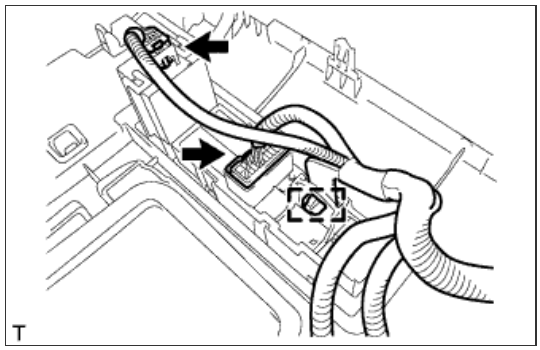
b. Disconnect the connectors and remove the console panel.



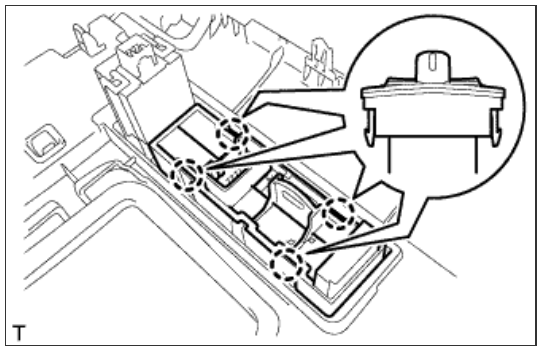

## 10. REMOVE SUSPENSION CONTROL SWITCH

a. Disconnect the 2 connectors.

b. Detach the wire harness clamp.

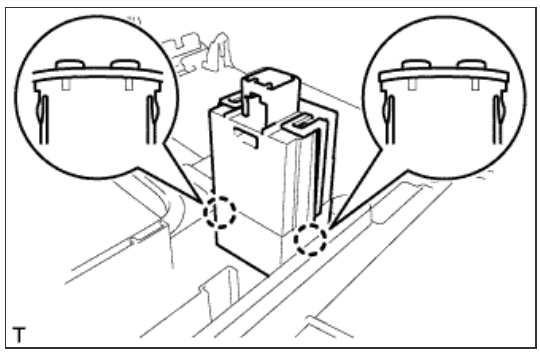



c. Detach the 4 claws and remove the suspension control switch.




## 11. REMOVE SEAT HEATER SWITCH

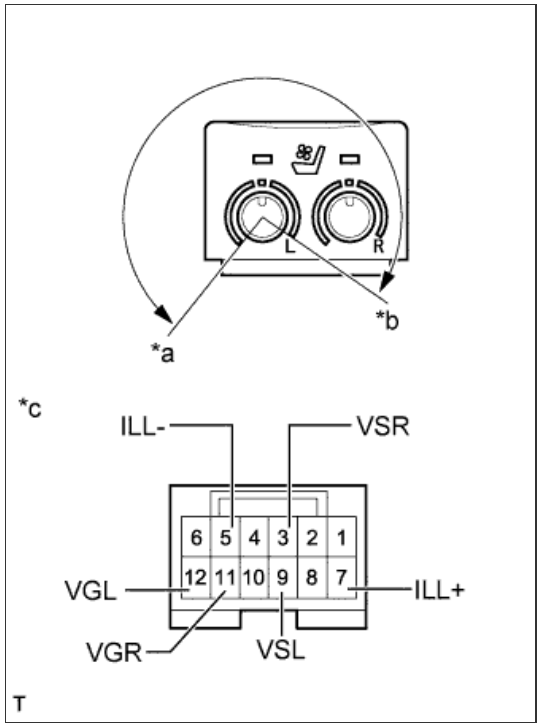
a. Detach the 2 claws and remove the seat heater switch.



**for Preparation** Click here

## 1. INSPECT SEAT HEATER SWITCH (w/ Seat Heater System)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**
**for LH Side:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 9 (VSL) - 12 (VGL) | COLD (HI) to HOT (HI) | 6.0 to 0.06 kΩ |

**Standard Resistance:**
**for RH Side:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (VSR) - 11 (VGR) | COLD (HI) to HOT (HI) | 6.0 to 0.06 kΩ |

**HINT:**

As the dial is being turned, the resistance changes gradually.

If the result is not as specified, replace the seat heater switch.

**Text in Illustration**

| | |
|---|---|
| *a | COLD (HI) |
| *b | HOT (HI) |
| *c | Component without harness connected (Seat Heater Switch) |

If the result is not as specified, replace the seat heater switch.

b. Apply battery voltage to the switch connector, and check that the seat heater switch illuminates.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 7 (ILL+)<br>Battery negative (-) → 5 (ILL-) | Illuminates |

If the result is not as specified, replace the seat heater switch.

## 2. INSPECT SEAT HEATER SWITCH (w/o Seat Heater System)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**
**for LH Side:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 9 (VSL) - 12 (VGL) | ON (MIN) to ON (MAX) | 6.0 to 0.06 kΩ |

**Standard Resistance:**
**for RH Side:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (VSR) - 11 (VGR) | ON (MIN) to ON (MAX) | 6.0 to 0.06 kΩ |

**HINT:**

As the dial is being turned, the resistance changes gradually.

If the result is not as specified, replace the seat heater switch.

**Text in Illustration**

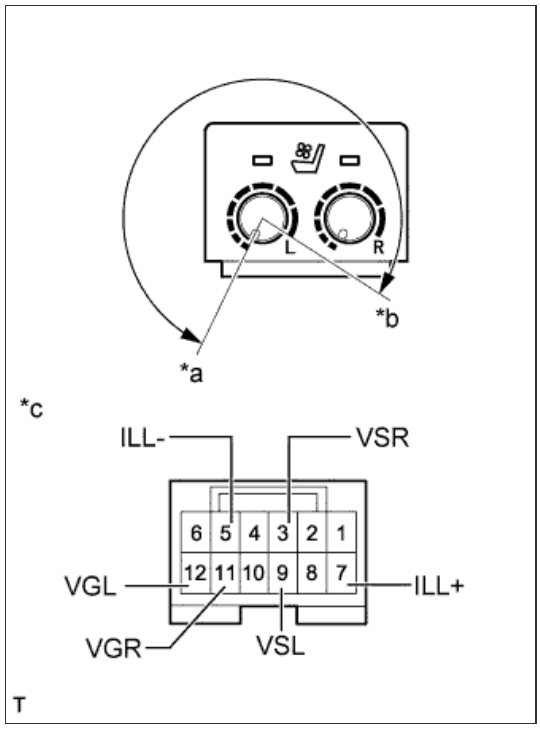
| | |
|---|---|
| *a | ON (MIN) |
| *b | ON (MAX) |
| *c | Component without harness connected<br>(Seat Heater Switch) |

b. Apply battery voltage to the switch connector, and check that the seat heater switch illuminates.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → 8 (ILL+)<br>Battery negative (-) → 5 (ILL-) | Illuminates |

If the result is not as specified, replace the seat heater switch.



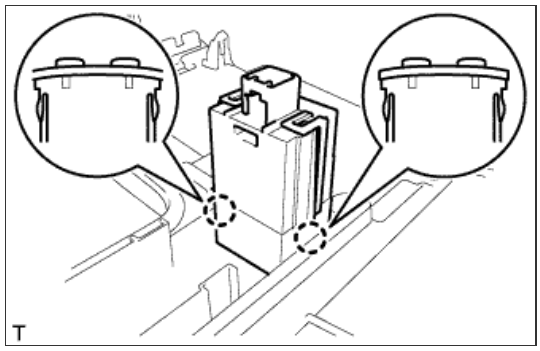
**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

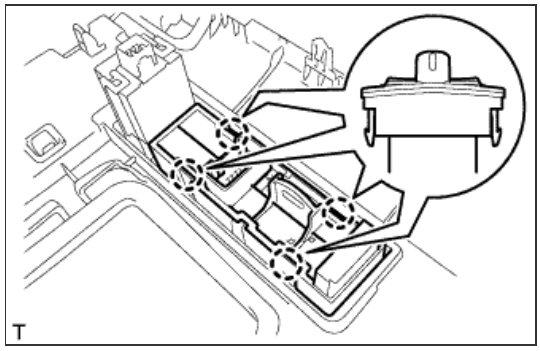
## 1. INSTALL SEAT HEATER SWITCH

a. Attach the 2 claws to install the seat heater switch.



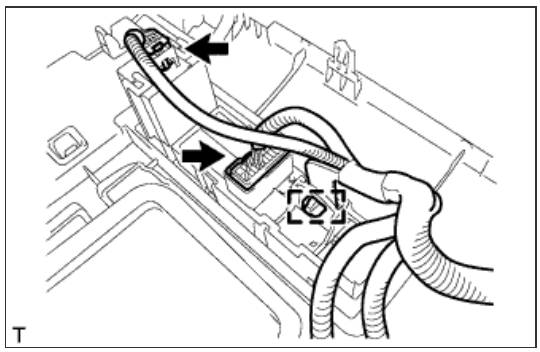

## 2. INSTALL SUSPENSION CONTROL SWITCH

a. Attach the 4 claws to install the suspension control switch.




b. Connect the 2 connectors.

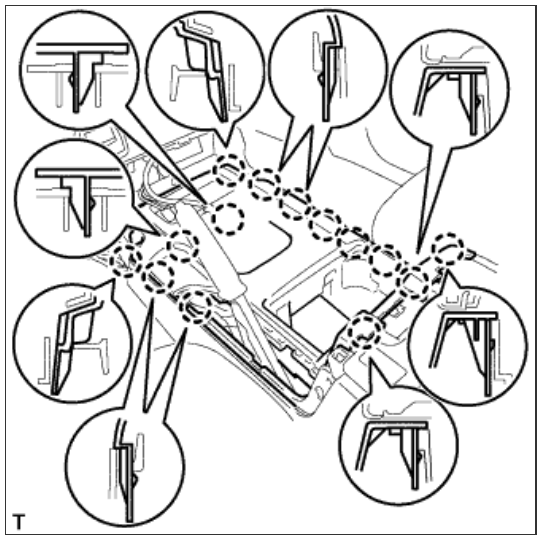
c. Attach the wire harness clamp.




## 3. INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY

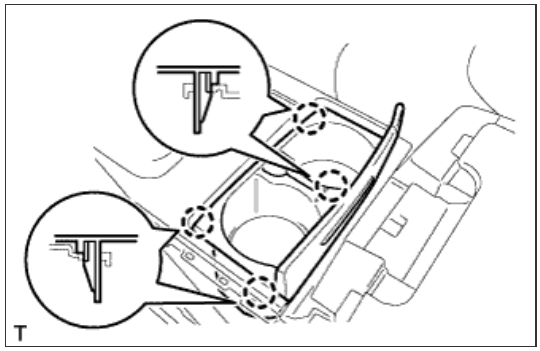
a. Connect the connectors.

b. Attach the 14 claws to install the console panel.



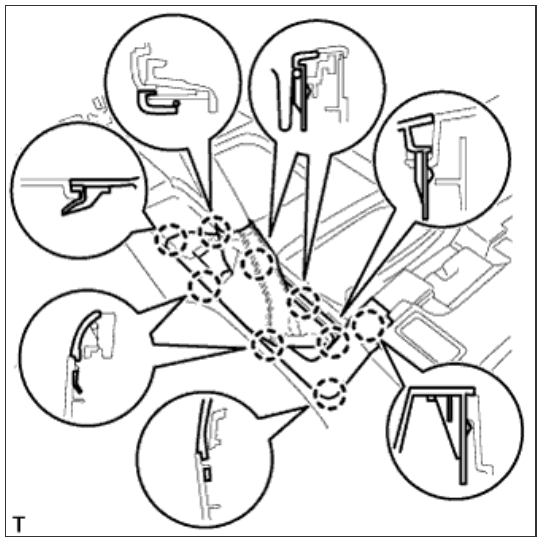

## 4. INSTALL CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

a. Attach the 4 claws to install the box.




## 5. INSTALL REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

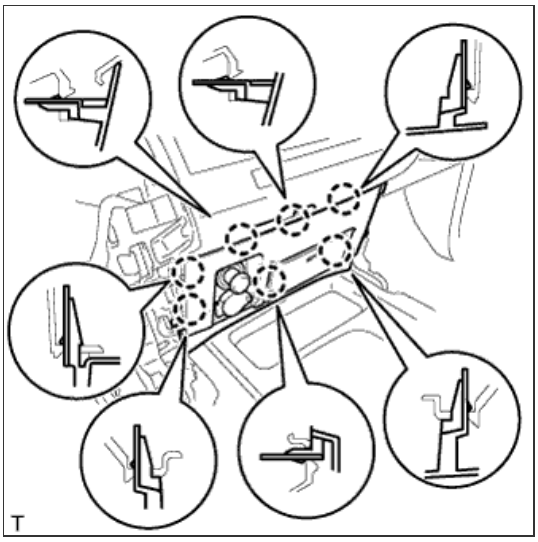
a. Attach the 9 claws to install the panel.




## 6. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

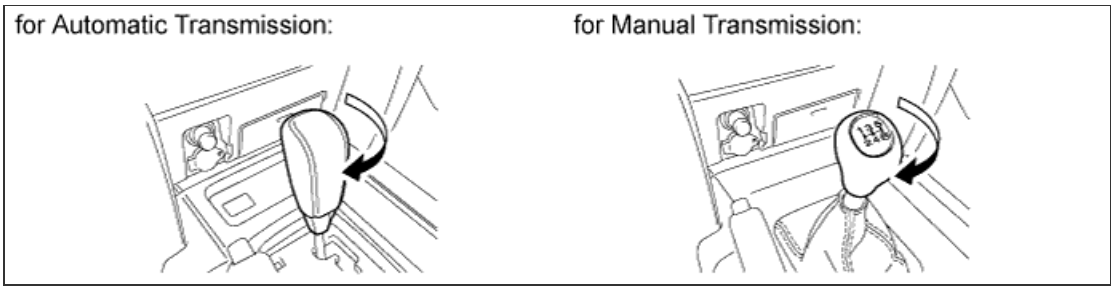
a. Connect the connectors.

b. Attach the 7 claws to install the panel.




### 7. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY

a. Install the shift lever knob and twist it in the direction indicated by the arrow.

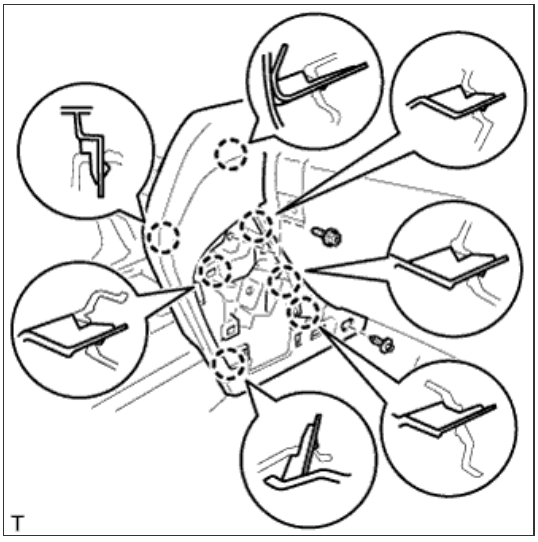



### 8. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 7 claws to install the panel pad.

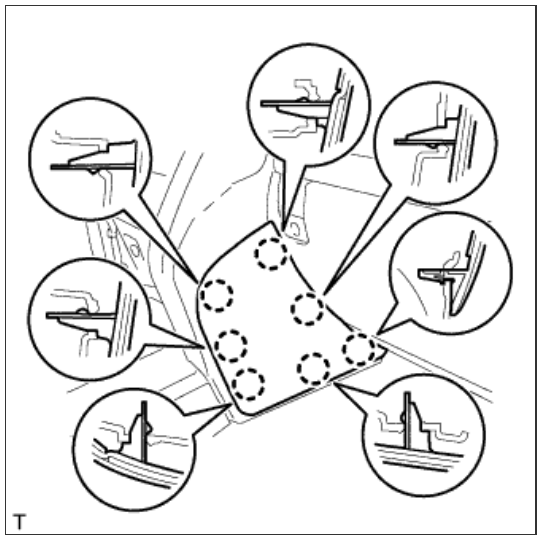
b. Install the screw.

c. Install the clip.




### 9. INSTALL NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Attach the 7 claws to install the panel cushion.



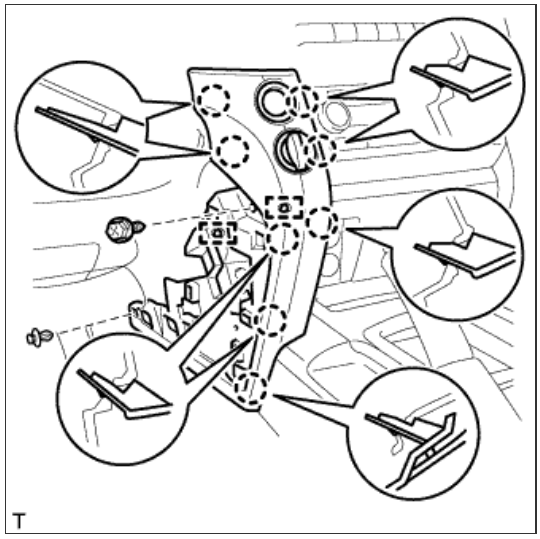

## 10. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the panel pad.

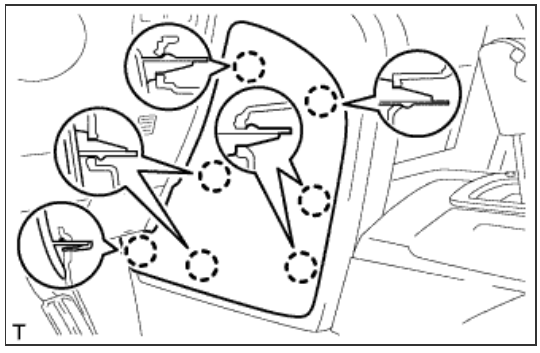
c. Install the screw.

d. Install the clip.




## 11. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the panel cushion.




## 12. INSPECT SEAT HEATER SYSTEM

a. Check the seat heater operation.

i. Turn the engine switch on (IG).

ii. Turn the seat heater switch on.

iii. Wait 5 minutes or more and confirm that the seat surface becomes warm.

## 13. INSPECT CLIMATE CONTROL SEAT SYSTEM (w/ Climate Control Seat System)

a. Check the climate control seat operation.

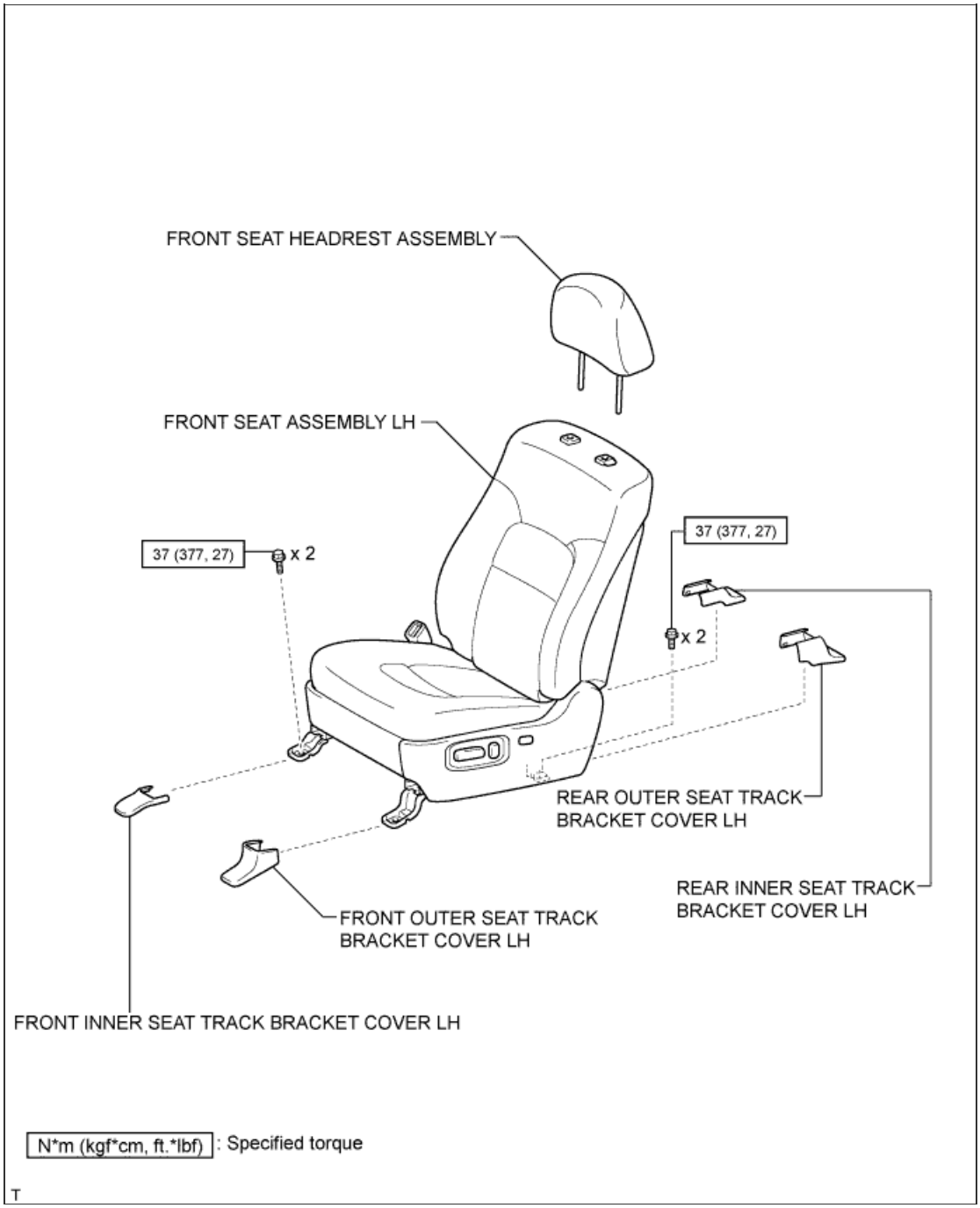
i. When the climate control seat switch is turned on, check that the seat heater and blower operate based on the seat temperature.

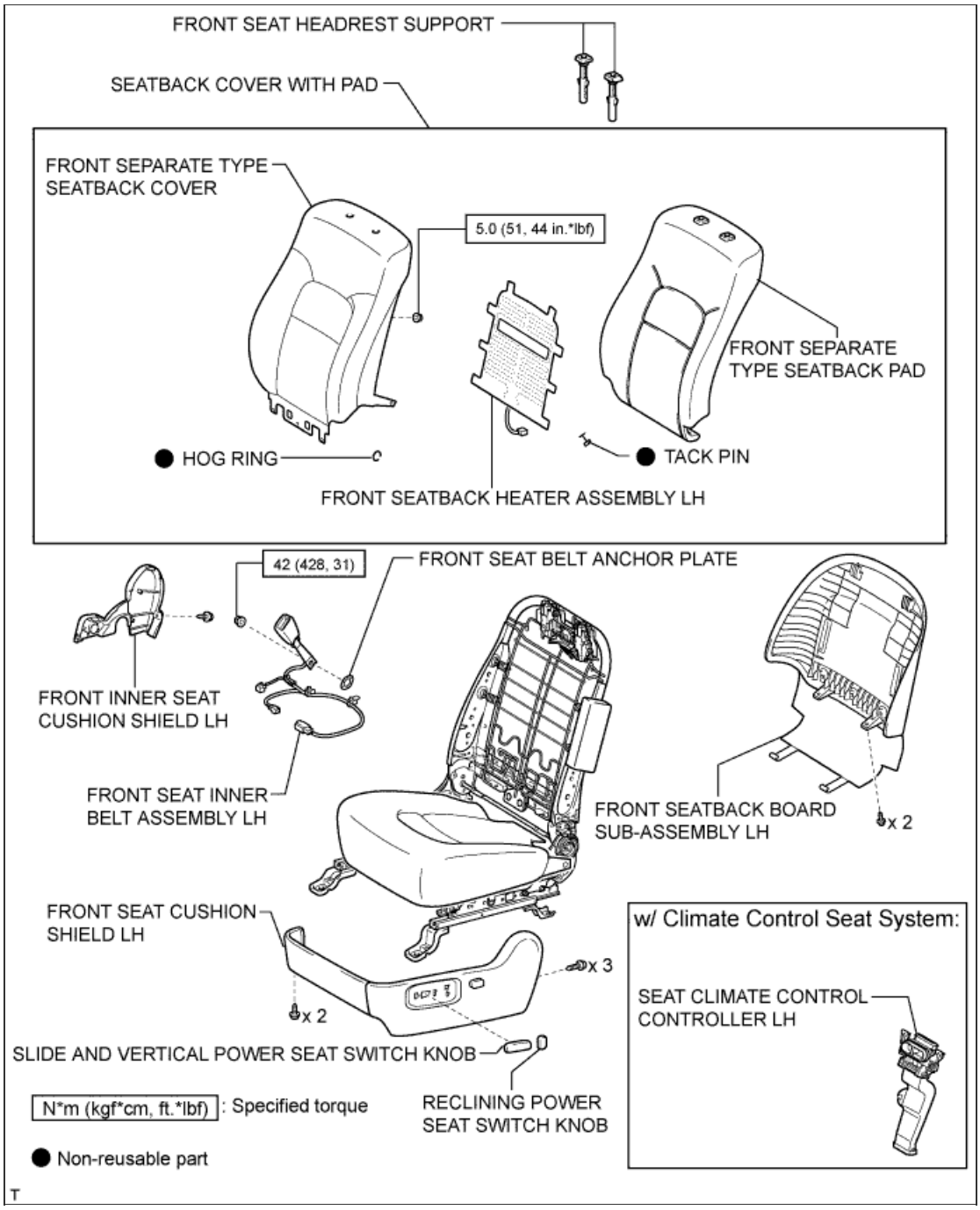
ii. If the seat temperature increases as a result of the seat heater operation, check that the seat heater operation stops and the blower operation continues.

**HINT:**

Based on the cabin temperature, seat temperature, etc., the seat heater operation time varies.

**for Preparation** Click here




FRONT SEAT HEADREST SUPPORT
SEATBACK COVER WITH PAD
FRONT SEPARATE TYPE SEATBACK COVER
5.0 (51, 44 in.*lbf)
FRONT SEPARATE TYPE SEATBACK PAD
HOG RING
TACK PIN
FRONT SEATBACK HEATER ASSEMBLY LH
42 (428, 31)
FRONT SEAT BELT ANCHOR PLATE
FRONT INNER SEAT CUSHION SHIELD LH
FRONT SEAT INNER BELT ASSEMBLY LH
FRONT SEATBACK BOARD SUB-ASSEMBLY LH
x 2
FRONT SEAT CUSHION SHIELD LH
x 3
x 2
SLIDE AND VERTICAL POWER SEAT SWITCH KNOB
RECLINING POWER SEAT SWITCH KNOB
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
w/ Climate Control Seat System:
SEAT CLIMATE CONTROL CONTROLLER LH
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

(Click here)

## 2. REMOVE SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Apply protective tape as shown in the illustration.

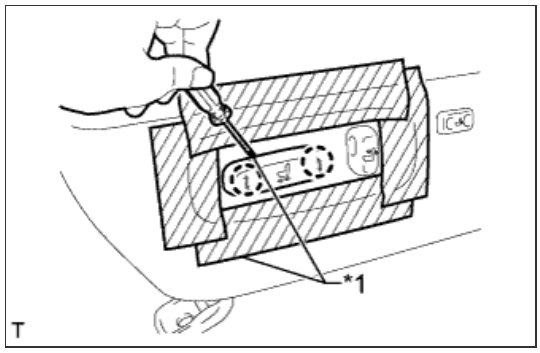
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a screwdriver, detach the 2 claws and remove the slide and vertical power seat switch knob.

**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING POWER SEAT SWITCH KNOB

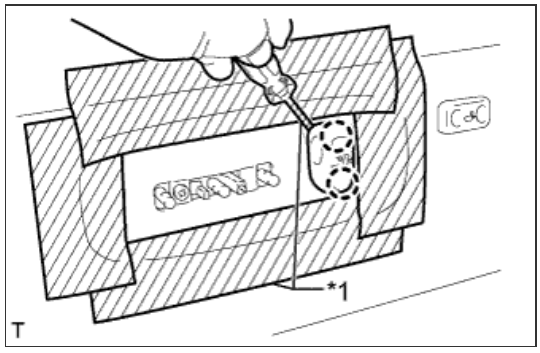
a. Using a screwdriver, detach the 2 claws and remove the reclining power seat switch knob.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

**HINT:**

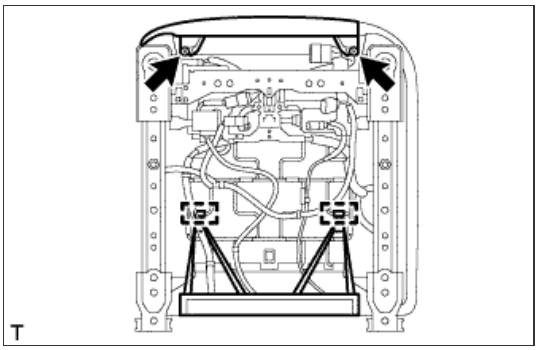
Tape the screwdriver tip before use.




## 4. REMOVE FRONT SEAT CUSHION SHIELD LH

a. Remove the 2 screws.

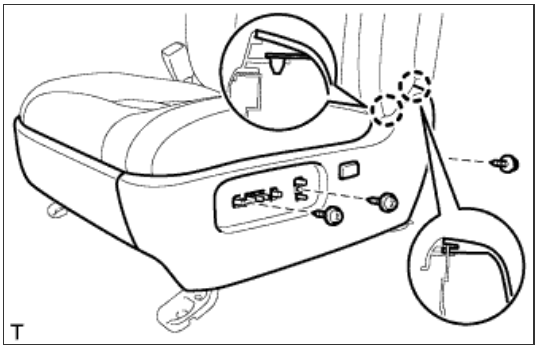
b. Disconnect the 2 rubber bands.




c. Remove the 3 screws.

d. Detach the 2 claws and remove the front seat cushion shield LH together with the front inner No. 1 seat cushion shield LH.

e. for Driver Side:
Disconnect the connector.

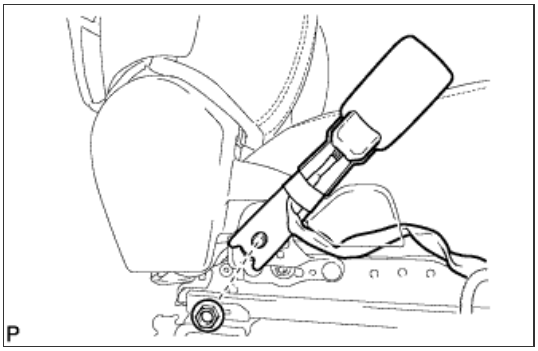



## 5. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

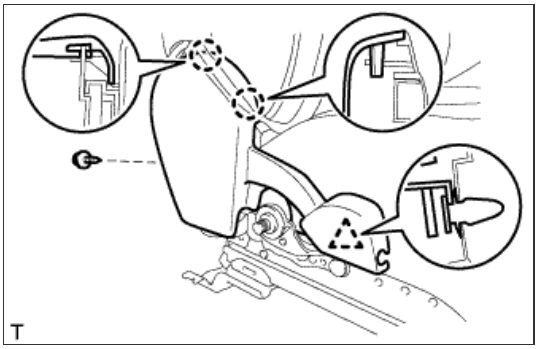
c. Remove the front seat belt anchor plate.




## 6. REMOVE FRONT INNER SEAT CUSHION SHIELD LH

a. Remove the screw.

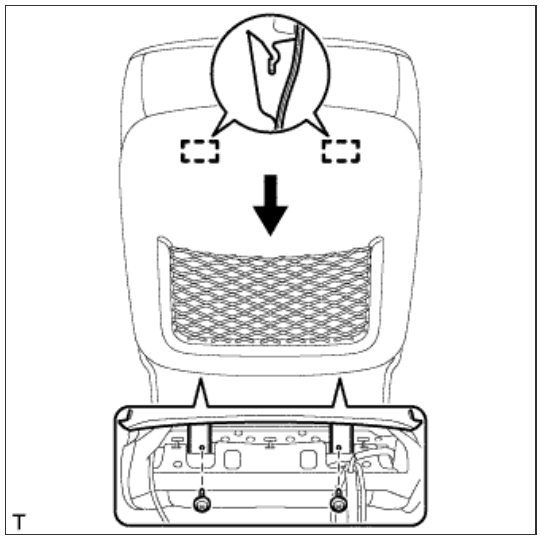
b. Detach the 2 claws and clip, and then remove the front inner seat cushion shield LH.




## 7. REMOVE FRONT SEATBACK BOARD SUB-ASSEMBLY LH

a. Remove the 2 screws.

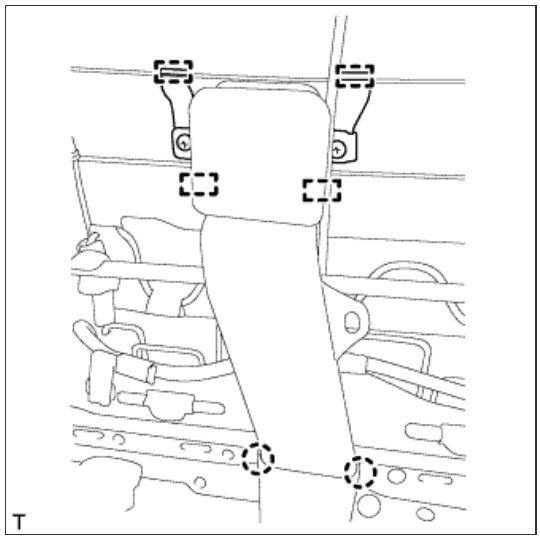
b. Move the front seatback board sub-assembly LH in the direction of the arrow to detach the 2 hooks and remove it.




## 8. REMOVE SEAT CLIMATE CONTROL CONTROLLER LH (w/ Climate Control Seat System)

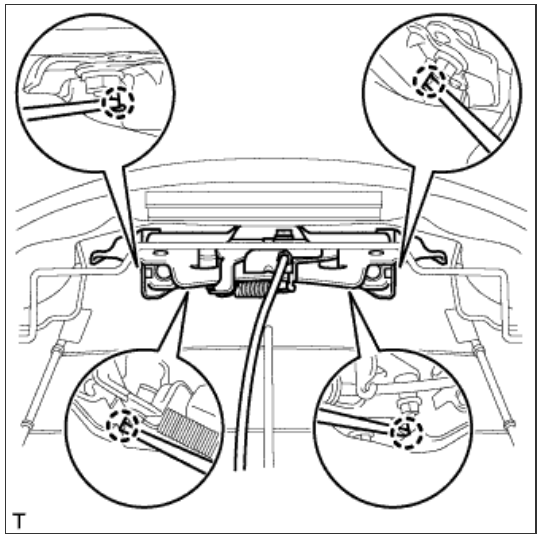
a. Detach the 2 claws and disconnect the seat climate control blower LH.

b. Detach the 4 hooks and remove the seat climate control controller LH.



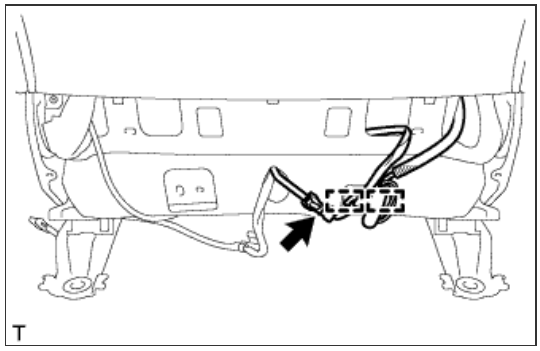

## 9. REMOVE FRONT SEAT HEADREST SUPPORT

a. Detach the 4 claws and remove the 2 front seat headrest supports.

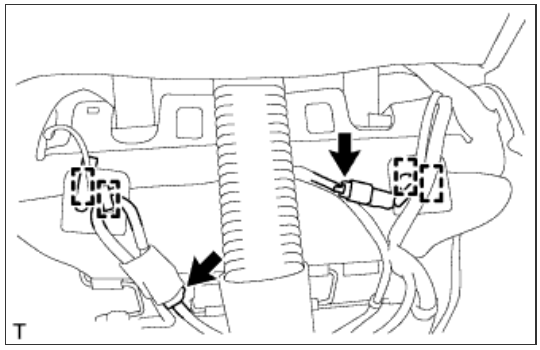



## 10. REMOVE SEATBACK COVER WITH PAD

a. w/o Climate Control Seat System:
Disconnect the connector and detach the 2 wire harness clamps.



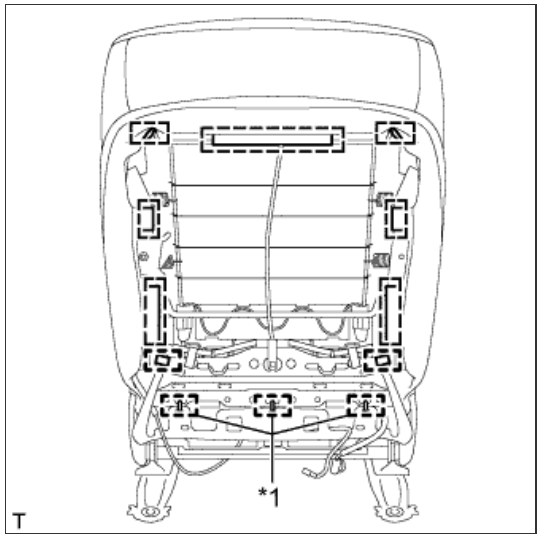

b. w/ Climate Control Seat System:
Disconnect the 2 connectors and detach the 4 wire harness clamps.




c. Remove the hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |

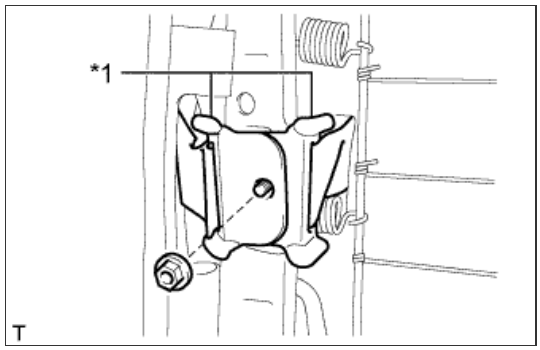



d. Remove the nut and detach the seatback cover bracket.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

e. Detach the hooks and remove the seatback cover with pad.

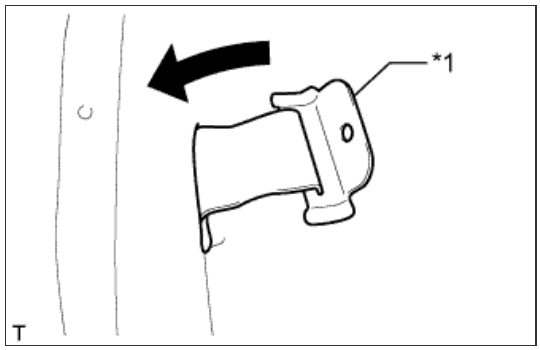



## 11. REMOVE FRONT SEPARATE TYPE SEATBACK COVER

a. Pass the seatback cover bracket through the hole of the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

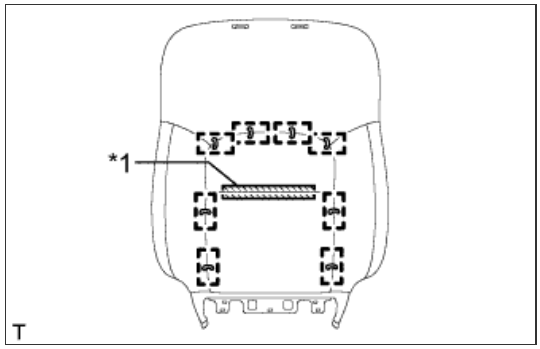



b. Remove the hog rings.

c. Detach the fastening tape and remove the front separate type seatback cover from the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Fastening Tape |

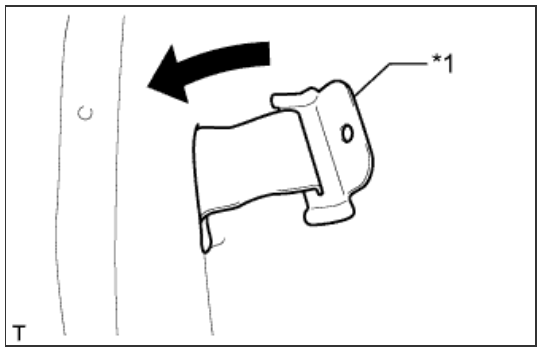



## 12. REMOVE FRONT SEPARATE TYPE SEATBACK COVER (w/ Climate Control Seat System)

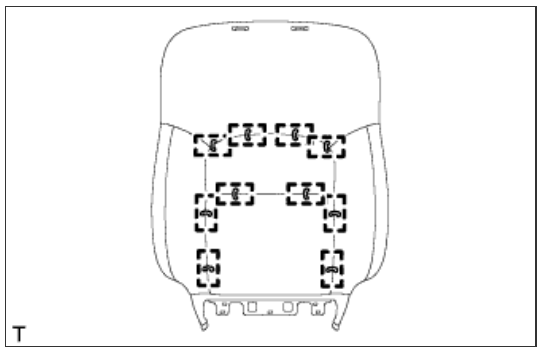
a. Pass the seatback cover bracket through the hole of the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

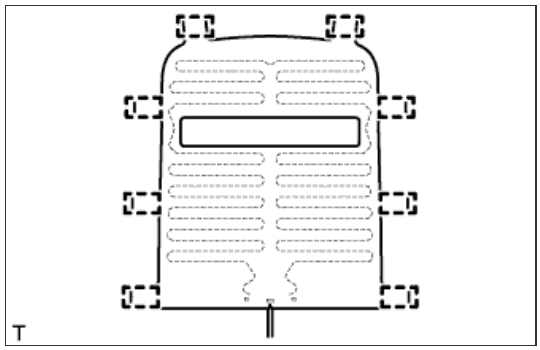



b. Remove the hog rings and front separate type seatback cover from the front separate type seatback pad.

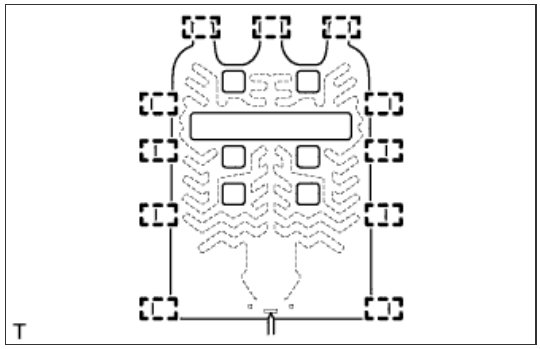



## 13. REMOVE FRONT SEATBACK HEATER ASSEMBLY LH

a. w/o Climate Control Seat System:
Cut off the tack pins and remove the front seatback heater assembly LH from the front separate type seatback cover.



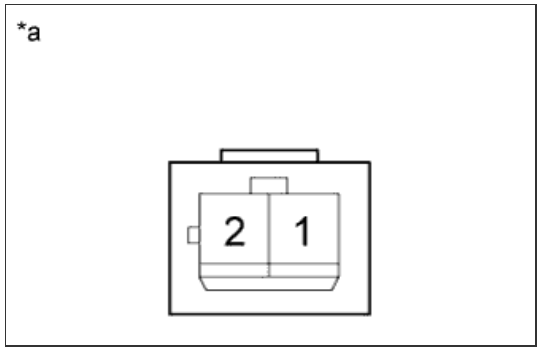

**b.** w/ Climate Control Seat System:
Cut off the tack pins and remove the front seatback heater assembly LH from the front separate type seatback cover.



**for Preparation** Click here

## 1. INSPECT FRONT SEATBACK HEATER ASSEMBLY LH (w/o Climate Control Seat System)

a. Check the front seatback heater assembly LH.




i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Front Seatback Heater Assembly LH:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Seatback heater temperature 25°C (77°F) | 7.4 to 8.8 Ω |

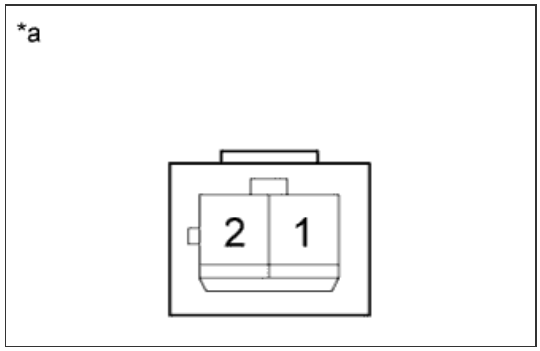
If the result is not as specified, replace the front seatback heater assembly LH.

**Text in Illustration**

| | |
|---|---|
| *a | Component without harness connected (Front Seatback Heater Assembly LH) |

## 2. INSPECT FRONT SEATBACK HEATER ASSEMBLY LH (w/ Climate Control Seat System)

a. Check the front seatback heater assembly LH.




i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Front Seatback Heater Assembly LH:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Seatback heater temperature 25°C (77°F) | 7.4 to 8.8 Ω |

If the result is not as specified, replace the front seatback heater assembly LH.

**Text in Illustration**

| | |
|---|---|
| *a | Component without harness connected (Front Seatback Heater Assembly LH) |

## 3. INSPECT FRONT SEATBACK HEATER ASSEMBLY RH (w/o Climate Control Seat System)

a. Check the front seatback heater assembly RH.

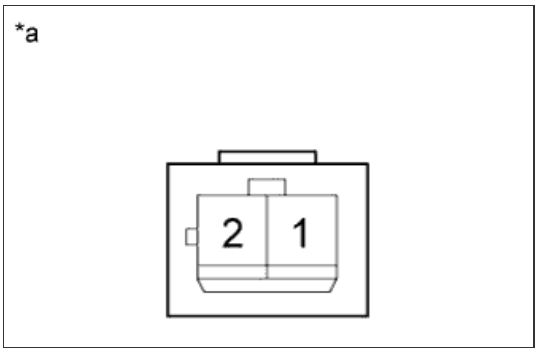
i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Front Seatback Heater Assembly RH:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Seatback heater temperature 25°C (77°F) | 7.4 to 8.8 Ω |

If the result is not as specified, replace the front seatback heater assembly RH.

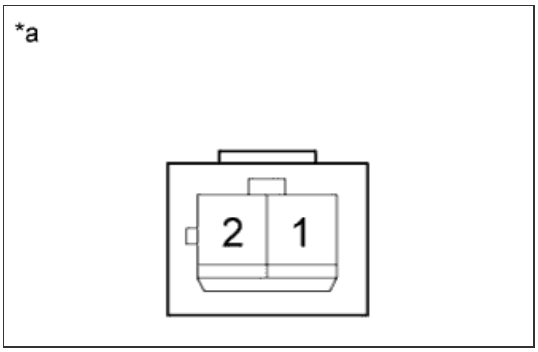



**Text in Illustration**

| | |
|---|---|
| *a | Component without harness connected (Front Seatback Heater Assembly RH) |

## 4. INSPECT FRONT SEATBACK HEATER ASSEMBLY RH (w/ Climate Control Seat System)

a. Check the front seatback heater assembly RH.




i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Front Seatback Heater Assembly RH:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Seatback heater temperature 25°C (77°F) | 7.4 to 8.8 Ω |

If the result is not as specified, replace the front seatback heater assembly RH.

**Text in Illustration**

| | |
|---|---|
| *a | Component without harness connected (Front Seatback Heater Assembly RH) |

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

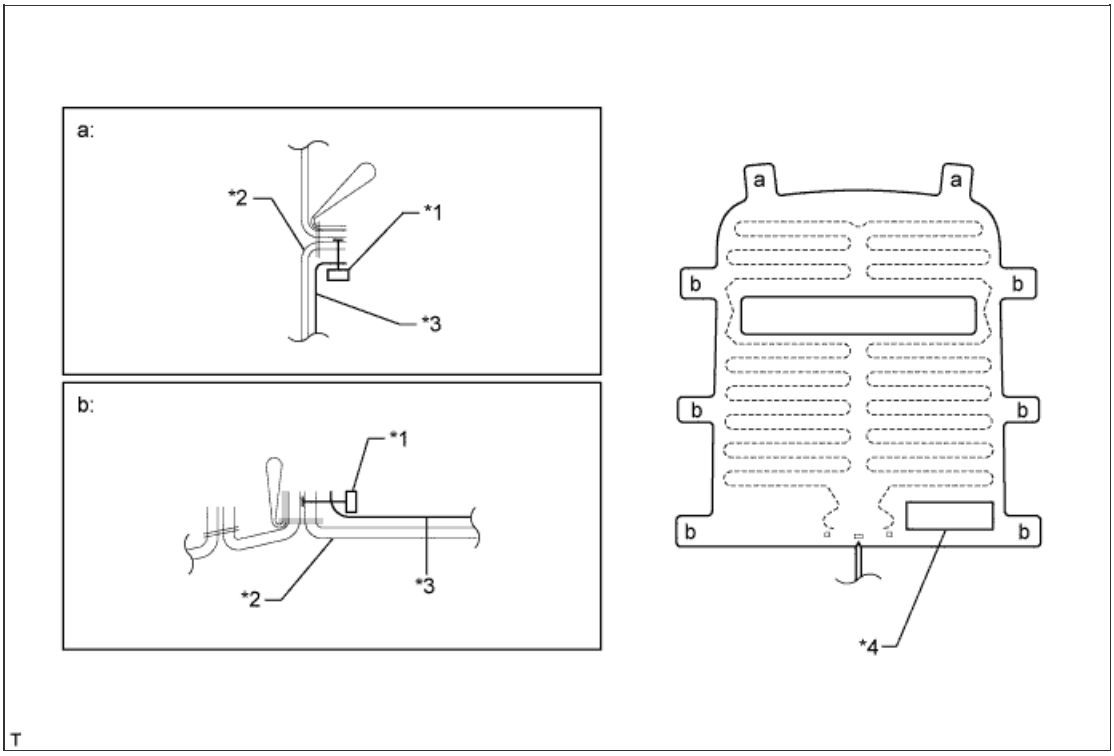
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL FRONT SEATBACK HEATER ASSEMBLY LH

a. Set the seatback heater with the name stamp side facing the front separate type seatback cover.

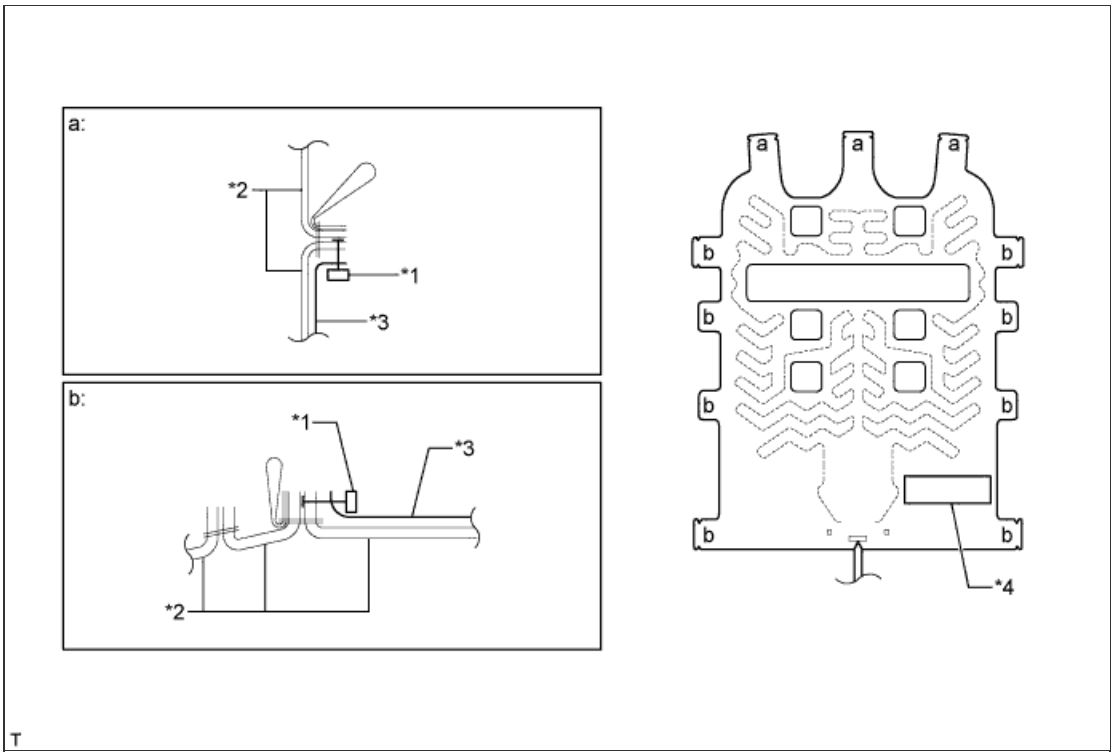
b. w/o Climate Control Seat System:
Install the front seatback heater assembly LH to the front separate type seatback cover with new tack pins.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tack Pin | *2 | Front Separate Type Seatback Cover |
| *3 | Front Seatback Heater Assembly LH | *4 | Name Stamp |

c. w/ Climate Control Seat System:
Install the front seatback heater assembly LH to the front separate type seatback cover with new tack pins.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tack Pin | *2 | Front Separate Type Seatback Cover |
| *3 | Front Seatback Heater Assembly LH | *4 | Name Stamp |

## 2. INSTALL FRONT SEPARATE TYPE SEATBACK COVER

a. Attach the fastening tape to install the front separate type seatback cover.

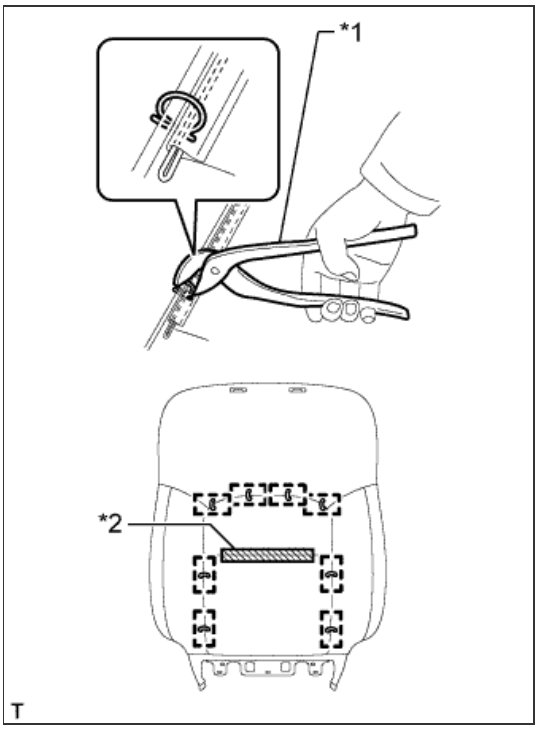
**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |
| *2 | Fastening Tape |

b. Using hog ring pliers, install new hog rings.

**NOTICE:**

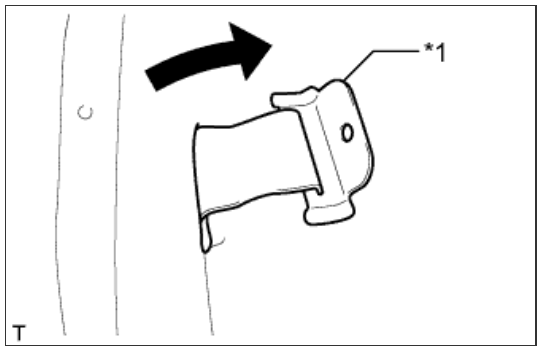
- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




c. Pass the seatback cover bracket through the hole of the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |




## 3. INSTALL FRONT SEPARATE TYPE SEATBACK COVER (w/ Climate Control Seat System)

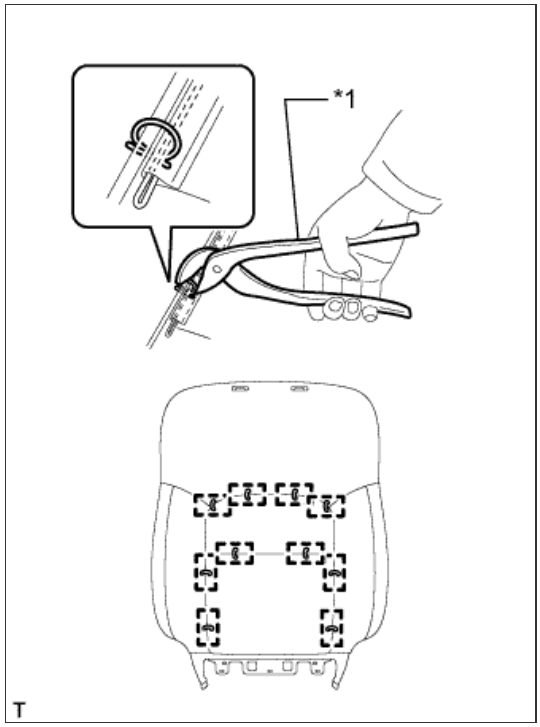
a. Using hog ring pliers, install the front separate type seatback cover to the front separate type seatback pad with new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

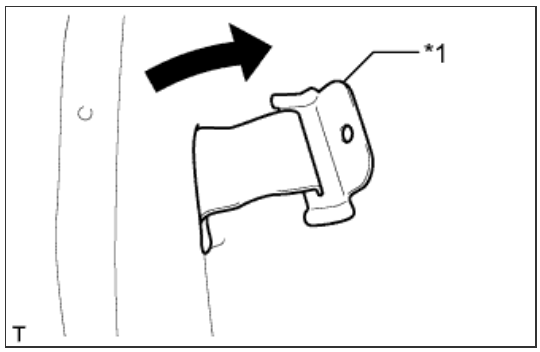
- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**




b. Pass the seatback cover bracket through the hole of the front separate type seatback pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Seatback Cover Bracket |

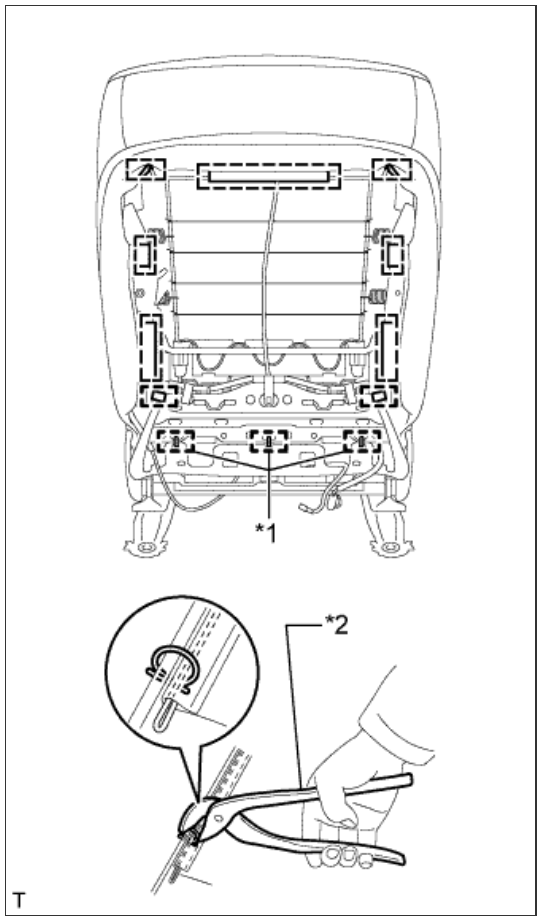



## 4. INSTALL SEATBACK COVER WITH PAD

a. Attach the hooks to install the seatback cover with pad.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring |
| *2 | Hog Ring Pliers |




b. Attach the seatback cover bracket with the nut.

**Text in Illustration**

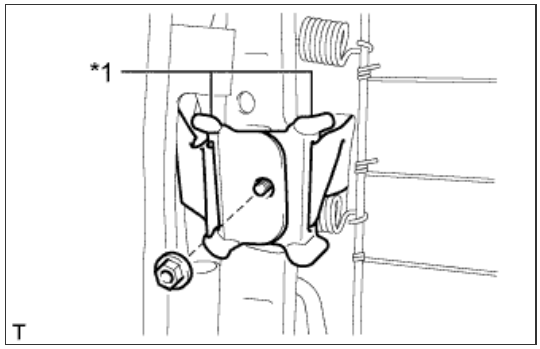
| | |
|---|---|
| *1 | Seatback Cover Bracket |

**Torque:**

**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**

**CAUTION:**

After the seatback cover with pad is installed, make sure the seatback cover bracket is not twisted.

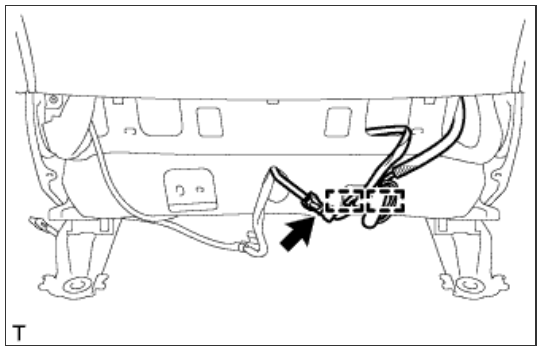



c. Using hog ring pliers, install new hog rings.

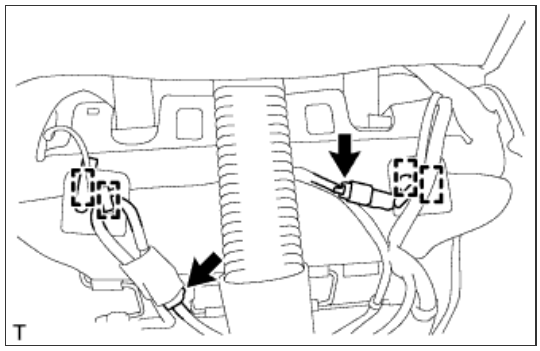
**NOTICE:**

Be careful not to damage the cover.

d. w/o Climate Control Seat System:
Connect the connector and attach the 2 wire harness clamps.

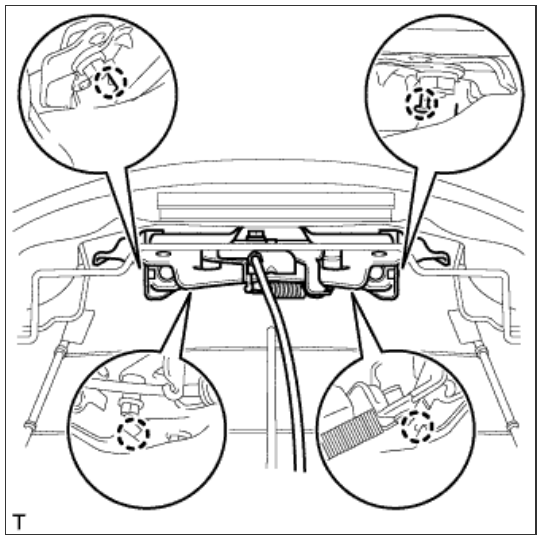



e. w/ Climate Control Seat System:
Connect the 2 connectors and attach the 4 wire harness clamps.




## 5. INSTALL FRONT SEAT HEADREST SUPPORT

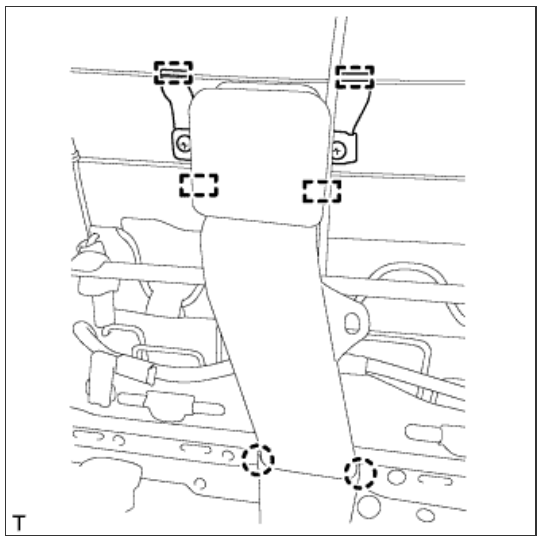
a. Attach the 4 claws to install the 2 front seat headrest supports.




## 6. INSTALL SEAT CLIMATE CONTROL CONTROLLERLH (w/ Climate Control Seat System)

a. Attach the 4 hooks to install the seat climate control controller LH.

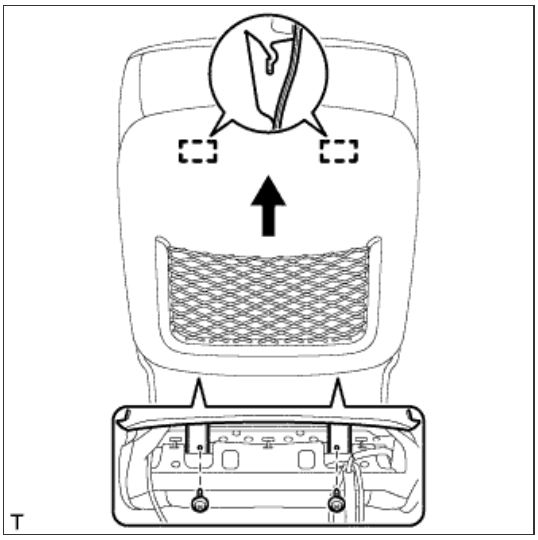
b. Attach the 2 claws to connect the seat climate control blower LH.




## 7. INSTALL FRONT SEATBACK BOARD SUB-ASSEMBLY LH

a. Move the front seatback board sub-assembly in the direction of the arrow to attach the 2 hooks and install it.

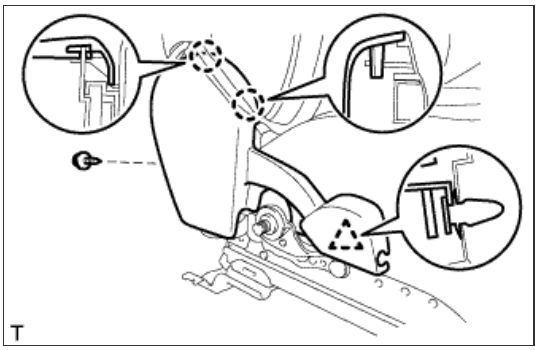
b. Install the 2 screws.




## 8. INSTALL FRONT INNER SEAT CUSHION SHIELD LH

a. Attach the 2 claws and clip to install the front inner seat cushion shield LH.

b. Install the screw.




## 9. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH

a. Install the front seat belt anchor plate.

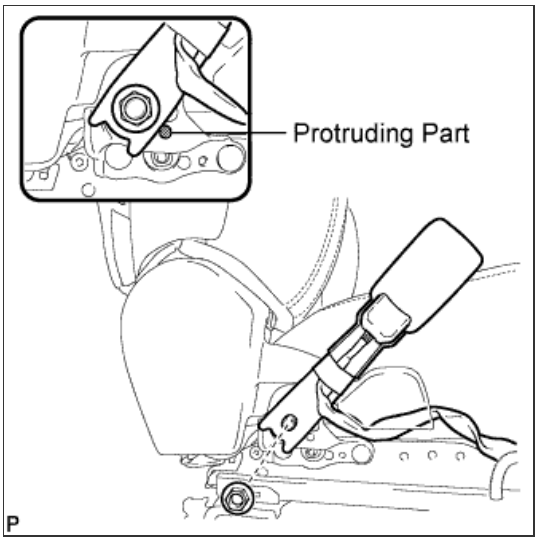
b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding parts of the front seat adjuster.

c. Connect the connectors and attach the clamps.

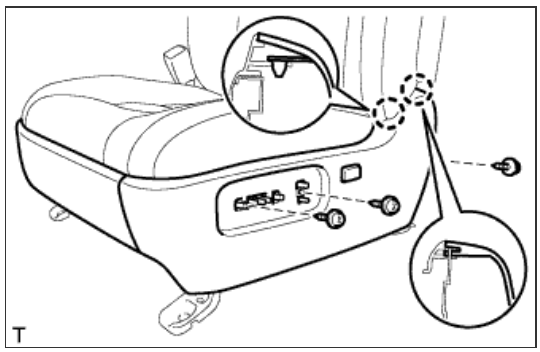



## 10. INSTALL FRONT SEAT CUSHION SHIELD LH

a. for Driver Side:
Connect the connector.

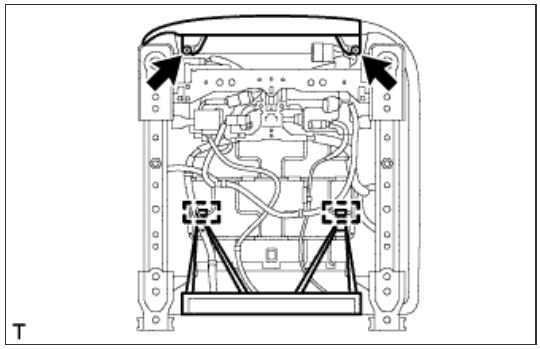
b. Attach the 2 claws to install the front seat cushion shield LH together with the front inner No. 1 cushion shield LH.

c. Install the 3 screws.



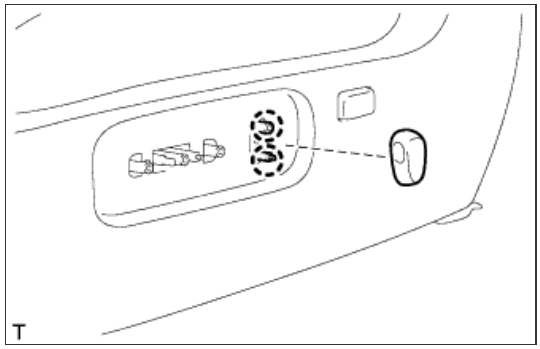

d. Connect the 2 rubber bands.

e. Install the 2 screws.



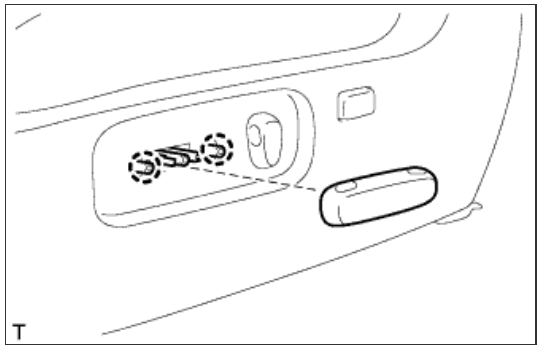

## 11. INSTALL RECLINING POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the reclining power seat switch knob.




## 12. INSTALL SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

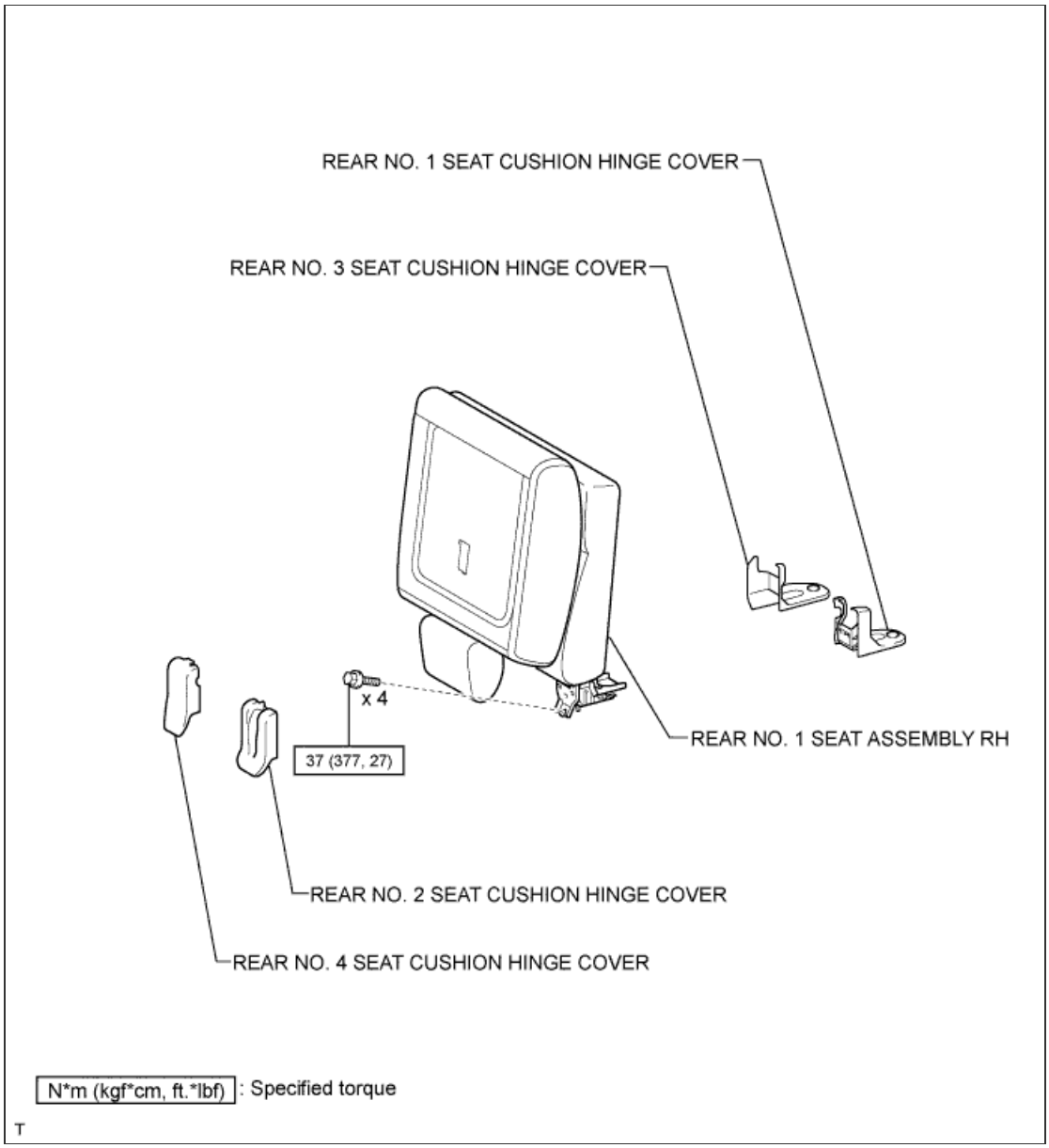
a. Attach the 2 claws to install the slide and vertical power seat switch knob.

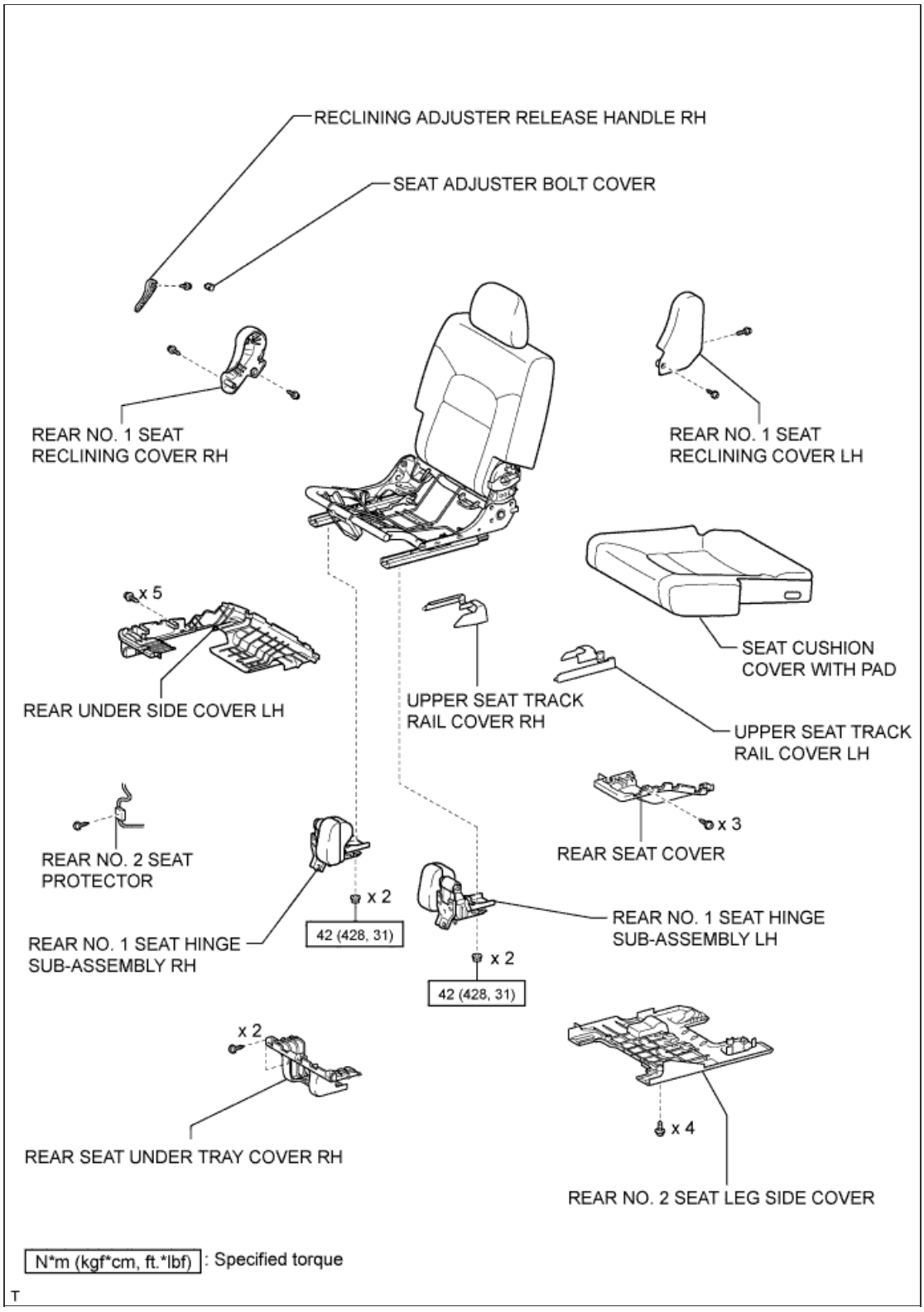


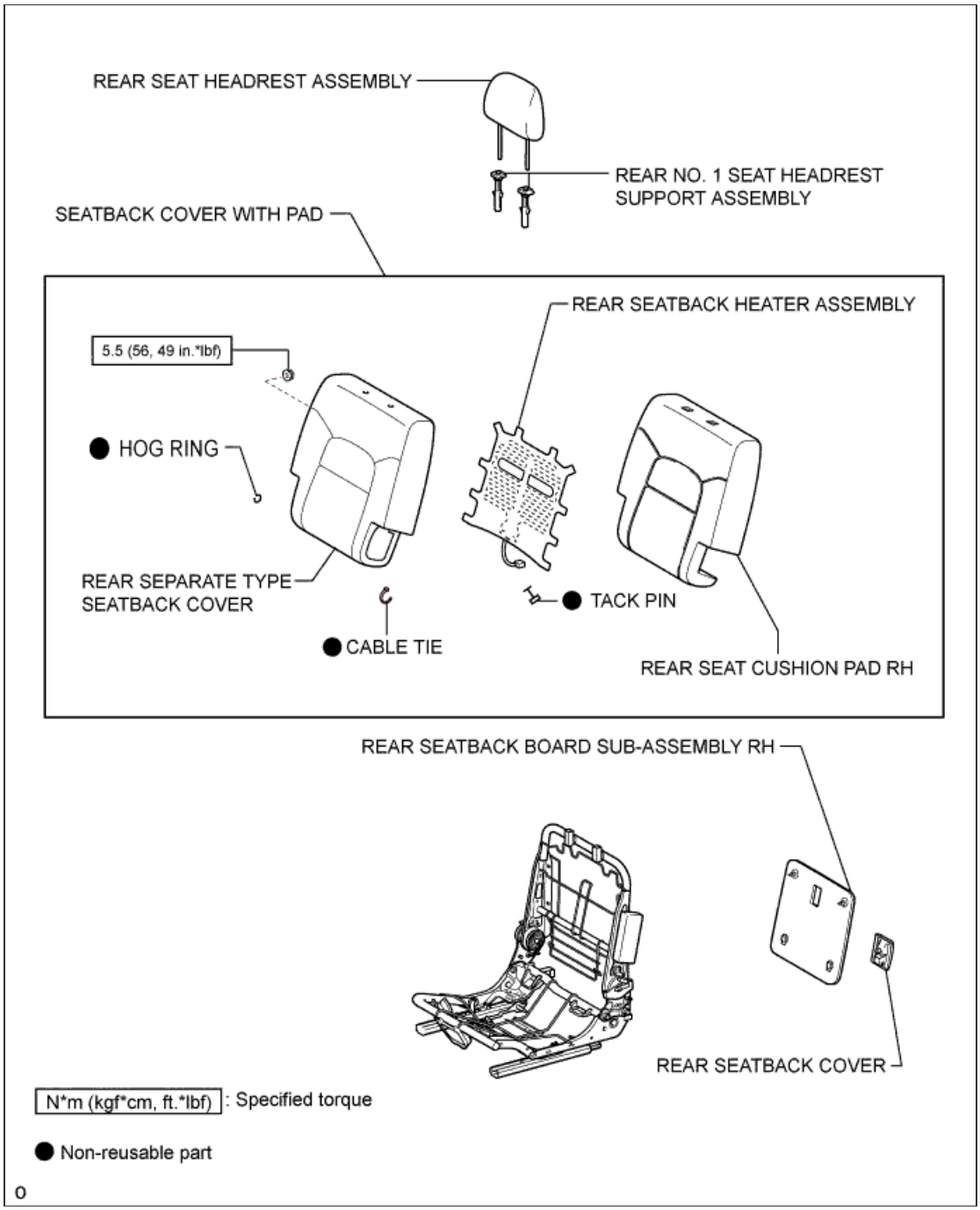

## 13. INSTALL FRONT SEAT ASSEMBLY LH

(Click here)

**for Preparation** Click here




RECLINING ADJUSTER RELEASE HANDLE RH
SEAT ADJUSTER BOLT COVER
REAR NO. 1 SEAT RECLINING COVER RH
REAR NO. 1 SEAT RECLINING COVER LH
x 5
REAR UNDER SIDE COVER LH
UPPER SEAT TRACK RAIL COVER RH
SEAT CUSHION COVER WITH PAD
UPPER SEAT TRACK RAIL COVER LH
REAR NO. 2 SEAT PROTECTOR
x 3
REAR SEAT COVER
x 2
42 (428, 31)
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH
x 2
42 (428, 31)
x 2
REAR SEAT UNDER TRAY COVER RH
x 4
REAR NO. 2 SEAT LEG SIDE COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
T


REAR SEAT HEADREST ASSEMBLY
REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY
SEATBACK COVER WITH PAD
REAR SEATBACK HEATER ASSEMBLY
5.5 (56, 49 in.*lbf)
HOG RING
REAR SEPARATE TYPE SEATBACK COVER
CABLE TIE
TACK PIN
REAR SEAT CUSHION PAD RH
REAR SEATBACK BOARD SUB-ASSEMBLY RH
REAR SEATBACK COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part

o

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY RH

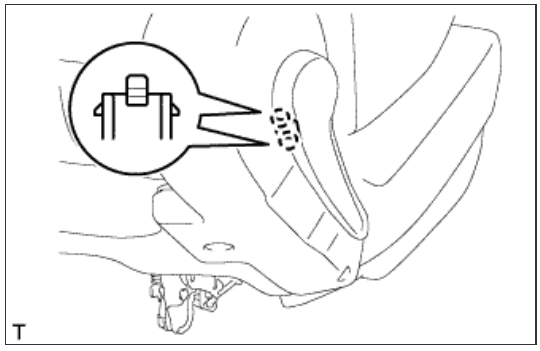
a. Remove the rear No. 1 seat assembly ( Click here).

## 2. REMOVE SEAT ADJUSTER BOLT COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

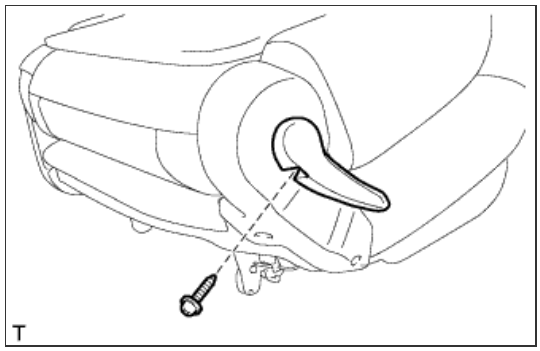
**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING ADJUSTER RELEASE HANDLE RH

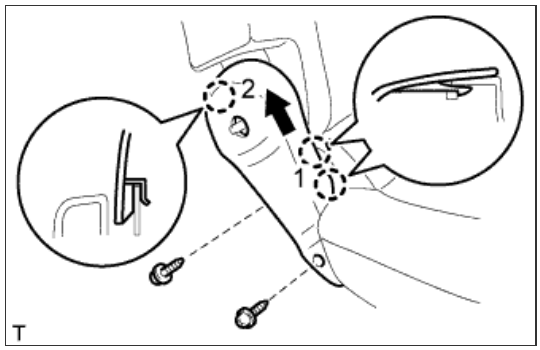
a. Remove the screw and release handle.




## 4. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the 2 screws.

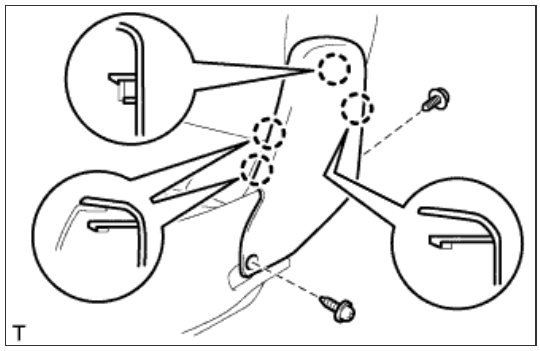
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.




## 5. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

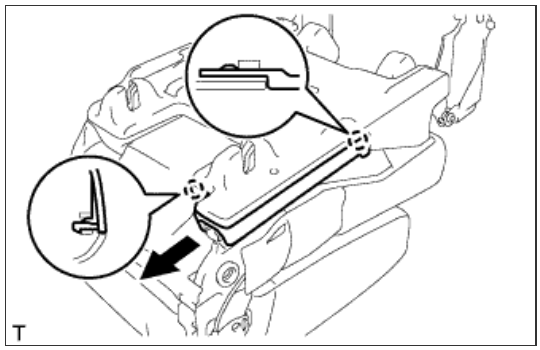



## 6. REMOVE UPPER SEAT TRACK RAIL COVER LH

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

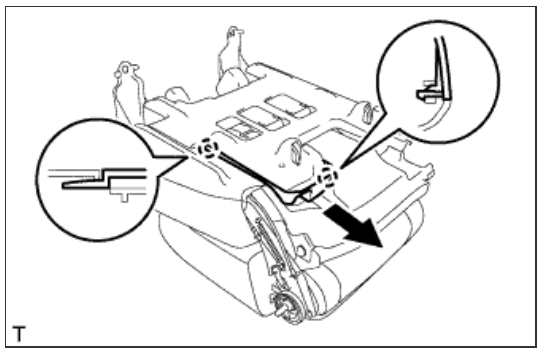



## 7. REMOVE UPPER SEAT TRACK RAIL COVER RH

a. Using a screwdriver, detach the 2 claws and remove the cover.

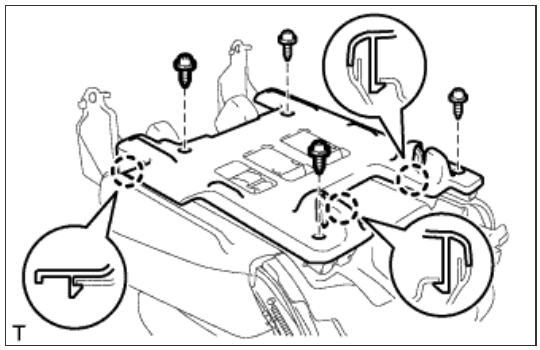
**HINT:**

Tape the screwdriver tip before use.

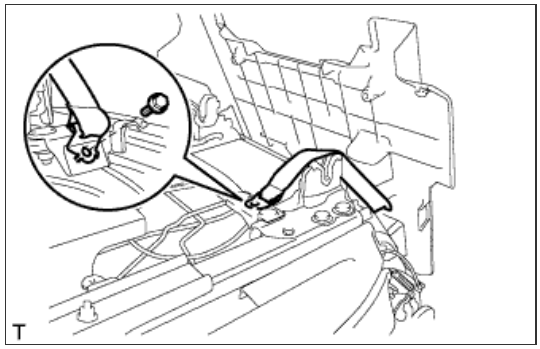



## 8. REMOVE REAR NO. 2 SEAT LEG SIDE COVER

a. Remove the 4 screws and detach the 3 claws.



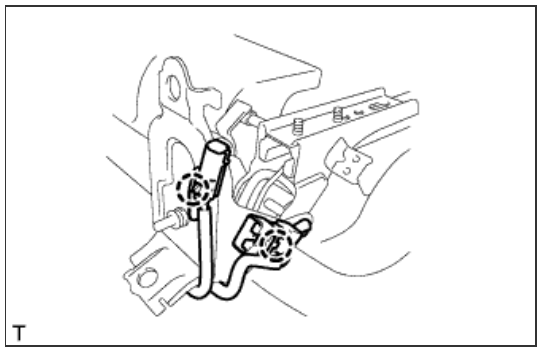

b. Remove the bolt that is securing the fold seat stopper band and remove the seat leg side cover together with the fold seat stopper band.




## 9. REMOVE REAR NO. 2 SEAT PROTECTOR

a. w/ Rear Seat Side Airbag:
Detach the claw and remove the wire harness connector.

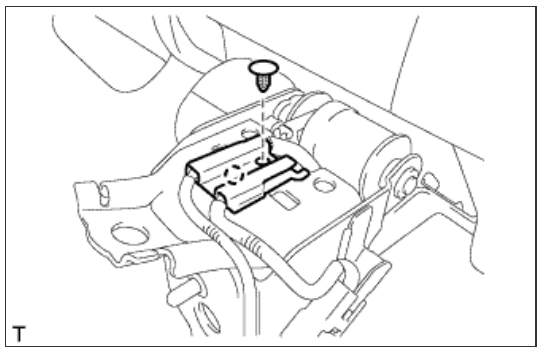
b. w/ Seat Heater System:
Detach the claw and remove the wire harness connector.




c. Using a clip remover, remove the clip.

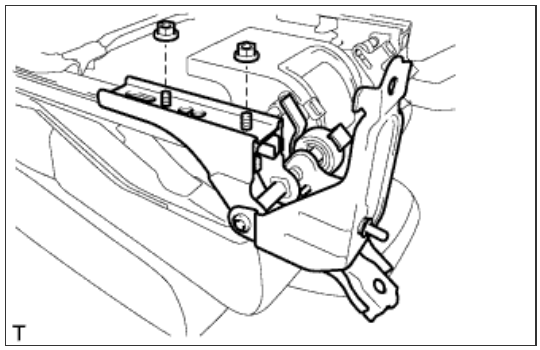
d. Detach the claw and remove the seat protector from the seat hinge.

e. Detach the 2 claws, open the protector and remove the wire harness.




## 10. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Remove the 2 nuts and hinge.

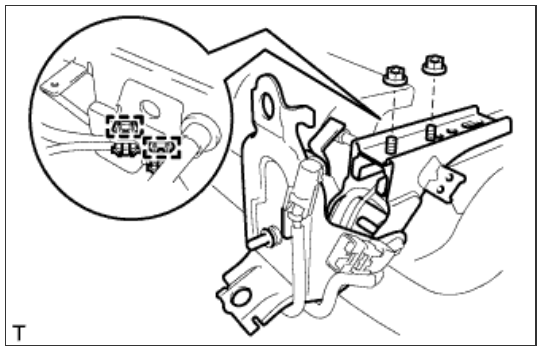



## 11. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

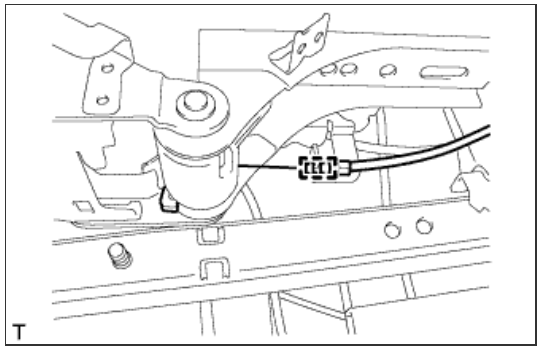
a. w/ Rear Seat Side Airbag:
Detach the wire harness clamp.

b. w/ Seat Heater System:
Detach the wire harness clamp.

c. Remove the 2 nuts and hinge.

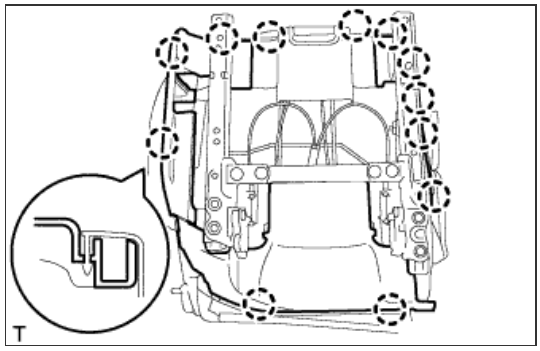



d. Detach the cable clamp and disconnect the cable.



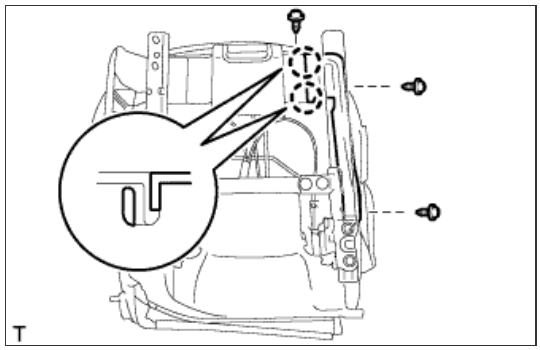

## 12. REMOVE REAR SEAT COVER

a. Detach the 12 claws.




b. Remove the 3 screws.

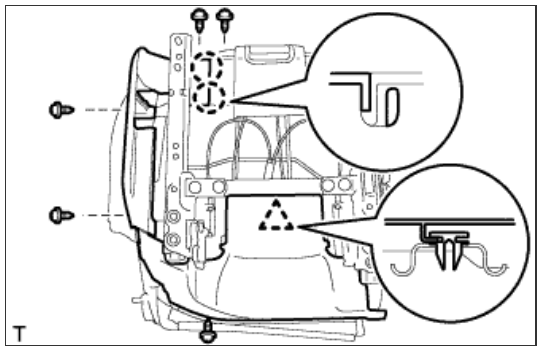
c. Detach the 2 claws and remove the cover.



## 13. REMOVE REAR UNDER SIDE COVER LH

a. Remove the 5 screws.

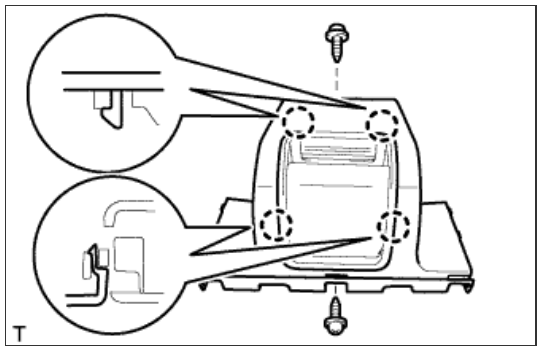
b. Detach the clip and 2 claws, and remove the cover.



## 14. REMOVE REAR SEAT UNDER TRAY COVER RH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.



## 15. REMOVE SEAT CUSHION COVER WITH PAD

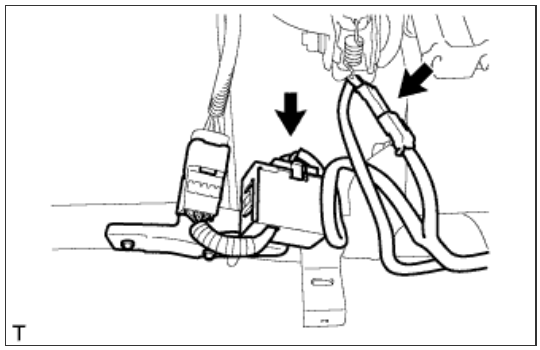
a. w/ Rear Seat Side Airbag:

i. Detach the side airbag wire harness clamps.

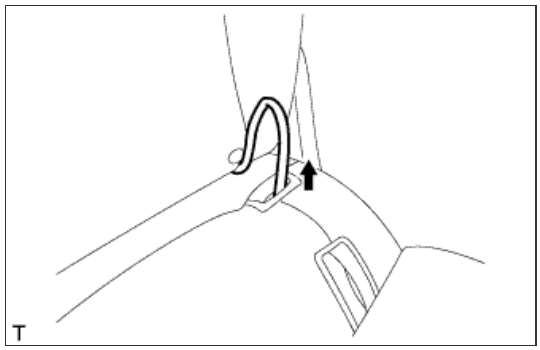
ii. Remove the side airbag wire harness through the hole in the seat cushion.

b. w/ Seat Heater System:

i. Disconnect the 2 seat heater connectors.




ii. Remove the seatback heater wire harness through the hole in the seat cushion.



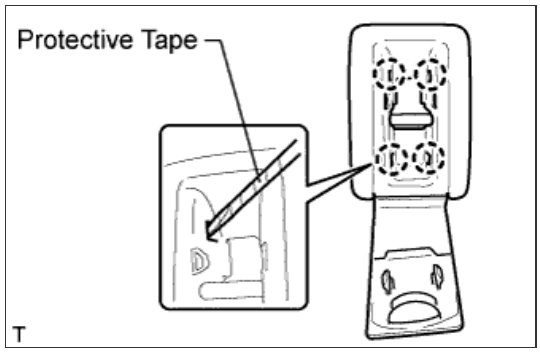

c. Remove the seat cushion cover with pad.

## 16. REMOVE REAR SEATBACK COVER

a. Using a screwdriver, detach the 4 claws and remove the cover.

**HINT:**

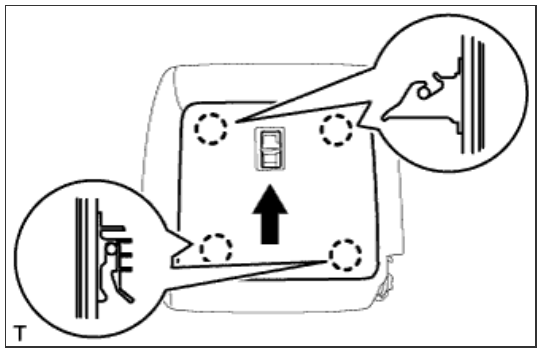
Tape the screwdriver tip before use.




## 17. REMOVE REAR SEATBACK BOARD SUB-ASSEMBLY RH

a. Detach the 2 claws on the top of the board.

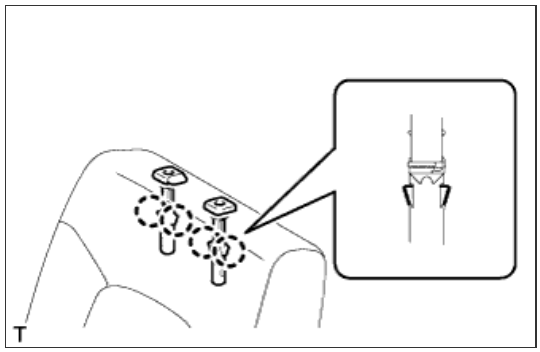
b. Pull up the board to detach the 2 claws on the bottom of the board and remove it.




## 18. REMOVE REAR SEAT HEADREST ASSEMBLY

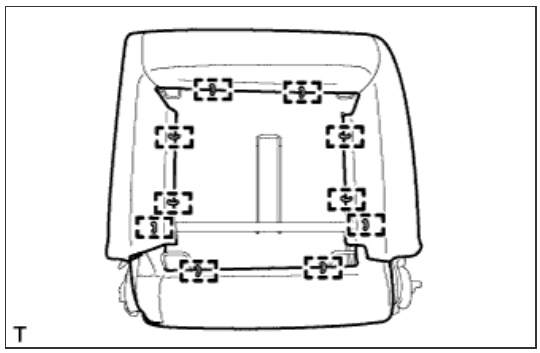
## 19. REMOVE REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. Detach the 4 claws and remove the 2 supports.




## 20. REMOVE SEATBACK COVER WITH PAD

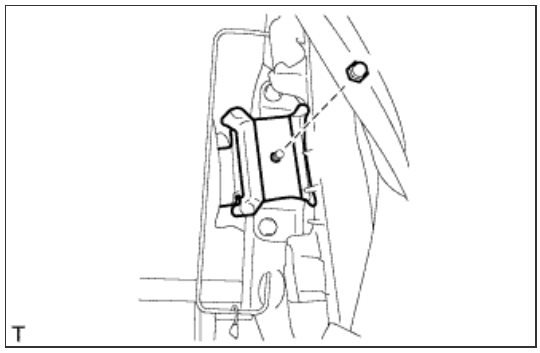
a. Remove the hog rings.




b. w/ Rear Seat Side Airbag:

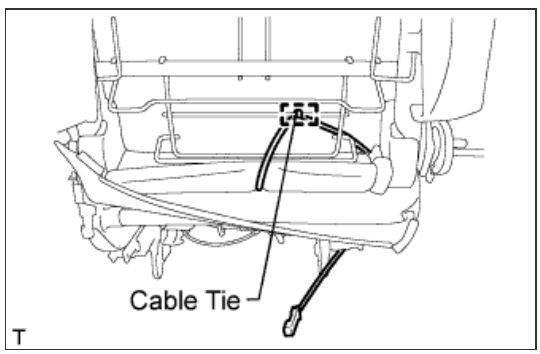
i. Remove the cap nut and seatback cover bracket from the seat frame.

ii. Remove the side airbag wire harness through the hole in the seatback.



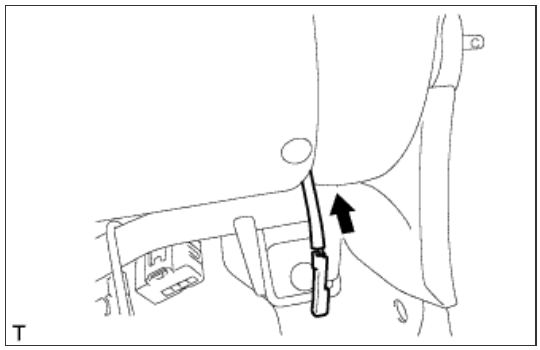

c. w/ Seat Heater System:

i. Cut the cable tie and disconnect the seatback heater wire harness.



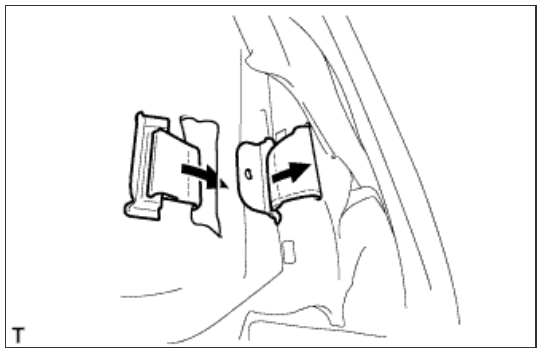

ii. Remove the seatback heater wire harness through the hole in the seatback.

d. Remove the seatback cover with pad.

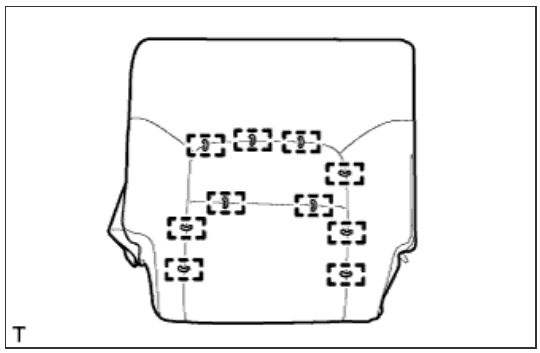



## 21. REMOVE REAR SEPARATE TYPE SEATBACK COVER

**a.** w/ Rear Seat Side Airbag:
Disconnect the seatback cover bracket from the seatback pad.

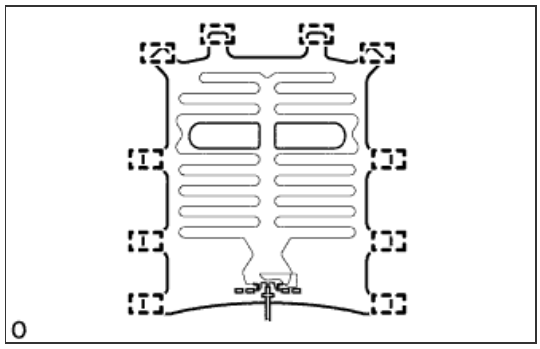



**b.** Remove the hog rings and rear seatback cover.




## 22. REMOVE REAR SEATBACK HEATER ASSEMBLY

**a.** Cut off the tack pins which fasten the seatback heater to the seatback cover, and then remove the seatback heater from the seatback cover.



**for Preparation** Click here

## 1. INSPECT REAR SEATBACK HEATER ASSEMBLY

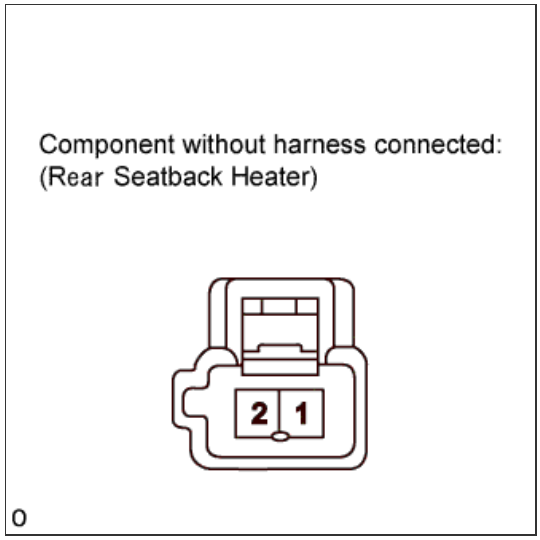
a. Check the seatback heater.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Seatback heater temperature 25°C (77°F) | 7.51 to 8.99 Ω |

If the result is not as specified, replace the seatback heater assembly.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

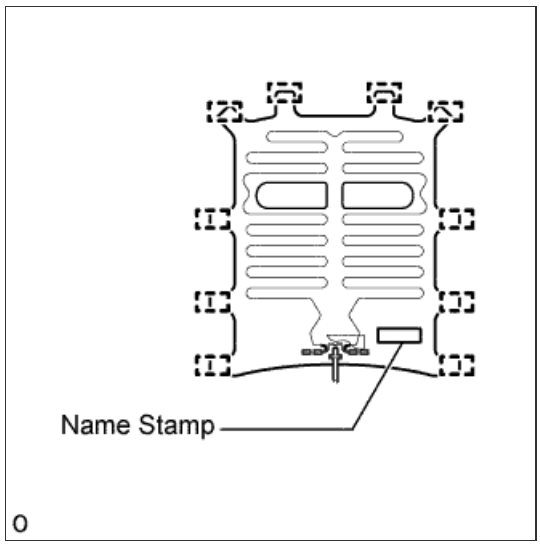
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL REAR SEATBACK HEATER ASSEMBLY

a. Set the seatback heater with the name stamp side facing the seatback cover.

b. Install the seatback heater with new tack pins.

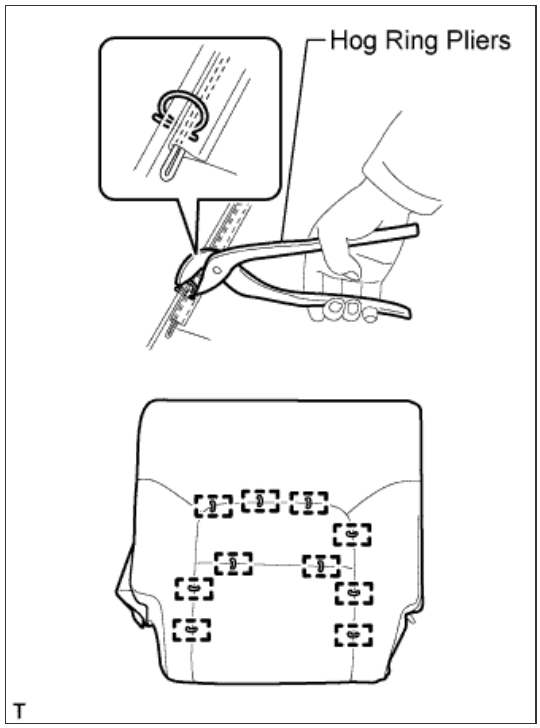



## 2. INSTALL REAR SEPARATE TYPE SEATBACK COVER

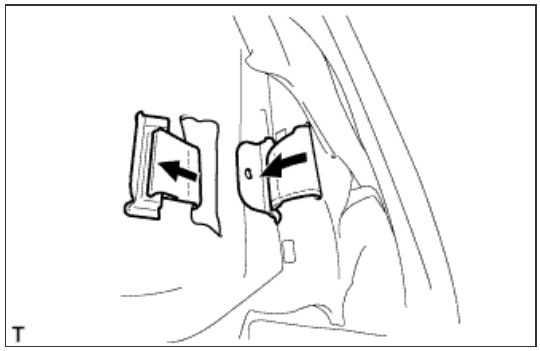
a. Using hog ring pliers, install the seatback cover with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



b. w/ Rear Seat Side Airbag:
Connect the seatback cover bracket to the seatback pad.



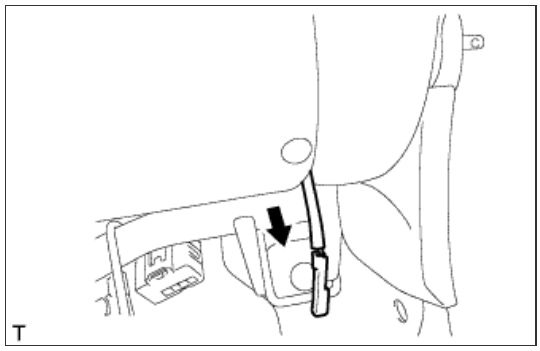

## 3. INSTALL SEATBACK COVER WITH PAD

a. Install the seatback cover with pad.

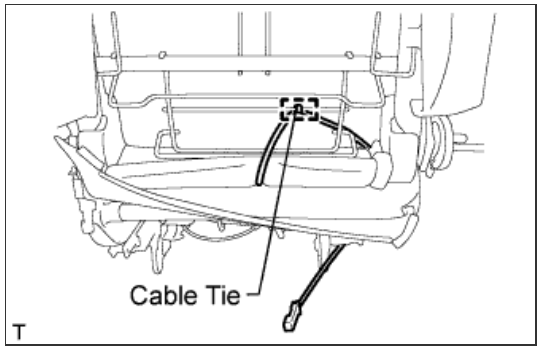
b. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seatback.

c. w/ Seat Heater System:

i. Pass the seatback heater wire harness through the hole in the seatback.




ii. Connect the seatback heater wire harness and install a new cable tie.

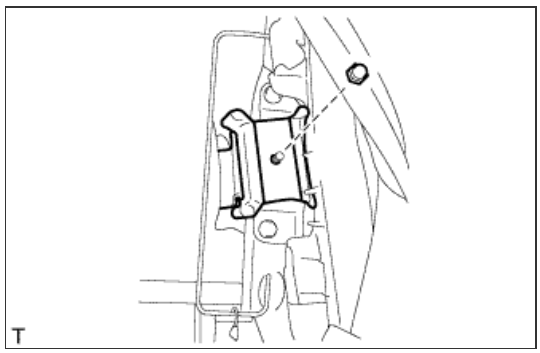



d. w/ Rear Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the cap nut.

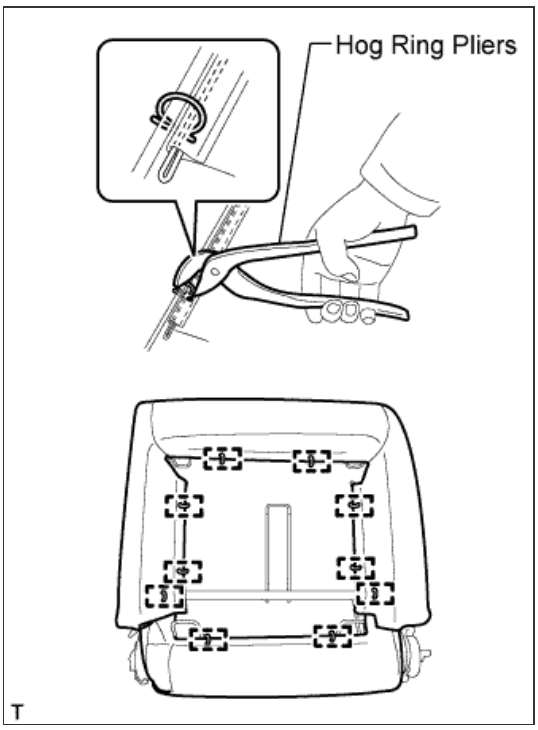
**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

**CAUTION:**

After the seatback trim cover is assembled, make sure the side airbag strap is not twisted.

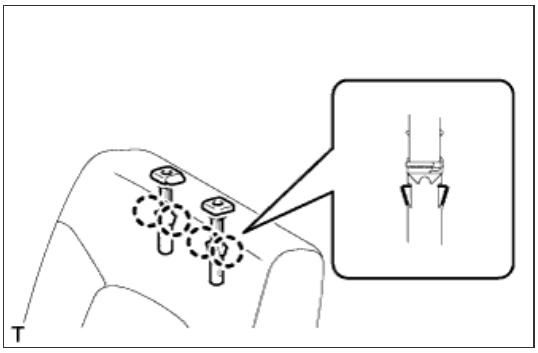


e. Using hog ring pliers, install new hog rings to the seatback frame.




## 4. INSTALL REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. Attach the 4 claws to install the 2 supports.

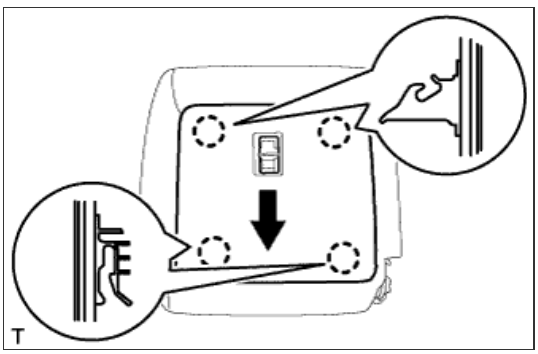



## 5. INSTALL REAR SEAT HEADREST ASSEMBLY

## 6. INSTALL REAR SEATBACK BOARD SUB-ASSEMBLY RH

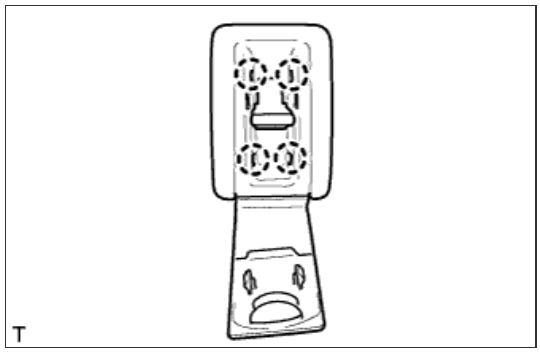
a. Push the board down to attach the 2 claws on the bottom.

b. Attach the 2 claws on the top of the board to install it.




## 7. INSTALL REAR SEATBACK COVER

a. Attach the 4 claws to install the cover.



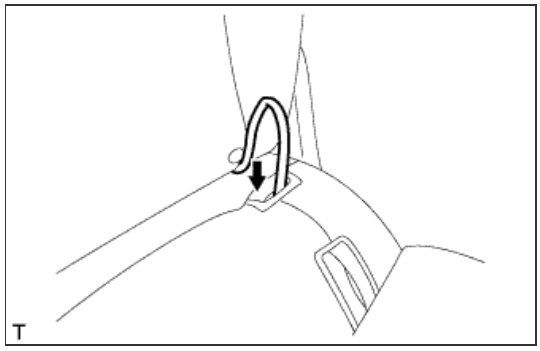

## 8. INSTALL SEAT CUSHION COVER WITH PAD

a. Install the seat cushion cover with pad.

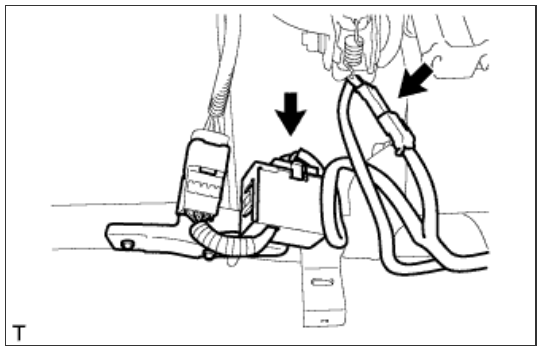
b. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seat cushion.

c. w/ Seat Heater System:

i. Pass the seatback heater wire harness through the hole in the seat cushion.




ii. Connect the 2 seat heater connectors.

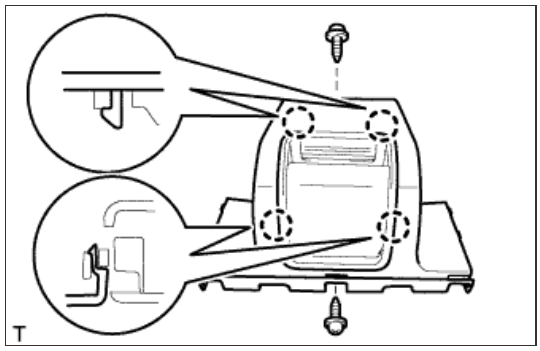



d. w/ Rear Seat Side Airbag:
Attach the side airbag wire harness clamps.

## 9. INSTALL REAR SEAT UNDER TRAY COVER RH

a. Attach the 4 claws to install the cover.

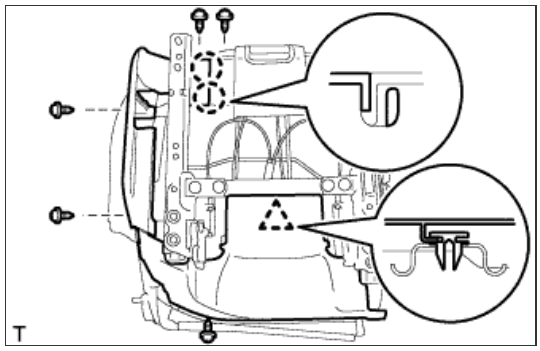
b. Install the 2 screws.




## 10. INSTALL REAR UNDER SIDE COVER LH

a. Attach the 2 claws and clip to install the cover.

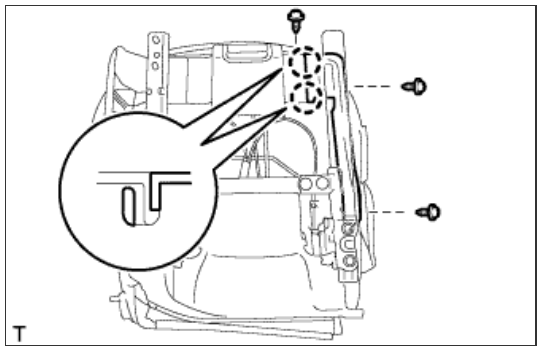
b. Install the 5 screws.



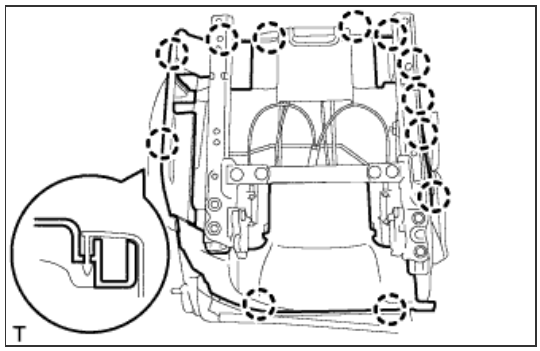

## 11. INSTALL REAR SEAT COVER

a. Attach the 2 claws to install the cover.

b. Install the 3 screws.

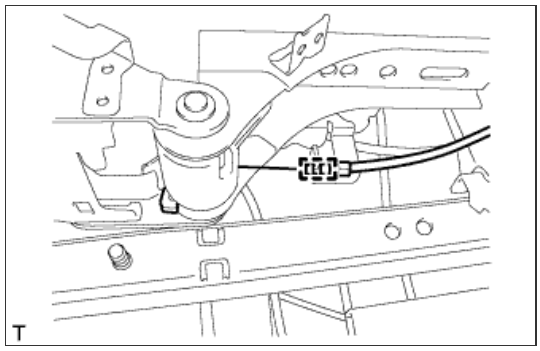



c. Attach the 12 claws.




## 12. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

a. Attach the cable clamp to connect the cable.

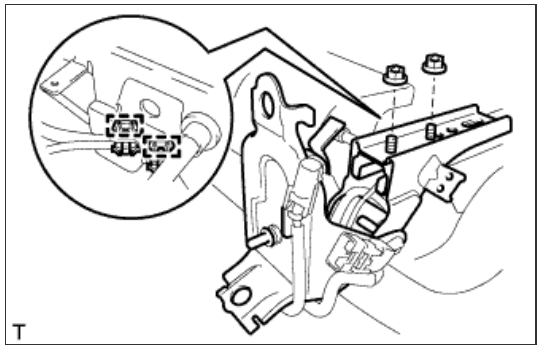



b. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. w/ Rear Seat Side Airbag:
Attach the wire harness clamp.

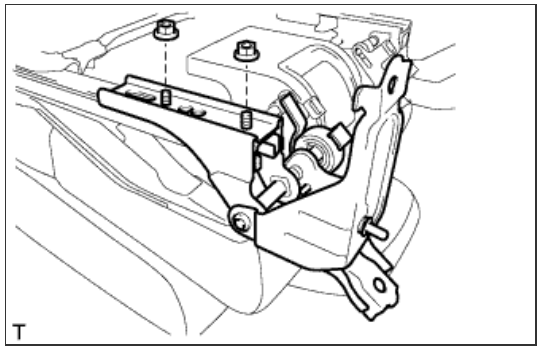
d. w/ Seat Heater System:
Attach the wire harness clamp.




## 13. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

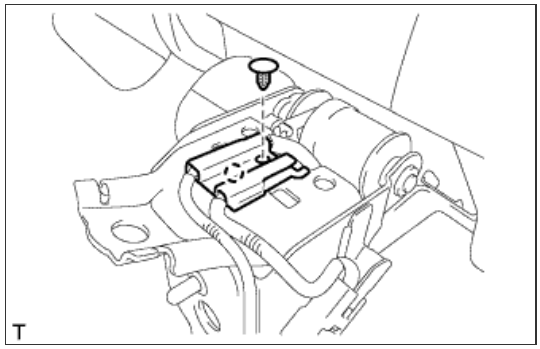



## 14. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Install the wire harness, and attach the 2 claws to close the protector.

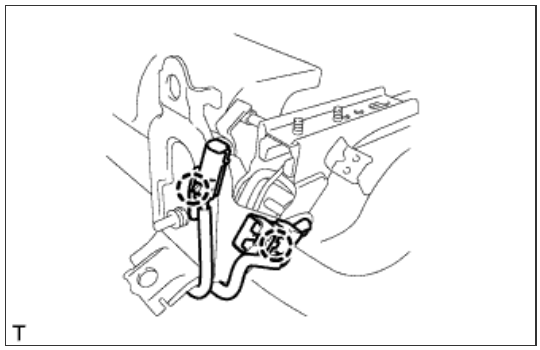
b. Attach the claw to install the protector to the seat hinge.

c. Install the clip.



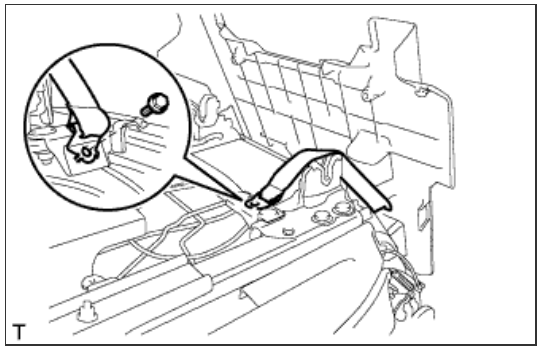

d. w/ Rear Seat Side Airbag:
Attach the claw to install the wire harness connector.

e. w/ Seat Heater System:
Attach the claw to install the wire harness connector.



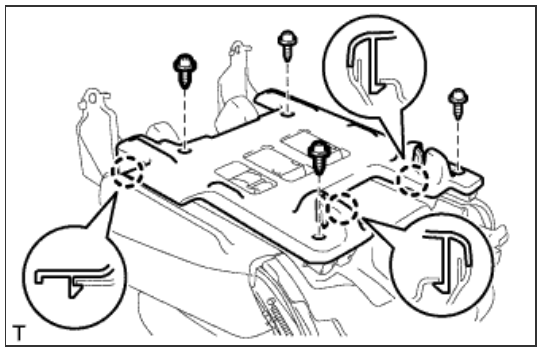

## 15. INSTALL REAR NO. 2 SEAT LEG SIDE COVER

a. Pass the fold seat stopper band through the seat leg side cover and attach it to the seat cushion frame with the bolt.



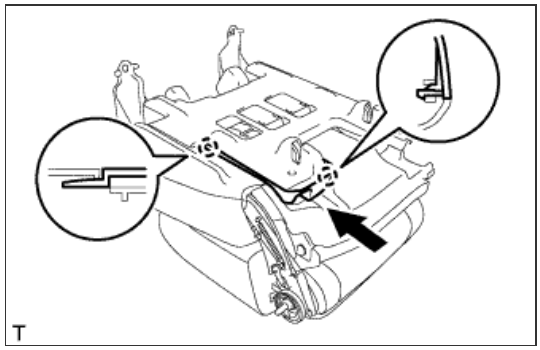

b. Attach the 3 claws to install the seat leg side cover.

c. Install the 4 screws.



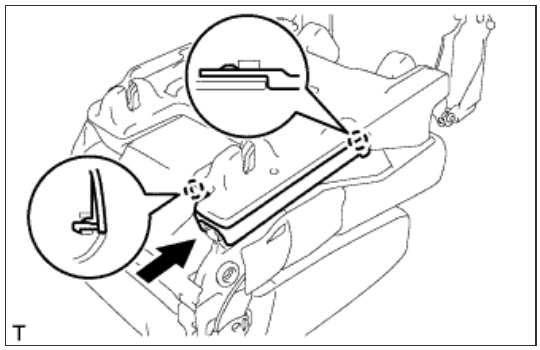

## 16. INSTALL UPPER SEAT TRACK RAIL COVER RH

a. Attach the 2 claws to install the cover.




## 17. INSTALL UPPER SEAT TRACK RAIL COVER LH

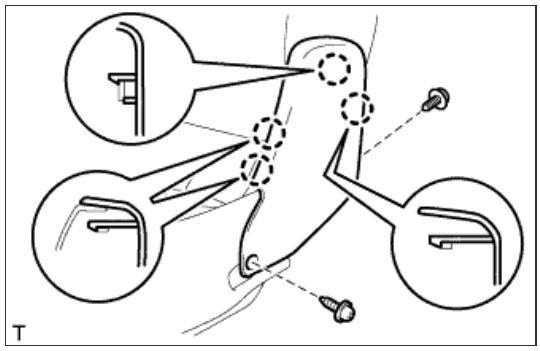
a. Attach the 2 claws to install the cover.




## 18. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

a. Attach the 4 claws to install the cover.

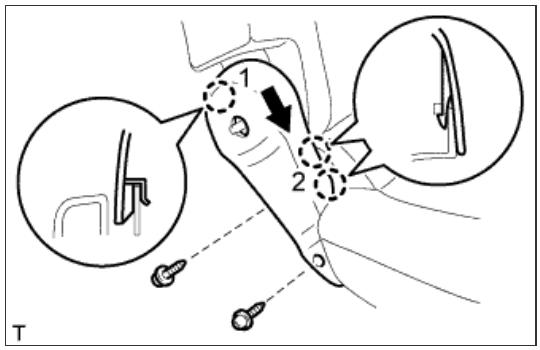
b. Install the 2 screws.




## 19. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

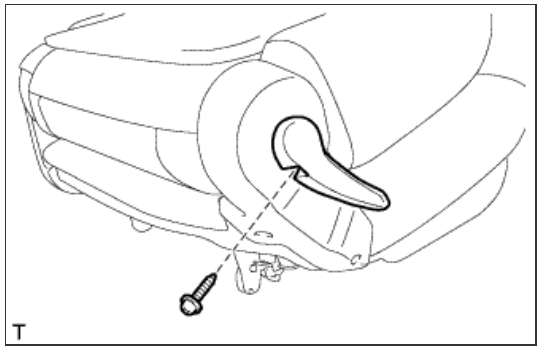
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the 2 screws.



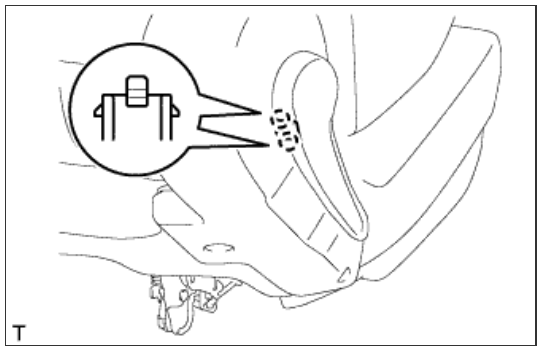

## 20. INSTALL RECLINING ADJUSTER RELEASE HANDLE RH

a. Install the release handle with the screw.




## 21. INSTALL SEAT ADJUSTER BOLT COVER

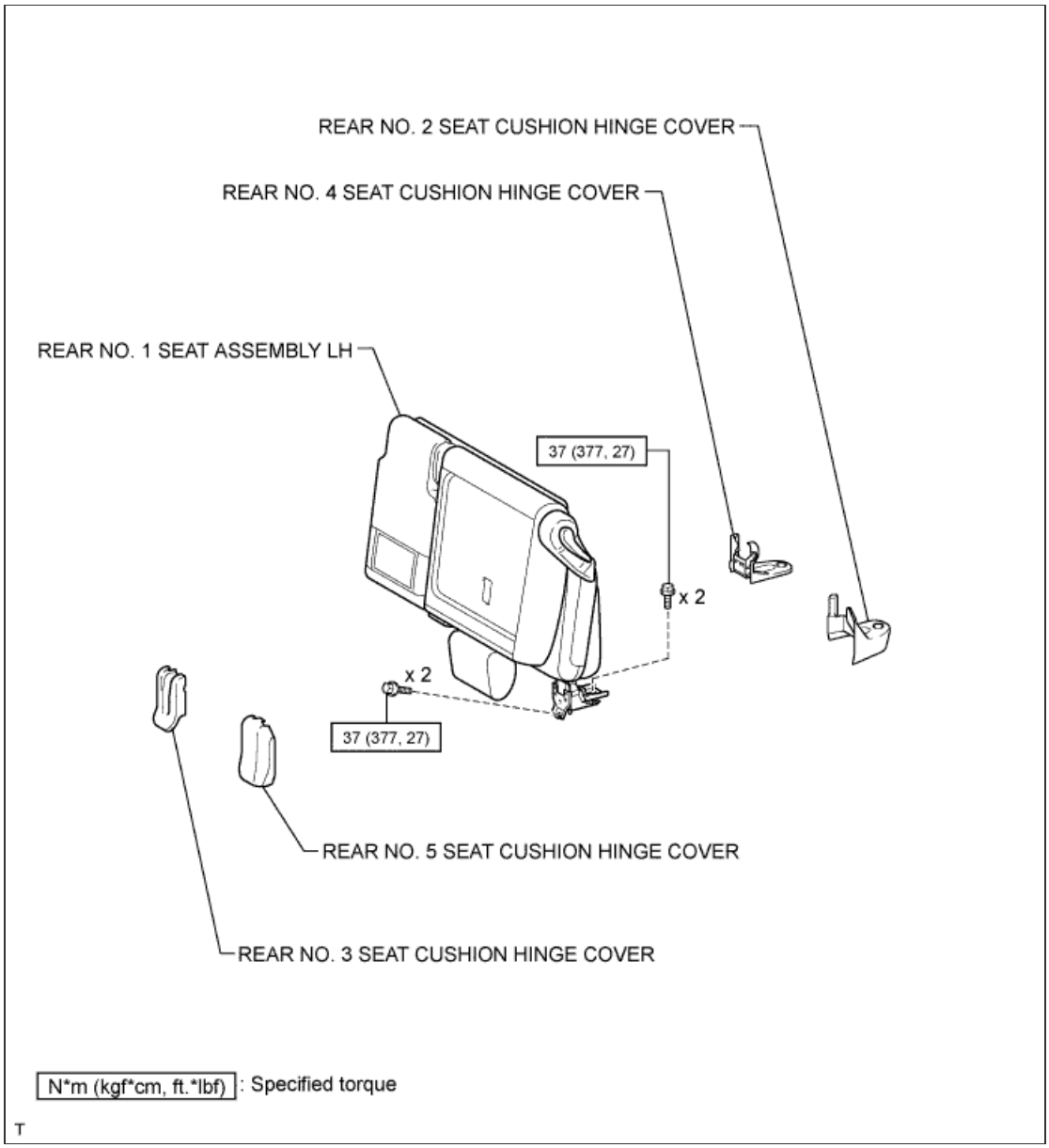
a. Attach the 2 claws to install the cover.

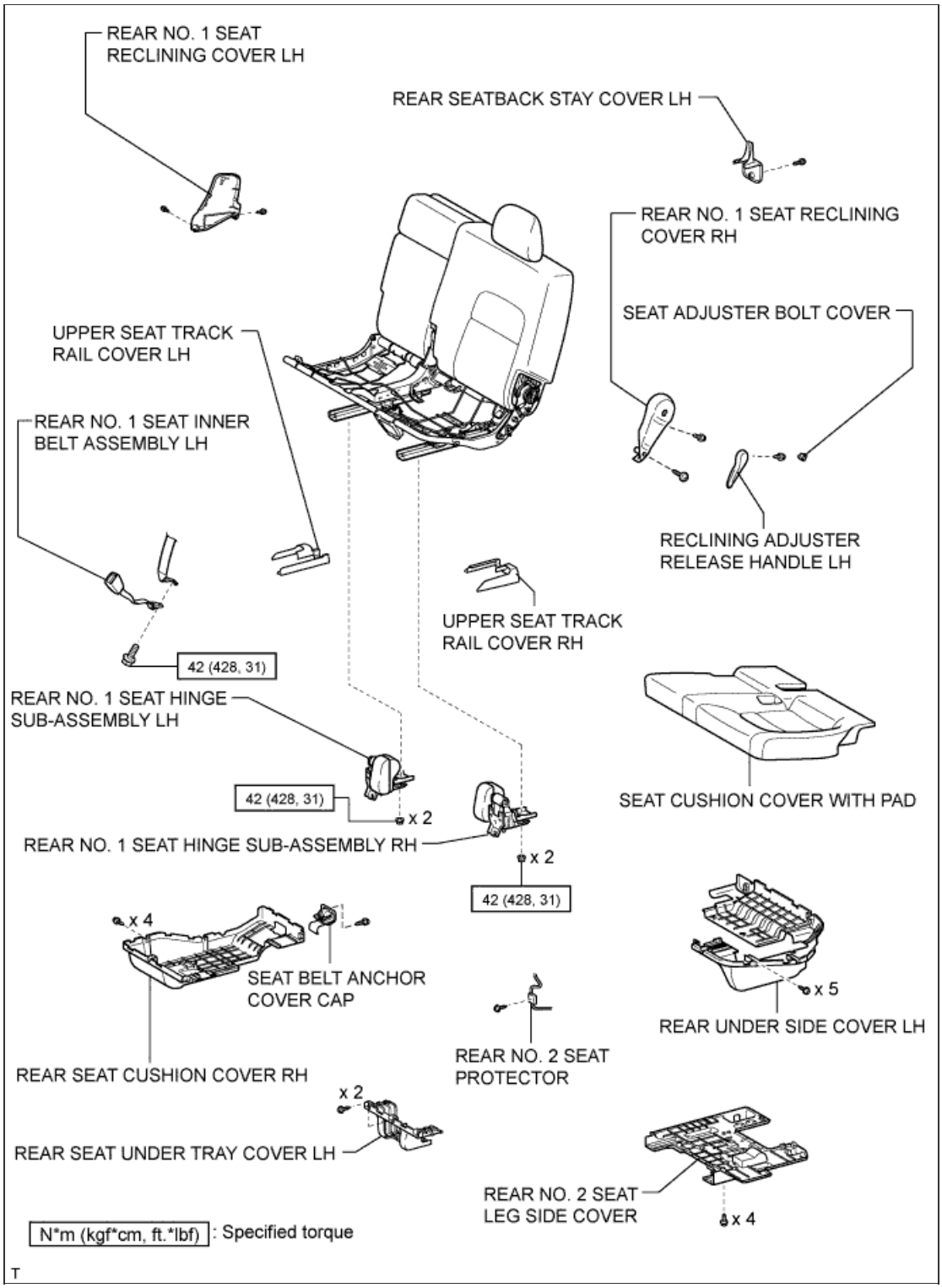


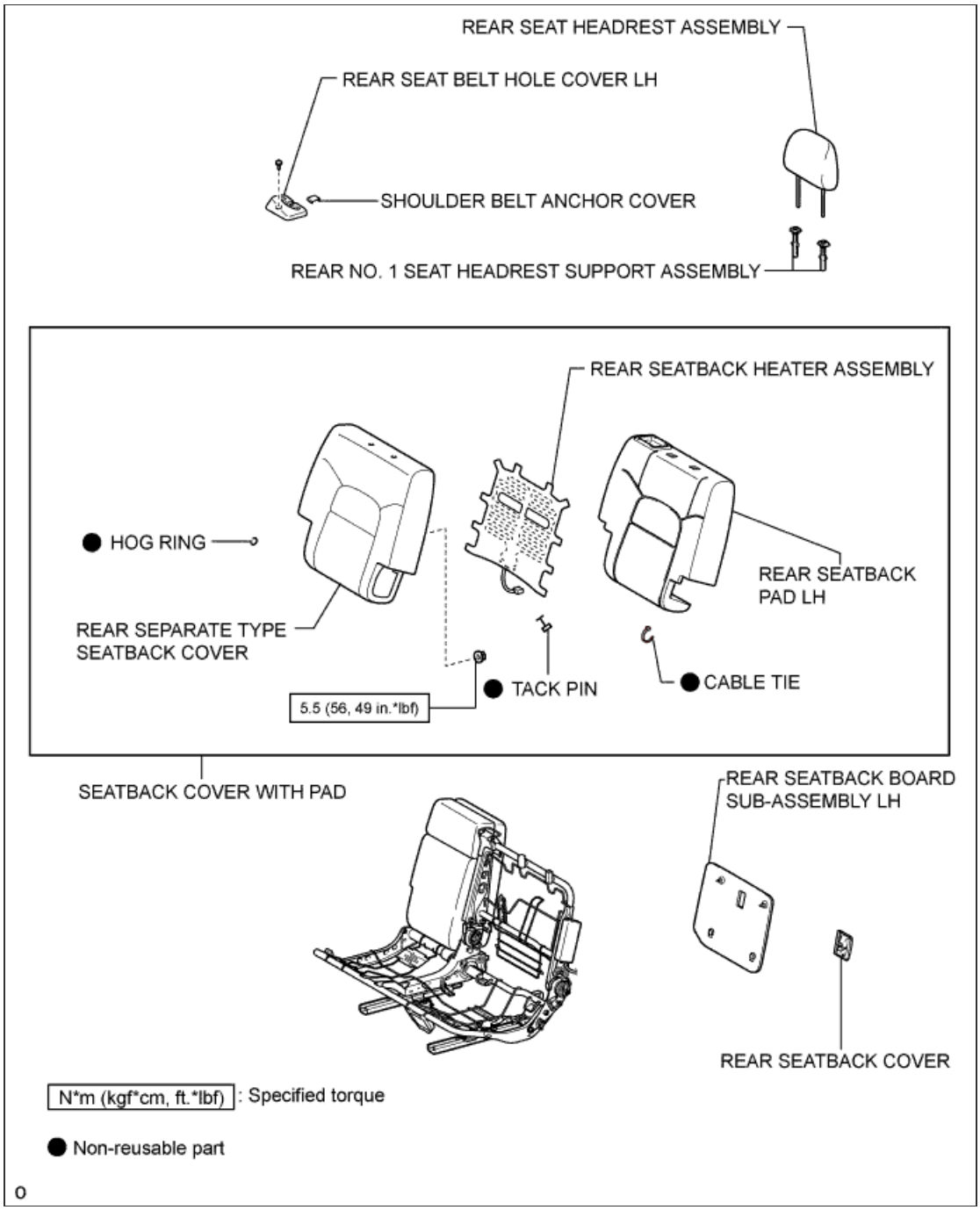

## 22. INSTALL REAR NO. 1 SEAT ASSEMBLY RH

a. Install the rear No. 1 seat assembly ( Click here).

**for Preparation** Click here




REAR NO. 1 SEAT RECLINING COVER LH
REAR SEATBACK STAY COVER LH
REAR NO. 1 SEAT RECLINING COVER RH
SEAT ADJUSTER BOLT COVER
UPPER SEAT TRACK RAIL COVER LH
REAR NO. 1 SEAT INNER BELT ASSEMBLY LH
RECLINING ADJUSTER RELEASE HANDLE LH
UPPER SEAT TRACK RAIL COVER RH
42 (428, 31)
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH
SEAT CUSHION COVER WITH PAD
42 (428, 31)
x 2
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH
x 2
42 (428, 31)
x 4
SEAT BELT ANCHOR COVER CAP
x 5
REAR UNDER SIDE COVER LH
REAR NO. 2 SEAT PROTECTOR
REAR SEAT CUSHION COVER RH
x 2
REAR SEAT UNDER TRAY COVER LH
REAR NO. 2 SEAT LEG SIDE COVER
x 4
N*m (kgf*cm, ft.*lbf) : Specified torque
T


REAR SEAT HEADREST ASSEMBLY
REAR SEAT BELT HOLE COVER LH
SHOULDER BELT ANCHOR COVER
REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY
REAR SEATBACK HEATER ASSEMBLY
HOG RING
REAR SEPARATE TYPE SEATBACK COVER
REAR SEATBACK PAD LH
5.5 (56, 49 in.*lbf)
TACK PIN
CABLE TIE
SEATBACK COVER WITH PAD
REAR SEATBACK BOARD SUB-ASSEMBLY LH
REAR SEATBACK COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part

o

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

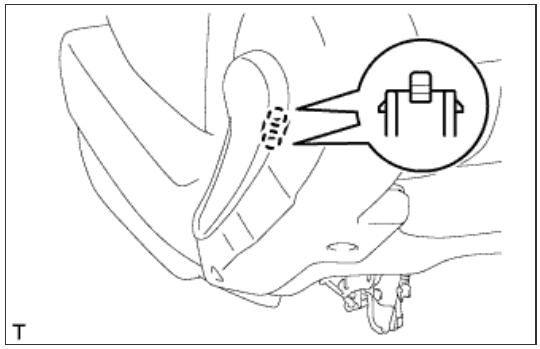
a. Remove the rear No. 1 seat assembly ( Click here).

## 2. REMOVE SEAT ADJUSTER BOLT COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

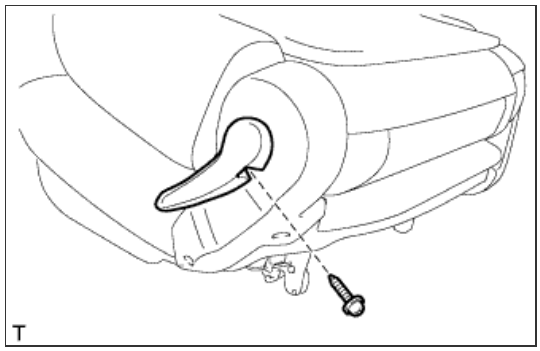
**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

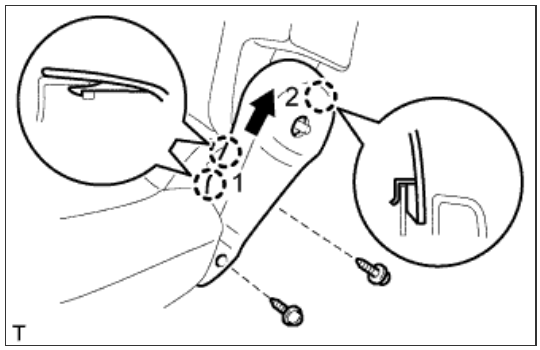
a. Remove the screw and release handle.




## 4. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

a. Remove the 2 screws.

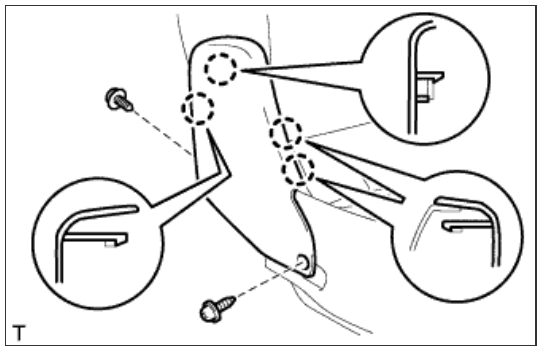
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.




## 5. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

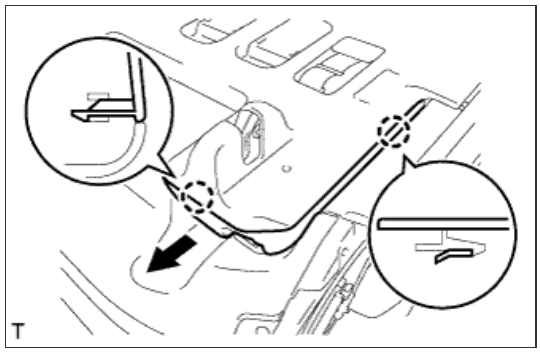



## 6. REMOVE UPPER SEAT TRACK RAIL COVER LH

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

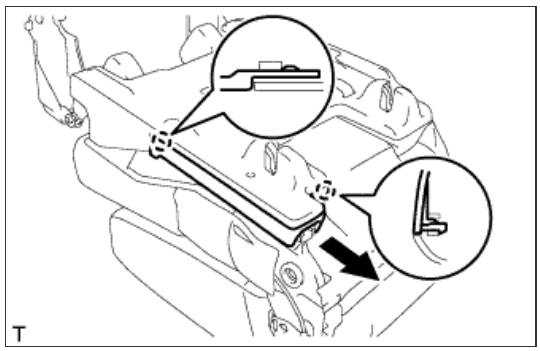



## 7. REMOVE UPPER SEAT TRACK RAIL COVER RH

a. Using a screwdriver, detach the 2 claws and remove the cover.

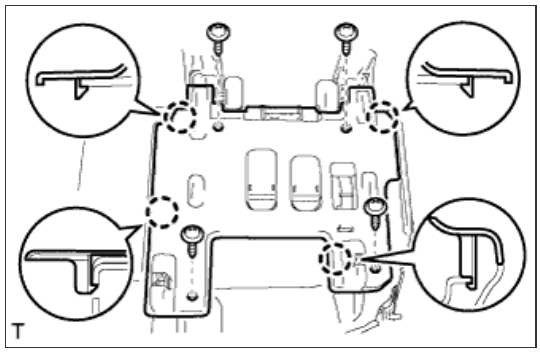
**HINT:**

Tape the screwdriver tip before use.

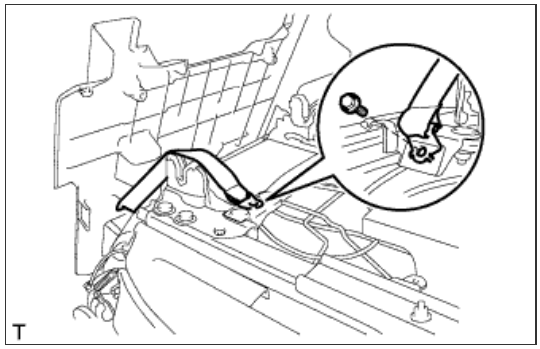



## 8. REMOVE REAR NO. 2 SEAT LEG SIDE COVER

a. Remove the 4 screws and detach the 4 claws.



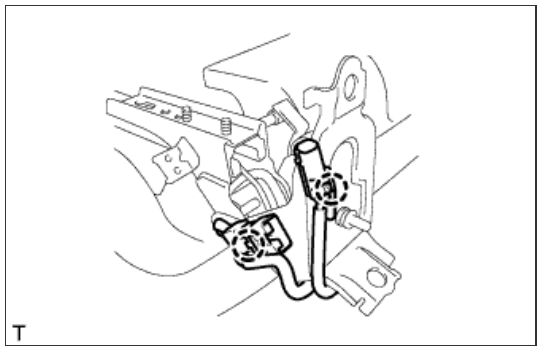

b. Remove the bolt that is securing the fold seat stopper band and remove the seat leg side cover together with the fold seat stopper band.




## 9. REMOVE REAR NO. 2 SEAT PROTECTOR

a. w/ Rear Seat Side Airbag:
Detach the claw and remove the wire harness connector.

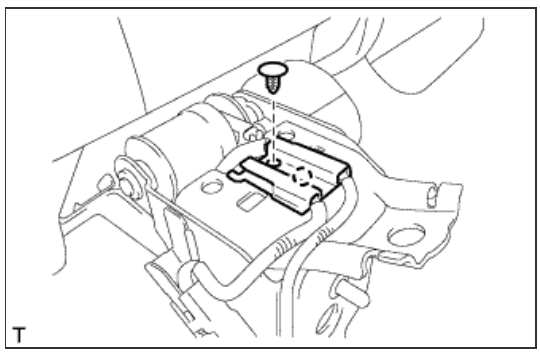
b. w/ Seat Heater System:
Detach the claw and remove the wire harness connector.




c. Using a clip remover, remove the clip.

d. Detach the claw and remove the seat protector from the seat hinge.

e. Detach the 2 claws, open the protector and remove wire harness.

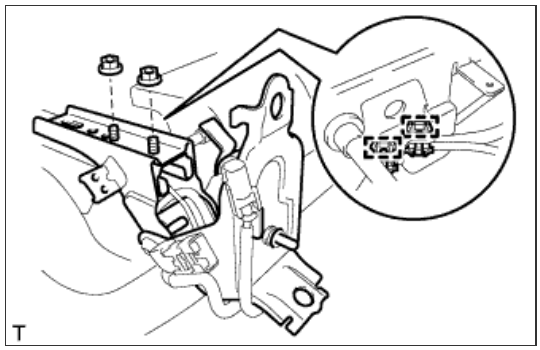



## 10. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

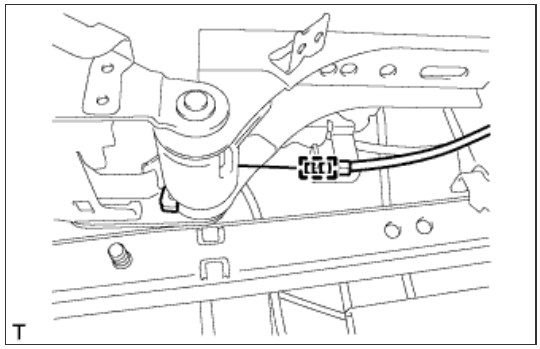
a. w/ Rear Seat Side Airbag:
Detach the wire harness clamp.

b. w/ Seat Heater System:
Detach the wire harness clamp.

c. Remove the 2 nuts and hinge.

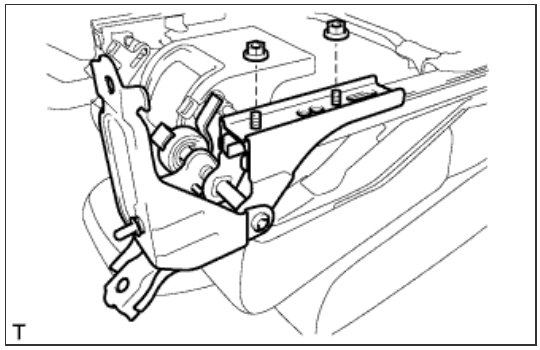



d. Detach the cable clamp and disconnect the cable.



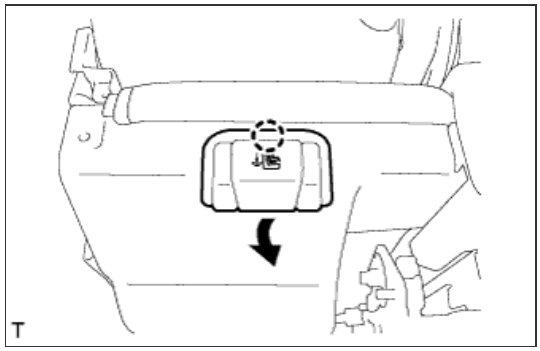

## 11. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

a. Remove the 2 nuts and hinge.

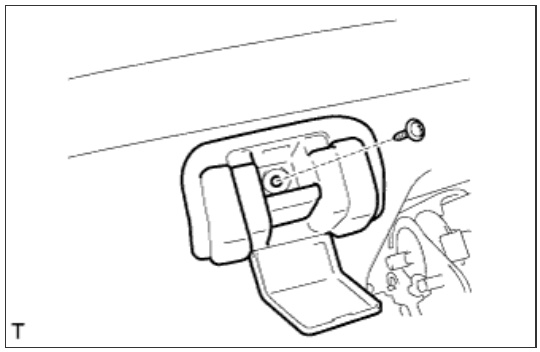



## 12. REMOVE SEAT BELT ANCHOR COVER CAP

a. Detach the claw and open the cap.



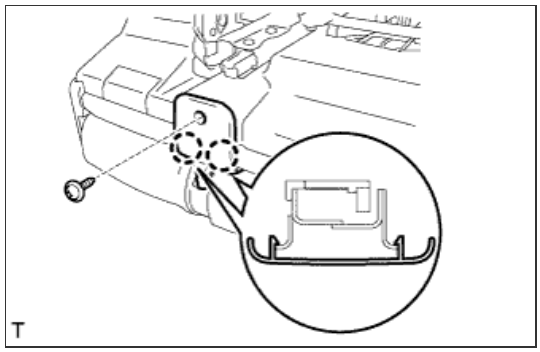

b. Remove the screw and anchor cover cap.




## 13. REMOVE REAR SEATBACK STAY COVER LH

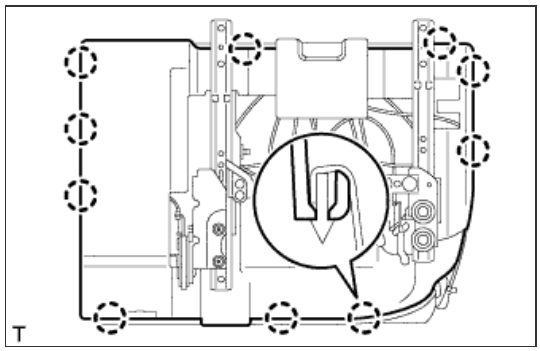
a. Remove the screw.

b. Detach the 2 claws and remove the cover.



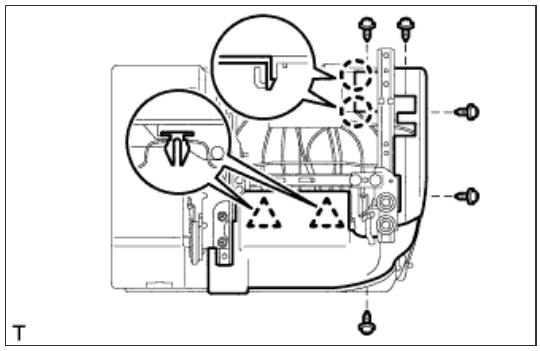

## 14. REMOVE REAR UNDER SIDE COVER LH

a. Detach the 10 claws.




b. Remove the 5 screws.

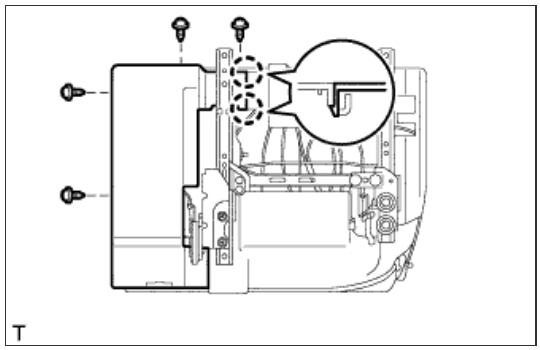
c. Detach the 2 clips and 2 claws, and remove the cover.




## 15. REMOVE REAR SEAT CUSHION COVER RH

a. Remove the 4 screws.

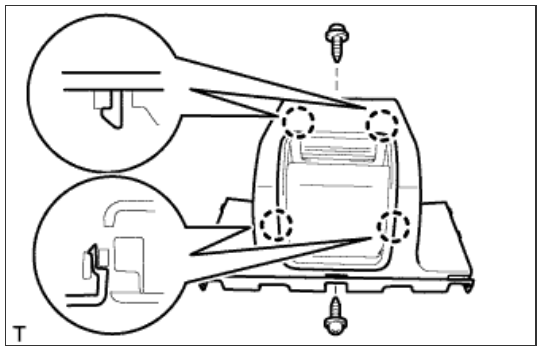
b. Detach the 2 claws and remove the cover.




## 16. REMOVE REAR SEAT UNDER TRAY COVER LH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

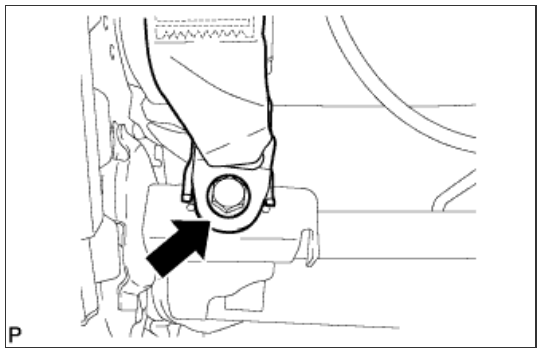



## 17. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Remove the bolt and belt.

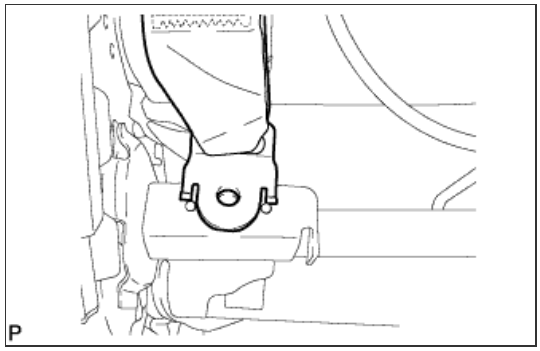
**HINT:**

The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, it becomes disconnected when the bolt is removed.




## 18. DISCONNECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Disconnect the belt anchor.




## 19. REMOVE SEAT CUSHION COVER WITH PAD

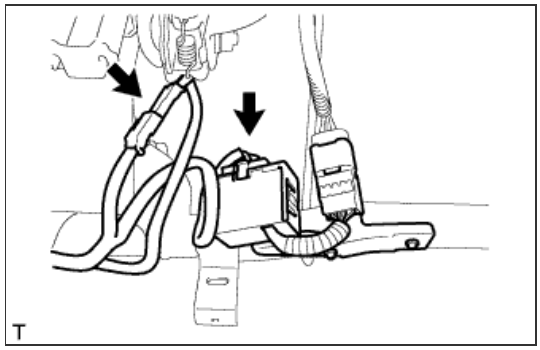
a. w/ Rear Seat Side Airbag:

i. Detach the side airbag wire harness clamps.

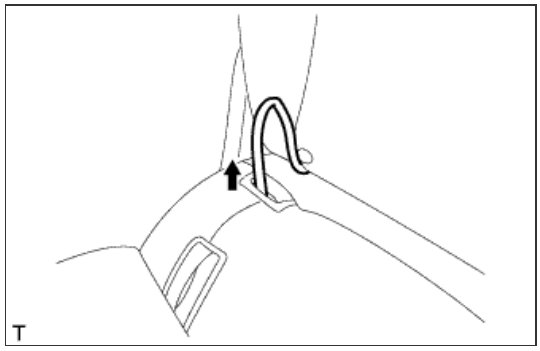
ii. Remove the side airbag wire harness through the hole in the seat cushion.

b. w/ Seat Heater System:

i. Disconnect the 2 seat heater connectors.




ii. Remove the seatback heater wire harness through the hole in the seat cushion.



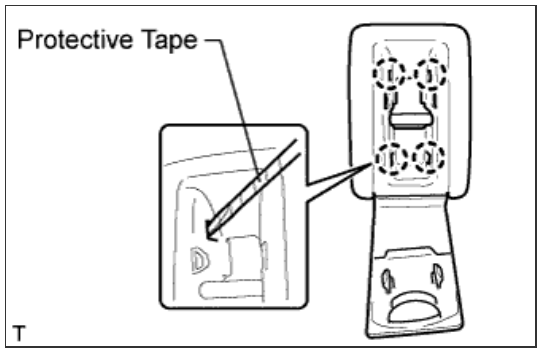

c. Remove the seat cushion cover with pad.

## 20. REMOVE REAR SEATBACK COVER

a. Using a screwdriver, detach the 4 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

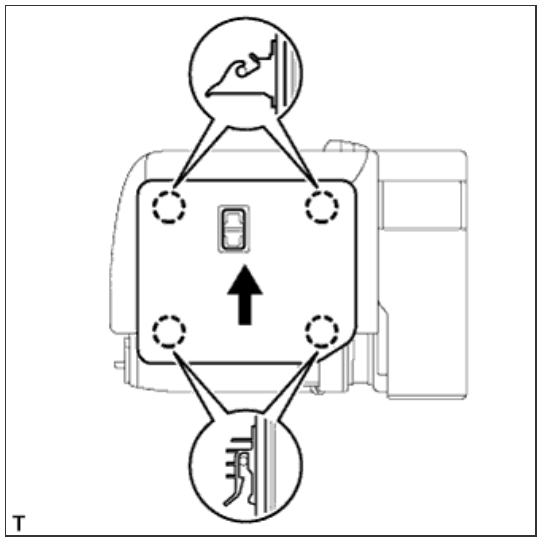



## 21. REMOVE REAR SEATBACK BOARD SUB-ASSEMBLY LH

a. w/ Center Armrest:

i. Detach the 2 claws on the top of the board.

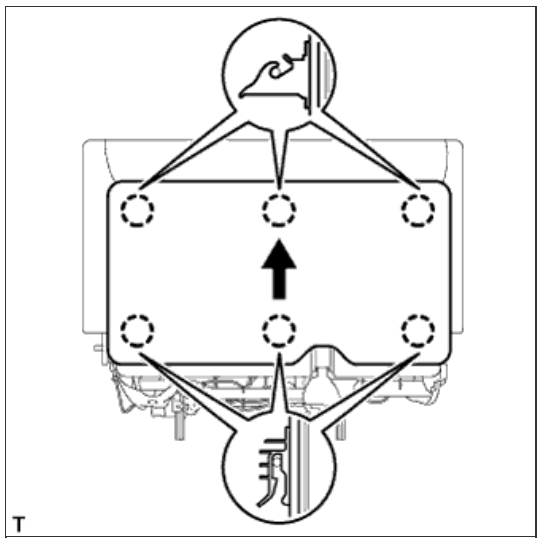
ii. Pull up the board to detach the 2 claws on the bottom of the board and remove it.




b. w/o Center Armrest:

i. Detach the 3 claws on the top of the board.

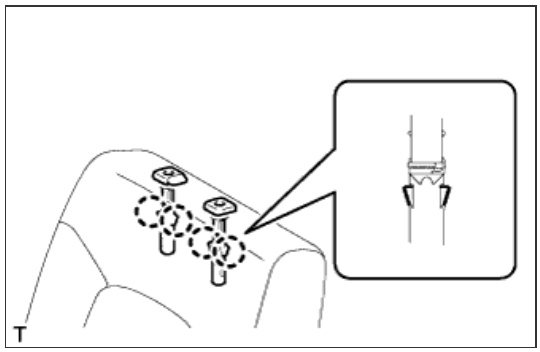
ii. Pull up the board to detach the 3 claws on the bottom of the board and remove it.



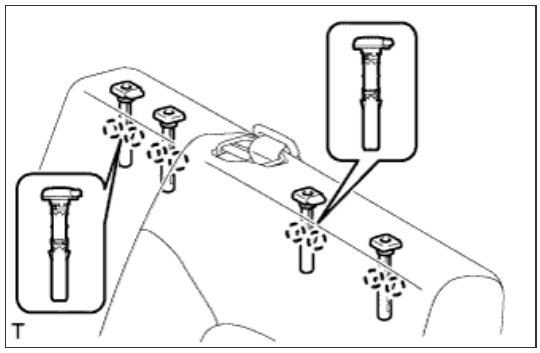

## 22. REMOVE REAR SEAT HEADREST ASSEMBLY

## 23. REMOVE REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. w/ Center Armrest:
Detach the 4 claws and remove the 2 supports.




b. w/o Center Armrest:
Detach the 8 claws and remove the 4 supports.

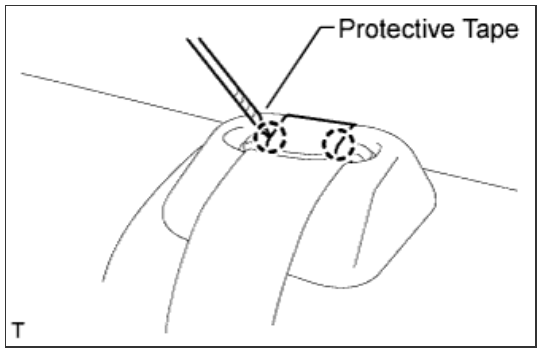



## 24. REMOVE SHOULDER BELT ANCHOR COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

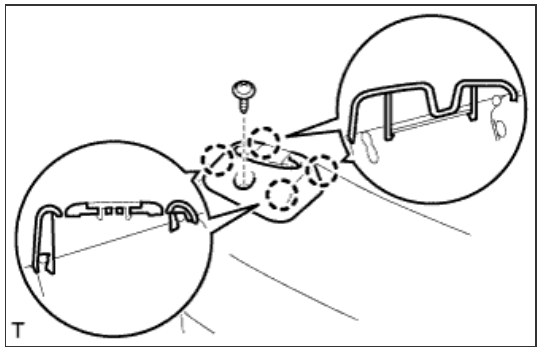
Tape the screwdriver tip before use.




## 25. REMOVE REAR SEAT BELT HOLE COVER LH

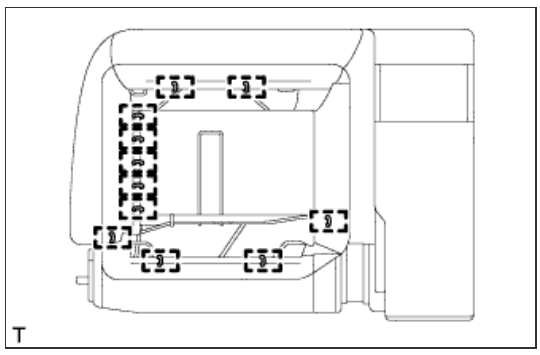
a. Remove the screw.

b. Detach the 4 claws and remove the cover.

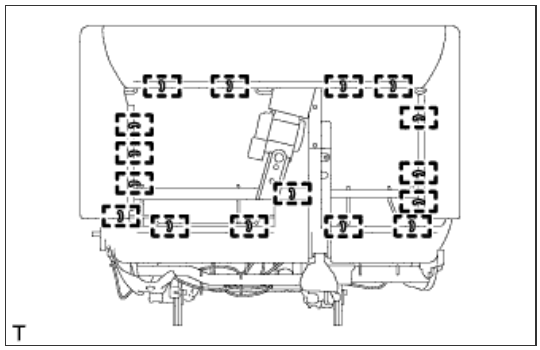



## 26. REMOVE SEATBACK COVER WITH PAD

a. w/ Center Armrest:
Remove the hog rings.



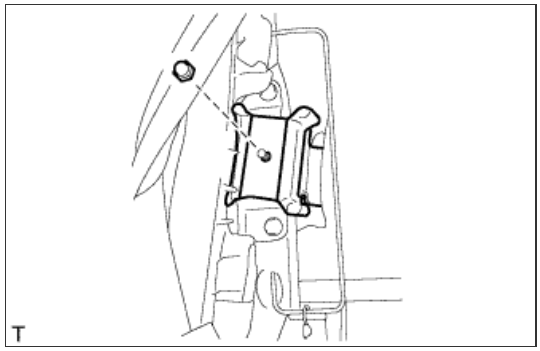

b. w/o Center Armrest:
Remove the hog rings.




c. w/ Rear Seat Side Airbag:

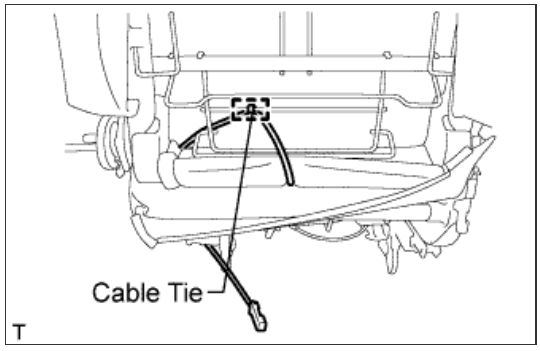
i. Remove the cap nut and seatback cover bracket from the seat frame.

ii. Remove the side airbag wire harness through the hole in the seatback.

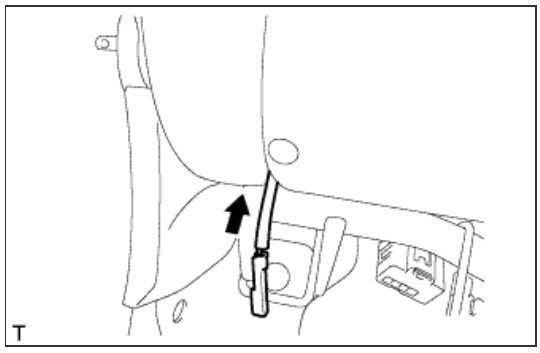



d. w/ Seat Heater System:

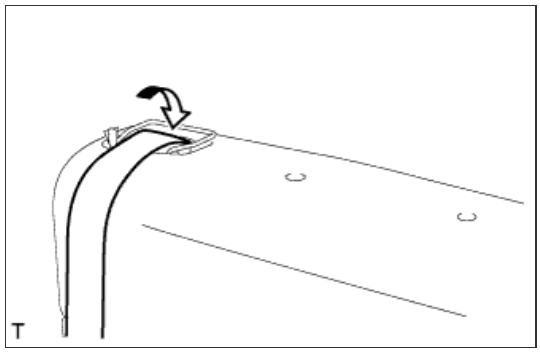
i. Cut the cable tie and disconnect the seatback heater wire harness.




ii. Remove the seatback heater wire harness through the hole in the seatback.

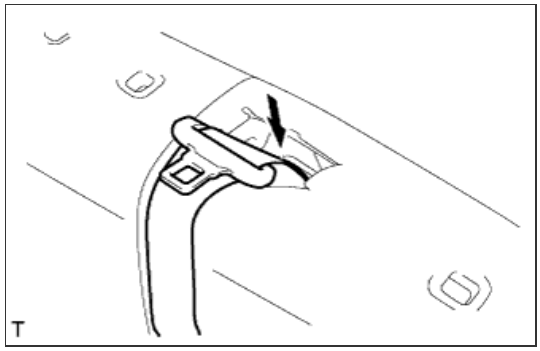



e. w/ Center Armrest:
Pull the seat belt into the inside of the seat.



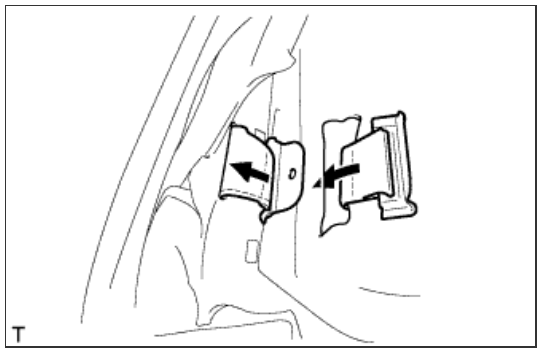

f. w/o Center Armrest:
Pull the seat belt into the inside of the seat.

g. Remove the seatback cover with pad.

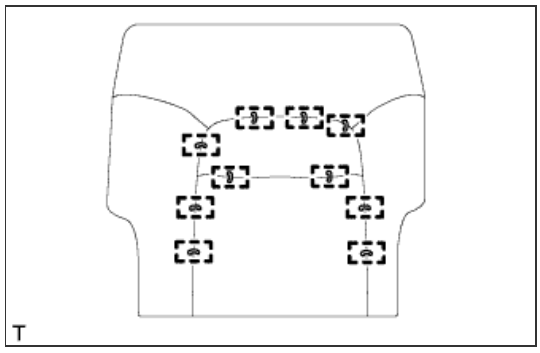



## 27. REMOVE REAR SEPARATE TYPE SEATBACK COVER

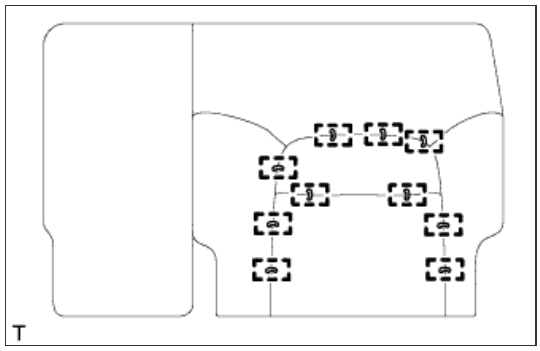
a. w/ Rear Seat Side Airbag:
Disconnect the seatback cover bracket from the seatback pad.




b. w/ Center Armrest:
Remove the hog rings and rear seatback cover.

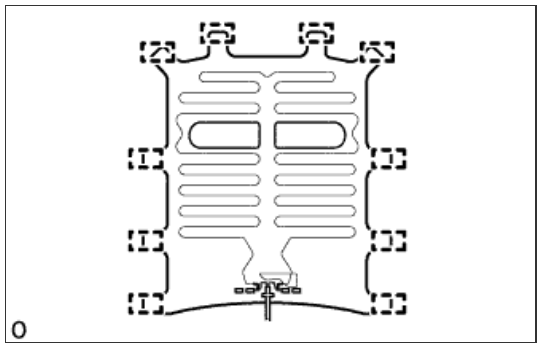



c. w/o Center Armrest:
Remove the hog rings and rear seatback cover.




## 28. REMOVE REAR SEATBACK HEATER ASSEMBLY

a. Cut off the tack pins which fasten the seatback heater to the seatback cover, and then remove the seatback heater from the seatback cover.



**for Preparation** Click here

## 1. INSPECT REAR SEATBACK HEATER ASSEMBLY

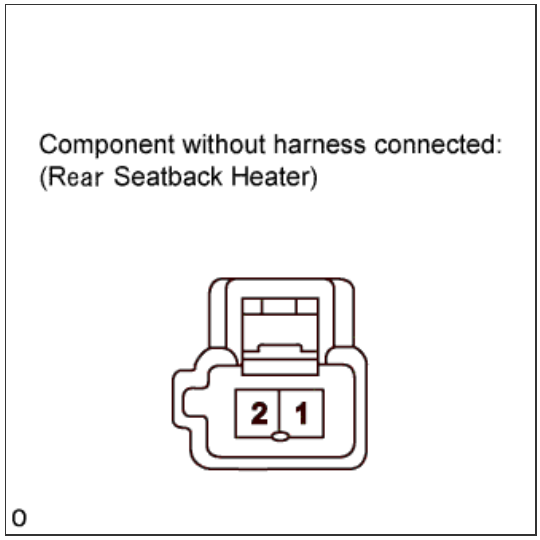
a. Check the seatback heater.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | Seatback heater temperature 25°C (77°F) | 7.51 to 8.99 Ω |

If the result is not as specified, replace the seatback heater assembly.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

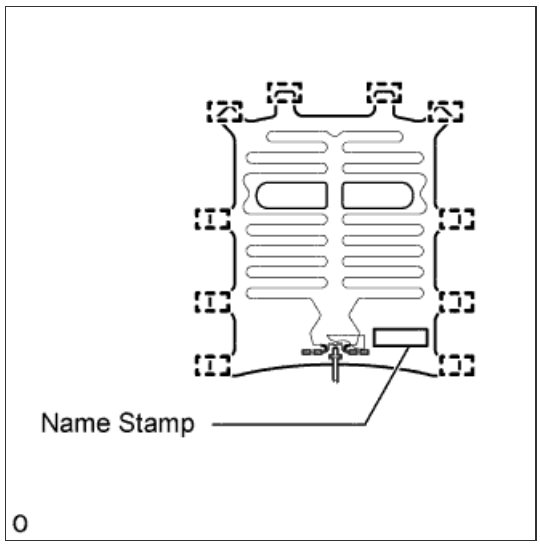
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL REAR SEATBACK HEATER ASSEMBLY

a. Set the seatback heater with the name stamp side facing the seatback cover.

b. Install the seatback heater with new tack pins.

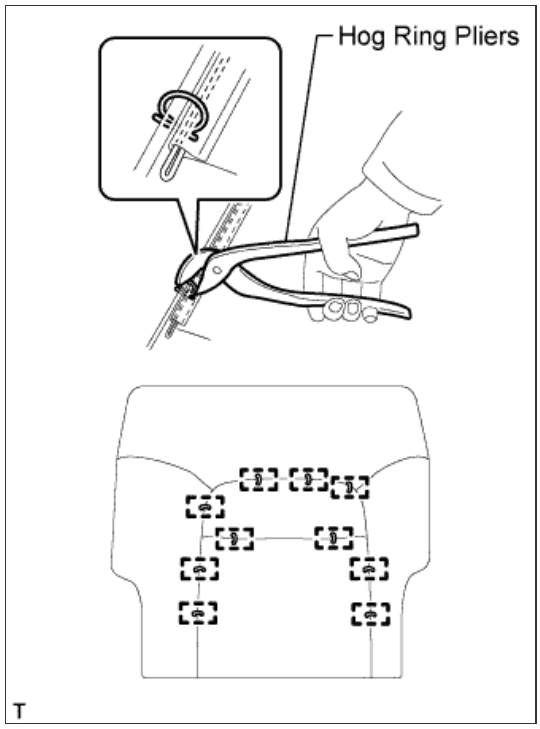



## 2. INSTALL REAR SEPARATE TYPE SEATBACK COVER

a. w/ Center Armrest:
Using hog ring pliers, install the seatback cover with new hog rings.

**NOTICE:**

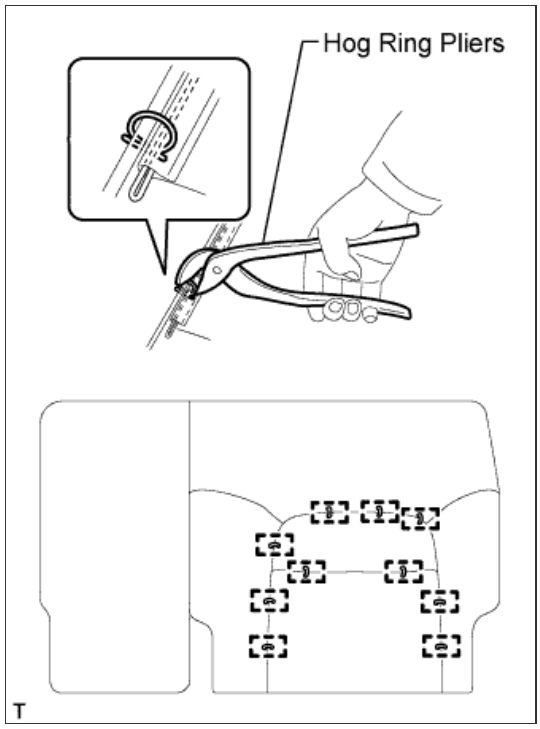
- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



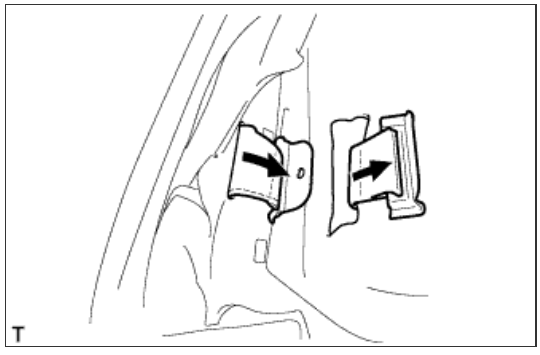

b. w/o Center Armrest:
Using hog ring pliers, install the seatback cover with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



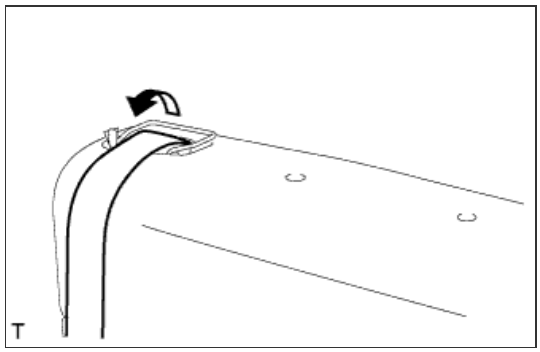

c. w/ Rear Seat Side Airbag:
Connect the seatback cover bracket to the seatback pad.




### 3. INSTALL SEATBACK COVER WITH PAD

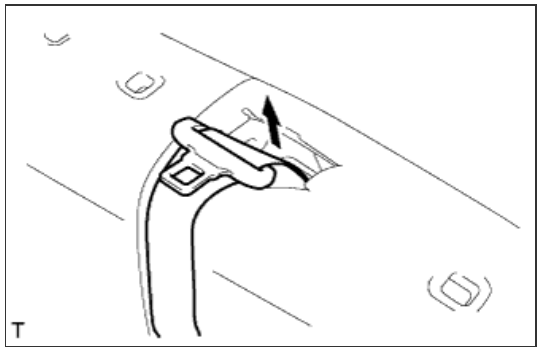
a. Install the seatback cover with pad.

b. w/ Center Armrest:
Pull out the seat belt.



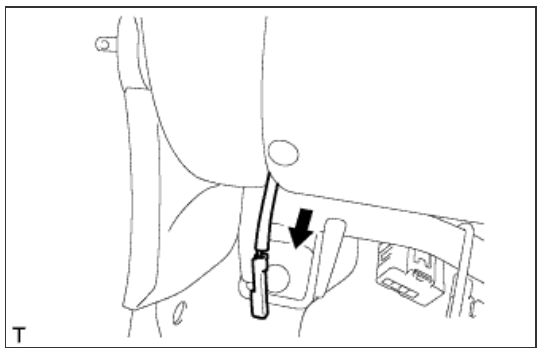

c. w/o Center Armrest:
Pull out the seat belt.

d. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seatback.

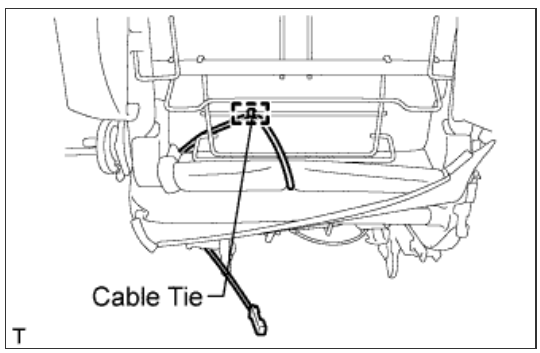



e. w/ Seat Heater System:
Pass the seatback heater wire harness through the hole in the seatback.

i.




ii. Connect the seatback heater wire harness and install a new cable tie.

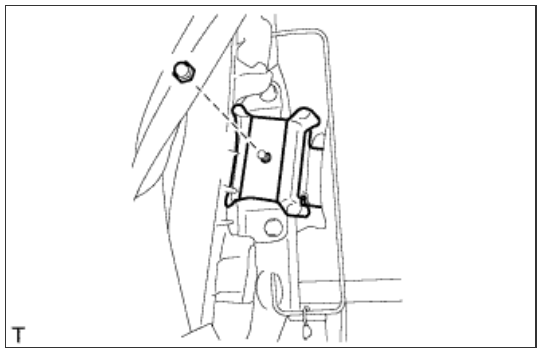



f. w/ Rear Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the cap nut.

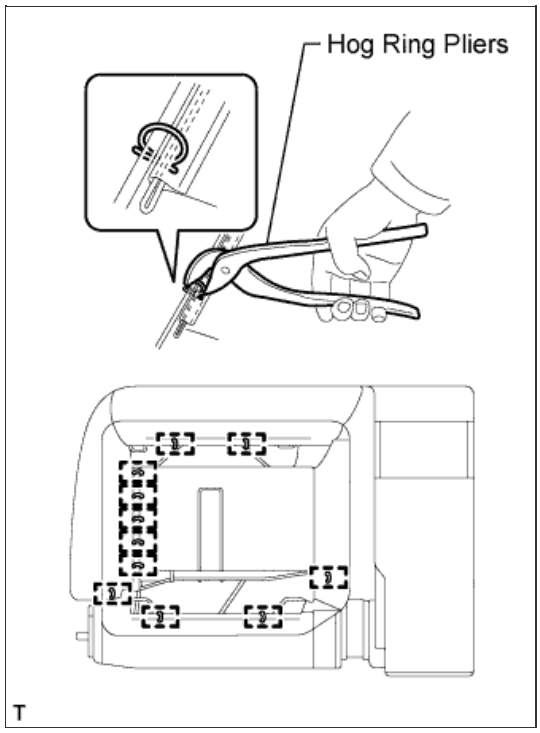
**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

**NOTICE:**

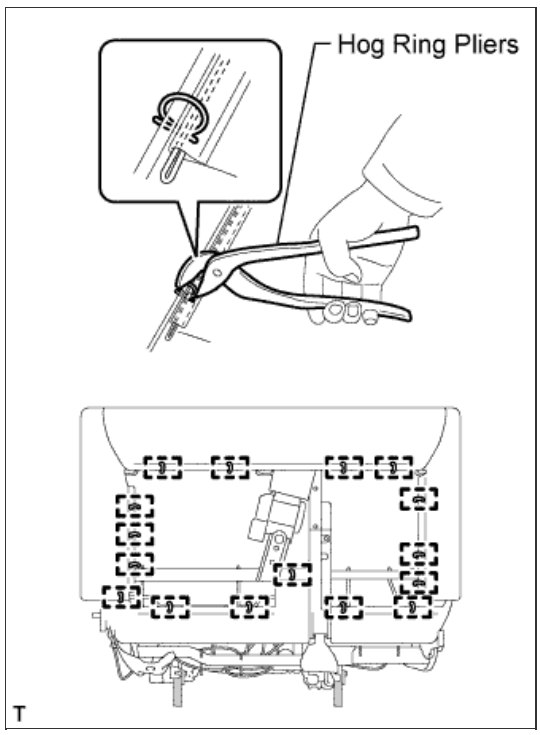
After the seatback trim cover is assembled, make sure the side airbag strap is not twisted.




g. w/ Center Armrest:
Using hog ring pliers, install new hog rings to the seatback frame.



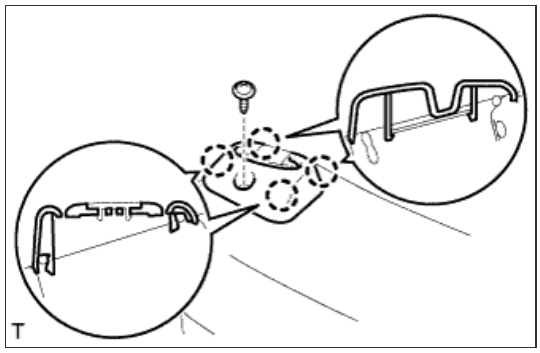

h. w/o Center Armrest:
Using hog ring pliers, install new hog rings to the seatback frame.




## 4. INSTALL REAR SEAT BELT HOLE COVER LH

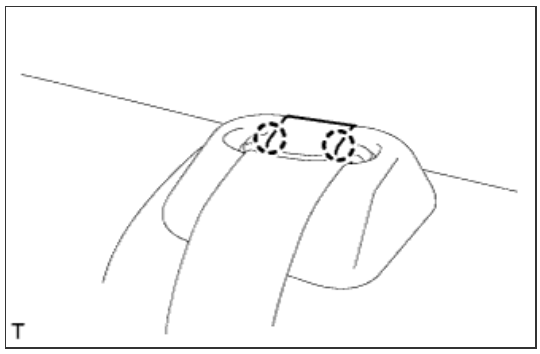
a. Attach the 4 claws to install the cover.

b. Install the screw.



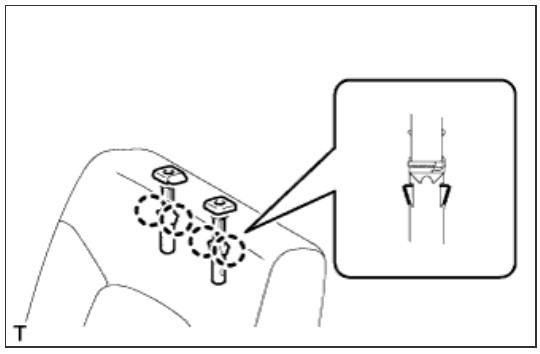

## 5. INSTALL SHOULDER BELT ANCHOR COVER

a. Attach the 2 claws to install the cover.

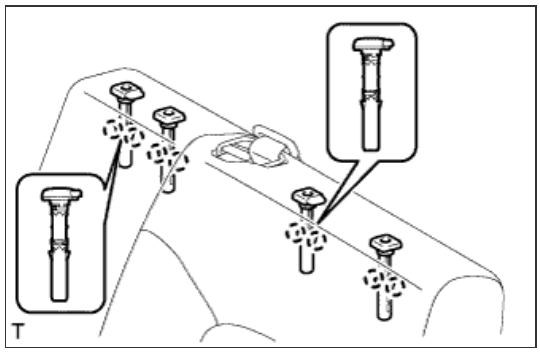



## 6. INSTALL REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. w/ Center Armrest:
Attach the 4 claws to install the 2 supports.




b. w/o Center Armrest:
Attach the 8 claws to install the 4 supports.



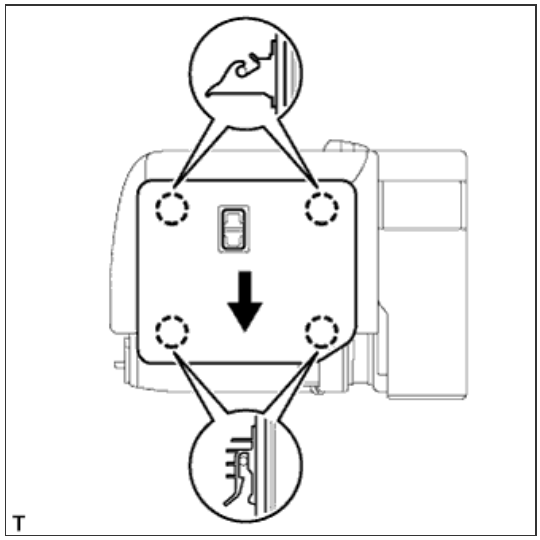

## 7. INSTALL REAR SEAT HEADREST ASSEMBLY

## 8. INSTALL REAR SEATBACK BOARD SUB-ASSEMBLY LH

a. w/ Center Armrest:

i. Push the board down to attach the 2 claws on the bottom.

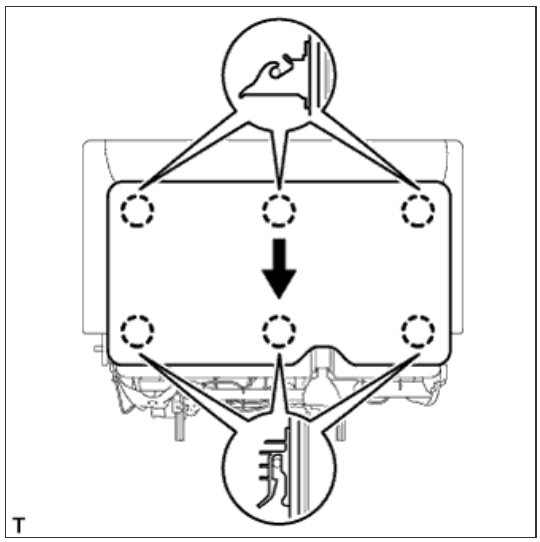
ii. Attach the 2 claws on the top of the board to install it.




b. w/o Center Armrest:

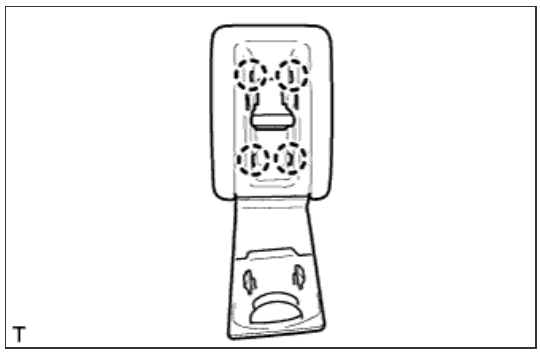
i. Push the board down to attach the 3 claws on the bottom.

ii. Attach the 3 claws on the top of the board to install it.




## 9. INSTALL REAR SEATBACK COVER

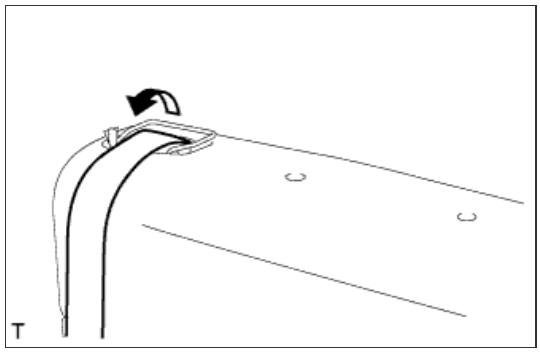
a. Attach the 4 claws to install the cover.




## 10. INSTALL SEAT CUSHION COVER WITH PAD

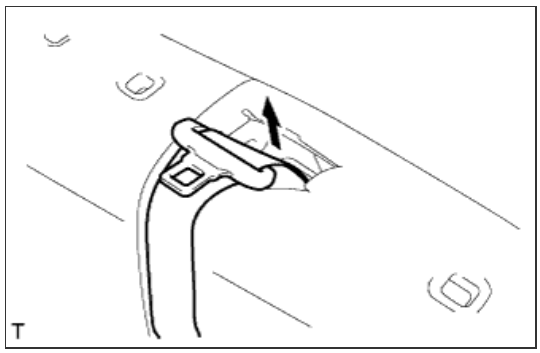
a. Install the seatback cover with pad.

b. w/ Center Armrest:
Pull out the seat belt.



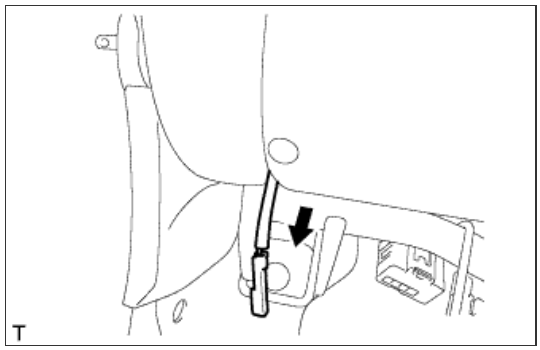

c. w/o Center Armrest:
Pull out the seat belt.

d. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seatback.

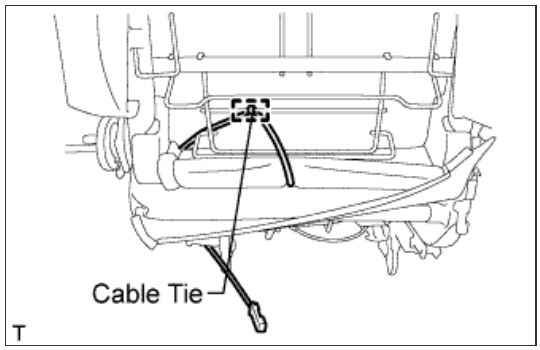



e. w/ Seat Heater System:
Pass the seatback heater wire harness through the hole in the seatback.

i.




ii. Connect the seatback heater wire harness and install a new cable tie.

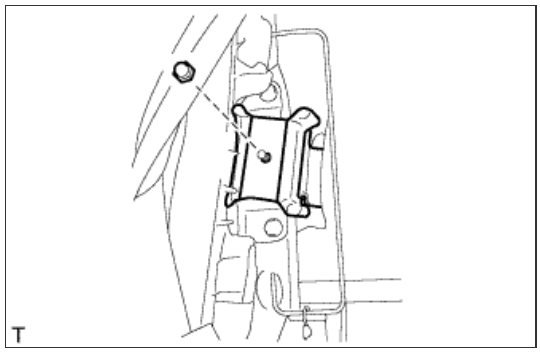



f. w/ Rear Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the cap nut.

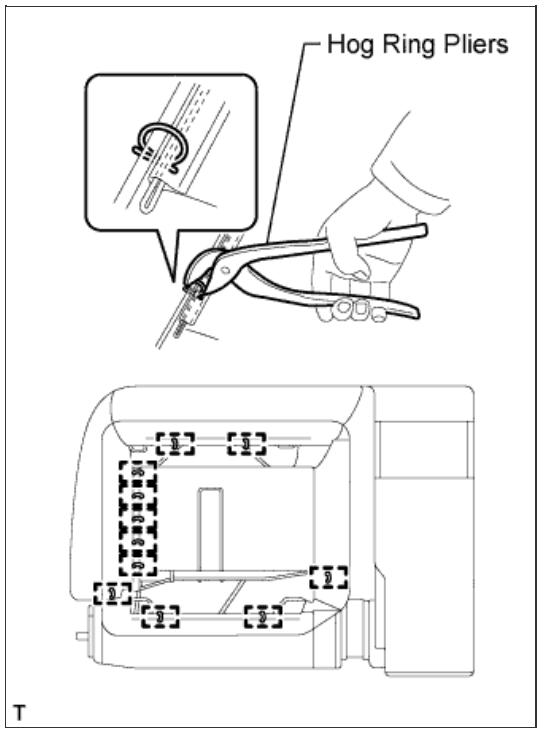
**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

**NOTICE:**

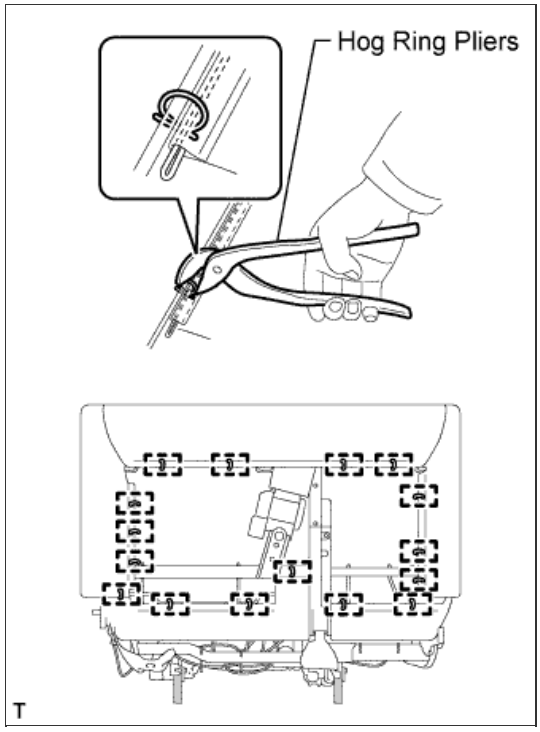
After the seatback trim cover is assembled, make sure the side airbag strap is not twisted.




**g.** w/ Center Armrest:
Using hog ring pliers, install new hog rings to the seatback frame.




**h.** w/o Center Armrest:
Using hog ring pliers, install new hog rings to the seatback frame.

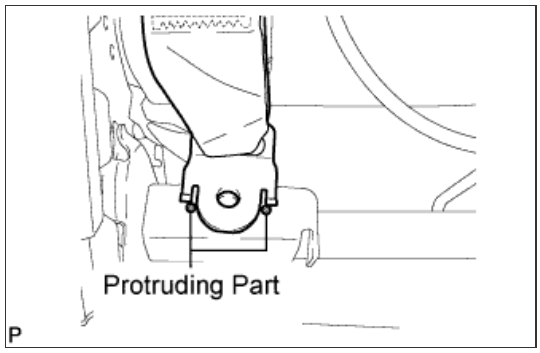



**11. CONNECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH**

a. Connect the belt anchor.

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.




## 12. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Install the belt with the bolt.

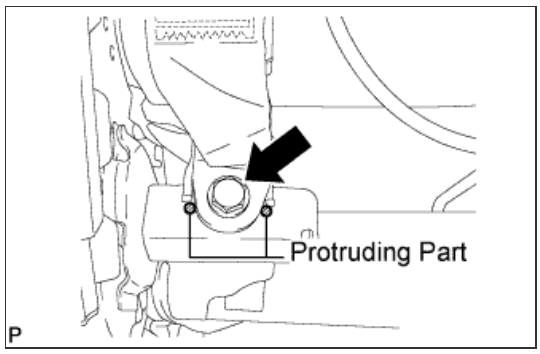
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

**HINT:**

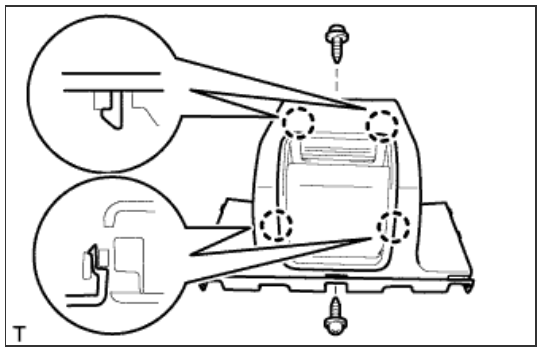
The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, connect it when installing the rear No. 1 seat inner belt LH.




## 13. INSTALL REAR SEAT UNDER TRAY COVER LH

a. Attach the 4 claws to install the cover.

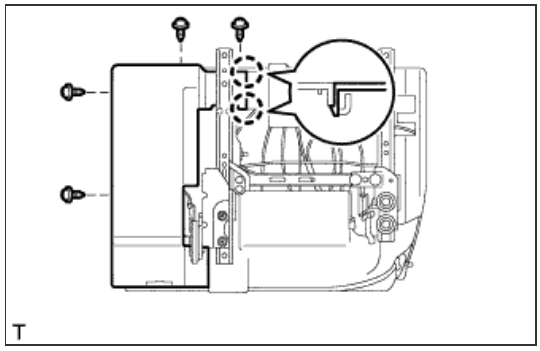
b. Install the 2 screws.




## 14. INSTALL REAR SEAT CUSHION COVER RH

a. Attach the 2 claws to install the cover.

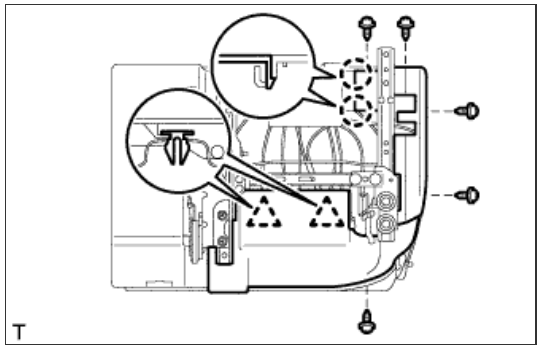
b. Install the 4 screws.



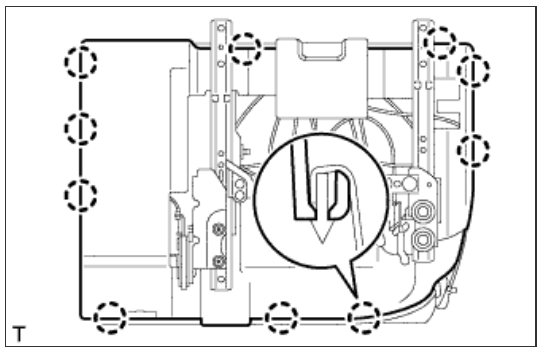

## 15. INSTALL REAR UNDER SIDE COVER LH

a. Attach the 2 claws and 2 clips to install the cover.

b. Install the 5 screws.



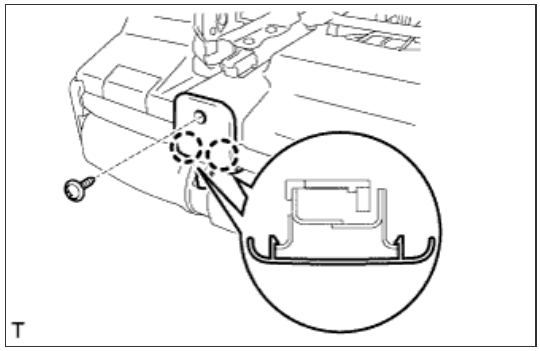

c. Attach the 10 claws.




## 16. INSTALL REAR SEATBACK STAY COVER LH

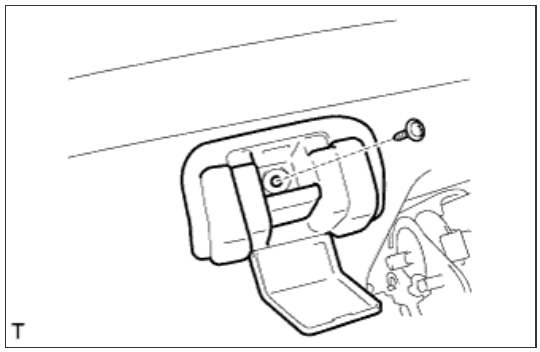
a. Attach the 2 claws to install the cover.

b. Install the screw.

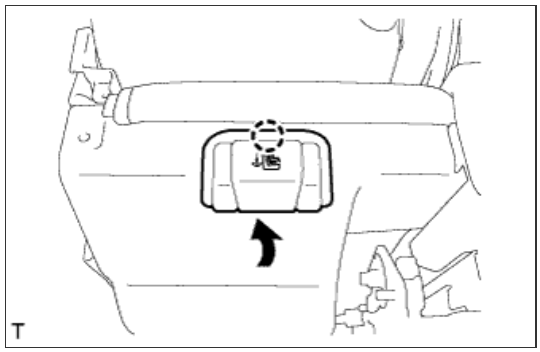



## 17. INSTALL SEAT BELT ANCHOR COVER CAP

a. Install the anchor cover cap with the screw.



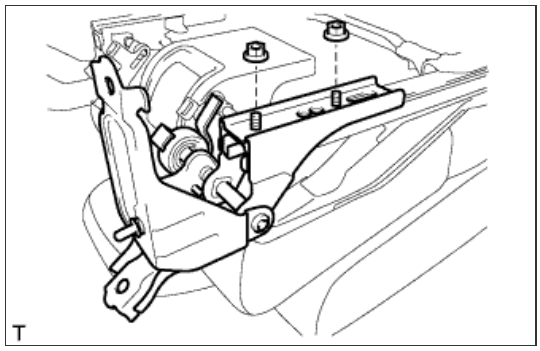

b. Attach the claw to close the cap.




## 18. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

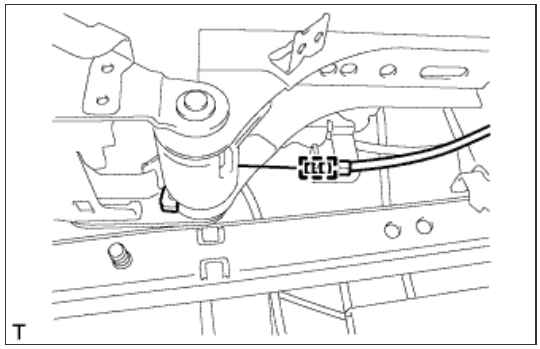
a. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 19. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Attach the cable clamp to connect the cable.

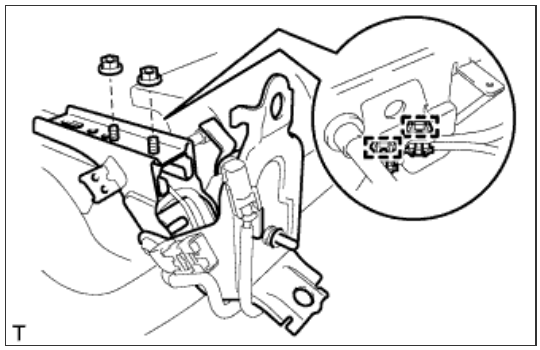



b. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. w/ Rear Seat Side Airbag:
Attach the wire harness clamp.

d. w/ Seat Heater System:
Attach the wire harness clamp.

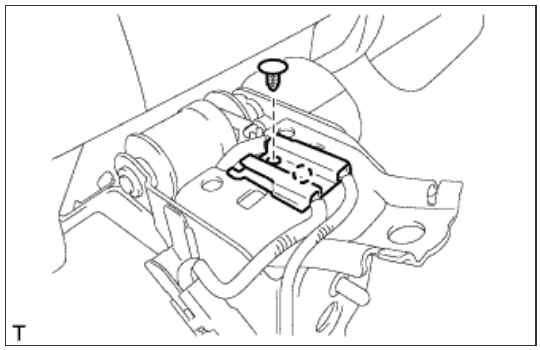



## 20. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Install the wire harness, and attach 2 claws to close the protector.

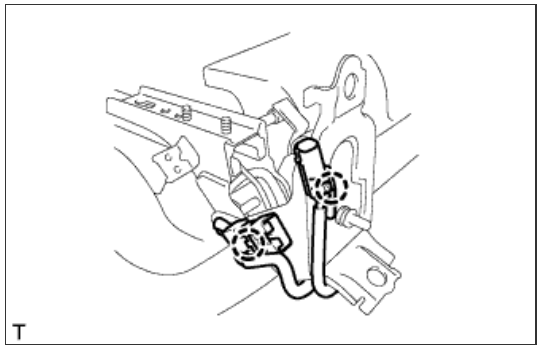
b. Attach the claw to install the protector to the seat hinge.

c. Install the clip.



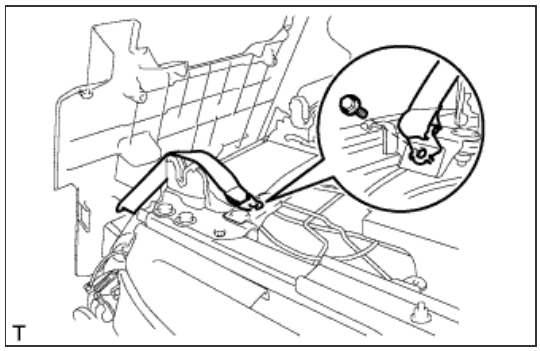

d. w/ Rear Seat Side Airbag:
Attach the claw to install the wire harness connector.

e. w/ Seat Heater System:
Attach the claw to install the wire harness connector.



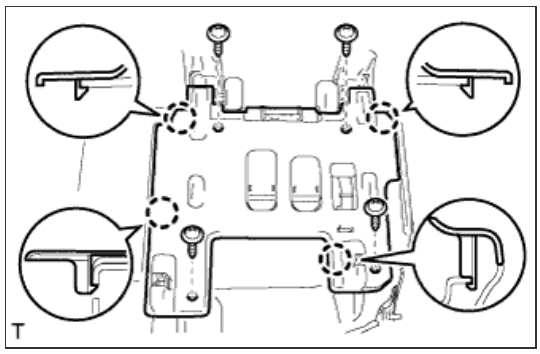

## 21. INSTALL REAR NO. 2 SEAT LEG SIDE COVER

a. Pass the fold seat stopper band through the seat leg side cover and attach it to the seat cushion frame with the bolt.



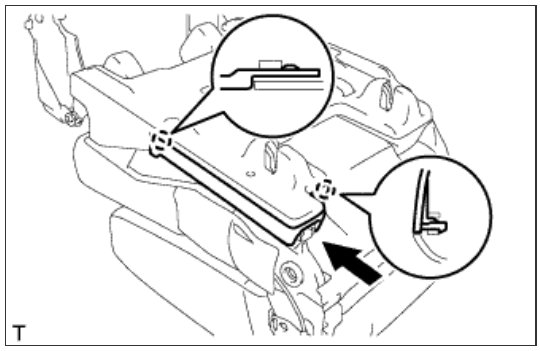

b. Attach the 4 claws to install the seat leg side cover.

c. Install the 4 screws.



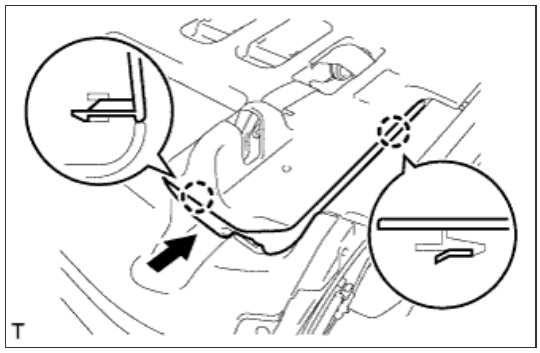

## 22. INSTALL UPPER SEAT TRACK RAIL COVER RH

a. Attach the 2 claws to install the cover.




## 23. INSTALL UPPER SEAT TRACK RAIL COVER LH

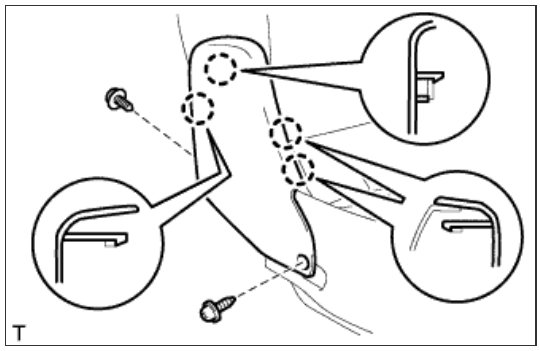
a. Attach the 2 claws to install the cover.




## 24. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

a. Attach the 4 claws to install the cover.

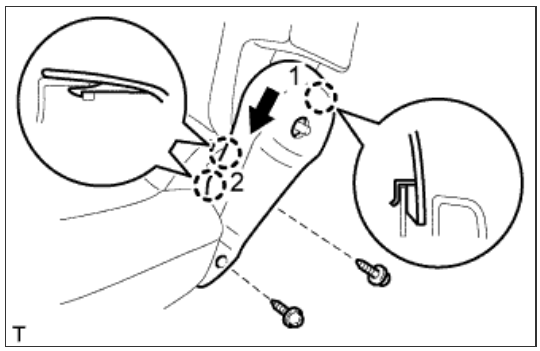
b. Install the 2 screws.




## 25. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

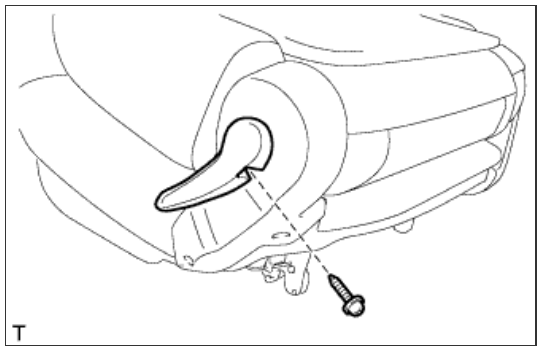
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the 2 screws.



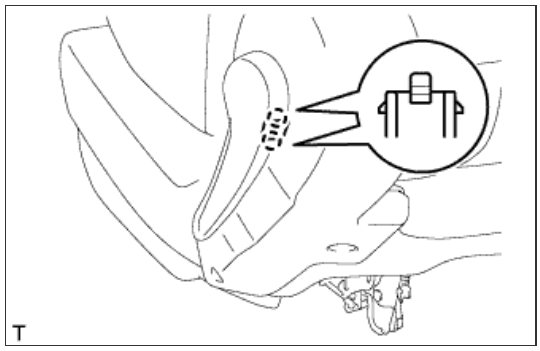

## 26. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the release handle with the screw.




## 27. INSTALL SEAT ADJUSTER BOLT COVER

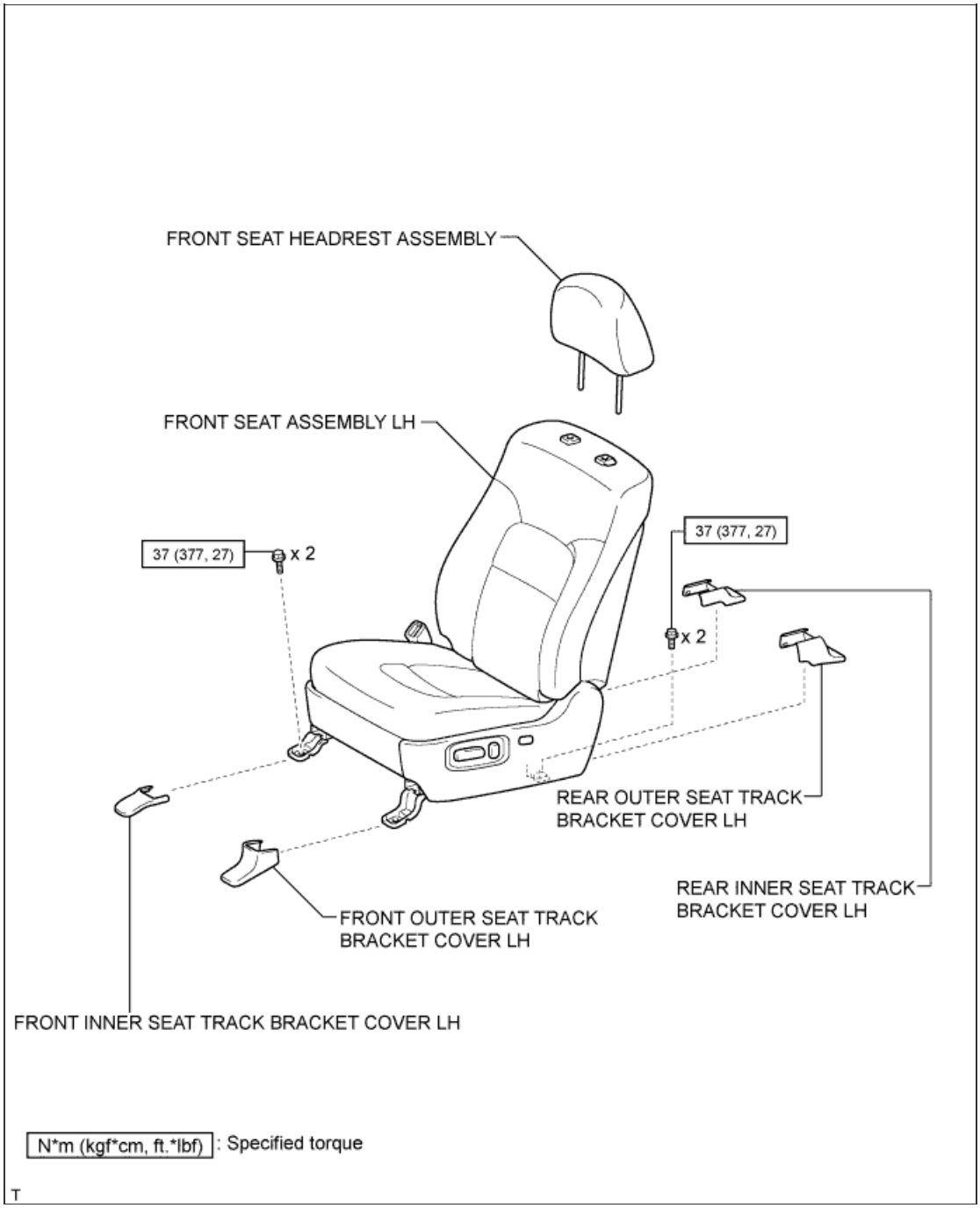
a. Attach the 2 claws to install the cover.

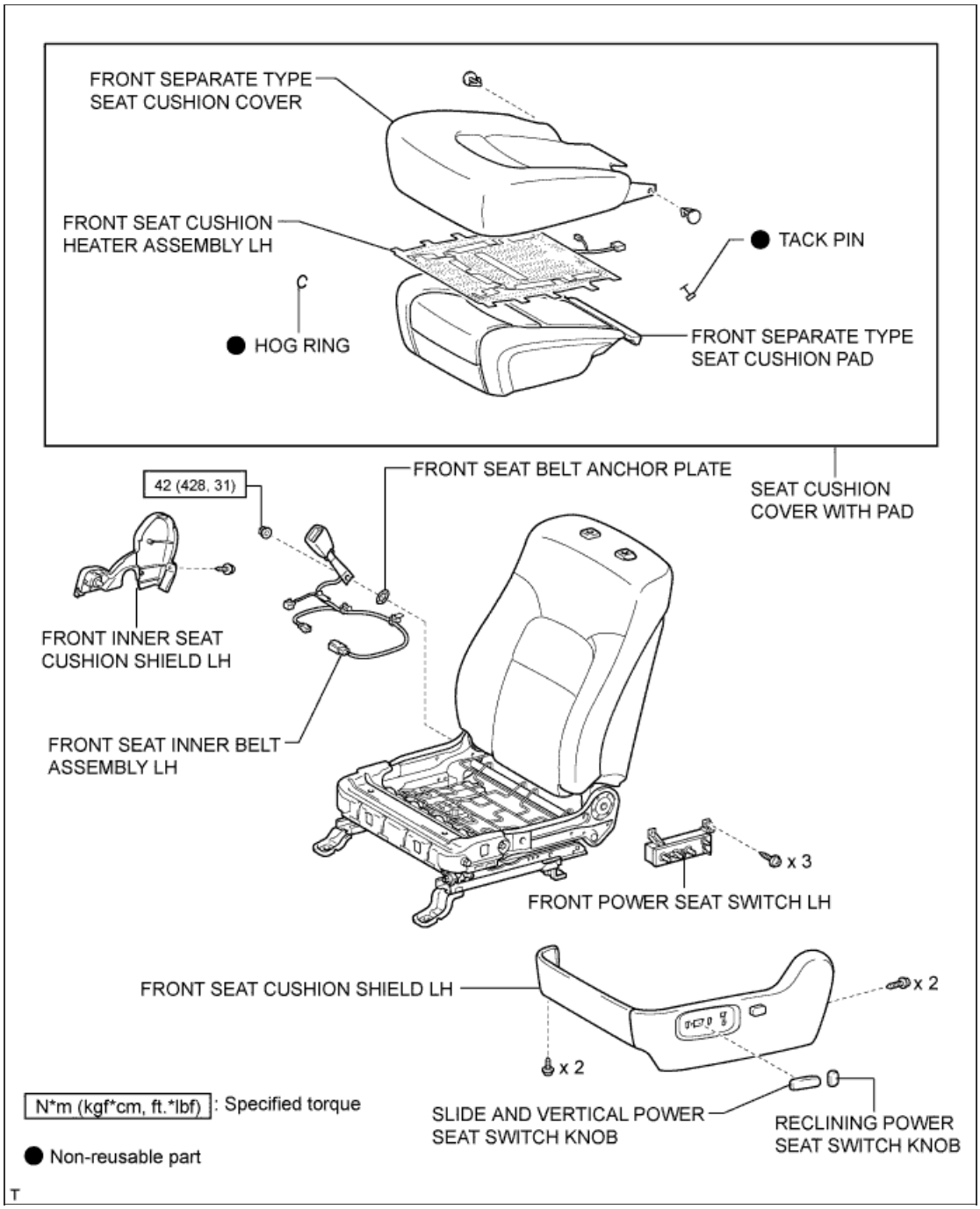



## 28. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

a. Install the rear No. 1 seat assembly ( Click here).

**for Preparation** Click here




FRONT SEPARATE TYPE SEAT CUSHION COVER
FRONT SEAT CUSHION HEATER ASSEMBLY LH
TACK PIN
HOG RING
FRONT SEPARATE TYPE SEAT CUSHION PAD
SEAT CUSHION COVER WITH PAD
42 (428, 31)
FRONT SEAT BELT ANCHOR PLATE
FRONT INNER SEAT CUSHION SHIELD LH
FRONT SEAT INNER BELT ASSEMBLY LH
x 3
FRONT POWER SEAT SWITCH LH
FRONT SEAT CUSHION SHIELD LH
x 2
x 2
SLIDE AND VERTICAL POWER SEAT SWITCH KNOB
RECLINING POWER SEAT SWITCH KNOB
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
T

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

(Click here)

## 2. REMOVE SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

a. Apply protective tape as shown in the illustration.

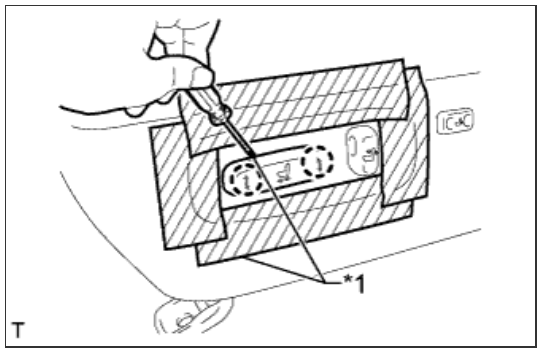
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a screwdriver, detach the 2 claws and remove the slide and vertical power seat switch knob.

**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING POWER SEAT SWITCH KNOB

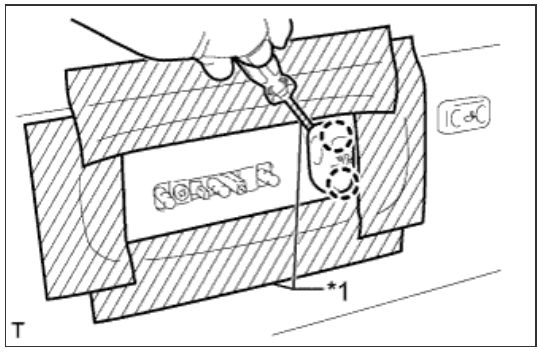
a. Using a screwdriver, detach the 2 claws and remove the reclining power seat switch knob.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

**HINT:**

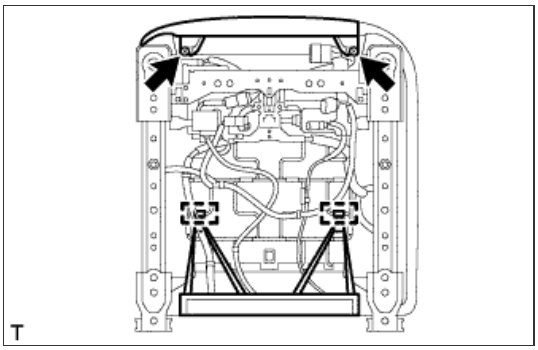
Tape the screwdriver tip before use.




## 4. REMOVE FRONT SEAT CUSHION SHIELD LH

a. Remove the 2 screws.

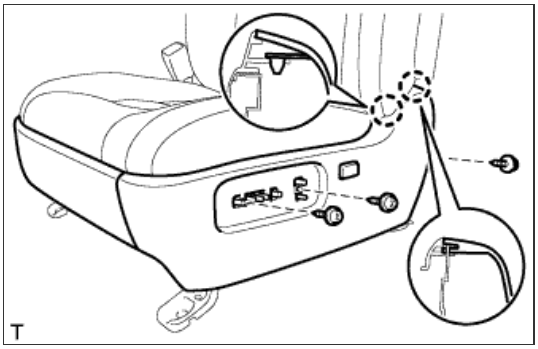
b. Disconnect the 2 rubber bands.




c. Remove the 3 screws.

d. Detach the 2 claws and remove the front seat cushion shield LH together with the front inner No. 1 seat cushion shield LH.

e. for Driver Side:
Disconnect the connector.

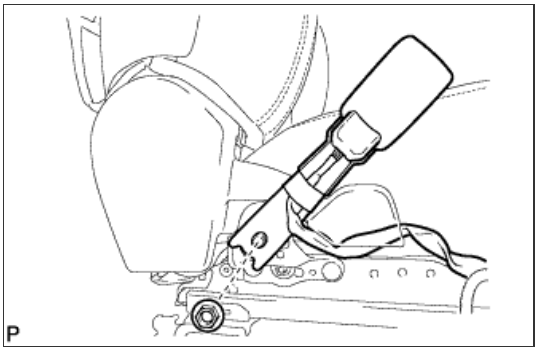



## 5. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

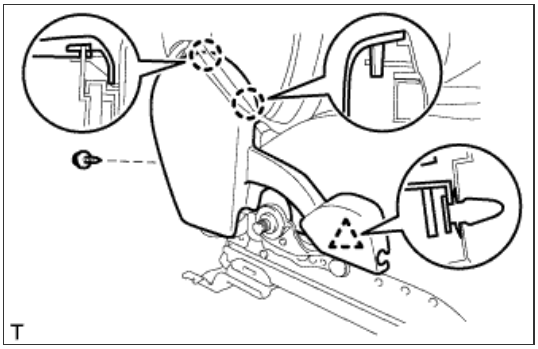
c. Remove the front seat belt anchor plate.




## 6. REMOVE FRONT INNER SEAT CUSHION SHIELD LH

a. Remove the screw.

b. Detach the 2 claws and clip, and then remove the front inner seat cushion shield LH.



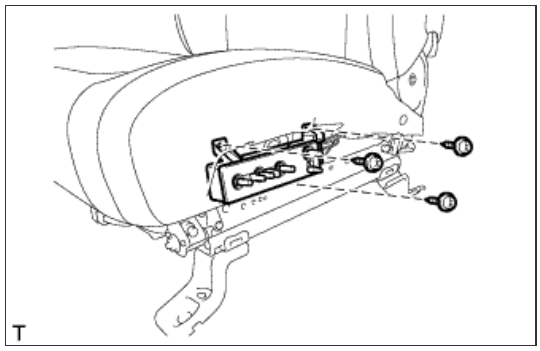

## 7. REMOVE FRONT POWER SEAT SWITCH LH

a. w/ Seat Position Memory System:
Disconnect the 2 connectors.

b. w/o Seat Position Memory System:

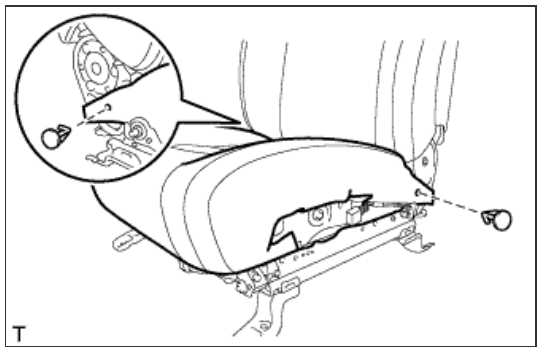
Disconnect the connector.

c. Remove the 3 screws and front power seat switch LH.



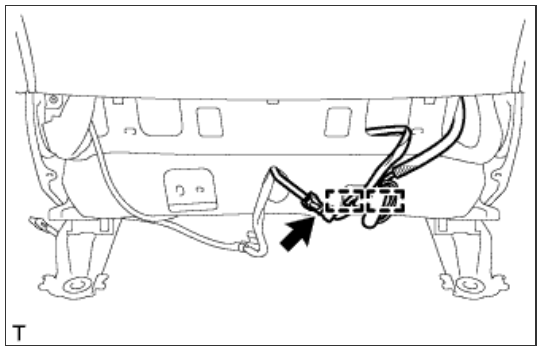

## 8. REMOVE SEAT CUSHION COVER WITH PAD

a. Using a clip remover, remove the 2 clips.

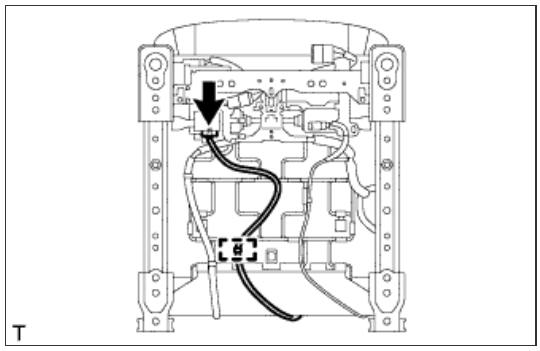



b. w/o Climate Control Seat System:

i. Disconnect the connector and detach the 2 wire harness clamps.

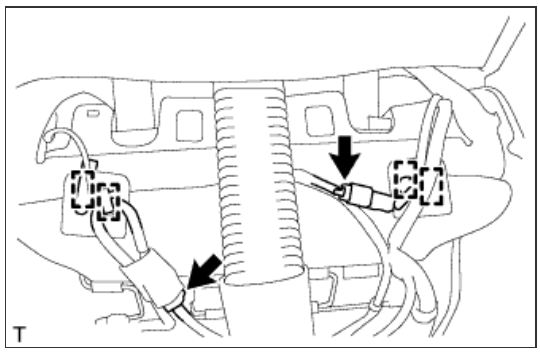



ii. Disconnect the connector and detach the wire harness clamp.

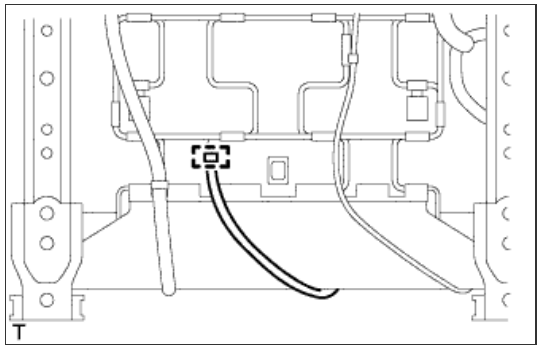



c. w/ Climate Control Seat System:

i. Disconnect the 2 connectors and detach the 4 wire harness clamps.



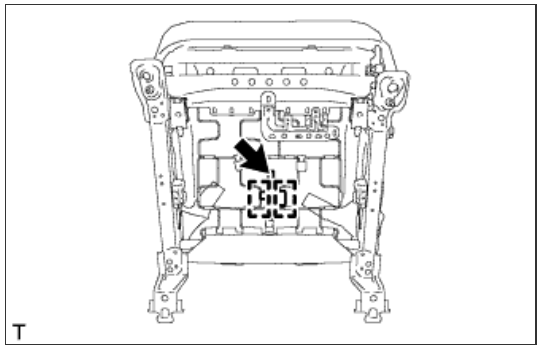

ii. Detach the wire harness clamp.




d. for Front Passenger Side:

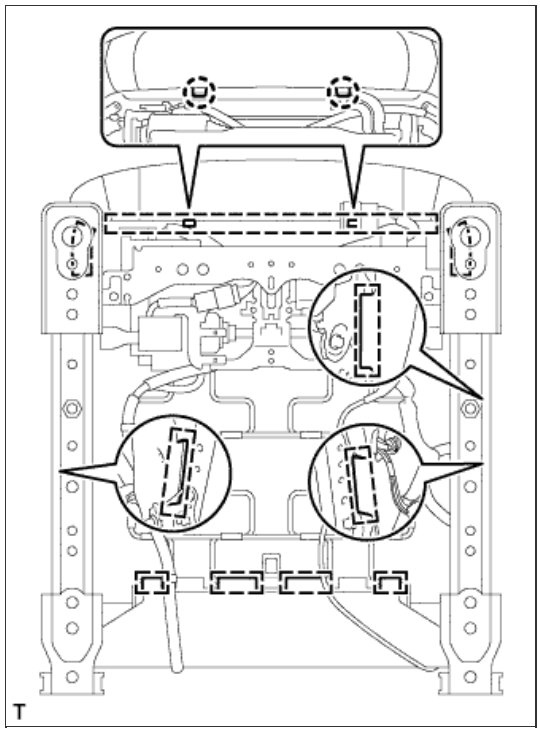
i. Disconnect the connector.

ii. Detach the 2 clamps and remove the connector holder.



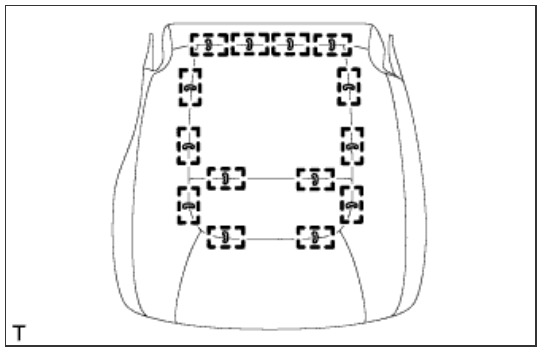

e. Bend the 2 seat frame claws upward.

f. Detach the hooks and remove the seat cushion cover with pad.



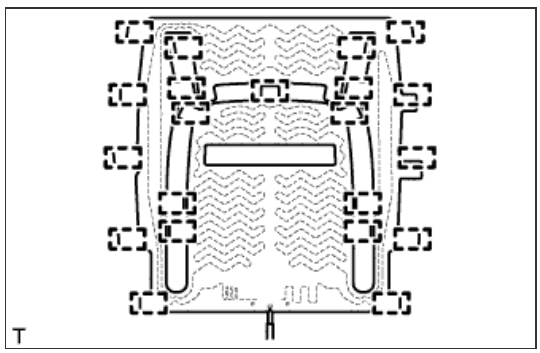

## 9. REMOVE FRONT SEPARATE TYPE SEAT CUSHION COVER

**a.** Remove the hog rings and front separate type seat cushion cover from the front separate type seat cushion pad.

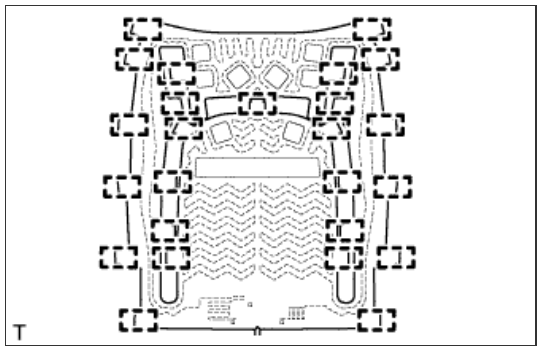



## 10. REMOVE FRONT SEAT CUSHION HEATER ASSEMBLY LH

**a.** w/o Climate Control Seat System:
Cut off the tack pins and remove the front seat cushion heater assembly LH from the front separate type seat cushion cover.



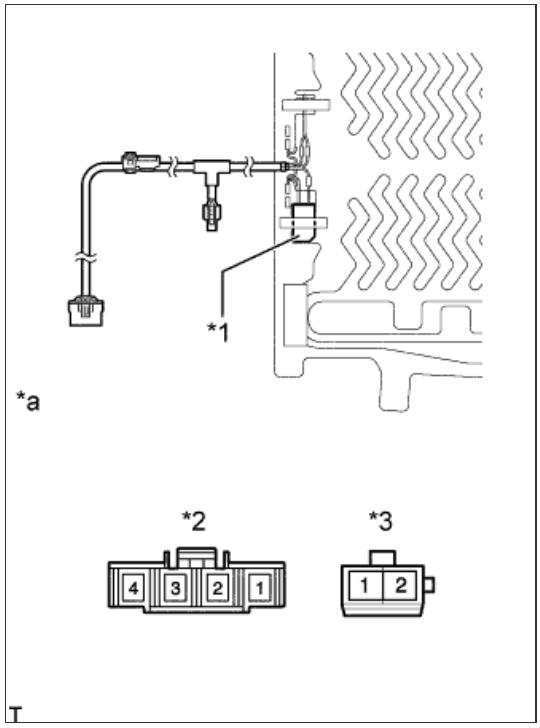

**b.** w/ Climate Control Seat System:
Cut off the tack pins and remove the front seat cushion heater assembly LH from the front separate type seat cushion cover.


T

**for Preparation** Click here

## 1. INSPECT FRONT SEAT CUSHION HEATER ASSEMBLY LH (w/o Climate Control Seat System)

a. Check the front seat cushion heater assembly LH.




i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Front Seat Cushion Heater Assembly LH:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - A4<br>A1 - B1<br>A4 - B2<br>B1 - B2 | Seat cushion heater temperature 25°C (77°F) | 2.5 to 3.0 Ω |
| A2 - A3 | | 8 to 12 kΩ |

ii. Heat the thermostat with a light.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Thermostat:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - A4<br>A1 - B1<br>A1 - B2 | 46 to 54°C or more | 10 kΩ or higher |

If the result is not as specified, replace the front seat cushion heater assembly LH.

**Text in Illustration**

| | |
|---|---|
| *1 | Thermostat |
| *2 | Connector A |
| *3 | Connector B |
| *a | Component without harness connected (Front Seat Cushion Heater Assembly LH) |

## 2. INSPECT FRONT SEAT CUSHION HEATER ASSEMBLY LH (w/ Climate Control Seat System)

a. Check the front seat cushion heater assembly LH.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Front Seat Cushion Heater Assembly LH:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - A3<br>A1 - B1<br>A3 - B2<br>B1 - B2 | Seat cushion heater temperature 25°C (77°F) | 2.5 to 3.0 Ω |
| A2 - A3 | | 8 to 12 kΩ |

ii. Heat the thermostat with a light.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

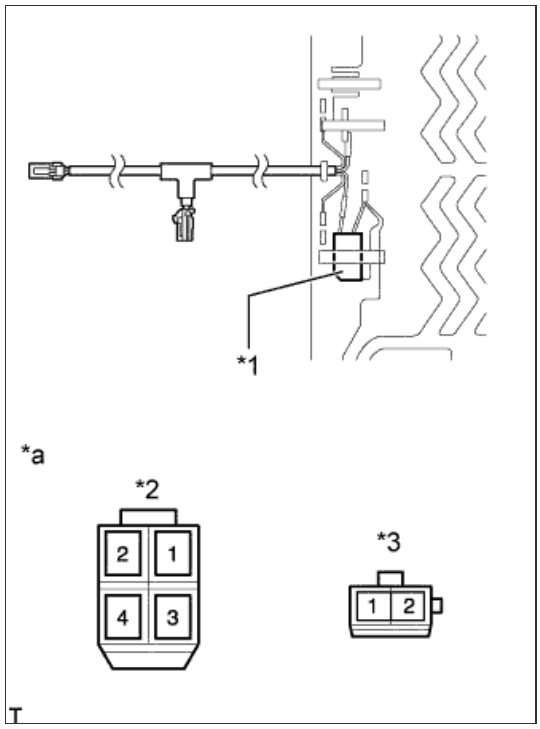
**Thermostat:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - A3<br>A1 - B1<br>A1 - B2 | 46 to 54°C or more | 10 kΩ or higher |

If the result is not as specified, replace the front seat cushion heater assembly LH.

**Text in Illustration**

| | |
|---|---|
| *1 | Thermostat |
| *2 | Connector A |
| *3 | Connector B |
| *a | Component without harness connected<br>(Front Seat Cushion Heater Assembly LH) |




### 3. INSPECT FRONT SEAT CUSHION HEATER ASSEMBLY RH (w/o Climate Control Seat System)

a. Check the front seat cushion heater assembly RH.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**
**Front Seat Cushion Heater Assembly RH:**

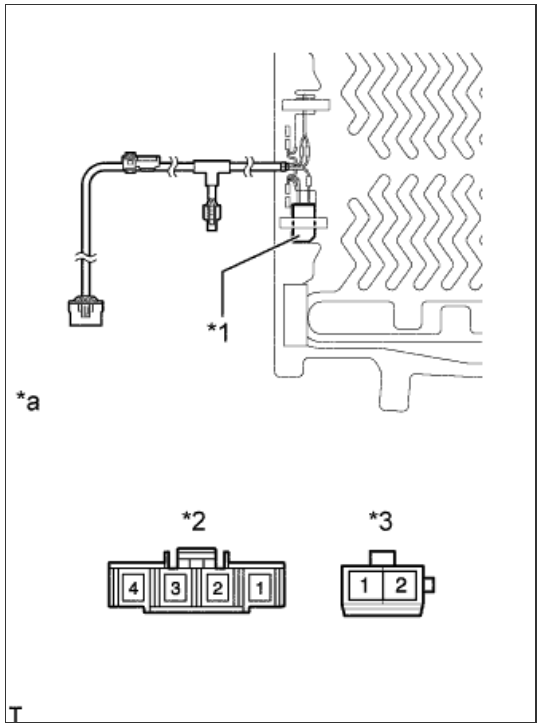
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - A4<br>A1 - B1<br>A4 - B2<br>B1 - B2 | Seat cushion heater temperature 25°C (77°F) | 2.5 to 3.0 Ω |
| A2 - A3 | | 8 to 12 kΩ |

ii. Heat the thermostat with a light.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**
**Thermostat:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - A4<br>A1 - B1<br>A1 - B2 | 46 to 54°C or more | 10 kΩ or higher |



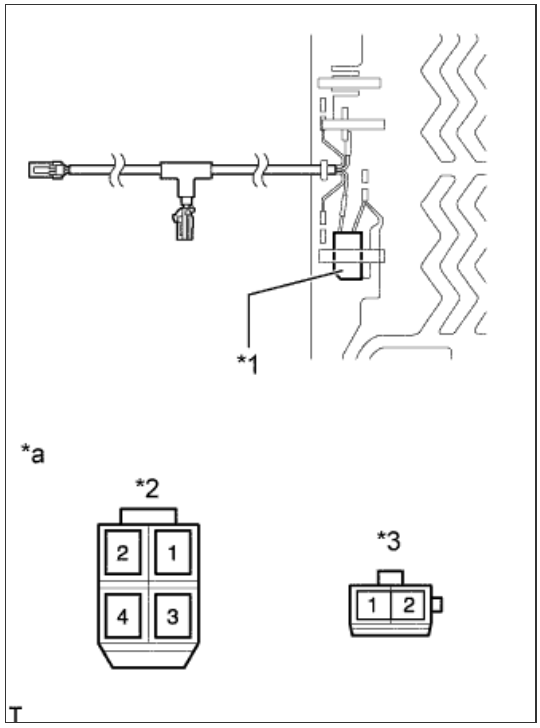

If the result is not as specified, replace the front seat cushion heater assembly RH.

**Text in Illustration**

| | |
|---|---|
| *1 | Thermostat |
| *2 | Connector A |
| *3 | Connector B |
| *a | Component without harness connected<br>(Front Seat Cushion Heater Assembly RH) |

### 4. INSPECT FRONT SEAT CUSHION HEATER ASSEMBLY RH (w/ Climate Control Seat System)

a. Check the front seat cushion heater assembly RH.




i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Front Seat Cushion Heater Assembly RH:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - A3<br>A1 - B1<br>A3 - B2<br>B1 - B2 | Seat cushion heater temperature 25°C (77°F) | 2.5 to 3.0 Ω |
| A2 - A3 | | 8 to 12 kΩ |

ii. Heat the thermostat with a light.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**Thermostat:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - A3<br>A1 - B1<br>A1 - B2 | 46 to 54°C or more | 10 kΩ or higher |

If the result is not as specified, replace the front seat cushion heater assembly RH.

**Text in Illustration**

| | |
|---|---|
| *1 | Thermostat |
| *2 | Connector A |
| *3 | Connector B |
| *a | Component without harness connected (Front Seat Cushion Heater Assembly RH) |

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

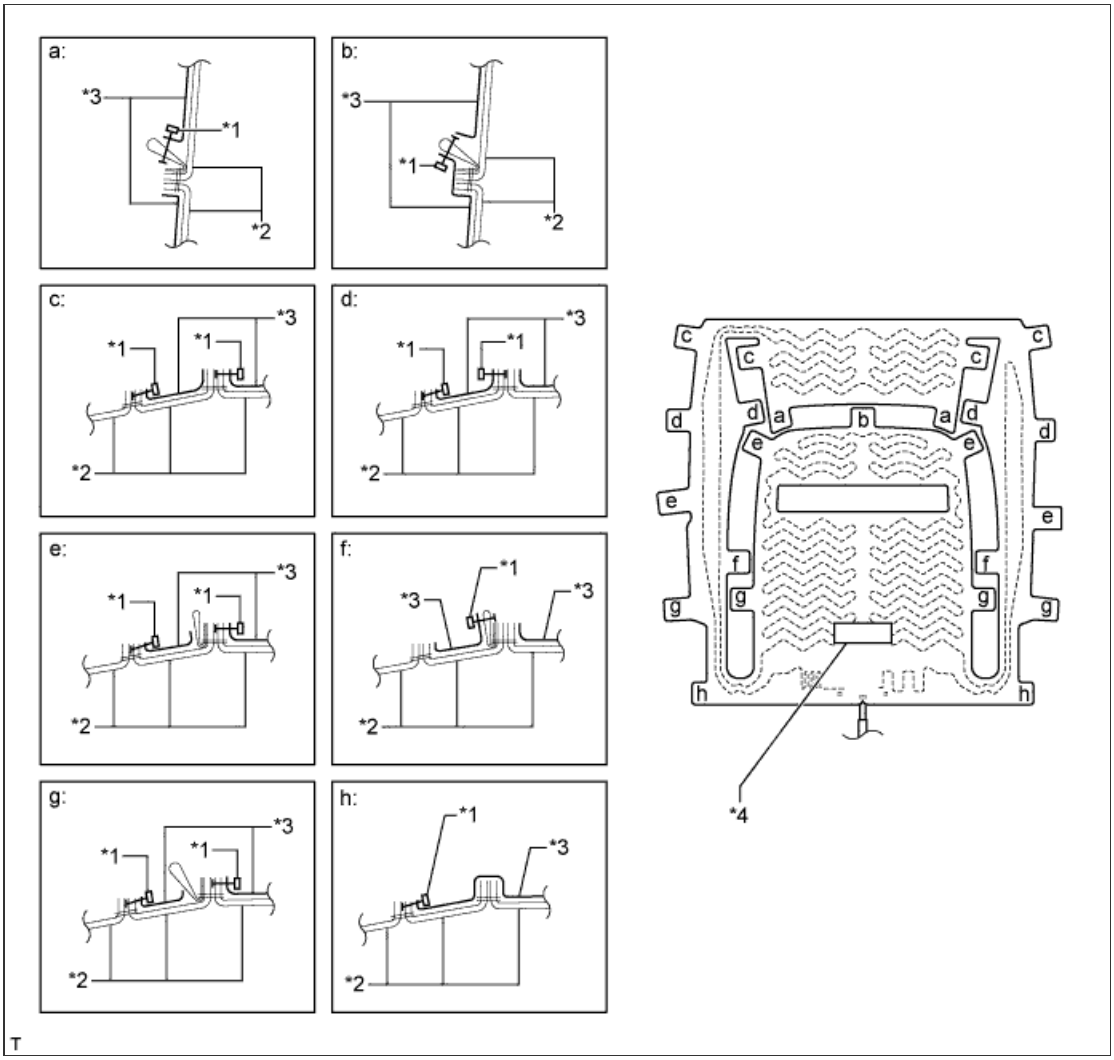
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL FRONT SEAT CUSHION HEATER ASSEMBLY LH

a. Set the front seat cushion heater assembly LH with the name stamp side facing the front separate type seat cushion cover.

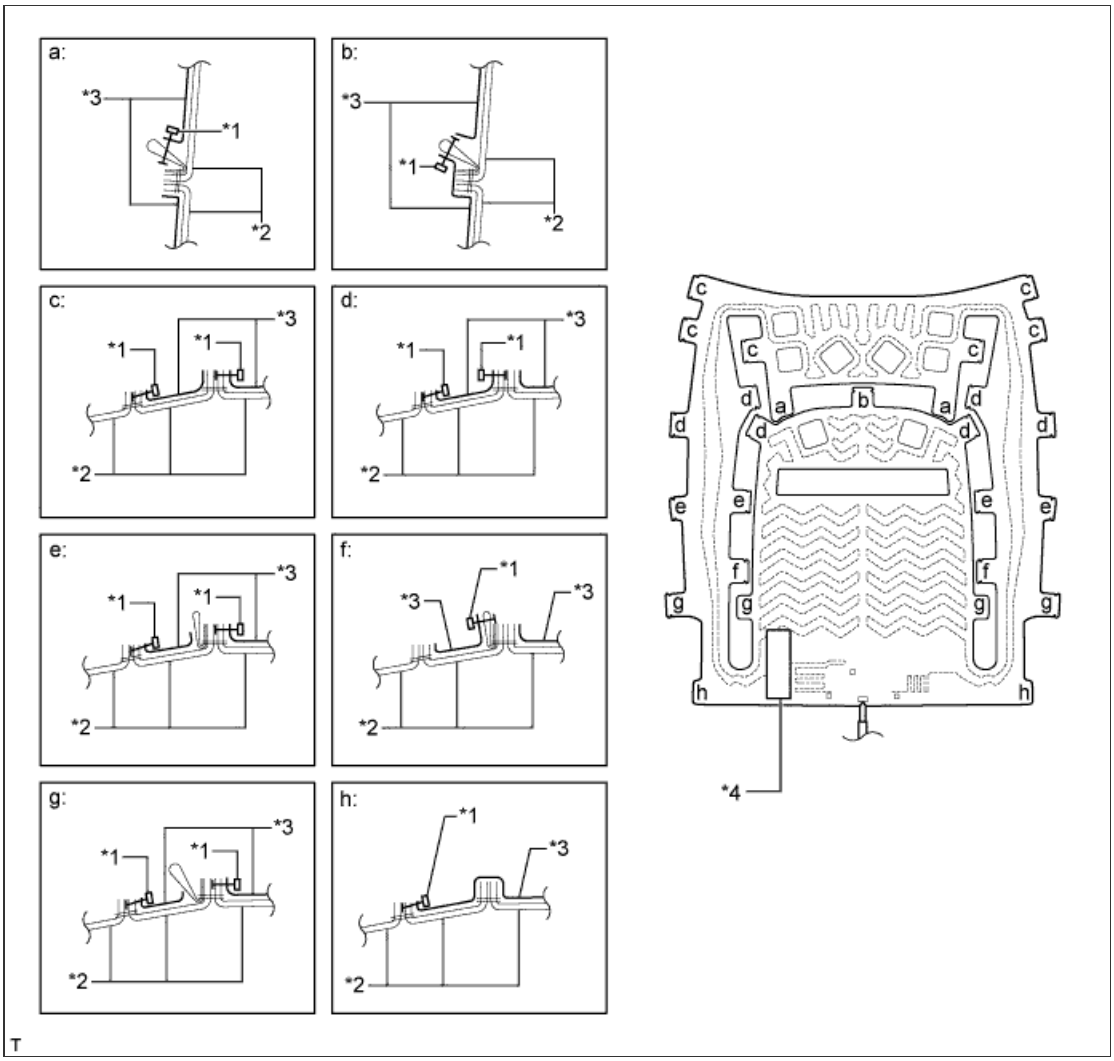
b. w/o Climate Control Seat System:
Install the front seat cushion heater assembly LH to the front separate type seat cushion cover with new tack pins.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tack Pin | *2 | Front Separate Type Seat Cushion Cover |
| *3 | Front Seat Cushion Heater Assembly LH | *4 | Name Stamp |

c. w/ Climate Control Seat System:
Install the front seat cushion heater assembly LH to the front separate type seat cushion cover with new tack pins.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Tack Pin | *2 | Front Separate Type Seat Cushion Cover |
| *3 | Front Seat Cushion Heater Assembly LH | *4 | Name Stamp |

## 2. INSTALL FRONT SEPARATE TYPE SEAT CUSHION COVER

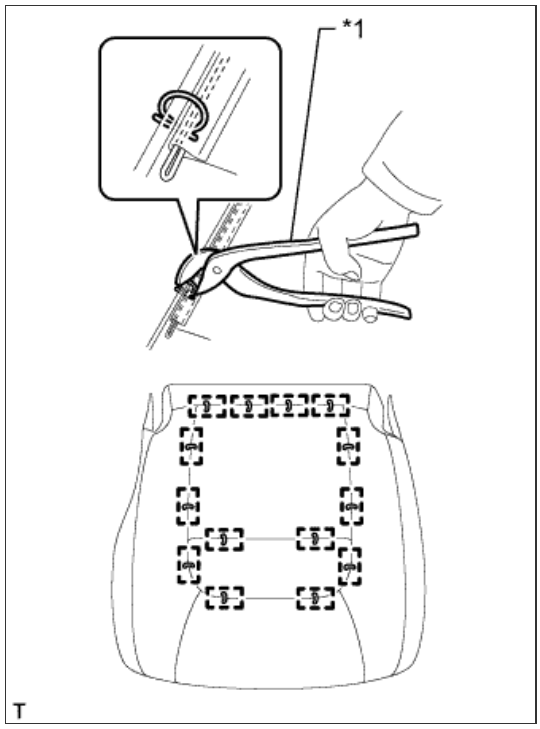
a. Using hog ring pliers, install the front separate type seat cushion cover to the front separate type seat cushion pad with new hog rings.

**Text in Illustration**

| | |
|---|---|
| *1 | Hog Ring Pliers |

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**

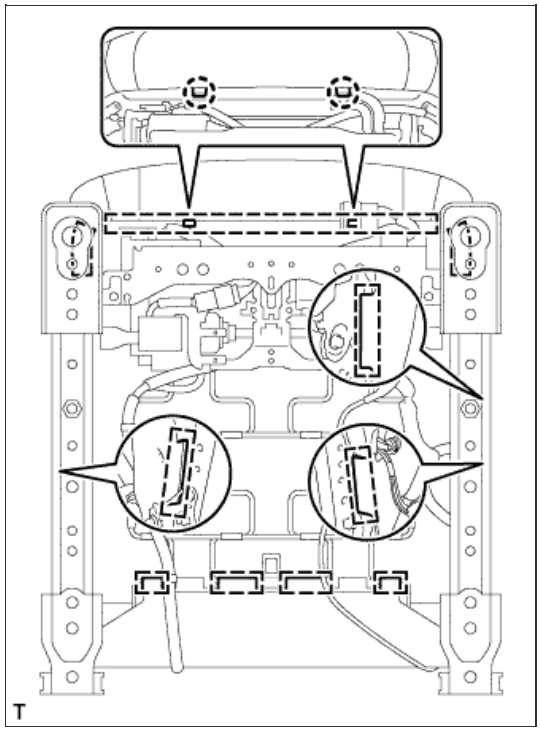



### 3. INSTALL SEAT CUSHION COVER WITH PAD

a. Set the seat cushion cover with pad in place.

b. Attach the hooks to install the seat cushion cover with pad.

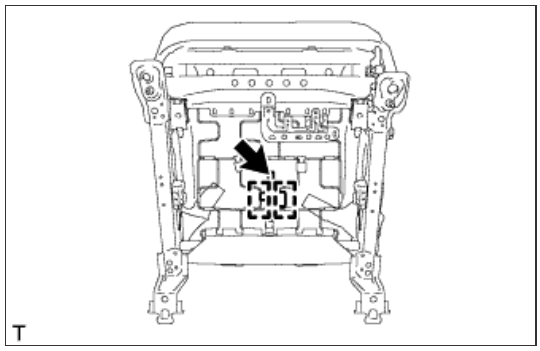
c. Bend the 2 seat frame claws downward.




d. for Front Passenger Side:

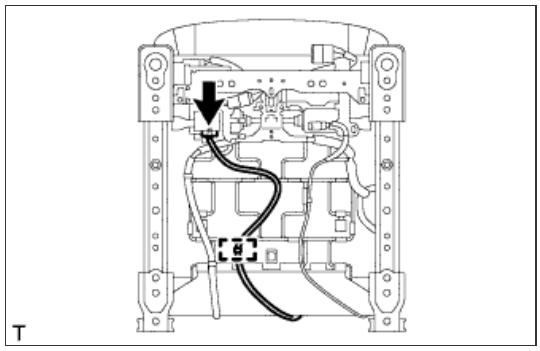
i. Attach the 2 clamps to connect the connector holder.

ii. Connect the connector.

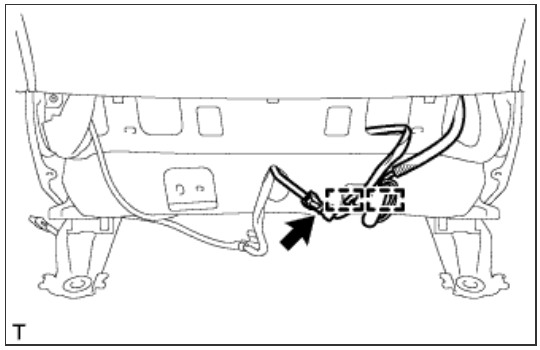



e. w/o Climate Control Seat System:

i. Connect the connector and attach the wire harness clamp.

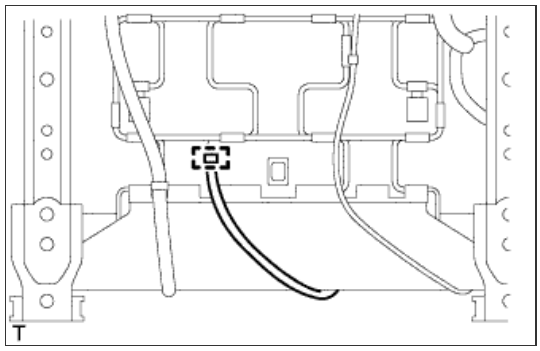



ii. Connect the connector and attach the 2 wire harness clamps.

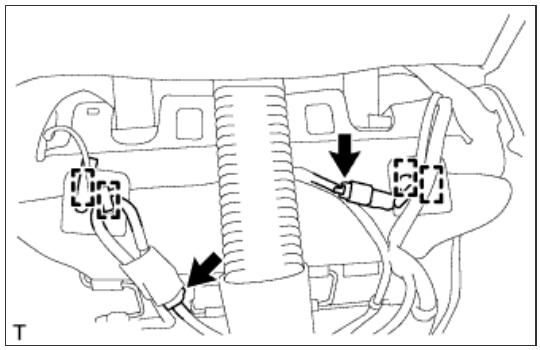



f. w/ Climate Control Seat System:

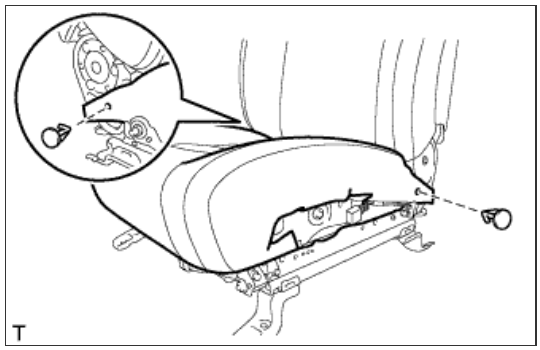
i. Attach the wire harness clamp.




ii. Connect the 2 connectors and attach the 4 wire harness clamps.




g. Install the 2 clips.

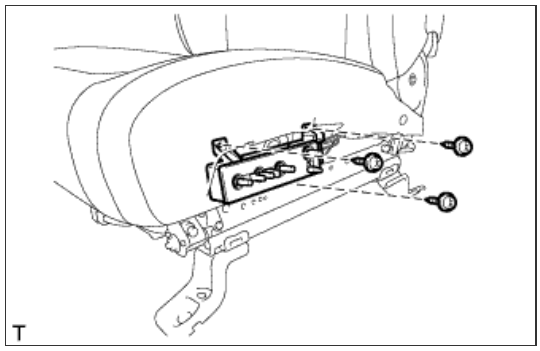



## 4. INSTALL FRONT POWER SEAT SWITCH LH

a. Install the front power seat switch LH with the 3 screws.

b. w/ Seat Position Memory System:
Connect the 2 connectors.

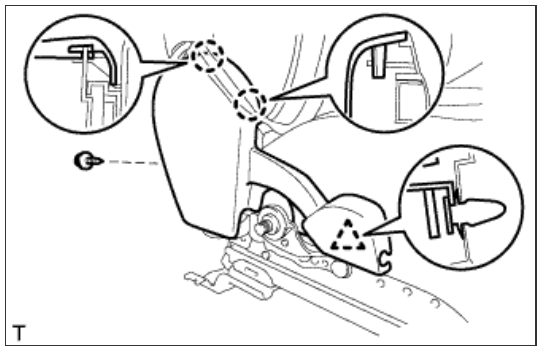
c. w/o Seat Position Memory System:
Connect the connector.




## 5. INSTALL FRONT INNER SEAT CUSHION SHIELD LH

a. Attach the 2 claws and clip to install the front inner seat cushion shield LH.

b. Install the screw.




## 6. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH

a. Install the front seat belt anchor plate.

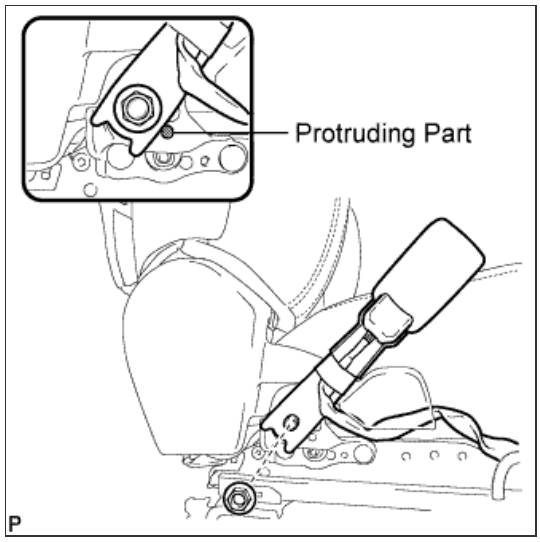
b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding parts of the front seat adjuster.

c. Connect the connectors and attach the clamps.

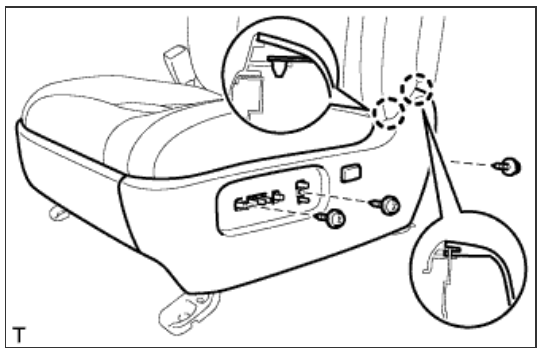



## 7. INSTALL FRONT SEAT CUSHION SHIELD LH

a. for Driver Side:
Connect the connector.

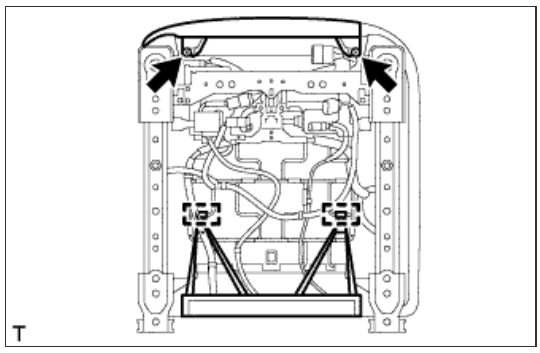
b. Attach the 2 claws to install the front seat cushion shield LH together with the front inner No. 1 cushion shield LH.

c. Install the 3 screws.



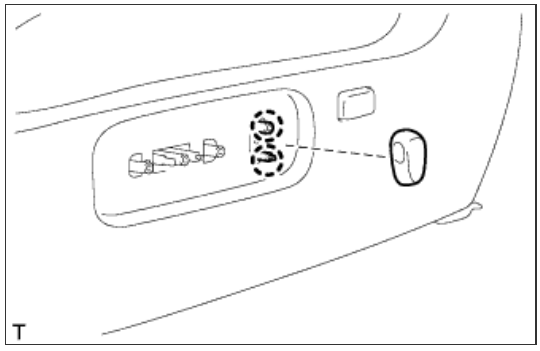

d. Connect the 2 rubber bands.

e. Install the 2 screws.



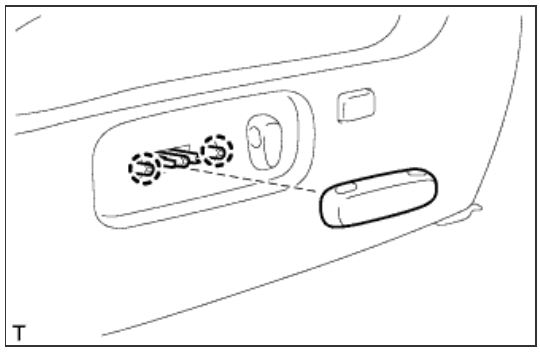

## 8. INSTALL RECLINING POWER SEAT SWITCH KNOB

a. Attach the 2 claws to install the reclining power seat switch knob.



## 9. INSTALL SLIDE AND VERTICAL POWER SEAT SWITCH KNOB

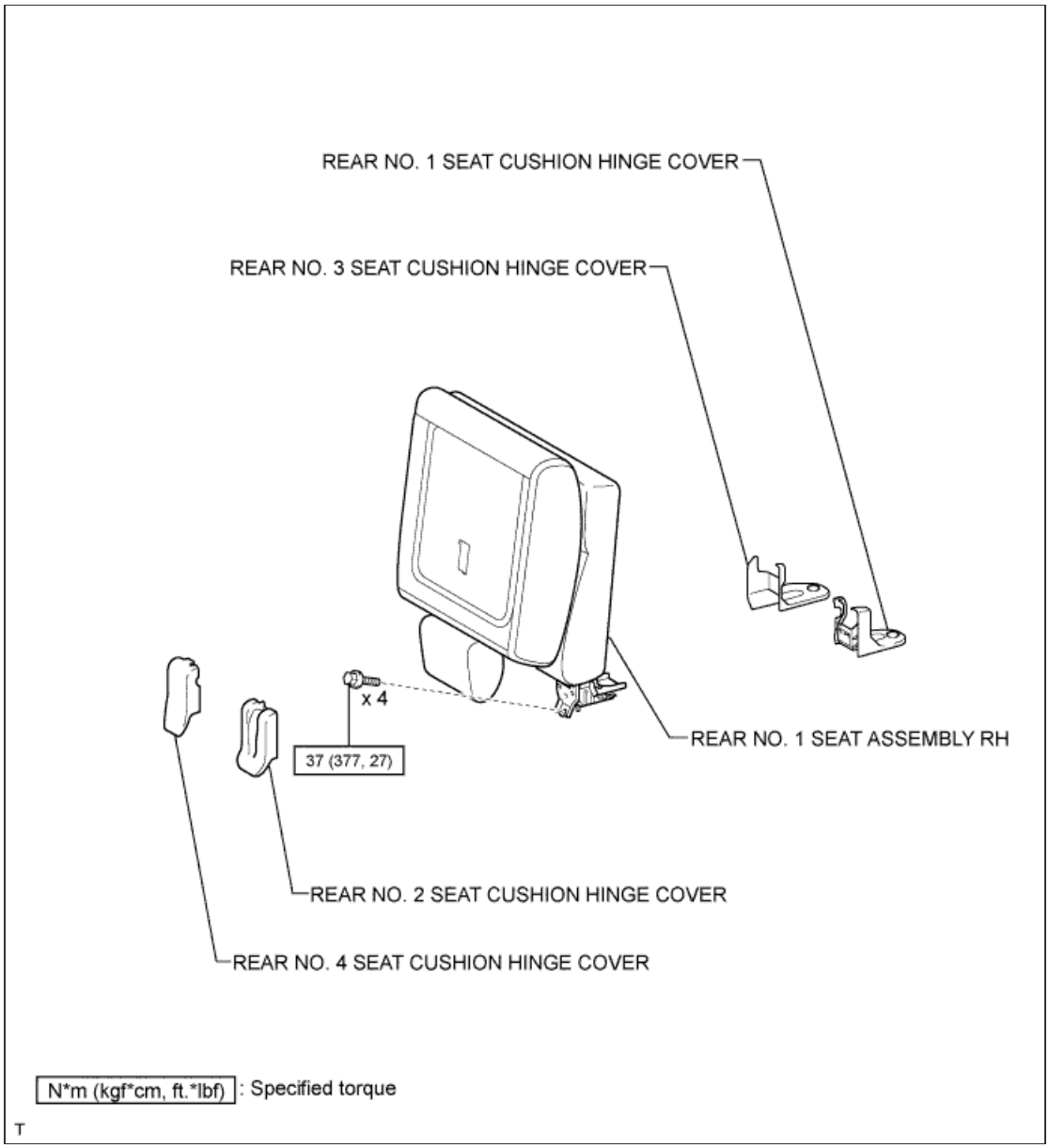
a. Attach the 2 claws to install the slide and vertical power seat switch knob.

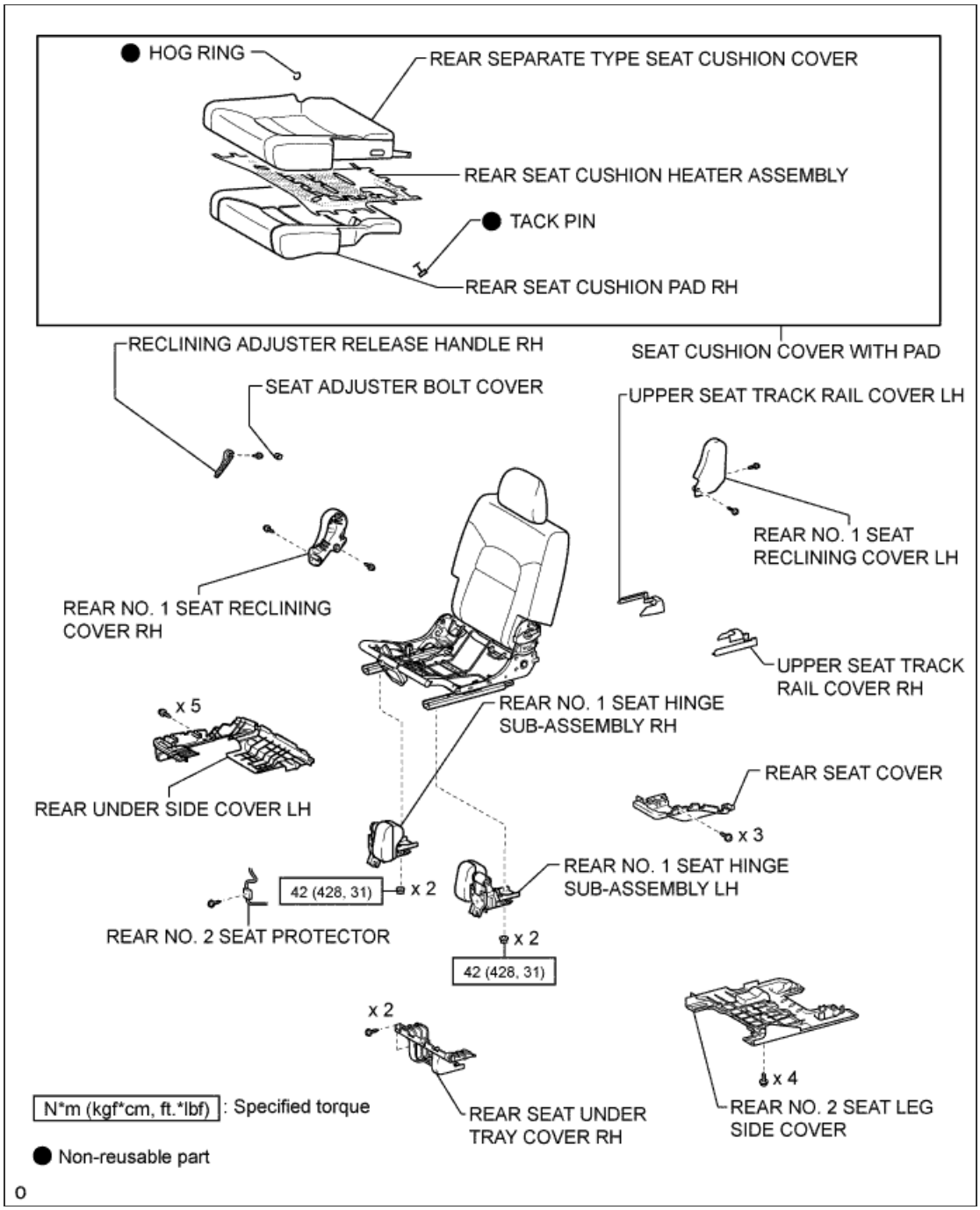



## 10. INSTALL FRONT SEAT ASSEMBLY LH

(Click here)

**for Preparation** Click here




HOG RING
REAR SEPARATE TYPE SEAT CUSHION COVER
REAR SEAT CUSHION HEATER ASSEMBLY
TACK PIN
REAR SEAT CUSHION PAD RH
SEAT CUSHION COVER WITH PAD
RECLINING ADJUSTER RELEASE HANDLE RH
SEAT ADJUSTER BOLT COVER
UPPER SEAT TRACK RAIL COVER LH
REAR NO. 1 SEAT RECLINING COVER LH
REAR NO. 1 SEAT RECLINING COVER RH
UPPER SEAT TRACK RAIL COVER RH
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH
x 5
REAR UNDER SIDE COVER LH
REAR SEAT COVER
x 3
42 (428, 31)
x 2
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH
REAR NO. 2 SEAT PROTECTOR
x 2
42 (428, 31)
x 2
x 4
REAR SEAT UNDER TRAY COVER RH
REAR NO. 2 SEAT LEG SIDE COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part

o

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY RH

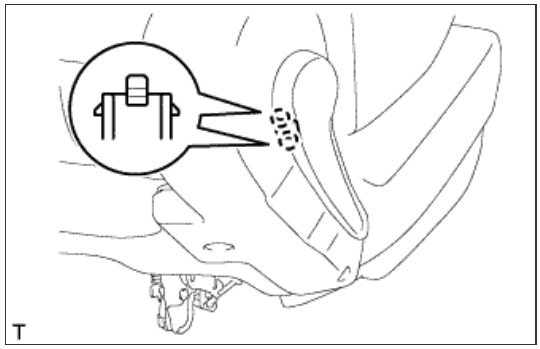
a. Remove the rear No. 1 seat assembly ( Click here).

## 2. REMOVE SEAT ADJUSTER BOLT COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

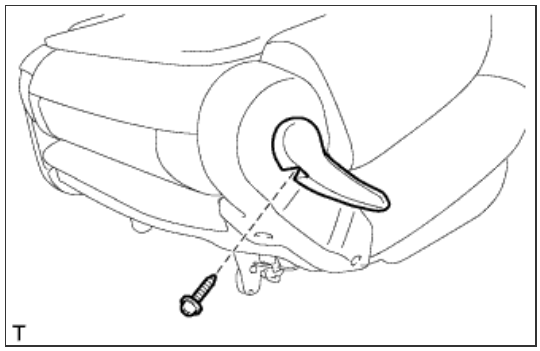
**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING ADJUSTER RELEASE HANDLE RH

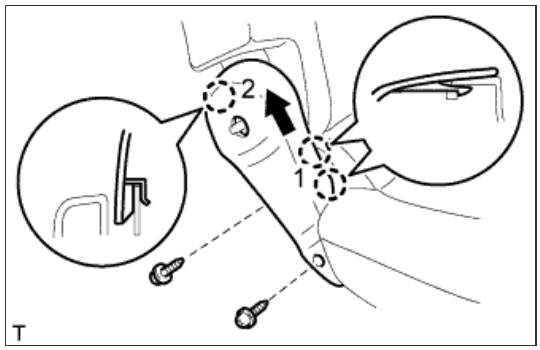
a. Remove the screw and release handle.




## 4. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the 2 screws.

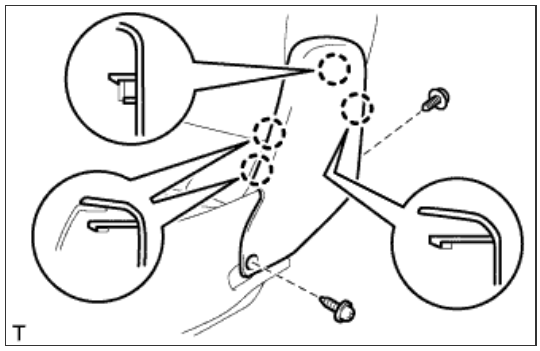
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.




## 5. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

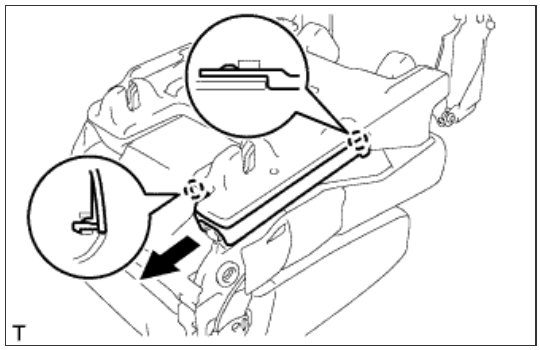



## 6. REMOVE UPPER SEAT TRACK RAIL COVER LH

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

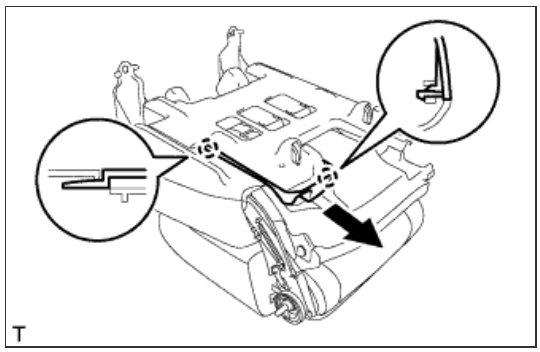



## 7. REMOVE UPPER SEAT TRACK RAIL COVER RH

a. Using a screwdriver, detach the 2 claws and remove the cover.

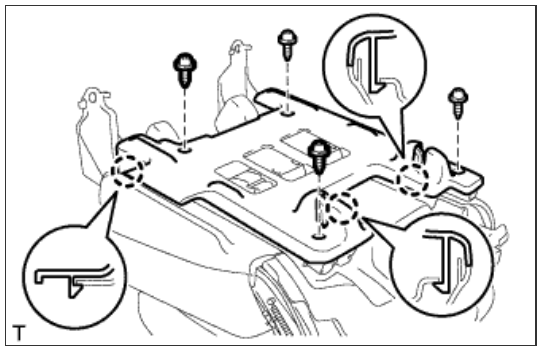
**HINT:**

Tape the screwdriver tip before use.

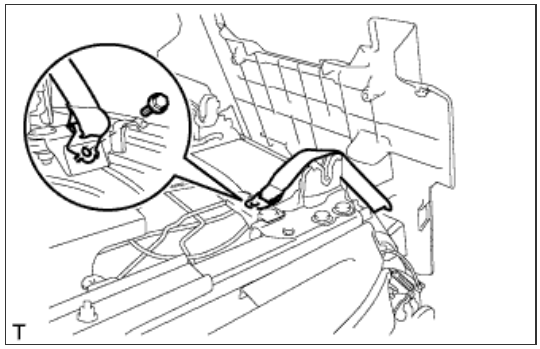



## 8. REMOVE REAR NO. 2 SEAT LEG SIDE COVER

a. Remove the 4 screws and detach the 3 claws.



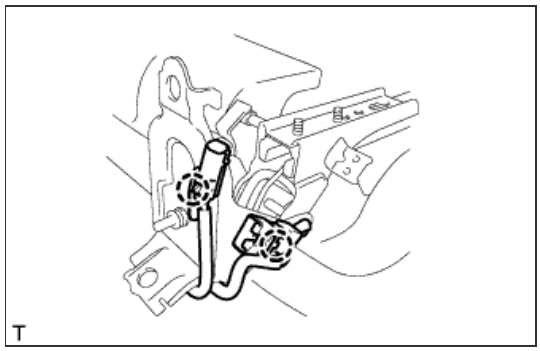

b. Remove the bolt that is securing the fold seat stopper band and remove the seat leg side cover together with the fold seat stopper band.




## 9. REMOVE REAR NO. 2 SEAT PROTECTOR

a. w/ Rear Seat Side Airbag:
Detach the claw and remove the wire harness connector.

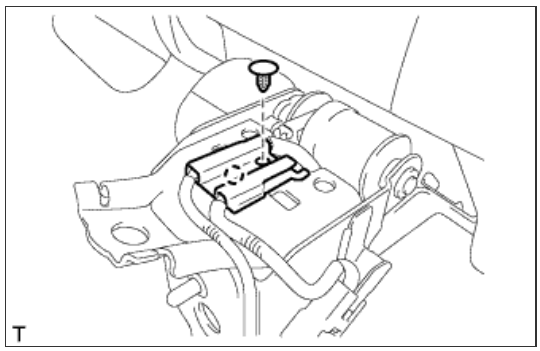
b. w/ Seat Heater System:
Detach the claw and remove the wire harness connector.




c. Using a clip remover, remove the clip.

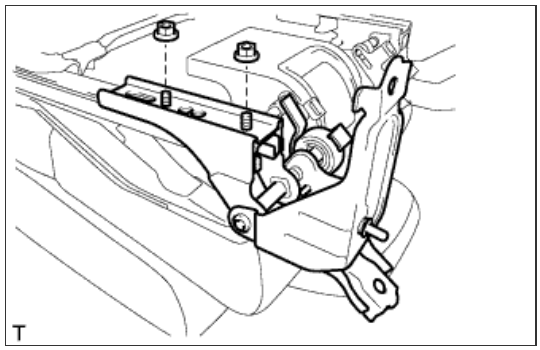
d. Detach the claw and remove the seat protector from the seat hinge.

e. Detach the 2 claws, open the protector and remove the wire harness.




## 10. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Remove the 2 nuts and hinge.

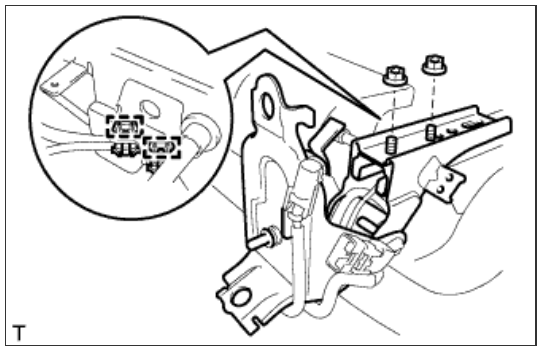



## 11. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

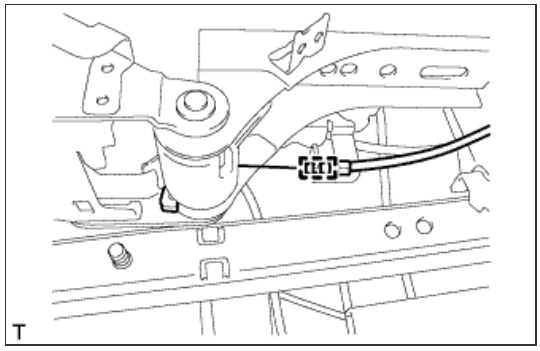
a. w/ Rear Seat Side Airbag:
Detach the wire harness clamp.

b. w/ Seat Heater System:
Detach the wire harness clamp.

c. Remove the 2 nuts and hinge.

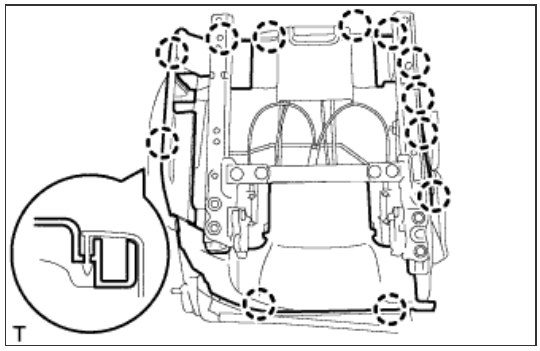



d. Detach the cable clamp and disconnect the cable.



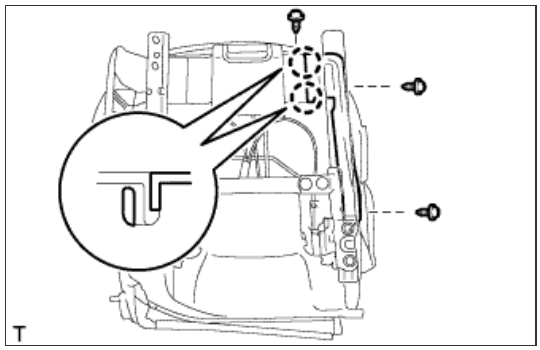

## 12. REMOVE REAR SEAT COVER

a. Detach the 12 claws.




b. Remove the 3 screws.

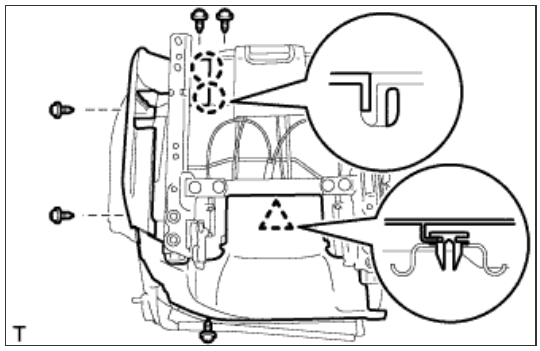
c. Detach the 2 claws and remove the cover.



## 13. REMOVE REAR UNDER SIDE COVER LH

a. Remove the 5 screws.

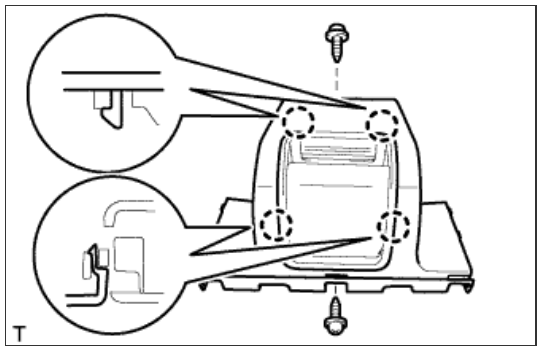
b. Detach the clip and 2 claws, and remove the cover.



## 14. REMOVE REAR SEAT UNDER TRAY COVER RH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.



## 15. REMOVE SEAT CUSHION COVER WITH PAD

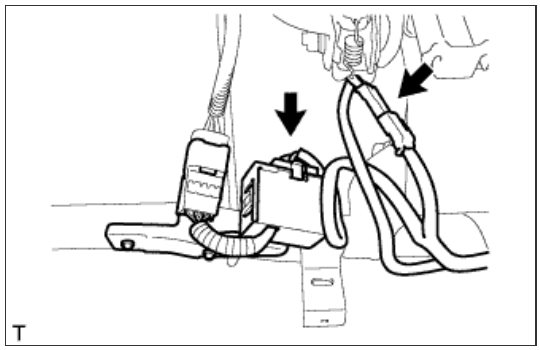
a. w/ Rear Seat Side Airbag:

i. Detach the side airbag wire harness clamps.

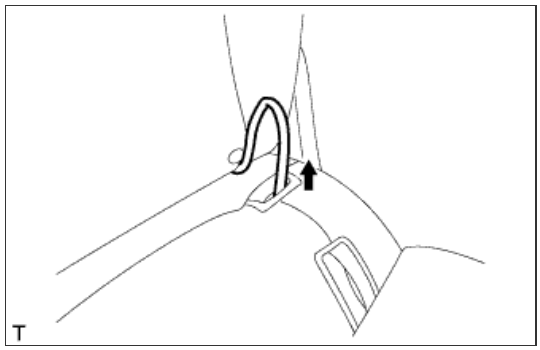
ii. Remove the side airbag wire harness through the hole in the seat cushion.

b. w/ Seat Heater System:

i. Disconnect the 2 seat heater connectors.



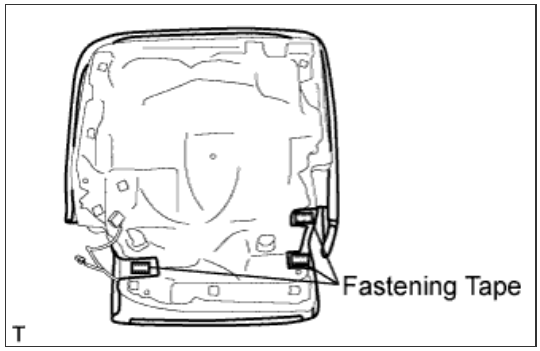

ii. Remove the seatback heater wire harness through the hole in the seat cushion.



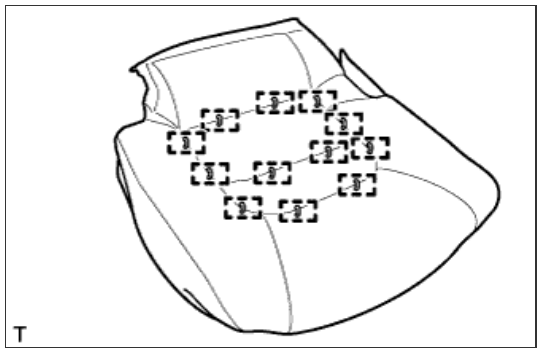

c. Remove the seat cushion cover with pad.

## 16. REMOVE REAR SEPARATE TYPE SEAT CUSHION COVER

a. Detach the 3 pieces of fastening tape.

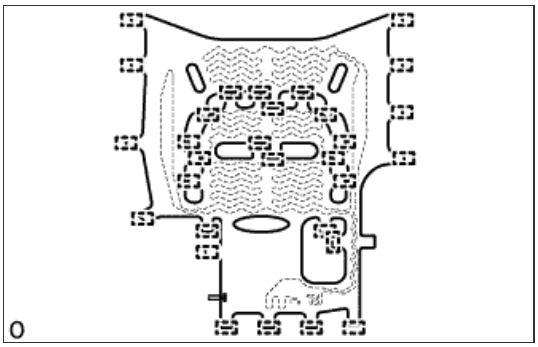



b. Remove the hog rings and cover.




## 17. REMOVE REAR SEAT CUSHION HEATER ASSEMBLY

a. Cut off the tack pins which fasten the seat heater to the seat cushion cover, and then remove the seat cushion heater from the seat cushion cover.



**for Preparation** Click here

## 1. INSPECT REAR SEAT CUSHION HEATER ASSEMBLY

a. Heat the thermostat with a light.

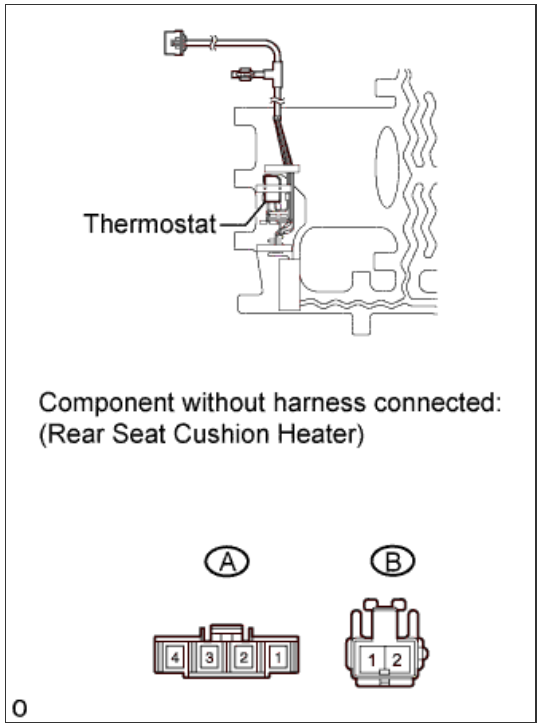
b. Check the seat cushion heater.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A-1 - B-1 | Seat cushion heater temperature 25°C (77°F) | 3.12 to 3.74 Ω |
| A-4 - B-2 | | |
| A-1 - A-4 | | |
| A-2 - A-3 | | 9.9 to 10.1 kΩ |

If the result is not as specified, replace the seat cushion heater assembly.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

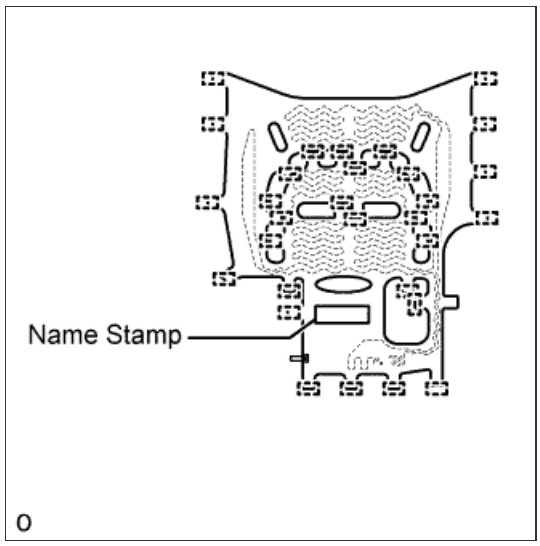
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL REAR SEAT CUSHION HEATER ASSEMBLY

a. Set the seat cushion heater with the name stamp side facing the seat cushion cover.

b. Install the seat cushion heater with new tack pins.

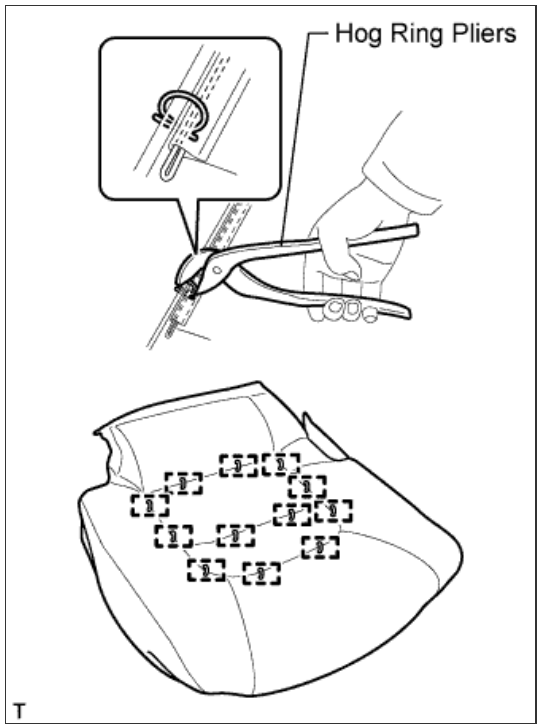



## 2. INSTALL REAR SEPARATE TYPE SEAT CUSHION COVER

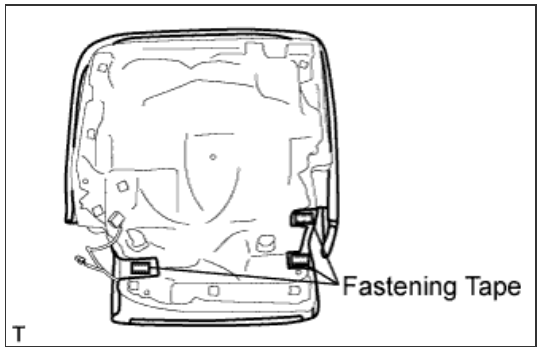
a. Using hog ring pliers, install the seat cushion cover to the seat cushion pad with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



b. Attach the 3 pieces of fastening tape.



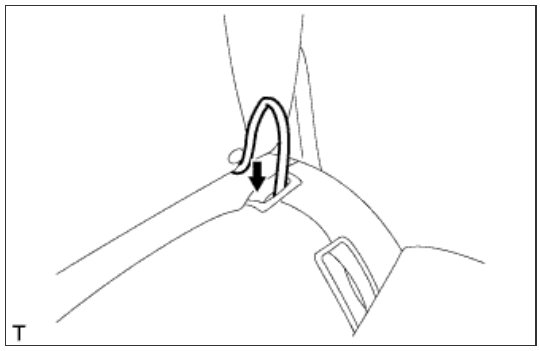

## 3. INSTALL SEAT CUSHION COVER WITH PAD

a. Install the seat cushion cover with pad.

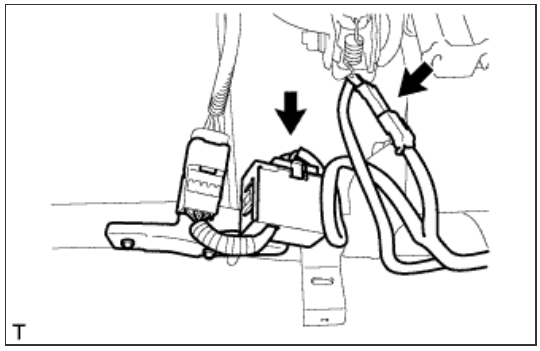
b. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seat cushion.

c. w/ Seat Heater System:

i. Pass the seatback heater wire harness through the hole in the seat cushion.




ii. Connect the 2 seat heater connectors.

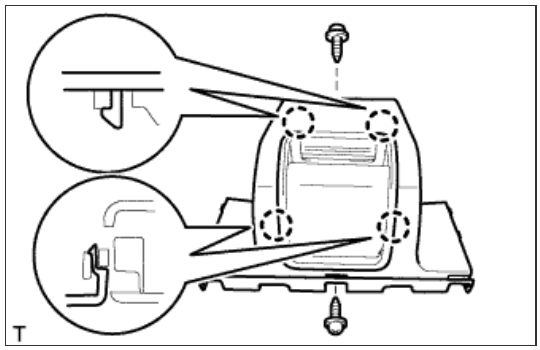



d. w/ Rear Seat Side Airbag:
Attach the side airbag wire harness clamps.

## 4. INSTALL REAR SEAT UNDER TRAY COVER RH

a. Attach the 4 claws to install the cover.

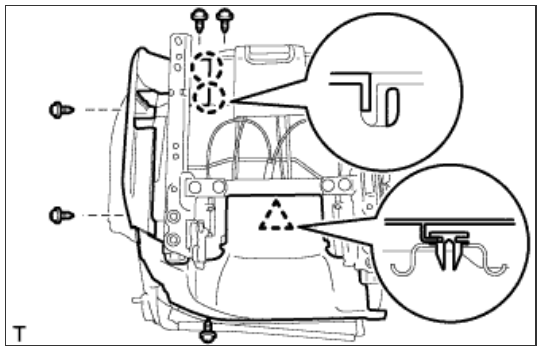
b. Install the 2 screws.




## 5. INSTALL REAR UNDER SIDE COVER LH

a. Attach the 2 claws and clip to install the cover.

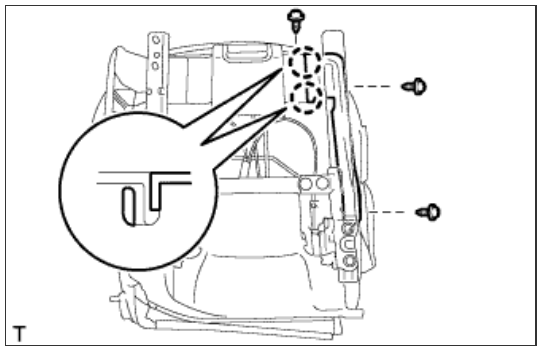
b. Install the 5 screws.



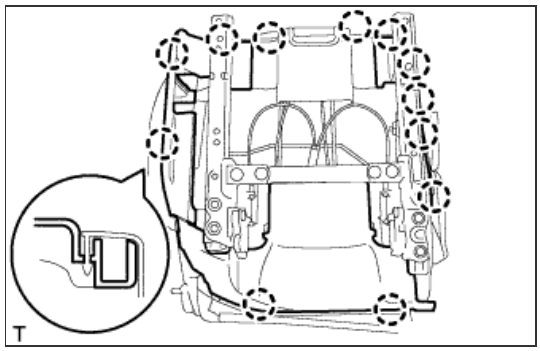

## 6. INSTALL REAR SEAT COVER

a. Attach the 2 claws to install the cover.

b. Install the 3 screws.

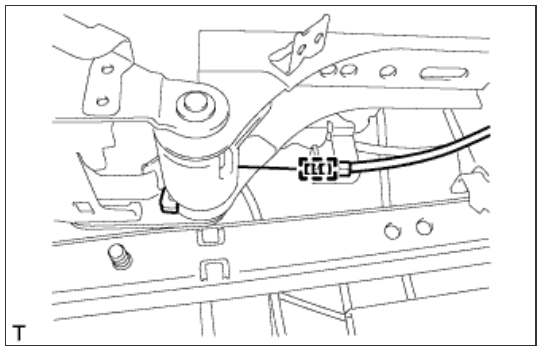



c. Attach the 12 claws.




## 7. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

a. Attach the cable clamp to connect the cable.

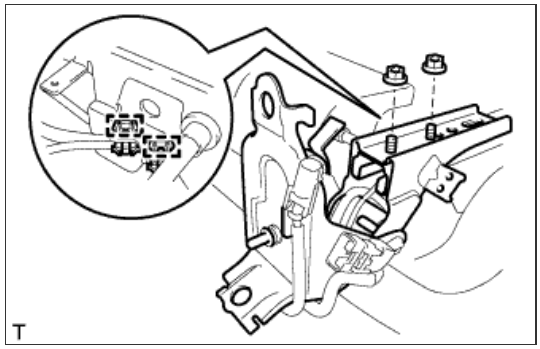



b. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. w/ Rear Seat Side Airbag:
Attach the wire harness clamp.

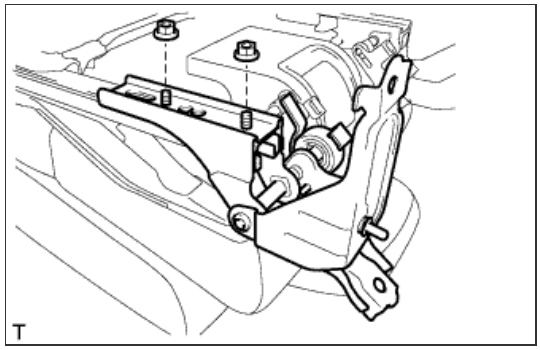
d. w/ Seat Heater System:
Attach the wire harness clamp.




## 8. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

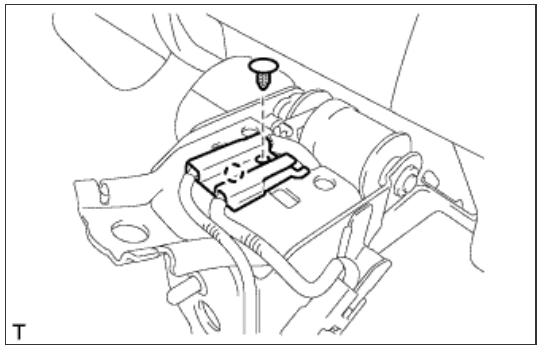



## 9. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Install the wire harness, and attach the 2 claws to close the protector.

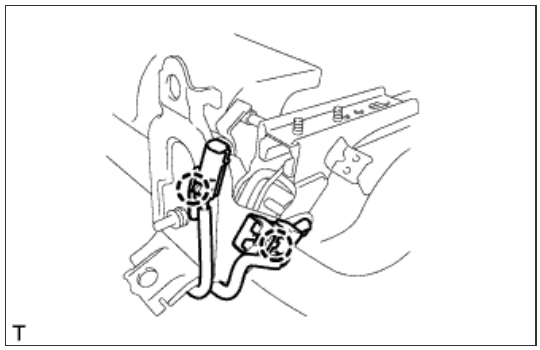
b. Attach the claw to install the protector to the seat hinge.

c. Install the clip.



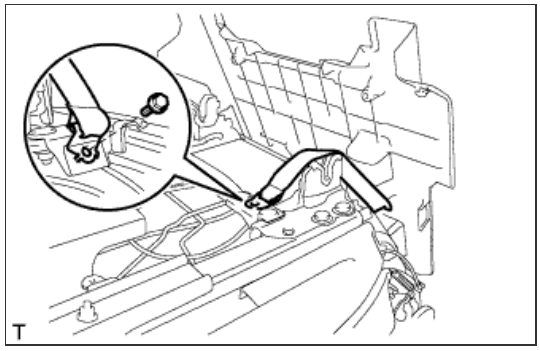

d. w/ Rear Seat Side Airbag:
Attach the claw to install the wire harness connector.

e. w/ Seat Heater System:
Attach the claw to install the wire harness connector.



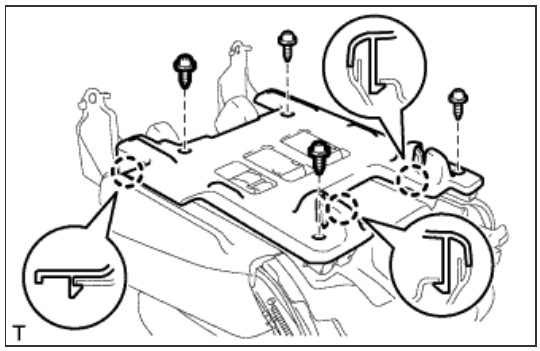

## 10. INSTALL REAR NO. 2 SEAT LEG SIDE COVER

a. Pass the fold seat stopper band through the seat leg side cover and attach it to the seat cushion frame with the bolt.



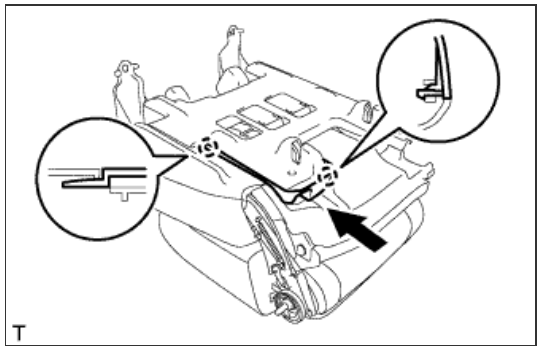

b. Attach the 3 claws to install the seat leg side cover.

c. Install the 4 screws.



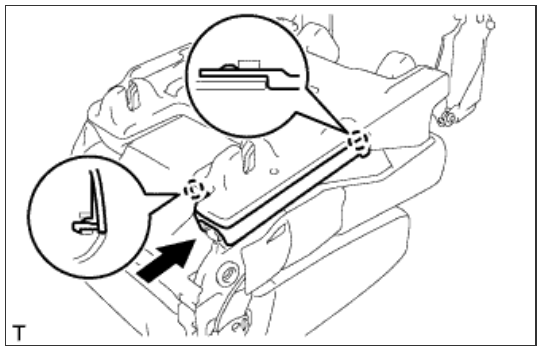

## 11. INSTALL UPPER SEAT TRACK RAIL COVER RH

a. Attach the 2 claws to install the cover.




## 12. INSTALL UPPER SEAT TRACK RAIL COVER LH

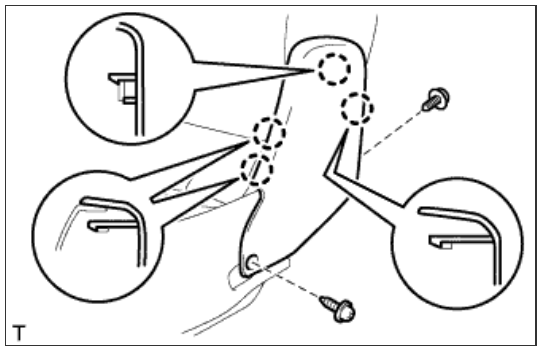
a. Attach the 2 claws to install the cover.




## 13. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

a. Attach the 4 claws to install the cover.

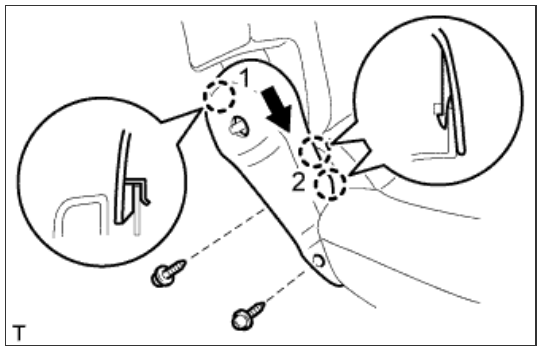
b. Install the 2 screws.




## 14. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

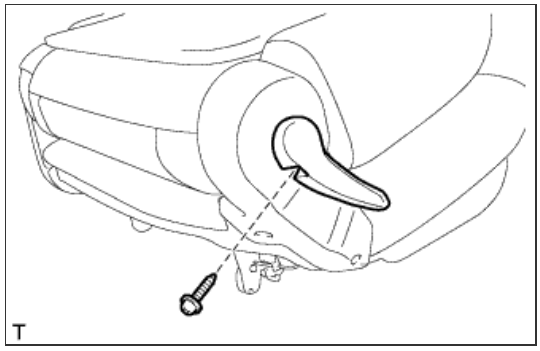
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the 2 screws.



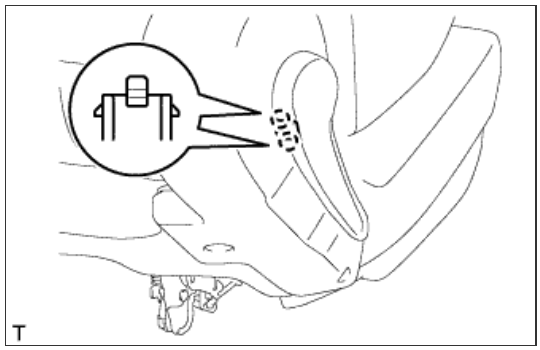

## 15. INSTALL RECLINING ADJUSTER RELEASE HANDLE RH

a. Install the release handle with the screw.




## 16. INSTALL SEAT ADJUSTER BOLT COVER

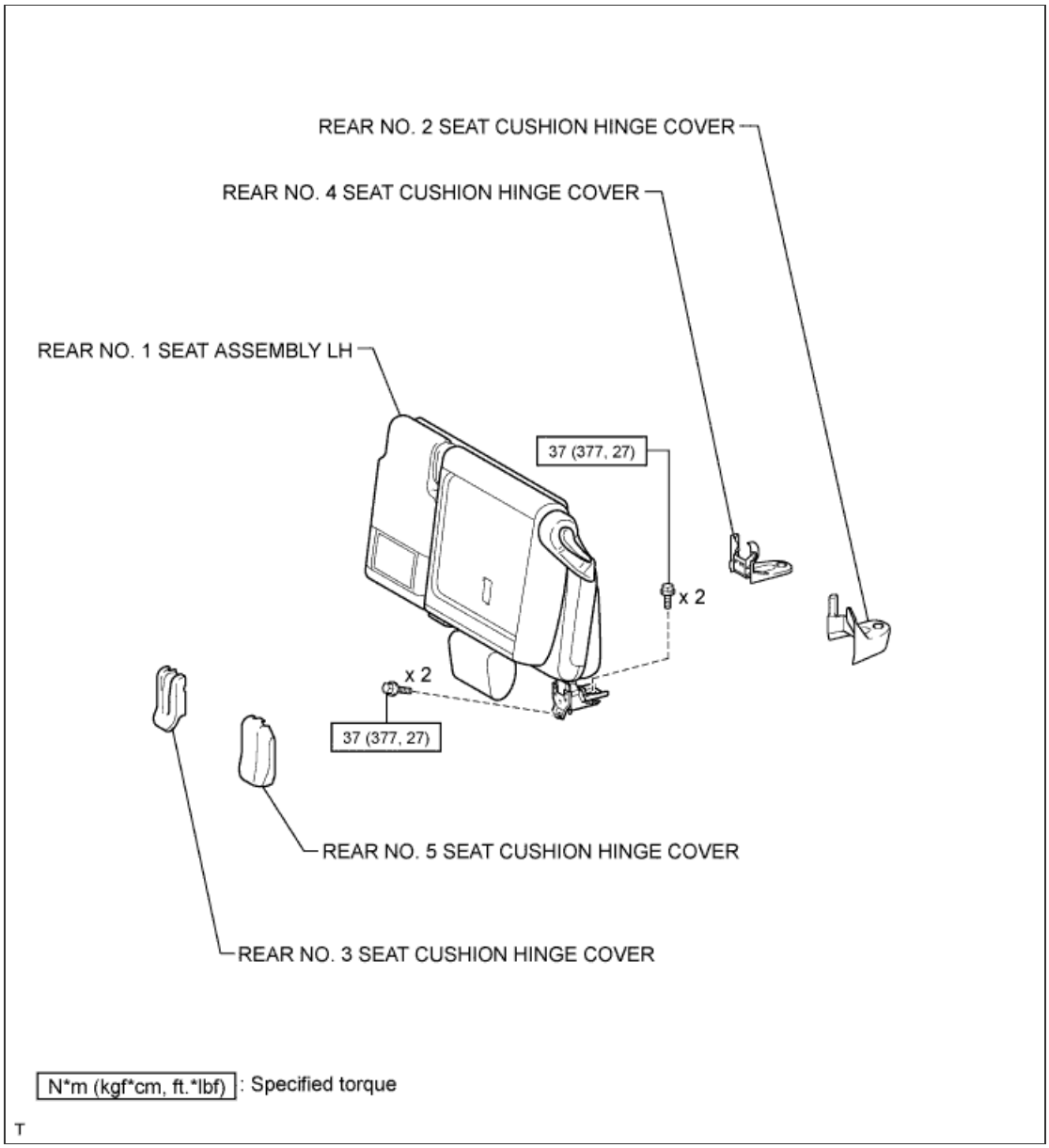
a. Attach the 2 claws to install the cover.

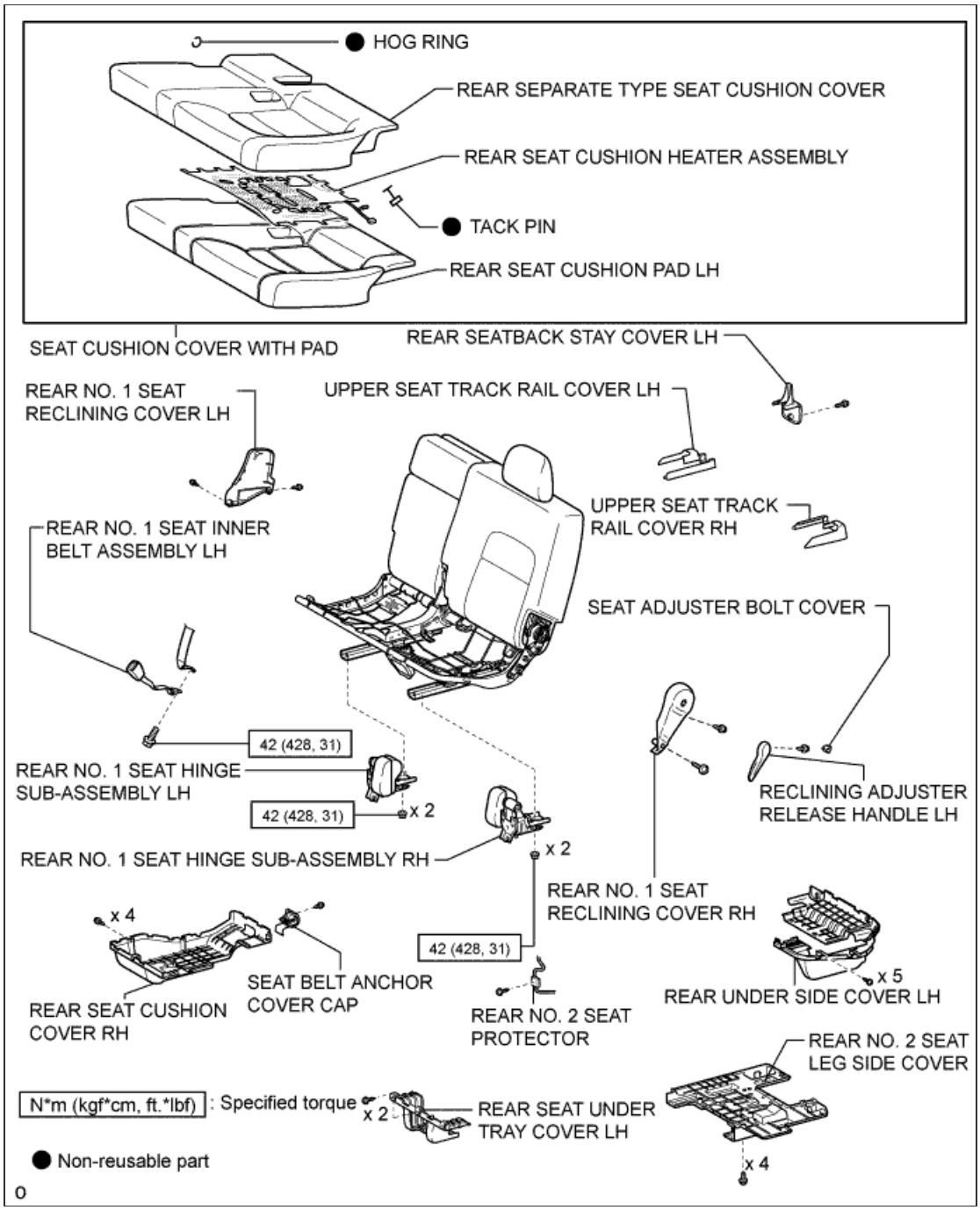



## 17. INSTALL REAR NO. 1 SEAT ASSEMBLY RH

a. Install the rear No. 1 seat assembly ( Click here).

**for Preparation** Click here




HOG RING
REAR SEPARATE TYPE SEAT CUSHION COVER
REAR SEAT CUSHION HEATER ASSEMBLY
TACK PIN
REAR SEAT CUSHION PAD LH
SEAT CUSHION COVER WITH PAD
REAR SEATBACK STAY COVER LH
REAR NO. 1 SEAT RECLINING COVER LH
UPPER SEAT TRACK RAIL COVER LH
UPPER SEAT TRACK RAIL COVER RH
REAR NO. 1 SEAT INNER BELT ASSEMBLY LH
SEAT ADJUSTER BOLT COVER
42 (428, 31)
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH
x 2
RECLINING ADJUSTER RELEASE HANDLE LH
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH
REAR NO. 1 SEAT RECLINING COVER RH
x 4
REAR SEAT CUSHION COVER RH
SEAT BELT ANCHOR COVER CAP
REAR NO. 2 SEAT PROTECTOR
x 5
REAR UNDER SIDE COVER LH
REAR NO. 2 SEAT LEG SIDE COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
REAR SEAT UNDER TRAY COVER LH
Non-reusable part

**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

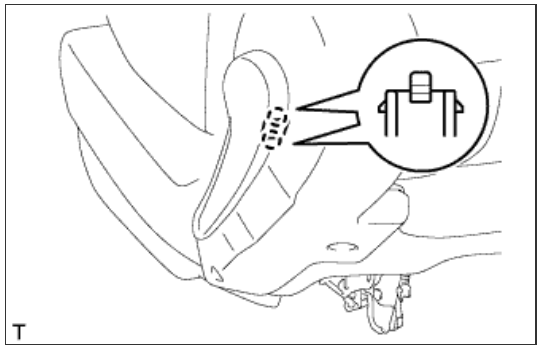
a. Remove the rear No. 1 seat assembly ( Click here).

## 2. REMOVE SEAT ADJUSTER BOLT COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

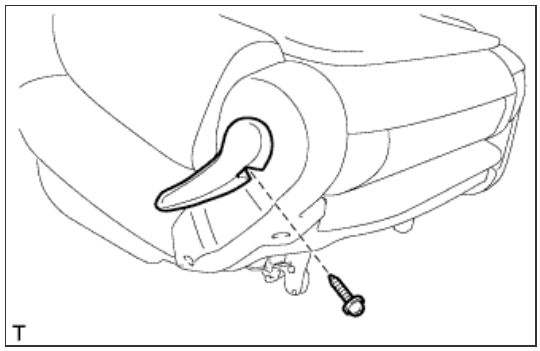
**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

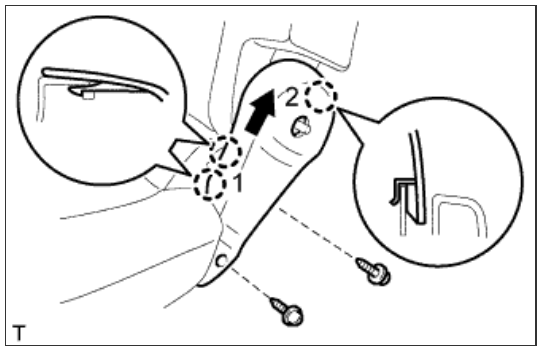
a. Remove the screw and release handle.




## 4. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

a. Remove the 2 screws.

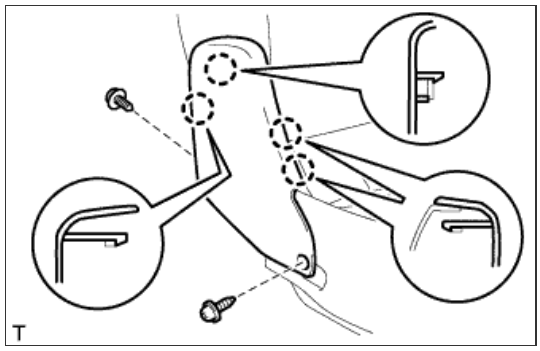
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.




## 5. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

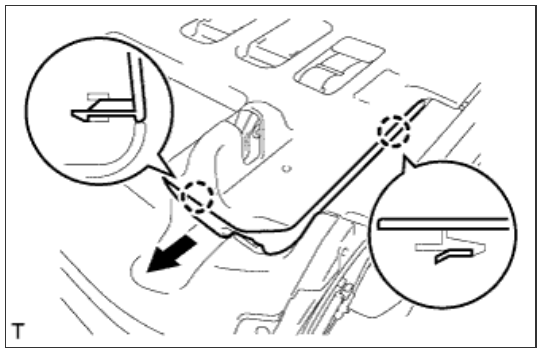



## 6. REMOVE UPPER SEAT TRACK RAIL COVER LH

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

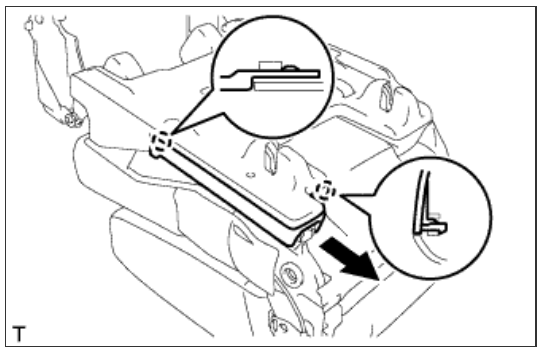



## 7. REMOVE UPPER SEAT TRACK RAIL COVER RH

a. Using a screwdriver, detach the 2 claws and remove the cover.

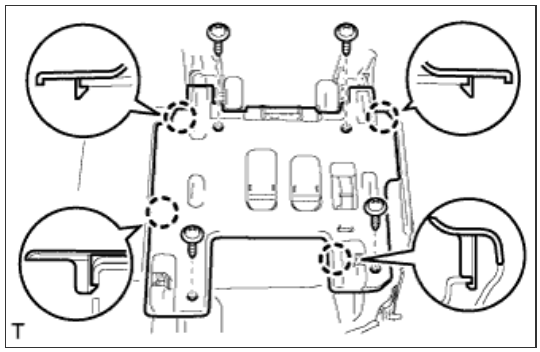
**HINT:**

Tape the screwdriver tip before use.

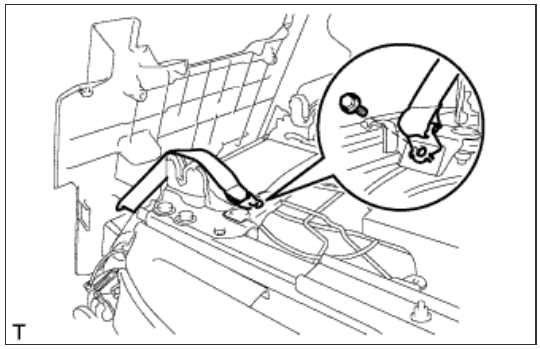



## 8. REMOVE REAR NO. 2 SEAT LEG SIDE COVER

a. Remove the 4 screws and detach the 4 claws.



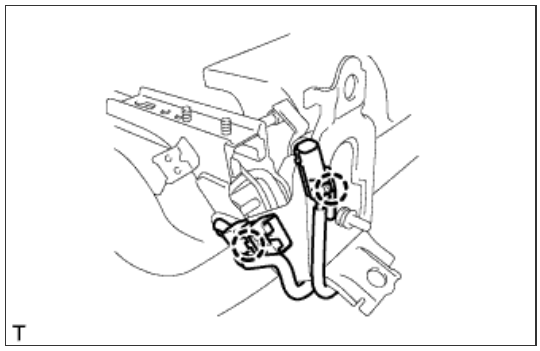

b. Remove the bolt that is securing the fold seat stopper band and remove the seat leg side cover together with the fold seat stopper band.




## 9. REMOVE REAR NO. 2 SEAT PROTECTOR

a. w/ Rear Seat Side Airbag:
Detach the claw and remove the wire harness connector.

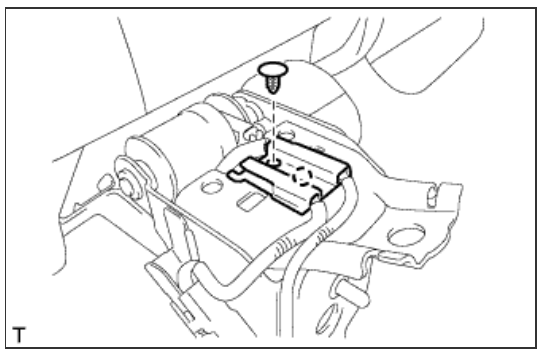
b. w/ Seat Heater System:
Detach the claw and remove the wire harness connector.




c. Using a clip remover, remove the clip.

d. Detach the claw and remove the seat protector from the seat hinge.

e. Detach the 2 claws, open the protector and remove wire harness.

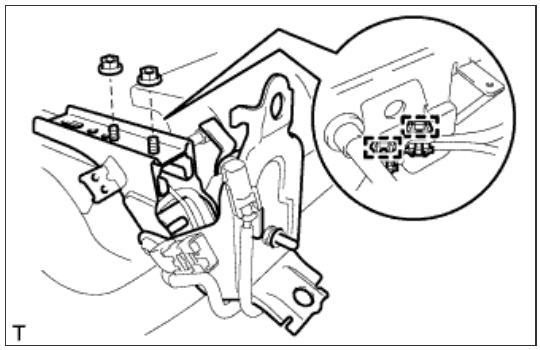



## 10. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

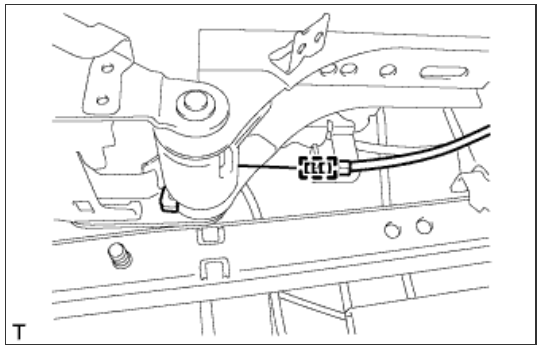
a. w/ Rear Seat Side Airbag:
Detach the wire harness clamp.

b. w/ Seat Heater System:
Detach the wire harness clamp.

c. Remove the 2 nuts and hinge.

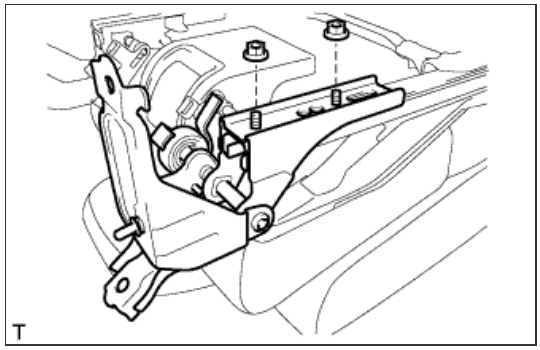



d. Detach the cable clamp and disconnect the cable.



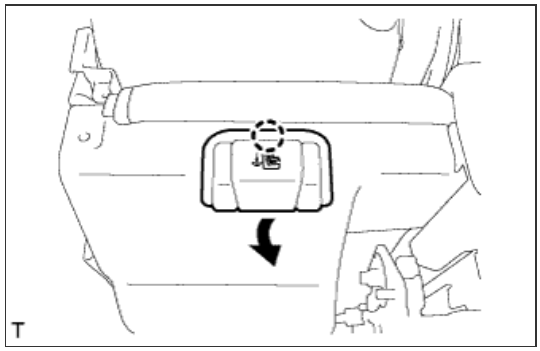

## 11. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

a. Remove the 2 nuts and hinge.

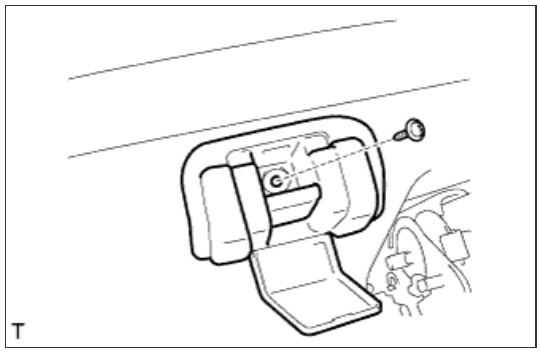



## 12. REMOVE SEAT BELT ANCHOR COVER CAP

a. Detach the claw and open the cap.



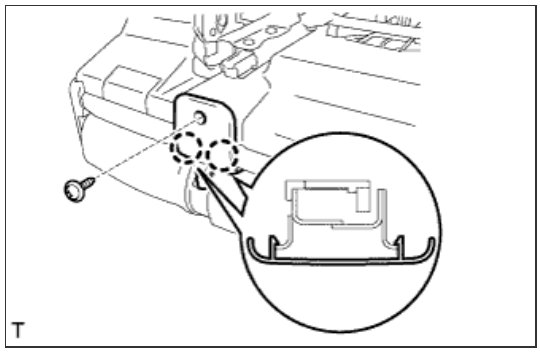

b. Remove the screw and anchor cover cap.




## 13. REMOVE REAR SEATBACK STAY COVER LH

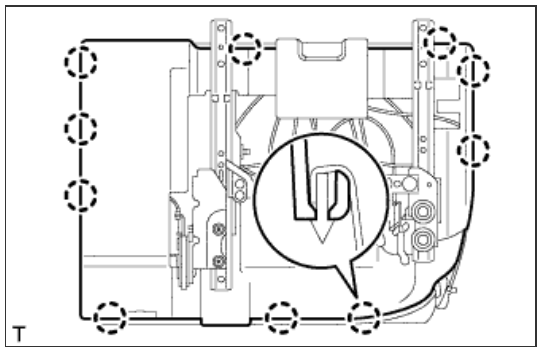
a. Remove the screw.

b. Detach the 2 claws and remove the cover.



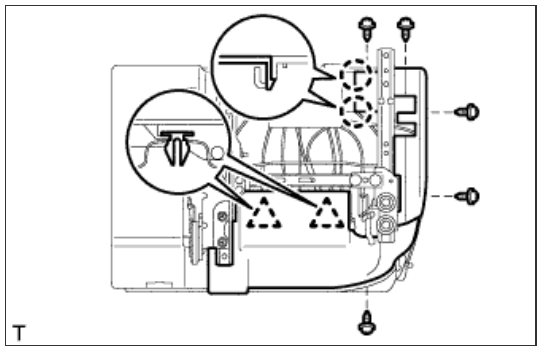

## 14. REMOVE REAR UNDER SIDE COVER LH

a. Detach the 10 claws.




b. Remove the 5 screws.

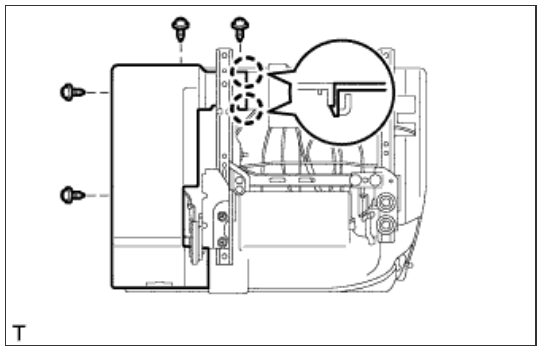
c. Detach the 2 clips and 2 claws, and remove the cover.




## 15. REMOVE REAR SEAT CUSHION COVER RH

a. Remove the 4 screws.

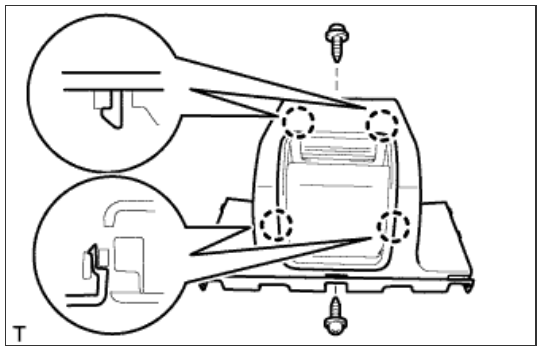
b. Detach the 2 claws and remove the cover.




## 16. REMOVE REAR SEAT UNDER TRAY COVER LH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

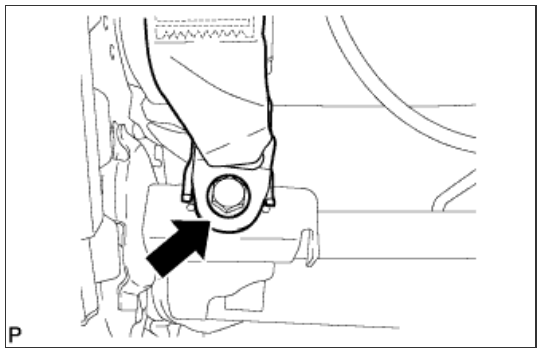



## 17. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Remove the bolt and belt.

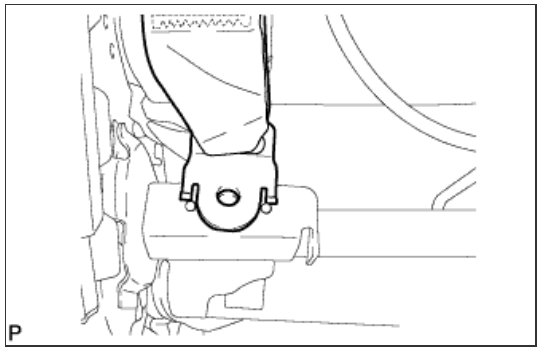
**HINT:**

The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, it becomes disconnected when the bolt is removed.




## 18. DISCONNECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Disconnect the belt anchor.




## 19. REMOVE SEAT CUSHION COVER WITH PAD

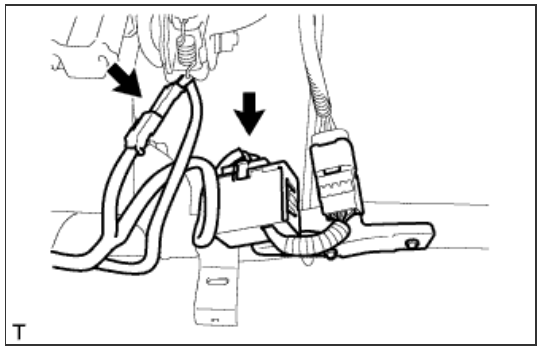
a. w/ Rear Seat Side Airbag:

i. Detach the side airbag wire harness clamps.

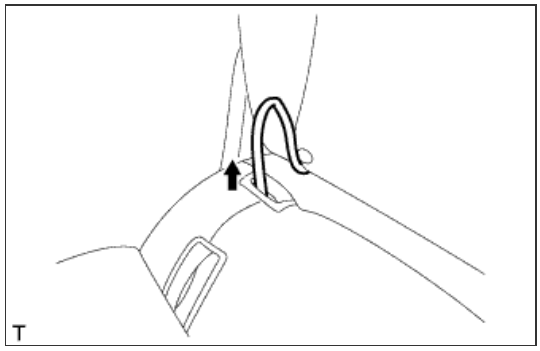
ii. Remove the side airbag wire harness through the hole in the seat cushion.

b. w/ Seat Heater System:

i. Disconnect the 2 seat heater connectors.



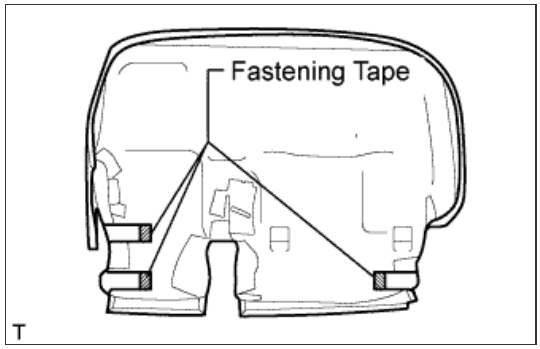

ii. Remove the seatback heater wire harness through the hole in the seat cushion.



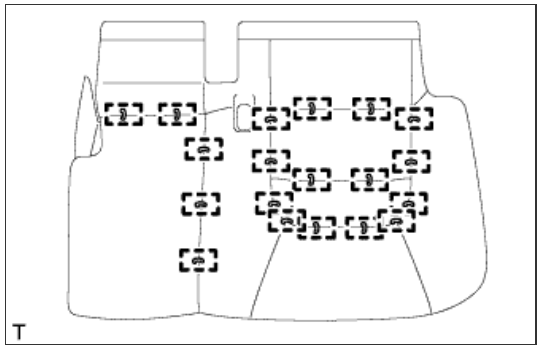

c. Remove the seat cushion cover with pad.

## 20. REMOVE REAR SEPARATE TYPE SEAT CUSHION COVER

a. Detach the 3 pieces of fastening tape.

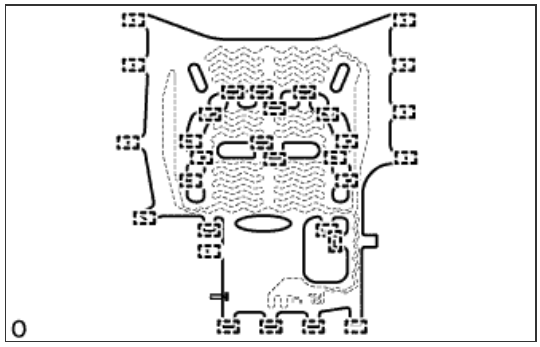



b. Remove the hog rings and cover.



## 21. REMOVE REAR SEAT CUSHION HEATER ASSEMBLY

a. Cut off the tack pins which fasten the seat heater to the seat cushion cover, and then remove the seat cushion heater from the seat cushion cover.



**for Preparation** Click here

## 1. INSPECT REAR SEAT CUSHION HEATER ASSEMBLY

a. Heat the thermostat with a light.

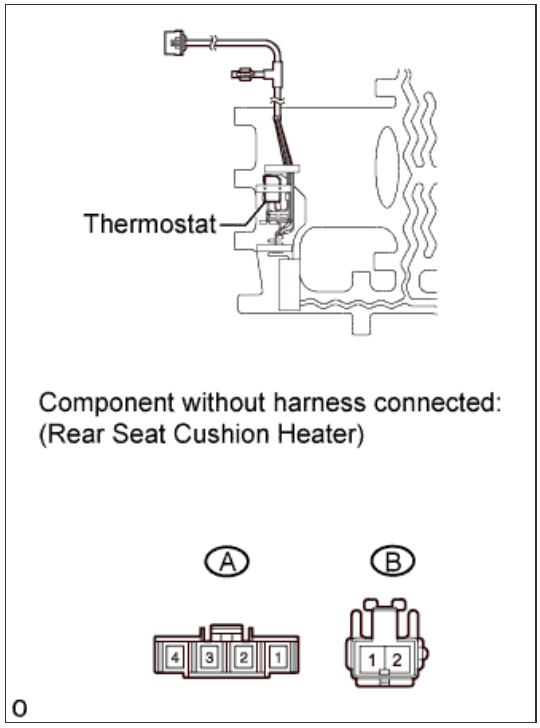
b. Check the seat cushion heater.

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A-1 - B-1 | Seat cushion heater temperature 25°C (77°F) | 3.12 to 3.74 Ω |
| A-4 - B-2 | | |
| A-1 - A-4 | | |
| A-2 - A-3 | | 9.9 to 10.1 kΩ |

If the result is not as specified, replace the seat cushion heater assembly.



**for Preparation** Click here

**CAUTION:**

Wear protective gloves. Sharp areas on the parts may injure your hands.

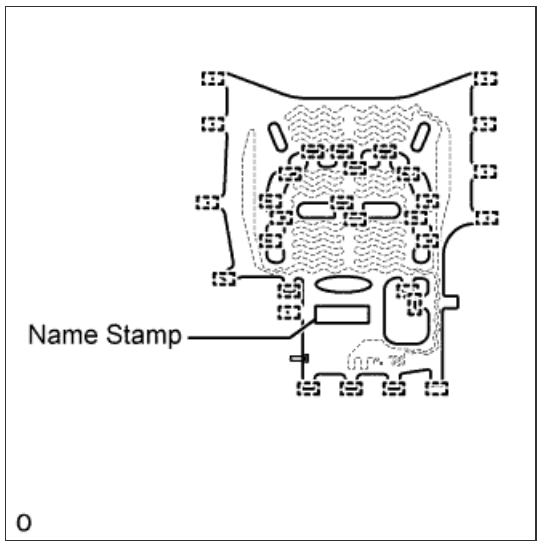
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL REAR SEAT CUSHION HEATER ASSEMBLY

a. Set the seat cushion heater with the name stamp side facing the seat cushion cover.

b. Install the seat cushion heater with new tack pins.

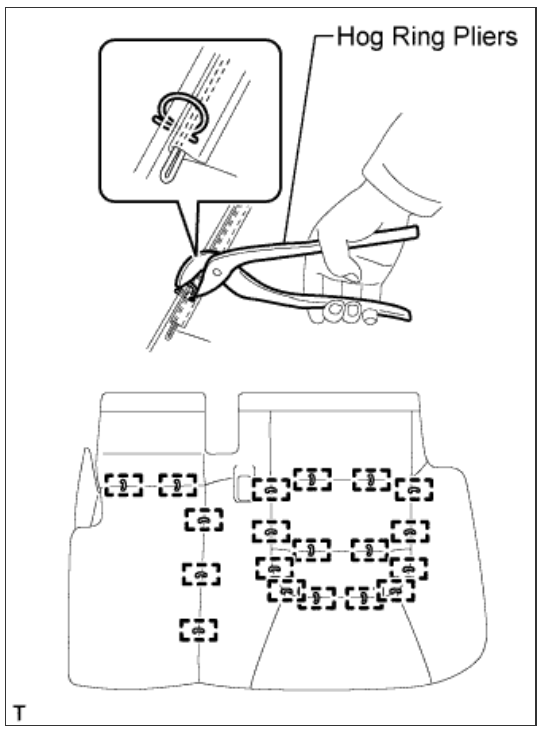



## 2. INSTALL REAR SEPARATE TYPE SEAT CUSHION COVER

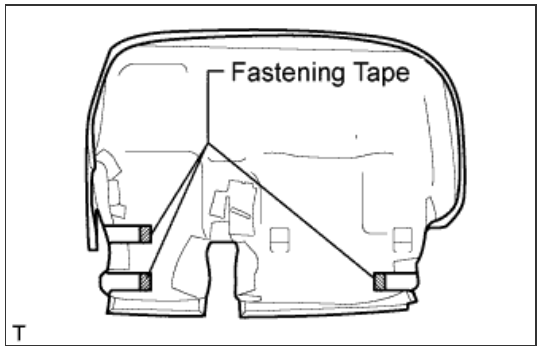
a. Using hog ring pliers, install the seat cushion cover to the seat cushion pad with new hog rings.

**NOTICE:**

- **Be careful not to damage the cover.**
- **When installing the hog rings, avoid wrinkling the cover.**



b. Attach the 3 pieces of fastening tape.



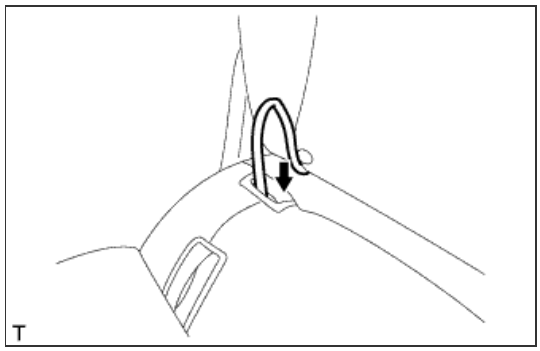

## 3. INSTALL SEAT CUSHION COVER WITH PAD

a. Install the seat cushion cover with pad.

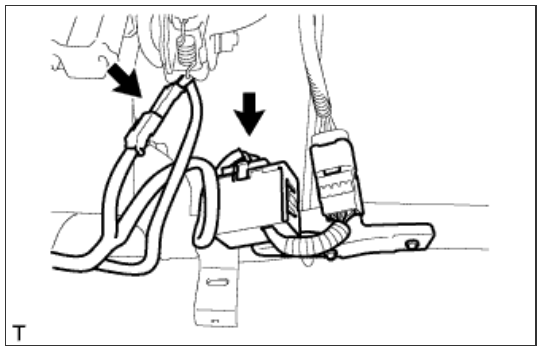
b. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seat cushion.

c. w/ Seat Heater System:

i. Pass the seatback heater wire harness through the hole in the seat cushion.




ii. Connect the 2 seat heater connectors.



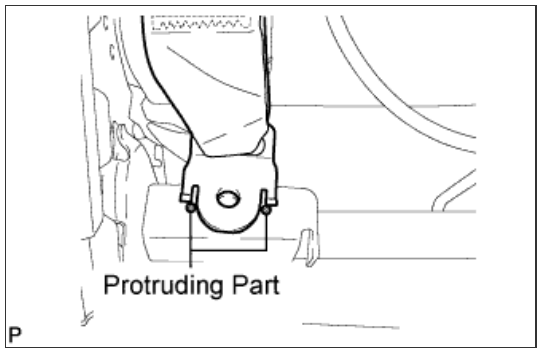

d. w/ Rear Seat Side Airbag:
Attach the side airbag wire harness clamps.

## 4. CONNECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Connect the belt anchor.

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.




## 5. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Install the belt with the bolt.

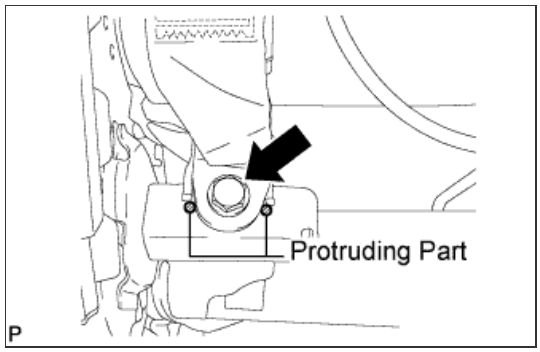
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

**HINT:**

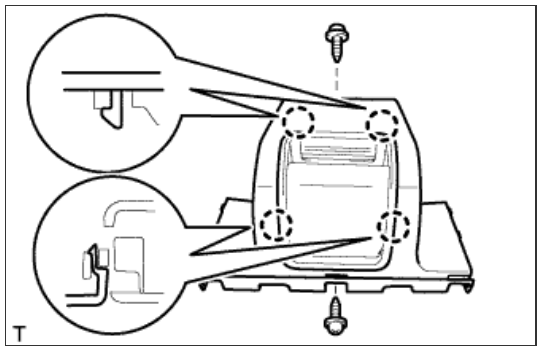
The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, connect it when installing the rear No. 1 seat inner belt LH.




## 6. INSTALL REAR SEAT UNDER TRAY COVER LH

a. Attach the 4 claws to install the cover.

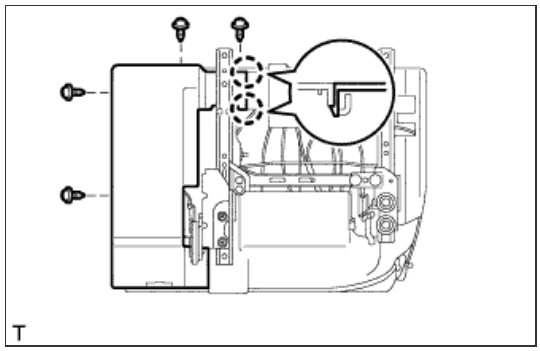
b. Install the 2 screws.




## 7. INSTALL REAR SEAT CUSHION COVER RH

a. Attach the 2 claws to install the cover.

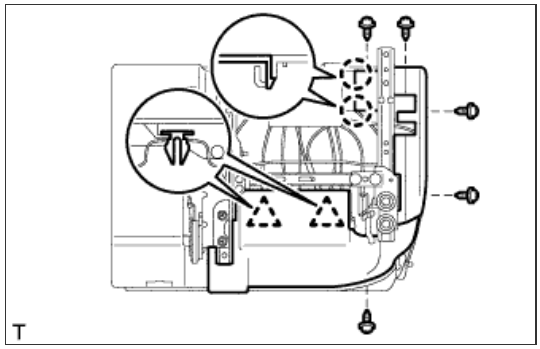
b. Install the 4 screws.



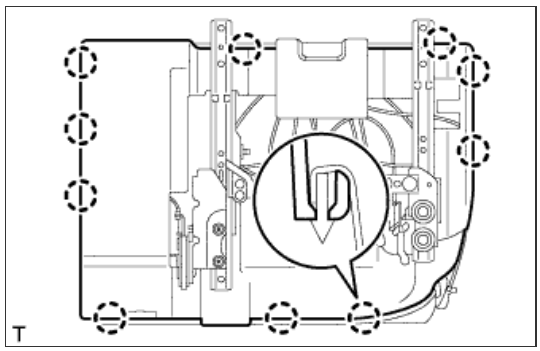

## 8. INSTALL REAR UNDER SIDE COVER LH

a. Attach the 2 claws and 2 clips to install the cover.

b. Install the 5 screws.



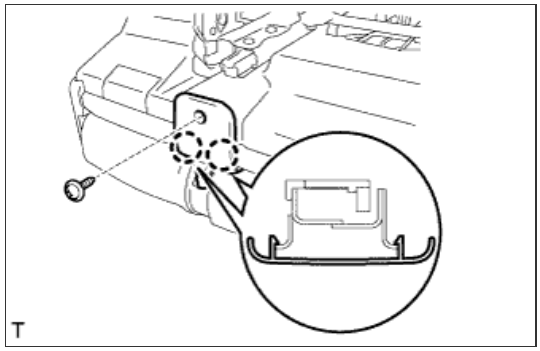

c. Attach the 10 claws.




## 9. INSTALL REAR SEATBACK STAY COVER LH

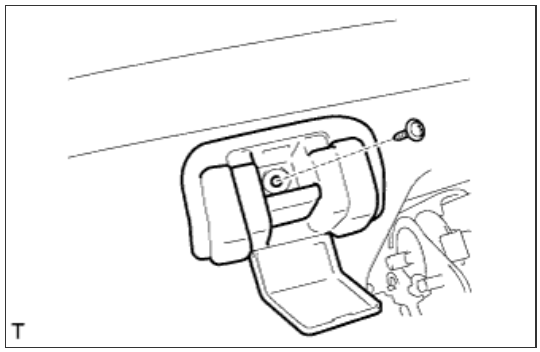
a. Attach the 2 claws to install the cover.

b. Install the screw.

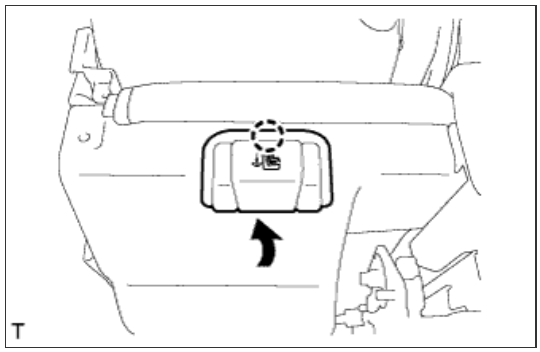



## 10. INSTALL SEAT BELT ANCHOR COVER CAP

a. Install the anchor cover cap with the screw.



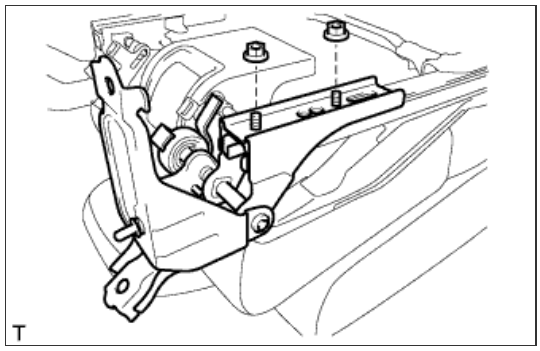

b. Attach the claw to close the cap.




## 11. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

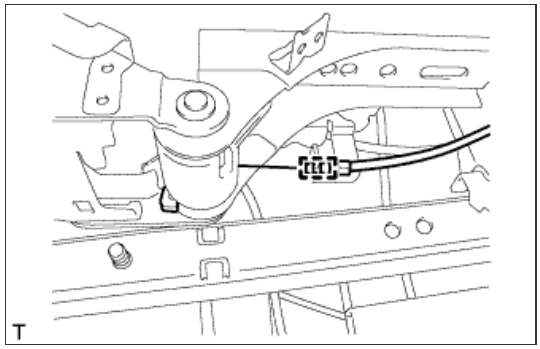
a. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 12. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Attach the cable clamp to connect the cable.

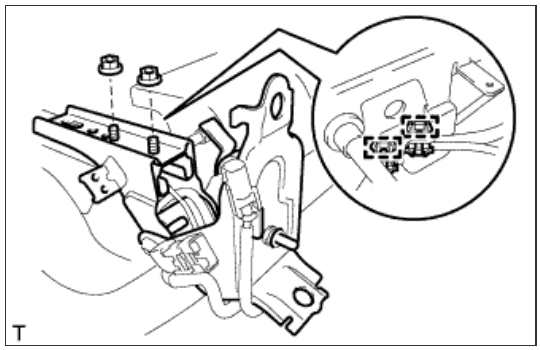



b. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. w/ Rear Seat Side Airbag:
Attach the wire harness clamp.

d. w/ Seat Heater System:
Attach the wire harness clamp.

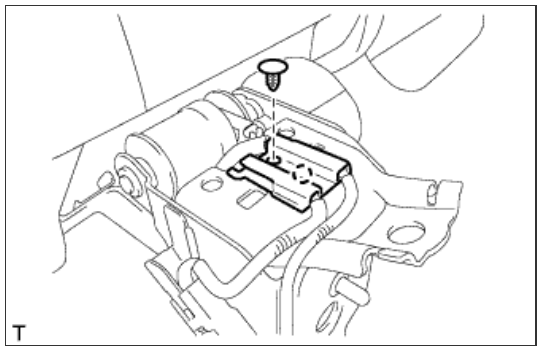



## 13. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Install the wire harness, and attach 2 claws to close the protector.

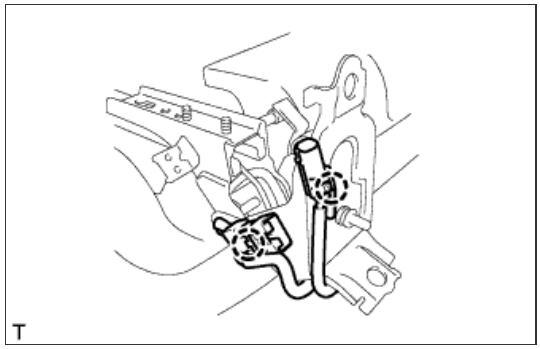
b. Attach the claw to install the protector to the seat hinge.

c. Install the clip.



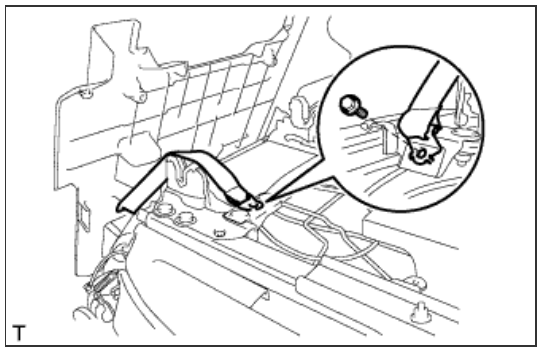

d. w/ Rear Seat Side Airbag:
Attach the claw to install the wire harness connector.

e. w/ Seat Heater System:
Attach the claw to install the wire harness connector.



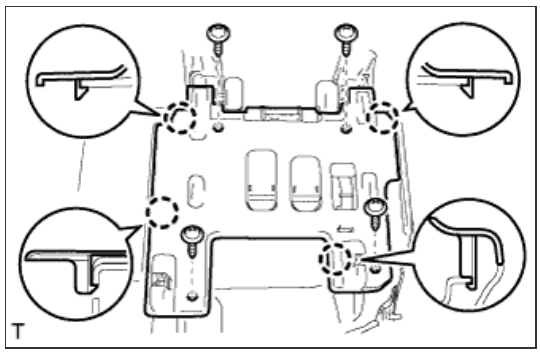

## 14. INSTALL REAR NO. 2 SEAT LEG SIDE COVER

a. Pass the fold seat stopper band through the seat leg side cover and attach it to the seat cushion frame with the bolt.



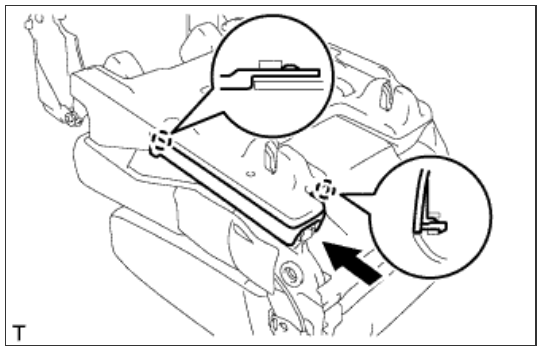

b. Attach the 4 claws to install the seat leg side cover.

c. Install the 4 screws.



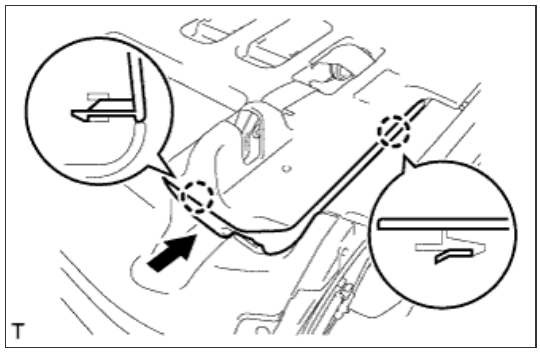

## 15. INSTALL UPPER SEAT TRACK RAIL COVER RH

a. Attach the 2 claws to install the cover.




## 16. INSTALL UPPER SEAT TRACK RAIL COVER LH

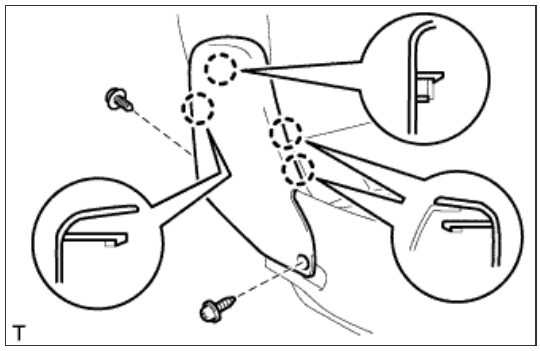
a. Attach the 2 claws to install the cover.




## 17. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

a. Attach the 4 claws to install the cover.

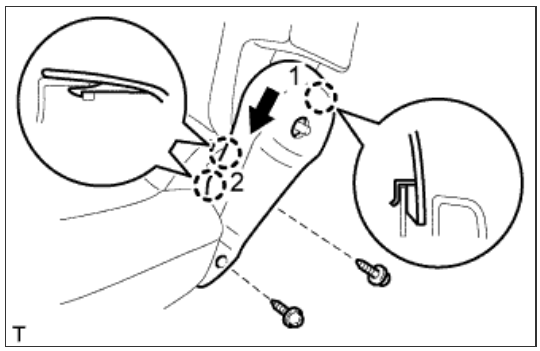
b. Install the 2 screws.




## 18. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

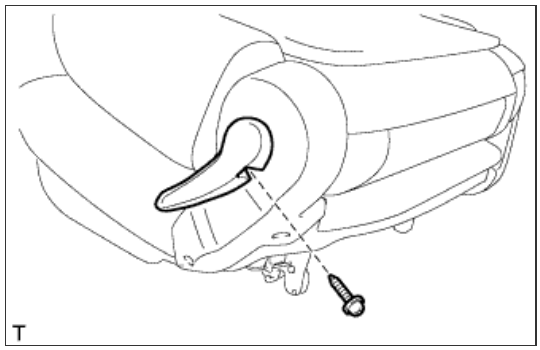
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the 2 screws.



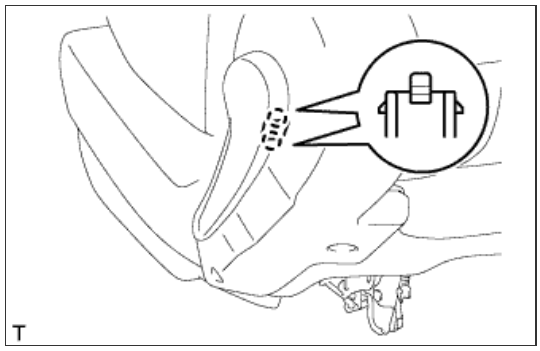

## 19. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the release handle with the screw.




## 20. INSTALL SEAT ADJUSTER BOLT COVER

a. Attach the 2 claws to install the cover.

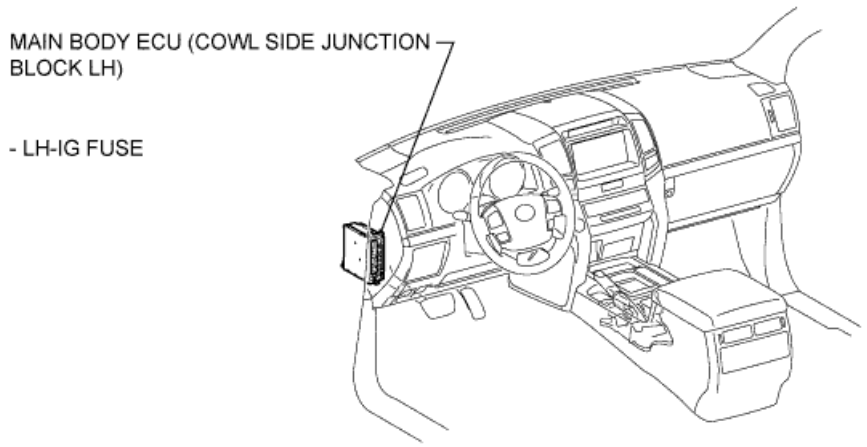



## 21. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

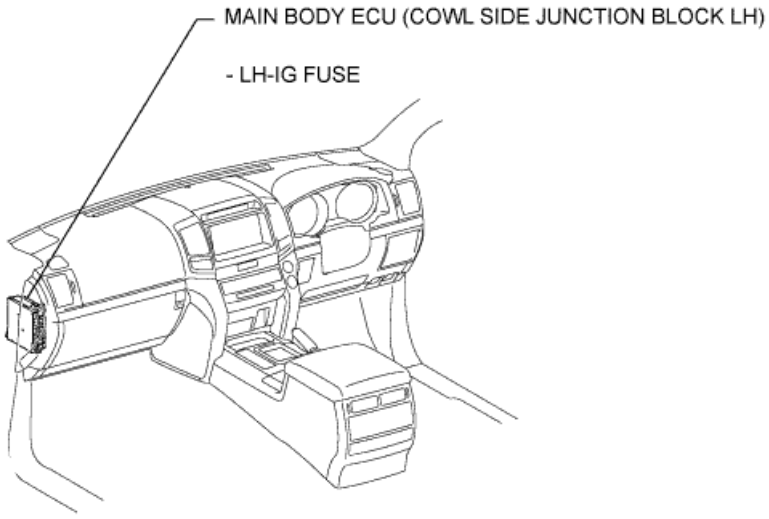
a. Install the rear No. 1 seat assembly ( Click here).

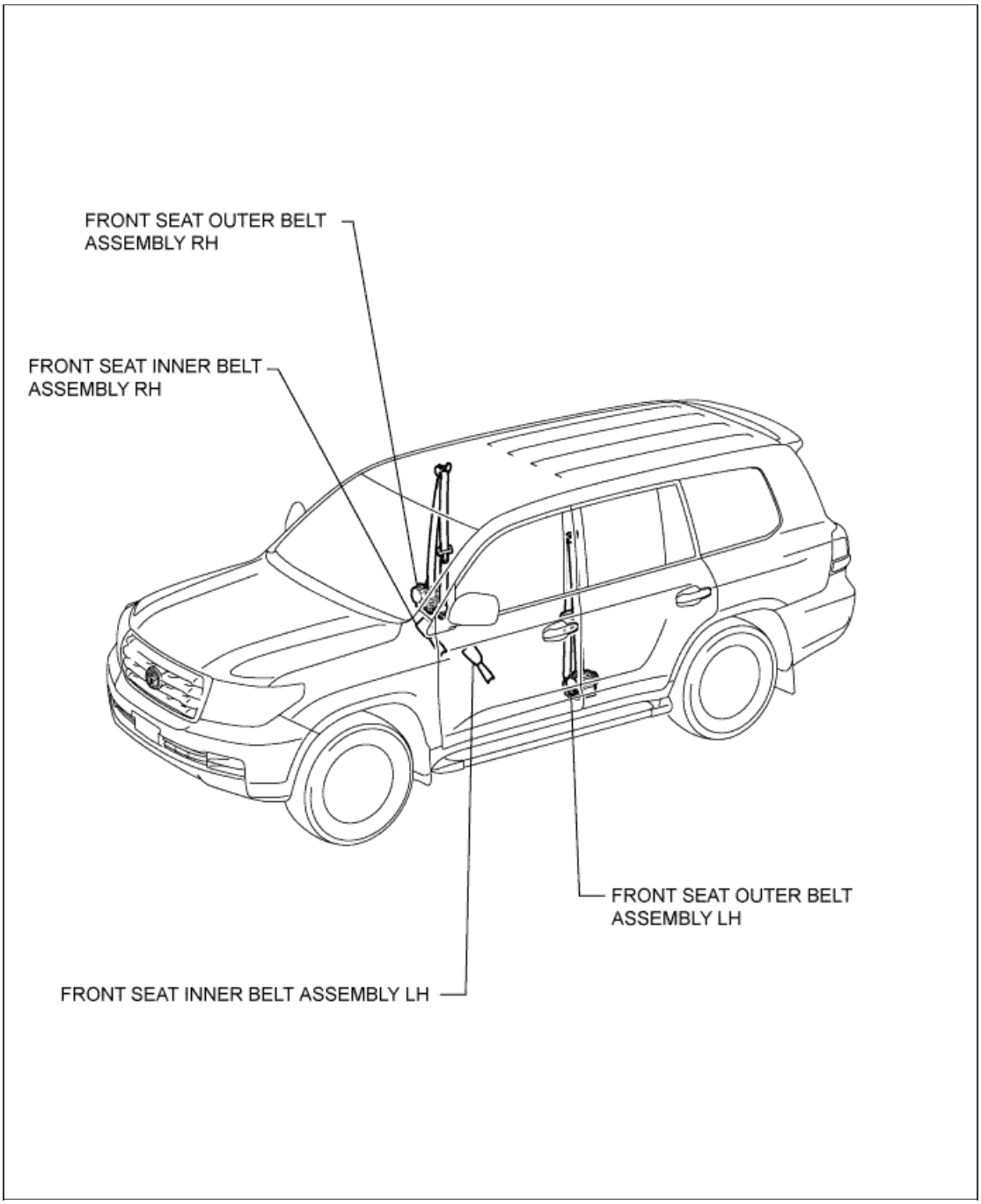
**for Preparation** Click here

for LHD:

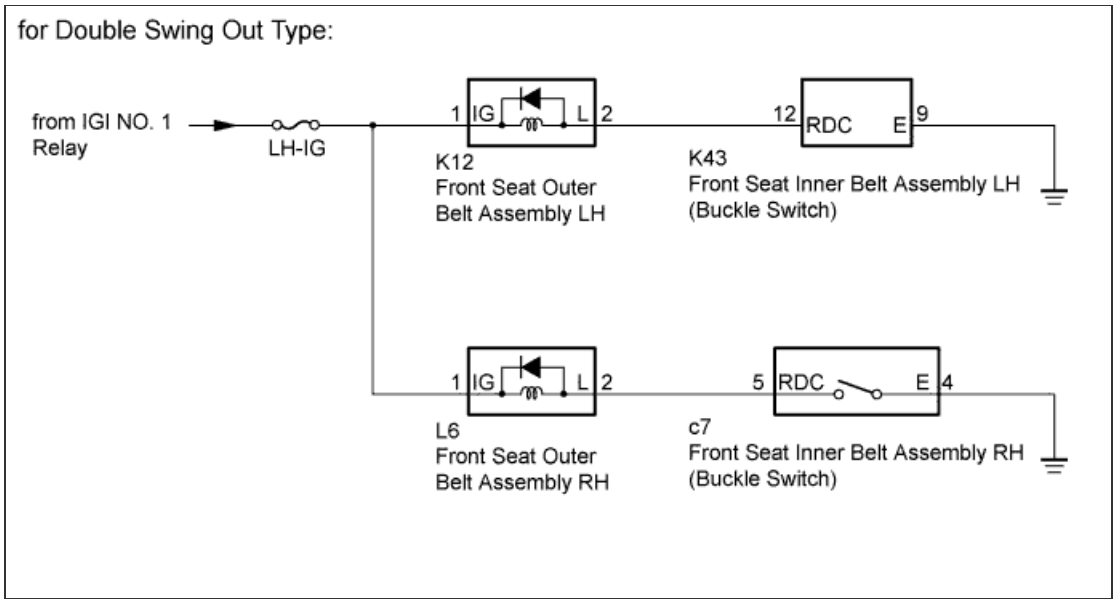


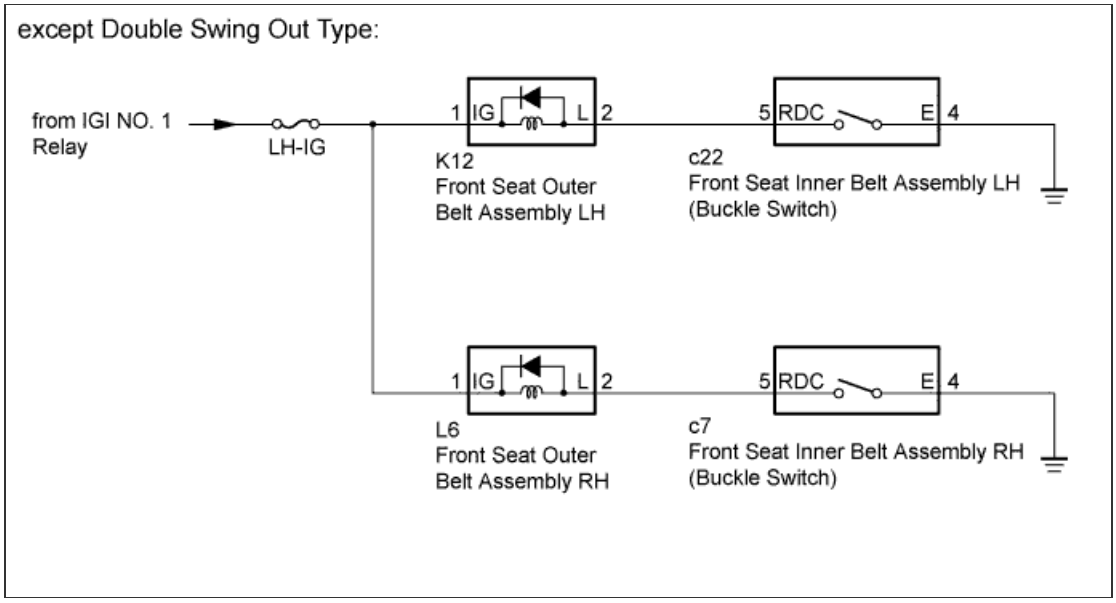

for RHD:




FRONT SEAT OUTER BELT ASSEMBLY RH
FRONT SEAT INNER BELT ASSEMBLY RH
FRONT SEAT OUTER BELT ASSEMBLY LH
FRONT SEAT INNER BELT ASSEMBLY LH

**for Preparation** Click here



**for Preparation** Click here

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

**Seat Belt Tension Reducer System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Driver side: Tension reducer system does not operate | LH-IG fuse | - |
| | Front seat inner belt assembly LH (except Double Swing Out Type)*1 | Click here |
| | Front seat inner belt assembly RH (except Double Swing Out Type)*2 | Click here |
| | Front seat inner belt assembly LH (for Double Swing Out Type)*1 | Click here |
| | Front seat inner belt assembly RH (for Double Swing Out Type)*2 | Click here |
| | Front seat outer belt assembly LH*1 | Click here |
| | Front seat outer belt assembly RH*2 | Click here |
| | Harness or connector | - |
| Passenger side: Tension reducer system does not | LH-IG fuse | - |
| | Front seat inner belt assembly RH*1 (except Double Swing Out Type) | Click here |
| | Front seat inner belt assembly LH*1 (except Double Swing Out Type) | Click here |
| | Front seat inner belt assembly RH*1 (for Double Swing Out Type) | Click here |
| | Front seat inner belt assembly LH*1 (for Double Swing Out Type) | Click here |
| | Front seat outer belt assembly RH*1 | Click here |
| | Front seat outer belt assembly LH*2 | Click here |
| | Harness or connector | - |

*1: for LHD
*2: for RHD

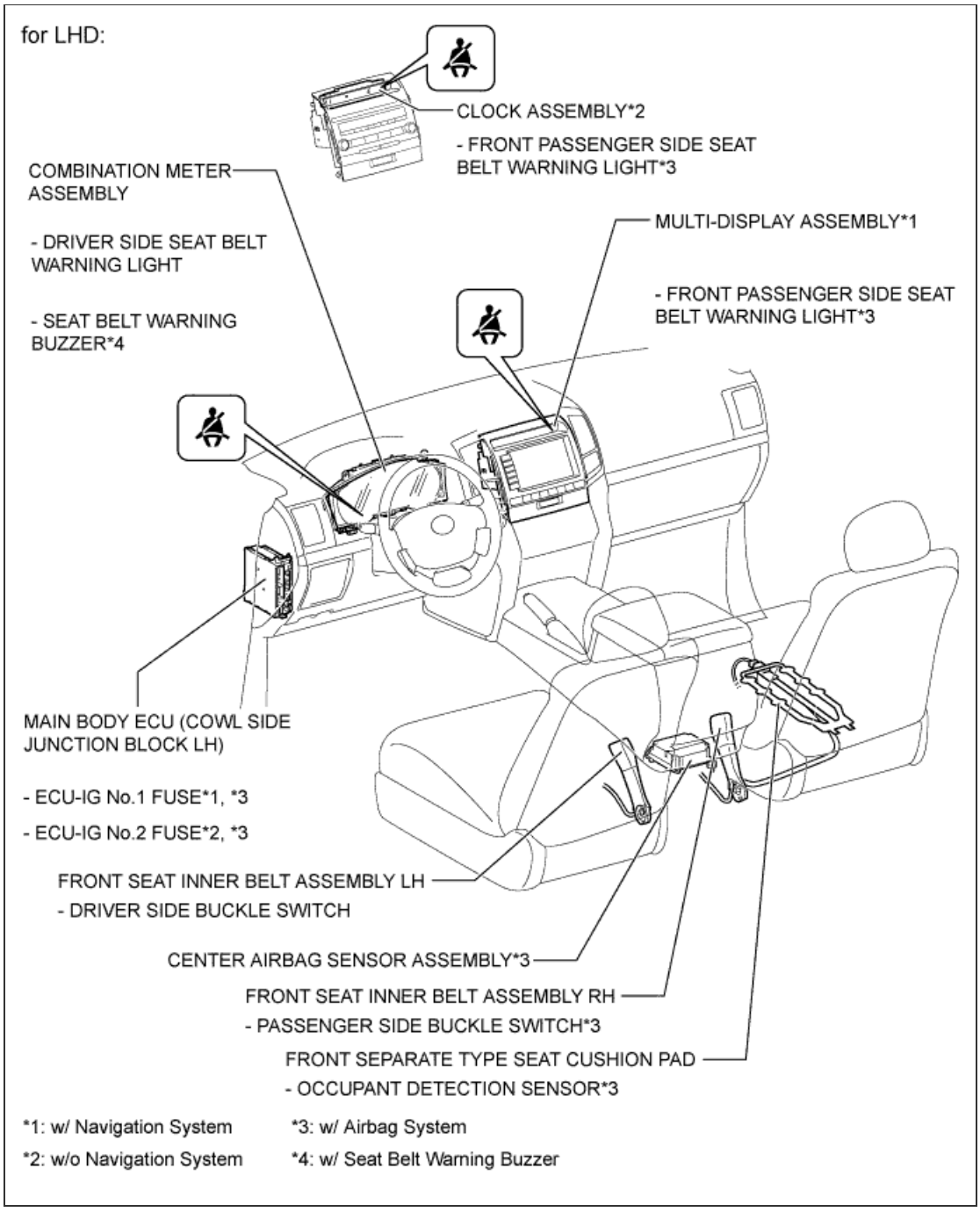
**for Preparation** Click here

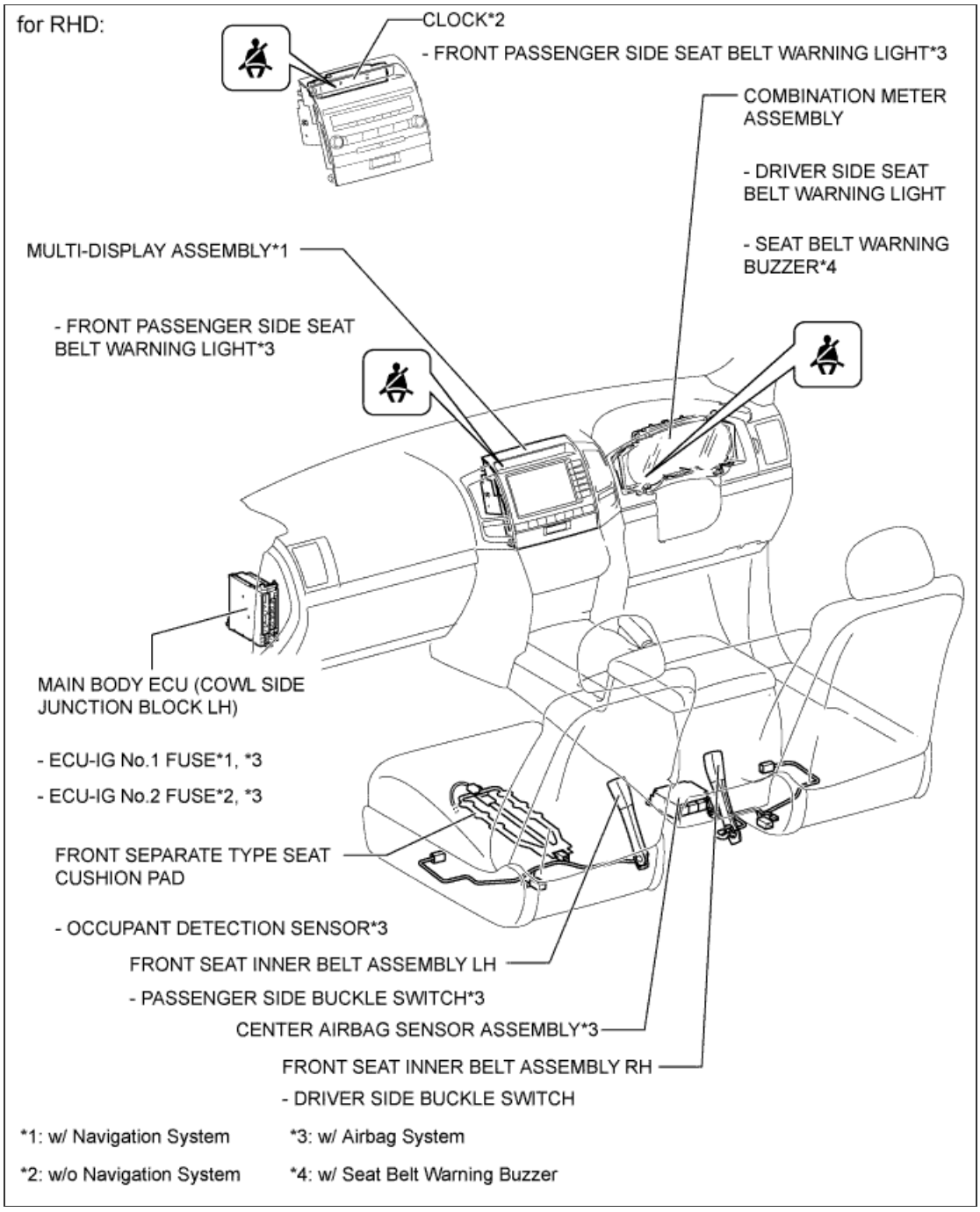
## 1.IGNITION SWITCH EXPRESSION

a. The type of ignition switch used on this model differs depending on the specifications of the vehicle. The expressions listed in the table below are used in this section.

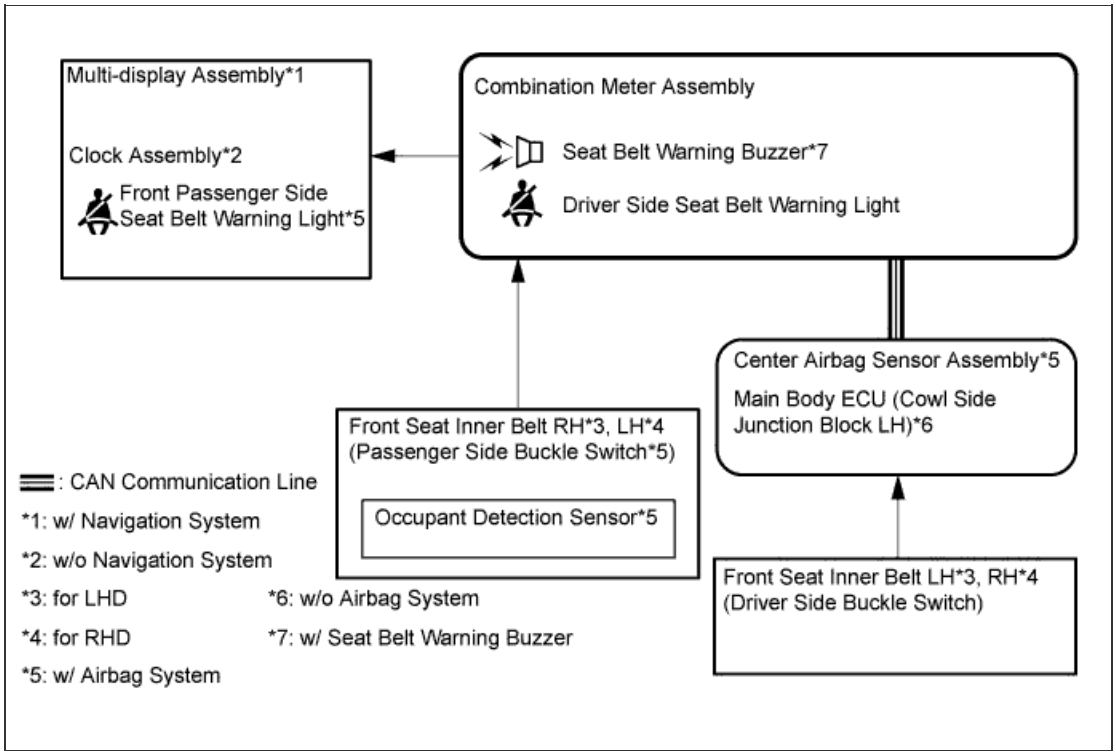
| Expression | Ignition Switch (position) | Engine Switch (condition) |
|---|---|---|
| Ignition Switch off | LOCK | Off |
| Ignition Switch ACC | ACC | On (ACC) |
| Ignition Switch ON | ON | On (IG) |
| Engine Start | START | Start |

**for Preparation** Click here




for RHD:
CLOCK*2
- FRONT PASSENGER SIDE SEAT BELT WARNING LIGHT*3
COMBINATION METER ASSEMBLY
- DRIVER SIDE SEAT BELT WARNING LIGHT
- SEAT BELT WARNING BUZZER*4
MULTI-DISPLAY ASSEMBLY*1
- FRONT PASSENGER SIDE SEAT BELT WARNING LIGHT*3
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- ECU-IG No.1 FUSE*1, *3
- ECU-IG No.2 FUSE*2, *3
FRONT SEPARATE TYPE SEAT CUSHION PAD
- OCCUPANT DETECTION SENSOR*3
FRONT SEAT INNER BELT ASSEMBLY LH
- PASSENGER SIDE BUCKLE SWITCH*3
CENTER AIRBAG SENSOR ASSEMBLY*3
FRONT SEAT INNER BELT ASSEMBLY RH
- DRIVER SIDE BUCKLE SWITCH
*1: w/ Navigation System
*2: w/o Navigation System
*3: w/ Airbag System
*4: w/ Seat Belt Warning Buzzer

**for Preparation** Click here




### Communication Table

| Sender | Receiver | Signal | Line |
|---|---|---|---|
| Center Airbag Sensor Assembly*1 | Combination Meter Assembly | Front seat inner belt switch signal (for driver side) | CAN |
| Main Body ECU (Cowl Side Junction Block LH)*2 | Combination Meter Assembly | Front seat inner belt switch signal (for driver side) | CAN |

*1: w/ Airbag System
*2: w/o Airbag System

**for Preparation** Click here

## SEAT BELT WARNING SYSTEM DESCRIPTION

If a seat belt is not fastened, this system flashes the seat belt warning light or sounds the seat belt warning buzzer (w/ Seat Belt Warning Buzzer) as a reminder.

a. Driver side seat belt warning light:
When the driver seat belt is not fastened with the ignition switch ON, the driver side seat belt warning light on the combination meter assembly comes on to inform the driver. The center airbag sensor assembly*1 (main body ECU [cowl side junction block LH]*2) detects the driver seat belt status and sends signals to the combination meter assembly.

*1: w/ Airbag System
*2: w/o Airbag System

b. Front passenger side seat belt warning light (w/ Airbag System):
When the front passenger seat belt is not fastened with the ignition switch ON and the front passenger seat occupied, the front passenger side seat belt warning light on the multi-display assembly*1 (clock assembly*2) blinks. The multi-display assembly*1 (clock assembly*2) displays the front passenger seat belt status and whether the front passenger seat is occupied.

*1: w/ Navigation System
*2: w/o Navigation System

c. Seat belt warning buzzer (w/ Seat Belt Warning Buzzer):
When the vehicle is driven at approximately 20 km/h (12.5 mph) or more while the driver or front passenger* seat belt is not being fastened, the seat belt warning buzzer in the combination meter assembly sounds at an interval of 1.2 seconds for 30 seconds.

*: w/ Airbag System

## FUNCTION OF MAIN COMPONENT

The following functions are available.

| Components | Function |
|---|---|
| Front seat inner belt assembly LH*1, RH*2 (driver side buckle switch) | Informs center airbag sensor assembly*5 (main body ECU [cowl side junction block LH]*6) of driver seat belt condition (fastened or unfastened) |
| Front seat inner belt assembly RH*1, LH*2 (passenger side buckle switch*5) | Informs combination meter assembly of front passenger seat belt condition (fastened or unfastened) |
| Occupant detection sensor*5 | Informs combination meter assembly of front passenger seat condition (occupied or unoccupied) |
| Driver side seat belt warning light | If driver seat belt is unfastened and ignition switch ON, combination meter assembly flashes seat belt warning light of combination meter assembly as reminder |
| Front passenger side seat belt warning light*5 | When front passenger seat is occupied and ignition switch ON, if front passenger seat belt is unfastened, combination meter assembly flashes seat belt warning light of multi-display assembly*3, (clock assembly*4) as reminder |
| Seat belt warning buzzer*7 | If driver or front passenger*5 seat belt is unfastened and ignition switch ON, combination meter assembly sounds buzzer as reminder |

*1: for LHD
*2: for RHD
*3: w/ Navigation System
*4: w/o Navigation System
*5: w/ Airbag System
*6: w/o Airbag System
*7: w/ Seat Belt Warning Buzzer

## SYSTEM OPERATION

a. Driver side seat belt warning light:

i. When the driver seat belt is not fastened with the ignition switch ON, the driver side seat belt warning light on the combination meter assembly comes on to inform the driver. The center airbag sensor assembly*1 (main body ECU [cowl side junction block LH]*2) detects the driver seat belt status and sends signals to the combination meter assembly using CAN.

*1: w/ Airbag System

*2: w/o Airbag System

b. Front passenger side seat belt warning light (w/ Airbag System):

i. When the front passenger seat belt is not fastened with the ignition switch ON and the front passenger seat occupied, check that the front passenger side seat belt warning light on the multi-display assembly*1 (clock assembly*2) blinks. The combination meter assembly displays the front passenger seat belt status and whether the front passenger seat is occupied.

*1: w/ Navigation System
*2: w/o Navigation System

**for Preparation** Click here

**HINT:**

- **Use the following procedures to troubleshoot the seat belt warning system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding to the next step.

NEXT

## 3.CHECK FOR DTC*

a. Check for DTCs and make a note of any codes that are output.

b. Clear the DTCs.

c. Based on the DTCs output above, try to cause the output of the same CAN communication system DTC or airbag system DTC by simulating the symptoms indicated by the DTC. Then recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| CAN communication system DTC is output (for LHD) | B |
| CAN communication system DTC is output (for RHD) | C |
| Airbag system DTC is output | D |

B. → Go to CAN COMMUNICATION SYSTEM (Click here)

C. → Go to CAN COMMUNICATION SYSTEM (Click here)

D. → Go to AIRBAG SYSTEM (Click here)

A

## 4.PROBLEM SYMPTOMS TABLE

a. Refer to the problem symptoms table (Click here).

NEXT

## 5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Operation check (Click here)

b. Data List / Active Test (Click here)

c. Terminals of ECU (Click here)

NEXT

6.REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

## INSPECT DRIVER SIDE SEAT BELT WARNING LIGHT

a. Turn the ignition switch to ON.

b. When the driver seat belt is not fastened, check that the driver side seat belt warning light on the combination meter assembly blinks.

c. When the driver seat belt is fastened, check that the driver side seat belt warning light on the combination meter assembly is off.

## INSPECT FRONT PASSENGER SIDE SEAT BELT WARNING LIGHT (w/ Airbag System)

*1: w/ Navigation System
*2: w/o Navigation System

a. Turn the ignition switch to ON.

b. When the front passenger side seat belt is not fastened with the passenger seat occupied, check that the front passenger side seat belt warning light on the multi-display assembly*1 (clock assembly*2) blinks.

c. When the front passenger seat belt is fastened with the front passenger seat occupied, check that the front passenger side seat belt warning light on the multi-display assembly*1 (clock assembly*2) is off.

## INSPECT SEAT BELT WARNING BUZZER (w/ Seat Belt Warning Buzzer)

**HINT:**

If the buzzer does not sound, the buzzer cancel setting may be set to ON ( Click here).

a. Turn the ignition switch to ON.

b. Place a weight of 20 kg (44.0 lb) on the front passenger seat (w/ Airbag System).

**NOTICE:**

- **Do not allow the weight to come into contact with the seatback when placing it on the seat cushion.**
- **Place the weight on the seat cushion.**

c. When the vehicle is driven at approximately 20 km/h (12.5 mph) or more while the driver or front passenger seat (w/ Airbag System) belt is not fastened, check that the buzzer in the combination meter assembly sounds at an interval of 1.2 seconds for 30 seconds.

d. Check that the buzzer sounds at an interval of 0.4 seconds for 90 seconds.

e. Check that the buzzer stops 2 minutes after the buzzer starts sounding.

f. After the buzzer has stopped, turn the ignition switch off and then start the engine again. Drive the vehicle at approximately 20 km/h (12.5 mph) or more while the driver or front passenger seat (w/ Airbag System) belt is not being fastened, and then check that the buzzer sounds again.

g. After the buzzer has stopped, fasten the driver and front passenger seat (w/ Airbag System) belts. Drive the vehicle at approximately 20 km/h (12.5 mph) or more and unfasten the driver or front passenger seat (w/ Airbag System) belt, and then check that the buzzer sounds again.

h. After the buzzer has stopped, move the shift lever to R, and then move it to D. Drive the vehicle at approximately 20 km/h (12.5 mph) or more, and then check that the buzzer sounds again.

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH TECHSTREAM

**HINT:**

The following items can be customized.

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Record the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Customizing with the intelligent tester

i. Connect the intelligent tester to the DLC3.

ii. Turn the ignition switch to ON.

iii. Turn the intelligent tester on.

iv. Enter the following menus: Utility / Customize / Warning.

v. Select the setting by referring to the table below.

| Display | Default | Contents | Setting | Relevant ECU |
|---|---|---|---|---|
| D-Seatbelt Warning Buzzer*1 | ON | If driver side seat belt is unfastened and the vehicle is driven at approximately 20 km/h (12.5 mph) or more, this system sound the seat belt warning buzzer. | ON or OFF | Combination meter assembly |
| P-Seatbelt Warning Buzzer*1, *2 | ON | If front passenger side seat belt is unfastened with the front passenger seat occupied and the vehicle is driven at approximately 20 km/h (12.5 mph) or more, this system sound the seat belt warning buzzer. | ON or OFF | Combination meter assembly |

*1: w/ Seat Belt Warning Buzzer
*2: w/ Airbag System

**for Preparation** Click here

**HINT:**

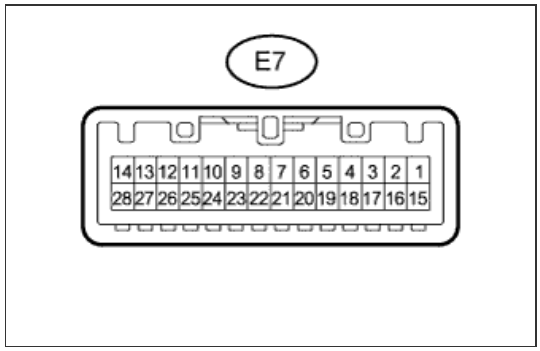
- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Seat Belt Warning System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Driver side seat belt warning light does not operate | Proceed to "Driver side seat belt warning light does not operate" | Click here |
| Front passenger side seat belt warning light does not operate (w/ Airbag System) | Proceed to "Front passenger side seat belt warning light does not operate" | Click here |
| Only seat belt warning buzzer does not sound (w/ Seat Belt Warning Buzzer) | Meter/Gauge System | Click here |

**for Preparation** Click here

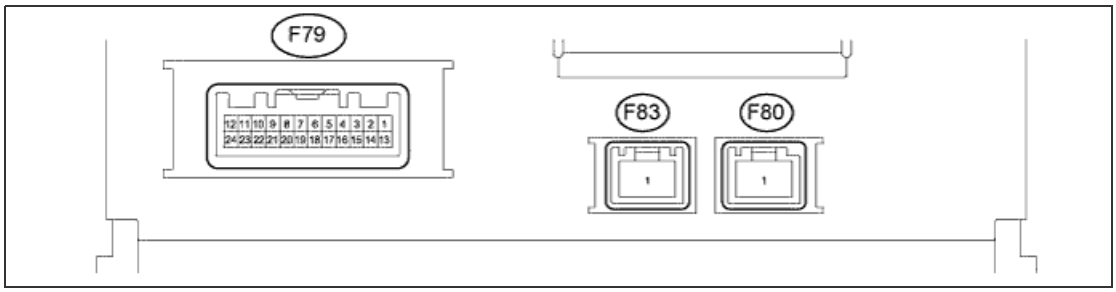
## CHECK COMBINATION METER ASSEMBLY




| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E7-17 (B) - Body ground | R - Body ground | Combination meter +B line | Always | 11 to 14 V |
| E7-18 (IG+) - Body ground | B - Body ground | Combination meter IG line | Ignition switch ON | 11 to 14 V |
| E7-15 (ET) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| E7-22 (WRNP) - Body ground* | LG - Body ground | Front passenger seat belt signal | Ignition switch ON, front passenger seat is occupied, seat belt is fastened | Below 1 V |
| | | | Ignition switch ON, front passenger seat is occupied, seat belt is unfastened | 11 to 14 V |

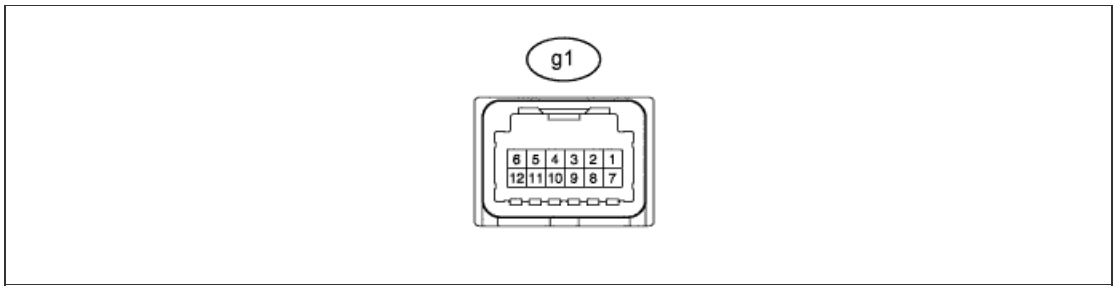
*: w/ Airbag System

## CHECK MULTI-DISPLAY ASSEMBLY (w/ Airbag System [w/ Navigation System])



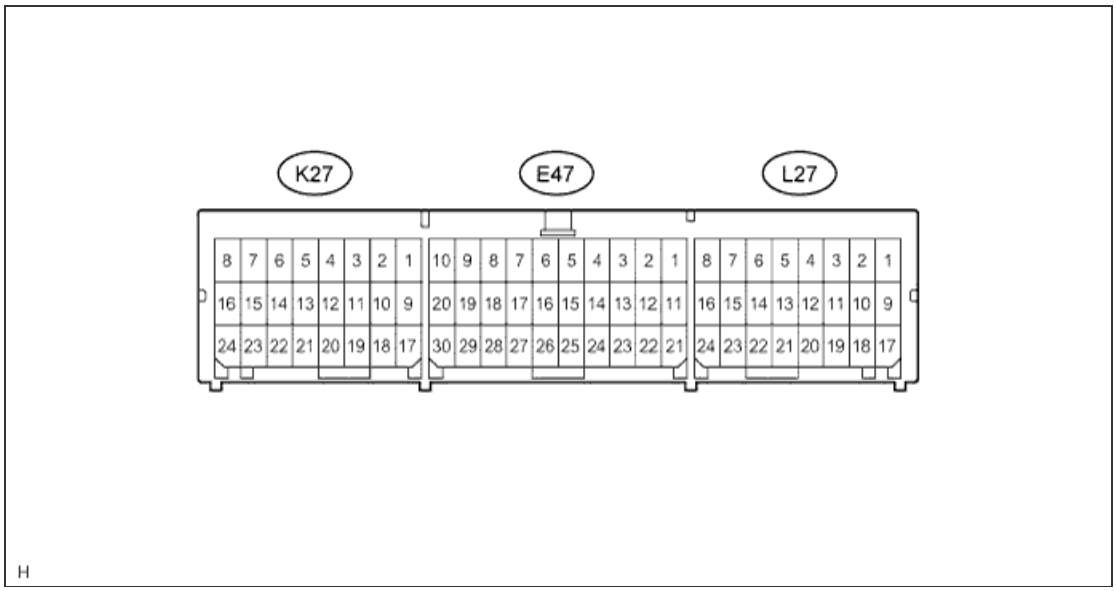

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| F79-13 (GND1) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| F79-12 (+B2) - Body ground | R - Body ground | Display navigation module display +B line | Always | 11 to 14 V |
| F79-24 (ACC) - Body ground | GR - Body ground | Display navigation module display ACC line | Ignition switch ACC | 11 to 14 V |
| F79-23 (IG) - Body ground | G - Body ground | Display navigation module display IG line | Ignition switch ON | 11 to 14 V |
| F79-9 (PBEW) - Body ground | Y - Body ground | Front passenger seat belt warning signal | Ignition switch ON, front passenger seat is occupied, seat belt is fastened | Below 1 V |
| | | | Ignition switch ON, front passenger seat is occupied, seat belt is unfastened | 11 to 14 V |

## CHECK CLOCK ASSEMBLY (w/ Airbag System [w/o Navigation System])




| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| g1-1 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| g1-12 (B) - Body ground | R - Body ground | Clock +B line | Always | 11 to 14 V |
| g1-10 (IG+) - Body ground | G - Body ground | Clock ACC line | Ignition switch ACC | 11 to 14 V |
| g1-11 (ACC) - Body ground | GR - Body ground | Clock IG line | Ignition switch ON | 11 to 14 V |
| g1-8 (LAPL) - Body ground | Y - Body ground | Passenger seat belt warning signal | Ignition switch ON, passenger seat is occupied, seat belt is fastened | Below 1 V |
| | | | Ignition switch ON, passenger seat is occupied, seat belt is unfastened | 11 to 14 V |

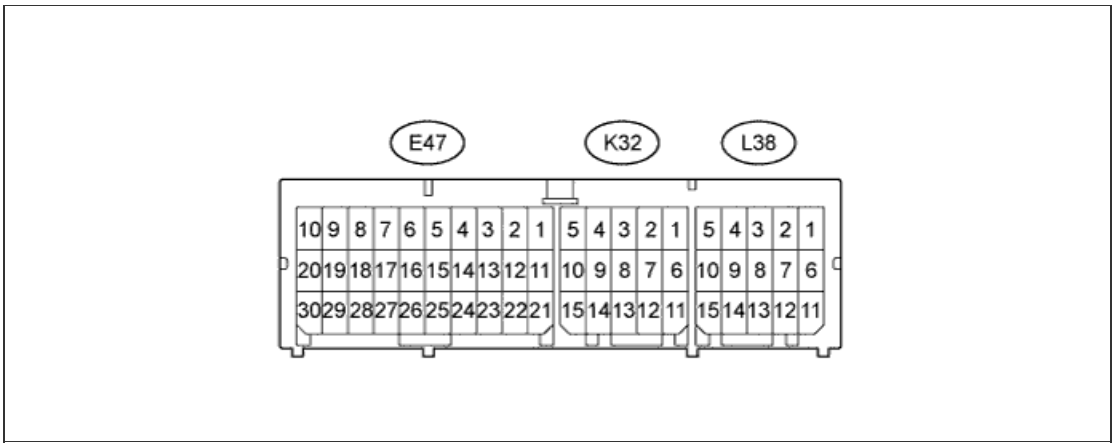
**CHECK CENTER AIRBAG SENSOR ASSEMBLY (w/ Airbag System [w/ Side Airbag])**




| Terminal No. | Symbol | Destination |
|---|---|---|
| K27-10*1 | LBE+ | Front seat inner belt assembly LH (Seat belt buckle switch LH) |
| K27-18*1 | LBE- | Front seat inner belt assembly LH (Seat belt buckle switch LH) |
| L27-15*2 | RBE+ | Front seat inner belt assembly RH (Seat belt buckle switch RH) |
| L27-23*2 | RBE- | Front seat inner belt assembly RH (Seat belt buckle switch RH) |

*1: for LHD
*2: for RHD

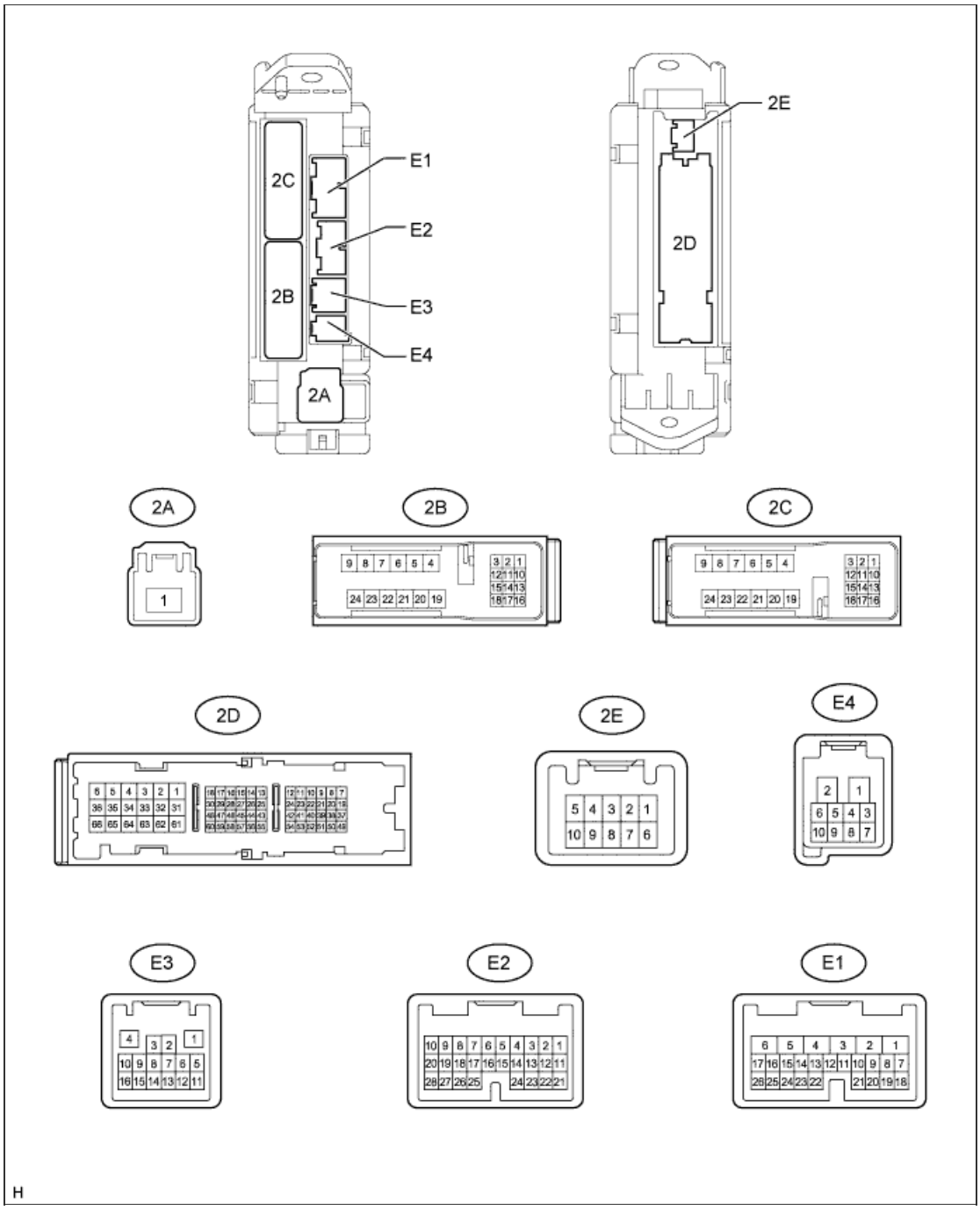
**CHECK CENTER AIRBAG SENSOR ASSEMBLY (w/ Airbag System [w/o Side Airbag])**




| Terminal No. | Symbol | Destination |
|---|---|---|
| K32-11*1 | LBE+ | Front seat inner belt assembly LH (Seat belt buckle switch LH) |
| K32-12*1 | LBE- | Front seat inner belt assembly LH (Seat belt buckle switch LH) |
| L38-15*2 | RBE+ | Front seat inner belt assembly RH (Seat belt buckle switch RH) |
| L38-14*2 | RBE- | Front seat inner belt assembly RH (Seat belt buckle switch RH) |

*1: for LHD
*2: for RHD

**CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (w/o Airbag System)**




| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2B-20 (BATB) - Body ground | L - Body ground | Battery power supply | Always | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Ignition switch ACC | 11 to 14 V |
| | | | Ignition switch off | Below 1 V |
| 2D-62 (GND2*1) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| 2D-62 (GND1*2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E1-7 (DBKL) - Body ground | B - Body ground | Driver seat belt signal | Ignition switch ON, driver side seat belt is fastened | Below 1 V |
| | | | Ignition switch ON, driver side seat belt is unfastened | 11 to 14 V |

*1: w/ Entry and Start System
*2: w/o Entry and Start System

**for Preparation** Click here

## READ DATA LIST

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Data List.

e. According to the display on the intelligent tester, read the Data List.

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P-Seatbelt Buckle SW*1 | Front passenger side seat belt buckle signal / ON or OFF | ON: Front passenger side seat is occupied, front passenger side seat belt is fastened<br>OFF: Front passenger side seat is occupied, front passenger side seat belt is unfastened | - |
| D - Seatbelt Warning Buzzer*2 | Driver side seat belt warning signal / ON or OFF | ON: Driver side seat belt warning buzzer is sound<br>OFF: Driver side seat belt warning buzzer is not sound | The current customize setting is displayed. |
| P - Seatbelt Warning Buzzer*1, *2 | Front passenger side seat belt warning signal / ON or OFF | ON: Front passenger side seat belt warning buzzer is sound<br>OFF: Front passenger side seat belt warning buzzer is not sound | The current customize setting is displayed. |

*1: w/ Airbag System
*2: w/ Seat Belt Warning Buzzer

**SRS Airbag (w/ Airbag System)**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Driver Buckle SW | Driver side seat belt / Set, Unset or NG | Set: Driver side seat belt is fastened<br>Unset: Driver side seat belt is unfastened | NG: Data is not determined |
| Passenger Buckle SW | Front passenger side seat belt / Set, Unset or NG | ON: Front passenger side seat is occupied, front passenger side seat belt is fastened<br>OFF: Front passenger side seat is occupied, front passenger side seat belt is unfastened | - |

**Main Body (w/o Airbag System)**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Seat Buckle SW | Driver side seat belt / ON or OFF | ON: Driver side seat belt is fastened<br>OFF: Driver side seat belt is unfastened | - |

## PERFORM ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Combination Meter / Active Test.

e. According to display on the intelligent tester, perform the Active Test.

**Combination Meter**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Driver Side Seat Belt | Driver side seat belt warning light | ON/OFF | Confirm that the vehicle is stopped and the engine is idling. |
| Front Passenger Side Seat Belt* | Front passenger side seat belt warning light | ON/OFF | Confirm that the vehicle is stopped and the engine is idling. |

*: w/ Airbag System

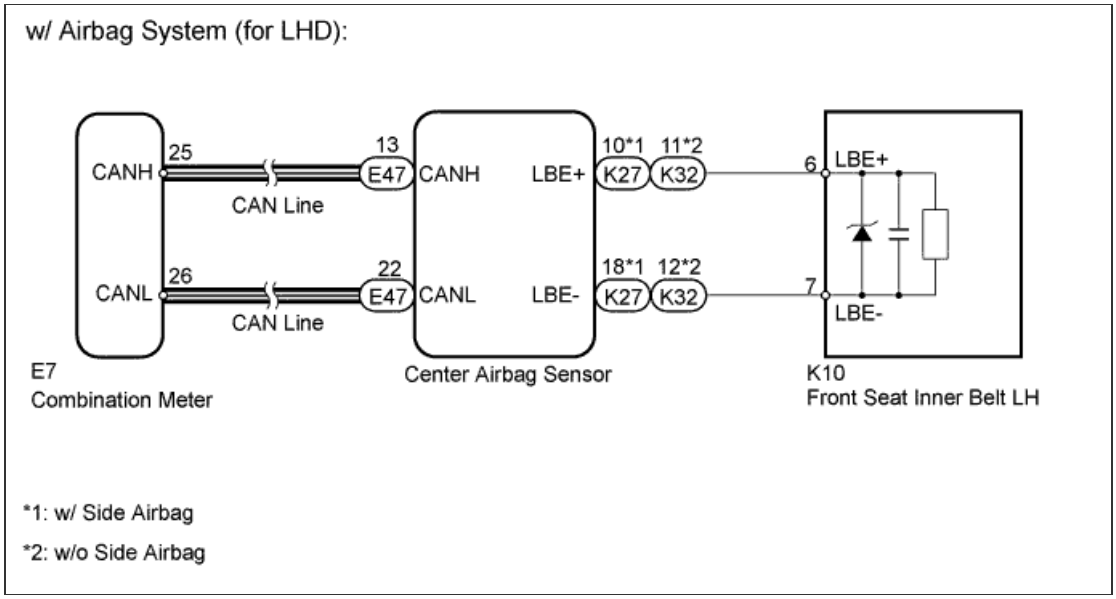
**for Preparation** Click here

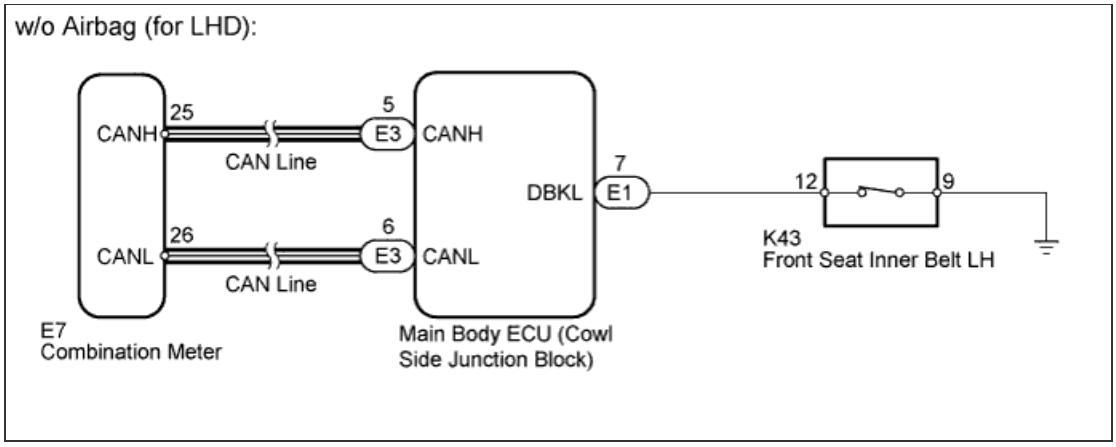
## DESCRIPTION

When the ignition switch ON, the center airbag sensor assembly*1 (main body ECU [cowl side junction block LH]*2) transmits front seat inner belt state signals to the combination meter assembly through the CAN. If the driver seat belt is not fastened, the combination meter assembly blinks the driver side seat belt warning light. If the seat belt is fastened, the warning light goes off.

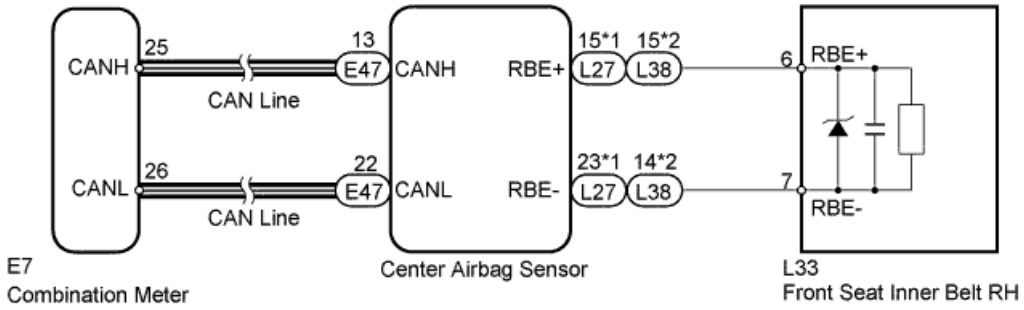
*1: w/ Airbag System
*2: w/o Airbag System

## WIRING DIAGRAM



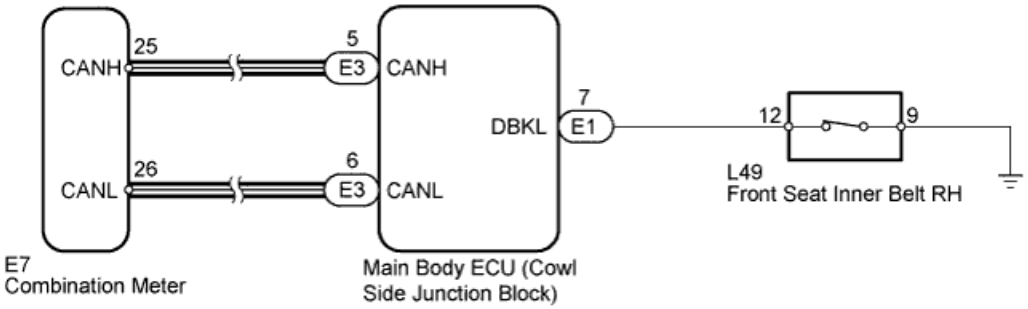
w/ Airbag System (for RHD):




*1: w/ Side Airbag

*2: w/o Side Airbag

w/o Airbag (for RHD):




## INSPECTION PROCEDURE

### 1.CHECK VEHICLE TYPE

a. Check vehicle type.

**Result**

| Result | Proceed to |
|---|---|
| w/ Airbag System | A |
| w/o Airbag System | B |

B → Go to step 7

A

### 2.CHECK FOR DTC

a. Check for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| CAN system DTC is output (for LHD) | B |
| CAN system DTC is output (for RHD) | C |
| Airbag system DTC is output | D |

B → Go to CAN COMMUNICATION SYSTEM (Click here)

C → Go to CAN COMMUNICATION SYSTEM (Click here)

D → Go to AIRBAG SYSTEM (Click here)

A

### 3.READ VALUE USING INTELLIGENT TESTER (DRIVER SIDE BUCKLE SWITCH)

a. Check the Data List for proper functioning of the driver side seat belt buckle switch.

**SRS Airbag**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Driver Buckle SW | Driver side seat belt / Set, Unset or NG | Set: Driver side seat belt is fastened<br>Unset: Driver side seat belt is unfastened | NG: Data is not determined |

**Result**

| Result | Proceed to |
|---|---|
| Set or Unset is displayed on the tester screen according to the driver side seat belt condition | A |
| Set or Unset is not displayed normally on the tester screen according to the driver side seat belt condition | B |
| NG is displayed on the tester screen | C |

B → REPLACE FRONT SEAT INNER BELT ASSEMBLY (for Driver Side) (Click here)

C → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

A

### 4.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (DRIVER SIDE SEAT BELT WARNING LIGHT)

a. Operate the intelligent tester according to the display and select Active Test.

**Combination Meter**

| Item | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Driver Side Seat Belt | Driver side seat belt warning light | ON/OFF | Confirm that the vehicle is stopped and the engine is idling. |

**OK:**

**Driver side seat belt warning light condition can be switched by Active Test.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER (Click here)

C → REPLACE COMBINATION METER (Click here)

A

### 5.REPLACE CENTER AIRBAG SENSOR ASSEMBLY

a. Temporarily replace the center airbag sensor assembly with a new one ( Click here).

NEXT

### 6.CHECK DRIVER SIDE SEAT BELT WARNING LIGHT

a. Check the driver side seat belt warning light function ( Click here).

**OK:**

**Driver side seat belt warning light operates normally.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

END (CENTER AIRBAG SENSOR ASSEMBLY IS DEFECTIVE)

## 7.CHECK FOR DTC

a. Check for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| CAN system DTC is output (for LHD) | B |
| CAN system DTC is output (for RHD) | C |

B → Go to CAN COMMUNICATION SYSTEM (Click here)

C → Go to CAN COMMUNICATION SYSTEM (Click here)

A

## 8.READ VALUE USING INTELLIGENT TESTER (DRIVER SIDE BUCKLE SWITCH)

a. Check the Data List for proper functioning of the driver side seat belt buckle switch.

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| D Seat Buckle SW | Driver side seat belt / ON or OFF | ON: Driver side seat belt is fastened<br>OFF: Driver side seat belt is unfastened | - |

**OK:**

**The display is as specified in the normal condition column.**

NG → Go to step 10

OK

## 9.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (DRIVER SIDE SEAT BELT WARNING LIGHT)

a. Operate the intelligent tester according to the steps on the display and select Active Test.

**Combination Meter**

| Item | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Driver Side Seat Belt | Driver side seat belt warning light | ON/OFF | Confirm that the vehicle is stopped and the engine is idling. |

**OK:**

**Driver side seat belt warning light condition can be switched by Active Test.**

NG → REPLACE COMBINATION METER ASSEMBLY (Click here)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

10.INSPECT FRONT SEAT INNER BELT ASSEMBLY (for Driver Side)

a. Remove the front seat inner belt assembly (for Driver Side) ( Click here).

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 12 - 9 | Seat belt unfastened (buckle switch is off) | Below 1 Ω |
| | Seat belt fastened (buckle switch is on) | 10 kΩ or higher |

NG → REPLACE FRONT SEAT INNER BELT ASSEMBLY (for Driver Side) (Click here)

OK

11.CHECK HARNESS AND CONNECTOR (FRONT SEAT INNER BELT - COMBINATION METER AND BODY GROUND)

a. Disconnect the K43*1 or L49*2 front seat inner belt assembly (for Driver Side) connector.

*1: for LHD
*2: for RHD

b. Disconnect the E1 main body ECU (cowl side junction block LH) connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K43-12 - E1-7 (DBKL) | Always | Below 1 Ω |
| K43-12 or E1-7 (DBKL) - Body ground | Always | 10 kΩ or higher |
| K43-9 - Body ground | Always | Below 1 Ω |

**for RHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L49-12 - E1-7 (DBKL) | Always | Below 1 Ω |
| L49-12 or E1-7 (DBKL) - Body ground | Always | 10 kΩ or higher |
| L49-9 - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

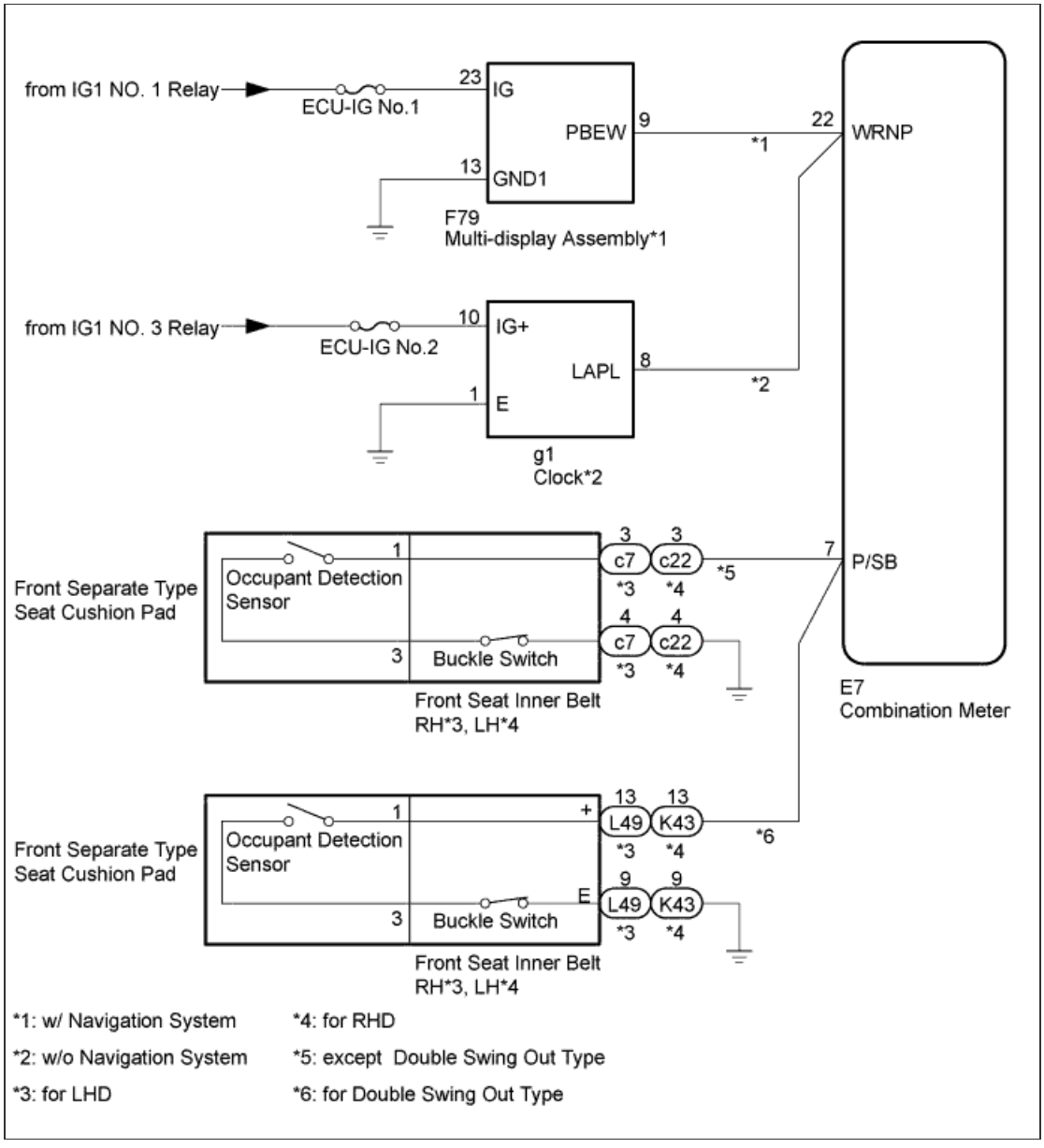
**for Preparation** Click here

## DESCRIPTION

The combination meter detects the state of the front seat inner belt assembly (for Front Passenger Side) when the front passenger seat is occupied with the ignition switch ON. If the front passenger seat belt is not fastened, the front passenger side seat belt warning light on the multi-display assembly*1 or clock assembly*2 blinks. If the seat belt is fastened, the warning light goes off.

*1: w/ Navigation System
*2: w/o Navigation System

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

### 1.CHECK VEHICLE TYPE

a. Check the vehicle type.

**Result**

| Result | Proceed to |
|---|---|

| | |
|---|---|
| except Double Swing Out Type | A |
| for Double Swing Out Type | B |

B → Go to step 13

A

## 2.CHECK FOR DTC

a. Check for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| CAN communication system DTC is output (for LHD) | B |
| CAN communication system DTC is output (for RHD) | C |
| Airbag system DTC is output | D |

B → Go to CAN COMMUNICATION SYSTEM (Click here)

C → Go to CAN COMMUNICATION SYSTEM (Click here)

D → Go to AIRBAG SYSTEM (Click here)

A

## 3.READ VALUE USING INTELLIGENT TESTER (PASSENGER SIDE BUCKLE SWITCH)

a. Check the Data List for proper functioning of the front passenger side seat belt buckle switch.

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P-Seatbelt Buckle SW | Front passenger side seat belt buckle signal / ON or OFF | ON: Front passenger side seat is occupied, front passenger side seat belt is fastened<br>OFF: Front passenger side seat is occupied, front passenger side seat belt is unfastened | - |

**OK:**

**The display is as specified in the normal condition column.**

NG → Go to step 9

OK

## 4.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (FRONT PASSENGER SIDE SEAT BELT WARNING LIGHT)

a. Operate the intelligent tester according to the steps on the display and select Active Test.

**Combination Meter**

| Item | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Front Passenger Side Seat Belt | Front passenger side seat belt warning light | ON or OFF | Confirm that the vehicle is stopped and the engine is idling. |

**Result**

| Result | Proceed to |
|---|---|
| Front passenger side seat belt warning light condition cannot be switched by Active Test (w/ Navigation | A |

| | |
|---|---|
| System) | |
| Front passenger side seat belt warning light condition cannot be switched by Active Test (w/o Navigation System) | B |
| Front passenger side seat belt warning light condition can be switched by Active Test (w/ Multi-information Display) | C |
| Front passenger side seat belt warning light condition can be switched by Active Test (w/o Multi-information Display) | D |

B → Go to step 7

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

D → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

**5.CHECK HARNESS AND CONNECTOR (MULTI-DISPLAY ASSEMBLY - COMBINATION METER, BATTERY AND BODY GROUND)**

a. Disconnect the F79 multi-display assembly connectors.

b. Disconnect the E7 combination meter assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F79-9 (PBEW) - E7-22 (WRNP) | Always | Below 1 Ω |
| F79-9 (PBEW) or E7-22 (WRNP) - Body ground | Always | 10 kΩ or higher |
| F79-13 (GND1) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-23 (IG) - Body ground | Ignition switch ON | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**6.CHECK MULTI-DISPLAY ASSEMBLY**

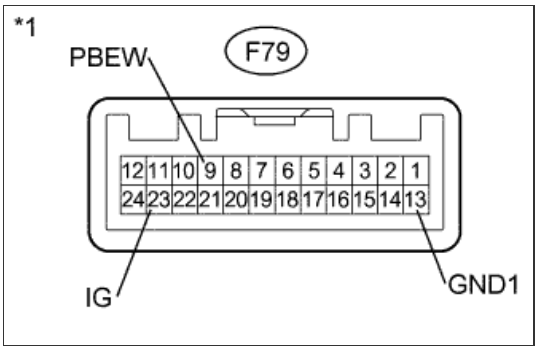
a. Disconnect the F79 multi-display assembly connectors.

b. Apply battery voltage to the terminals and check that the front passenger seat belt warning light illuminates.

**OK:**

| Measurement Connection | Specified Condition |
|---|---|
| Battery Positive (+) → 23 (IG)<br>Battery negative (-) → 9 (PBEW)<br>Battery negative (-) → 13 | Front passenger side seat belt warning light on |

| | |
|---|---|
| (GND1) | |




**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Multi-display Assembly) |

**Result**

| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

REPLACE MULTI-DISPLAY ASSEMBLY (Click here)

## 7.CHECK HARNESS AND CONNECTOR (CLOCK - COMBINATION METER, BATTERY AND BODY GROUND)

a. Disconnect the g1 clock assembly connector.

b. Disconnect the E7 combination meter assembly connector.

c. Measure the resistance and voltage according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| g1-1 (E) - Body ground | Always | Below 1 Ω |
| g1-8 (LAPL) - Body ground | Always | 10 kΩ or higher |
| g1-8 (LAPL) - E7-22 (WRNP) | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| g1-10 (IG+) - Body ground | Ignition switch ON | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.CHECK CLOCK ASSEMBLY

a. Disconnect the g1 clock assembly connector.

b. Apply battery voltage to the terminals and check that the front passenger seat belt warning light illuminates.

**OK:**

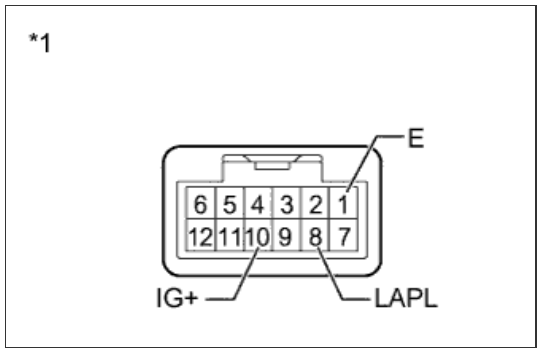
| Measurement Connection | Specified Condition |
|---|---|
| Battery Positive (+) → 10 (IG+)<br>Battery negative (-) → 8 (LAPL)<br>Battery negative (-) → 1 (E) | Front passenger seat belt warning light Illuminates |

**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Clock Assembly) |

**Result**

| Result | Proceed to |
|---|---|
| NG | A |
| OK (w/ Multi-information Display) | B |
| OK (w/o Multi-information Display) | C |




B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A → REPLACE CLOCK ASSEMBLY (Click here)

## 9.CHECK HARNESS AND CONNECTOR (FRONT SEAT INNER BELT - COMBINATION METER AND BODY GROUND)

a. Disconnect the c7*1 or c22*2 front seat inner belt assembly (for Front Passenger Side) connector.

*1: for LHD
*2: for RHD

b. Disconnect the E7 combination meter assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**
**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c7-3 - E7-7 (P/SB) | Always | Below 1 Ω |
| c7-3 or E7-7 (P/SB) - Body ground | Always | 10 kΩ or higher |
| c7-4 - Body ground | Always | Below 1 Ω |

**Standard Resistance:**
**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c22-3 - E7-7 (P/SB) | Always | Below 1 Ω |
| c22-3 or E7-7 (P/SB) - Body ground | Always | 10 kΩ or higher |
| c22-4 - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

## 10.INSPECT FRONT SEPARATE TYPE SEAT CUSHION PAD (OCCUPANT DETECTION SENSOR)

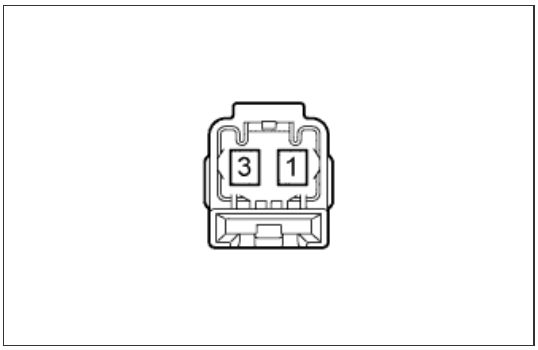
a. Remove the front separate type seat cushion pad.

- for Manual Seat: Click here
- for Power Seat: Click here
- for Bench Seat: Click here

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 3 | More than 147 N (15 kgf, 33.0 lbf) applied to occupant detection sensor | Below 100 Ω |




**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for Manual Seat) | B |
| NG (for Power Seat) | C |
| NG (for Bench Seat) | D |

B → REPLACE FRONT SEPARATE TYPE SEAT CUSHION PAD ( Click here)

C → REPLACE FRONT SEPARATE TYPE SEAT CUSHION PAD ( Click here)

D → REPLACE FRONT SEPARATE TYPE SEAT CUSHION PAD ( Click here)

A

## 11.REPLACE FRONT SEAT INNER BELT ASSEMBLY (for Front Passenger Side)

a. Temporarily replace the front seat inner belt assembly RH*1 or LH*2 with a new one.

*1: for LHD
*2: for RHD

- except Bench Seat: Click here
- for Bench Seat: Click here

NEXT

## 12.CHECK FRONT PASSENGER SIDE SEAT BELT WARNING LIGHT

a. Check the front passenger side seat belt warning light function ( Click here).

**OK:**
**Front passenger side seat belt warning light operates normally.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ Multi-information Display) | B |
| NG (w/o Multi-information Display) | C |

B → REPLACE COMBINATION METER ASSEMBLY (Click here)

C → REPLACE COMBINATION METER ASSEMBLY (Click here)

A

END (FRONT SEAT INNER BELT ASSEMBLY IS DEFECTIVE)

## 13.READ VALUE USING INTELLIGENT TESTER (PASSENGER SIDE BUCKLE SWITCH)

a. Check the Data List for proper functioning of the front passenger side seat belt buckle switch.

**Combination Meter**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| P-Seatbelt Buckle SW | Front passenger side seat belt buckle signal / ON or OFF | ON: Front passenger side seat is occupied, front passenger side seat belt is fastened<br>OFF: Front passenger side seat is occupied, front passenger side seat belt is unfastened | - |

**OK:**
**The display is as specified in the normal condition column.**

NG → Go to step 17

OK ↓

**14.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (FRONT PASSENGER SIDE SEAT BELT WARNING LIGHT)**

a. Operate the intelligent tester according to the steps on the display and select Active Test.

**Combination Meter**

| Item | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Front Passenger Side Seat Belt | Front passenger side seat belt warning light | ON or OFF | Confirm that the vehicle is stopped and the engine is idling. |

**OK:**
**Passenger side seat belt warning light condition can be switched by Active Test.**

NG → Go to step 15

OK ↓

**REPLACE COMBINATION METER ASSEMBLY (Click here)**

**15.CHECK HARNESS AND CONNECTOR (CLOCK - COMBINATION METER, BATTERY AND BODY GROUND)**

a. Disconnect the g1 clock assembly connector.

b. Disconnect the E7 combination meter assembly connector.

c. Measure the resistance and voltage according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| g1-1 (E) - Body ground | Always | Below 1 Ω |
| g1-8 (LAPL) - E7-22 (WRNP) | Always | Below 1 Ω |
| g1-8 (LAPL) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

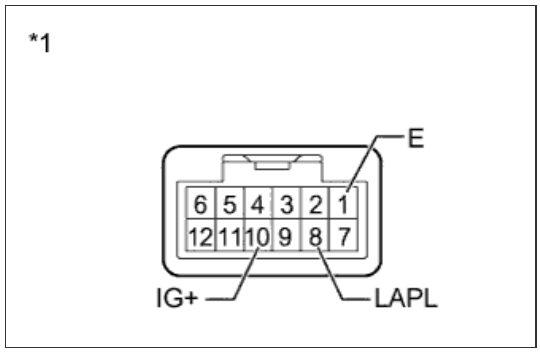
**16.CHECK CLOCK ASSEMBLY**

a. Disconnect the g1 clock assembly connector.

b. Apply battery voltage to the terminals and check that the front passenger seat belt warning light illuminates.

**OK:**

| Measurement Connection | Specified Condition |
|---|---|
| Battery Positive (+) → 10 (IG+)<br>Battery negative (-) → 8 (LAPL)<br>Battery negative (-) → 1 (E) | Front passenger seat belt warning light Illuminates |




**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Clock Assembly) |

NG → REPLACE CLOCK ASSEMBLY (Click here)

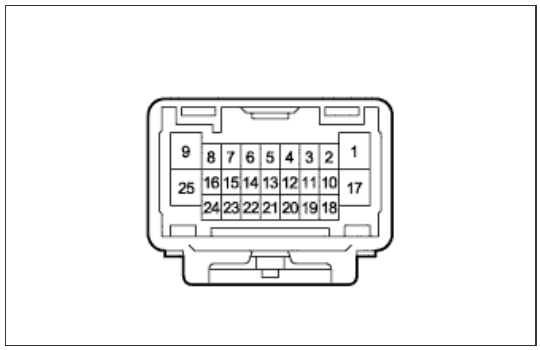
OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

## 17.INSPECT FRONT SEAT INNER BELT ASSEMBLY (for Front Passenger Side)

a. Remove the front seat inner belt assembly (for Front Passenger Side).

- except Bench Seat: Click here
- for Bench Seat: Click here

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 13 - 9 | Seat belt unfastened (buckle switch is off) | Below 1 Ω |
| | Seat belt fastened (buckle switch is on) | 10 kΩ or higher |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (except Bench Seat) | B |
| NG (for Bench seat) | C |

B → REPLACE FRONT SEAT INNER BELT ASSEMBLY (for Front Passenger Side) (Click here)

C → REPLACE FRONT SEAT INNER BELT ASSEMBLY (for Front Passenger Side) (Click here)

A

## 18.INSPECT FRONT SEPARATE TYPE SEAT CUSHION PAD

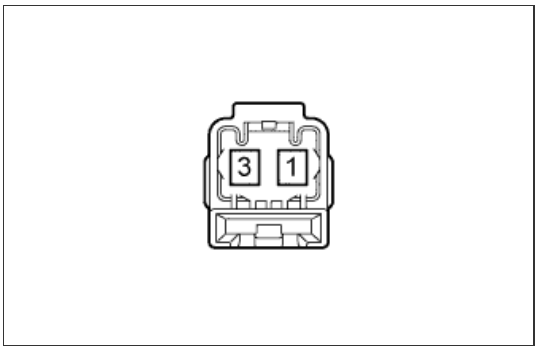
a. Remove the front separate type seat cushion pad.

- except Bench Seat: Click here
- for Bench Seat: Click here

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 3 | More than 147 N (15 kgf, 33.0 lbf) applied to occupant detection sensor | Below 100 Ω |




**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (except Bench Seat) | B |
| NG (for Bench Seat) | C |

B → REPLACE FRONT SEPARATE TYPE SEAT CUSHION PAD ( Click here)

C → REPLACE FRONT SEPARATE TYPE SEAT CUSHION PAD ( Click here)

A

**19.CHECK HARNESS AND CONNECTOR (FRONT SEAT INNER BELT - COMBINATION METER AND BODY GROUND)**

a. Disconnect the L49*1 or K43*2 front seat inner belt assembly (for Front Passenger Side) connector.

b. Disconnect the E7 combination meter assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for LHD:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L49-13 - E7-7 (P/SB) | Always | Below 1 Ω |
| L49-13 or E7-7 (P/SB) - Body ground | Always | 10 kΩ or higher |
| L49-9 - Body ground | Always | Below 1 Ω |

**for RHD:**

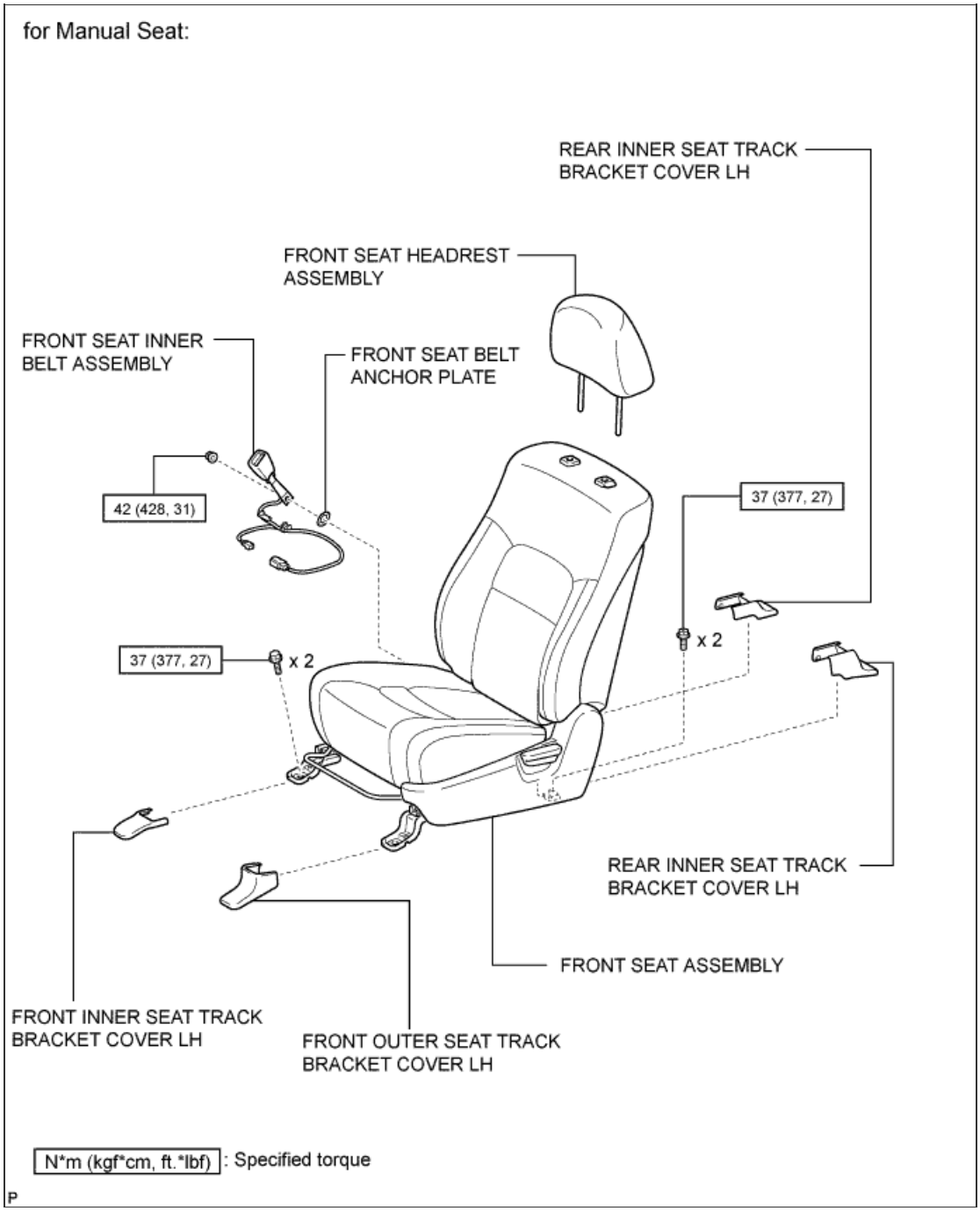
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K43-13 - E7-7 (P/SB) | Always | Below 1 Ω |
| K43-13 or E7-7 (P/SB) - Body ground | Always | 10 kΩ or higher |
| K43-9 - Body ground | Always | Below 1 Ω |

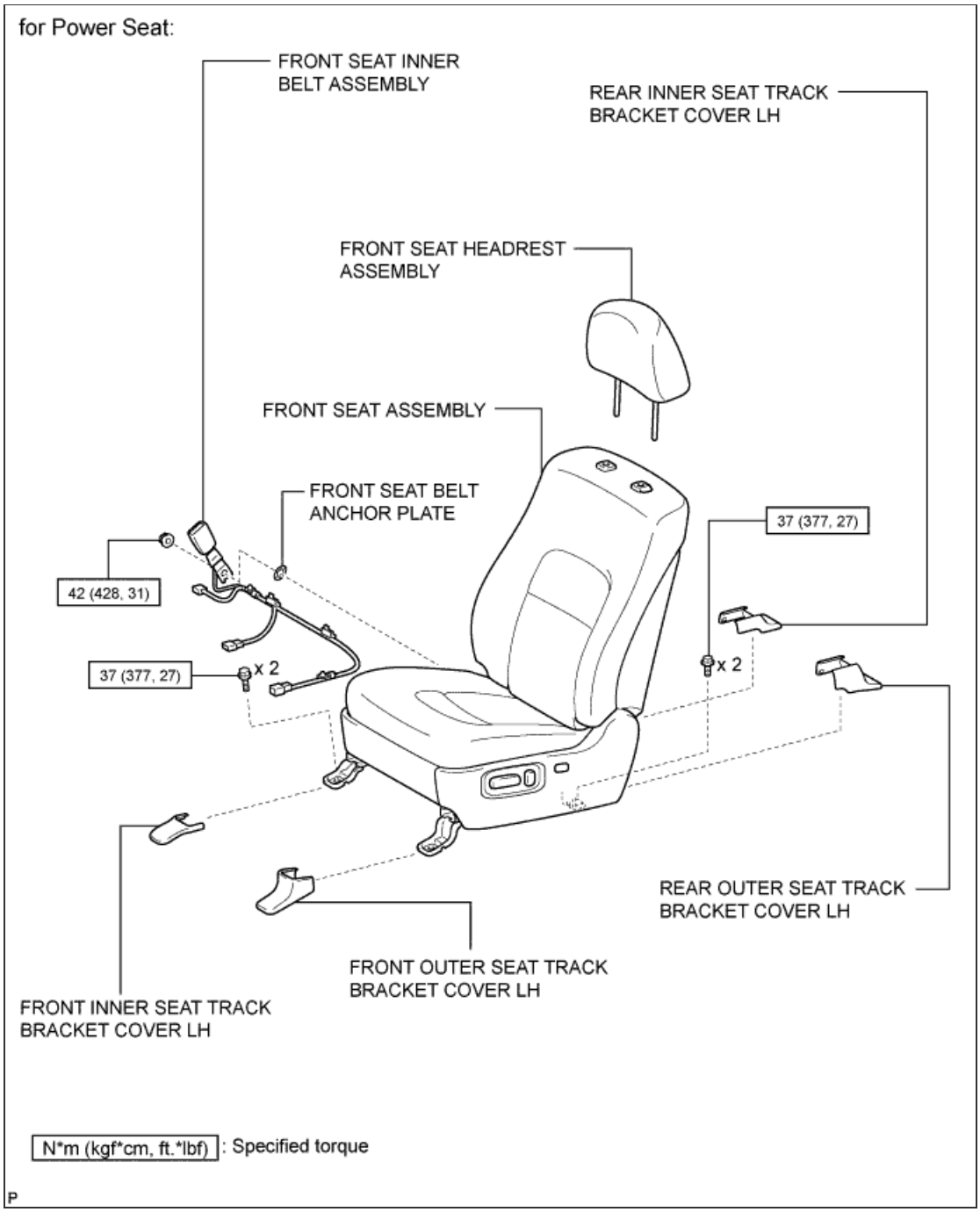
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here




for Power Seat:
FRONT SEAT INNER BELT ASSEMBLY
REAR INNER SEAT TRACK BRACKET COVER LH
FRONT SEAT HEADREST ASSEMBLY
FRONT SEAT ASSEMBLY
FRONT SEAT BELT ANCHOR PLATE
42 (428, 31)
37 (377, 27)
x 2
37 (377, 27)
x 2
REAR OUTER SEAT TRACK BRACKET COVER LH
FRONT OUTER SEAT TRACK BRACKET COVER LH
FRONT INNER SEAT TRACK BRACKET COVER LH
N*m (kgf*cm, ft.*lbf) : Specified torque
P

**for Preparation** Click here

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE FRONT SEAT ASSEMBLY (for Manual Seat)

a. Remove the front seat assembly ( Click here).

## 4. REMOVE FRONT SEAT ASSEMBLY (for Power Seat)

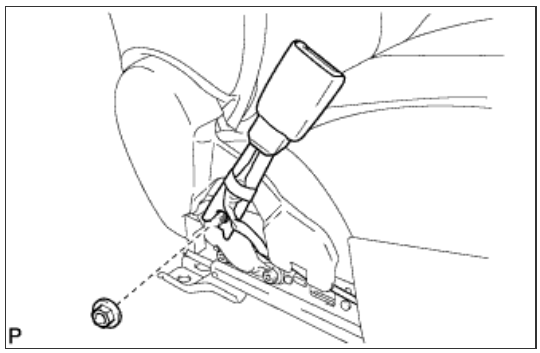
a. Remove the front seat assembly ( Click here).

## 5. REMOVE FRONT SEAT INNER BELT ASSEMBLY (for Manual Seat)

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

c. Remove the front seat belt anchor plate.

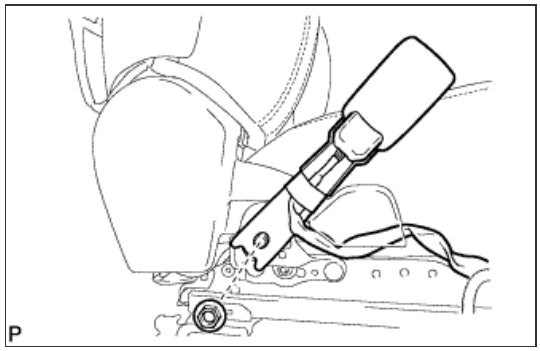



## 6. REMOVE FRONT SEAT INNER BELT ASSEMBLY (for Power Seat)

a. Disconnect the connectors and detach the clamps.

b. Remove the nut and front seat inner belt assembly.

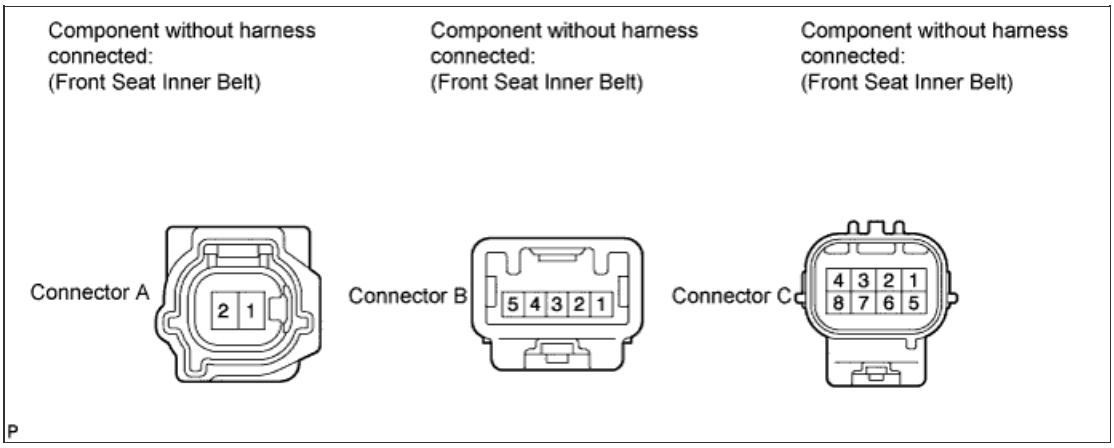
c. Remove the front seat belt anchor plate.



**for Preparation** Click here

## 1. INSPECT FRONT SEAT INNER BELT ASSEMBLY (for Driver Side)

a. for Power Seat, for 4 Way Seat Type:
Check the buckle switch.



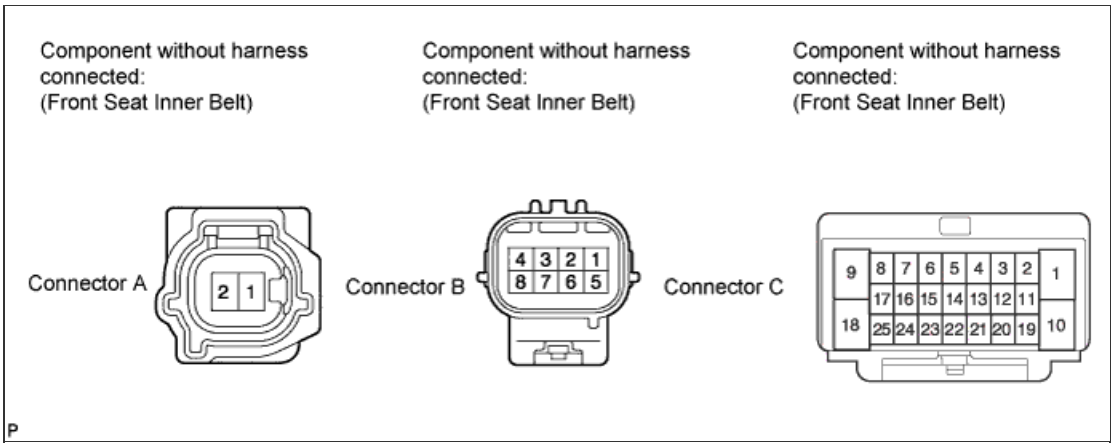

i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| B-4 - B-5 | Seat belt fastened (Buckle switch is on) | Below 1 Ω |
| | Seat belt unfastened (Buckle switch is off) | 1 MΩ or higher |
| A-1 - C-4 | Always | Below 1 Ω |
| A-2 - C-8 | Always | Below 1 Ω |

If the result is not as specified, replace the inner belt assembly.

b. for 8 Way Seat Type:
Check the buckle switch.




i. Measure the resistance according to the value(s) in the table below.

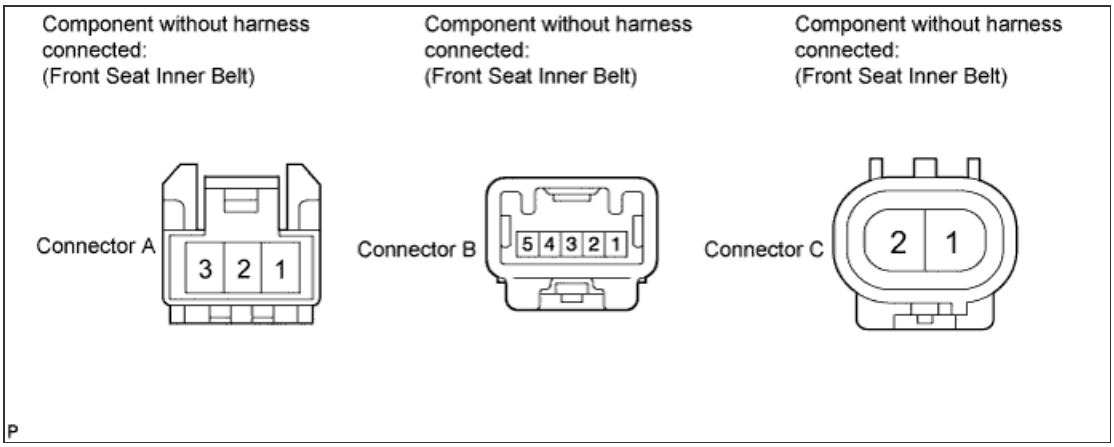
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| C-9 - C-13 | Seat belt fastened (Buckle switch is on) | Below 1 Ω |
| | Seat belt unfastened (Buckle switch is off) | 1 MΩ or higher |
| A-1 - B-4 | Always | Below 1 Ω |
| A-2 - B-8 | Always | Below 1 Ω |

If the result is not as specified, replace the inner belt assembly.

## 2. INSPECT FRONT SEAT INNER BELT ASSEMBLY (for Front Passenger Side)

a. for Power Seat, w/ Front Seat Side Airbag and Curtain Shield Airbag:
Check the buckle switch.




i. Measure the resistance according to the value(s) in the table below.

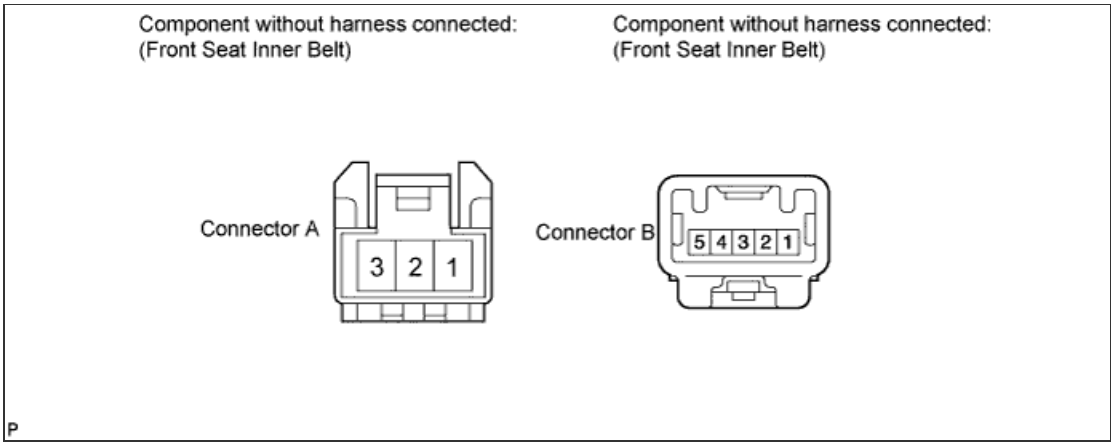
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| | Seat belt fastened (Buckle switch | Below 1 Ω |

| | | |
|---|---|---|
| B-4 - B-5 | is on) | |
| | Seat belt unfastened (Buckle switch is off) | 1 MΩ or higher |
| A-1 - B-4 | Seat belt fastened (Buckle switch is on) | 1 MΩ or higher |
| | Seat belt unfastened (Buckle switch is off) | Below 1 Ω |
| A-1 - B-4 | Always | Below 1 Ω |
| A-3 - B-3 | Always | Below 1 Ω |

If the result is not as specified, replace the inner belt assembly.

**b.** for Power Seat, w/o Front Seat Side Airbag and Curtain Shield Airbag:
Check the buckle switch.




**i.** Measure the resistance according to the value(s) in the table below.

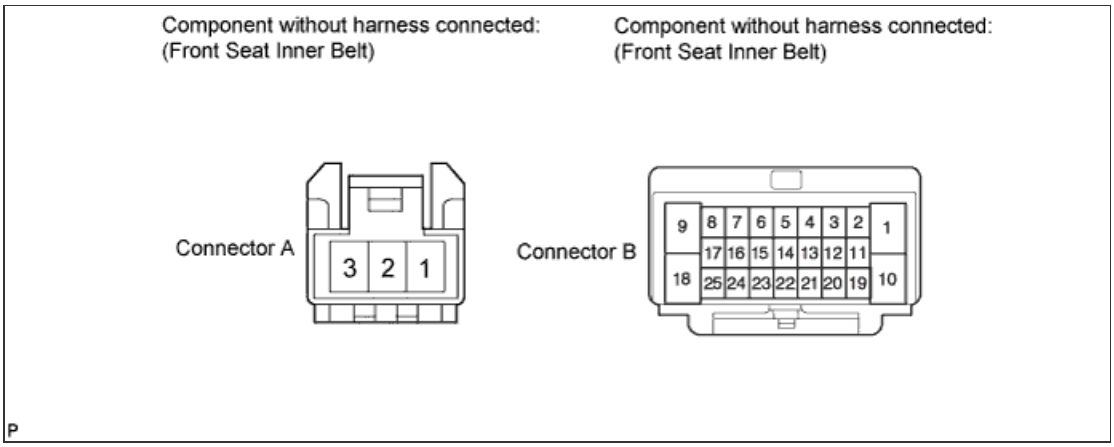
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| B-4 - B-5 | Seat belt fastened (Buckle switch is on) | Below 1 Ω |
| | Seat belt unfastened (Buckle switch is off) | 1 MΩ or higher |
| A-1 - B-4 | Seat belt fastened (Buckle switch is on) | 1 MΩ or higher |
| | Seat belt unfastened (Buckle switch is off) | Below 1 Ω |
| A-3 - B-3 | Always | Below 1 Ω |

If the result is not as specified, replace the inner belt assembly.

**c.** for Manual Seat:

Check the buckle switch.




i. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| B-9 - B-13 | Seat belt fastened (Buckle switch is on) | Below 1 Ω |
| | Seat belt unfastened (Buckle switch is off) | 1 MΩ or higher |
| A-1 - B-9 | Seat belt fastened (Buckle switch is on) | 1 MΩ or higher |
| | Seat belt unfastened (Buckle switch is off) | Below 1 Ω |
| A-3 - B-14 | Always | Below 1 Ω |

If the result is not as specified, replace the inner belt assembly.

**for Preparation** Click here

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. INSTALL FRONT SEAT INNER BELT ASSEMBLY (for Manual Seat)

a. Install the front seat belt anchor plate.

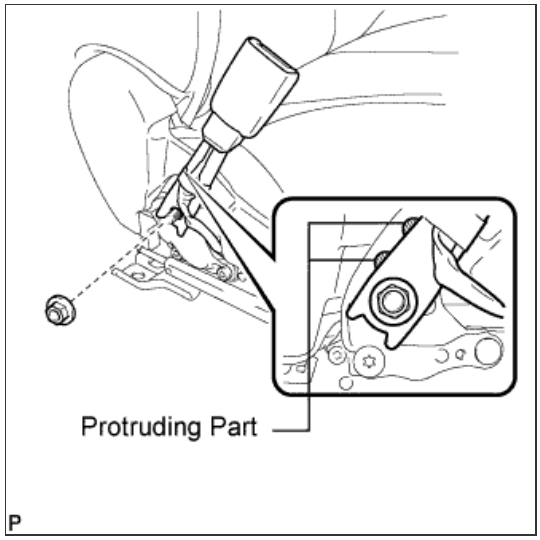
b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding part of the front seat adjuster.

c. Connect the connectors and attach the clamps.




## 2. INSTALL FRONT SEAT INNER BELT ASSEMBLY (for Power Seat)

a. Install the front seat belt anchor plate.

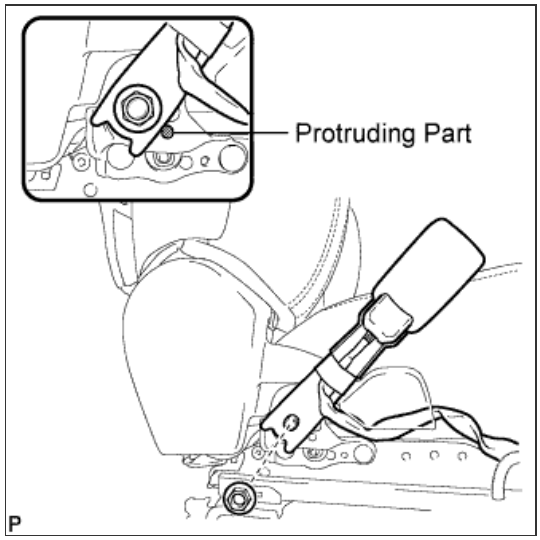
b. Install the front seat inner belt assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding parts of the front seat adjuster.

c. Connect the connectors and attach the clamps.




## 3. INSTALL FRONT SEAT ASSEMBLY (for Manual Seat)

a. Install the front seat assembly ( Click here).

## 4. INSTALL FRONT SEAT ASSEMBLY (for Power Seat)

a. Install the front seat assembly ( Click here).

## 5. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 6. CHECK SRS WARNING LIGHT

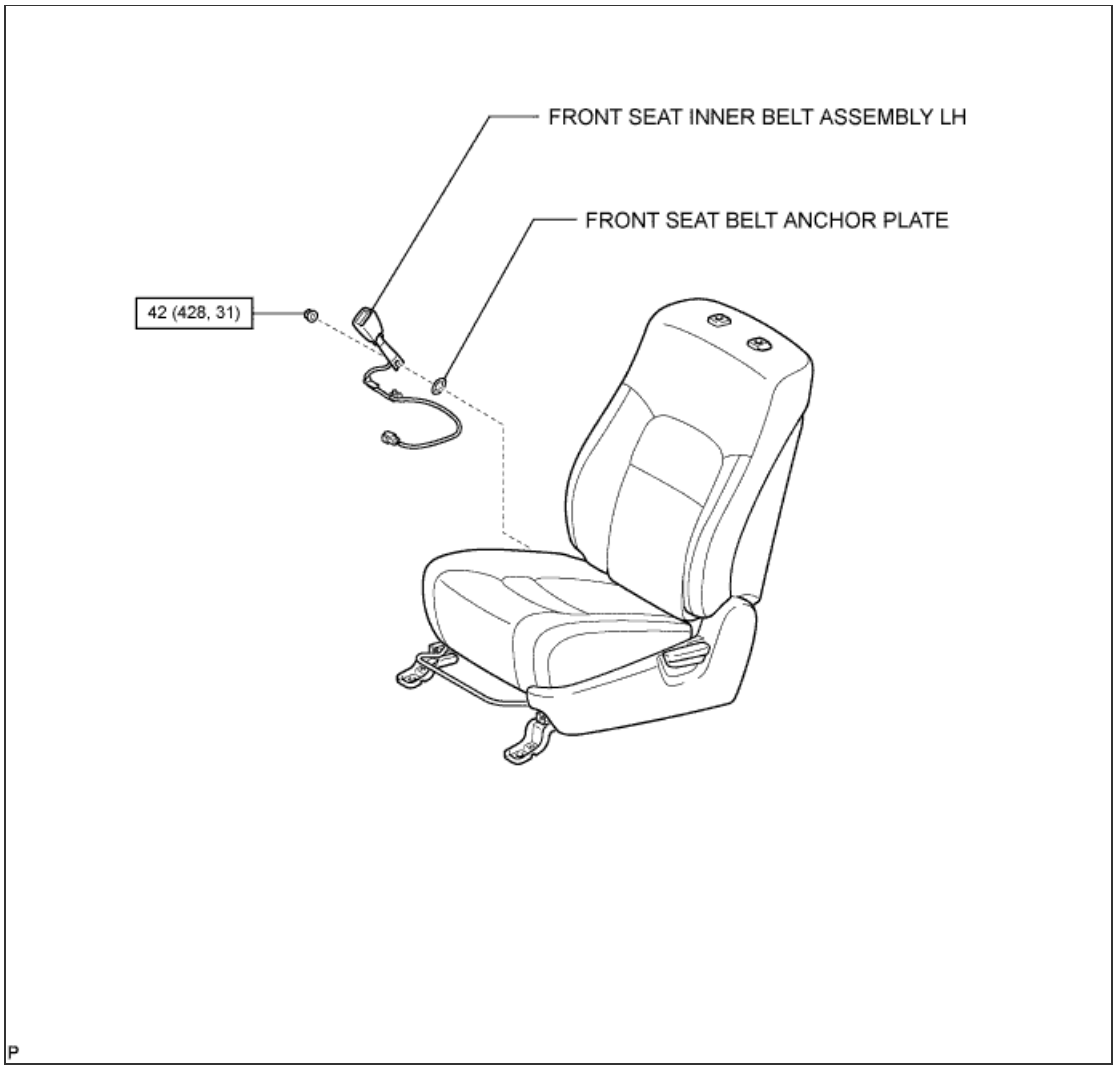
(Click here)

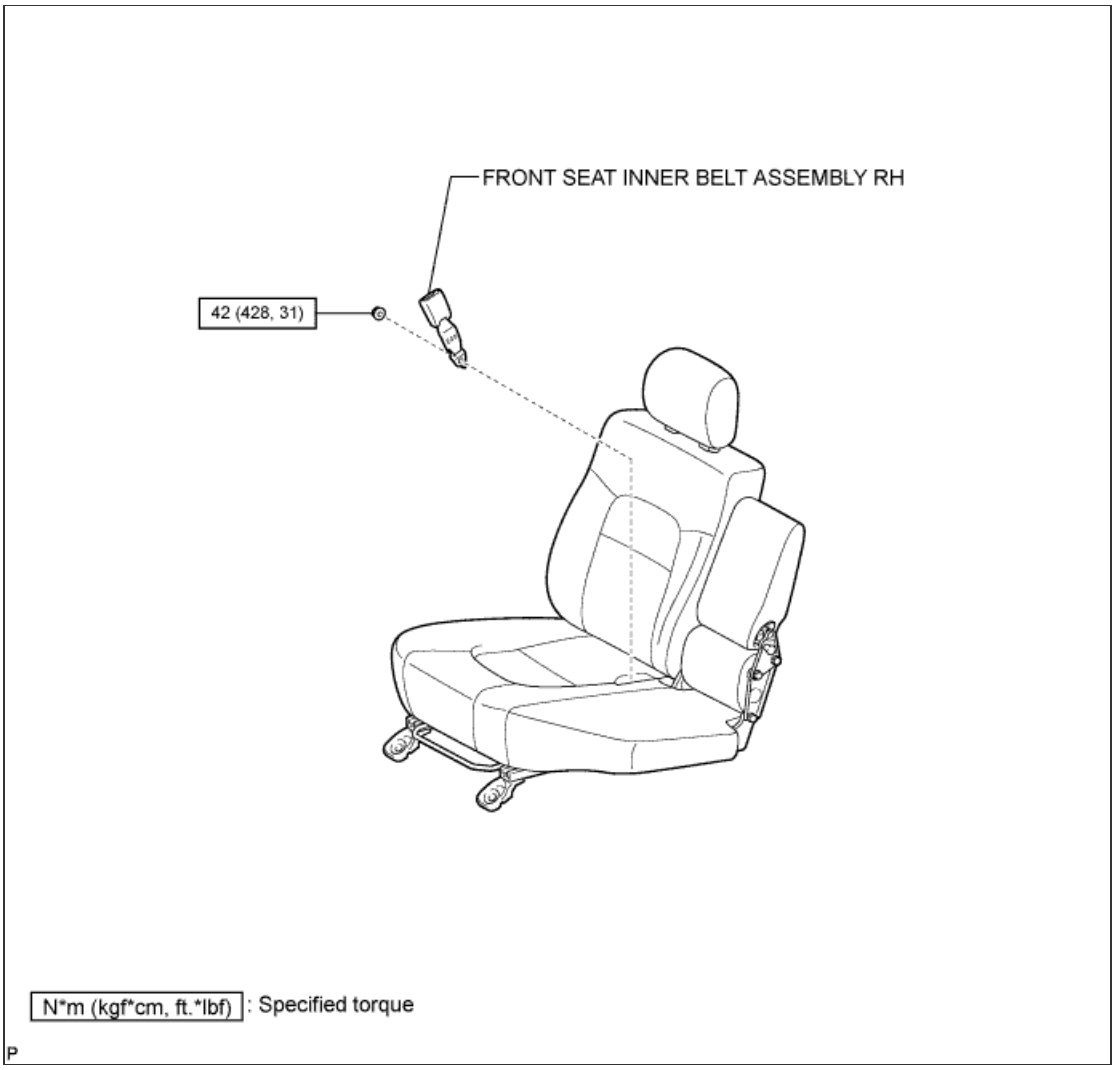
## 7. INSPECT FRONT SEAT ASSEMBLY

a. for Manual Seat:
Inspect Front Seat (Click here).

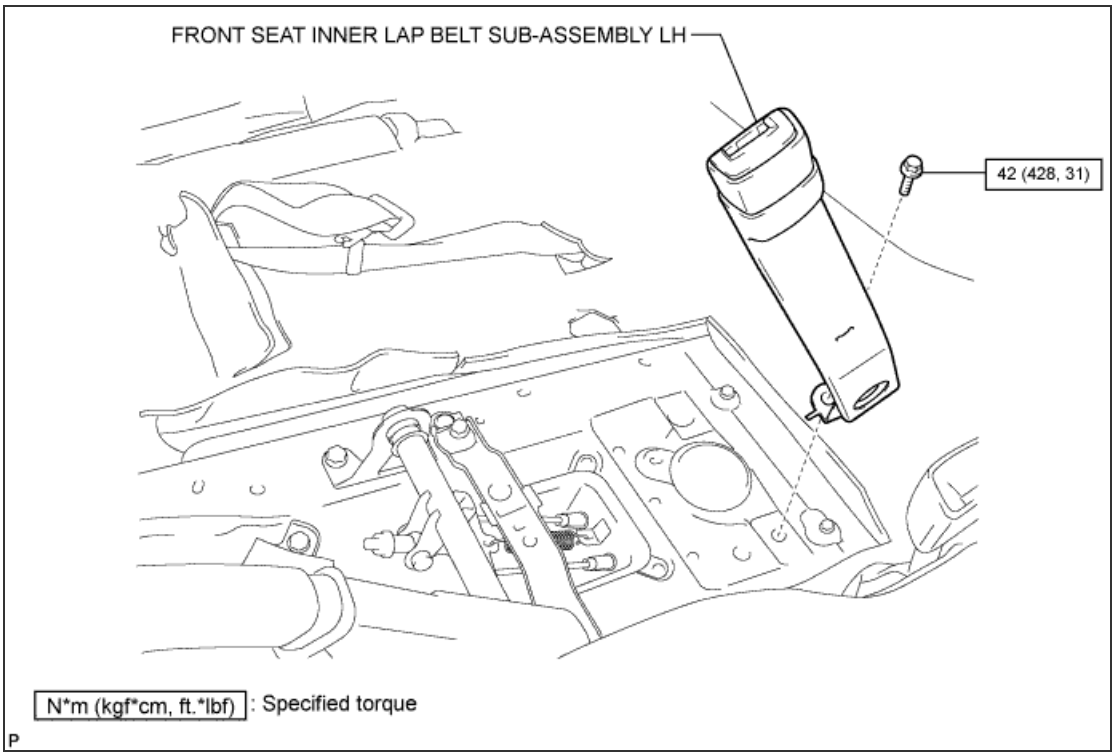
b. for Power Seat:
Inspect Front Seat (Click here).

**for Preparation** Click here




FRONT SEAT INNER BELT ASSEMBLY RH
42 (428, 31)
N*m (kgf*cm, ft.*lbf) : Specified torque
P




FRONT SEAT INNER LAP BELT SUB-ASSEMBLY LH
42 (428, 31)
N*m (kgf*cm, ft.*lbf) : Specified torque
P

# FRONT SEAT INNER BELT ASSEMBLY (for Bench Seat Type) > REMOVAL

**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE FRONT SEAT ASSEMBLY LH

(Click here)

## 2. REMOVE FRONT SEAT ASSEMBLY RH

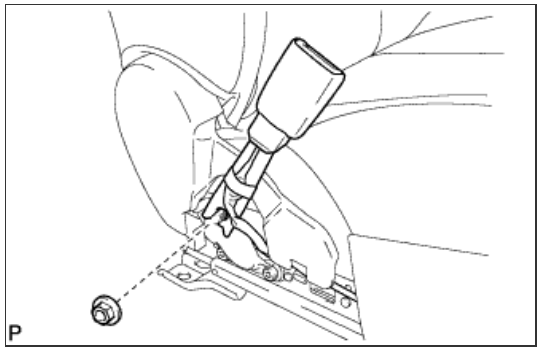
(Click here)

## 3. REMOVE FRONT SEAT INNER BELT ASSEMBLY LH

a. Disconnect the connector and detach the clamps.

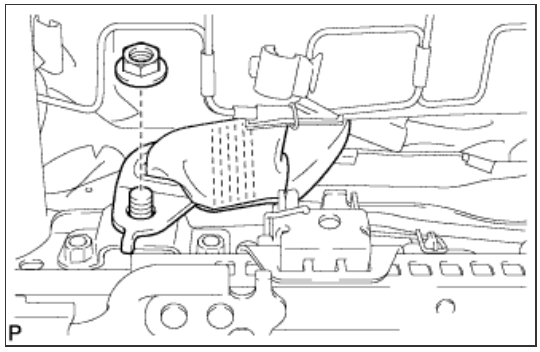
b. Remove the nut and front seat inner belt assembly LH.

c. Remove the front seat belt anchor plate.



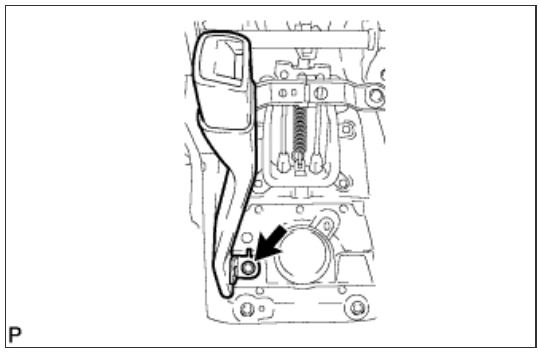

## 4. REMOVE FRONT SEAT INNER BELT ASSEMBLY RH

a. Remove the nut and front seat inner belt assembly RH.




## 5. REMOVE FRONT SEAT INNER LAP BELT SUB-ASSEMBLY LH

a. Remove the bolt and front seat inner lap belt sub-assembly LH.


P

**for Preparation** Click here

## 1. INSPECT FRONT SEAT INNER BELT ASSEMBLY LH (for LHD)

a. Measure the resistance according to the value(s) in the table below.

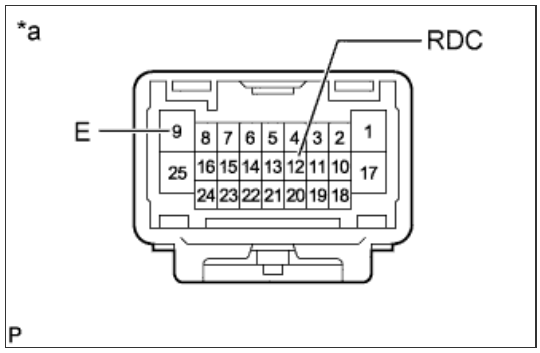
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 12 (RDC) - 9 (E) | Seat belt unfastened | Below 1 Ω |
| | Seat belt fastened | 1 MΩ or higher |

If the result is not as specified, replace the front seat inner belt assembly LH.

**Text in Illustration**

| | |
|---|---|
| *a | Component without harness connected (Front Seat Inner Belt Assembly LH) |




## 2. INSPECT FRONT SEAT INNER BELT ASSEMBLY RH (for RHD)

a. Measure the resistance according to the value(s) in the table below.

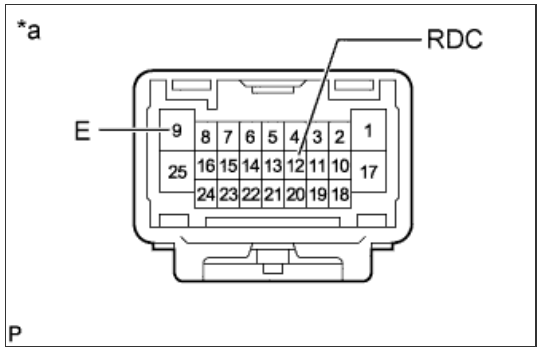
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 12 (RDC) - 9 (E) | Seat belt unfastened | Below 1 Ω |
| | Seat belt fastened | 1 MΩ or higher |

If the result is not as specified, replace the front seat inner belt assembly RH.

**Text in Illustration**

| | |
|---|---|
| *a | Component without harness connected (Front Seat Inner Belt Assembly RH) |



**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. INSTALL FRONT SEAT INNER BELT ASSEMBLY LH

a. Install the front seat belt anchor plate.

b. Install the front seat inner belt assembly LH with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

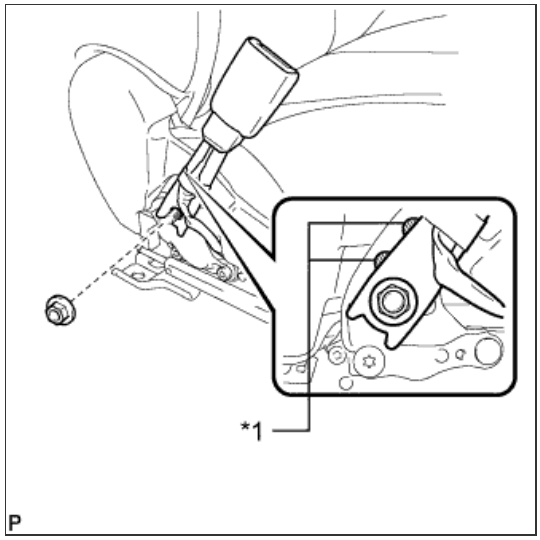
**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding part of the front seat.

c. Connect the connectors and attach the clamps.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 2. INSTALL FRONT SEAT INNER BELT ASSEMBLY RH

a. Install the front seat inner belt assembly RH with the nut.

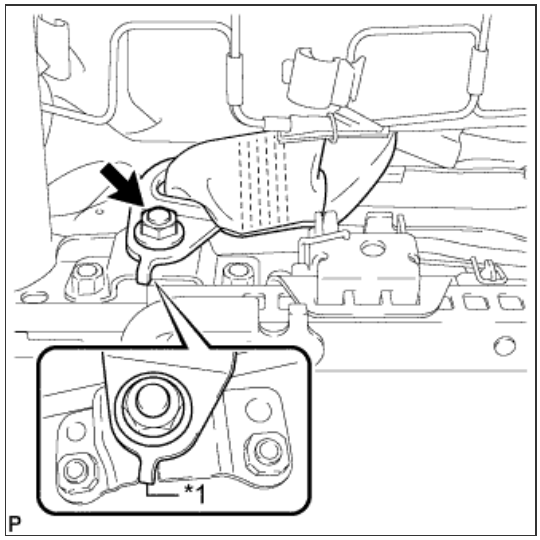
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the front seat inner belt assembly to overlap the protruding part of the front seat.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 3. INSTALL FRONT SEAT INNER LAP BELT SUB-ASSEMBLY LH

a. Install the front seat inner lap belt sub-assembly LH with the bolt.

**Torque:**

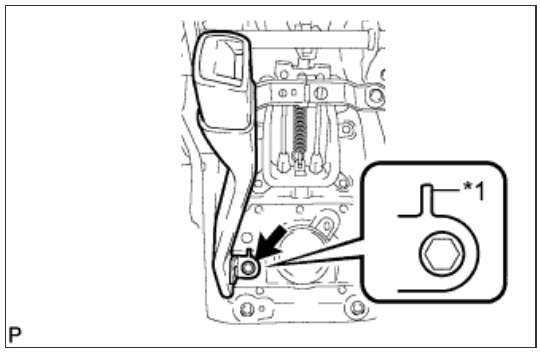
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the seat belt to overlap the protruding part of the floor.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 4. INSTALL FRONT SEAT ASSEMBLY LH

(Click here)

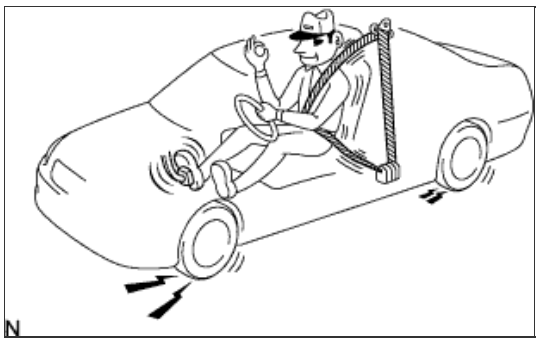
## 5. INSTALL FRONT SEAT ASSEMBLY RH

(Click here)

**for Preparation** Click here

**CAUTION:**

Replace the faulty parts of the seat belt systems (outer belt, inner belt, bolts, nuts, adjustable shoulder anchor, tether anchor hardware and other related parts). When inspecting a vehicle that was in a collision, be sure to check all of the seat belt systems regardless of whether or not the system was activated in the collision. Replace any damaged or malfunctioning systems.




## 1.RUNNING TEST (IN SAFE AREA)

**CAUTION:**

Conduct this test in a safe area.

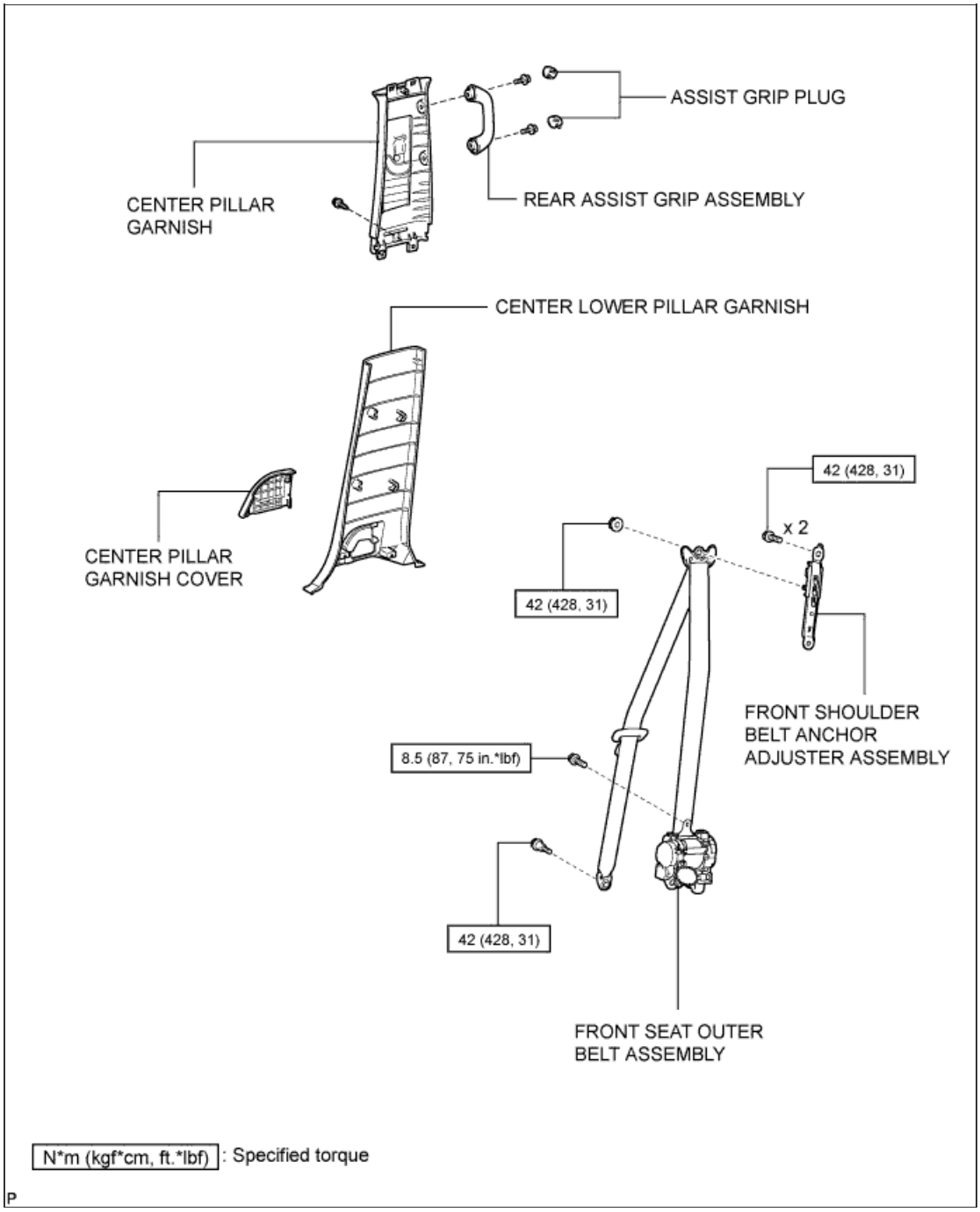
a. Fasten the front seat belt.

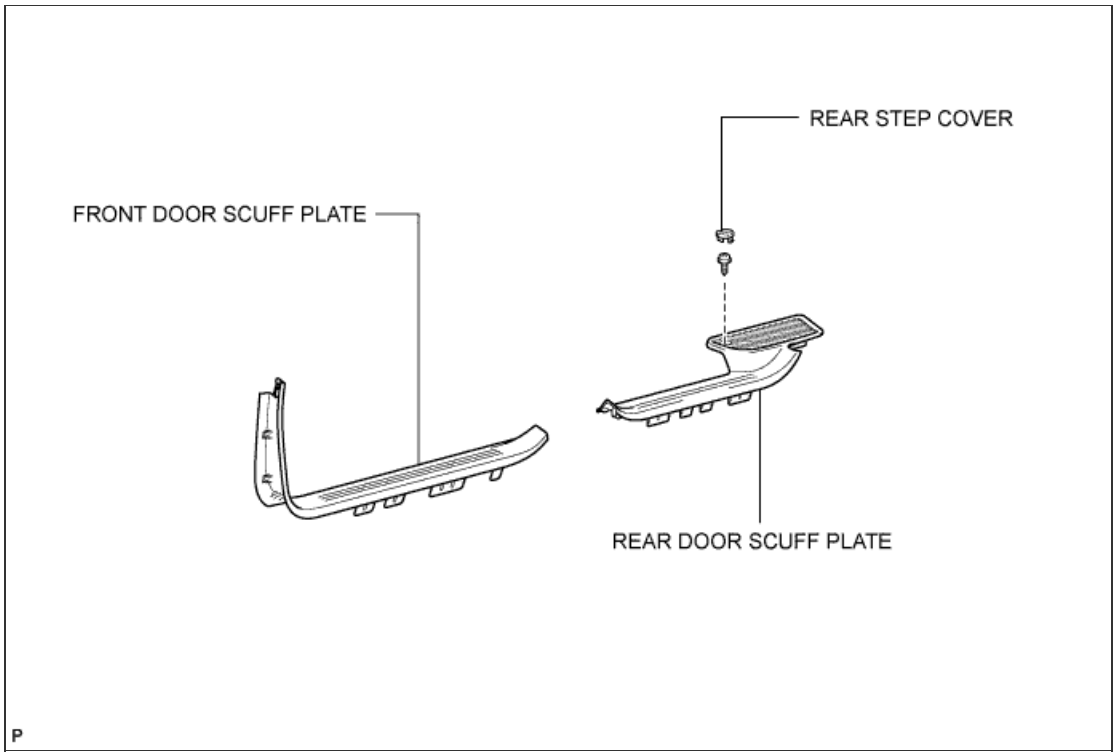
b. Drive the vehicle at 16 km/h (10 mph) and firmly depress the brakes. Check that the belts lock and cannot be extended at this time. If a belt does not lock, replace the seat belt assembly ( Click here).

**HINT:**

Inspect a seat belt assembly before installing it ( Click here).

**for Preparation** Click here




REAR STEP COVER
FRONT DOOR SCUFF PLATE
REAR DOOR SCUFF PLATE
P

**for Preparation** Click here

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

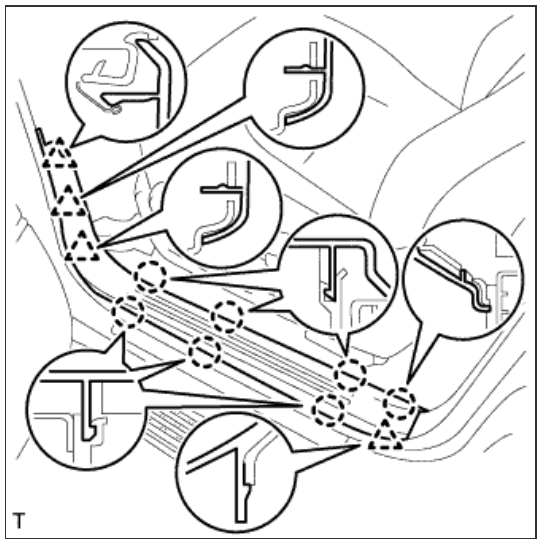
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE FRONT DOOR SCUFF PLATE

a. Detach the 7 claws and 4 clips, and remove the scuff plate.

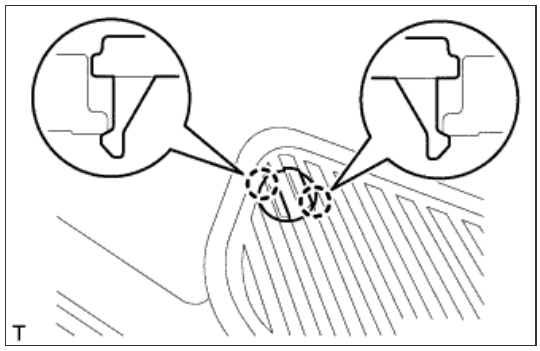



## 4. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

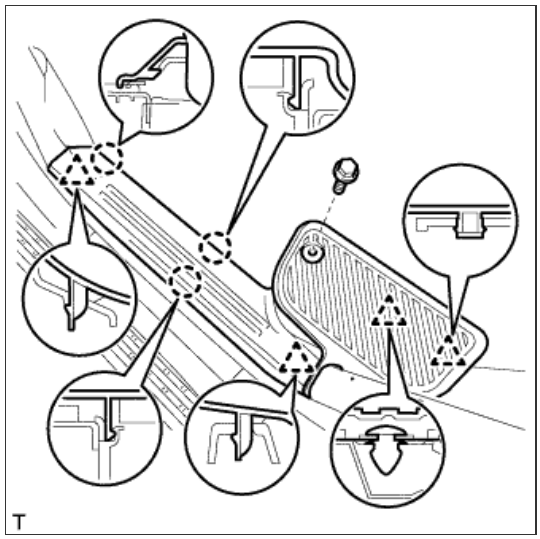
a. Detach the 2 claws and remove the step cover.




## 5. REMOVE REAR DOOR SCUFF PLATE

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.

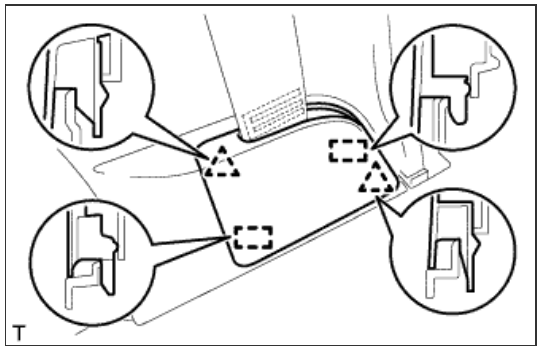



## 6. REMOVE CENTER PILLAR GARNISH COVER

**HINT:**

- **for Manual Seat:**
  **When removing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When removing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Detach the 2 clips and 2 guides, and remove the cover.

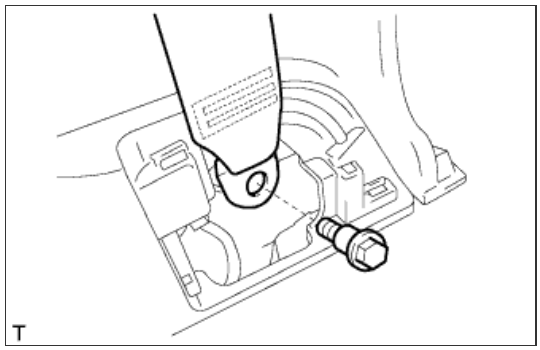



## 7. REMOVE CENTER LOWER PILLAR GARNISH

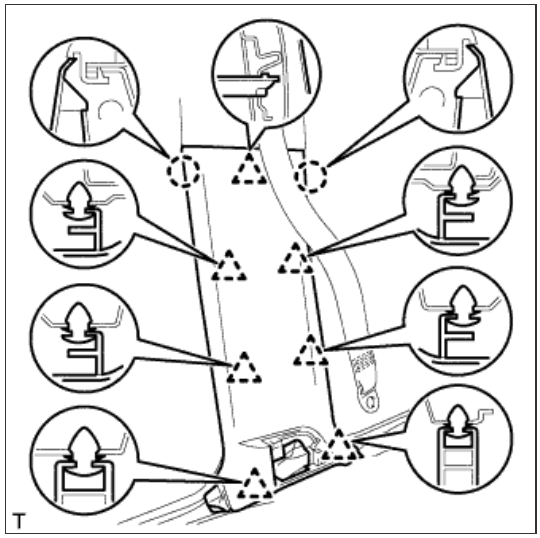
**HINT:**

- **for Manual Seat:**
  **When removing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When removing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position. After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Remove the bolt and seat belt anchor.




b. Detach the 2 claws and 7 clips, and remove the center lower pillar garnish.

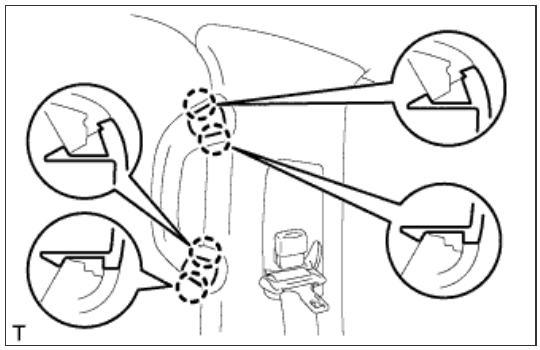



## 8. REMOVE REAR ASSIST GRIP ASSEMBLY

**HINT:**

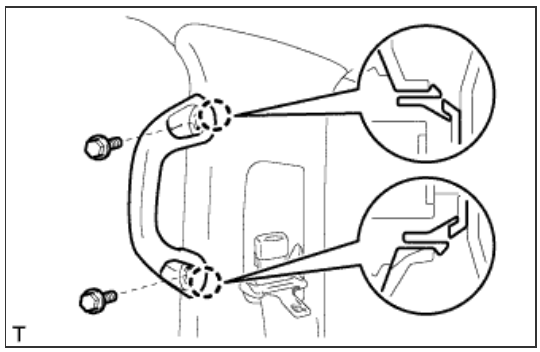
Use the same procedure to remove the rear assist grip on the other side.

a. Detach the 4 claws and remove the 2 assist grip plugs.




b. Remove the 2 bolts.

c. Detach the 2 claws and remove the rear assist grip.

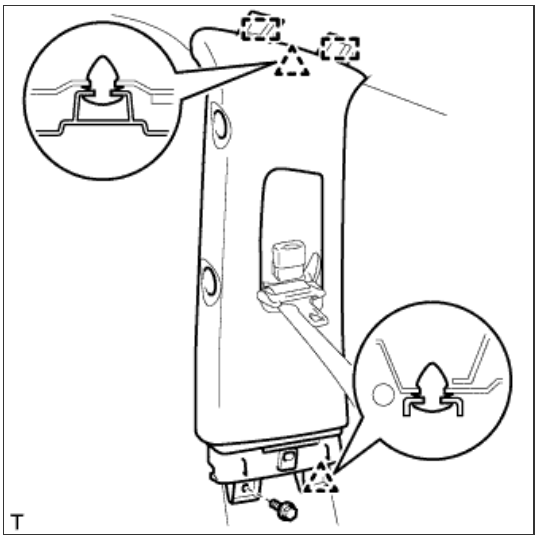



## 9. REMOVE CENTER PILLAR GARNISH

a. Remove the bolt.

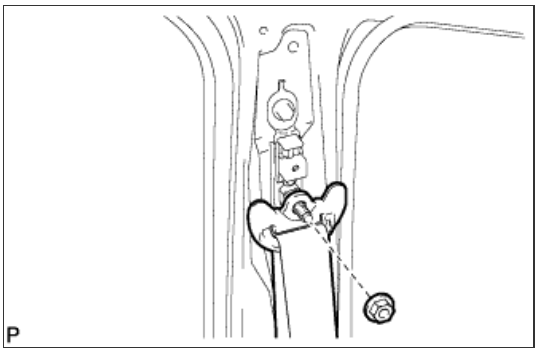
b. Detach the 2 clips and 2 guides.

c. Pass the seat belt anchor through the center pillar garnish, and remove the center pillar garnish.




## 10. REMOVE FRONT SEAT OUTER BELT ASSEMBLY

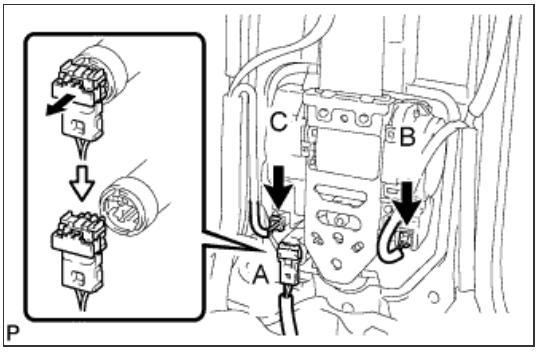
a. Remove the nut and shoulder anchor.



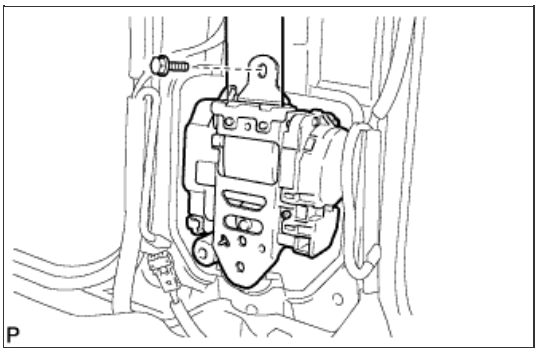

b. Disconnect the pretensioner connector labeled A as shown in the illustration.

c. Disconnect the tension reducer connector labeled B.

d. w/ Pre-Crash Safety System:
Disconnect the pre-crash safety connector labeled C.

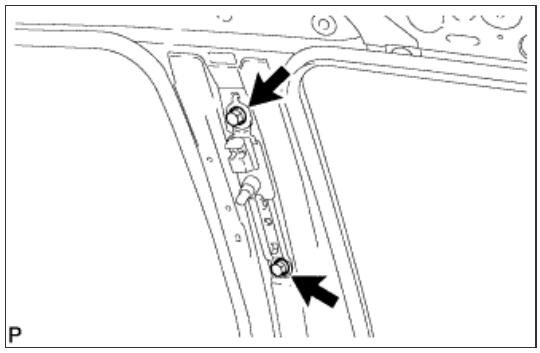



e. Remove the bolt and seat belt.




## 11. REMOVE FRONT SHOULDER BELT ANCHOR ADJUSTER ASSEMBLY

a. Remove the 2 bolts and adjuster.


P

**for Preparation** Click here

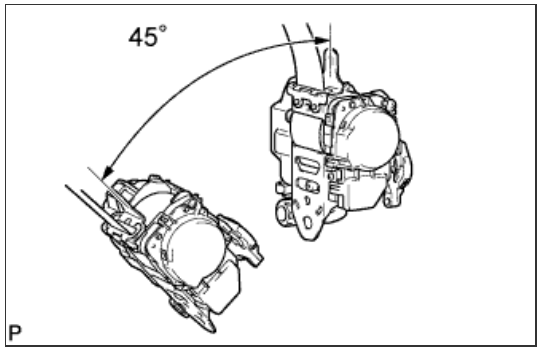
## 1. INSPECT FRONT SEAT OUTER BELT ASSEMBLY

**CAUTION:**

Do not disassemble the retractor.

a. Before installing the seat belt, check the ELR.

i. When the inclination of the retractor is 15° or less, check that the belt can be pulled from the retractor. When the inclination of the retractor is over 45°, check that the belt locks. If the operation is not as specified, replace the seat belt assembly.




b. Check the tension reducer operation.

**NOTICE:**

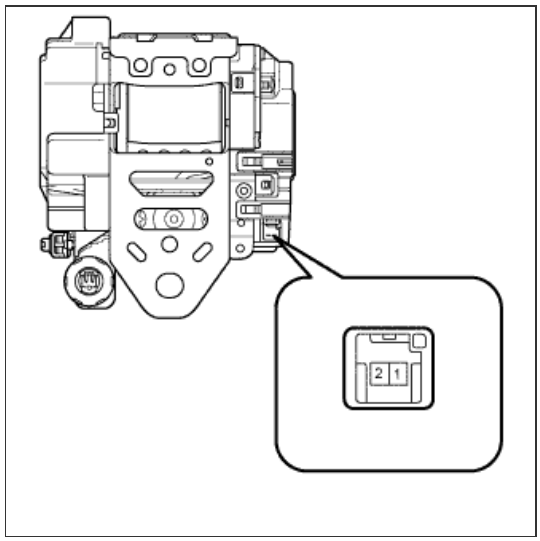
Do not apply battery voltage to the pretensioner connector.

i. Connect the battery positive (+) lead to terminal 1 (IG) of the tension reducer connector and the negative (-) lead to terminal 2 (L).

ii. Check that an operating sound is heard when the magnetized solenoid is attracting the plunger.

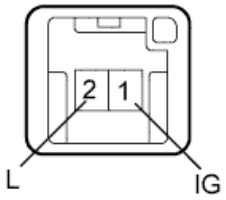
iii. Pull out the seat belt and let it retract. Listen to the operating sound.

iv. Pull out the seat belt again, disconnect the battery negative (-) lead and let it retract. Listen to the operating sound again and check that the operating sound volume has increased.
If the result is not as specified, replace the outer belt assembly.



Component without harness connected:
(Front Seat Outer Belt)

Tension Reducer Connector




Pretensioner Connector*



*: Do not apply battery voltage

o

**for Preparation** Click here

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

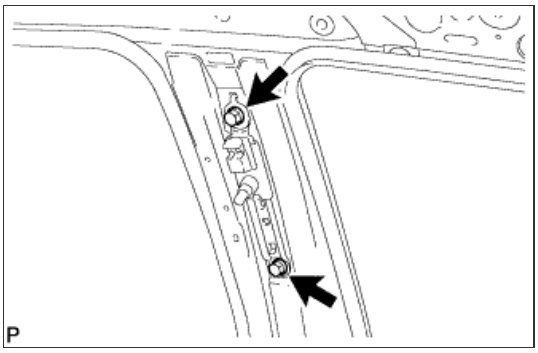
## 1. INSTALL FRONT SHOULDER BELT ANCHOR ADJUSTER ASSEMBLY

a. Align the adjuster positioning hole with the claw, and install the adjuster with the 2 bolts.

**HINT:**

First install the lower bolt, and then install the upper bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 2. INSTALL FRONT SEAT OUTER BELT ASSEMBLY

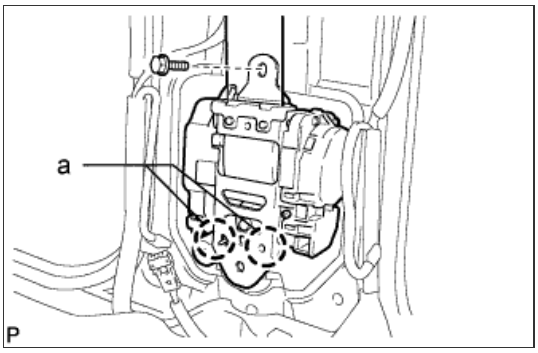
**NOTICE:**

When installing the retractor, make sure the claws of the vehicle (labeled "a" in the illustration) only contact the installation areas of the retractor.

a. Align the claws of the vehicle with the seat belt retractor positioning holes.

b. Install the seat belt with the bolt.

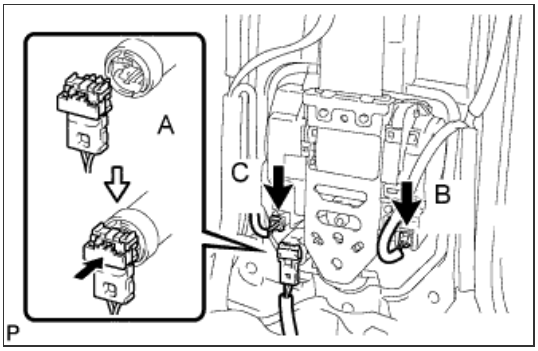
**Torque:**
**8.5 N*m{ 87 kgf*cm , 75 in.*lbf }**




c. Connect the pretensioner connector labeled A as shown in the illustration.

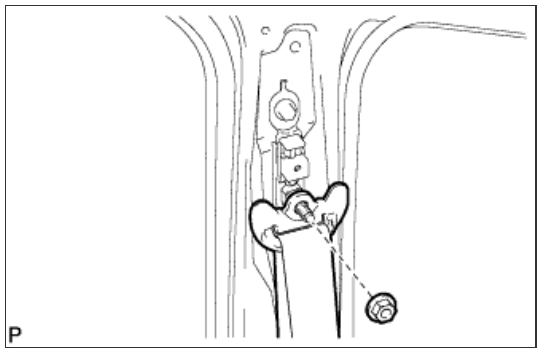
d. Connect the tension reducer connector labeled B.

e. w/ Pre-Crash Safety System:
Connect the pre-crash safety connector labeled C.




f. Install the shoulder anchor to the shoulder belt anchor adjuster with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

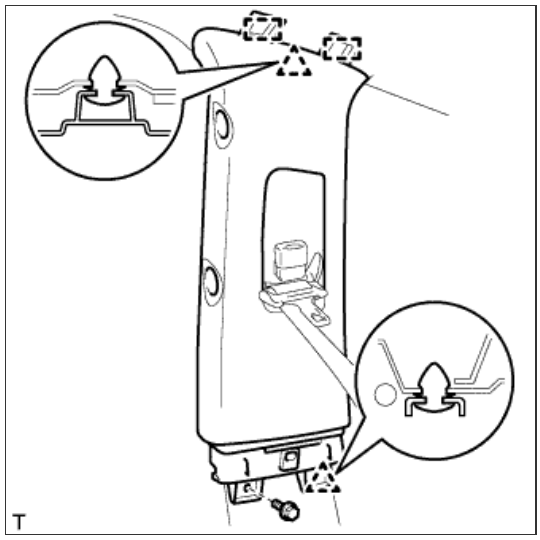



### 3. INSTALL CENTER PILLAR GARNISH LH

a. Pass the seat belt anchor through the center pillar garnish.

b. Attach the 2 clips and 2 guides to install the center pillar garnish.

c. Install the bolt.



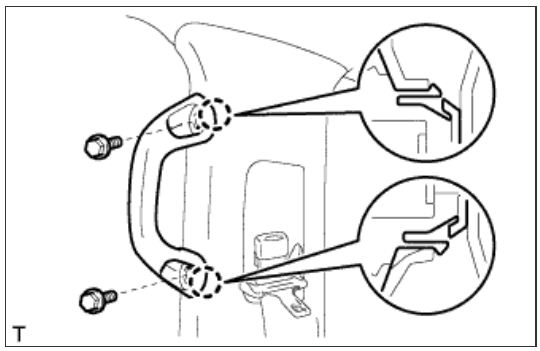

### 4. INSTALL REAR ASSIST GRIP ASSEMBLY

**HINT:**

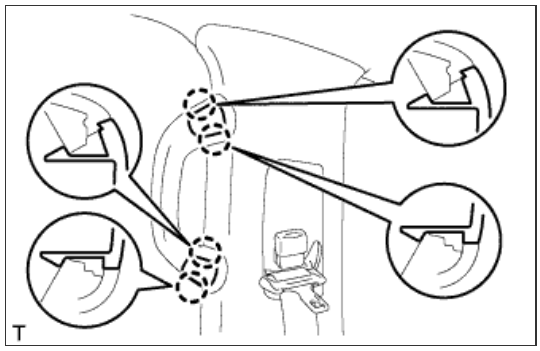
Use the same procedure to install the rear assist grip on the other side.

a. Attach the 2 claws to install the rear assist grip.

b. Install the 2 bolts.




c. Attach the 4 claws to install the 2 assist grip plugs.

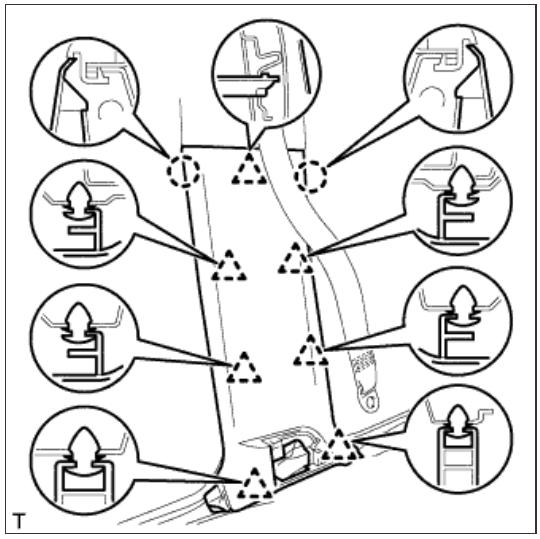



### 5. INSTALL CENTER LOWER PILLAR GARNISH

**HINT:**

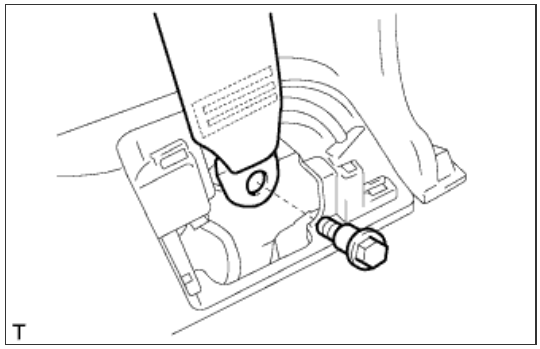
- **for Manual Seat:**
  **When installing the center lower pillar garnish, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When installing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Attach the 2 claws and 7 clips to install the center lower pillar garnish.




b. Install the seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

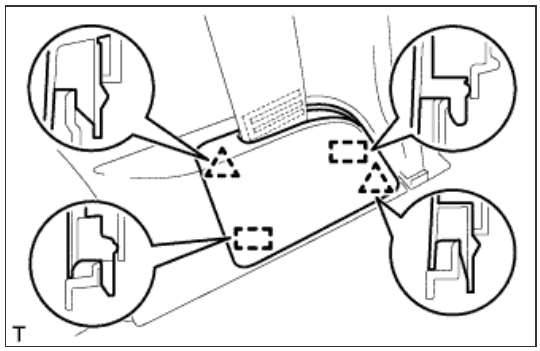



## 6. INSTALL CENTER PILLAR GARNISH COVER

**HINT:**

- **for Manual Seat:**
  **When installing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When installing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

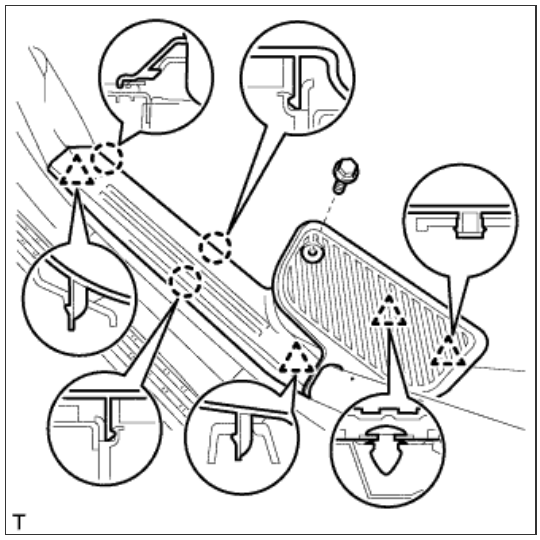
a. Attach the 2 clips and 2 guides to install the cover.




## 7. INSTALL REAR DOOR SCUFF PLATE

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

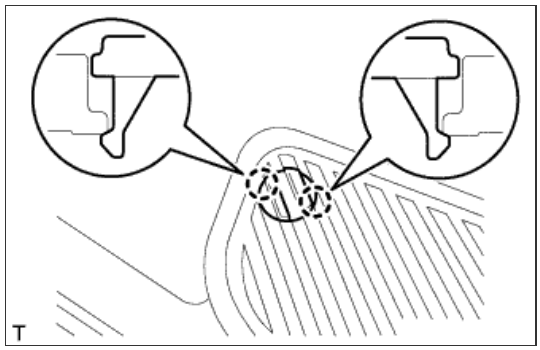



## 8. INSTALL REAR STEP COVER

**HINT:**

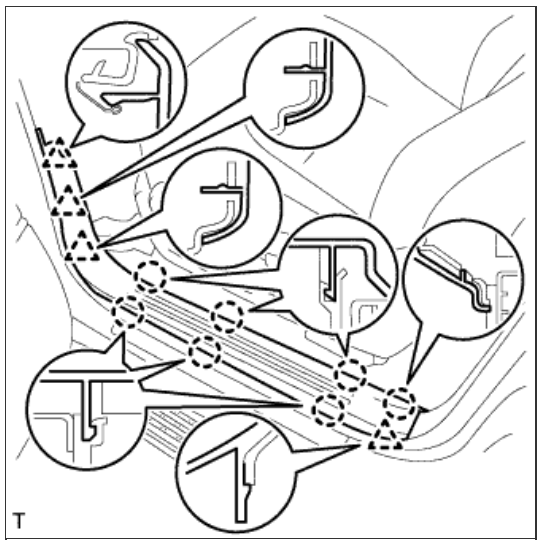
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 9. INSTALL FRONT DOOR SCUFF PLATE

a. Attach the 7 claws and 4 clips to install the scuff plate.




## 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 11. CHECK SRS WARNING LIGHT

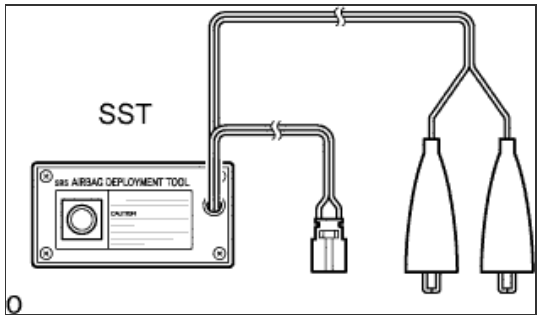
(Click here)

**for Preparation** Click here

**HINT:**

When scrapping vehicles equipped with a seat belt pretensioner or disposing of a front seat outer belt (with seat belt pretensioner), always first activate the seat belt pretensioner in accordance with the procedures described below. If any abnormality occurs during activation of the seat belt pretensioner, contact the SERVICE DEPARTMENT of DISTRIBUTOR.

**CAUTION:**




- **Never dispose of a front seat outer belt that has an un-activated pretensioner.**
- **The seat belt pretensioner produces a loud, exploding sound when it activates. Perform the operation where it will not be a nuisance to nearby people.**
- **When activating a front seat outer belt (with seat belt pretensioner), stand at least 10 m (32.8 ft.) away from the front seat outer belt.**
- **Use gloves and safety glasses when handling a front seat outer belt with an activated pretensioner.**
- **Always wash your hands with water after completing the disposal.**
- **Do not apply water to a front seat outer belt that has an activated pretensioner.**
- **Perform procedures in a place away from electrical interference.**
- **When activating the seat belt pretensioner, always use the specified SST (SRS airbag deployment tool).**

## 1. DISPOSE OF FRONT SEAT OUTER BELT ASSEMBLY (WHEN INSTALLED IN VEHICLE)

**HINT:**

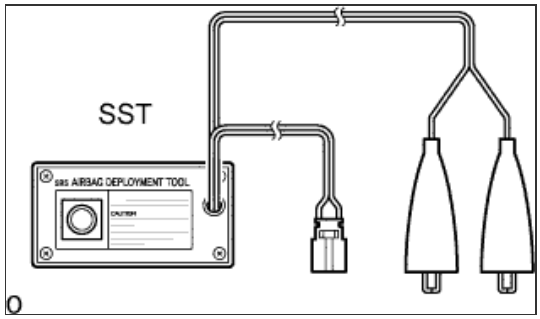
Prepare a battery to activate the seat belt pretensioner.

a. Check if SST is functioning properly.

*SST*
09082-00700

**CAUTION:**

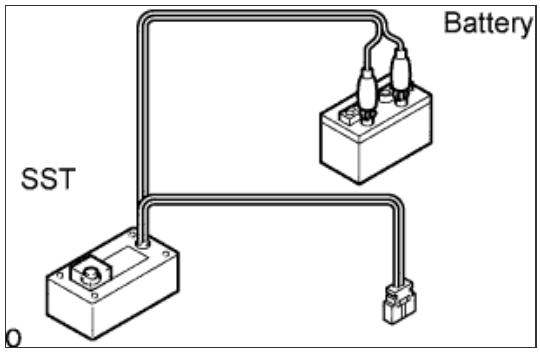
When activating the seat belt pretensioner, always use the specified SST.




i. Connect the red clip of SST to the battery positive (+) terminal and the black clip to the battery negative (-) terminal.

**HINT:**

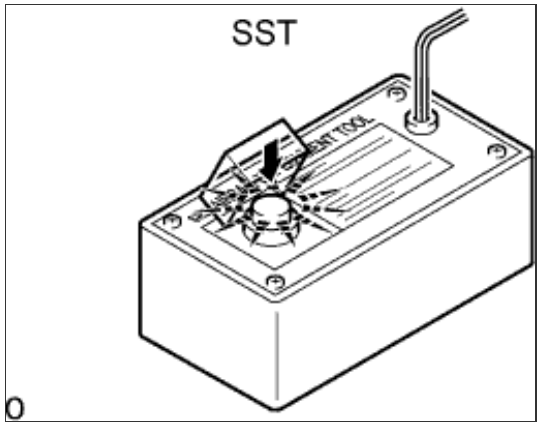
Do not connect the yellow connector. The yellow connector is used to connect to the seat belt pretensioner.




ii. Press SST activation switch and check that the LED of SST activation switch illuminates.

**CAUTION:**

If the LED illuminates when the activation switch is not being pressed, SST may be malfunctioning. Replace SST with a new one.




b. Disconnect SST from the battery.

c. Disconnect the pretensioner connector.

i. Disconnect the cable from the negative (-) battery terminal.

ii. Remove the front door scuff plate (Click here).

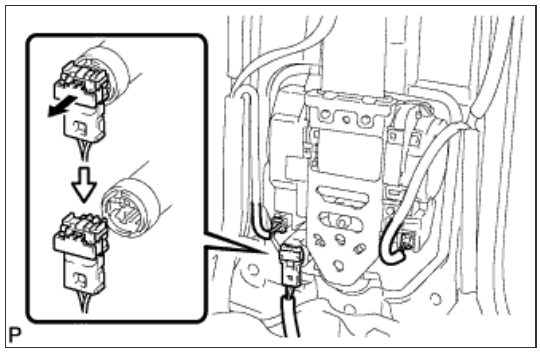
iii. Remove the rear step cover (Click here).

iv. Remove the rear door scuff plate (Click here).

v. Remove the center pillar garnish cover (Click here).

vi. Remove the center lower pillar garnish (Click here).

vii. Disconnect the pretensioner connector as shown in the illustration.



d. Prepare SST for activation of the seat belt pretensioner.

i. Install the floor anchor of the seat belt.

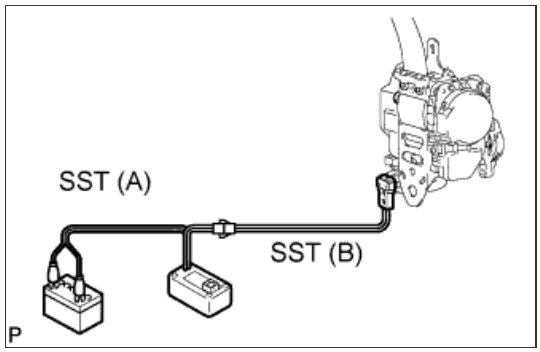
ii. Connect SST (A) to SST (B). Then connect the connector of SST (B) to the seat belt pretensioner.

*SST*

09082-00700
09082-00770

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.




iii. Move SST at least 10 m (32.8 ft.) away from the front of the vehicle.

iv. Close all the doors and windows of the vehicle.

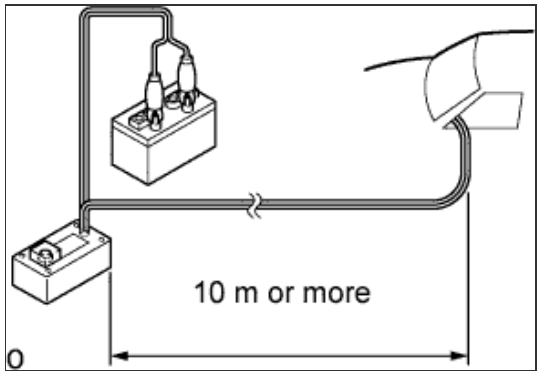
**HINT:**

Leave a gap in one of the windows for inserting SST wire harness.

**NOTICE:**

Take care not to damage SST wire harness.

v. Connect the red clip of SST to the battery positive (+) terminal and the black clip to the negative (-) terminal.




e. Activate the seat belt pretensioner.

i. Confirm that no one is inside the vehicle or within 10 m (32.8 ft.) of the vehicle.

ii. Press SST activation switch to activate the seat belt pretensioner.

**HINT:**

The seat belt pretensioner operates at the same time SST activation switch LED illuminates.

f. Dispose of the front seat outer belt (with the seat belt pretensioner).

**CAUTION:**

- **Do not touch the front seat outer belt for at least 30 minutes after the seat belt pretensioner has been activated. It is very hot.**
- **Use gloves and safety glasses when handling a front seat outer belt whose pretensioner has been activated.**
- **Always wash your hands with water after completing the disposal.**
- **Do not apply water to a front seat outer belt that has an activated pretensioner.**

**HINT:**

When scrapping a vehicle, activate the seat belt pretensioner, and then scrap the vehicle with the activated front seat outer belt installed.

## 2. DISPOSE OF FRONT SEAT OUTER BELT ASSEMBLY (WHEN NOT INSTALLED IN VEHICLE)

**NOTICE:**

Be sure to follow the procedures listed below when activating the seat belt pretensioner.

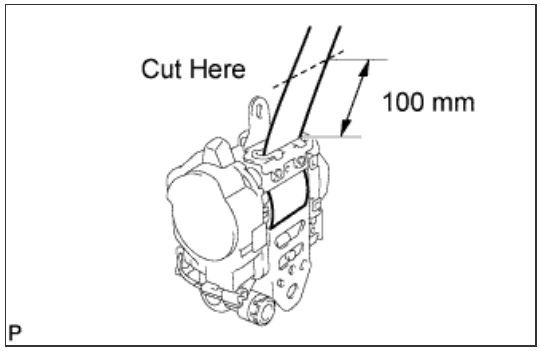
a. Remove the front seat outer belt.

i. Wind the seat belt with the retractor.

ii. When the seat belt is sufficiently wound, cut the seat belt approximately 100 mm (0.393 in.) from the retractor as shown in the illustration.

**HINT:**

The seat belt is designed so that winding the seat belt before pretensioner activation will decrease the pulling power of the seat belt during pretensioner activation.

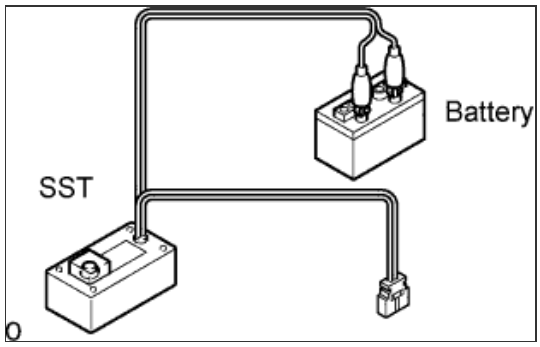


b. Check if SST is functioning properly.

*SST*
09082-00700
09082-00770

**CAUTION:**

When activating a seat belt pretensioner, always use the specified SST.

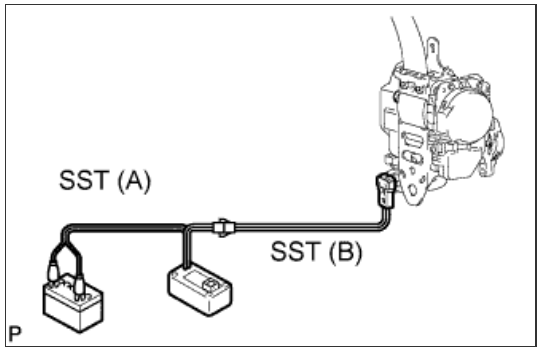



c. Prepare SST for activation of the seat belt pretensioner.

i. Connect SST (A) to SST (B). Then connect the connector of SST (B) to the seat belt pretensioner.

**NOTICE:**

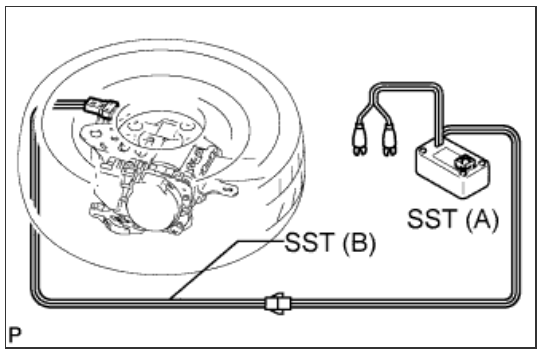
To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.




ii. Place the front seat outer belt on the ground and cover it with a tire (with wheel).

**NOTICE:**

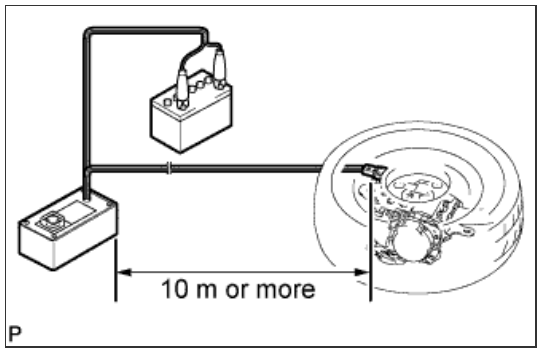
Set up the front seat outer belt as shown in the illustration.




iii. Move SST at least 10 m (32.8 ft.) away from the wheel.

**NOTICE:**

Take care not to damage SST wire harness.




d. Activate the seat belt pretensioner.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip to the battery negative (-) terminal.

ii. Check that no one is within 10 m (32.8 ft.) of the wheel.

iii. Press SST activation switch to activate the seat belt pretensioner.

**HINT:**

The seat belt pretensioner operates at the same time SST activation switch LED illuminates.

e. Dispose of the front seat outer belt (with the seat belt pretensioner).

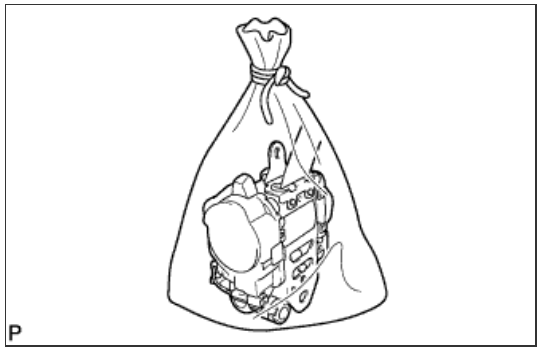
**CAUTION:**

- **Do not touch the front seat outer belt for at least 30 minutes after the seat belt pretensioner has been activated. It is very hot.**
- **Use gloves and safety glasses when handling a front seat outer belt whose pretensioner has been activated.**
- **Always wash your hands with water after completing the disposal.**

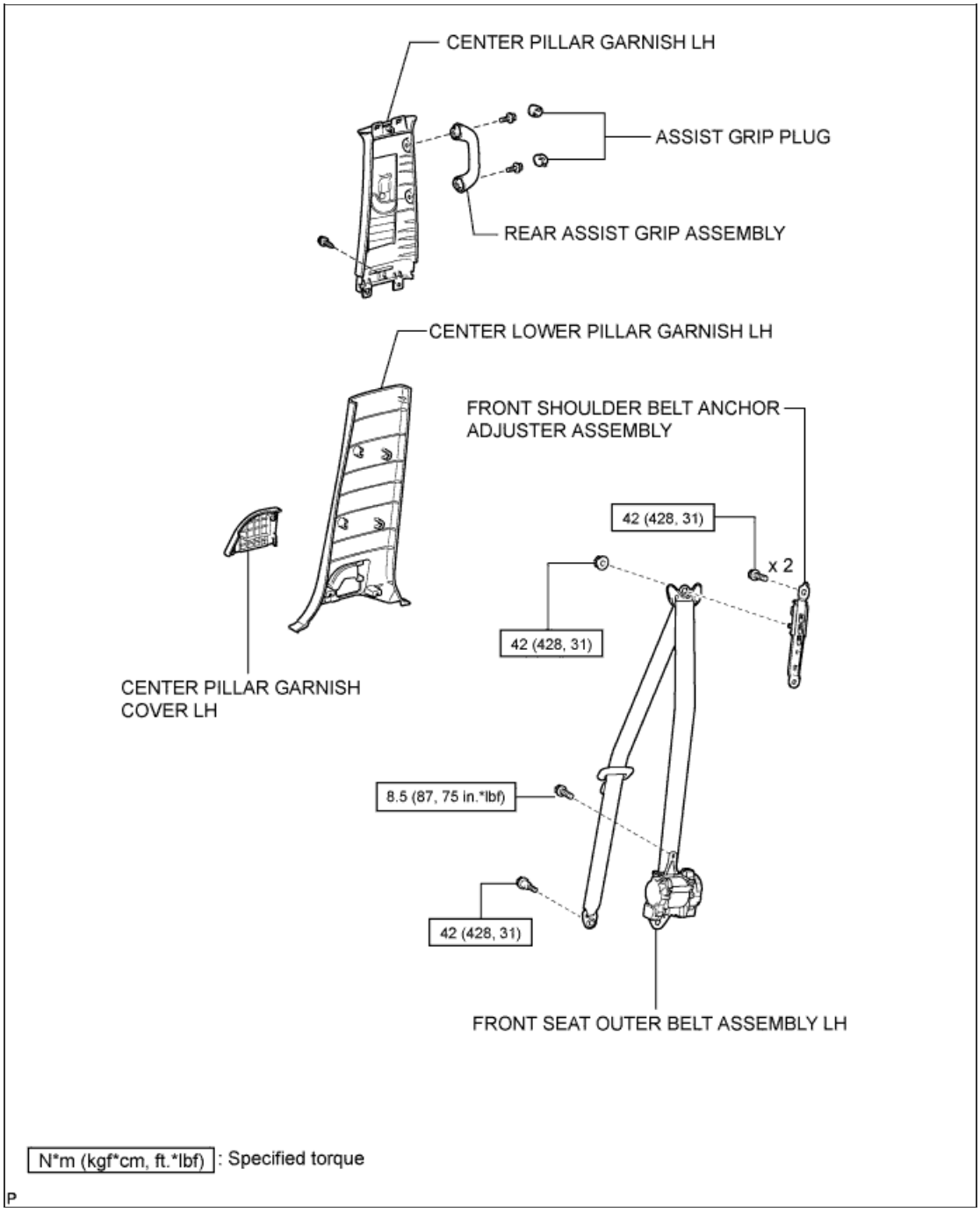
- **Do not apply water to a front seat outer belt that has an activated pretensioner.**

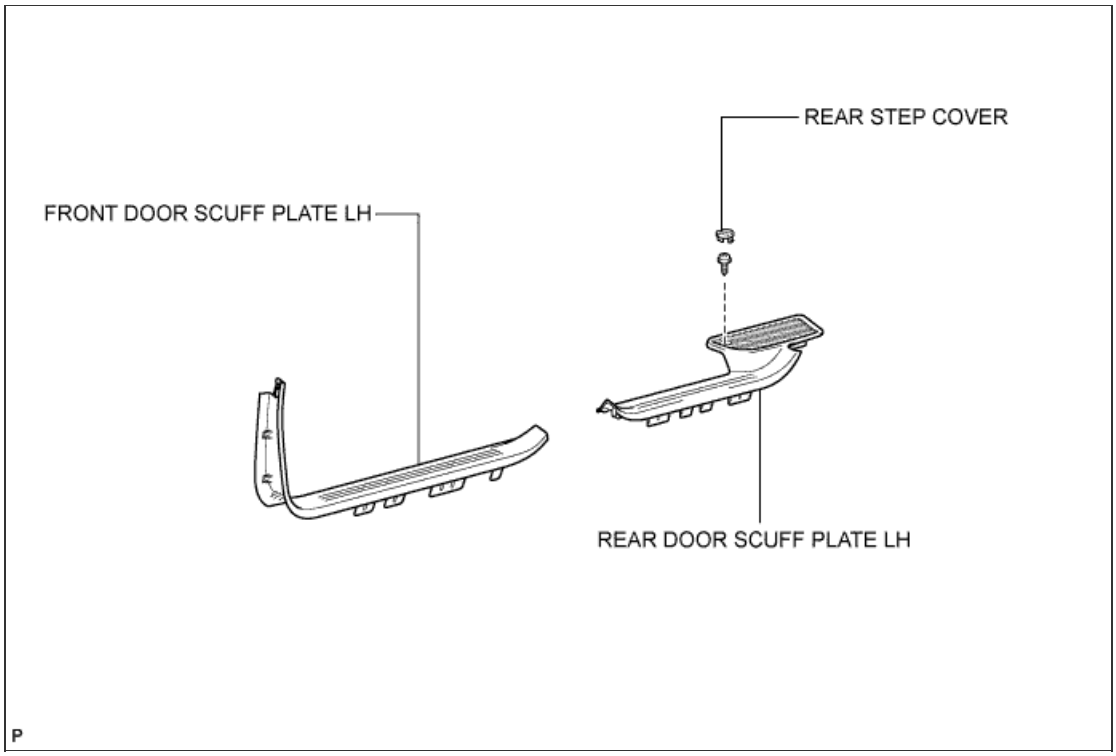
i. Remove the tire (with wheel) and SST.

ii. Place the front seat outer belt in a plastic bag, tie the end tightly and dispose of it in the same way as other general parts.

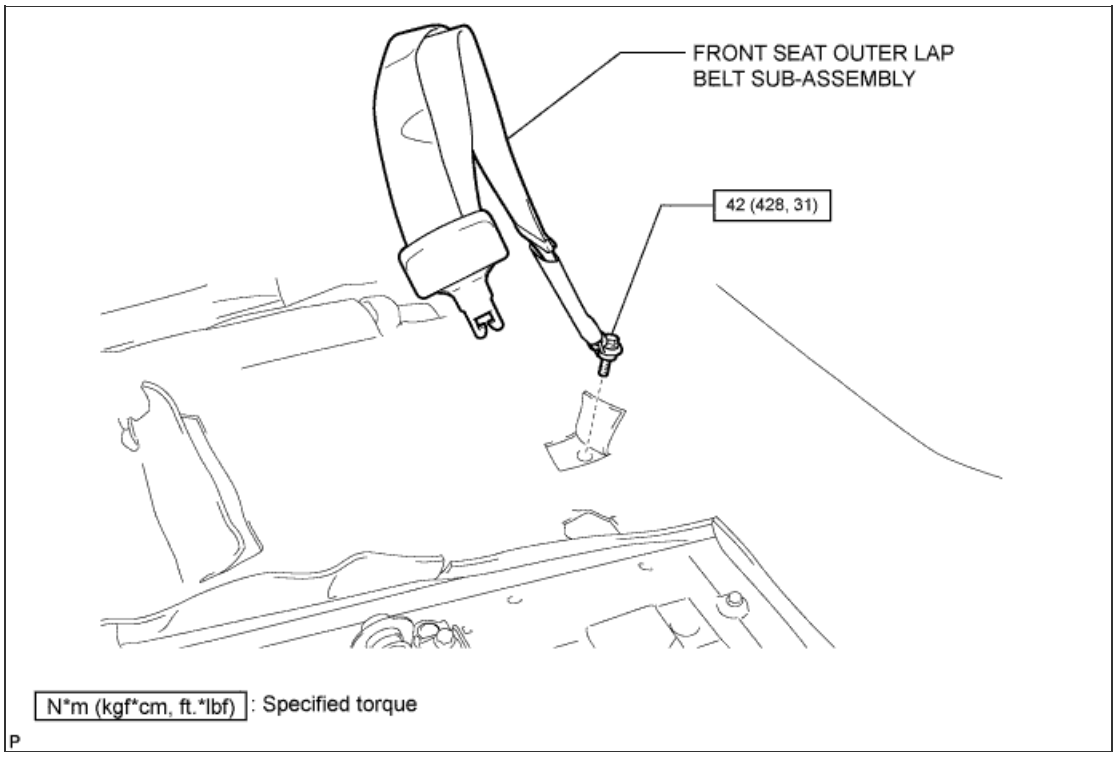


**for Preparation** Click here




REAR STEP COVER
FRONT DOOR SCUFF PLATE LH
REAR DOOR SCUFF PLATE LH
P




FRONT SEAT OUTER LAP BELT SUB-ASSEMBLY
42 (428, 31)
N*m (kgf*cm, ft.*lbf) : Specified torque
P

**for Preparation** Click here

**HINT:**

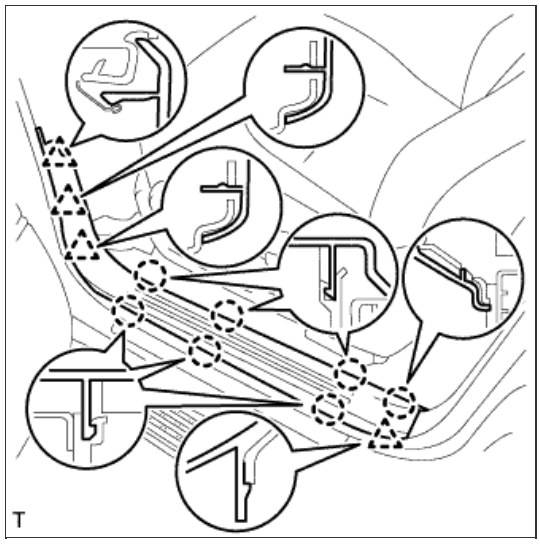
- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE FRONT SEAT ASSEMBLY RH

(Click here)

## 2. REMOVE FRONT DOOR SCUFF PLATE LH

a. Detach the 7 claws and 4 clips, and remove the scuff plate.

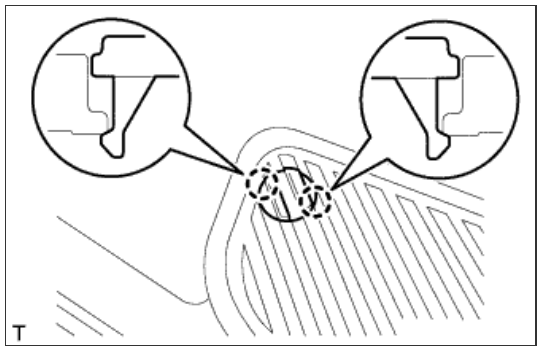



## 3. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

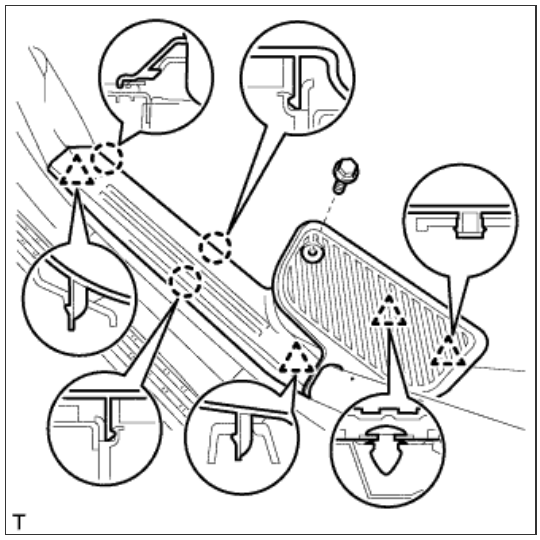
a. Detach the 2 claws and remove the step cover.




## 4. REMOVE REAR DOOR SCUFF PLATE LH

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.

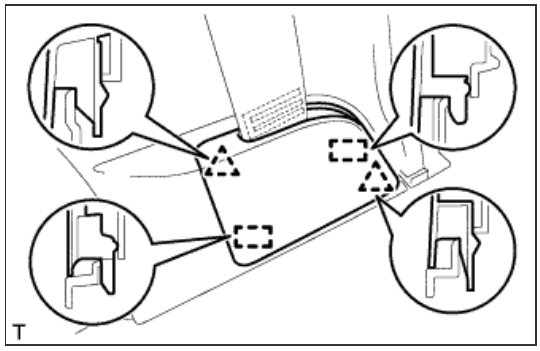



## 5. REMOVE CENTER PILLAR GARNISH COVER LH

**HINT:**

- **for Manual Seat:**
  **When removing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When removing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Detach the 2 clips and 2 guides, and remove the cover.

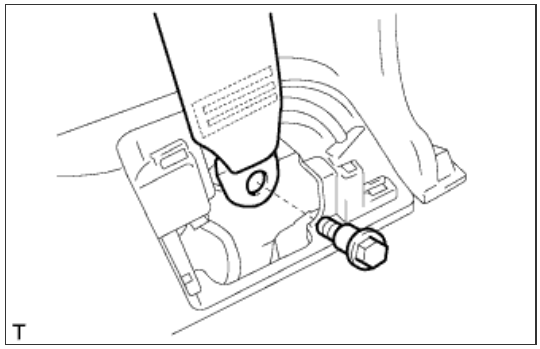



## 6. REMOVE CENTER LOWER PILLAR GARNISH LH

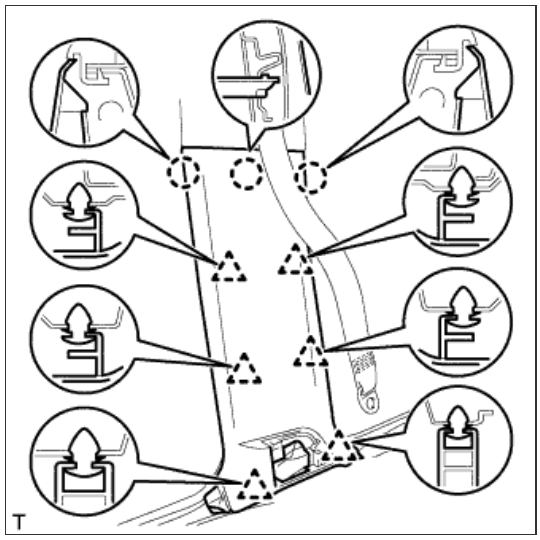
**HINT:**

- **When installing the center lower pillar garnish, move the front seat and seatback to the foremost upright position.**
- **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Remove the bolt and seat belt anchor.



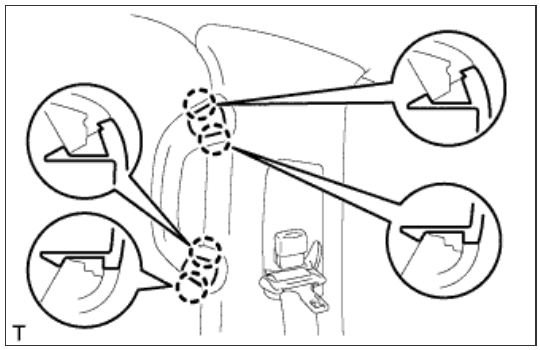

b. Detach the 3 claws and 6 clips, and remove the center lower pillar garnish LH.



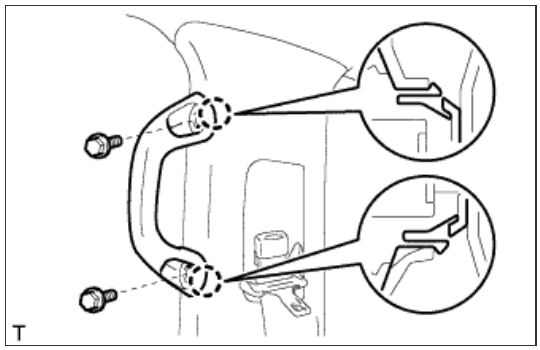
## 7. REMOVE REAR ASSIST GRIP ASSEMBLY

**HINT:**

Use the same procedure to remove the rear assist grip on the other side.



a. Detach the 4 claws and remove the 2 assist grip plugs.



b. Remove the 2 bolts.

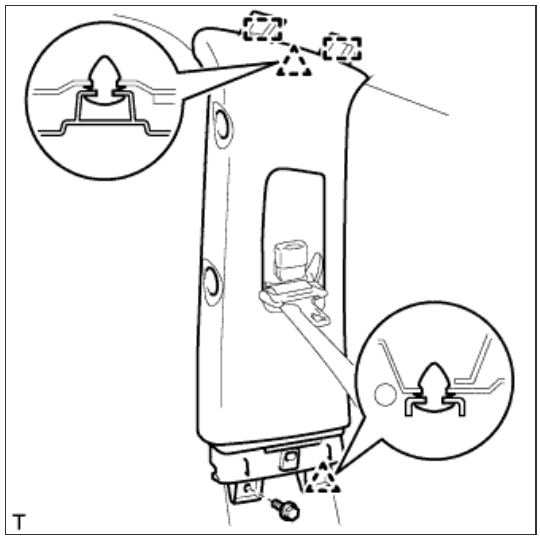
c. Detach the 2 claws and remove the rear assist grip.

## 8. REMOVE CENTER PILLAR GARNISH LH

a. Remove the bolt.

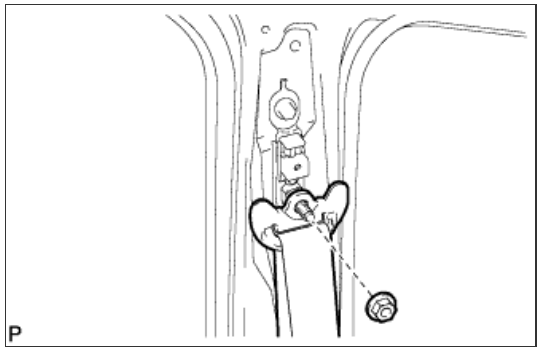
b. Detach the 2 clips and 2 guides.

c. Pass the seat belt anchor through the center pillar garnish, and remove the center pillar garnish.

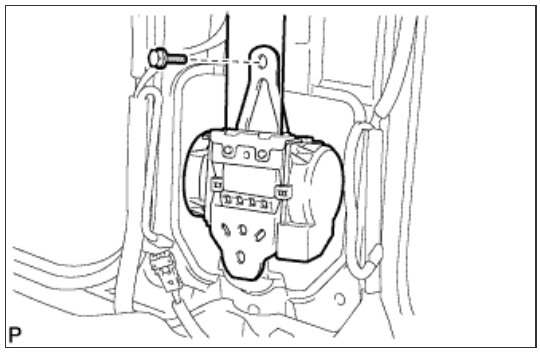



## 9. REMOVE FRONT SEAT OUTER BELT ASSEMBLY LH

a. Remove the nut and shoulder anchor.

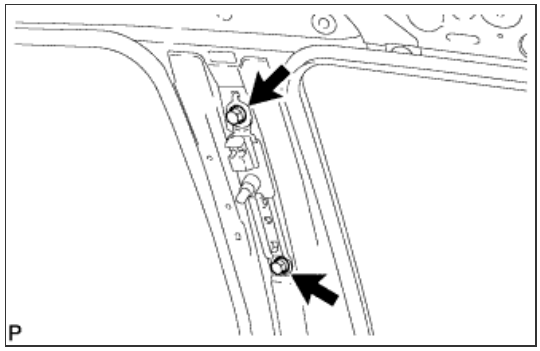



b. Remove the bolt and front seat outer belt assembly LH.



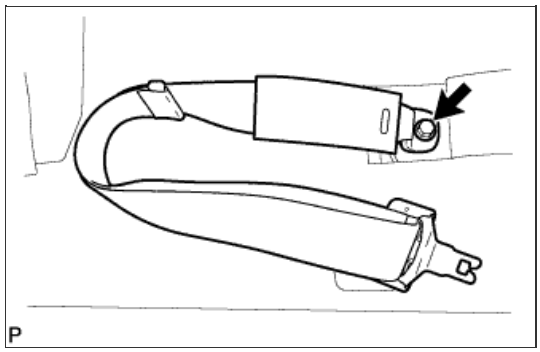

## 10. REMOVE FRONT SHOULDER BELT ANCHOR ADJUSTER ASSEMBLY

a. Remove the 2 bolts and front shoulder belt anchor adjuster assembly.



### 11. REMOVE FRONT SEAT OUTER LAP BELT SUB-ASSEMBLY

a. Remove the bolt and front seat outer lap belt sub-assembly.



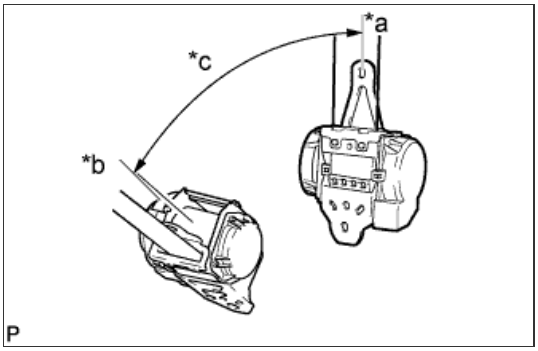
**for Preparation** Click here

## 1. INSPECT FRONT SEAT OUTER BELT ASSEMBLY

**CAUTION:**

Do not disassemble the retractor.

a. Before installing the seat belt, check the ELR.




i. When the inclination of the retractor is 15° or less, check that the belt can be pulled from the retractor. When the inclination of the retractor is over 45°, check that the belt locks.
If the operation is not as specified, replace the front seat outer belt assembly.

**Text in Illustration**

| | |
|---|---|
| *a | Unlock |
| *b | Lock |
| *c | 45° |

**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

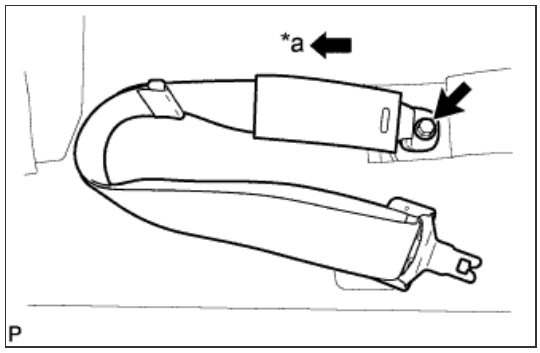
## 1. INSTALL FRONT SEAT OUTER LAP BELT SUB-ASSEMBLY

a. Install the front seat outer lap belt sub-assembly with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**Text in Illustration**

| | |
|---|---|
| *a | Front |




## 2. INSTALL FRONT SHOULDER BELT ANCHOR ADJUSTER ASSEMBLY

a. Align the adjuster positioning hole with the claw, and install the front shoulder belt anchor adjuster assembly with the 2 bolts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**HINT:**

First install the lower bolt, and then install the upper bolt.

## 3. INSTALL FRONT SEAT OUTER BELT ASSEMBLY LH

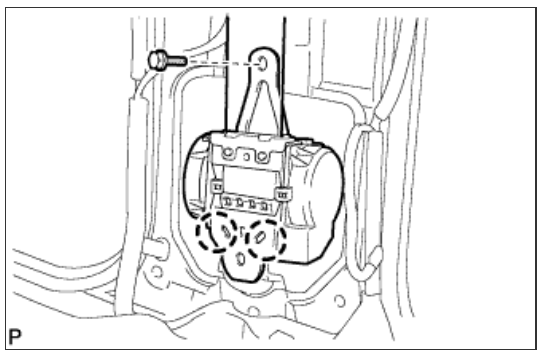
a. Align the 2 claws of the vehicle with the seat belt retractor positioning holes.

b. Install the front seat outer belt assembly LH with the bolt.

**Torque:**
**8.5 N*m{ 87 kgf*cm , 75 in.*lbf }**

c. Install the shoulder anchor to the front shoulder belt anchor adjuster assembly with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

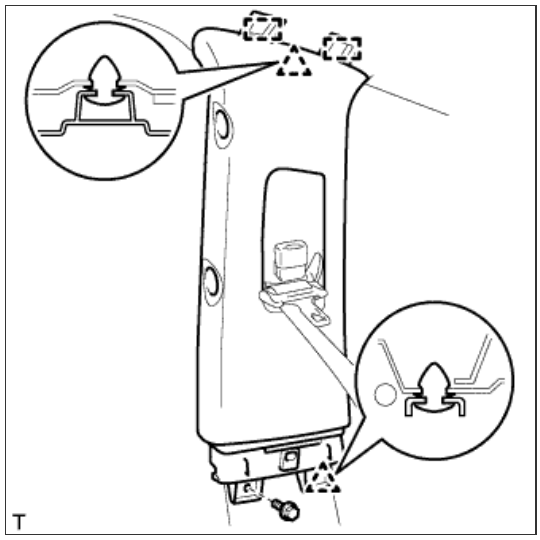



## 4. INSTALL CENTER PILLAR GARNISH LH

a. Pass the seat belt anchor through the center pillar garnish.

b. Attach the 2 clips and 2 guides to install the center pillar garnish.

c. Install the bolt.



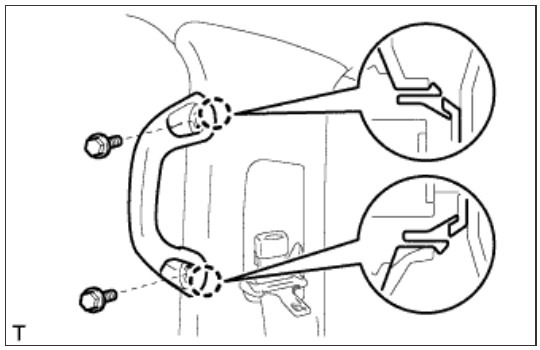

## 5. INSTALL REAR ASSIST GRIP ASSEMBLY

**HINT:**

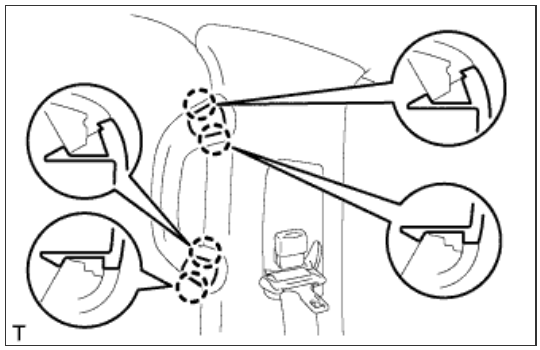
Use the same procedure to install the rear assist grip on the other side.

a. Attach the 2 claws to install the rear assist grip.

b. Install the 2 bolts.




c. Attach the 4 claws to install the 2 assist grip plugs.




## 6. INSTALL CENTER LOWER PILLAR GARNISH LH

**HINT:**

- **When installing the center lower pillar garnish, move the front seat and seatback to the foremost upright position.**
- **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Attach the 3 claws and 6 clips to install the center lower pillar garnish.

b. Install the seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

## 7. INSTALL CENTER PILLAR GARNISH COVER LH

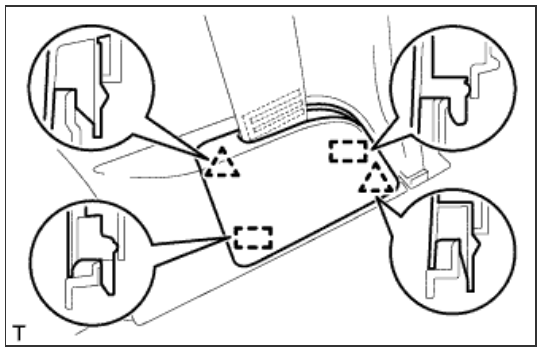
**HINT:**

- **for Manual Seat:**

**When installing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**

- **for Power Seat:**
  **When installing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

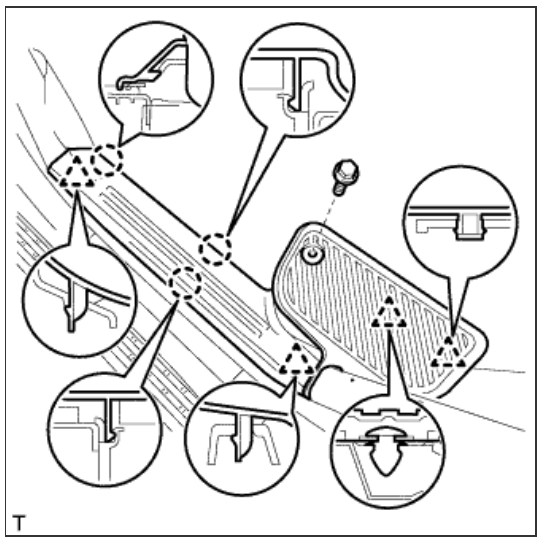
a. Attach the 2 clips and 2 guides to install the cover.




## 8. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

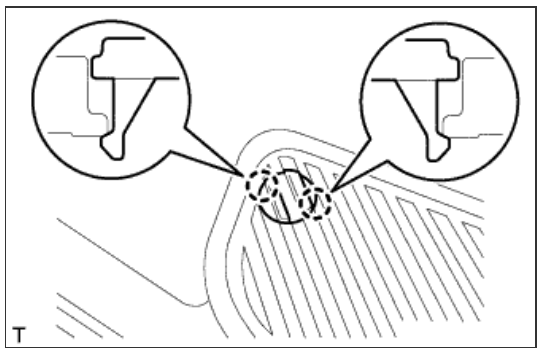



## 9. INSTALL REAR STEP COVER

**HINT:**

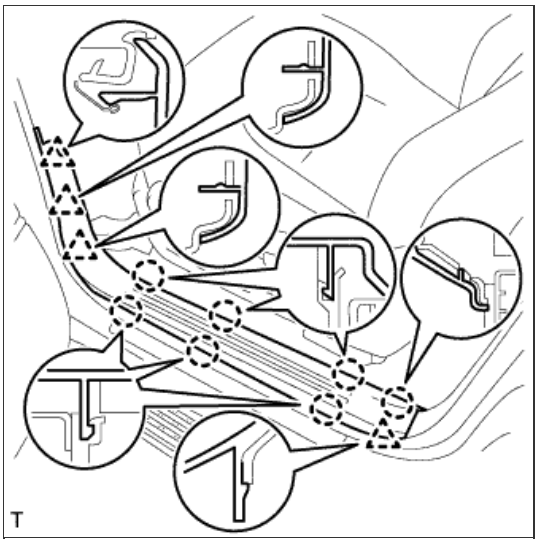
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 10. INSTALL FRONT DOOR SCUFF PLATE LH

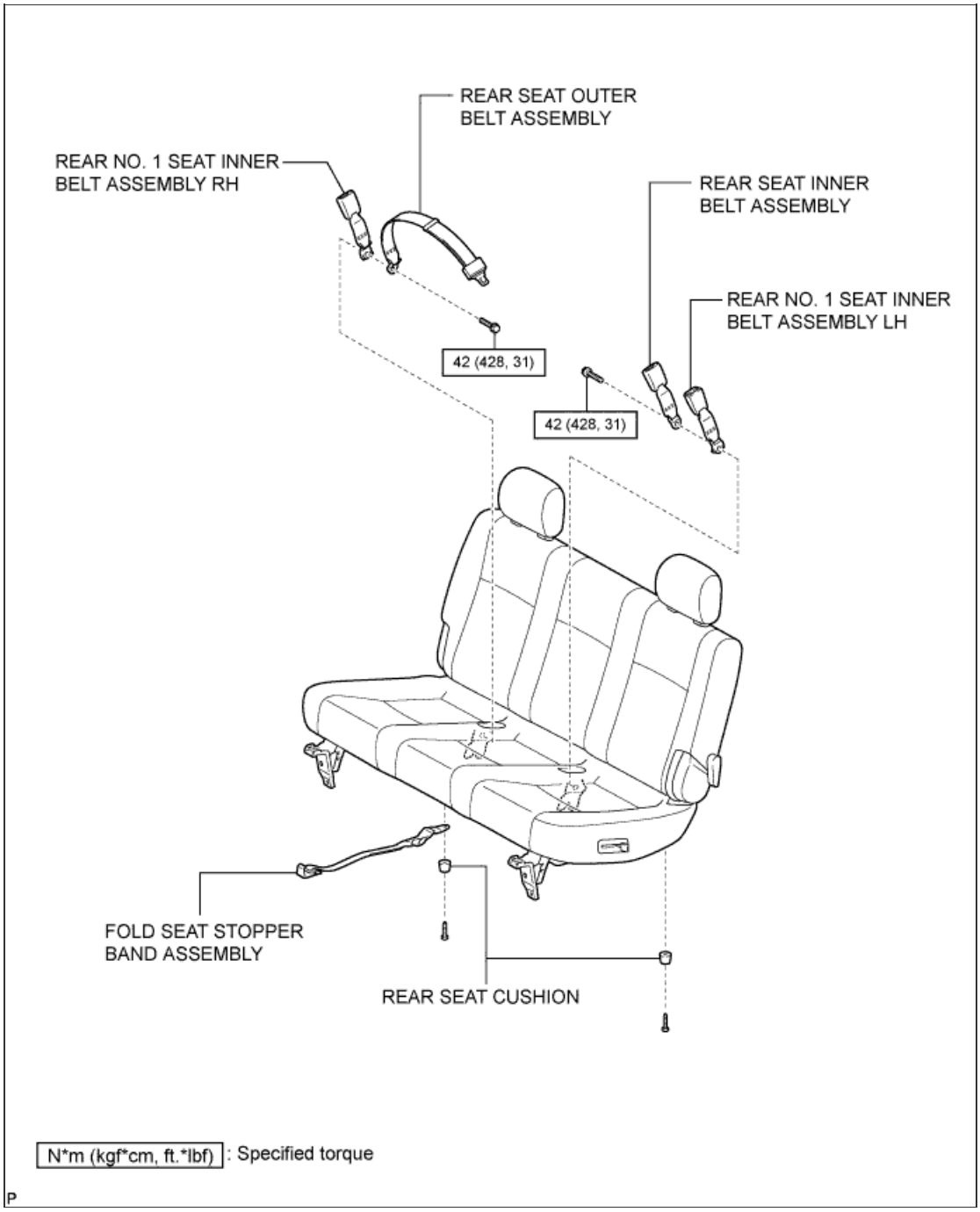
a. Attach the 7 claws and 4 clips to install the scuff plate.




**11. INSTALL FRONT SEAT ASSEMBLY RH**

(Click here)

**for Preparation** Click here



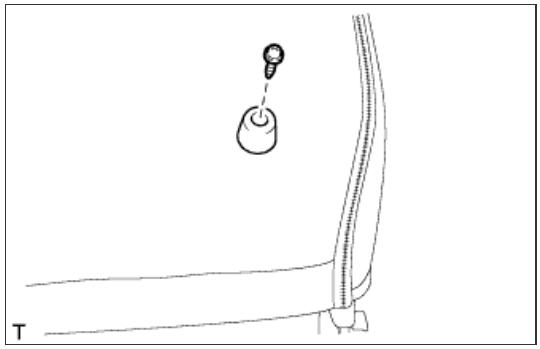
**for Preparation** Click here

## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY

(Click here)

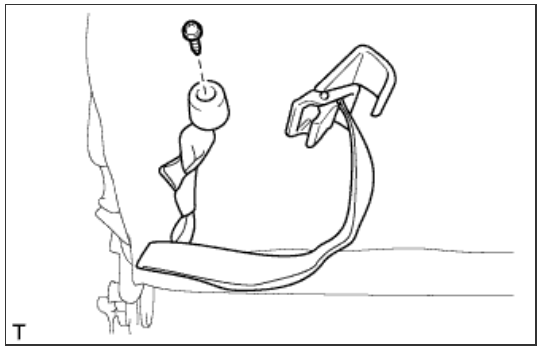
## 2. REMOVE REAR SEAT CUSHION

a. Remove the screw and rear seat cushion.




## 3. REMOVE FOLD SEAT STOPPER BAND ASSEMBLY

a. Remove the screw and rear seat cushion together with the fold seat stopper band assembly.

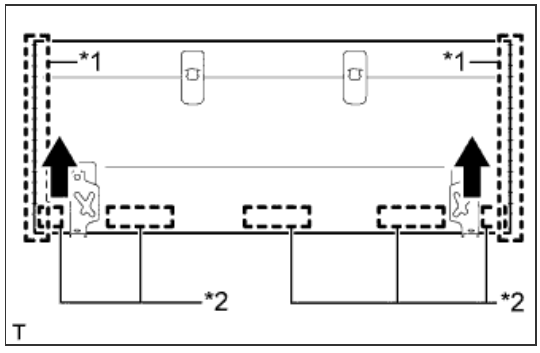



## 4. REMOVE REAR SEAT INNER BELT ASSEMBLY

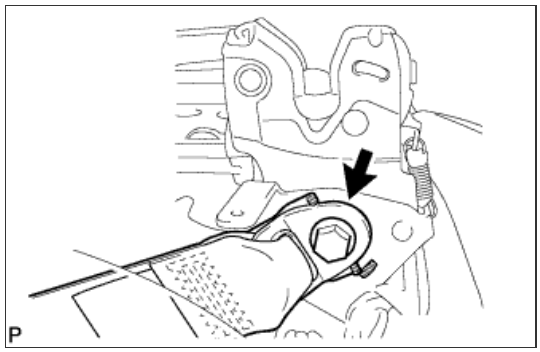
a. Open the 2 fasteners and detach the fastening tape.

**Text in Illustration**

| | |
|---|---|
| *1 | Fastener |
| *2 | Fastening Tape |

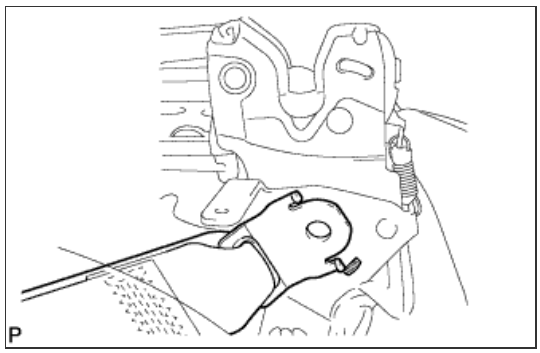



b. Remove the bolt and rear seat inner belt assembly.



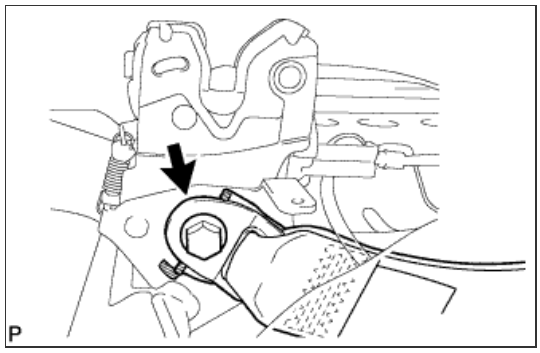

### 5. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Remove the rear No. 1 seat inner belt assembly LH.



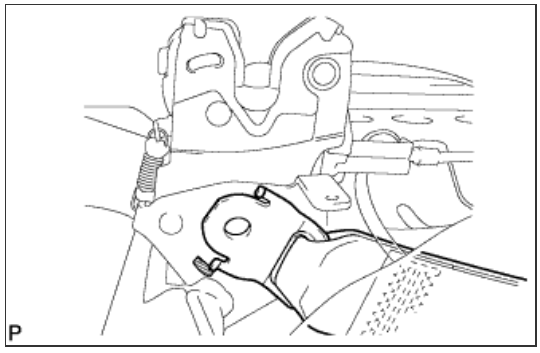

### 6. REMOVE REAR SEAT OUTER BELT ASSEMBLY

a. Remove the bolt and rear seat outer belt assembly.




### 7. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY RH

a. Remove the rear No. 1 seat inner belt assembly RH.



**for Preparation** Click here

## 1. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY RH

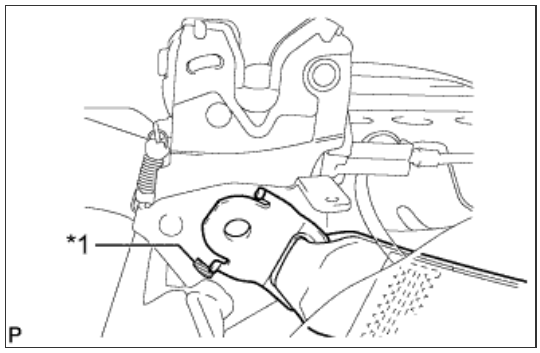
a. Temporarily install the rear No. 1 seat inner belt assembly RH.

**NOTICE:**

Do not allow the anchor part of the rear No. 1 seat inner belt assembly RH to overlap the protruding parts of the rear seat.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 2. INSTALL REAR SEAT OUTER BELT ASSEMBLY

a. Install the rear seat outer belt assembly with the bolt.

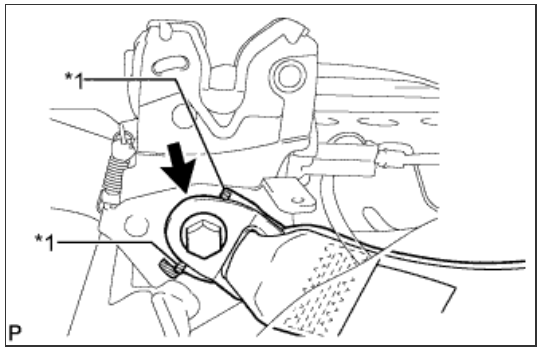
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not allow the anchor part of the rear No. 1 seat outer belt assembly to overlap the protruding parts of the rear seat inner belt assembly RH.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |




## 3. INSTALL NO. 1 SEAT INNER BELT ASSEMBLY LH

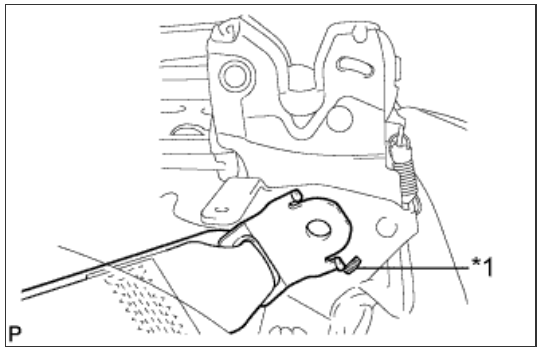
a. Temporarily install the rear No. 1 seat inner belt assembly LH.

**NOTICE:**

Do not allow the anchor part of the rear No. 1 seat inner belt assembly LH to overlap the protruding parts of the rear seat.

**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |



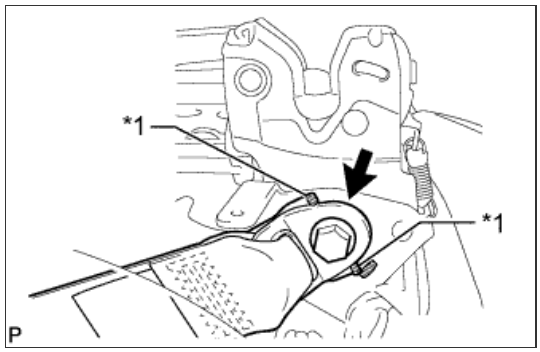

## 4. INSTALL REAR SEAT INNER BELT ASSEMBLY

a. Install the rear seat inner belt assembly with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

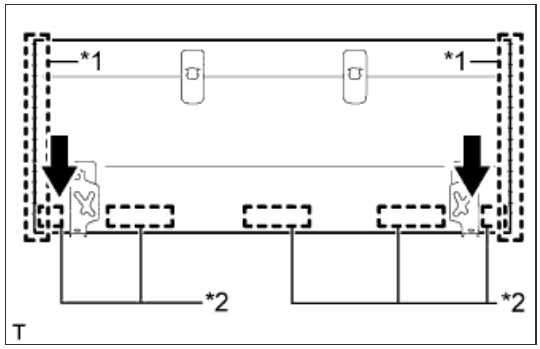
Do not allow the anchor part of the rear seat inner belt assembly to overlap the protruding parts of the rear No. 1 seat inner belt assembly LH.




**Text in Illustration**

| | |
|---|---|
| *1 | Protruding Part |

b. Close the 2 fasteners and attach the fastening tape.




**Text in Illustration**

| | |
|---|---|
| *1 | Fastener |
| *2 | Fastening Tape |

## 5. INSTALL FOLD SEAT STOPPER BAND ASSEMBLY

a. Install the fold seat stopper band assembly together with the rear seat cushion with the screw.

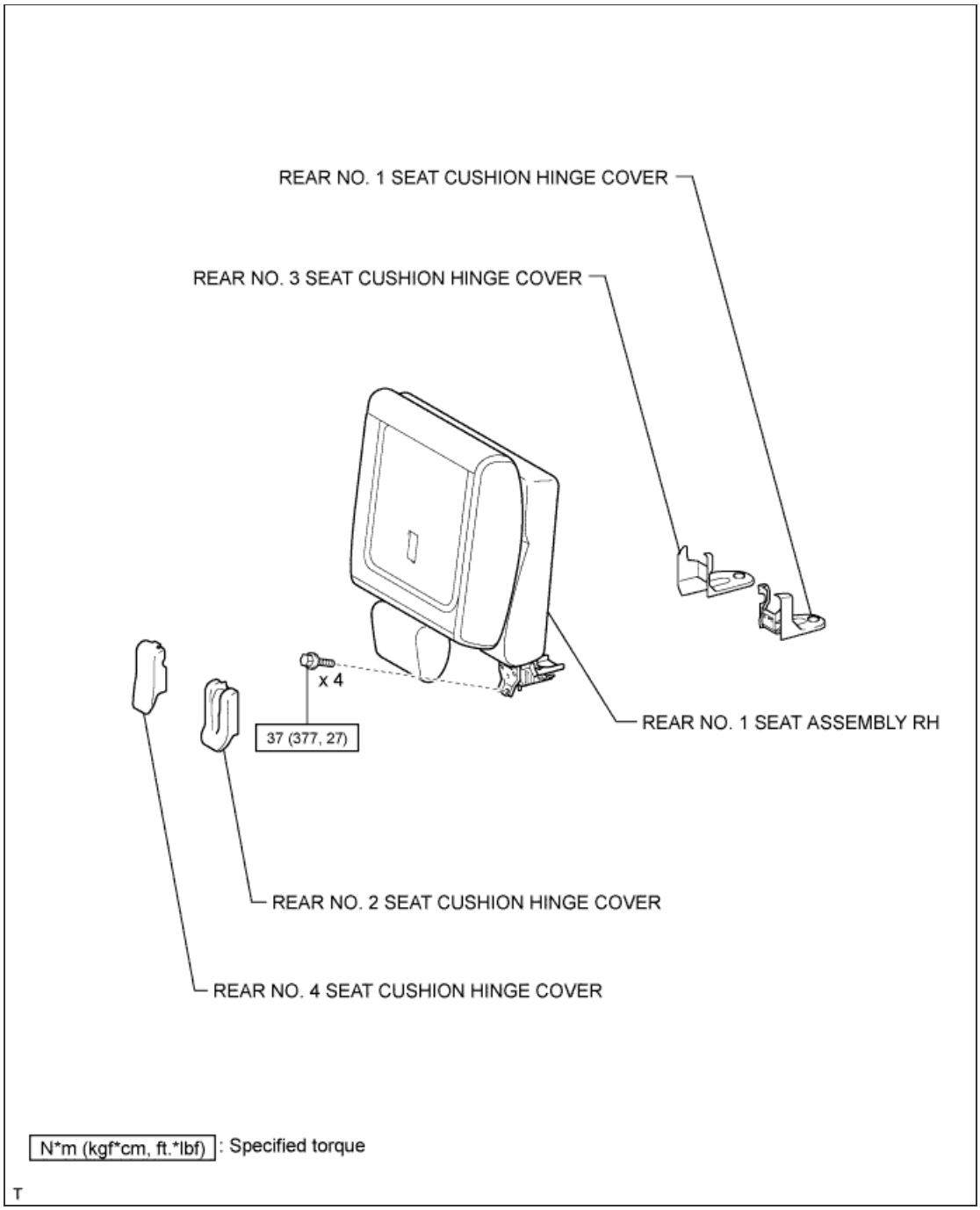
## 6. INSTALL REAR SEAT CUSHION

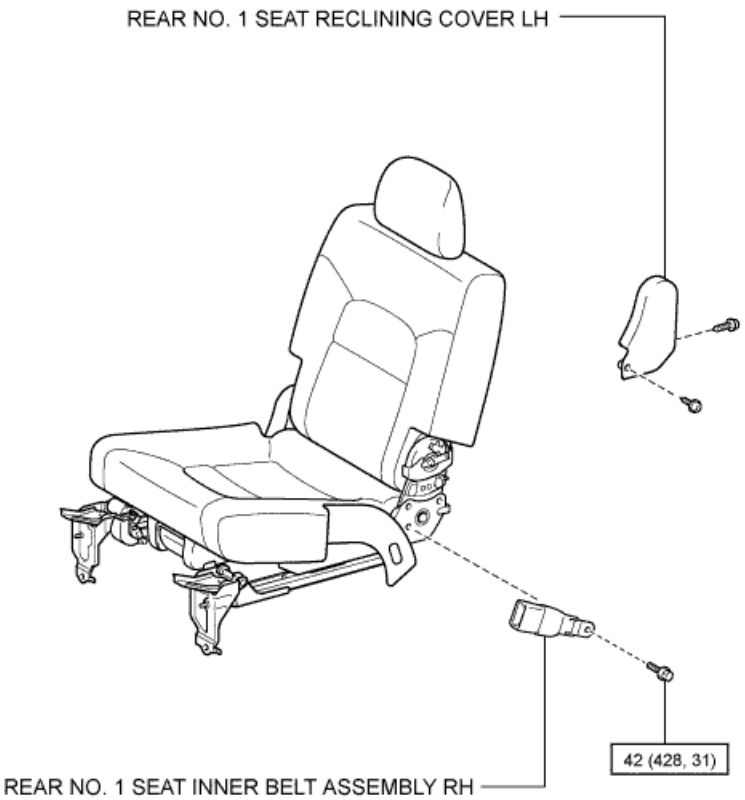
a. Install the rear seat cushion with the screw.

## 7. INSTALL REAR NO. 1 SEAT ASSEMBLY

(Click here)

**for Preparation** Click here






N*m (kgf*cm, ft.*lbf) : Specified torque

T

**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

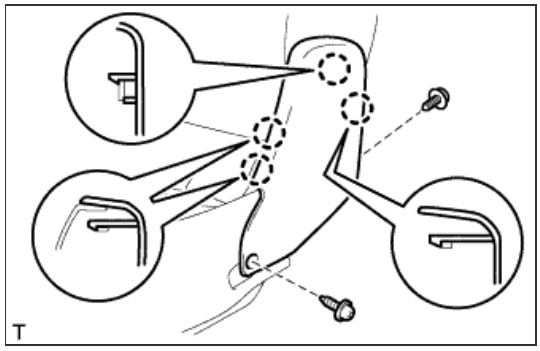
## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY RH

a. Remove the rear No. 1 seat assembly ( Click here).

## 2. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

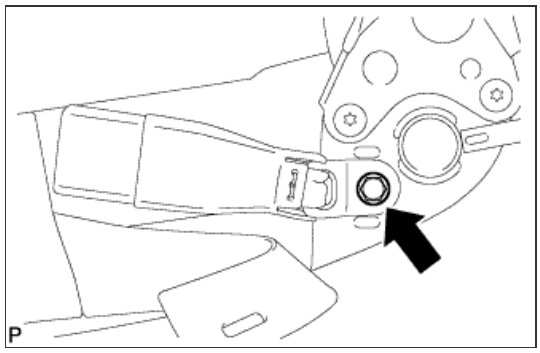
a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.




## 3. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY RH

a. Remove the bolt and belt.



**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

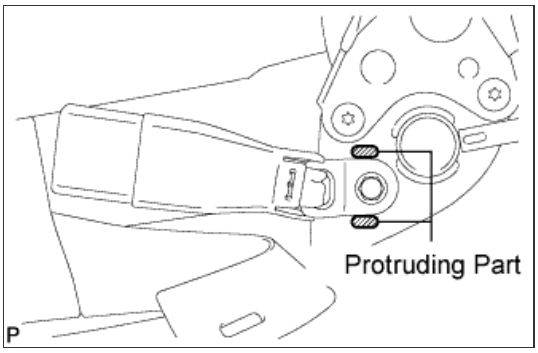
## 1. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY RH

a. Install the belt with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

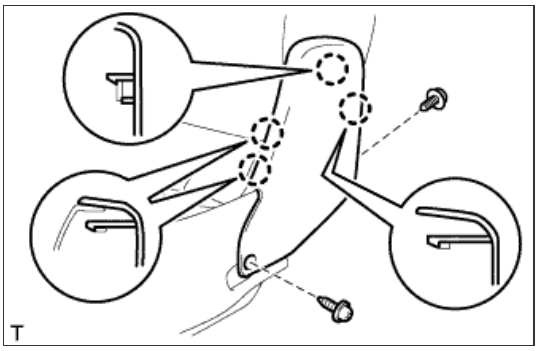
Do not overlap the anchor part of the seat belt and protruding parts of the seat.




## 2. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

a. Attach the 4 claws to install the cover.

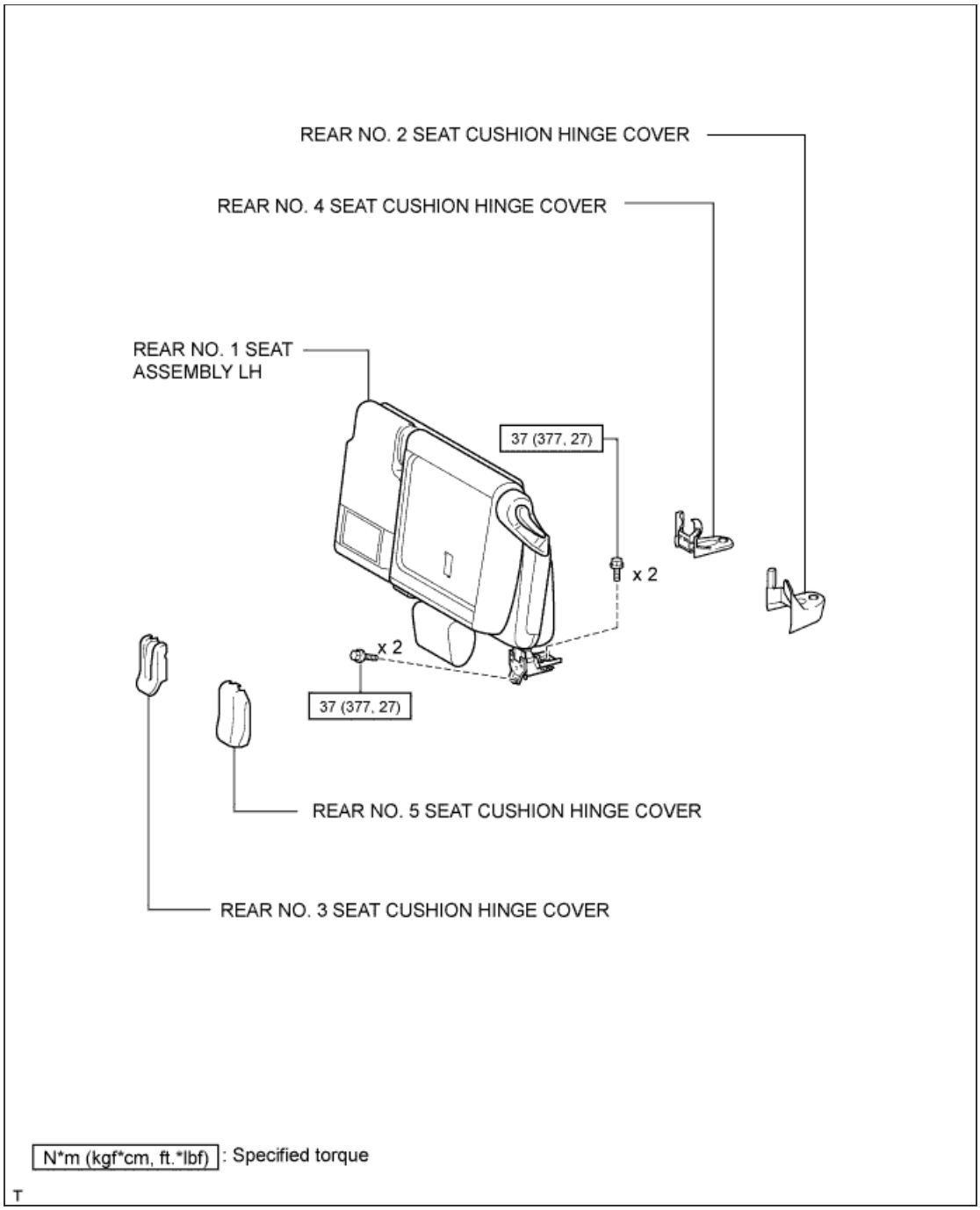
b. Install the 2 screws.

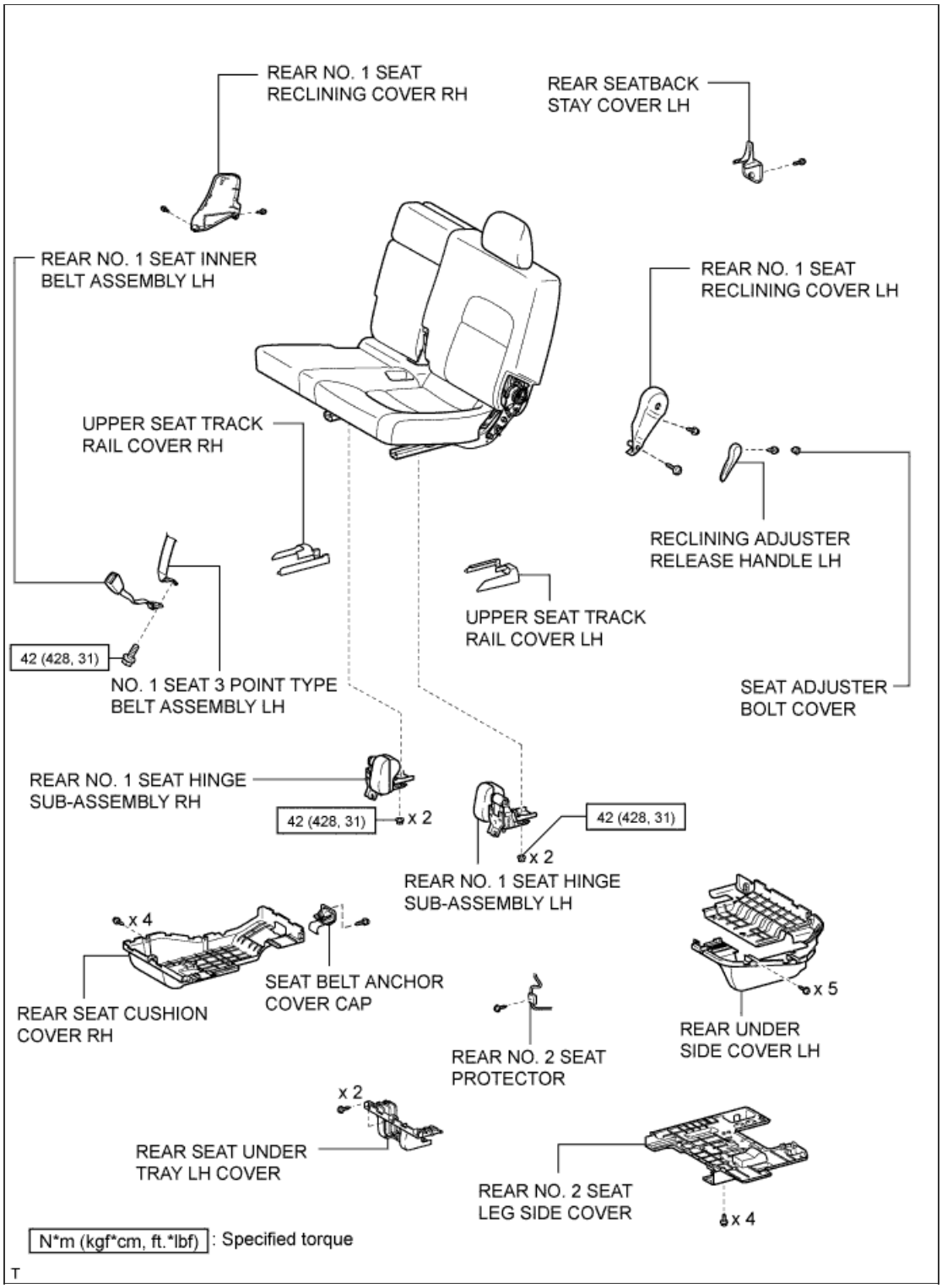



## 3. INSTALL REAR NO. 1 SEAT ASSEMBLY RH

a. Install the rear No. 1 seat assembly ( Click here).

**for Preparation** Click here




REAR NO. 1 SEAT RECLINING COVER RH
REAR SEATBACK STAY COVER LH
REAR NO. 1 SEAT INNER BELT ASSEMBLY LH
REAR NO. 1 SEAT RECLINING COVER LH
UPPER SEAT TRACK RAIL COVER RH
RECLINING ADJUSTER RELEASE HANDLE LH
UPPER SEAT TRACK RAIL COVER LH
42 (428, 31)
NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH
SEAT ADJUSTER BOLT COVER
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH
42 (428, 31) x 2
42 (428, 31) x 2
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH
x 4
SEAT BELT ANCHOR COVER CAP
x 5
REAR SEAT CUSHION COVER RH
REAR NO. 2 SEAT PROTECTOR
REAR UNDER SIDE COVER LH
x 2
REAR SEAT UNDER TRAY LH COVER
REAR NO. 2 SEAT LEG SIDE COVER
x 4
N*m (kgf*cm, ft.*lbf) : Specified torque
T

**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

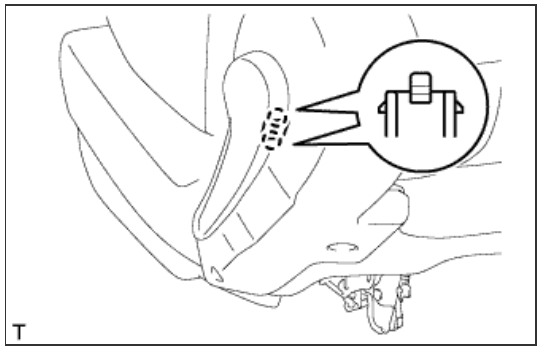
a. Remove the rear No. 1 seat assembly (Click here).

## 2. REMOVE SEAT ADJUSTER BOLT COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

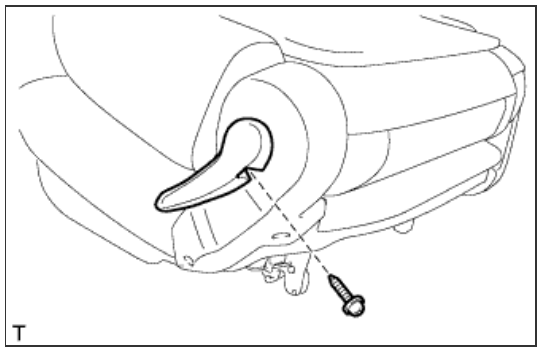
**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

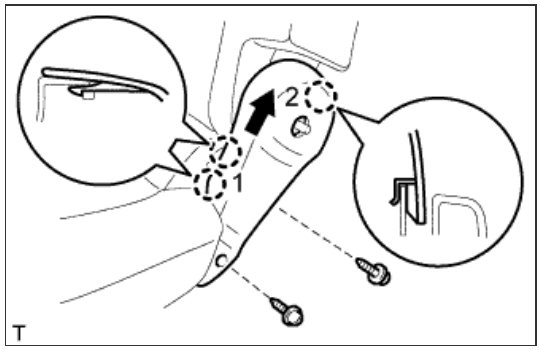
a. Remove the screw and release handle.




## 4. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

a. Remove the 2 screws.

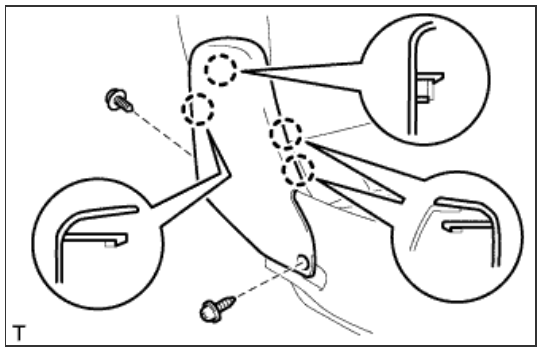
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.



## 5. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

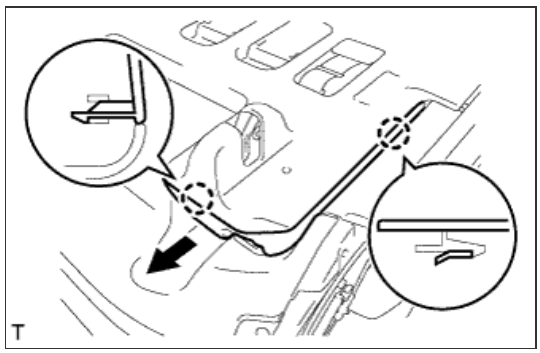



## 6. REMOVE UPPER SEAT TRACK RAIL COVER LH

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

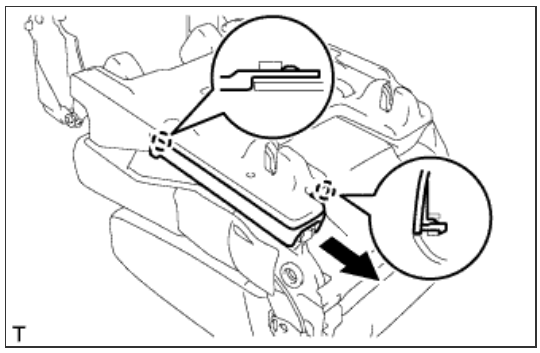



## 7. REMOVE UPPER SEAT TRACK RAIL COVER RH

a. Using a screwdriver, detach the 2 claws and remove the cover.

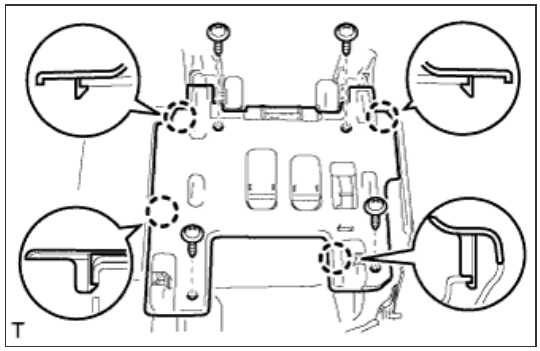
**HINT:**

Tape the screwdriver tip before use.

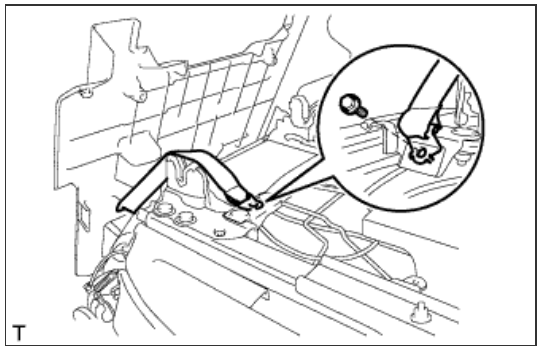



## 8. REMOVE REAR NO. 2 SEAT LEG SIDE COVER

a. Remove the 4 screws and detach the 4 claws.



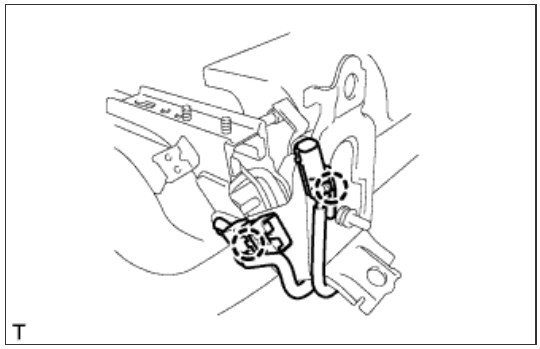
b. Remove the bolt that is securing the fold seat stopper band and remove the seat leg side cover together with the fold seat stopper band.




## 9. REMOVE REAR NO. 2 SEAT PROTECTOR

a. w/ Rear Seat Side Airbag:
Detach the claw and remove the wire harness connector.

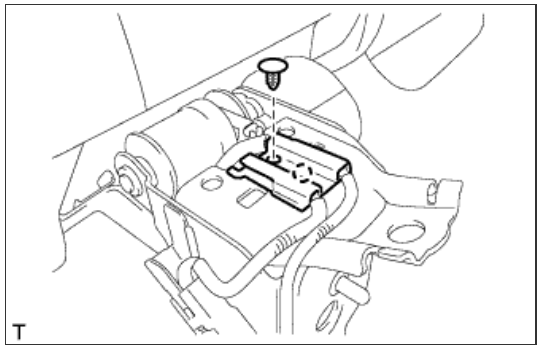
b. w/ Seat Heater System:
Detach the claw and remove the wire harness connector.




c. Using a clip remover, remove the clip.

d. Detach the claw and remove the seat protector from the seat hinge.

e. Detach the 2 claws, open the protector and remove wire harness.

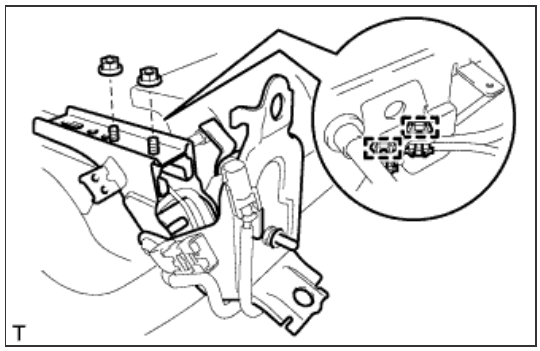



## 10. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

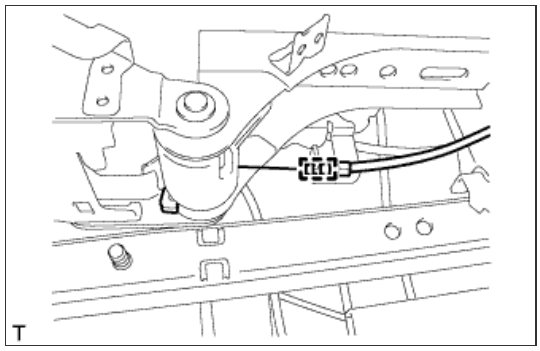
a. w/ Rear Seat Side Airbag:
Detach the wire harness clamp.

b. w/ Seat Heater System:
Detach the wire harness clamp.

c. Remove the 2 nuts and hinge.

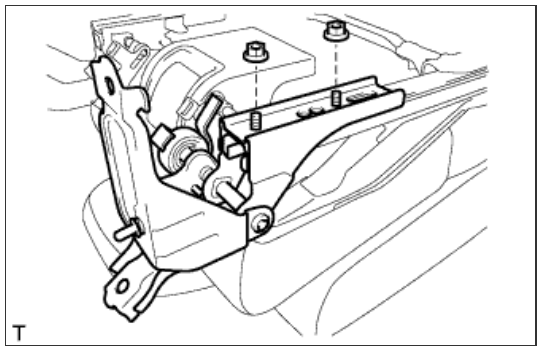



d. Detach the cable clamp and disconnect the cable.



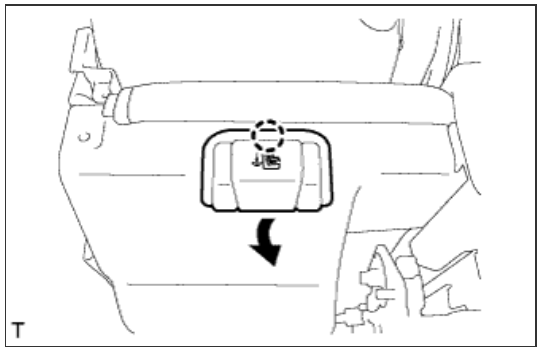

### 11. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

a. Remove the 2 nuts and hinge.

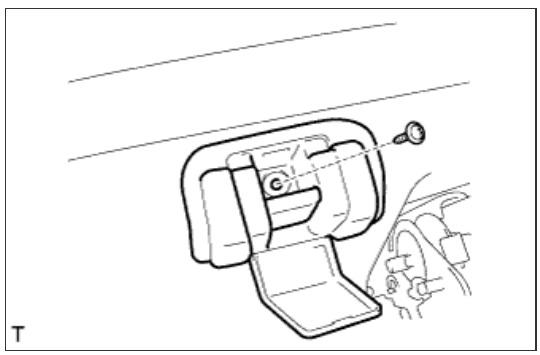



### 12. REMOVE SEAT BELT ANCHOR COVER CAP

a. Detach the claw and open the cap.



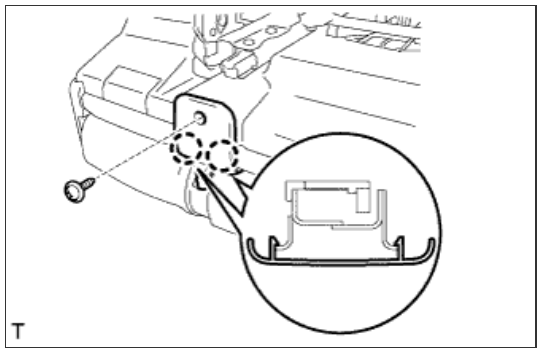

b. Remove the screw and anchor cover cap.




### 13. REMOVE REAR SEATBACK STAY COVER LH

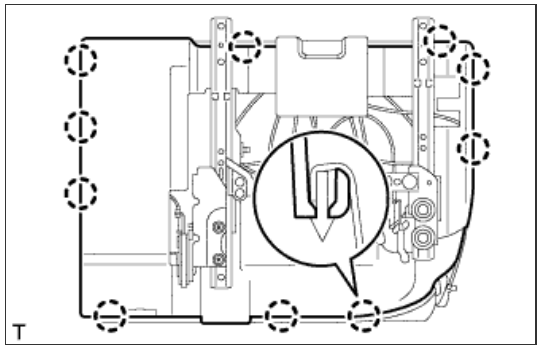
a. Remove the screw.

b. Detach the 2 claws and remove the cover.



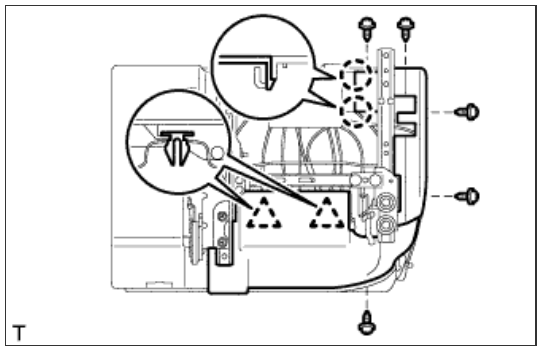

## 14. REMOVE REAR UNDER SIDE COVER LH

a. Detach the 10 claws.




b. Remove the 5 screws.

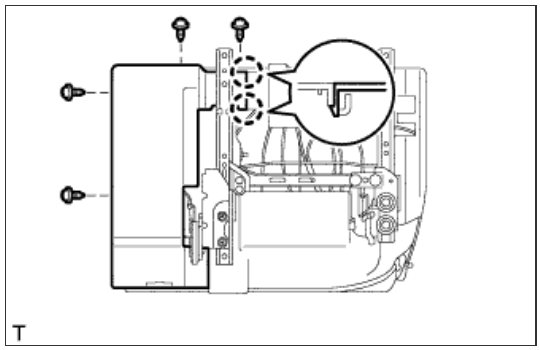
c. Detach the 2 clips and 2 claws, and remove the cover.




## 15. REMOVE REAR SEAT CUSHION COVER RH

a. Remove the 4 screws.

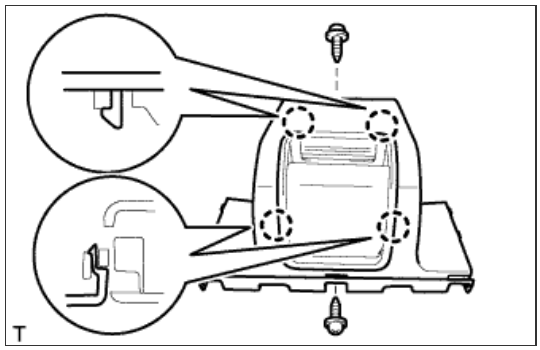
b. Detach the 2 claws and remove the cover.




## 16. REMOVE REAR SEAT UNDER TRAY LH COVER

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

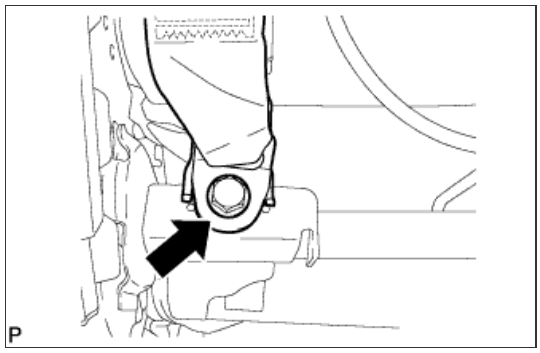



## 17. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Remove the bolt and belt.

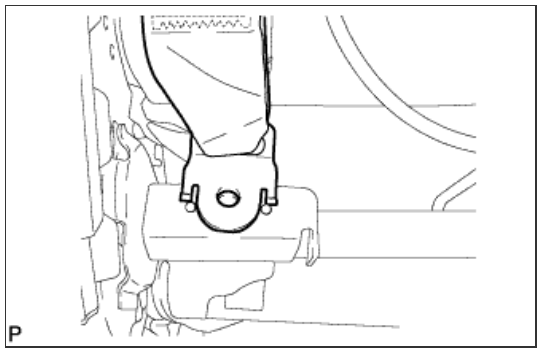
**HINT:**

The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, it becomes disconnected when the bolt is removed.




## 18. DISCONNECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Disconnect the belt anchor.



**for Preparation** Click here

**HINT:**

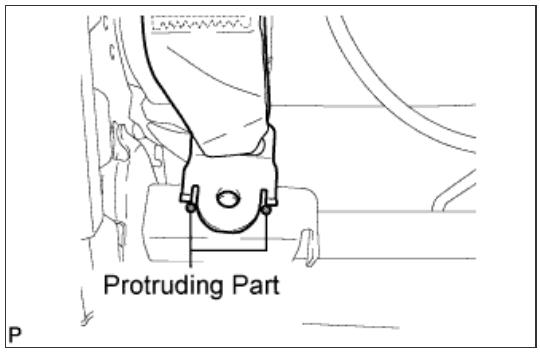
- **Use the same procedures for the LHD and RHD.**
- **The procedures listed below are for the LHD.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

## 1. CONNECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Connect the belt anchor.

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.




## 2. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Install the belt with the bolt.

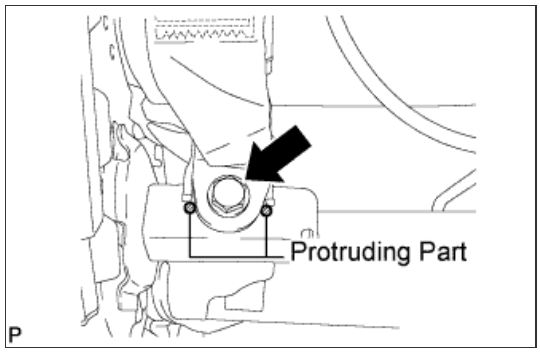
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

**HINT:**

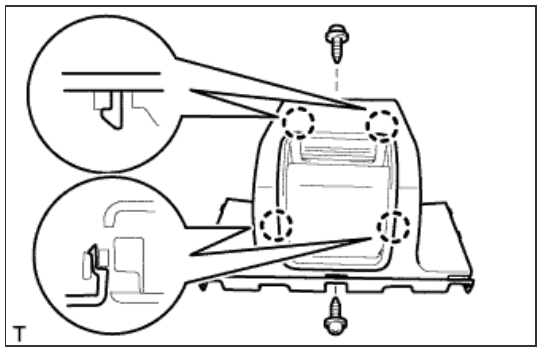
The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, connect it when installing the rear No. 1 seat inner belt LH.




## 3. INSTALL REAR SEAT UNDER TRAY COVER LH

a. Attach the 4 claws to install the cover.

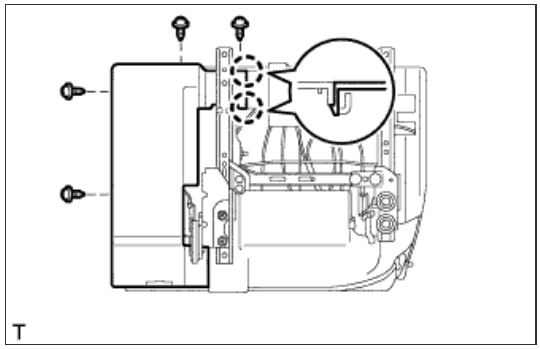
b. Install the 2 screws.




## 4. INSTALL REAR SEAT CUSHION COVER RH

a. Attach the 2 claws to install the cover.

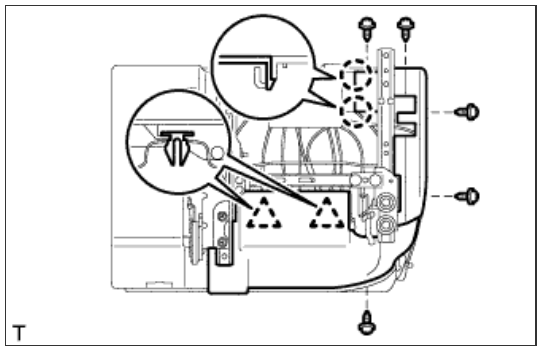
b. Install the 4 screws.



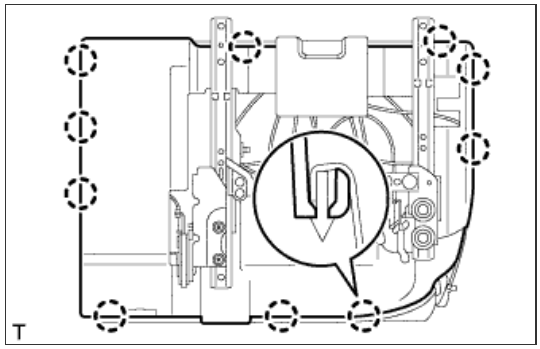

## 5. INSTALL REAR UNDER SIDE COVER LH

a. Attach the 2 claws and 2 clips to install the cover.

b. Install the 5 screws.



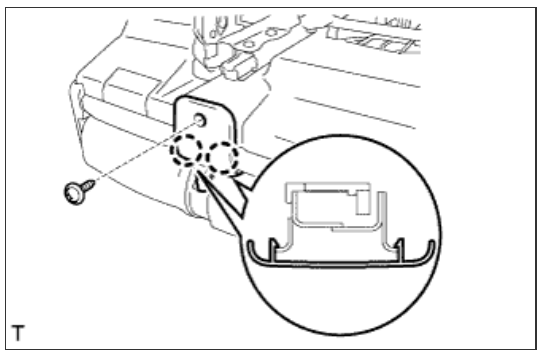

c. Attach the 10 claws.




## 6. INSTALL REAR SEATBACK STAY COVER LH

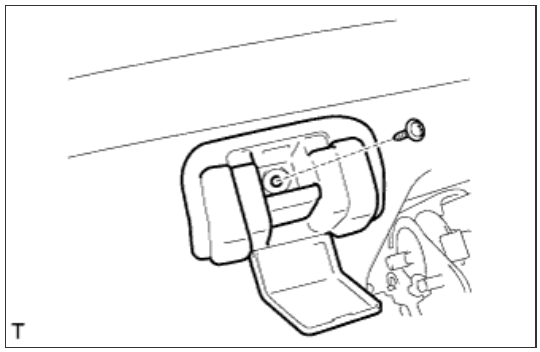
a. Attach the 2 claws to install the cover.

b. Install the screw.

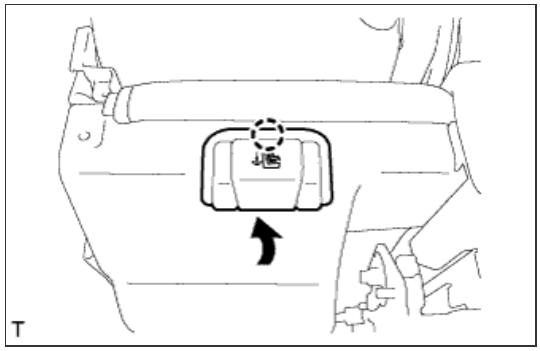



## 7. INSTALL SEAT BELT ANCHOR COVER CAP

a. Install the anchor cover cap with the screw.



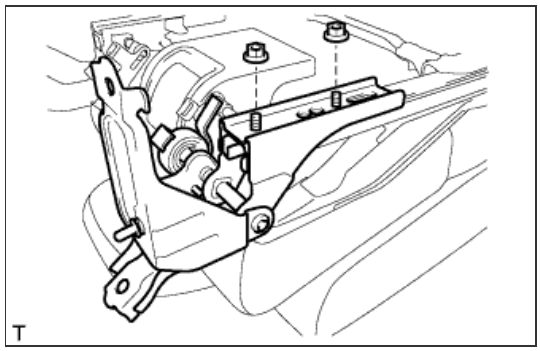

b. Attach the claw to close the cap.




## 8. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

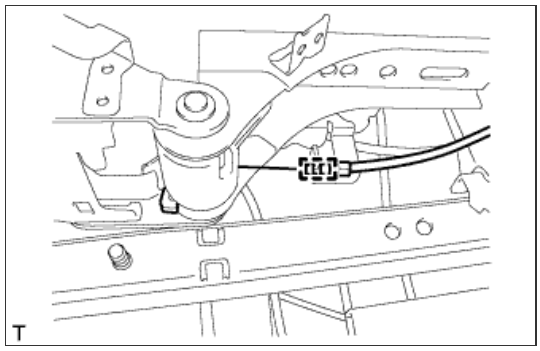
a. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 9. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Attach the cable clamp to connect the cable.

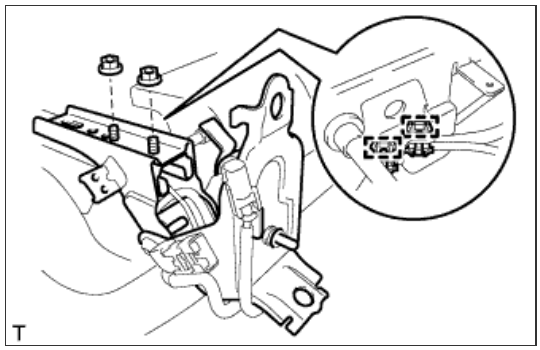



b. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. w/ Rear Seat Side Airbag:
Attach the wire harness clamp.

d. w/ Seat Heater System:
Attach the wire harness clamp.

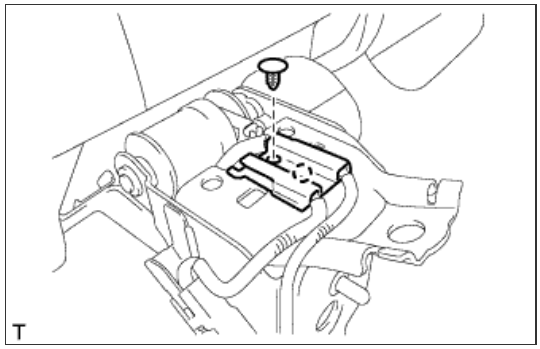



## 10. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Install the wire harness, and attach 2 claws to close the protector.

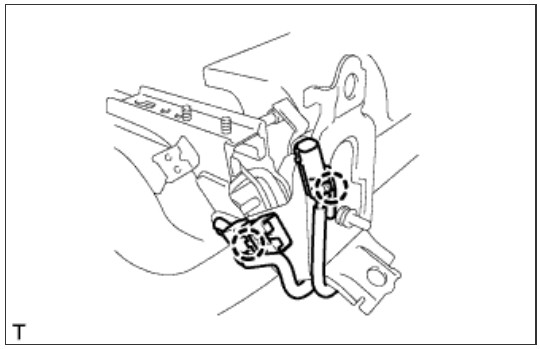
b. Attach the claw to install the protector to the seat hinge.

c. Install the clip.



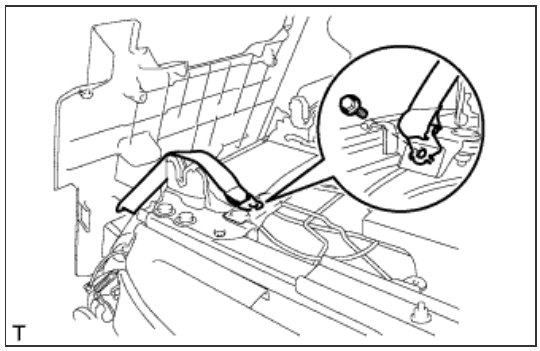

d. w/ Rear Seat Side Airbag:
Attach the claw to install the wire harness connector.

e. w/ Seat Heater System:
Attach the claw to install the wire harness connector.



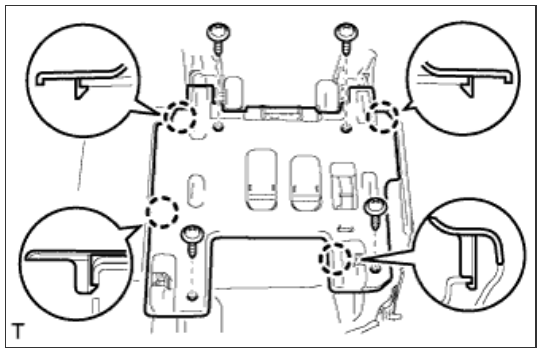

## 11. INSTALL REAR NO. 2 SEAT LEG SIDE COVER

a. Pass the fold seat stopper band through the seat leg side cover and attach it to the seat cushion frame with the bolt.



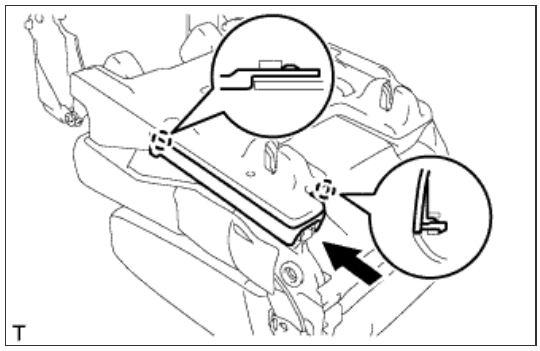

b. Attach the 4 claws to install the seat leg side cover.

c. Install the 4 screws.



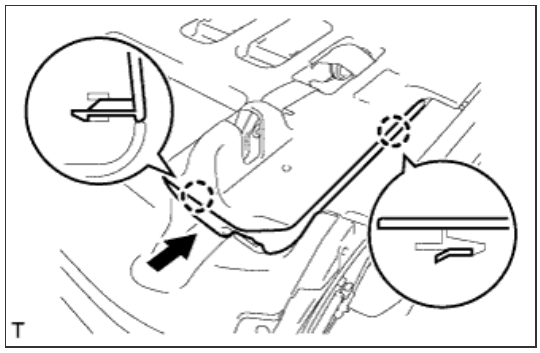

## 12. INSTALL UPPER SEAT TRACK RAIL COVER RH

a. Attach the 2 claws to install the cover.




## 13. INSTALL UPPER SEAT TRACK RAIL COVER LH

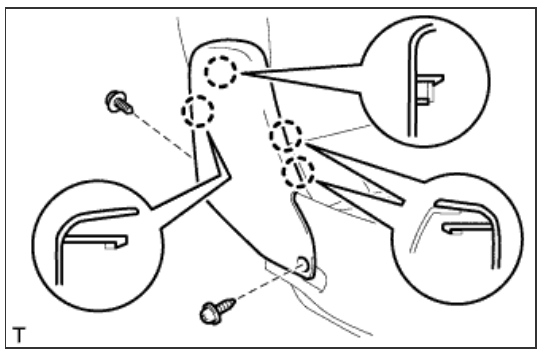
a. Attach the 2 claws to install the cover.




## 14. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

a. Attach the 4 claws to install the cover.

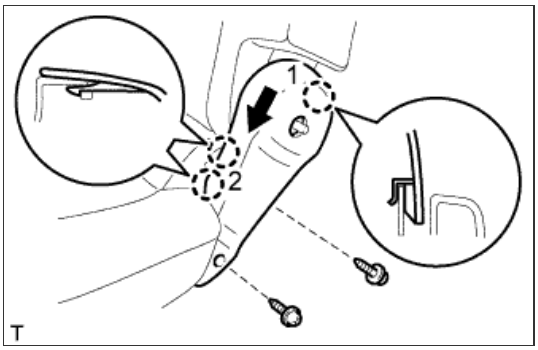
b. Install the 2 screws.




## 15. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

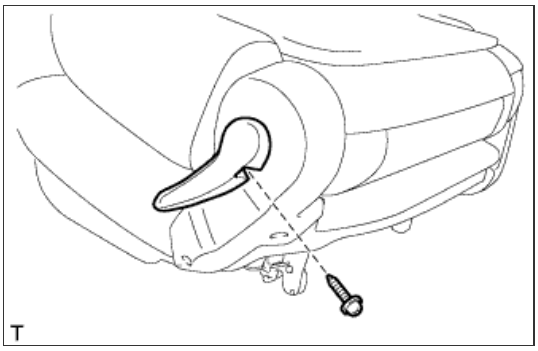
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the 2 screws.



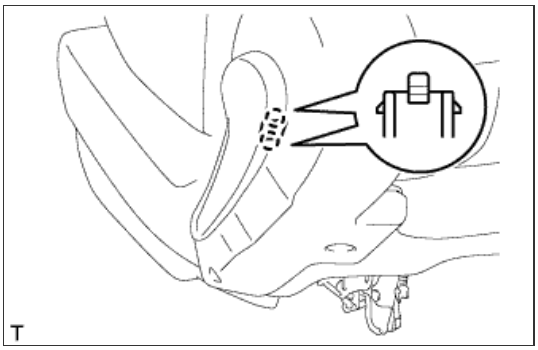

## 16. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the release handle with the screw.




## 17. INSTALL SEAT ADJUSTER BOLT COVER

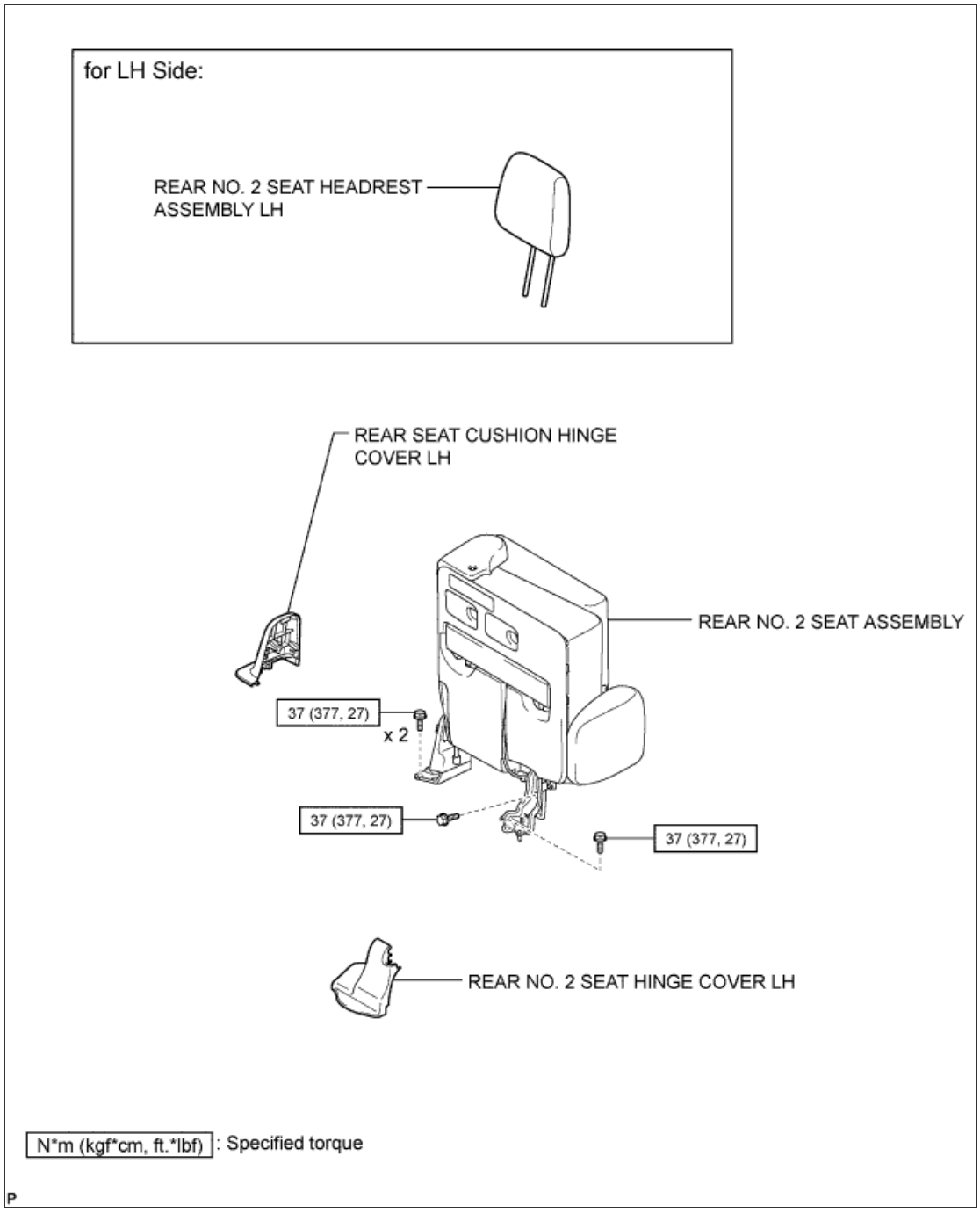
a. Attach the 2 claws to install the cover.

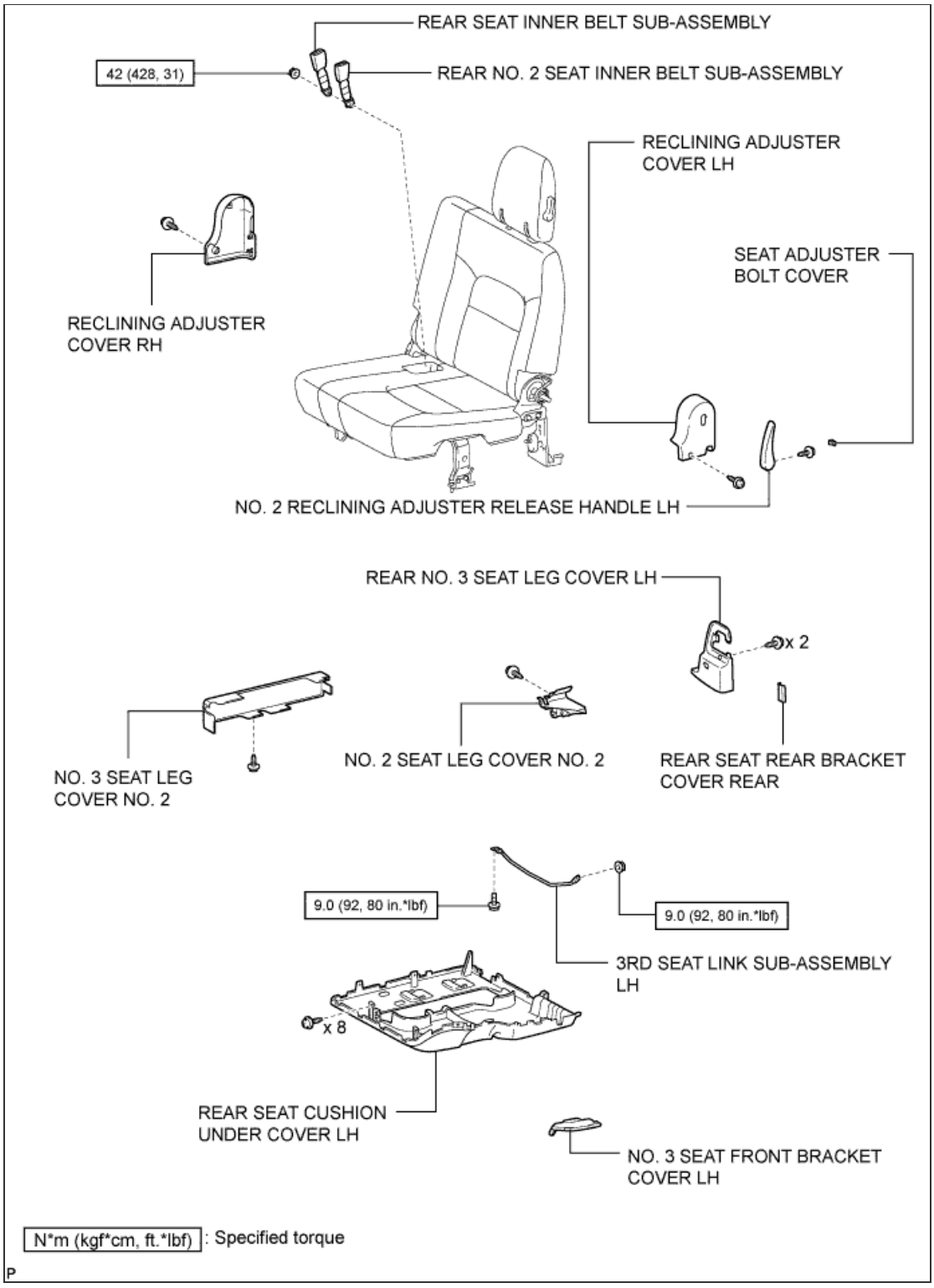



## 18. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

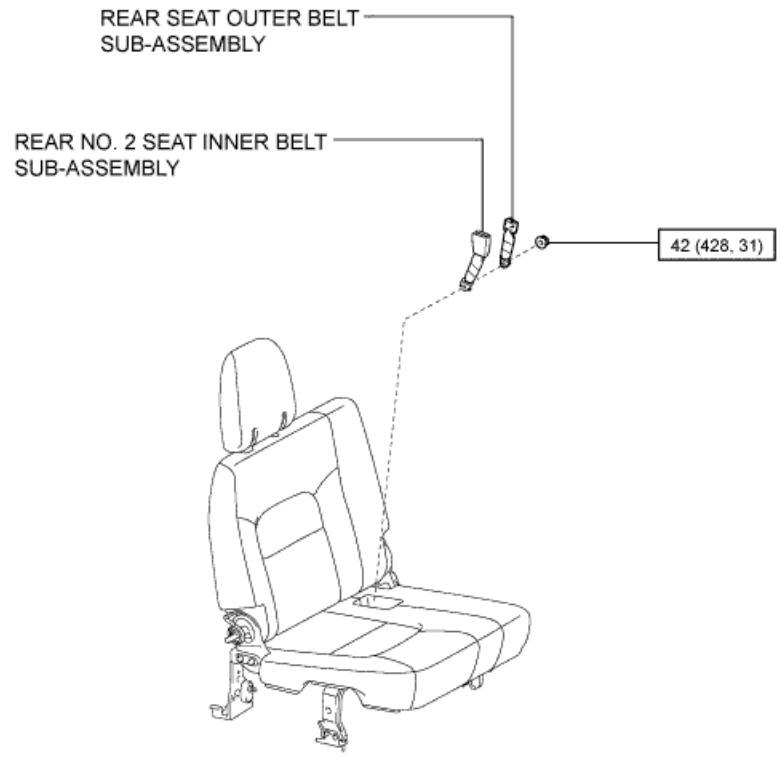
a. Install the rear No. 1 seat assembly ( Click here).

**for Preparation** Click here




REAR SEAT INNER BELT SUB-ASSEMBLY
42 (428, 31)
REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY
RECLINING ADJUSTER COVER LH
SEAT ADJUSTER BOLT COVER
RECLINING ADJUSTER COVER RH
NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH
REAR NO. 3 SEAT LEG COVER LH
x 2
NO. 3 SEAT LEG COVER NO. 2
NO. 2 SEAT LEG COVER NO. 2
REAR SEAT REAR BRACKET COVER REAR
9.0 (92, 80 in.*lbf)
9.0 (92, 80 in.*lbf)
3RD SEAT LINK SUB-ASSEMBLY LH
x 8
REAR SEAT CUSHION UNDER COVER LH
NO. 3 SEAT FRONT BRACKET COVER LH
N*m (kgf*cm, ft.*lbf) : Specified torque
P

for RH Side:




N*m (kgf*cm, ft.*lbf) : Specified torque

P

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**

## 1. REMOVE REAR NO. 2 SEAT ASSEMBLY LH

a. Remove the rear No. 2 seat assembly LH ( Click here).

## 2. REMOVE SEAT ADJUSTER BOLT COVER

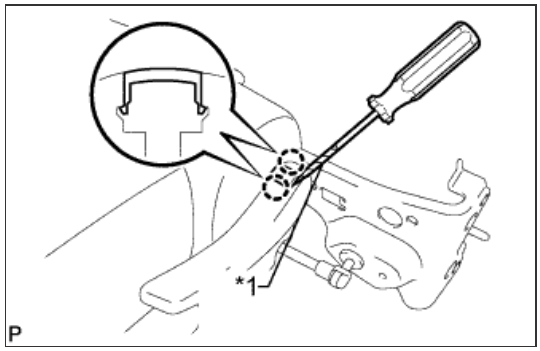
a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

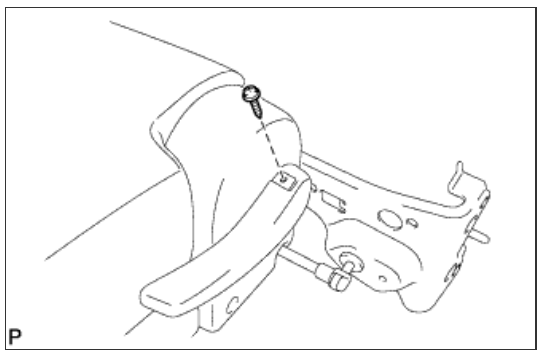
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 3. REMOVE NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH

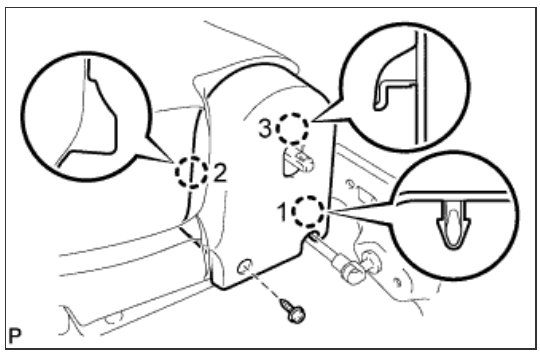
a. Remove the screw and release handle.




## 4. REMOVE RECLINING ADJUSTER COVER LH

a. Remove the screw.

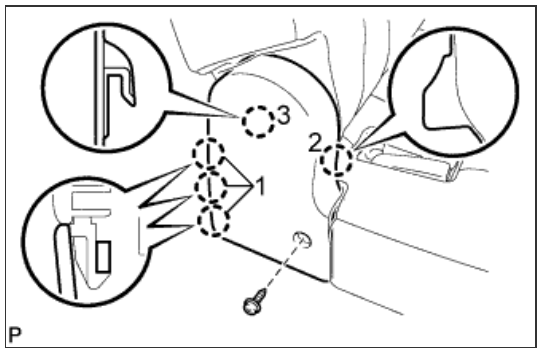
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.



## 5. REMOVE RECLINING ADJUSTER COVER RH

a. Remove the screw.

b. Detach the 5 claws in the order shown in the illustration, and then remove the cover.



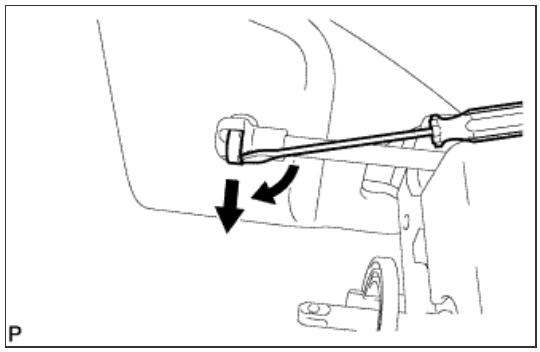

## 6. REMOVE REAR SEAT REAR BRACKET COVER REAR

a. Detach the 2 claws and cover.

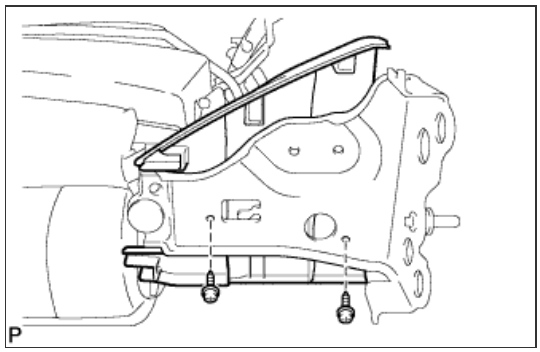
## 7. REMOVE REAR NO. 3 SEAT LEG COVER LH

a. Using a screwdriver, remove the spring of the seat stay ball-joint.

b. Disconnect the seat stay.

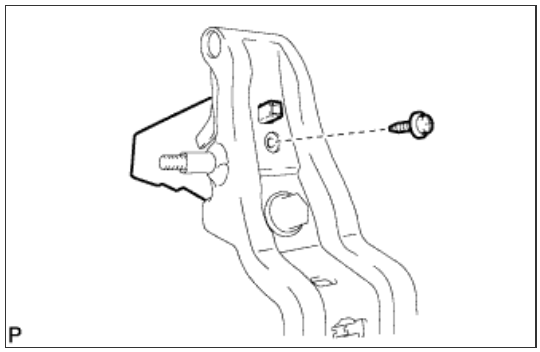



c. Remove the 2 screws and cover.



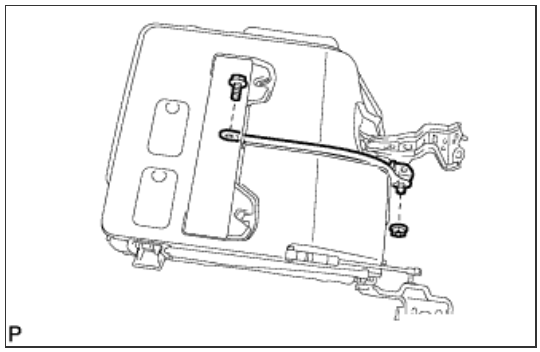

## 8. REMOVE NO. 2 SEAT LEG COVER NO. 2

a. Remove the screw and seat leg cover.



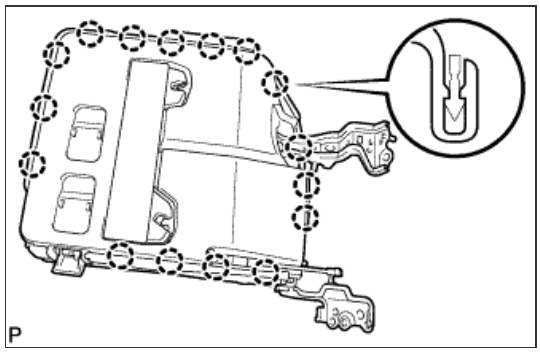

### 9. REMOVE 3RD SEAT LINK SUB-ASSEMBLY LH

a. Remove the bolt, nut and seat link.

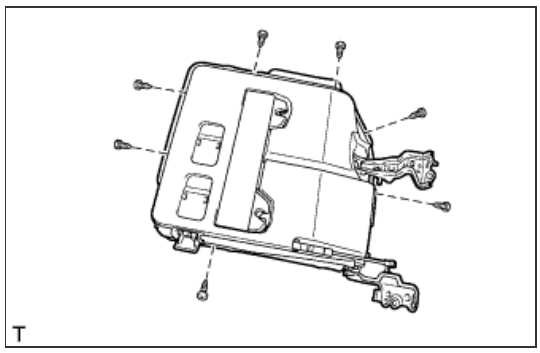



### 10. REMOVE REAR SEAT CUSHION UNDER COVER LH

a. Detach the 16 claws.

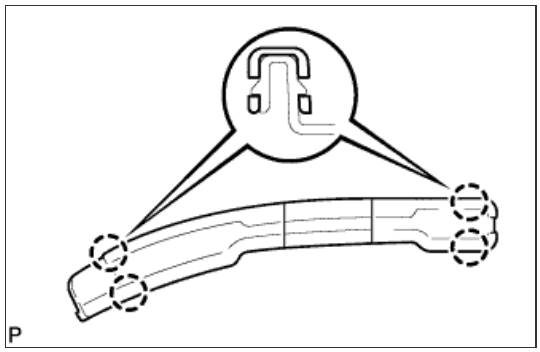



b. Remove the 7 screws and cover.




### 11. REMOVE NO. 3 SEAT FRONT BRACKET COVER LH

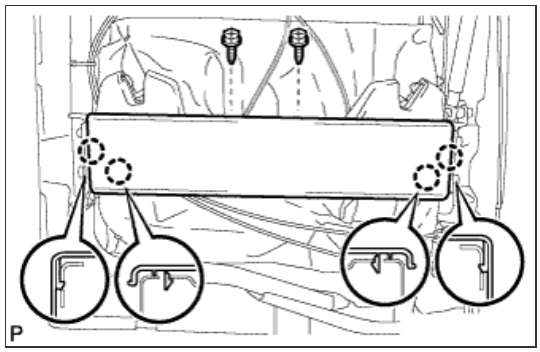
a. Detach the 4 claws and remove the cover.




### 12. REMOVE NO. 3 SEAT LEG COVER NO. 2

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

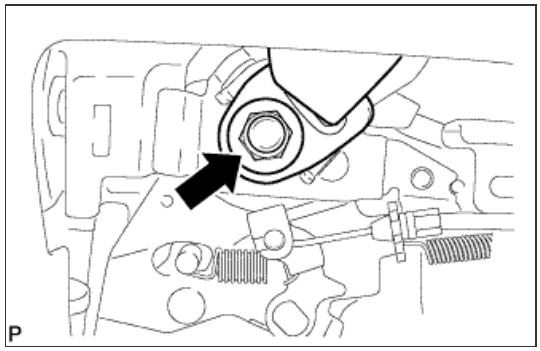



### 13. REMOVE REAR SEAT INNER BELT SUB-ASSEMBLY (for LH Side)

a. Remove the nut and belt.

**HINT:**

The rear No. 2 seat inner belt is fixed with the same nut as the rear seat inner belt. Therefore, it becomes disconnected when the nut is removed.

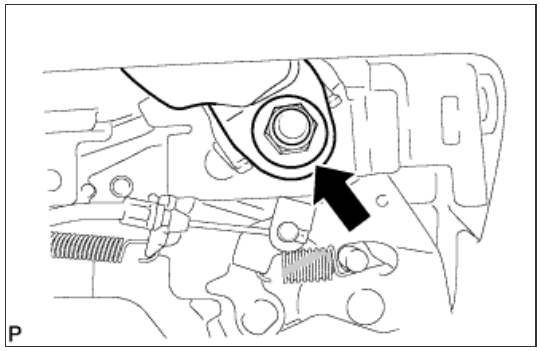



### 14. REMOVE REAR SEAT OUTER BELT SUB-ASSEMBLY (for RH Side)

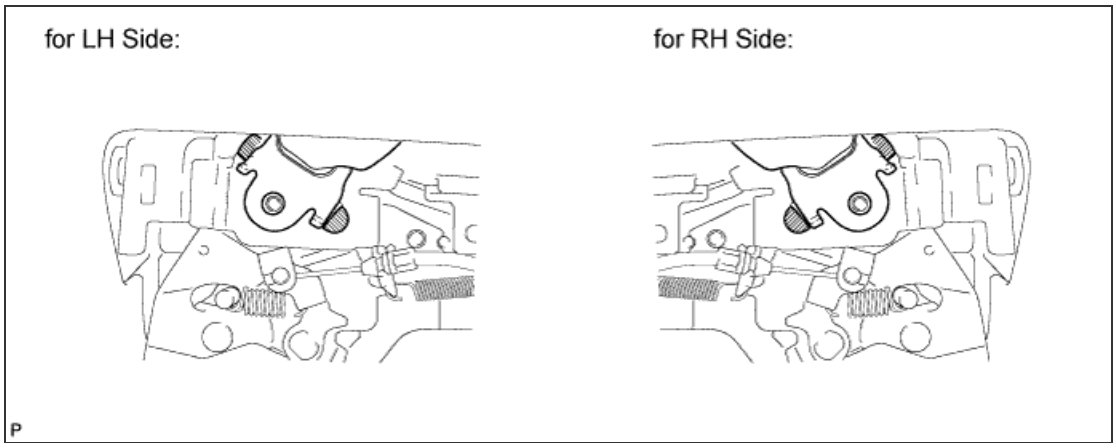
a. Remove the nut and belt.

**HINT:**

The rear No. 2 seat inner belt is fixed with the same nut as the rear seat outer belt. Therefore, it becomes disconnected when the nut is removed.




### 15. REMOVE REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY

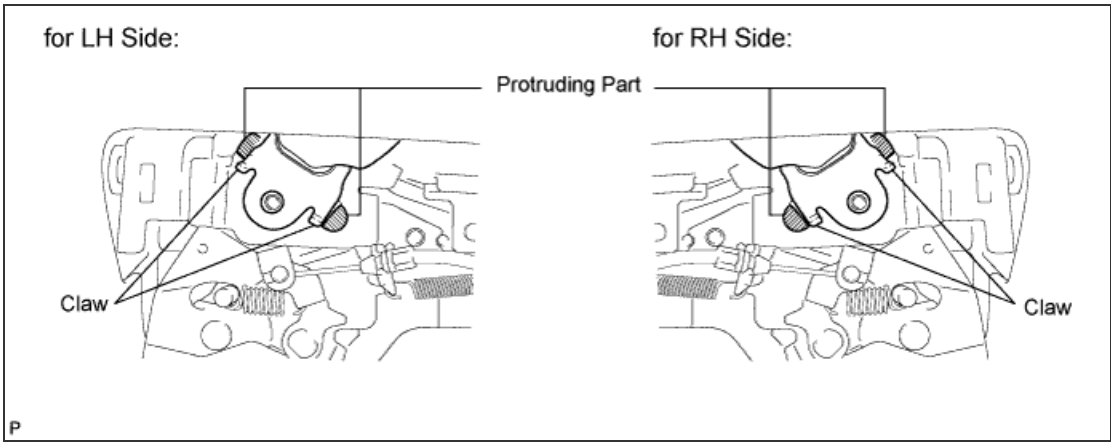



a. Remove the 2 belts.

**for Preparation** Click here

## 1. INSTALL REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY

a. Install the 2 belts.




**NOTICE:**

- **Make sure the claws are facing away from the seat.**
- **Do not overlap the anchor part of the seat belt and protruding parts of the seat.**

## 2. INSTALL REAR SEAT INNER BELT SUB-ASSEMBLY (for LH Side)

a. Install the belt with the nut.

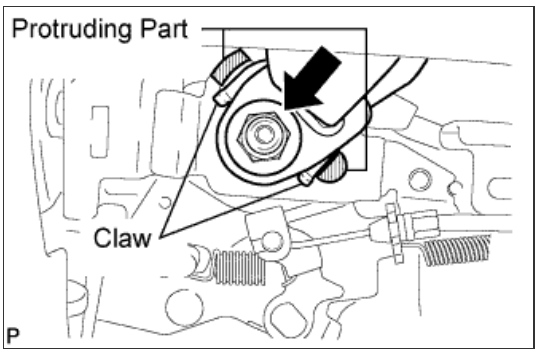
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the seat.

**HINT:**

The rear No. 2 seat inner belt is fixed with the same nut as the rear seat inner belt. Therefore, connect it when installing the rear seat inner belt.




## 3. INSTALL REAR SEAT OUTER BELT SUB-ASSEMBLY (for RH Side)

a. Install the belt with the nut.

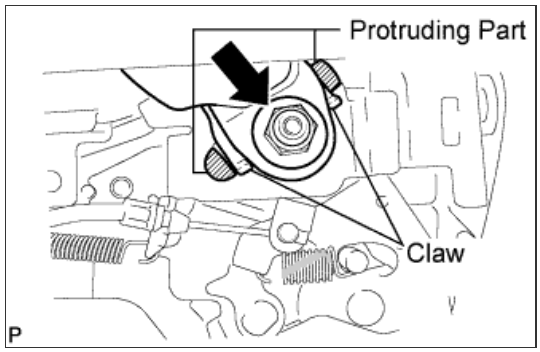
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the seat.

**HINT:**

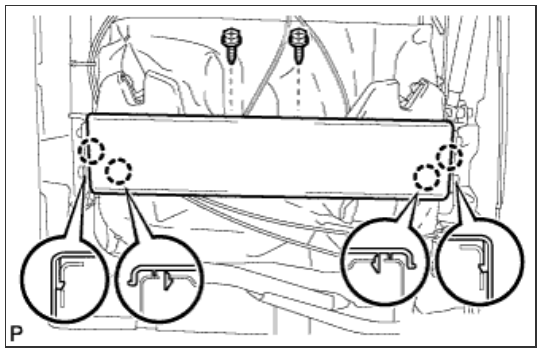
The rear No. 2 seat inner belt is fixed with the same nut as the rear seat outer belt. Therefore, connect it when installing the rear seat outer belt.




## 4. INSTALL NO. 3 SEAT LEG COVER NO. 2

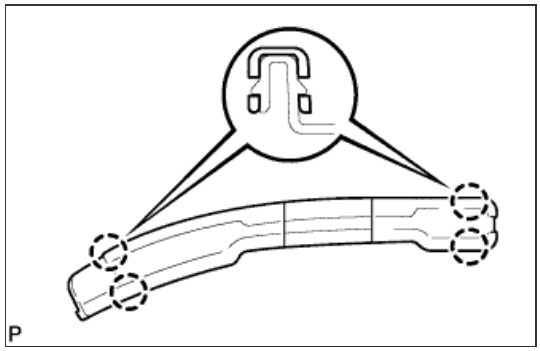
a. Attach the 4 claws to install the cover.

b. Install the 2 screws.



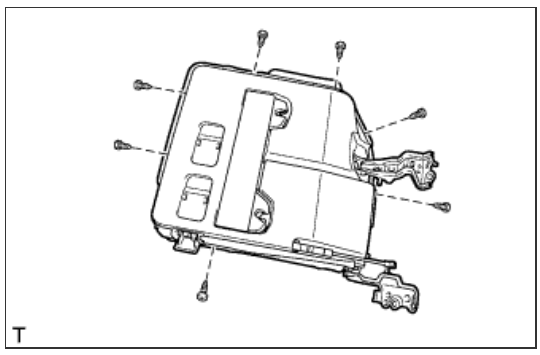

## 5. INSTALL NO. 3 SEAT FRONT BRACKET COVER LH

a. Attach the 4 claws to install the cover.

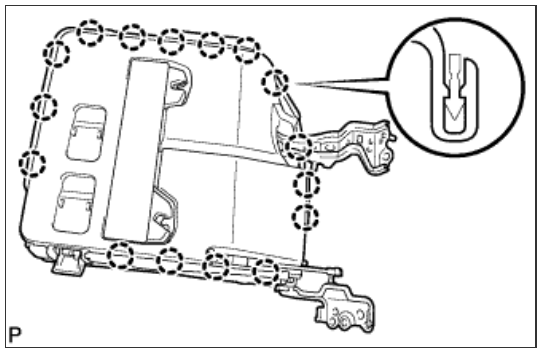



## 6. INSTALL REAR SEAT CUSHION UNDER COVER LH

a. Install the cover with the 7 screws.



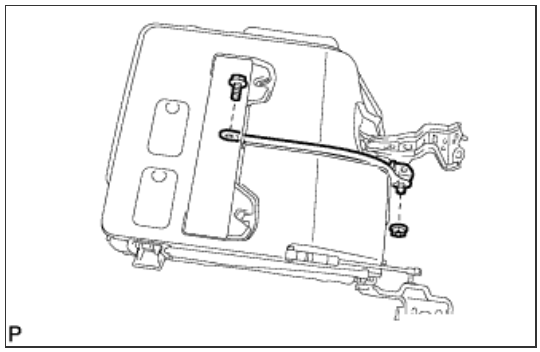

b. Attach the 16 claws.




## 7. INSTALL 3RD SEAT LINK SUB-ASSEMBLY LH

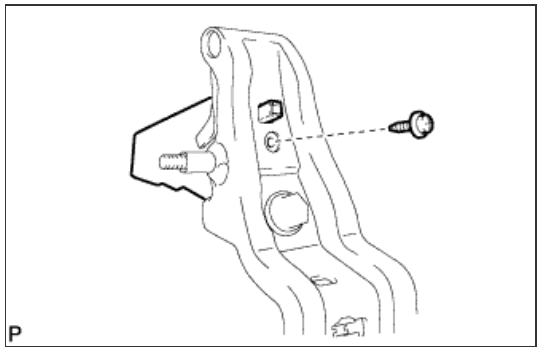
a. Install the seat link with the bolt and nut.

**Torque:**
**8.5 N*m{ 87 kgf*cm , 75 in.*lbf }**



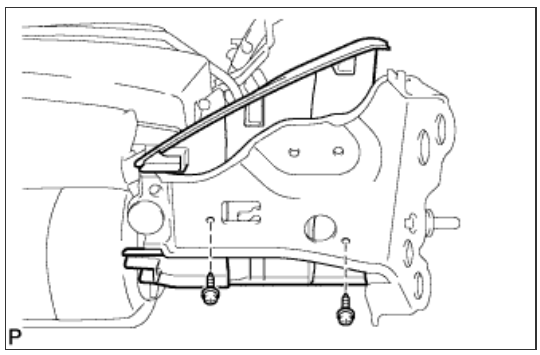

## 8. INSTALL NO. 2 SEAT LEG COVER NO. 2

a. Install the seat leg cover with the screw.



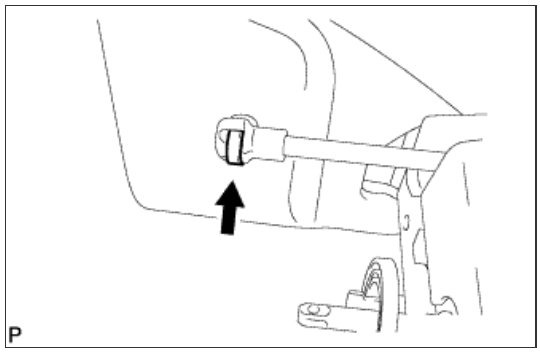

## 9. INSTALL REAR NO. 3 SEAT LEG COVER LH

a. Install the seat leg cover with the 2 screws.




b. Install the spring of the seat stay ball-joint.

c. Connect the seat stay to the seat frame.



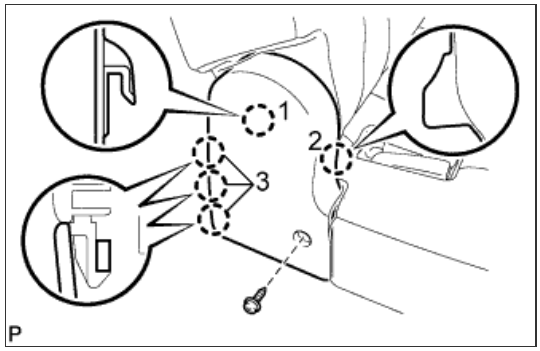

### 10. INSTALL REAR SEAT REAR BRACKET COVER REAR

a. Attach the 2 claws to install the cover.

### 11. INSTALL RECLINING ADJUSTER COVER RH

a. Attach the 5 claws in the order shown in the illustration to install the cover.

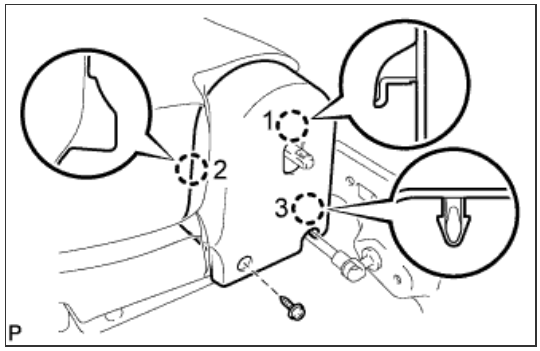
b. Install the screw.




### 12. INSTALL RECLINING ADJUSTER COVER LH

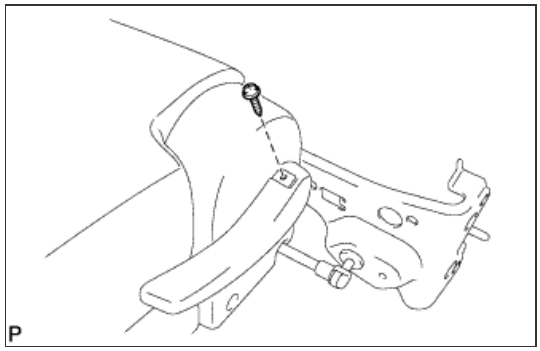
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the screw.



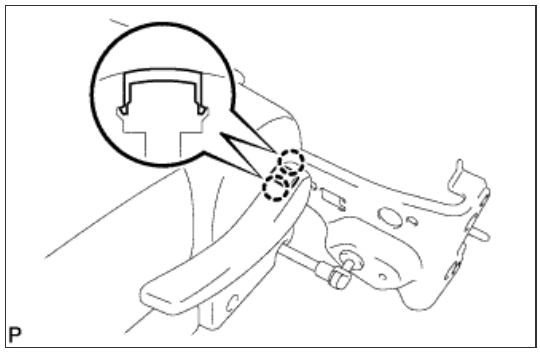

### 13. INSTALL NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the release handle with the screw.



## 14. INSTALL SEAT ADJUSTER BOLT COVER

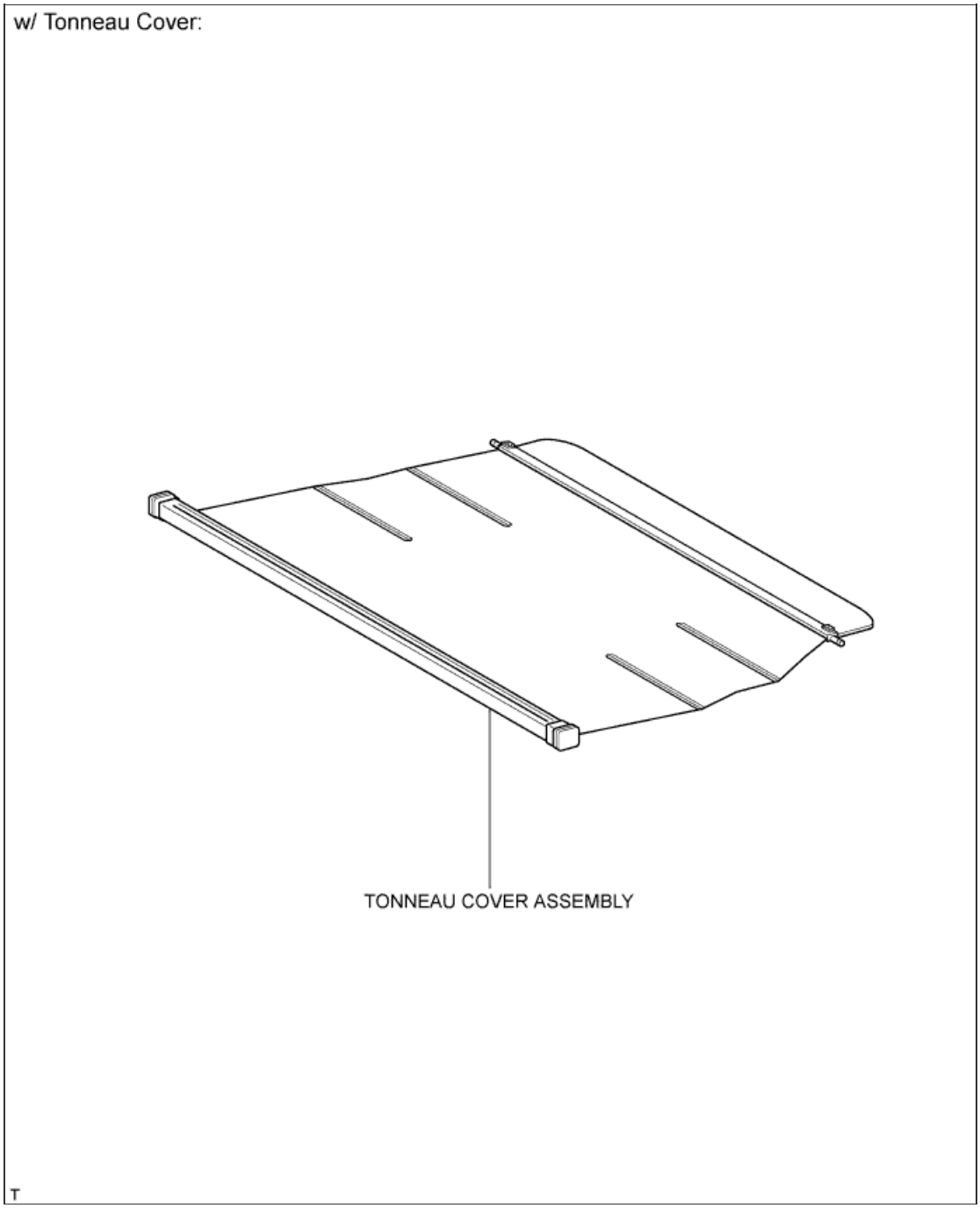
a. Attach the 2 claws to install the cover.

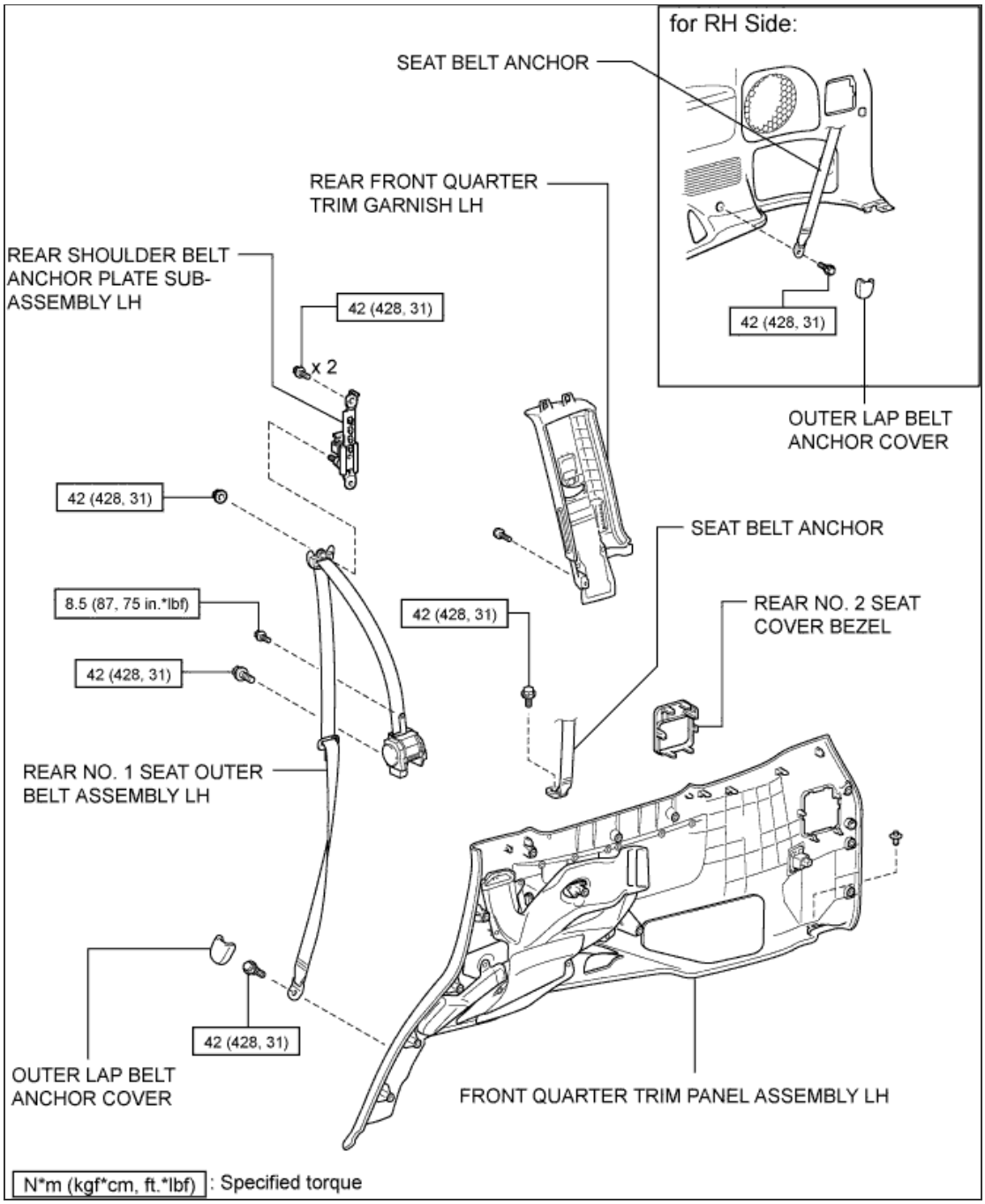


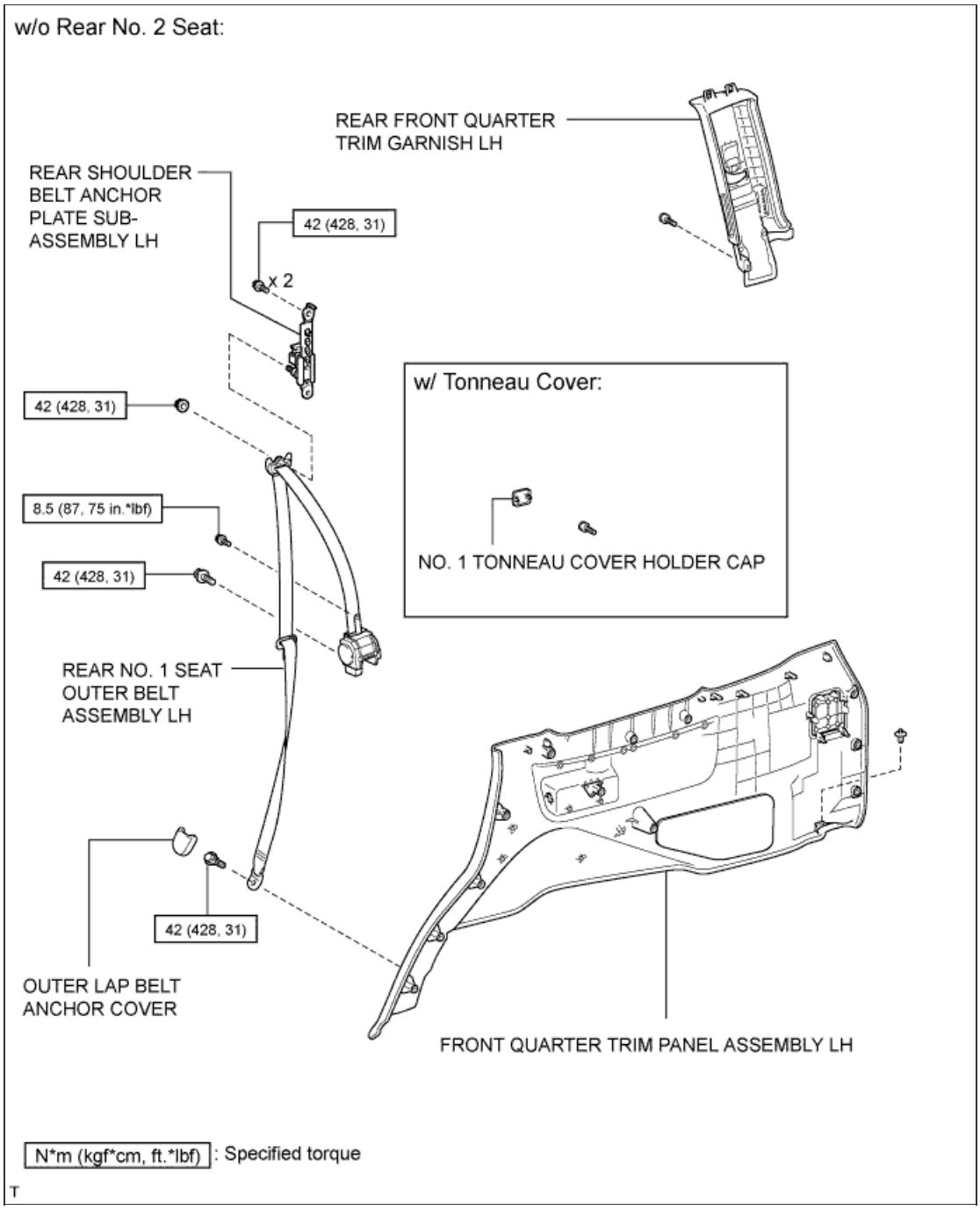

## 15. INSTALL REAR NO. 2 SEAT ASSEMBLY (for LH Side)

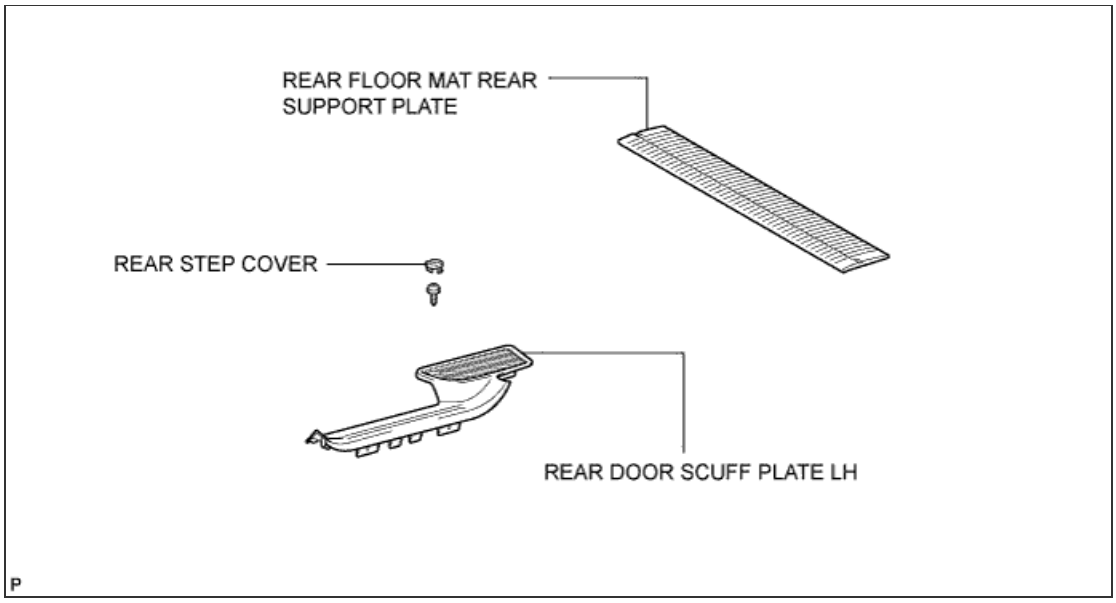
a. Install the rear No. 2 seat assembly ( Click here).

**for Preparation** Click here




for RH Side:
SEAT BELT ANCHOR
42 (428, 31)
OUTER LAP BELT ANCHOR COVER
REAR FRONT QUARTER TRIM GARNISH LH
REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH
42 (428, 31)
x 2
42 (428, 31)
SEAT BELT ANCHOR
8.5 (87, 75 in.*lbf)
42 (428, 31)
REAR NO. 2 SEAT COVER BEZEL
42 (428, 31)
REAR NO. 1 SEAT OUTER BELT ASSEMBLY LH
42 (428, 31)
OUTER LAP BELT ANCHOR COVER
FRONT QUARTER TRIM PANEL ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque


w/o Rear No. 2 Seat:
REAR FRONT QUARTER TRIM GARNISH LH
REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH
42 (428, 31)
x 2
42 (428, 31)
8.5 (87, 75 in.*lbf)
42 (428, 31)
w/ Tonneau Cover:
NO. 1 TONNEAU COVER HOLDER CAP
REAR NO. 1 SEAT OUTER BELT ASSEMBLY LH
42 (428, 31)
OUTER LAP BELT ANCHOR COVER
FRONT QUARTER TRIM PANEL ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T


REAR FLOOR MAT REAR SUPPORT PLATE
REAR STEP COVER
REAR DOOR SCUFF PLATE LH
P

**for Preparation** Click here

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

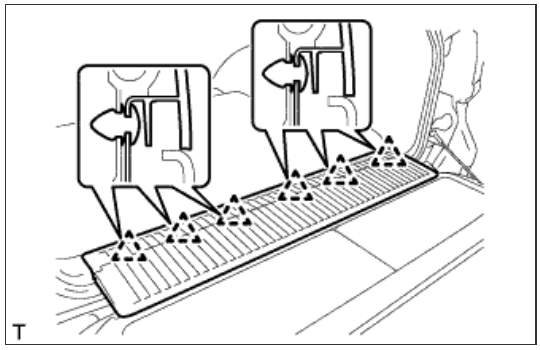
a. Remove the tonneau cover.

## 4. REMOVE REAR NO. 2 SEAT ASSEMBLY (w/ Rear No. 2 Seat)

a. Remove the rear No. 2 seat assembly ( Click here).

## 5. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.

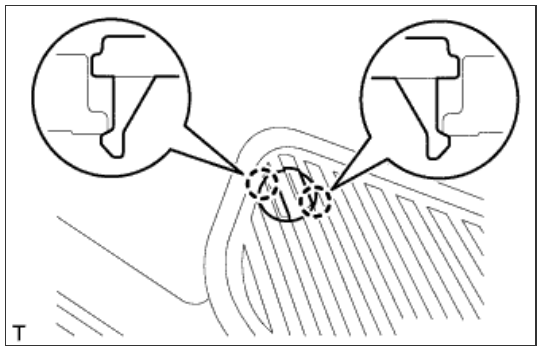



## 6. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

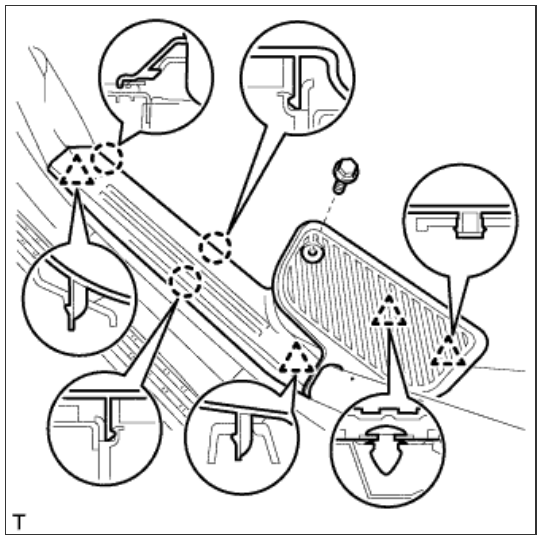
a. Detach the 2 claws and remove the step cover.




## 7. REMOVE REAR DOOR SCUFF PLATE LH

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.

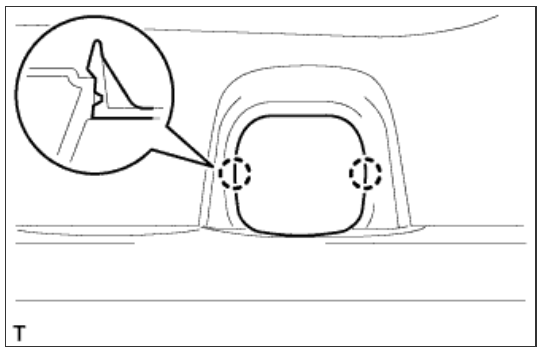



## 8. REMOVE NO. 1 TONNEAU COVER HOLDER CAP (w/ Tonneau Cover)

**HINT:**

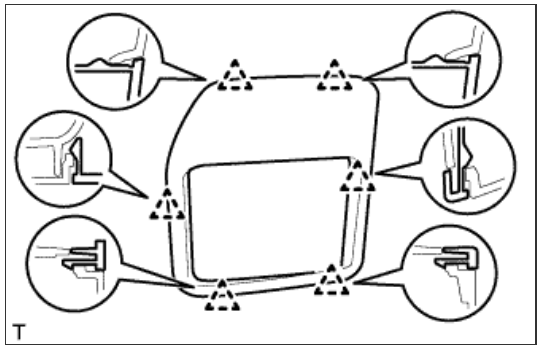
Use the same procedure to remove the tonneau cover holder cap on the other side.

a. Detach the 2 claws and remove the tonneau cover holder cap.




## 9. REMOVE REAR NO. 2 SEAT COVER BEZEL (w/ Rear No. 2 Seat)

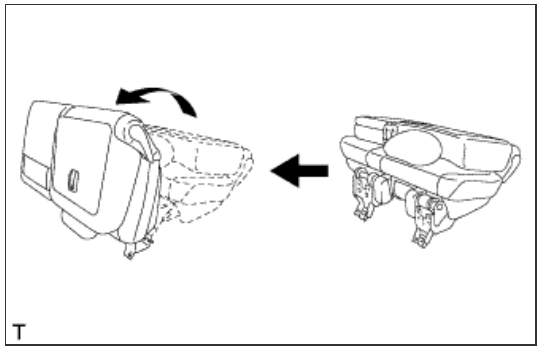
a. Detach the 6 clips and remove the rear No. 2 seat cover bezel.



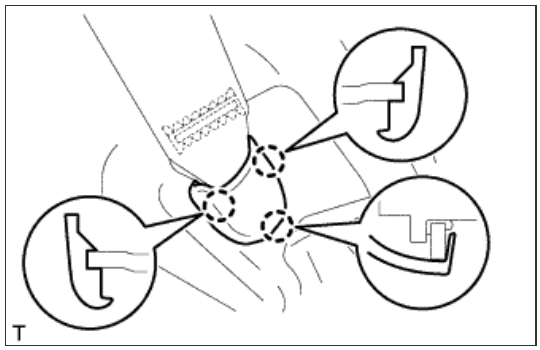
## 10. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

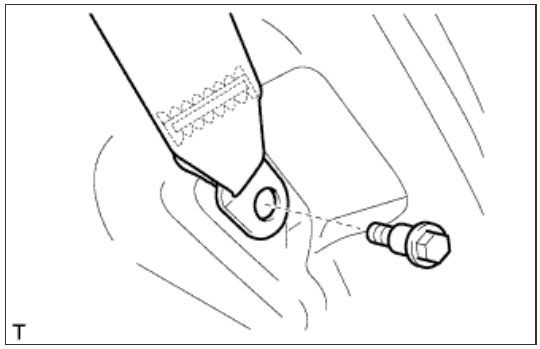
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



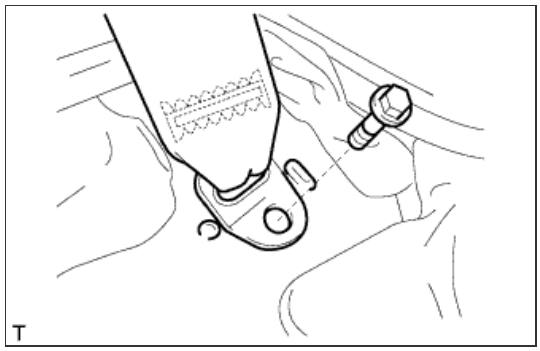

a. Detach the 3 claws and remove the cover.




b. Remove the bolt and disconnect the rear seat outer belt floor anchor.



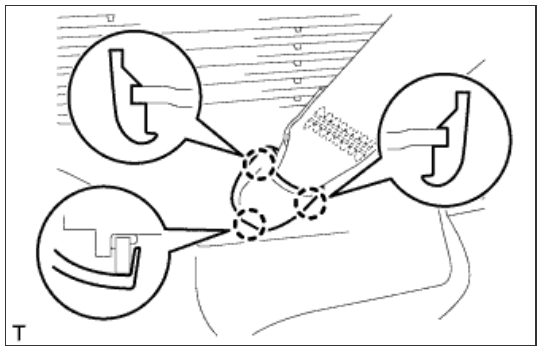

c. w/ Rear No. 2 Seat, for LH side:



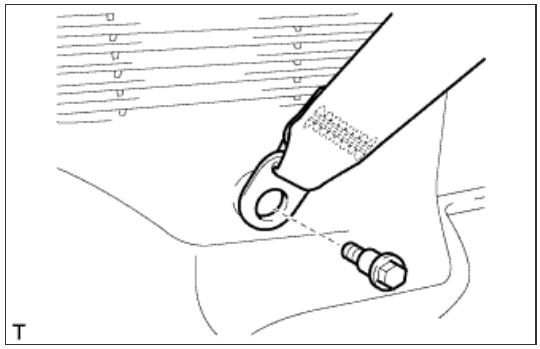

i. Remove the bolt and disconnect the rear No. 2 seat outer belt floor anchor LH.

d. w/ Rear No. 2 Seat, for RH side:

i. Detach the 3 claws and remove the cover.




ii. Remove the bolt and disconnect the rear No. 2 seat outer belt floor anchor RH.



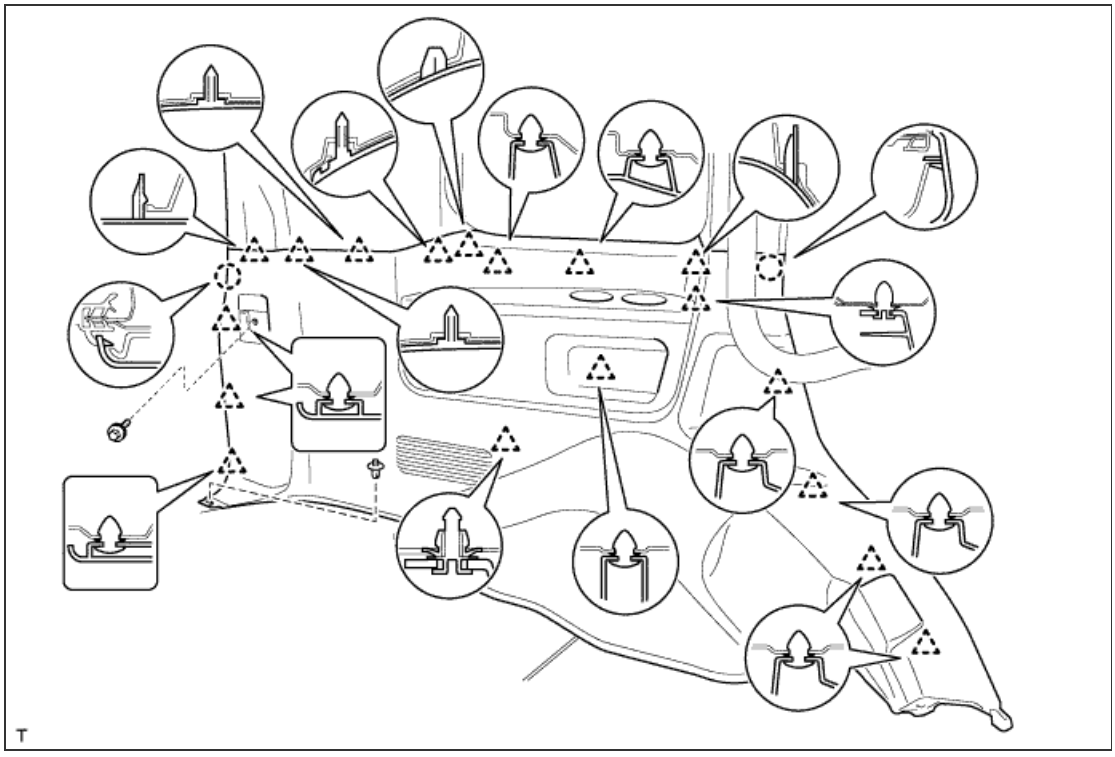

e. w/o Tonneau Cover:

i. Remove the clip and bolt.

ii. Detach the 18 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

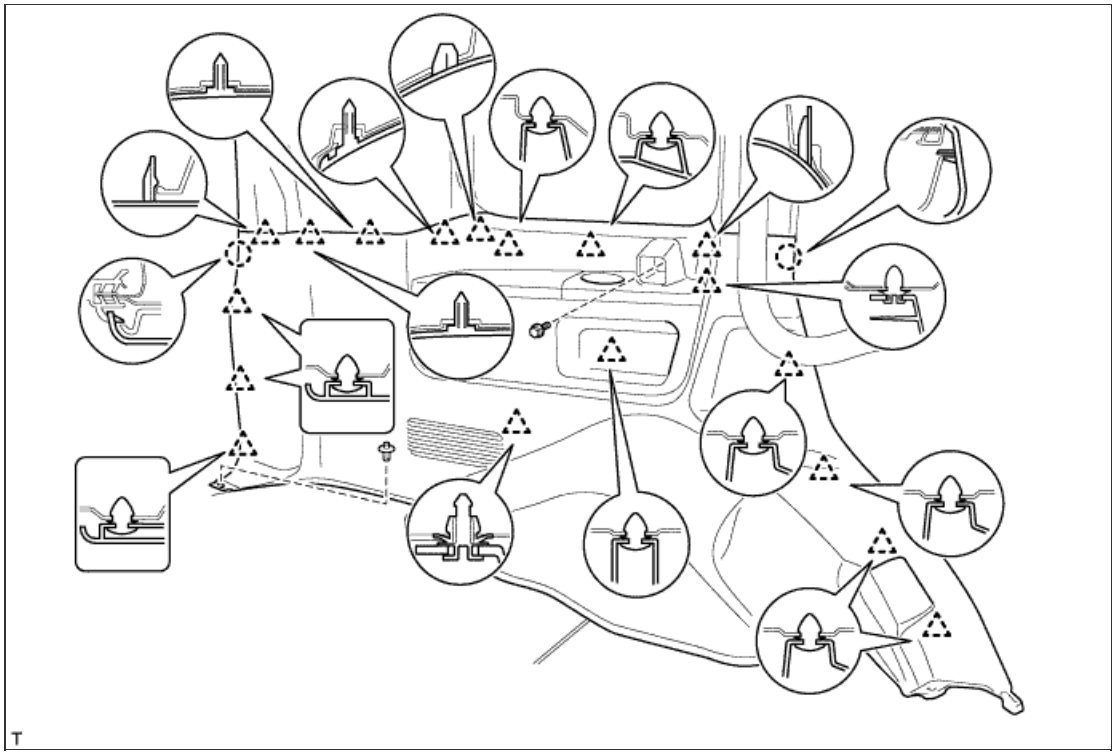
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.



f. w/ Tonneau Cover:

i. Remove the screw and clip.

ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.

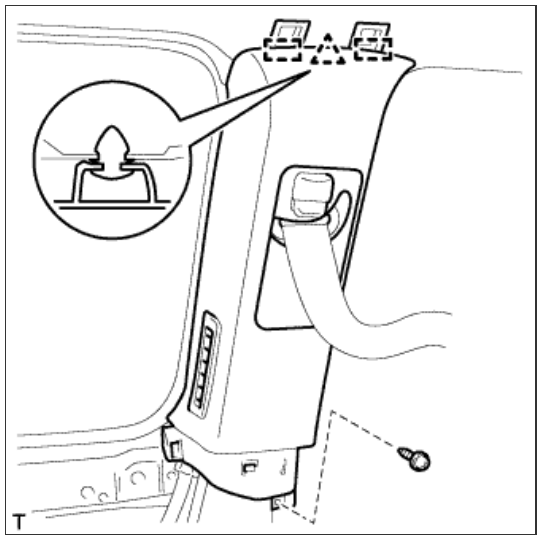



## 11. REMOVE REAR FRONT QUARTER TRIM GARNISH LH

a. Remove the screw.

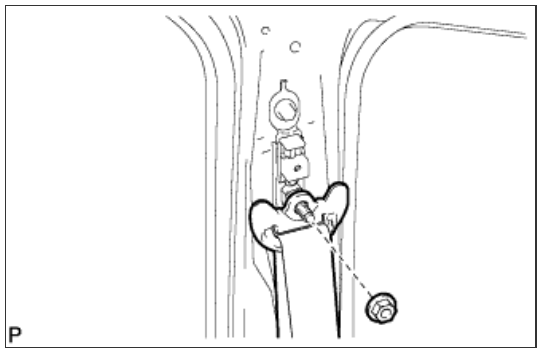
b. Detach the clip and 2 guides.

c. Pass the seat belt anchor through the quarter trim garnish, and remove the quarter trim garnish.

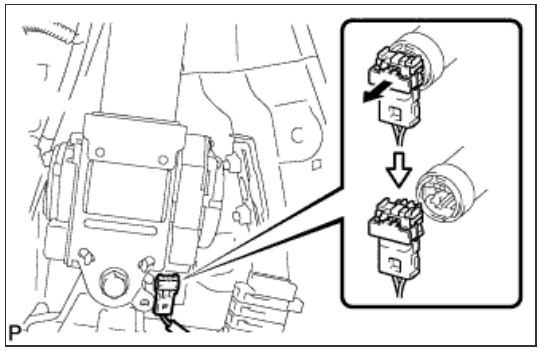



## 12. REMOVE REAR NO. 1 SEAT OUTER BELT ASSEMBLY LH

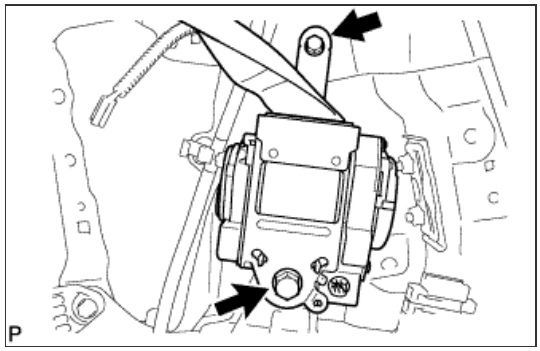
a. Remove the nut and seat belt shoulder anchor.




b. w/ Pretensioner:
Disconnect the pretensioner connector as shown in the illustration.

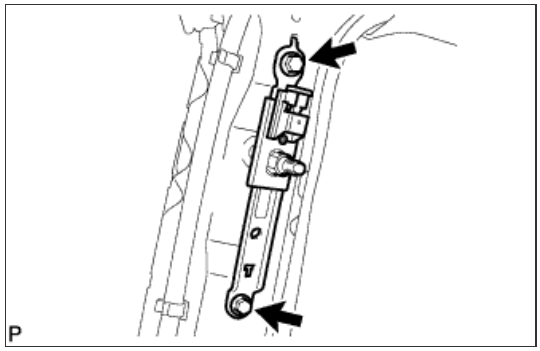



c. Remove the 2 bolts and rear No. 1 seat outer belt.




## 13. REMOVE REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

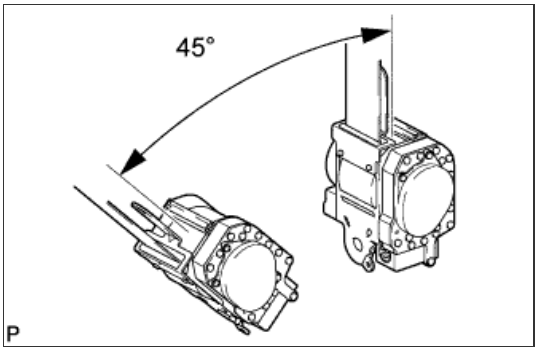
a. Remove the 2 bolts and anchor plate.



**for Preparation** Click here

## 1. INSPECT REAR NO. 1 SEAT OUTER BELT ASSEMBLY

a. Check the ELR.




i. When the inclination of the retractor is 15° or less, check that the belt can be pulled from the retractor. When the inclination of the retractor is over 45°, check that the belt locks.
If the operation is not as specified, replace the seat belt assembly.

b. w/ ALR:
Check the fastening function of the child restraint system.

**NOTICE:**

The check should be performed with the outer belt installed.

i. When the belt is pulled out fully, the belt should automatically start to retract.

ii. After the belt has fully retracted, the belt should be able to be pulled out and retracted again.
If the operation is not as specified, replace the belt assembly.

**for Preparation** Click here

**HINT:**

- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

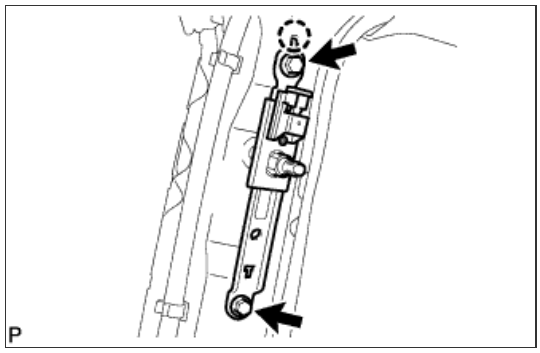
## 1. INSTALL REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Align the anchor plate positioning hole with the claw, and install the anchor plate with the 2 bolts.

**HINT:**

First install the upper bolt, and then install the lower bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 2. INSTALL REAR NO. 1 SEAT OUTER BELT ASSEMBLY LH

**NOTICE:**

w/ Pretensioner:

When installing the retractor, make sure the claws of the vehicle (labeled "a" in the illustration) only contact the installation areas of the retractor.

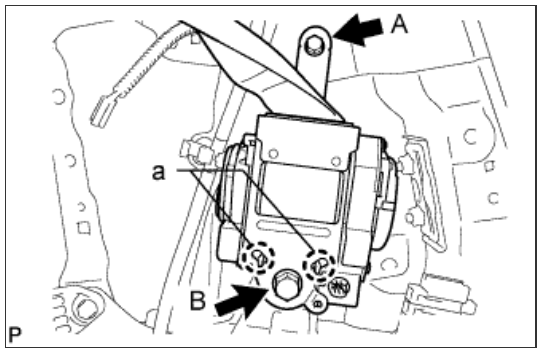
a. Align the claws with the seat belt positioning holes and install the retractor of the seat belt as shown in the illustration.

b. Install the seat belt with the 2 bolts.

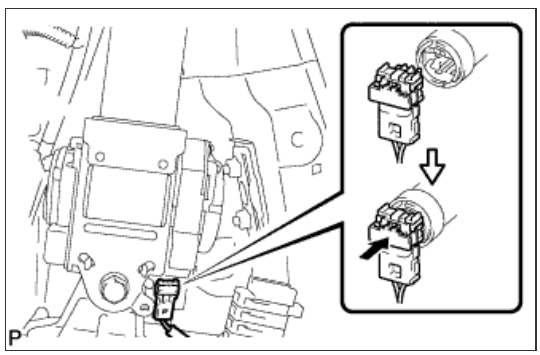
**HINT:**

First install bolt A, and then install bolt B.

**Torque:**
**for bolt A:**
**8.5 N*m{ 87 kgf*cm , 75 in.*lbf }**
**for bolt B:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

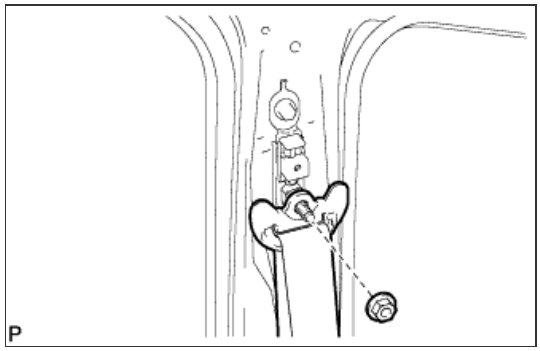



c. w/ Pretensioner:
Connect the pretensioner connector as shown in the illustration.



d. Install the seat belt shoulder anchor with the nut.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

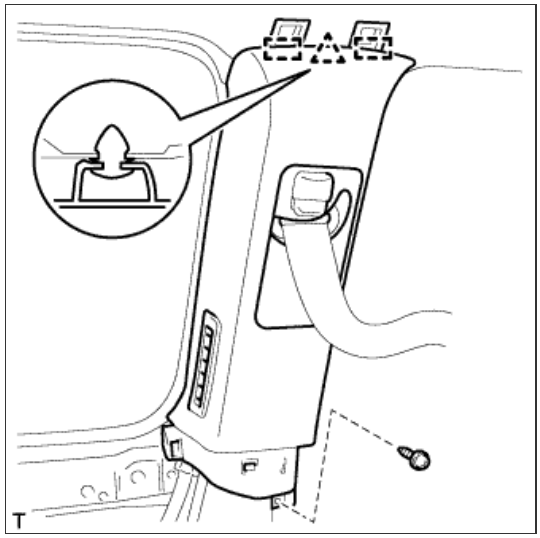



## 3. INSTALL REAR FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. Pass the seat belt anchor through the quarter trim garnish.

b. Attach the clip and 2 guides to install the quarter trim garnish.

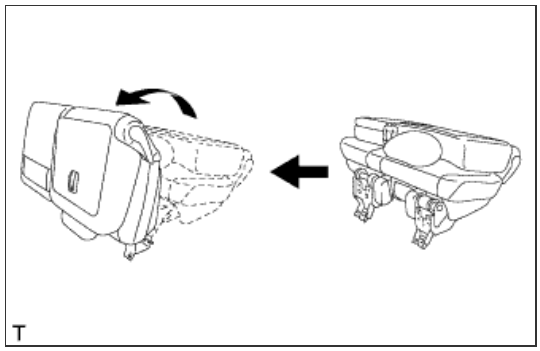
c. Install the screw.




## 4. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/o Tonneau Cover:

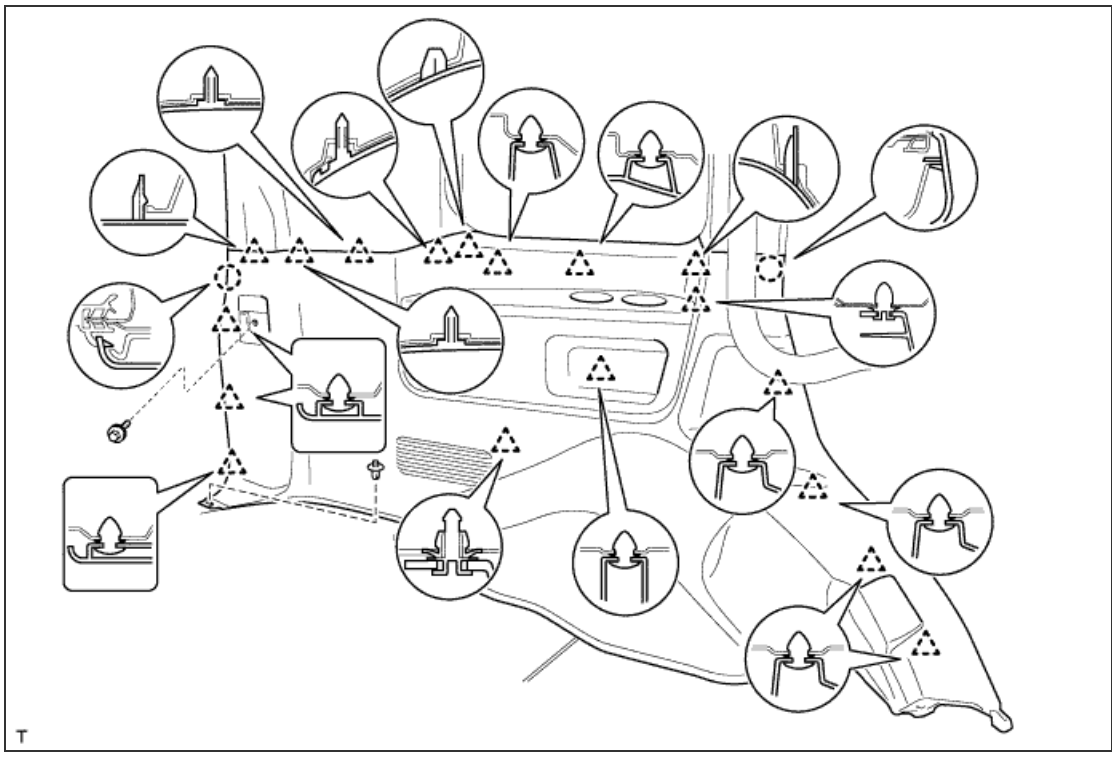
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 18 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

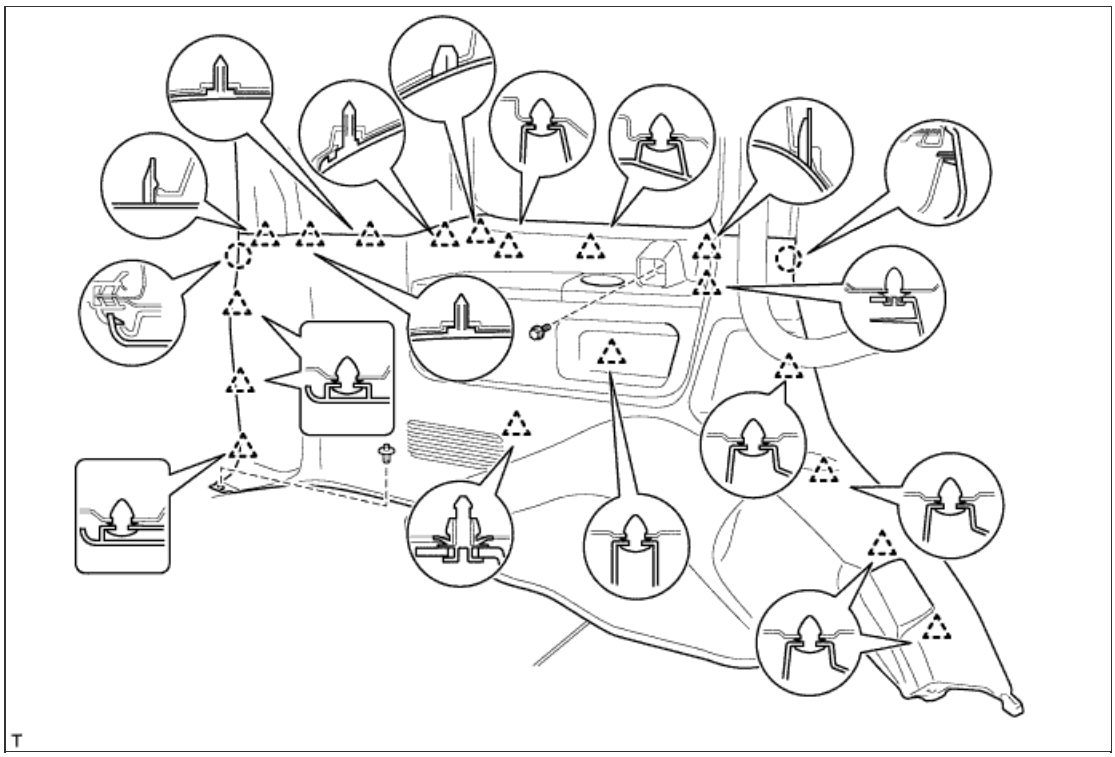
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




b. w/ Tonneau Cover:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

ii. Install the screw and clip.



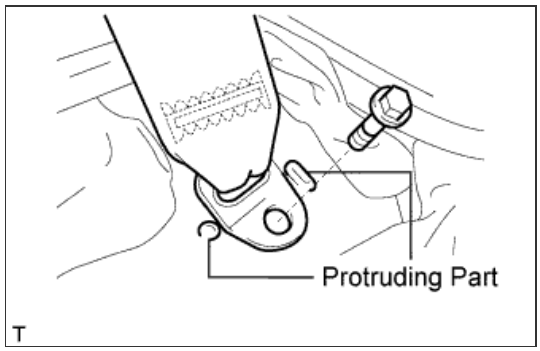
c. w/ Rear No. 2 Seat, for LH side:

i. Install the rear No. 2 seat belt anchor LH with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

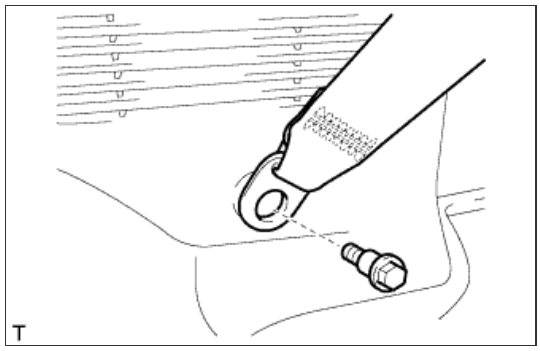
Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.



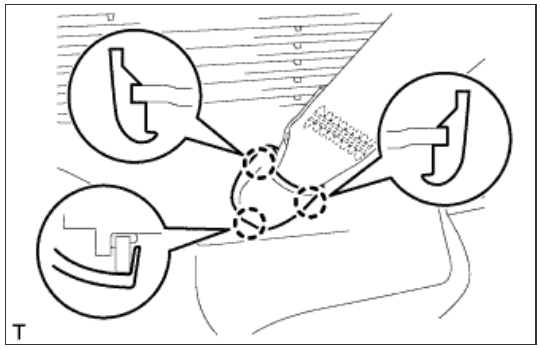

d. w/ Rear No. 2 Seat, for RH side:

i. Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

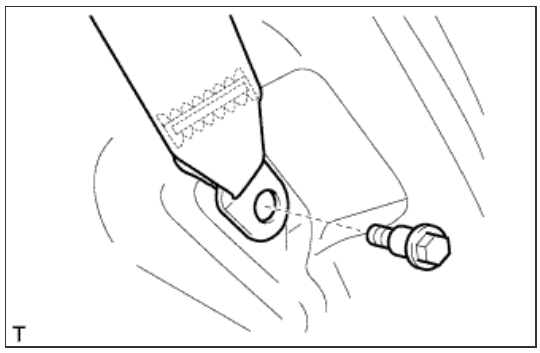



ii. Attach the 3 claws to install the cover.

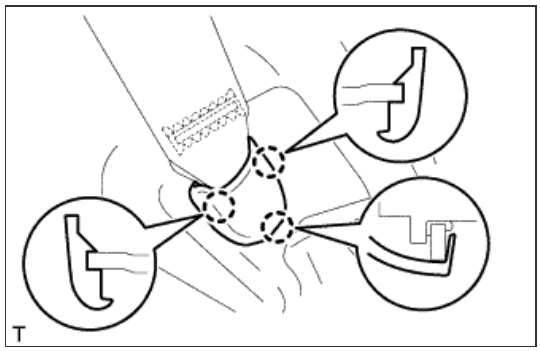



e. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

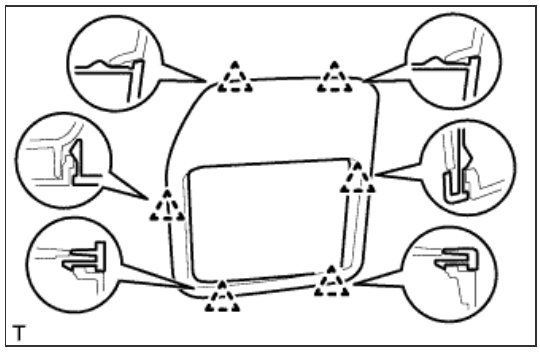



f. Attach the 3 claws to install the cover.



## 5. INSTALL REAR NO. 2 SEAT COVER BEZEL

a. Attach the 6 clips to install the rear No. 2 seat cover bezel.

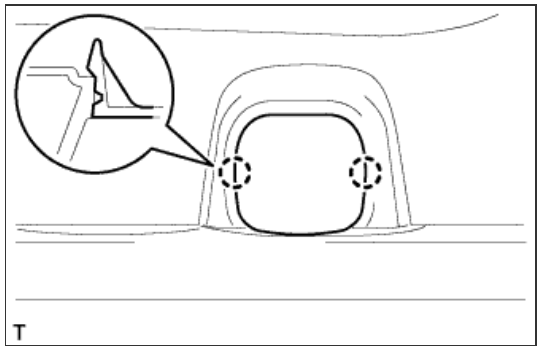



## 6. INSTALL NO. 1 TONNEAU COVER HOLDER CAP (w/ Tonneau Cover)

**HINT:**

Use the same procedure to install the tonneau cover holder cap on the other side.

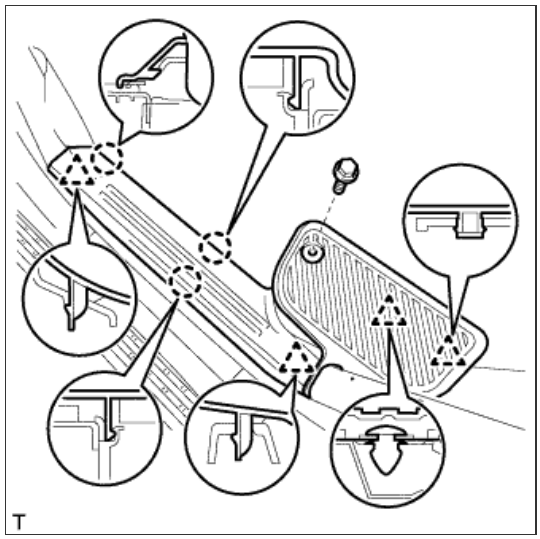
a. Attach the 2 claws to install the tonneau cover holder cap.




## 7. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

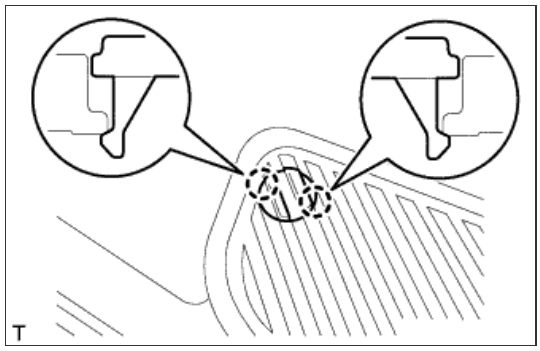



## 8. INSTALL REAR STEP COVER

**HINT:**

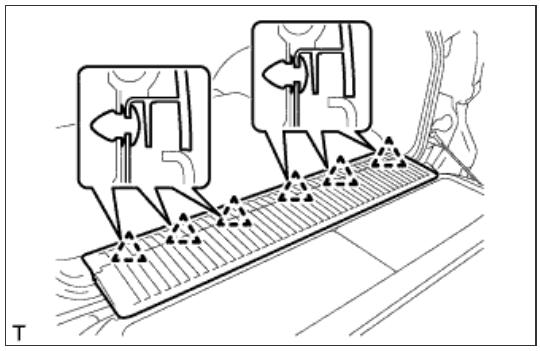
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 9. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. Attach the 6 clips to install the support plate.




## 10. INSTALL REAR NO. 2 SEAT ASSEMBLY (w/ Rear No. 2 Seat)

a. Install the rear No. 2 seat assembly ( Click here).

## 11. INSTALL TONNEAU COVER ASSEMBLY

a. Install the tonneau cover assembly.

## 12. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

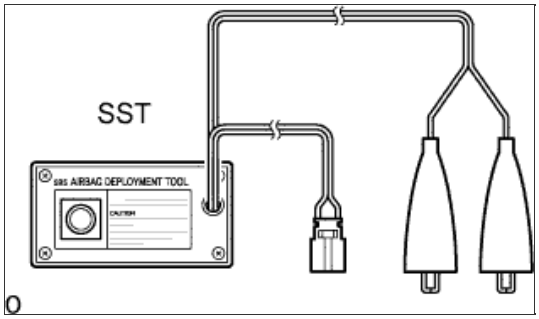
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 13. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

**for Preparation** Click here




**HINT:**

When scrapping vehicles equipped with a seat belt pretensioner or disposing of a rear seat outer belt (with seat belt pretensioner), always first activate the seat belt pretensioner in accordance with the procedures described below. If any abnormality occurs during activation of the seat belt pretensioner, contact the SERVICE DEPARTMENT of DISTRIBUTOR.

**CAUTION:**

- **Never dispose of a rear seat outer belt that has an un-activated pretensioner.**
- **The seat belt pretensioner produces a loud, exploding sound when it activates. Perform the operation where it will not be a nuisance to nearby people.**
- **When activating a rear seat outer belt (with seat belt pretensioner), stand at least 10 m (32.8 ft.) away from the rear seat outer belt.**
- **Use gloves and safety glasses when handling a rear seat outer belt with an activated pretensioner.**
- **Always wash your hands with water after completing the disposal.**
- **Do not apply water to a rear seat outer belt that has an activated pretensioner.**
- **Perform procedures in a place away from electrical interference.**
- **When activating the seat belt pretensioner, always use the specified SST (SRS airbag deployment tool).**

## 1. DISPOSE OF REAR NO. 1 SEAT OUTER BELT ASSEMBLY (WHEN INSTALLED IN VEHICLE)

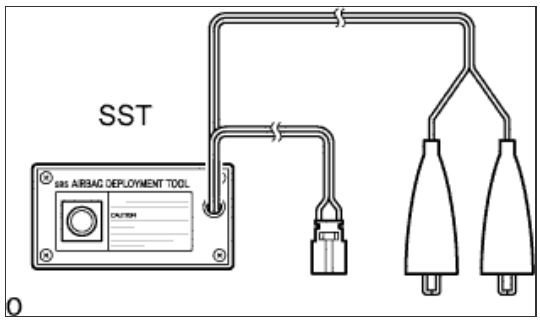
**HINT:**

Prepare a battery to activate the seat belt pretensioner.

a. Check if SST is functioning properly.

**CAUTION:**

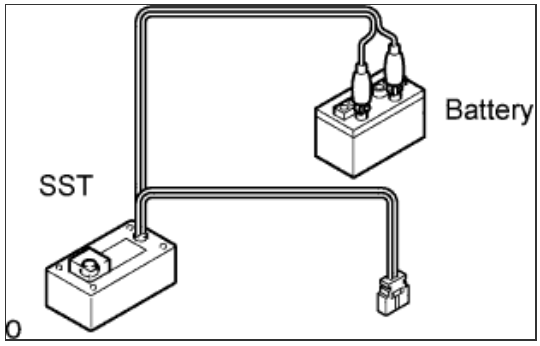
When activating the seat belt pretensioner, always use the specified SST.



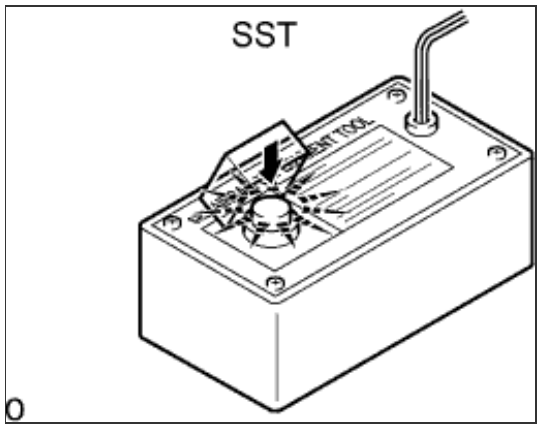

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip to the battery negative (-) terminal.

**HINT:**

Do not connect the yellow connector. The yellow connector is used to connect to the seat belt pretensioner.



ii. Press SST activation switch and check that the LED of SST activation switch illuminates.




**CAUTION:**

If the LED illuminates when the activation switch is not being pressed, SST may be malfunctioning. Replace SST with a new one.

b. Disconnect SST from the battery.

c. Disconnect the pretensioner connector.

i. Disconnect the cable from the negative (-) battery terminal.

ii. Remove the rear No. 2 seat (Click here).

iii. Rear floor mat rear support plate (Click here).

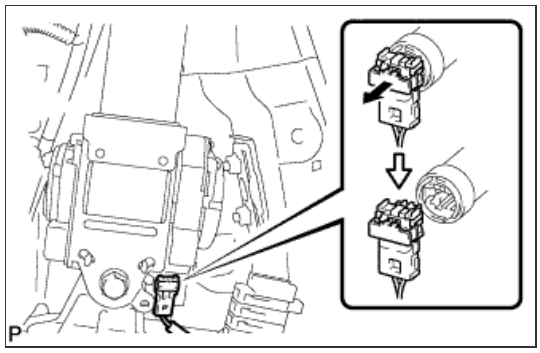
iv. Remove the rear step cover (Click here).

v. Remove the rear door scuff plate (Click here).

vi. Remove the rear seat cover bezel (Click here).

vii. Remove the front quarter trim panel (Click here).

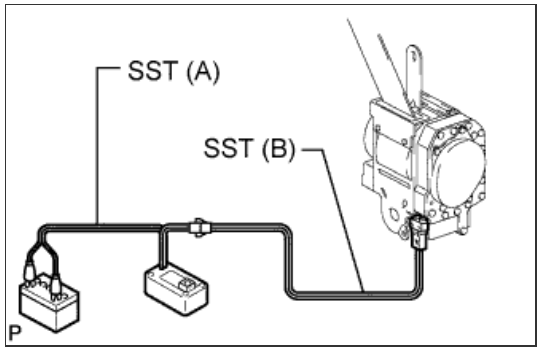
viii. Disconnect the pretensioner connector as shown in the illustration.



d. Prepare SST for activation of the seat belt pretensioner.

i. Install the floor anchor of the seat belt.

ii. Connect SST (A) to SST (B). Then connect the connector of SST (B) to the seat belt pretensioner.




*SST*

09082-00700
09082-00770

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.

iii. Move SST at least 10 m (32.8 ft.) away from the rear of the vehicle.

iv. Close all the doors and windows of the vehicle.

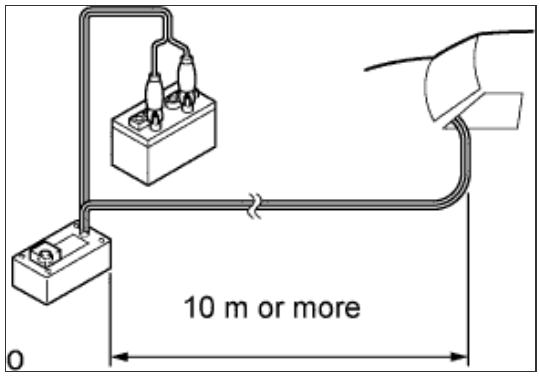
**HINT:**

Leave a gap in one of the windows for inserting SST wire harness.

**NOTICE:**

Take care not to damage SST wire harness.

v. Connect the red clip of SST to the battery positive (+) terminal and the black clip to the negative (-) terminal.




e. Activate the seat belt pretensioner.

i. Confirm that no one is inside the vehicle or within 10 m (32.8 ft.) of the vehicle.

ii. Press SST activation switch to activate the seat belt pretensioner.

**HINT:**

The seat belt pretensioner operates at the same time SST activation switch LED illuminates.

f. Dispose of the rear seat outer belt (with the seat belt pretensioner).

**CAUTION:**

- **Do not touch the rear seat outer belt for at least 30 minutes after the seat belt pretensioner has been activated. It is very hot.**
- **Use gloves and safety glasses when handling a rear seat outer belt whose pretensioner has been activated.**
- **Always wash your hands with water after completing the disposal.**
- **Do not apply water to a rear seat outer belt that has an activated pretensioner.**

**HINT:**

When scrapping a vehicle, activate the seat belt pretensioner, and then scrap the vehicle with the activated rear seat outer belt installed.

## 2. DISPOSE OF REAR NO. 1 SEAT OUTER BELT ASSEMBLY (WHEN NOT INSTALLED IN VEHICLE)

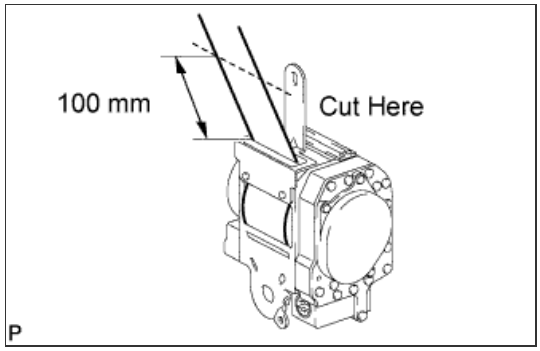
**NOTICE:**

Be sure to follow the procedures listed below when activating the seat belt pretensioner.

a. Remove the rear No. 1 seat outer belt ( Click here).

i. Wind the seat belt with the retractor.

ii. When the seat belt is sufficiently wound, cut the seat belt approximately 100 mm (0.393 in.) from the retractor as shown in the illustration.




**HINT:**

The seat belt is designed so that winding the seat belt before pretensioner activation will decrease the pulling power of the seat belt during pretensioner activation.

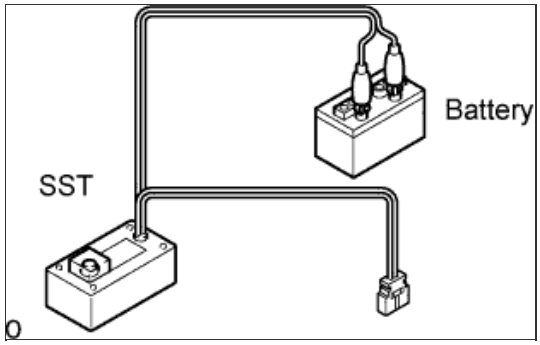
b. Check if SST is functioning properly.

*SST*

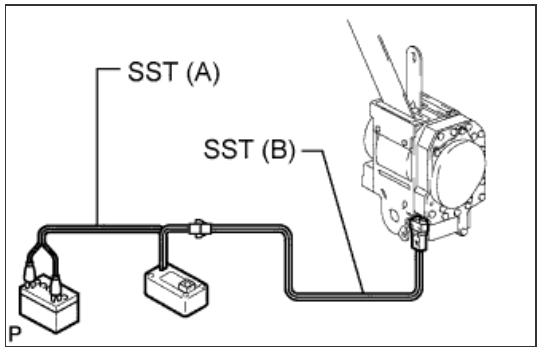
09082-00770 09082-00700

**CAUTION:**

When activating a seat belt pretensioner, always use the specified SST.



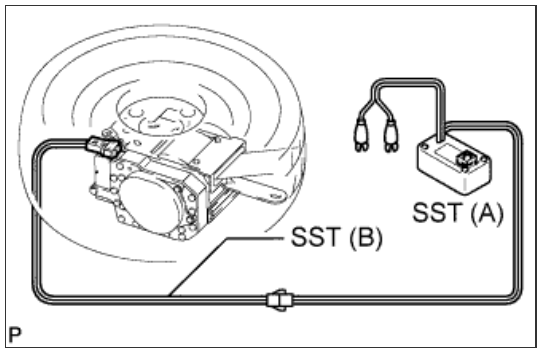
c. Prepare SST for activation of the seat belt pretensioner.



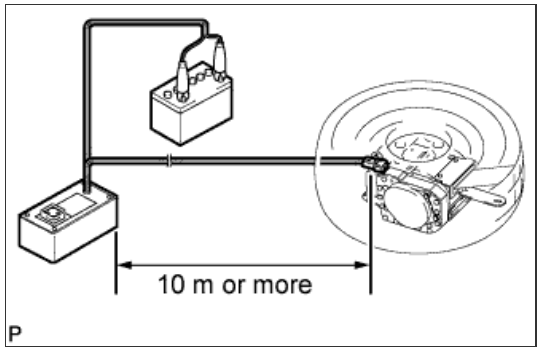

i. Connect SST (A) to SST (B). Then connect the connector of SST (B) to the seat belt pretensioner.

**NOTICE:**

To avoid damaging SST connector and wire harness, do not lock the secondary lock of the twin lock.




ii. Place the rear seat outer belt on the ground and cover it with a tire (with wheel).




iii. Move SST at least 10 m (32.8 ft.) away from the wheel.

**NOTICE:**

Take care not to damage SST wire harness.

d. Activate the seat belt pretensioner.

i. Connect the red clip of SST to the battery positive (+) terminal and the black clip to the battery negative (-) terminal.

ii. Check that no one is within 10 m (32.8 ft.) of the wheel.

iii. Press SST activation switch to activate the seat belt pretensioner.

**HINT:**

The seat belt pretensioner operates at the same time SST activation switch LED illuminates.

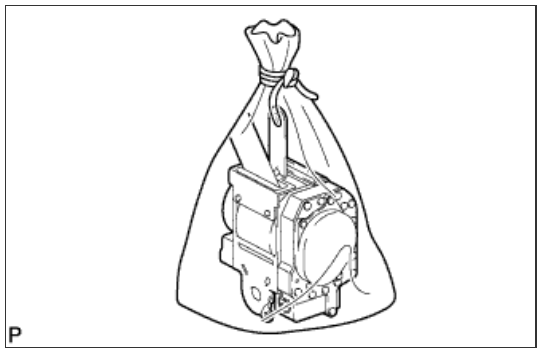
e. Dispose of the rear seat outer belt (with the seat belt pretensioner).

**CAUTION:**

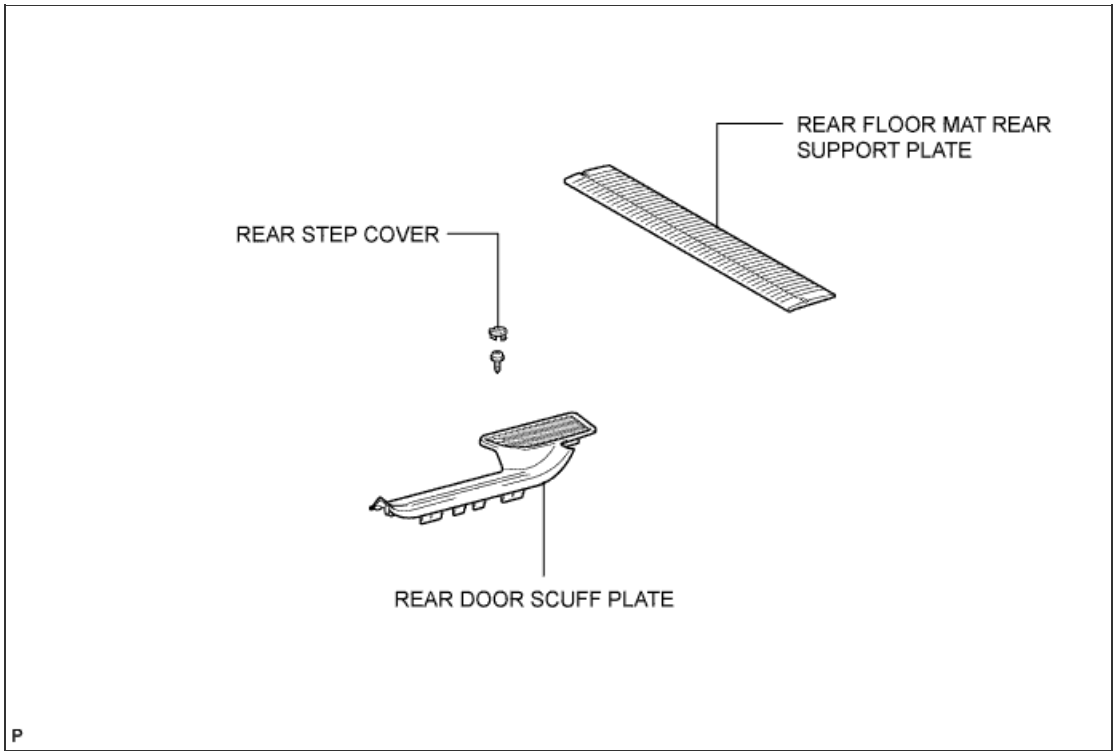
- **Do not touch the rear seat outer belt for at least 30 minutes after the seat belt pretensioner has been activated. It is very hot.**
- **Use gloves and safety glasses when handling a rear seat outer belt whose pretensioner has been activated.**
- **Always wash your hands with water after completing the disposal.**
- **Do not apply water to a rear seat outer belt that has an activated pretensioner.**

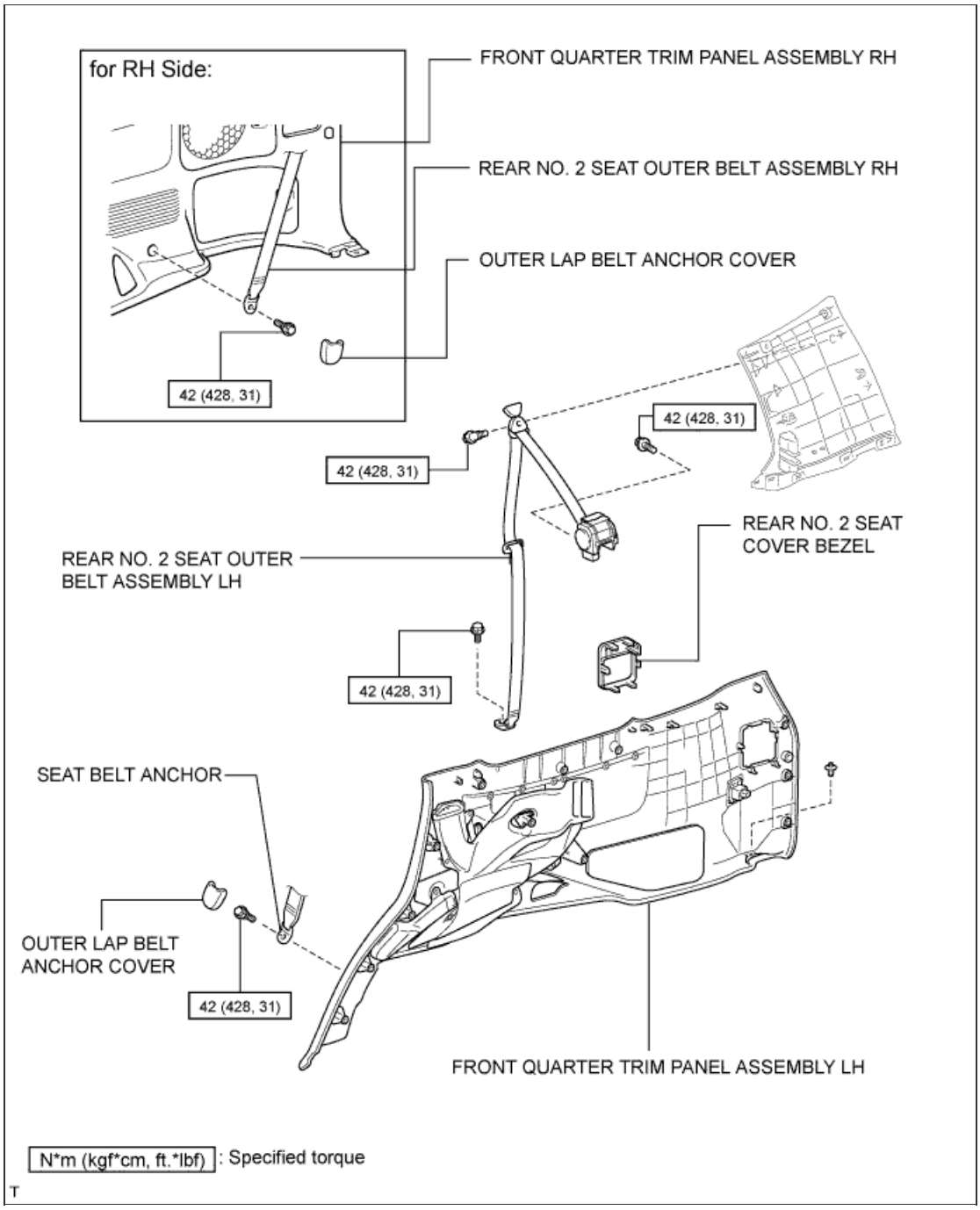
i. Remove the tire (with wheel) and SST.

ii. Place the rear seat outer belt in a plastic bag, tie the end tightly and dispose of it in the same way as other general parts.


P

**for Preparation** Click here




for RH Side:
FRONT QUARTER TRIM PANEL ASSEMBLY RH
REAR NO. 2 SEAT OUTER BELT ASSEMBLY RH
OUTER LAP BELT ANCHOR COVER
42 (428, 31)
42 (428, 31)
42 (428, 31)
REAR NO. 2 SEAT COVER BEZEL
REAR NO. 2 SEAT OUTER BELT ASSEMBLY LH
42 (428, 31)
SEAT BELT ANCHOR
OUTER LAP BELT ANCHOR COVER
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T

**for Preparation** Click here

**HINT:**

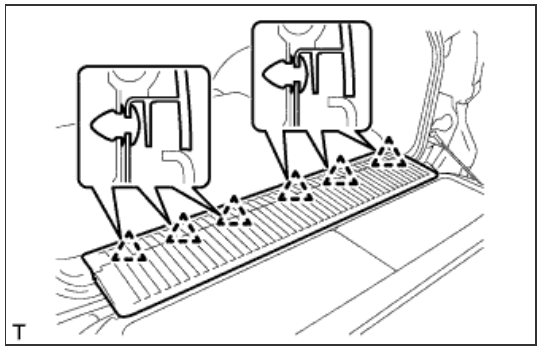
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**

## 1. REMOVE REAR NO. 2 SEAT ASSEMBLY

a. Remove the rear No. 2 seat assembly ( Click here).

## 2. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.

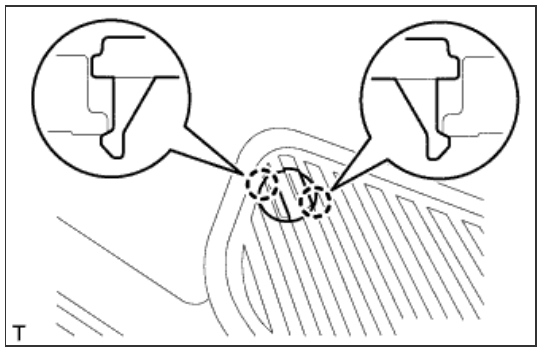



## 3. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

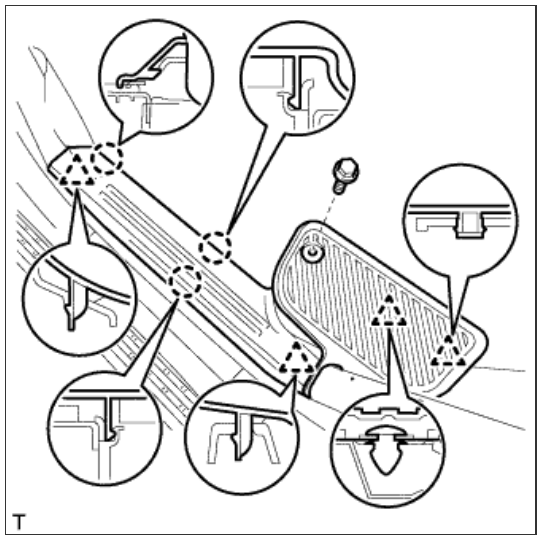
a. Detach the 2 claws and remove the step cover.




## 4. REMOVE REAR DOOR SCUFF PLATE LH

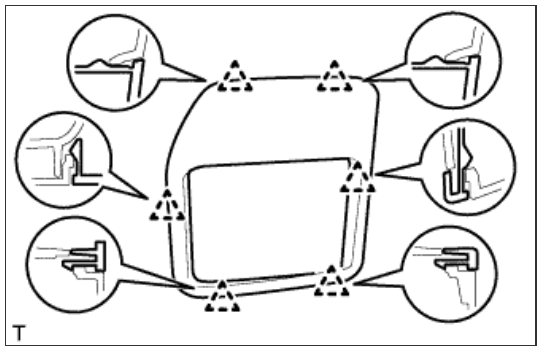
a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




## 5. REMOVE REAR NO. 2 SEAT COVER BEZEL

a. Detach the 6 clips and remove the rear No. 2 seat cover bezel.

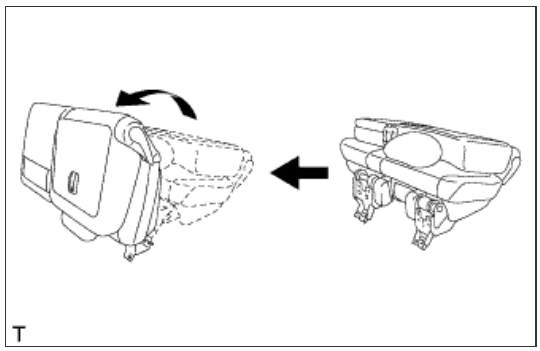


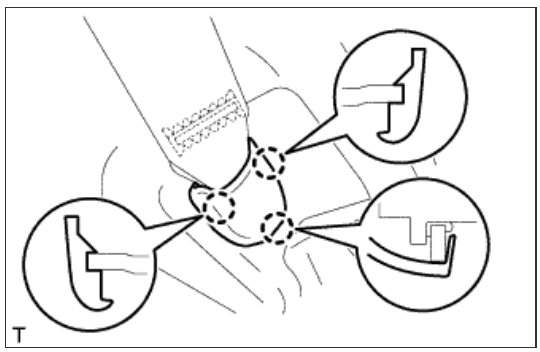

## 6. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

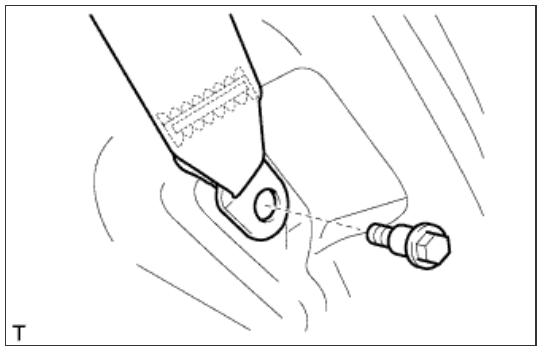
When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.

a. Detach the 3 claws and remove the cover.



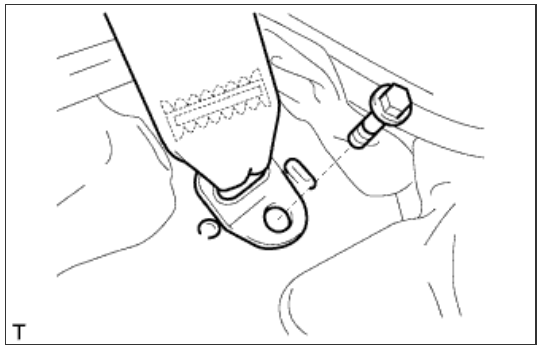




b. Remove the bolt and disconnect the rear seat outer belt floor anchor.



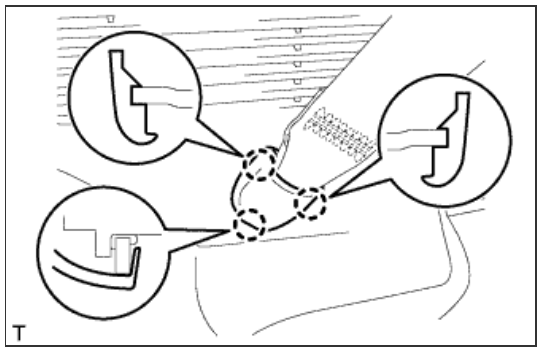

c. for LH Side:

i. Remove the bolt and disconnect the rear No. 2 seat outer belt floor anchor LH.



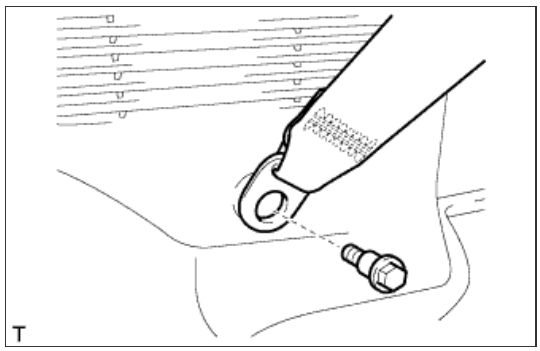

d. for RH Side:

i. Detach the 3 claws and remove the cover.

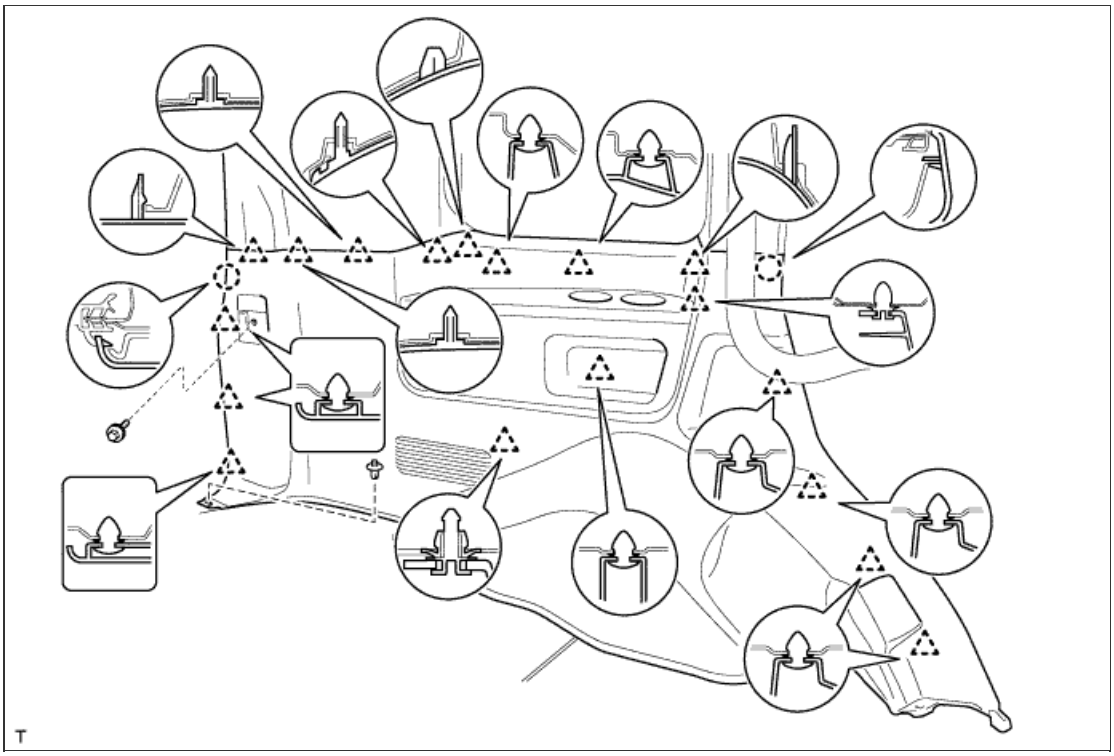



ii. Remove the bolt and disconnect the rear seat outer belt floor anchor RH.

e. Remove the clip and bolt.




f. Detach the 18 clips and 2 claws.



g. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

h. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.

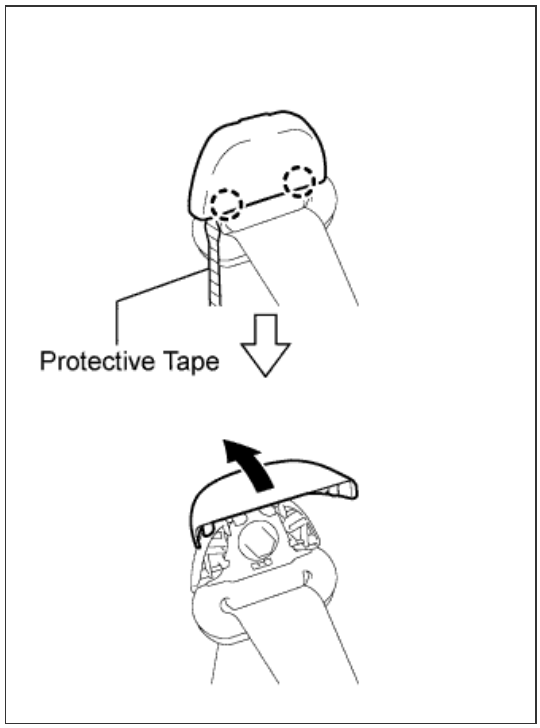
## 7. REMOVE REAR NO. 2 SEAT OUTER BELT ASSEMBLY LH

a. Remove the bolt and disconnect the seat belt shoulder anchor.

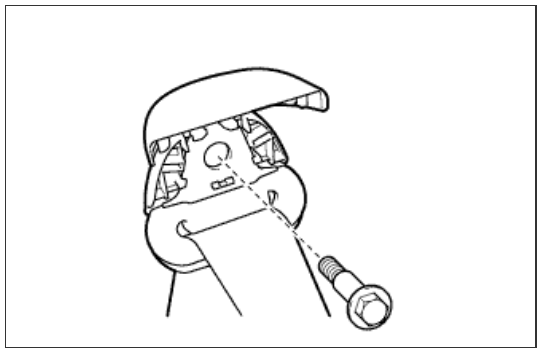
i. Using a screwdriver, detach the 2 claws and open the seat belt anchor cover as shown in the illustration.

**HINT:**

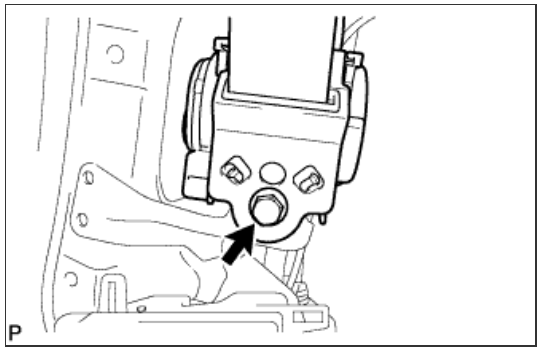
Tape the screwdriver tip before use.




ii. Remove the bolt and seat belt shoulder anchor.



**b.** Remove the bolt and rear No. 2 seat outer belt.



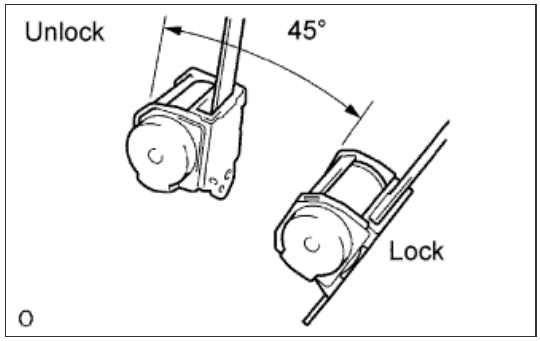
**for Preparation** Click here

## 1. INSPECT REAR NO. 2 SEAT OUTER BELT ASSEMBLY

**NOTICE:**

Do not disassemble the retractor.

a. When the inclination of the retractor is 15° or less, check that the belt can be pulled from the retractor. When the inclination of the retractor is over 45°, check that the belt locks.
If the operation is not as specified, replace the belt.



**for Preparation** Click here

**HINT:**

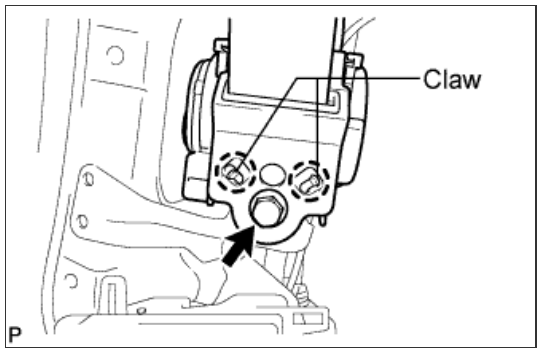
- **Use the same procedure for the RH and LH sides.**
- **The procedure listed below is for the LH side.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

## 1. INSTALL REAR NO. 2 SEAT OUTER BELT ASSEMBLY LH

a. Align the claws with the seat belt positioning holes and install the retractor of the seat belt as shown in the illustration.

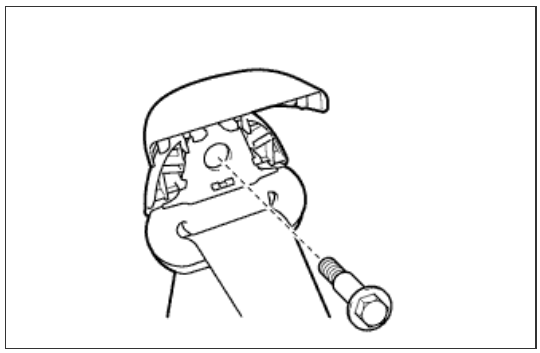
b. Install the seat belt with the bolt.

**Torque:**
**42 N*m{ 427 kgf*cm , 31 ft.*lbf }**

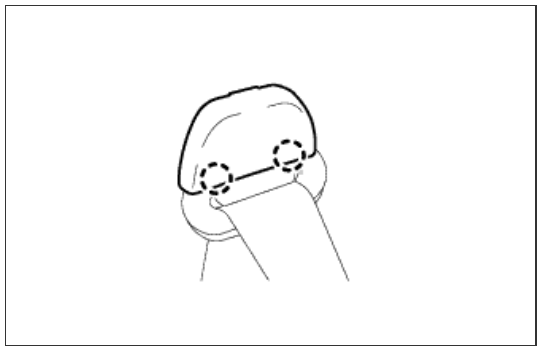



c. Install the seat belt shoulder anchor with the bolt.

**Torque:**
**42 N*m{ 427 kgf*cm , 31 ft.*lbf }**



d. Attach the 2 claws to close the seat belt shoulder anchor cover.



## 2. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

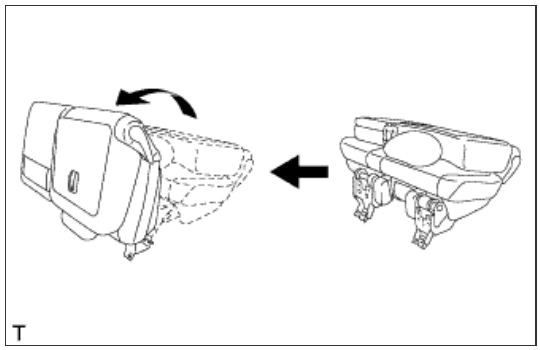
**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.

a. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

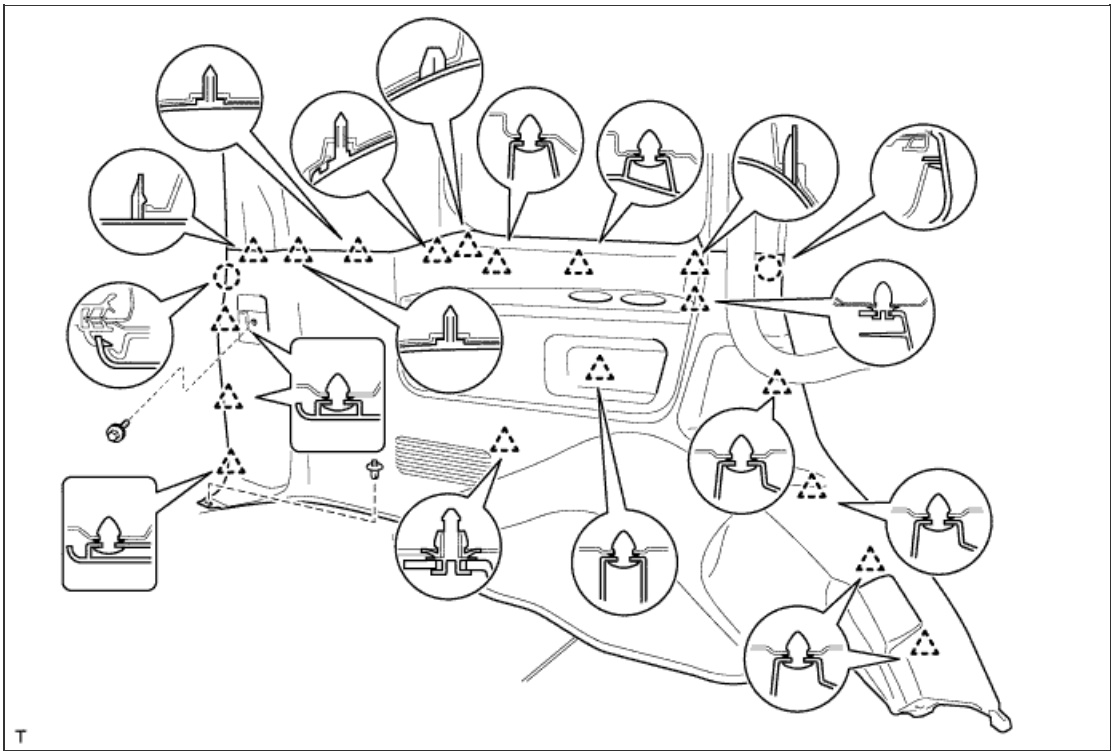
b. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

c. Attach the 18 clips and 2 claws to install the quarter trim panel.




d. Install the clip and bolt.

**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**



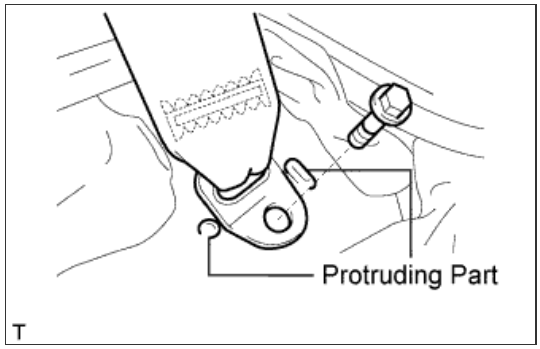

e. for LH Side:

i. Install the rear No. 2 seat belt anchor LH with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

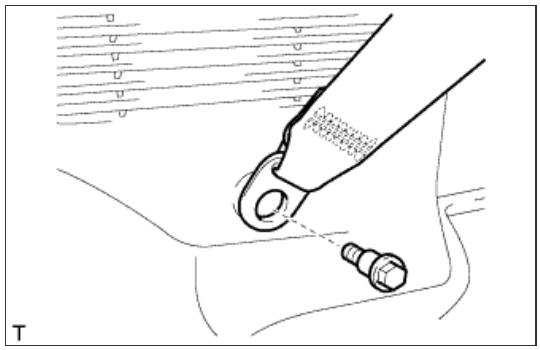
Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.



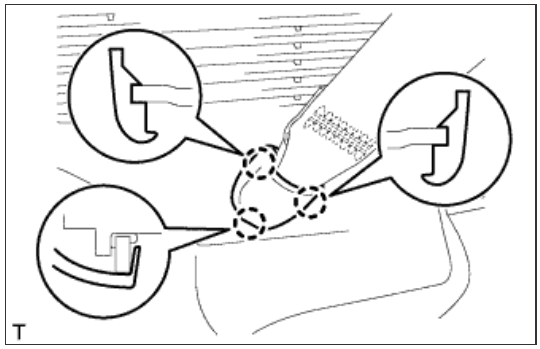

f. for RH Side:

i. Install the rear No. 2 seat belt anchor RH with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

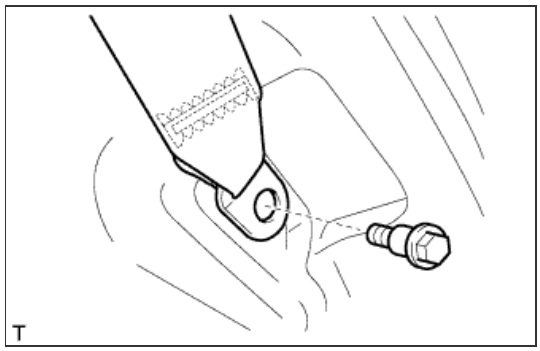



ii. Attach the 3 claws to install the cover.

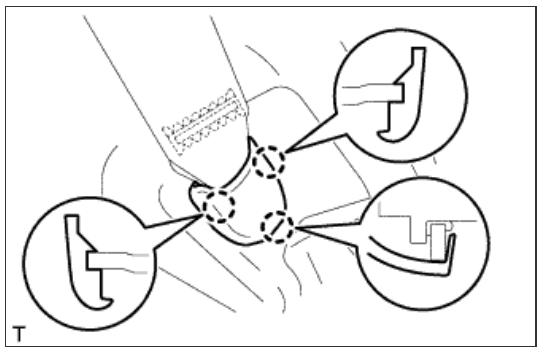



g. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

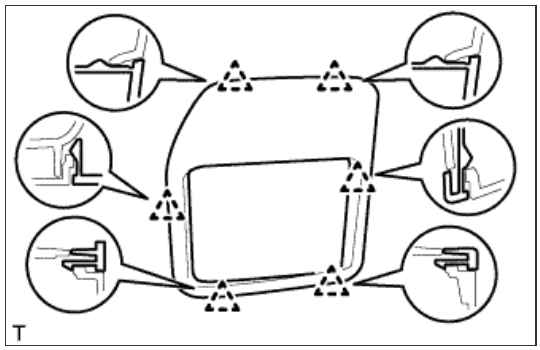



h. Attach the 3 claws to install the cover.




## 3. INSTALL REAR NO. 2 SEAT COVER BEZEL

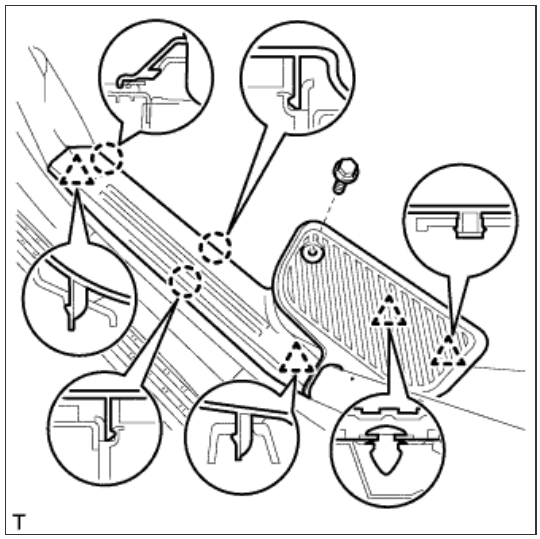
a. Attach the 6 clips to install the rear No. 2 seat cover bezel.




## 4. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

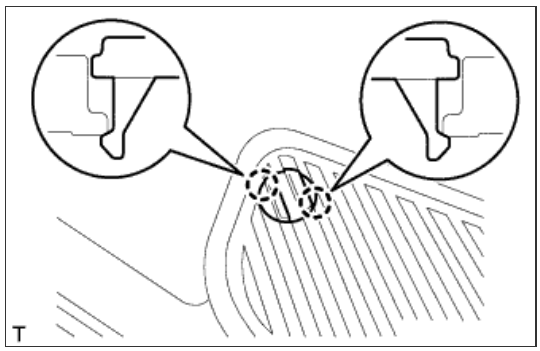



## 5. INSTALL REAR STEP COVER

**HINT:**

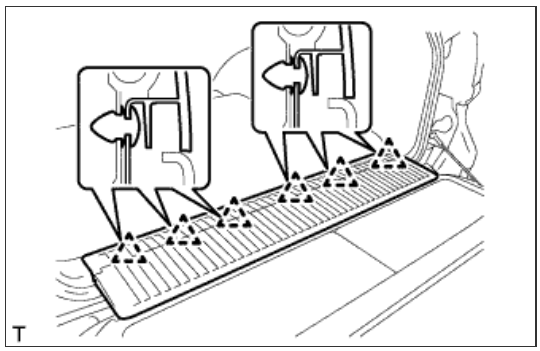
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 6. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

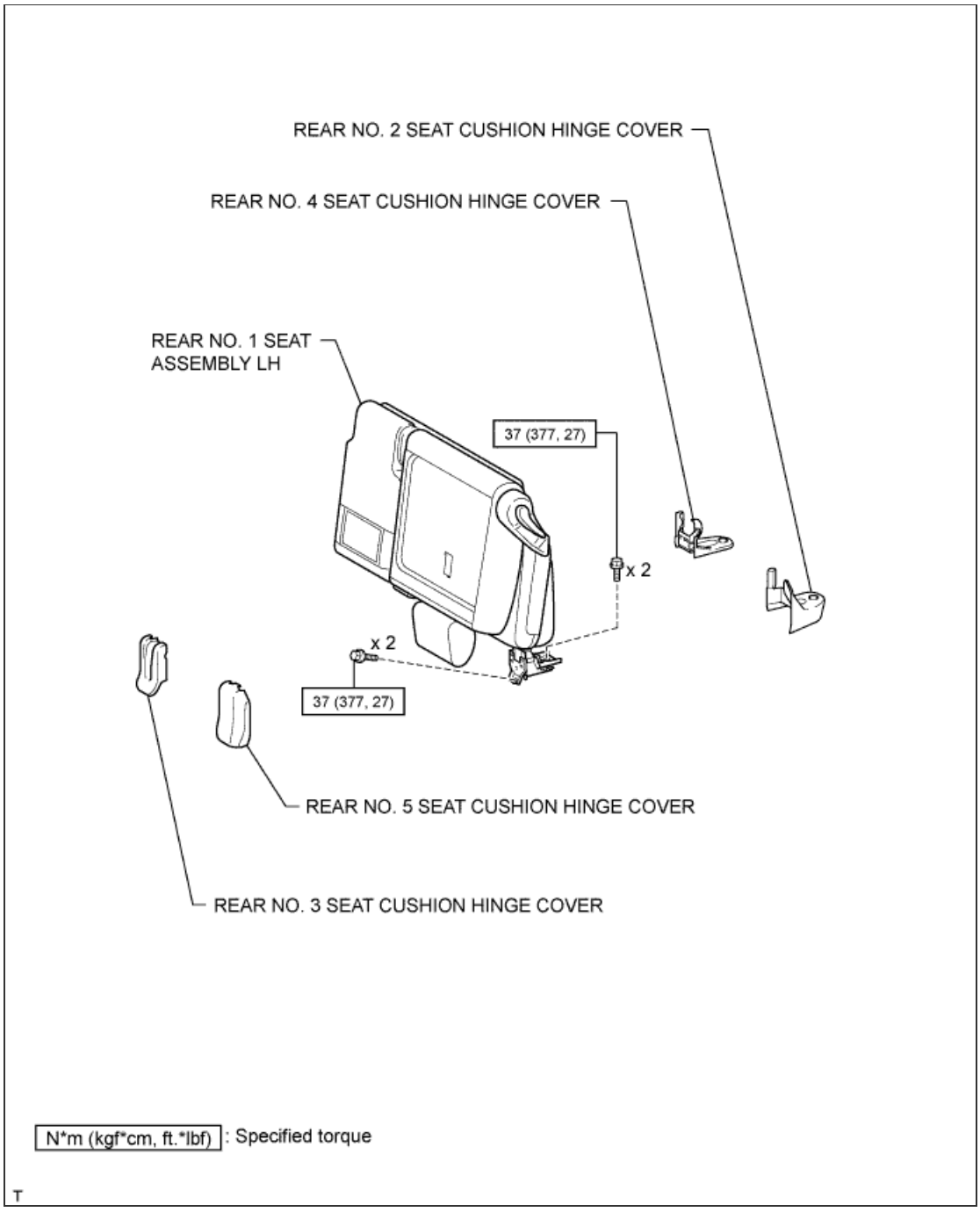
a. Attach the 6 clips to install the support plate.

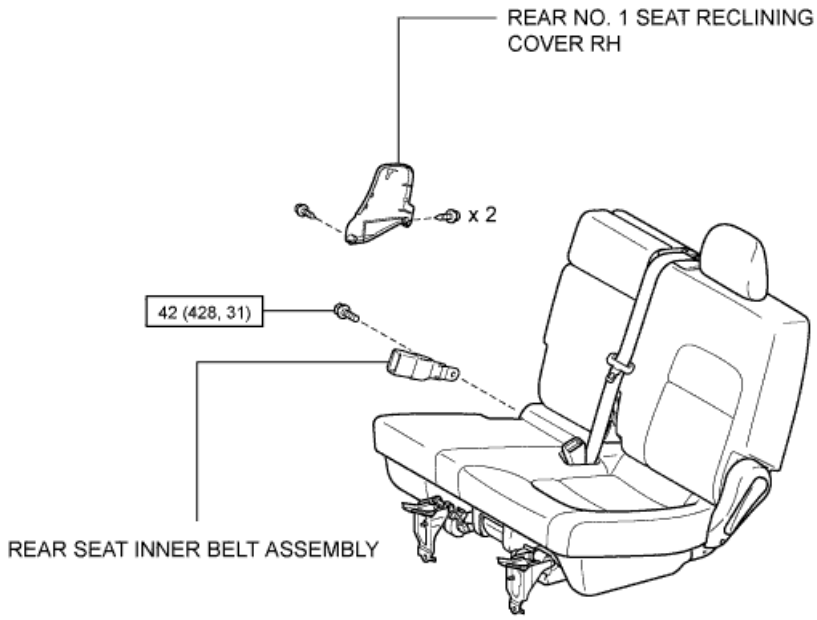


### 7. INSTALL REAR NO. 2 SEAT ASSEMBLY

a. Install the rear No. 2 seat assembly ( Click here).

**for Preparation** Click here






N*m (kgf*cm, ft.*lbf) : Specified torque

T

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD and RHD.**
- **The procedures listed below are for the LHD.**

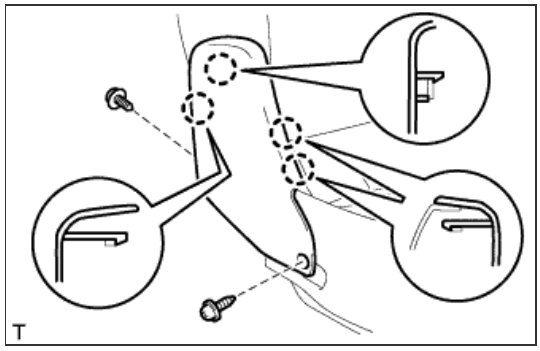
## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

a. Remove the rear No. 1 seat assembly ( Click here).

## 2. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

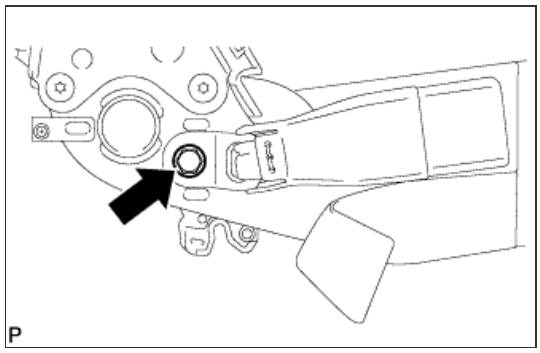
a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.




## 3. REMOVE REAR SEAT INNER BELT ASSEMBLY

a. Remove the bolt and belt.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD and RHD.**
- **The procedures listed below are for the LHD.**

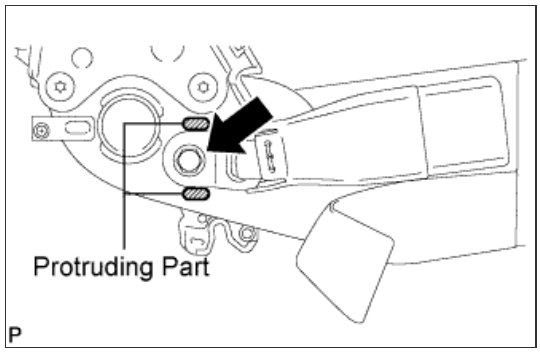
## 1. INSTALL REAR SEAT INNER BELT ASSEMBLY

a. Install the seat belt with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

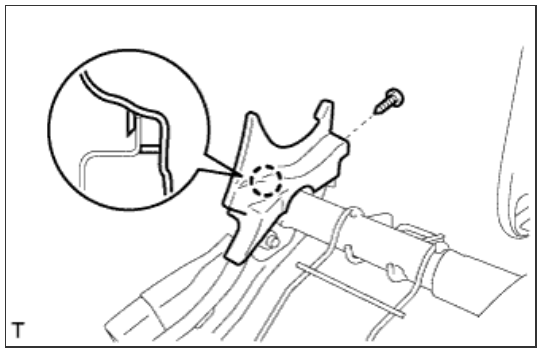
The anchor part of the seat belt must not overlap the protruding part.




## 2. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

a. Attach the claw to install the cover.

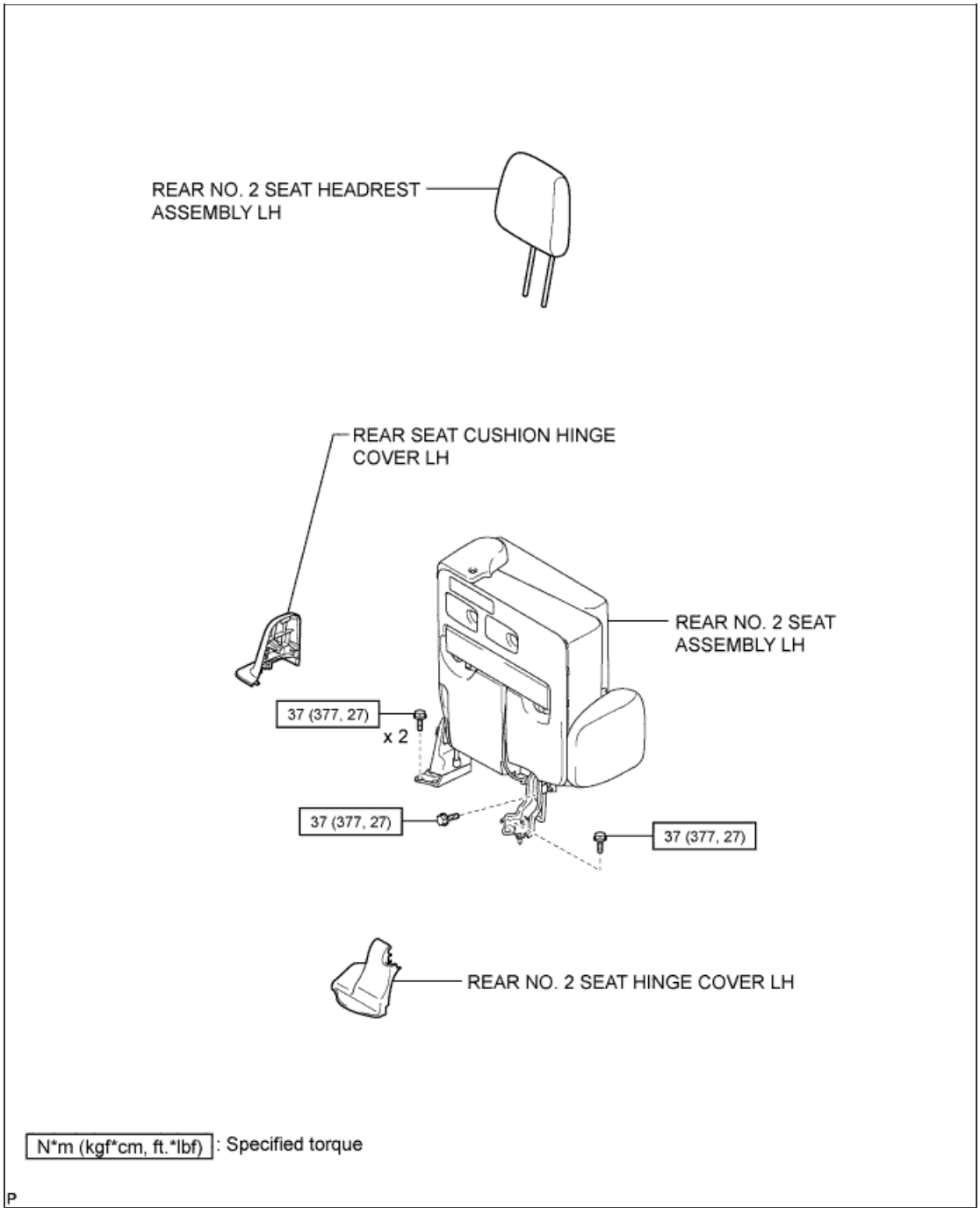
b. Install the screw.

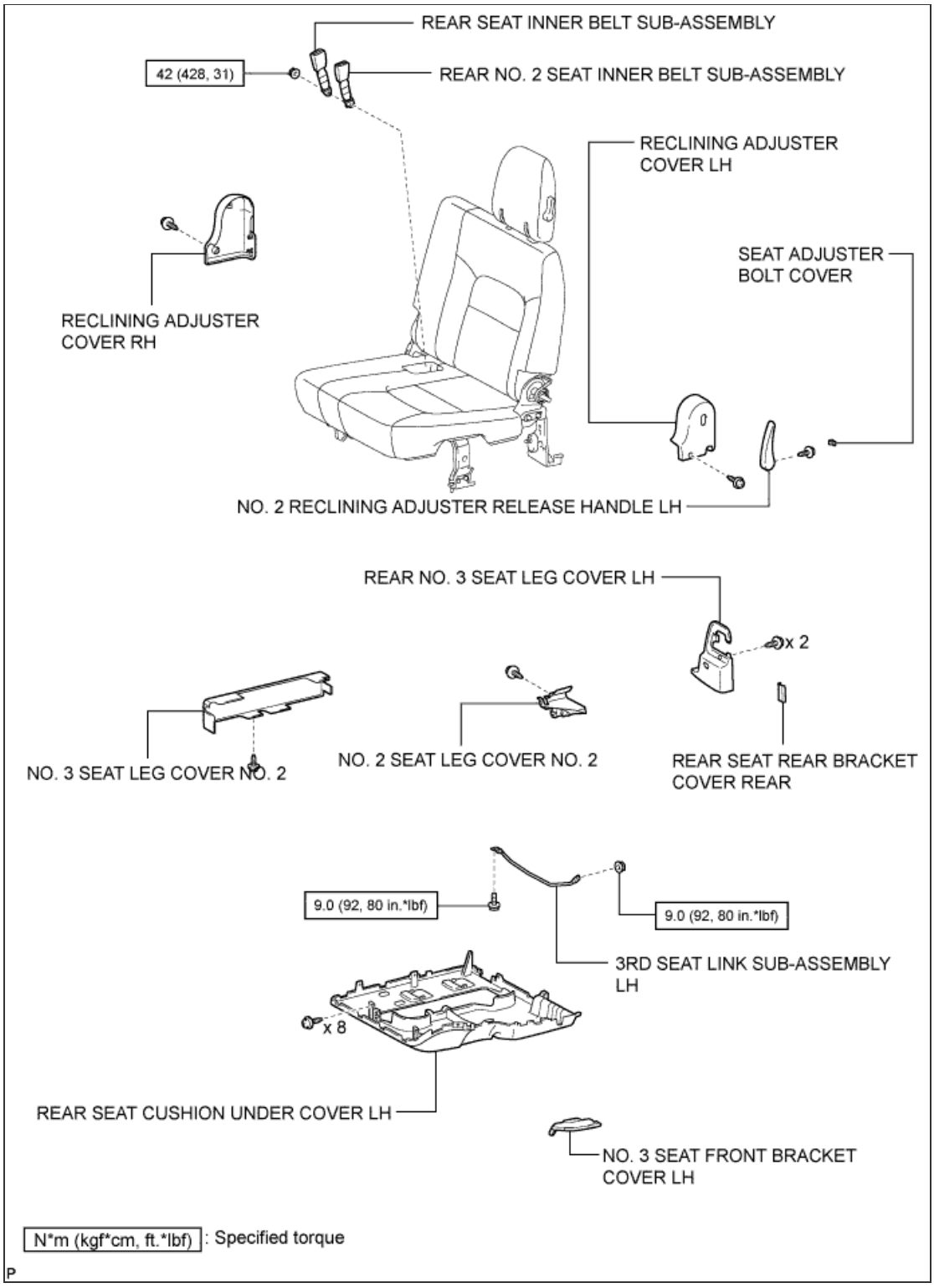



## 3. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

a. Install the rear No. 1 seat assembly ( Click here).

**for Preparation** Click here




REAR SEAT INNER BELT SUB-ASSEMBLY
42 (428, 31)
REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY
RECLINING ADJUSTER COVER LH
SEAT ADJUSTER BOLT COVER
RECLINING ADJUSTER COVER RH
NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH
REAR NO. 3 SEAT LEG COVER LH
x 2
NO. 3 SEAT LEG COVER NO. 2
NO. 2 SEAT LEG COVER NO. 2
REAR SEAT REAR BRACKET COVER REAR
9.0 (92, 80 in.*lbf)
9.0 (92, 80 in.*lbf)
3RD SEAT LINK SUB-ASSEMBLY LH
x 8
REAR SEAT CUSHION UNDER COVER LH
NO. 3 SEAT FRONT BRACKET COVER LH
N*m (kgf*cm, ft.*lbf) : Specified torque
P

# REAR CENTER SEAT INNER BELT ASSEMBLY (for Rear No. 2 Seat) > REMOVAL

**for Preparation** Click here

## 1. REMOVE REAR NO. 2 SEAT ASSEMBLY LH

a. Remove the rear No. 2 seat assembly LH ( Click here).

## 2. REMOVE SEAT ADJUSTER BOLT COVER

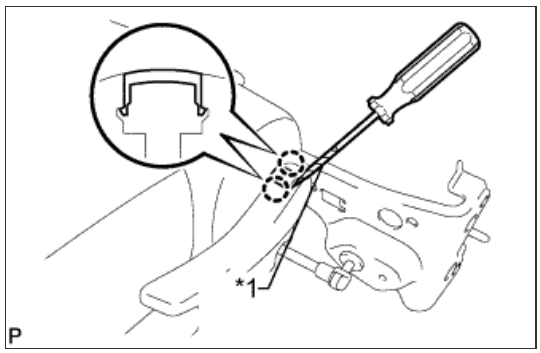
a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

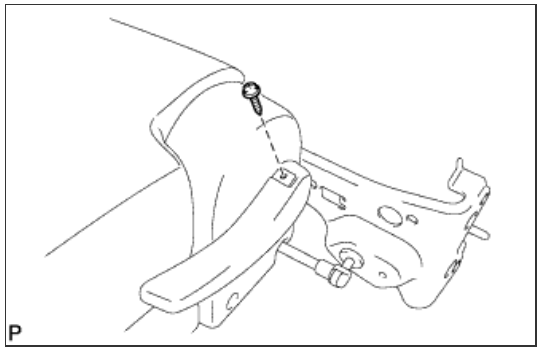
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 3. REMOVE NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH

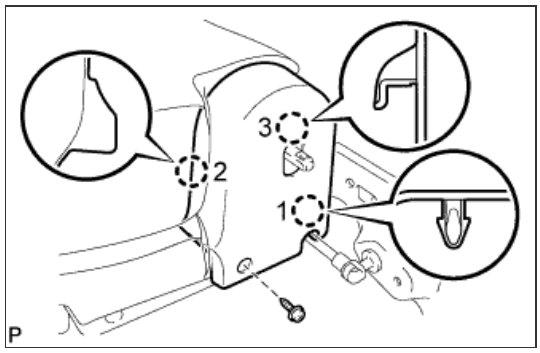
a. Remove the screw and release handle.




## 4. REMOVE RECLINING ADJUSTER COVER LH

a. Remove the screw.

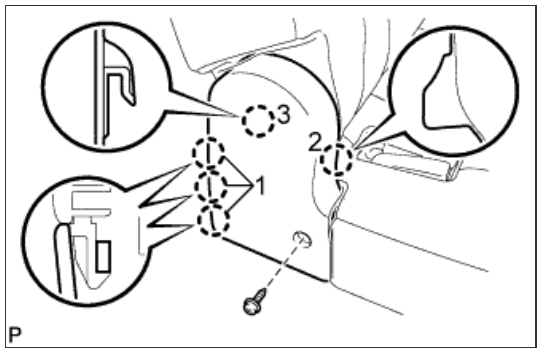
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.




## 5. REMOVE RECLINING ADJUSTER COVER RH

a. Remove the screw.

b. Detach the 5 claws in the order shown in the illustration, and then remove the cover.



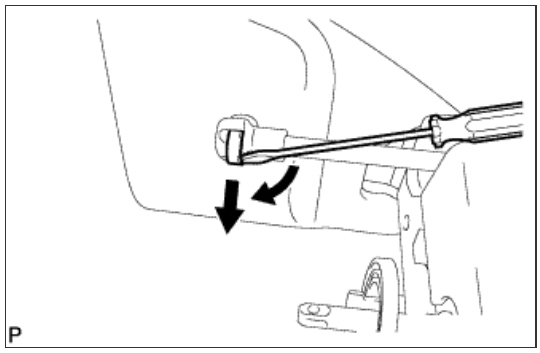

## 6. REMOVE REAR SEAT REAR BRACKET COVER REAR

a. Detach the 2 claws and cover.

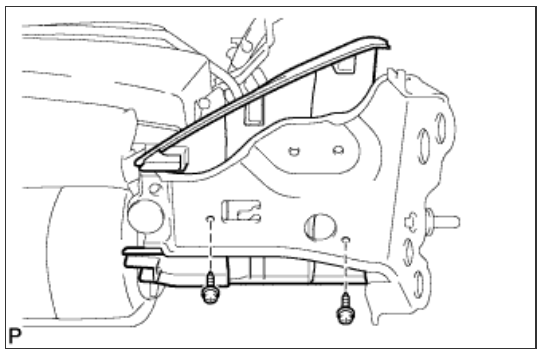
## 7. REMOVE REAR NO. 3 SEAT LEG COVER LH

a. Using a screwdriver, remove the spring of the seat stay ball-joint.

b. Disconnect the seat stay.

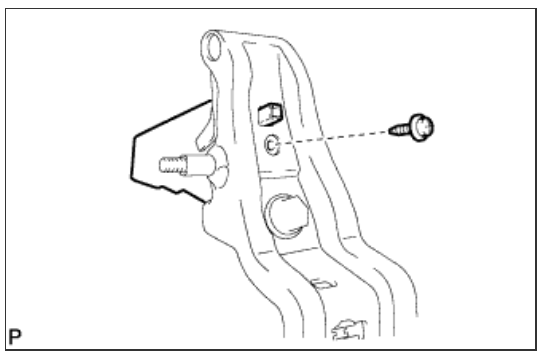



c. Remove the 2 screws and cover.



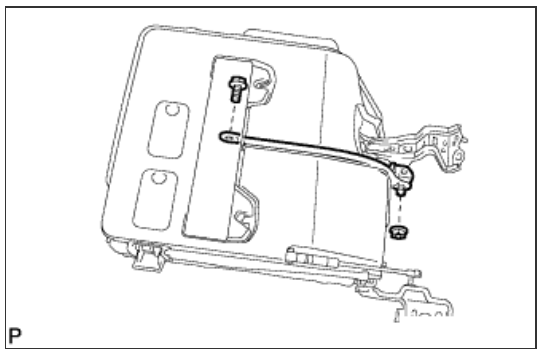

## 8. REMOVE NO. 2 SEAT LEG COVER NO. 2

a. Remove the screw and seat leg cover.



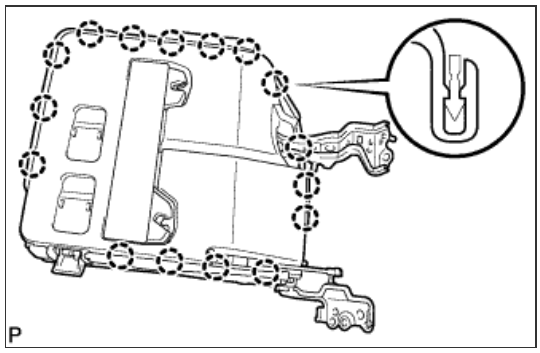

## 9. REMOVE 3RD SEAT LINK SUB-ASSEMBLY LH

a. Remove the bolt, nut and seat link.

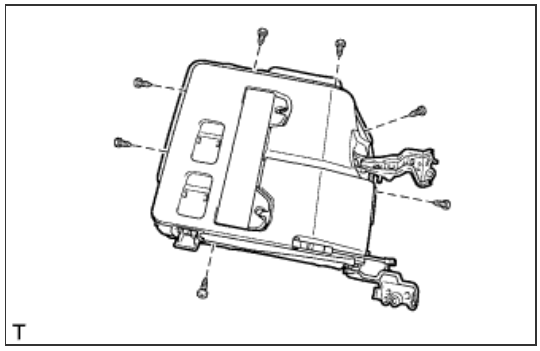



## 10. REMOVE REAR SEAT CUSHION UNDER COVER LH

a. Detach the 16 claws.

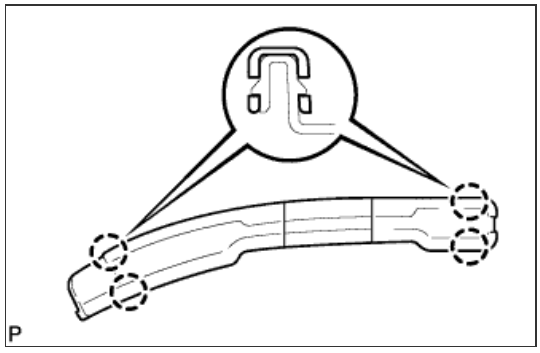



b. Remove the 7 screws and cover.




## 11. REMOVE NO. 3 SEAT FRONT BRACKET COVER LH

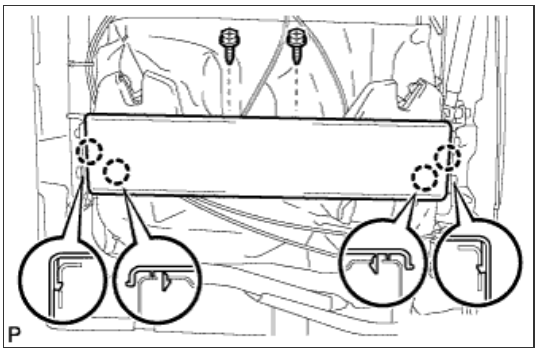
a. Detach the 4 claws and remove the cover.




## 12. REMOVE NO. 3 SEAT LEG COVER NO. 2

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

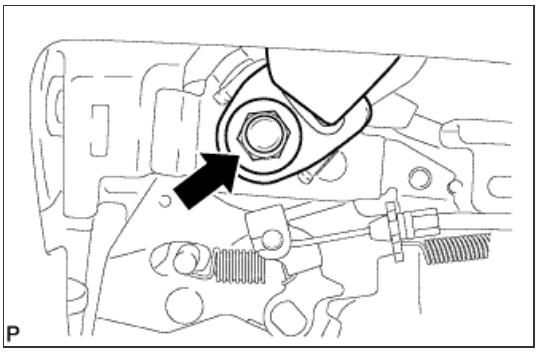



## 13. REMOVE REAR SEAT INNER BELT SUB-ASSEMBLY

a. Remove the nut and belt.

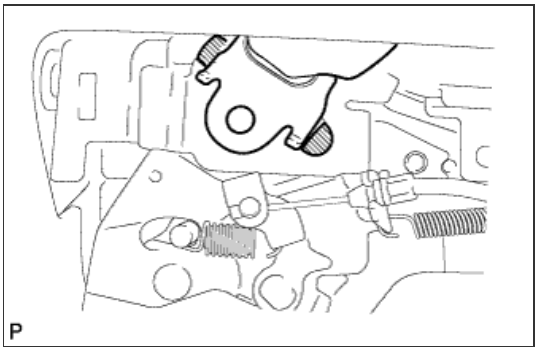
**HINT:**

The rear No. 2 seat inner belt is fixed with the same nut as the rear seat inner belt. Therefore, it becomes disconnected when the nut is removed.




## 14. REMOVE REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY

a. Remove the belt.



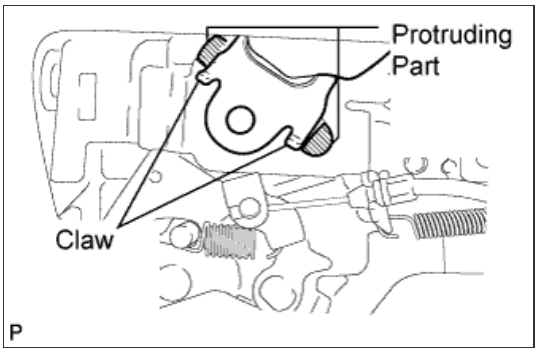
**for Preparation** Click here

## 1. INSTALL REAR NO. 2 SEAT INNER BELT SUB-ASSEMBLY

a. Install the belt.

**NOTICE:**

- **Make sure the claws are facing away from the seat.**
- **Do not overlap the anchor part of the seat belt and protruding parts of the seat.**




## 2. INSTALL REAR SEAT INNER BELT SUB-ASSEMBLY (for LH Side)

a. Install the belt with the nut.

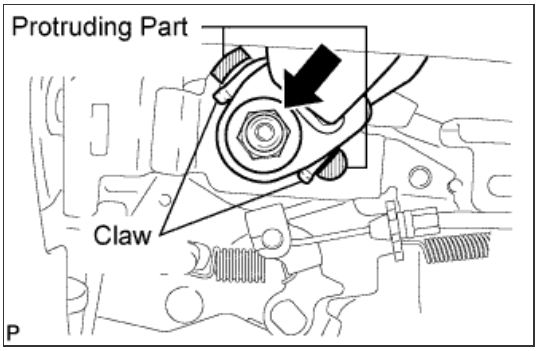
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the seat.

**HINT:**

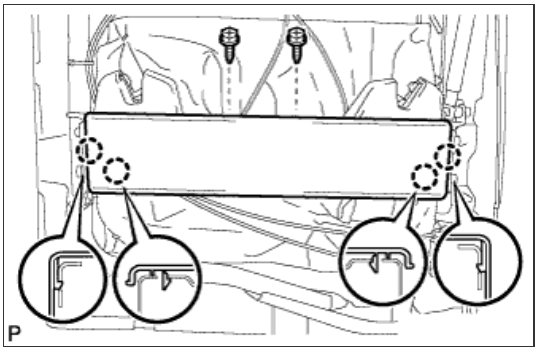
The rear No. 2 seat inner belt is fixed with the same nut as the rear seat inner belt. Therefore, connect it when installing the rear seat inner belt.




## 3. INSTALL NO. 3 SEAT LEG COVER NO. 2

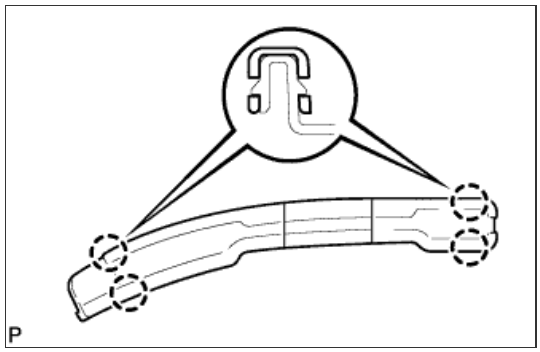
a. Attach the 4 claws to install the cover.

b. Install the 2 screws.



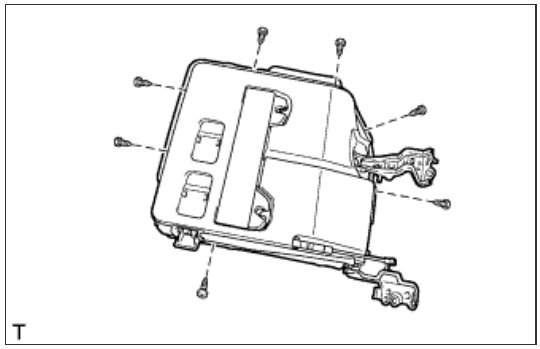

## 4. INSTALL NO. 3 SEAT FRONT BRACKET COVER LH

a. Attach the 4 claws to install the cover.

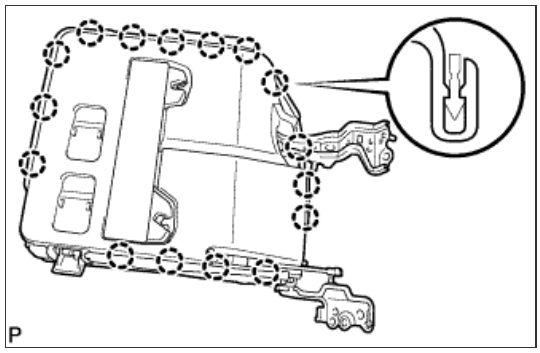



## 5. INSTALL REAR SEAT CUSHION UNDER COVER LH

a. Install the cover with the 7 screws.



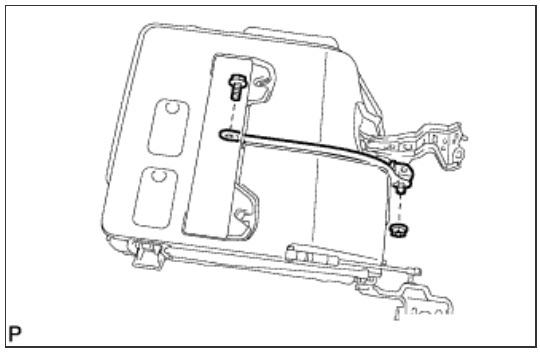

b. Attach the 16 claws.




## 6. INSTALL 3RD SEAT LINK SUB-ASSEMBLY LH

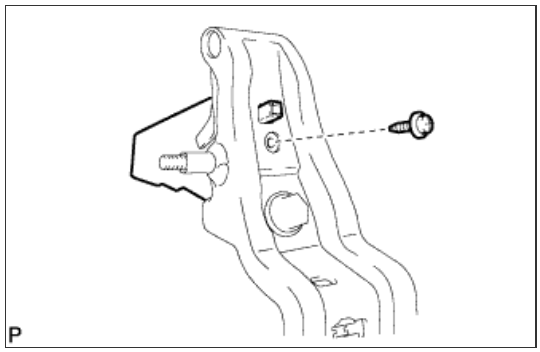
a. Install the seat link with the bolt and nut.

**Torque:**
**8.5 N*m{ 87 kgf*cm , 75 in.*lbf }**



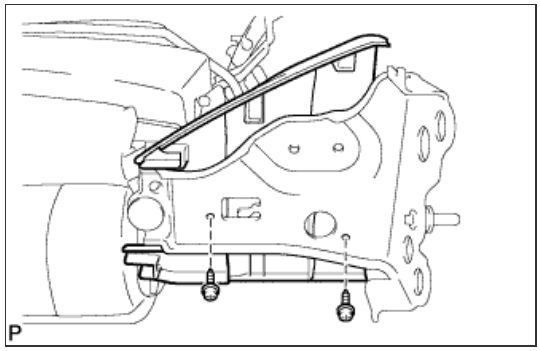

## 7. INSTALL NO. 2 SEAT LEG COVER NO. 2

a. Install the seat leg cover with the screw.



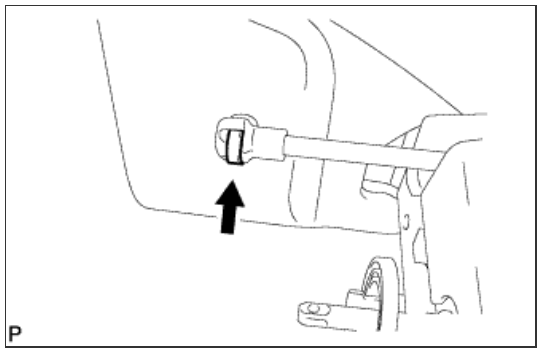

## 8. INSTALL REAR NO. 3 SEAT LEG COVER LH

a. Install the seat leg cover with the 2 screws.




b. Install the spring of the seat stay ball-joint.

c. Connect the seat stay to the seat frame.



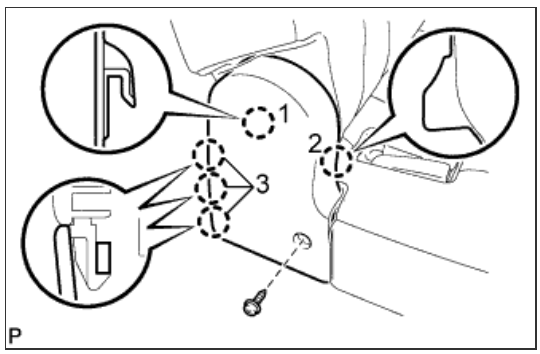

## 9. INSTALL REAR SEAT REAR BRACKET COVER REAR

a. Attach the 2 claws to install the cover.

## 10. INSTALL RECLINING ADJUSTER COVER RH

a. Attach the 5 claws in the order shown in the illustration to install the cover.

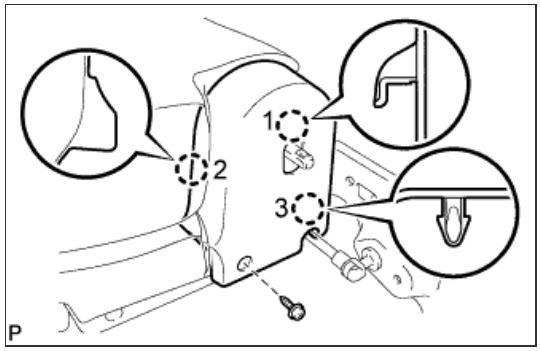
b. Install the screw.




## 11. INSTALL RECLINING ADJUSTER COVER LH

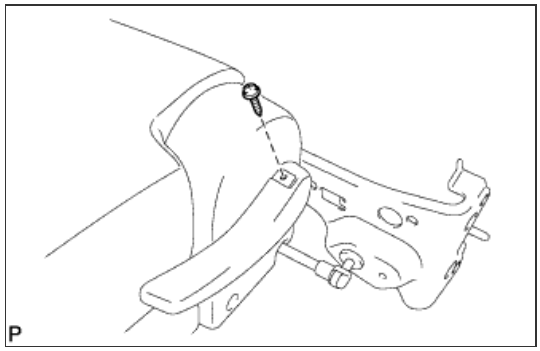
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the screw.



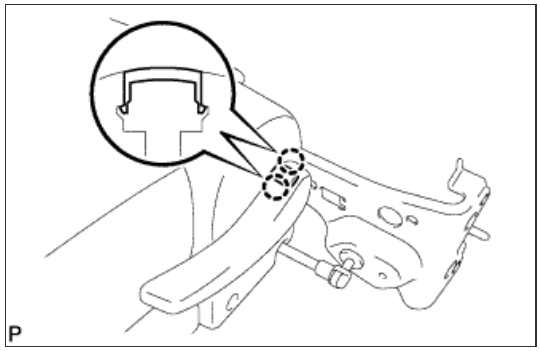

## 12. INSTALL NO. 2 RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the release handle with the screw.




## 13. INSTALL SEAT ADJUSTER BOLT COVER

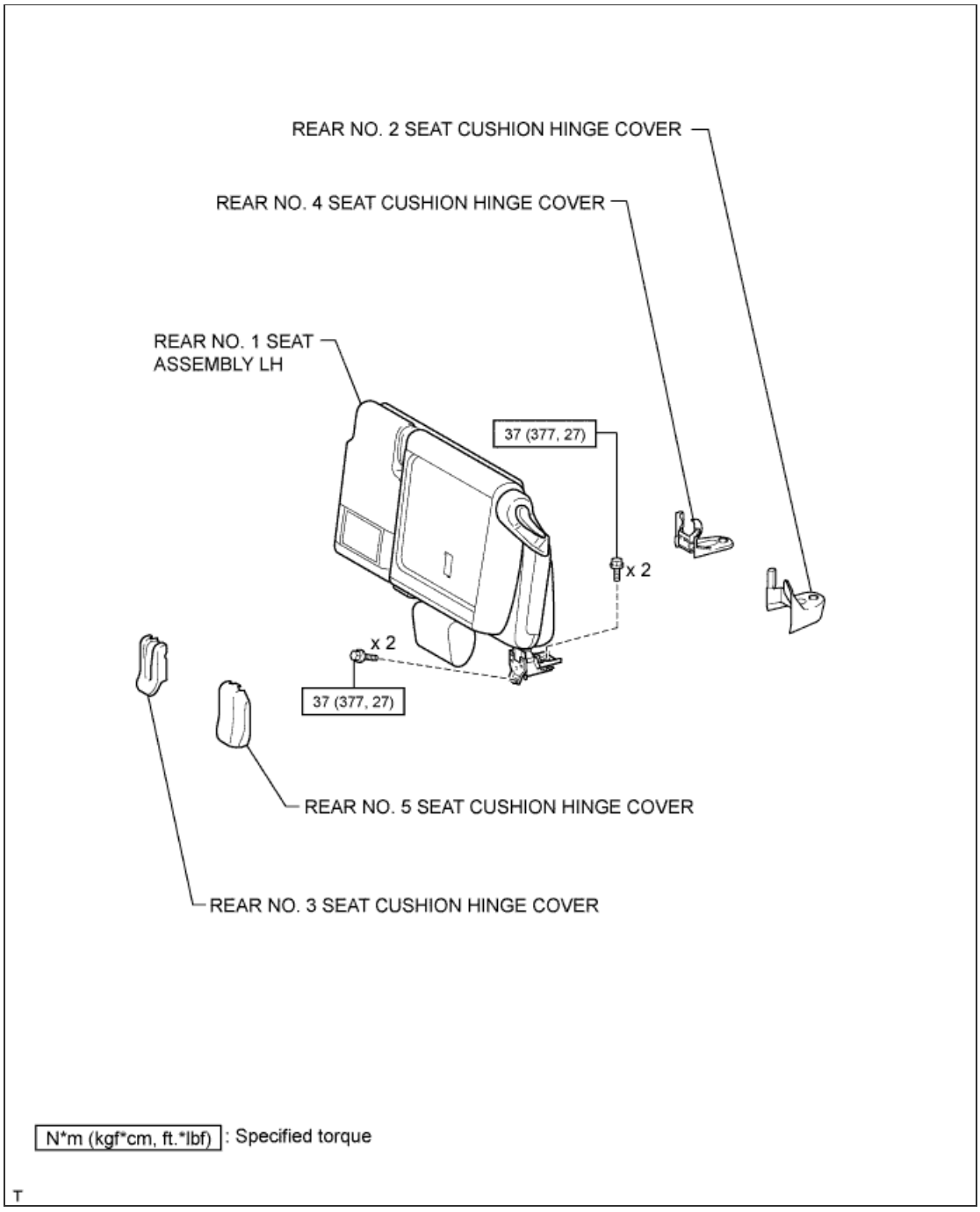
a. Attach the 2 claws to install the cover.

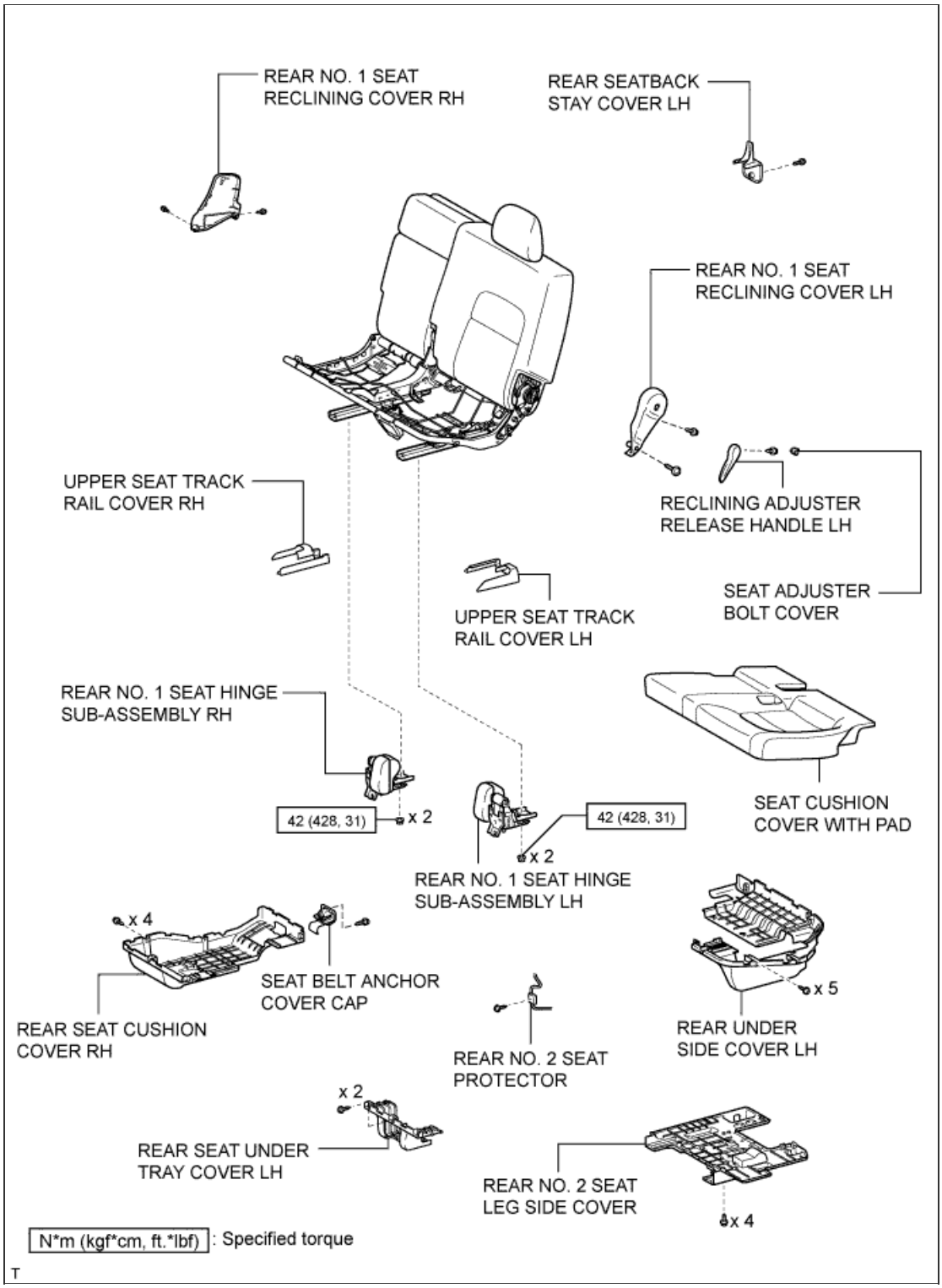


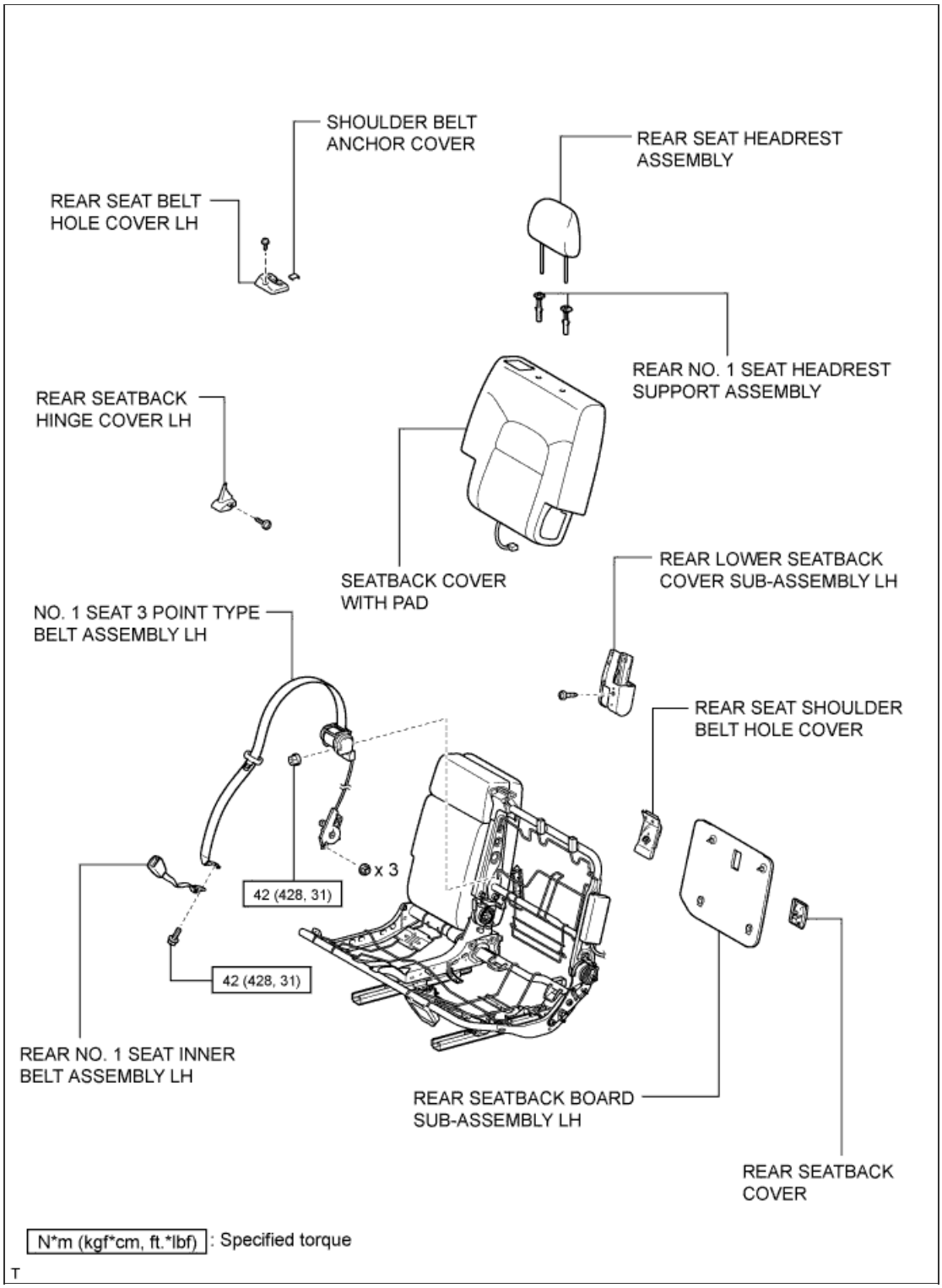

## 14. INSTALL REAR NO. 2 SEAT ASSEMBLY LH

a. Install the rear No. 2 seat assembly ( Click here).

**for Preparation** Click here




REAR NO. 1 SEAT RECLINING COVER RH
REAR SEATBACK STAY COVER LH
REAR NO. 1 SEAT RECLINING COVER LH
UPPER SEAT TRACK RAIL COVER RH
RECLINING ADJUSTER RELEASE HANDLE LH
SEAT ADJUSTER BOLT COVER
UPPER SEAT TRACK RAIL COVER LH
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH
SEAT CUSHION COVER WITH PAD
42 (428, 31)
x 2
42 (428, 31)
x 2
REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH
x 4
SEAT BELT ANCHOR COVER CAP
REAR SEAT CUSHION COVER RH
REAR NO. 2 SEAT PROTECTOR
x 5
REAR UNDER SIDE COVER LH
x 2
REAR SEAT UNDER TRAY COVER LH
REAR NO. 2 SEAT LEG SIDE COVER
x 4
N*m (kgf*cm, ft.*lbf) : Specified torque
T


SHOULDER BELT ANCHOR COVER
REAR SEAT HEADREST ASSEMBLY
REAR SEAT BELT HOLE COVER LH
REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY
REAR SEATBACK HINGE COVER LH
SEATBACK COVER WITH PAD
REAR LOWER SEATBACK COVER SUB-ASSEMBLY LH
NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH
REAR SEAT SHOULDER BELT HOLE COVER
x 3
42 (428, 31)
42 (428, 31)
REAR NO. 1 SEAT INNER BELT ASSEMBLY LH
REAR SEATBACK BOARD SUB-ASSEMBLY LH
REAR SEATBACK COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
T

**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

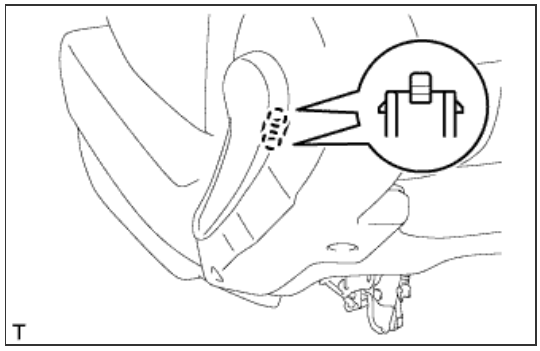
a. Remove the rear No. 1 seat assembly ( Click here).

## 2. REMOVE SEAT ADJUSTER BOLT COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

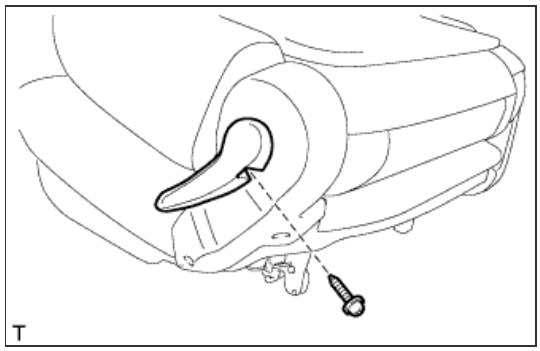
**HINT:**

Tape the screwdriver tip before use.




## 3. REMOVE RECLINING ADJUSTER RELEASE HANDLE LH

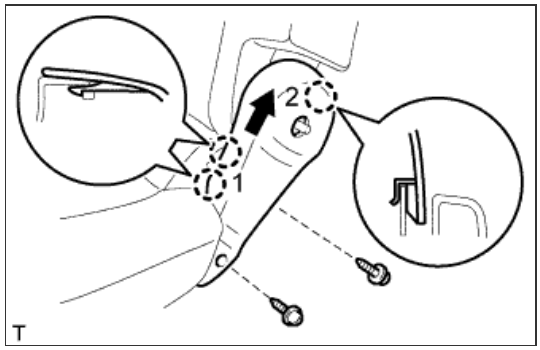
a. Remove the screw and release handle.




## 4. REMOVE REAR NO. 1 SEAT RECLINING COVER LH

a. Remove the 2 screws.

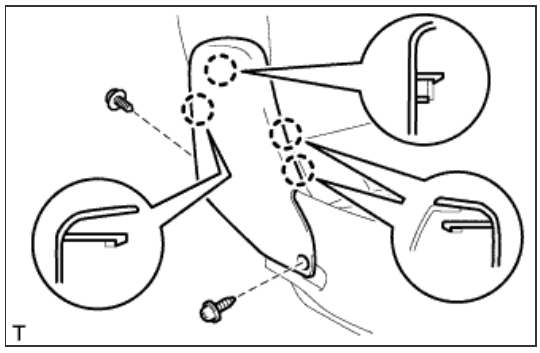
b. Detach the 3 claws in the order shown in the illustration, and then remove the cover.



## 5. REMOVE REAR NO. 1 SEAT RECLINING COVER RH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

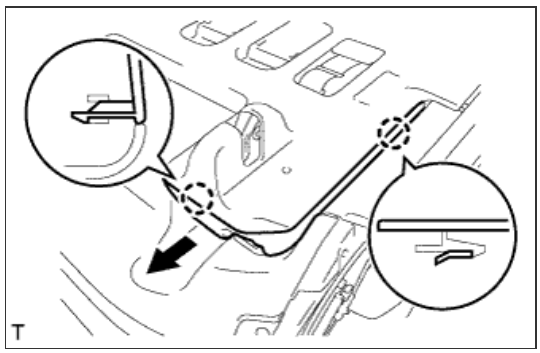



## 6. REMOVE UPPER SEAT TRACK RAIL COVER LH

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

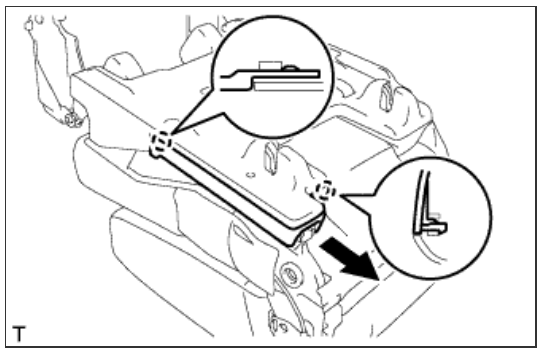



## 7. REMOVE UPPER SEAT TRACK RAIL COVER RH

a. Using a screwdriver, detach the 2 claws and remove the cover.

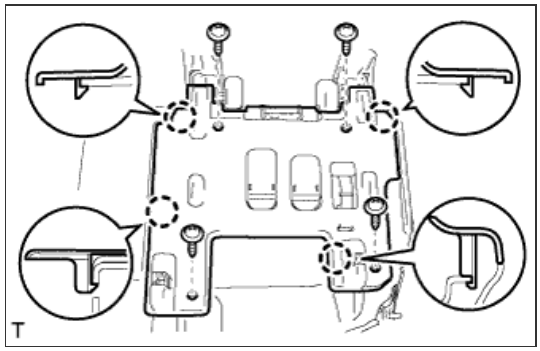
**HINT:**

Tape the screwdriver tip before use.

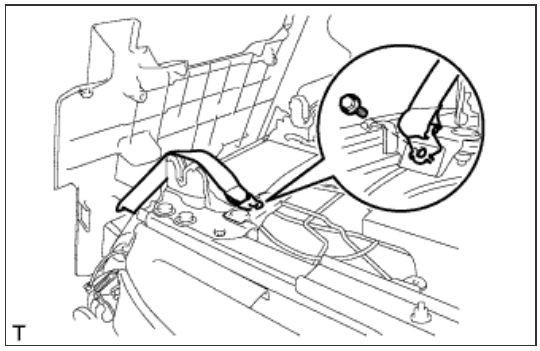



## 8. REMOVE REAR NO. 2 SEAT LEG SIDE COVER

a. Remove the 4 screws and detach the 4 claws.



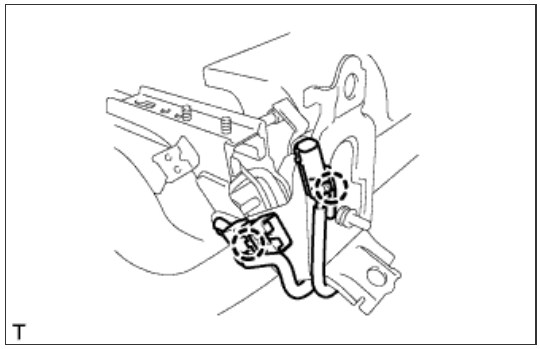
b. Remove the bolt that is securing the fold seat stopper band and remove the seat leg side cover together with the fold seat stopper band.




## 9. REMOVE REAR NO. 2 SEAT PROTECTOR

a. w/ Rear Seat Side Airbag:
Detach the claw and remove the wire harness connector.

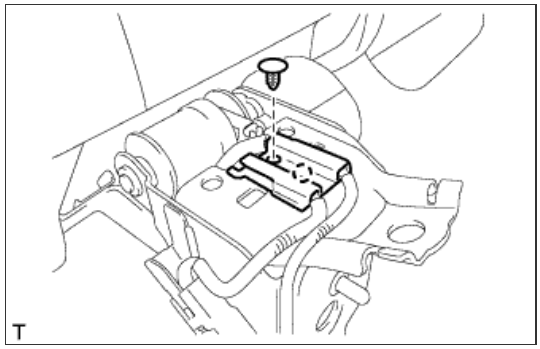
b. w/ Seat Heater System:
Detach the claw and remove the wire harness connector.




c. Using a clip remover, remove the clip.

d. Detach the claw and remove the seat protector from the seat hinge.

e. Detach the 2 claws, open the protector and remove wire harness.

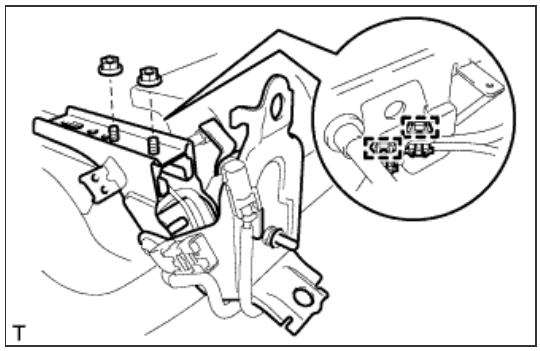



## 10. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

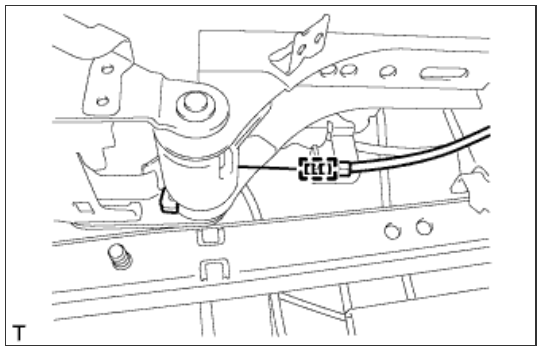
a. w/ Rear Seat Side Airbag:
Detach the wire harness clamp.

b. w/ Seat Heater System:
Detach the wire harness clamp.

c. Remove the 2 nuts and hinge.

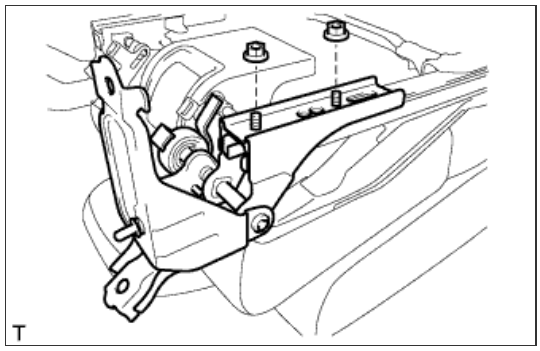



d. Detach the cable clamp and disconnect the cable.



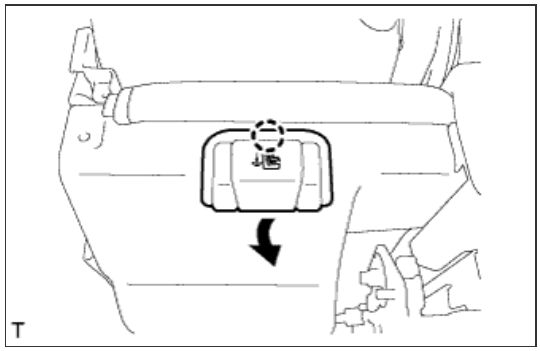

### 11. REMOVE REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

a. Remove the 2 nuts and hinge.

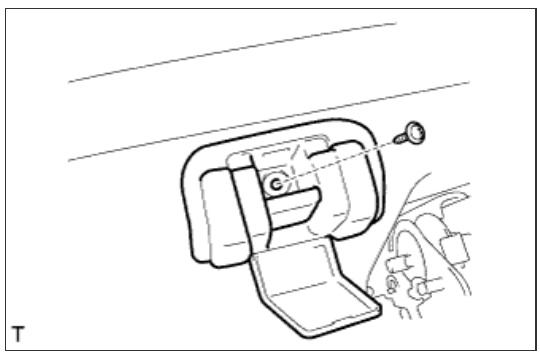



### 12. REMOVE SEAT BELT ANCHOR COVER CAP

a. Detach the claw and open the cap.



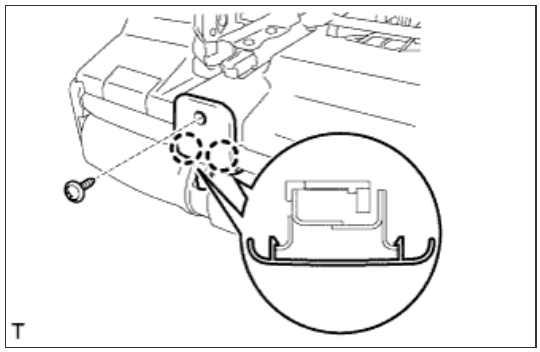

b. Remove the screw and anchor cover cap.




### 13. REMOVE REAR SEATBACK STAY COVER LH

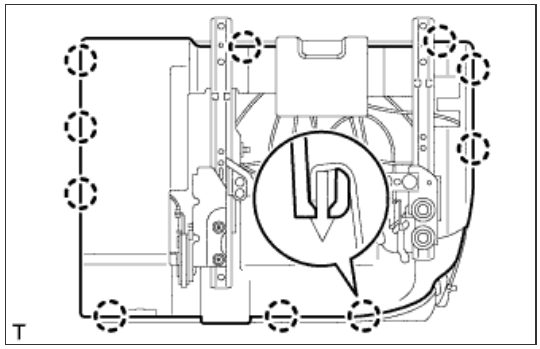
a. Remove the screw.

b. Detach the 2 claws and remove the cover.



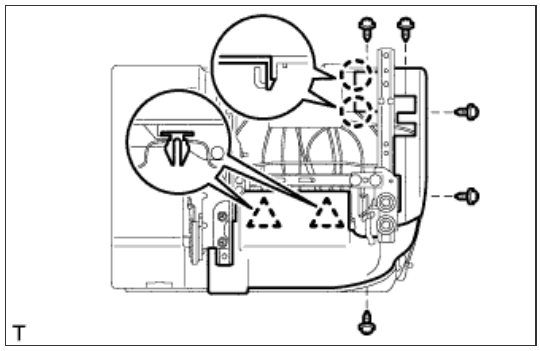

## 14. REMOVE REAR UNDER SIDE COVER LH

a. Detach the 10 claws.




b. Remove the 5 screws.

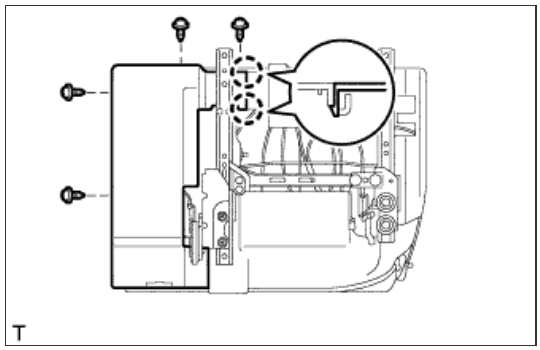
c. Detach the 2 clips and 2 claws, and remove the cover.




## 15. REMOVE REAR SEAT CUSHION COVER RH

a. Remove the 4 screws.

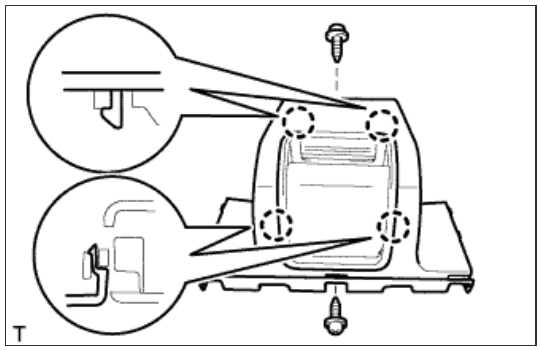
b. Detach the 2 claws and remove the cover.




## 16. REMOVE REAR SEAT UNDER TRAY COVER LH

a. Remove the 2 screws.

b. Detach the 4 claws and remove the cover.

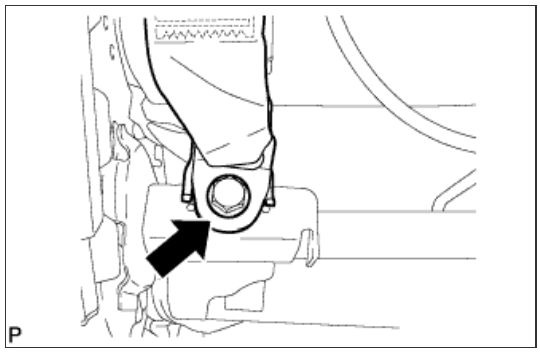



## 17. REMOVE REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Remove the bolt and belt.

**HINT:**

The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, it becomes disconnected when the bolt is removed.




## 18. REMOVE SEAT CUSHION COVER WITH PAD

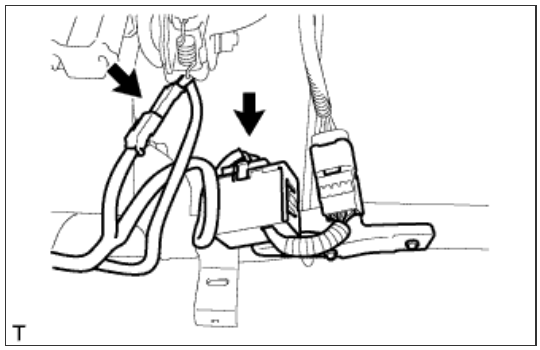
a. w/ Rear Seat Side Airbag:

i. Detach the side airbag wire harness clamps.

ii. Remove the side airbag wire harness through the hole in the seat cushion.

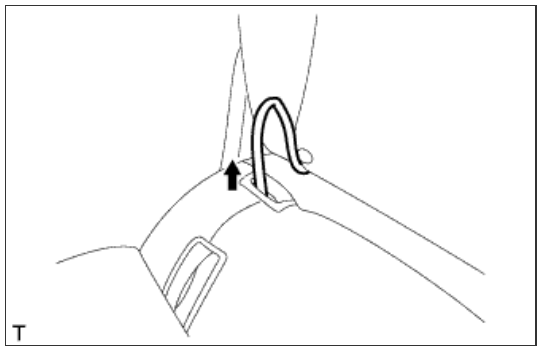
b. w/ Seat Heater System:

i. Disconnect the 2 seat heater connectors.




ii. Remove the seatback heater wire harness through the hole in the seat cushion.

c. Remove the seat cushion cover with pad.

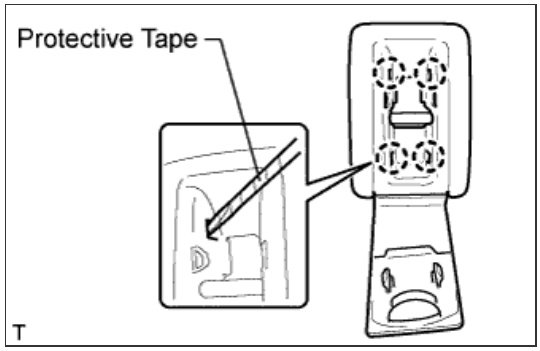



## 19. REMOVE REAR SEATBACK COVER

a. Using a screwdriver, detach the 4 claws and remove the cover.

**HINT:**

Tape the screwdriver tip before use.

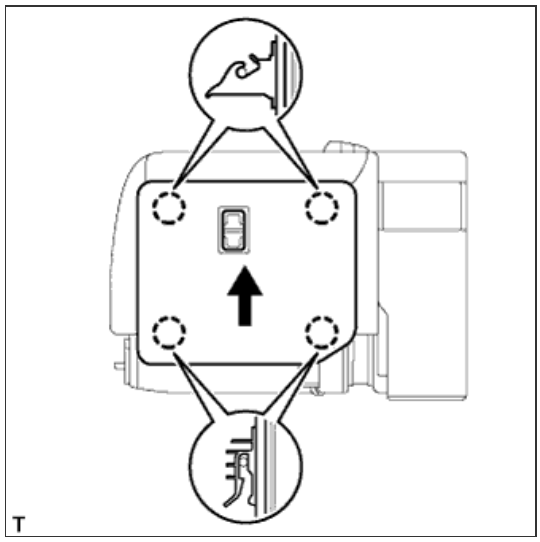



## 20. REMOVE REAR SEATBACK BOARD SUB-ASSEMBLY LH

a. w/ Center Armrest:

i. Detach the 2 claws on the top of the board.

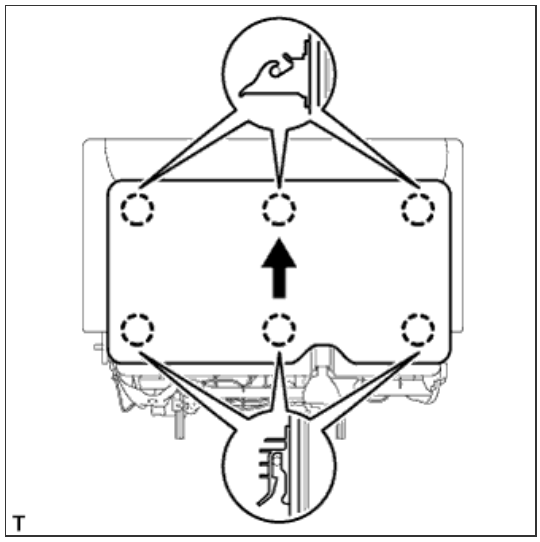
ii. Pull up the board to detach the 2 claws on the bottom of the board and remove it.




b. w/o Center Armrest:

i. Detach the 3 claws on the top of the board.

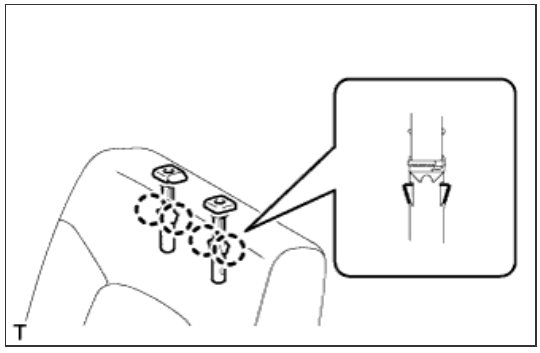
ii. Pull up the board to detach the 3 claws on the bottom of the board and remove it.



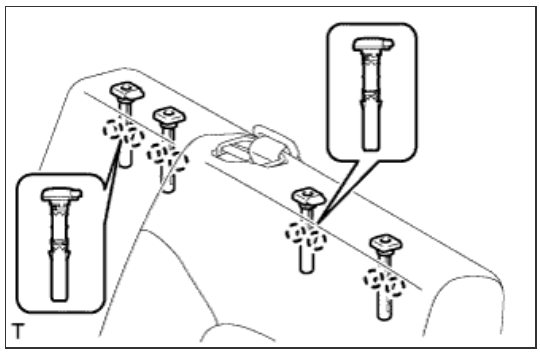

## 21. REMOVE REAR SEAT HEADREST ASSEMBLY

## 22. REMOVE REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. w/ Center Armrest:
Detach the 4 claws and remove the 2 supports.




b. w/o Center Armrest:
Detach the 8 claws and remove the 4 supports.

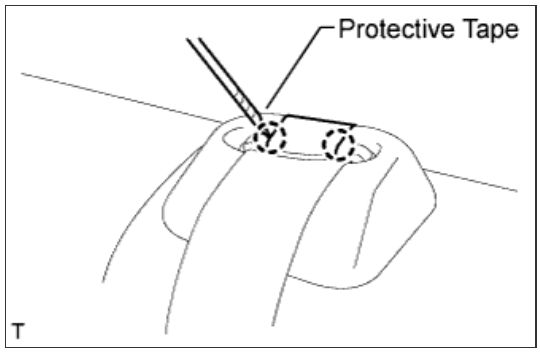



## 23. REMOVE SHOULDER BELT ANCHOR COVER

a. Using a screwdriver, detach the 2 claws and remove the cover.

**HINT:**

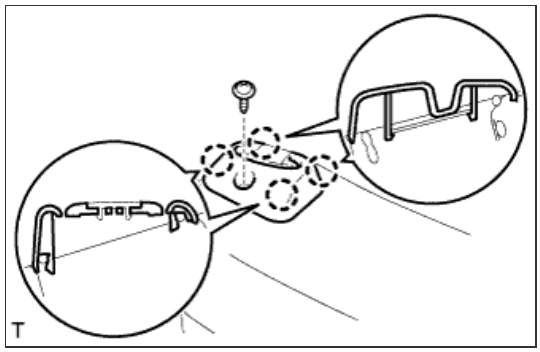
Tape the screwdriver tip before use.




## 24. REMOVE REAR SEAT BELT HOLE COVER LH

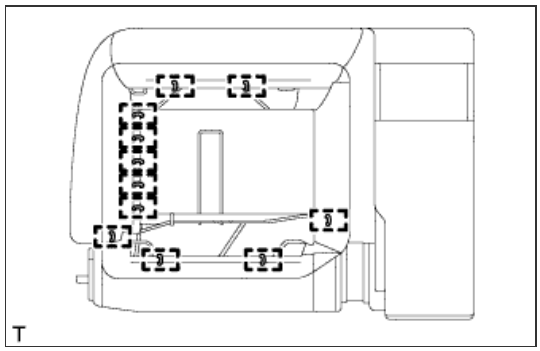
a. Remove the screw.

b. Detach the 4 claws and remove the cover.

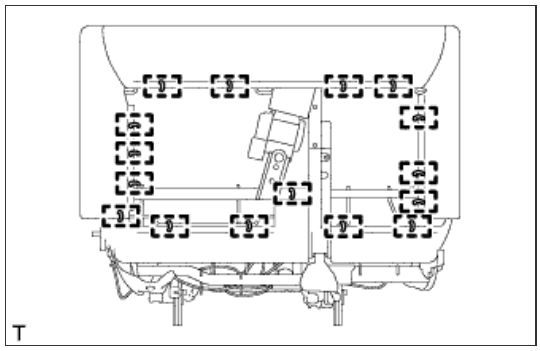



## 25. REMOVE SEATBACK COVER WITH PAD

a. w/ Center Armrest:
Remove the hog rings.



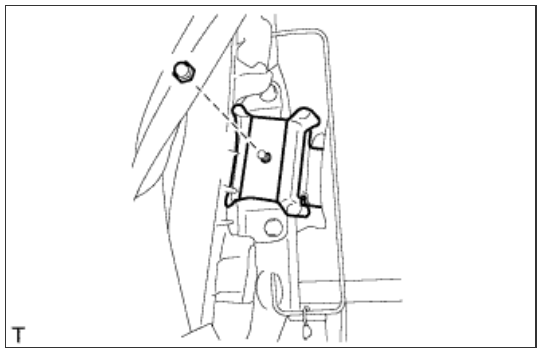

b. w/o Center Armrest:
Remove the hog rings.




c. w/ Rear Seat Side Airbag:

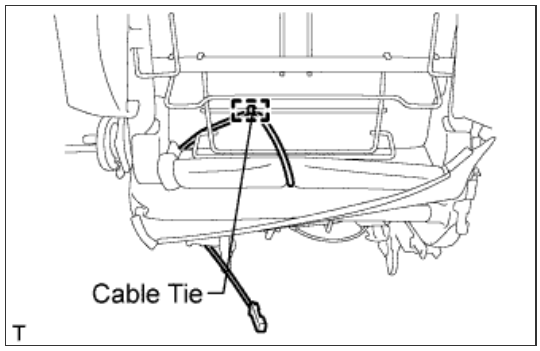
i. Remove the cap nut and seatback cover bracket from the seat frame.

ii. Remove the side airbag wire harness through the hole in the seatback.

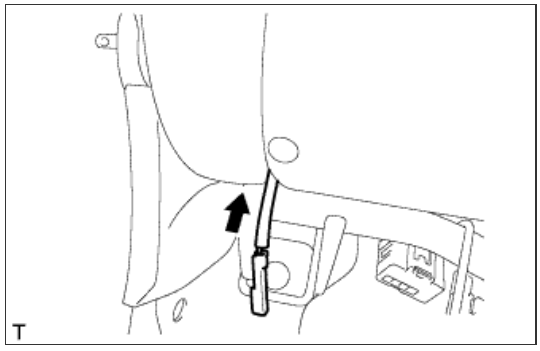



d. w/ Seat Heater System:

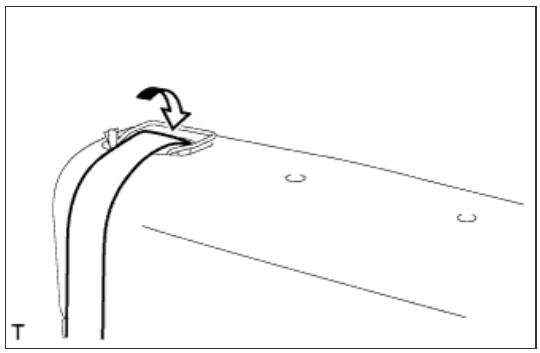
i. Cut the cable tie and disconnect the seatback heater wire harness.




ii. Remove the seatback heater wire harness through the hole in the seatback.

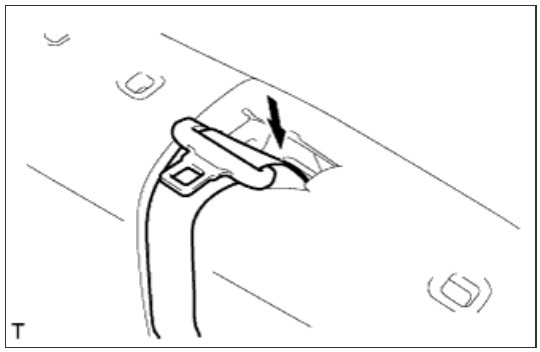



e. w/ Center Armrest:
Pull the seat belt into the inside of the seat.




f. w/o Center Armrest:
Pull the seat belt into the inside of the seat.

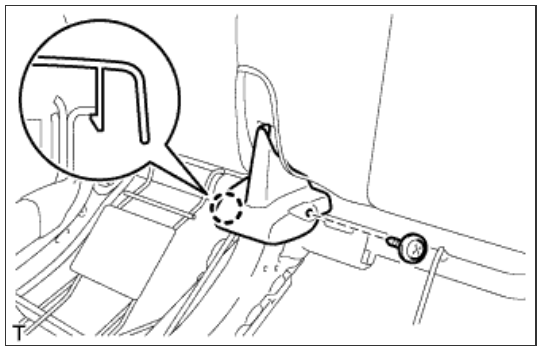
g. Remove the seatback cover with pad.




## 26. REMOVE REAR SEAT BACK HINGE COVER LH

a. Remove the screw.

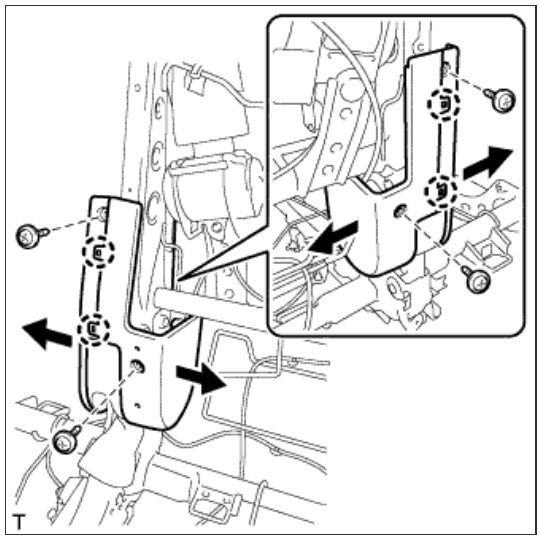
b. Detach the claw and remove the cover.




## 27. REMOVE REAR LOWER SEATBACK COVER SUB-ASSEMBLY LH

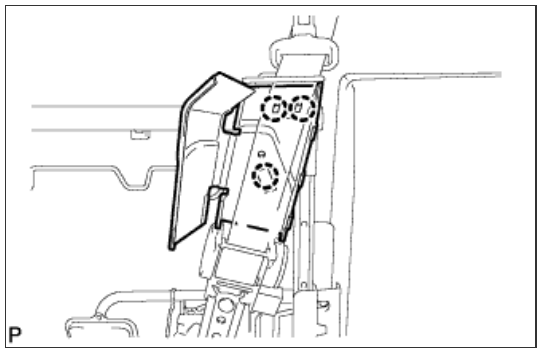
a. Remove the 4 screws.

b. Detach the 4 claws and remove the cover.




## 28. REMOVE REAR SEAT SHOULDER BELT HOLE COVER

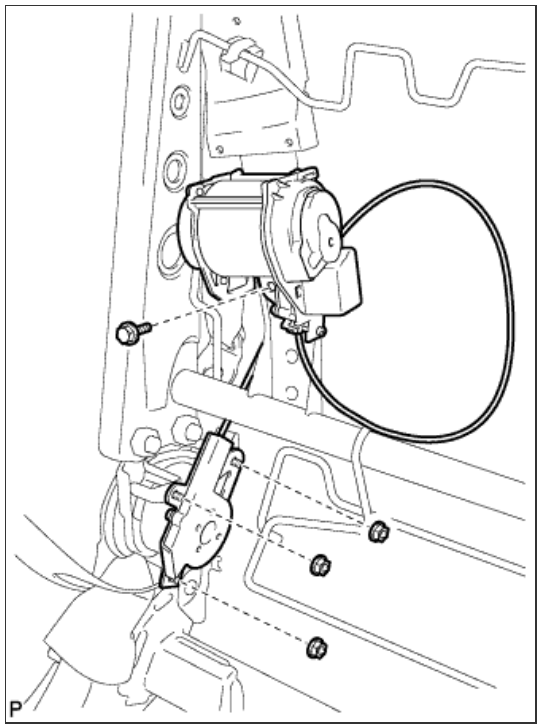
a. Using a screwdriver, detach the 3 claws and remove the shoulder belt hole cover.




### 29. REMOVE NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Remove the 3 nuts and belt sensor.

b. Remove the nut and then remove the outer belt.

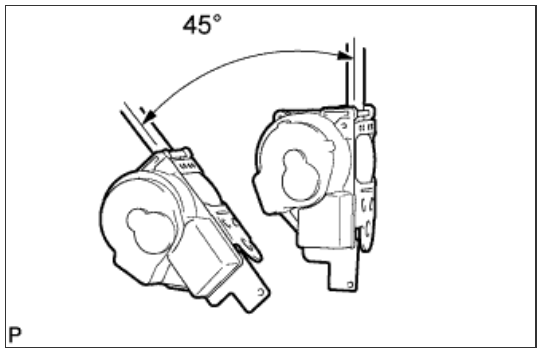


**for Preparation** Click here

## 1. INSPECT NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Check the ELR.

i. When the inclination of the retractor is 15° or less, check that the belt can be pulled from the retractor. When the inclination of the retractor is over 45°, check that the belt locks.
If the operation is not as specified, replace the seat belt assembly.



**for Preparation** Click here

**HINT:**

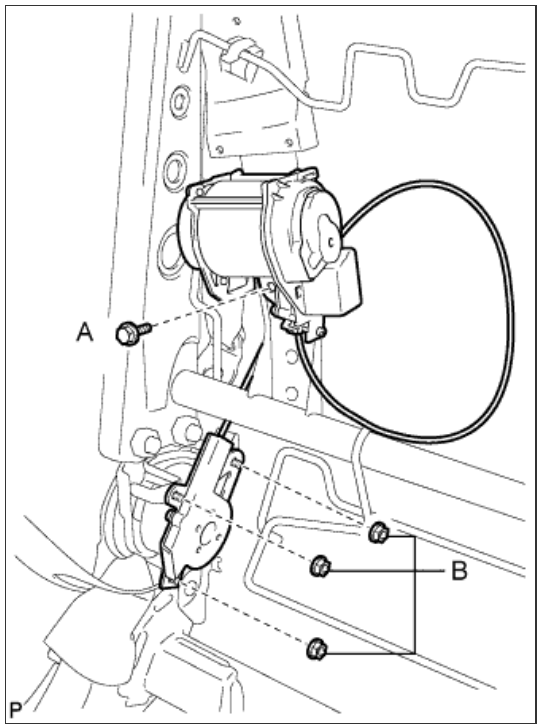
- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

## 1. INSTALL NO. 1 SEAT 3 POINT TYPE BELT ASSEMBLY LH

a. Install the belt with the nut labeled A.

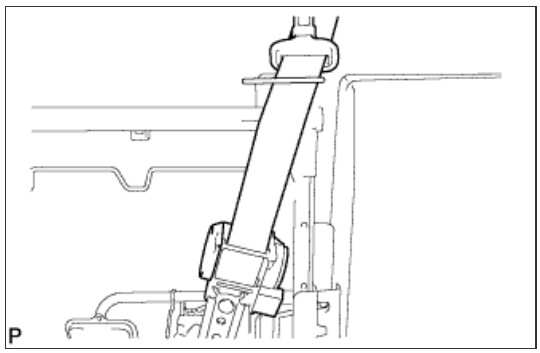
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

b. Install the belt sensor with the 3 nuts labeled B.

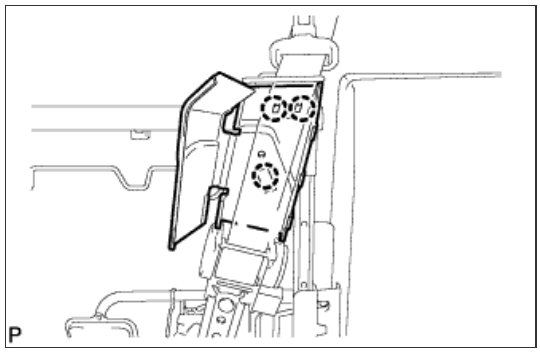



## 2. INSTALL REAR SEAT SHOULDER BELT HOLE COVER

a. Install the seat belt as shown in the illustration.



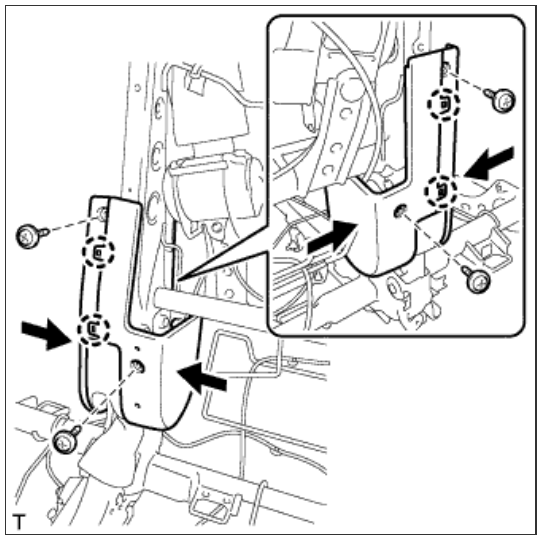

b. Attach the 3 claws to install the shoulder belt hole cover.




### 3. INSTALL REAR LOWER SEATBACK COVER SUB-ASSEMBLY LH

a. Attach the 4 claws to install the cover.

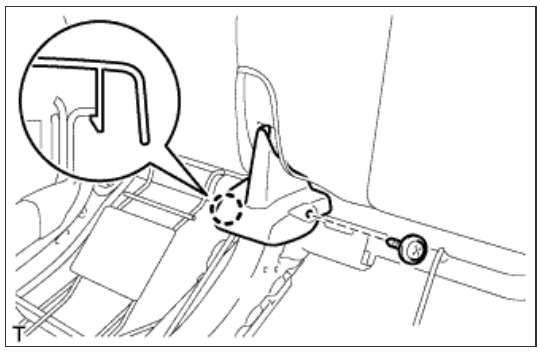
b. Install the 4 screws.




### 4. INSTALL REAR SEATBACK HINGE COVER LH

a. Attach the claw to install the cover.

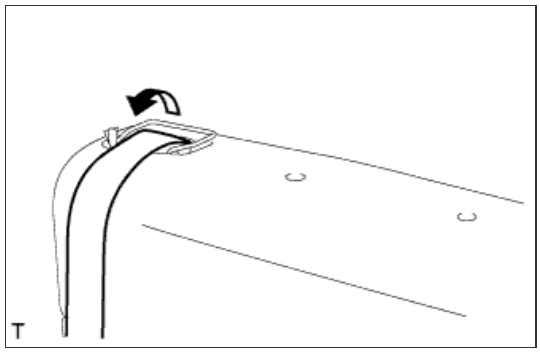
b. Install the screw.




### 5. INSTALL SEATBACK COVER WITH PAD

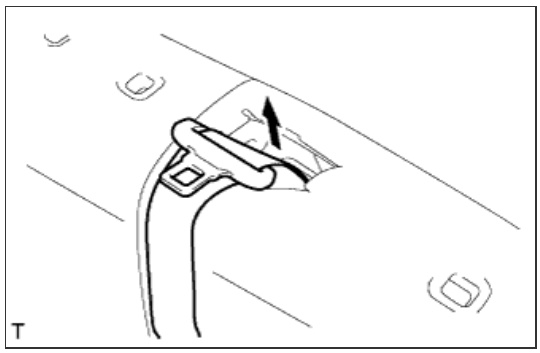
a. Install the seatback cover with pad.

b. w/ Center Armrest:
Pull out the seat belt.



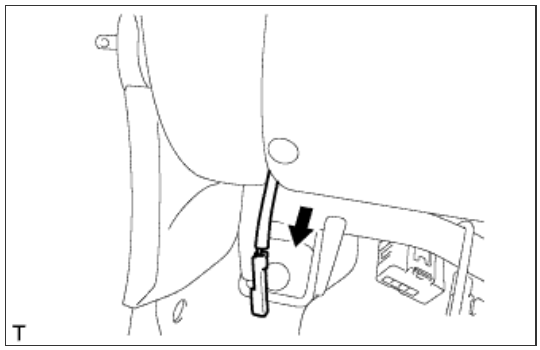

c. w/o Center Armrest:
Pull out the seat belt.

d. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seatback.

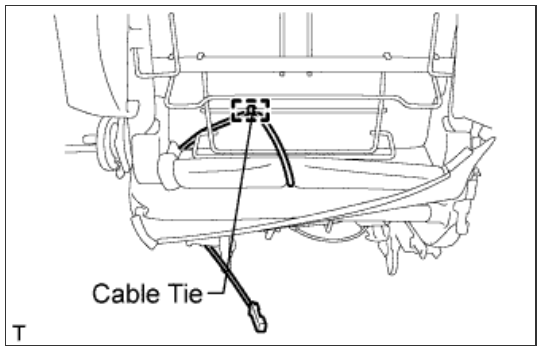



e. w/ Seat Heater System:
Pass the seatback heater wire harness through the hole in the seatback.

i.




ii. Connect the seatback heater wire harness and install a new cable tie.

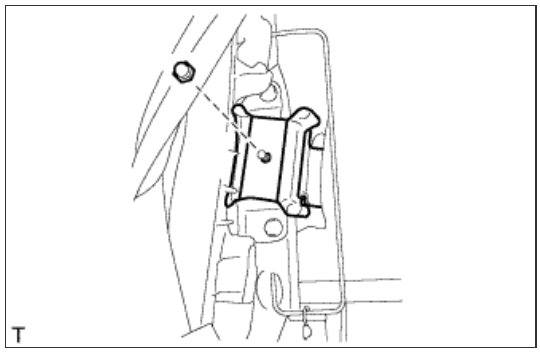



f. w/ Rear Seat Side Airbag:
Install the seatback cover bracket to the seat frame with the cap nut.

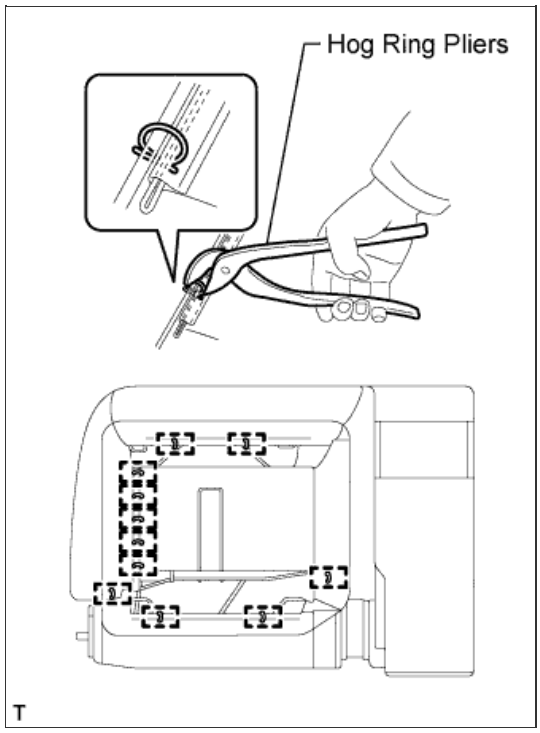
**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

**NOTICE:**

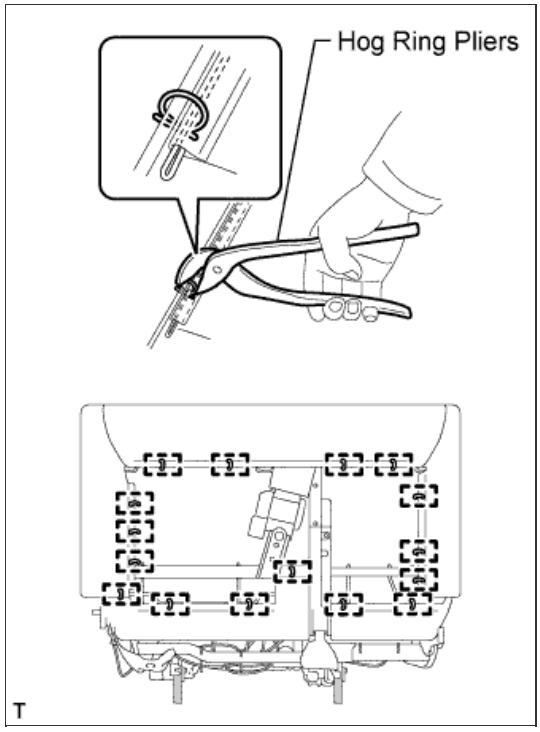
After the seatback trim cover is assembled, make sure the side airbag strap is not twisted.




**g.** w/ Center Armrest:
Using hog ring pliers, install new hog rings to the seatback frame.



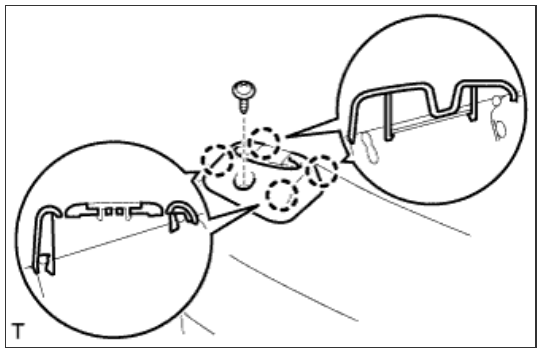

**h.** w/o Center Armrest:
Using hog ring pliers, install new hog rings to the seatback frame.




**6. INSTALL REAR SEAT BELT HOLE COVER LH**

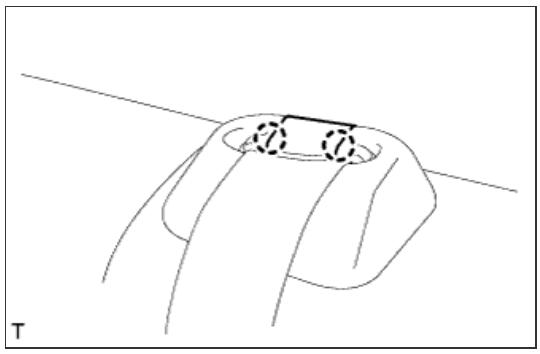
a. Attach the 4 claws to install the cover.

b. Install the screw.



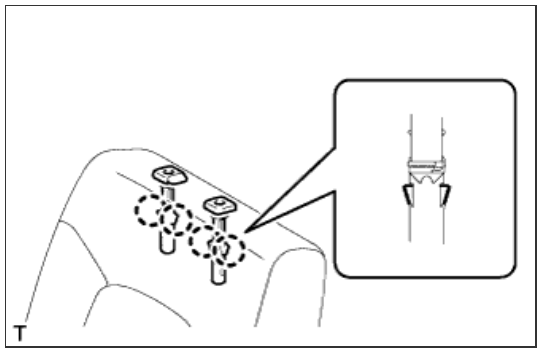

## 7. INSTALL SHOULDER BELT ANCHOR COVER

a. Attach the 2 claws to install the cover.

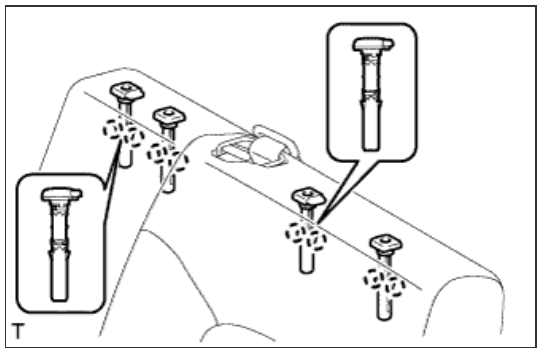



## 8. INSTALL REAR NO. 1 SEAT HEADREST SUPPORT ASSEMBLY

a. w/ Center Armrest:
Attach the 4 claws to install the 2 supports.




b. w/o Center Armrest:
Attach the 8 claws to install the 4 supports.



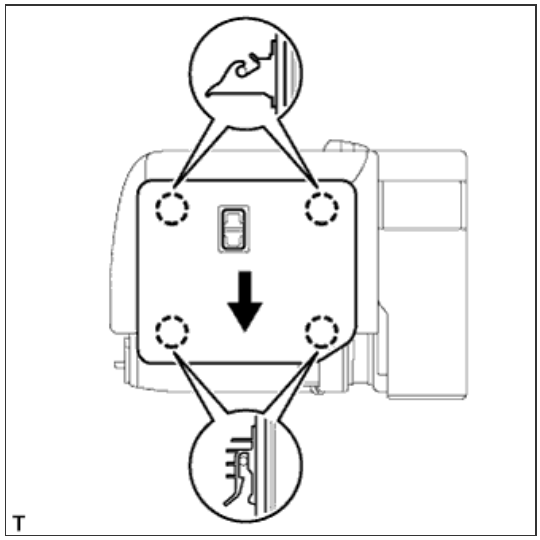

## 9. INSTALL REAR SEAT HEADREST ASSEMBLY

## 10. INSTALL REAR SEATBACK BOARD SUB-ASSEMBLY LH

a. w/ Center Armrest:

i. Push the board down to attach the 2 claws on the bottom.

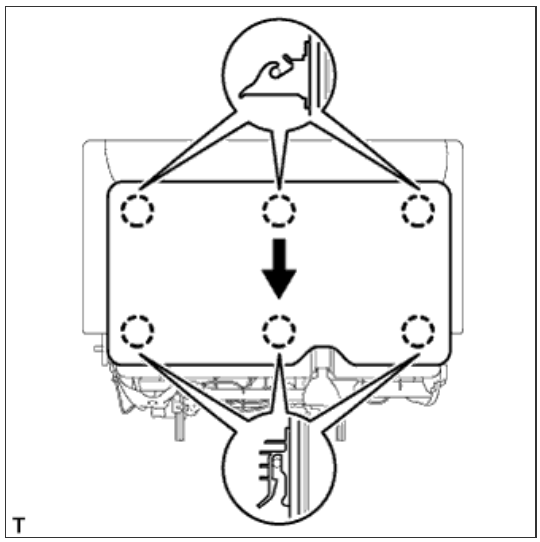
ii. Attach the 2 claws on the top of the board to install it.




b. w/o Center Armrest:

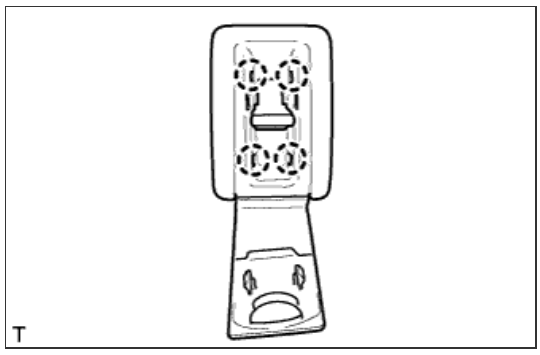
i. Push the board down to attach the 3 claws on the bottom.

ii. Attach the 3 claws on the top of the board to install it.




## 11. INSTALL REAR SEATBACK COVER

a. Attach the 4 claws to install the cover.



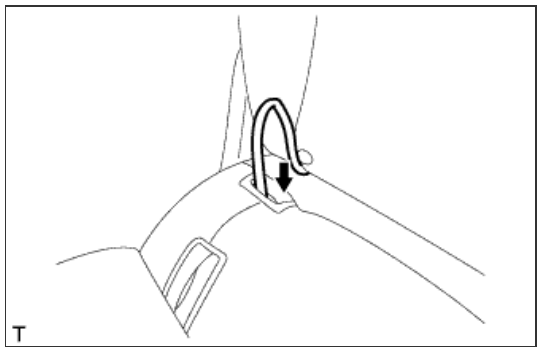

## 12. INSTALL SEAT CUSHION COVER WITH PAD

a. Install the seat cushion cover with pad.

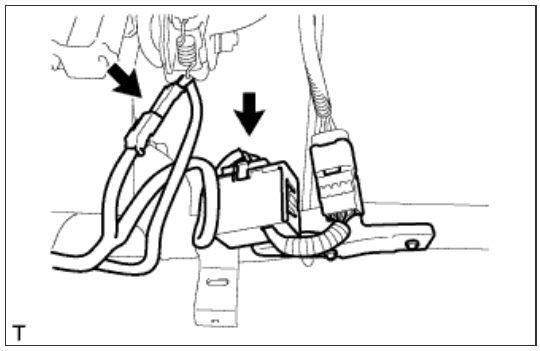
b. w/ Rear Seat Side Airbag:
Pass the side airbag wire harness through the hole in the seat cushion.

c. w/ Seat Heater System:

i. Pass the seatback heater wire harness through the hole in the seat cushion.




ii. Connect the 2 seat heater connectors.




d. w/ Rear Seat Side Airbag:
Attach the side airbag wire harness clamps.

## 13. INSTALL REAR NO. 1 SEAT INNER BELT ASSEMBLY LH

a. Install the belt with the bolt.

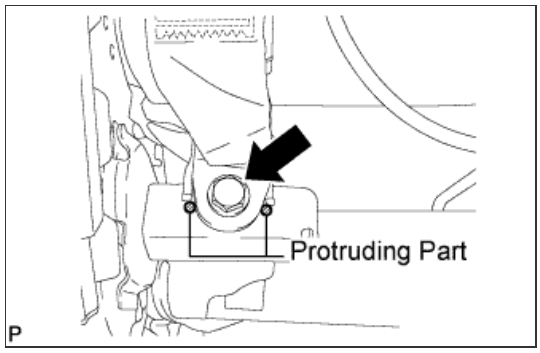
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

**HINT:**

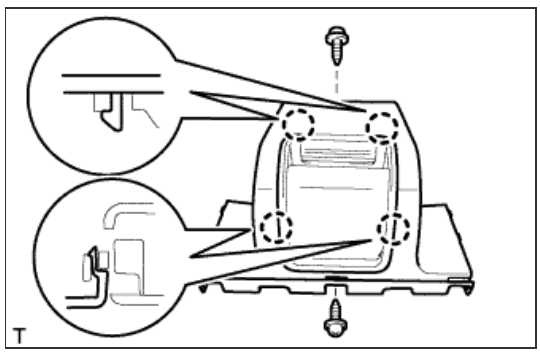
The No. 1 seat 3 point type belt anchor is fixed with the same bolt as the rear No. 1 seat inner belt LH. Therefore, connect it when installing the rear No. 1 seat inner belt LH.




## 14. INSTALL REAR SEAT UNDER TRAY COVER LH

a. Attach the 4 claws to install the cover.

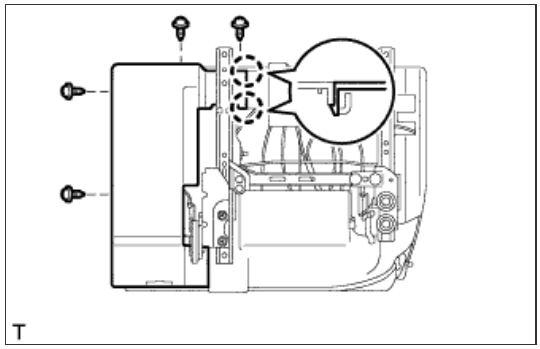
b. Install the 2 screws.




## 15. INSTALL REAR SEAT CUSHION COVER RH

a. Attach the 2 claws to install the cover.

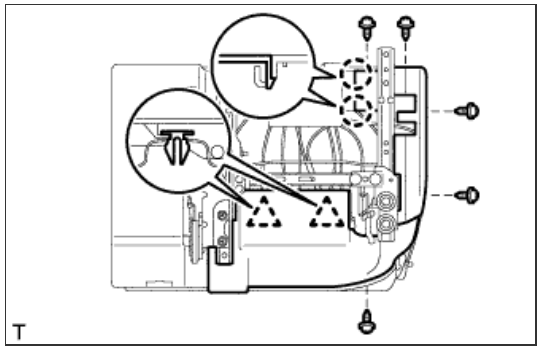
b. Install the 4 screws.



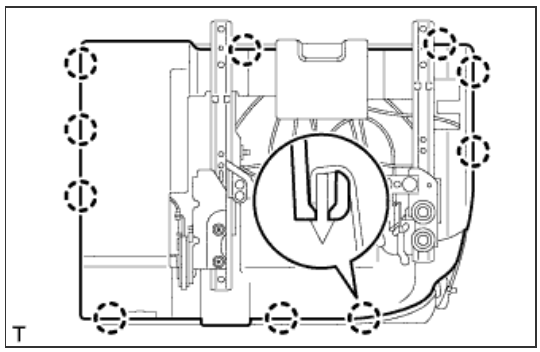

## 16. INSTALL REAR UNDER SIDE COVER LH

a. Attach the 2 claws and 2 clips to install the cover.

b. Install the 5 screws.



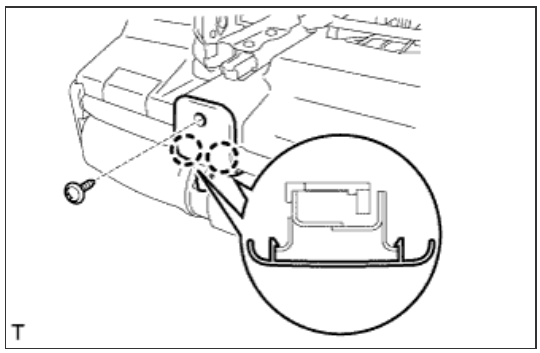

c. Attach the 10 claws.




## 17. INSTALL REAR SEATBACK STAY COVER LH

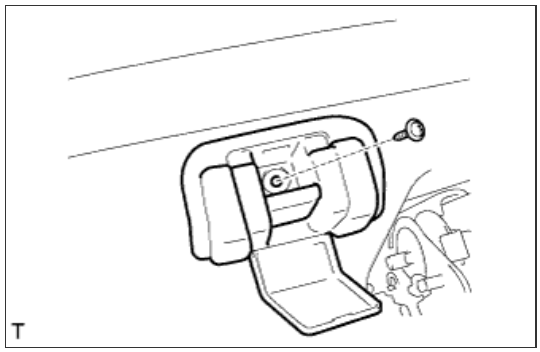
a. Attach the 2 claws to install the cover.

b. Install the screw.

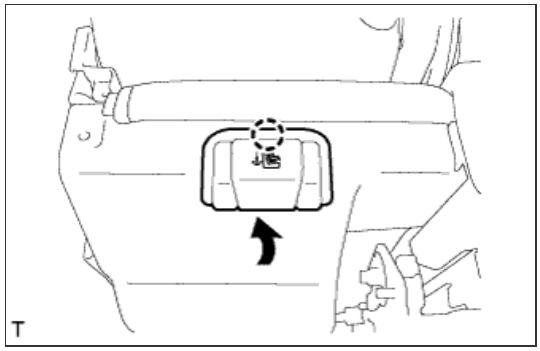



## 18. INSTALL SEAT BELT ANCHOR COVER CAP

a. Install the anchor cover cap with the screw.



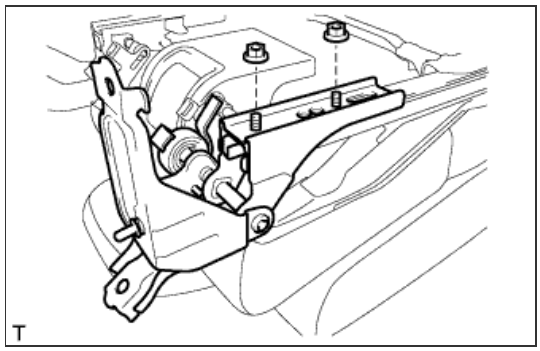

b. Attach the claw to close the cap.




## 19. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY RH

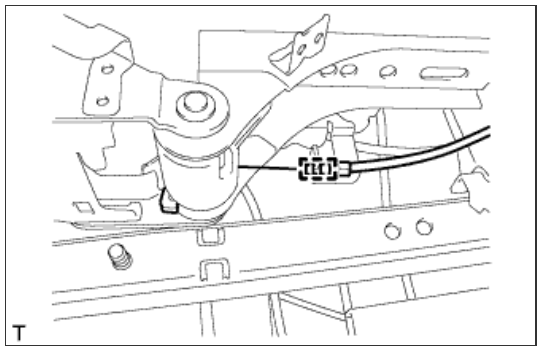
a. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 20. INSTALL REAR NO. 1 SEAT HINGE SUB-ASSEMBLY LH

a. Attach the cable clamp to connect the cable.

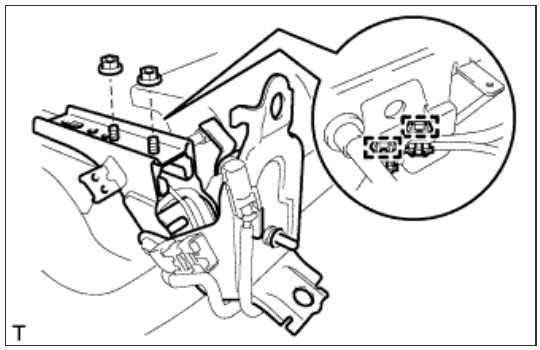



b. Install the hinge with the 2 nuts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

c. w/ Rear Seat Side Airbag:
Attach the wire harness clamp.

d. w/ Seat Heater System:
Attach the wire harness clamp.

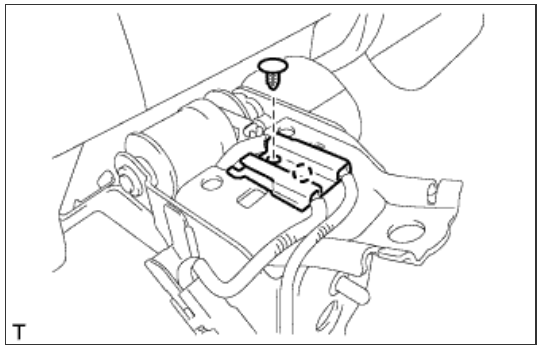



## 21. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Install the wire harness, and attach 2 claws to close the protector.

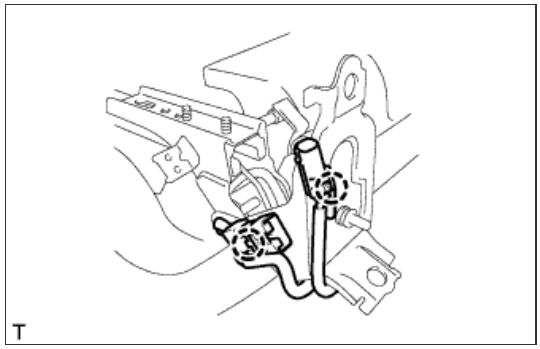
b. Attach the claw to install the protector to the seat hinge.

c. Install the clip.



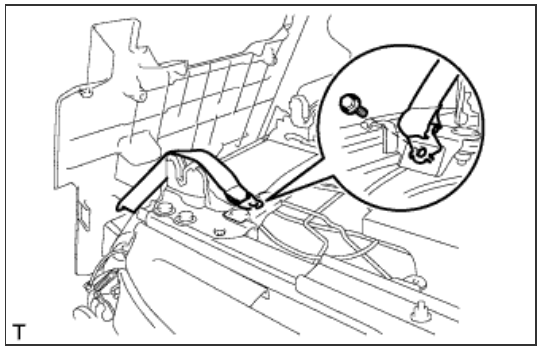

d. w/ Rear Seat Side Airbag:
Attach the claw to install the wire harness connector.

e. w/ Seat Heater System:
Attach the claw to install the wire harness connector.



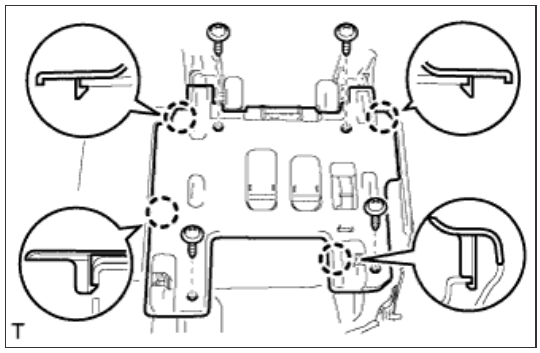

## 22. INSTALL REAR NO. 2 SEAT LEG SIDE COVER

a. Pass the fold seat stopper band through the seat leg side cover and attach it to the seat cushion frame with the bolt.



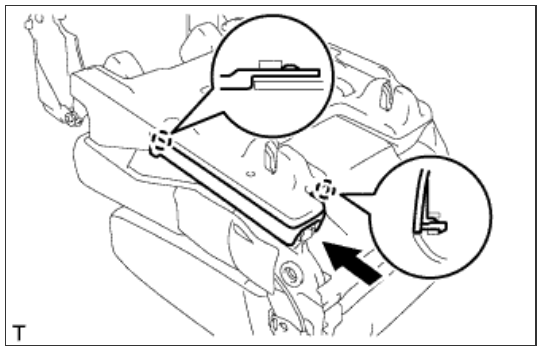

b. Attach the 4 claws to install the seat leg side cover.

c. Install the 4 screws.



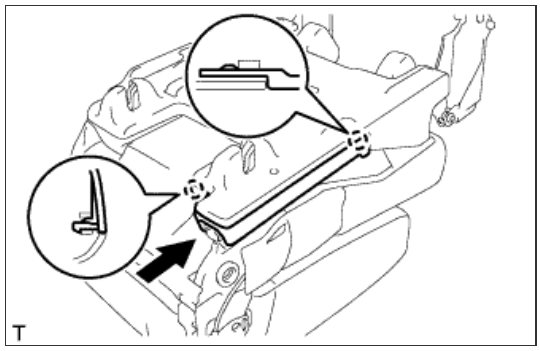

### 23. INSTALL UPPER SEAT TRACK RAIL COVER RH

a. Attach the 2 claws to install the cover.




### 24. INSTALL UPPER SEAT TRACK RAIL COVER LH

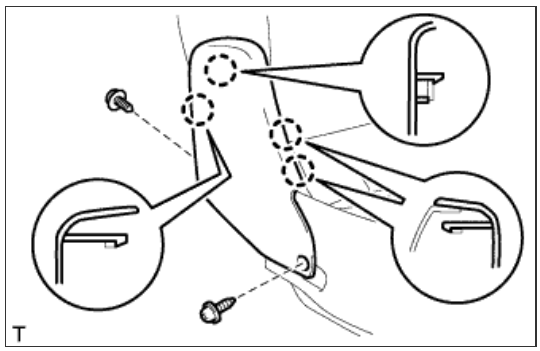
a. Attach the 2 claws to install the cover.




### 25. INSTALL REAR NO. 1 SEAT RECLINING COVER RH

a. Attach the 4 claws to install the cover.

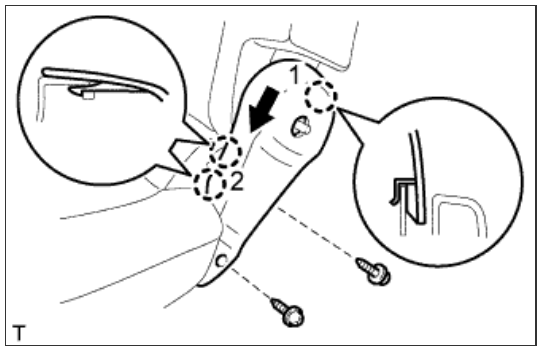
b. Install the 2 screws.




### 26. INSTALL REAR NO. 1 SEAT RECLINING COVER LH

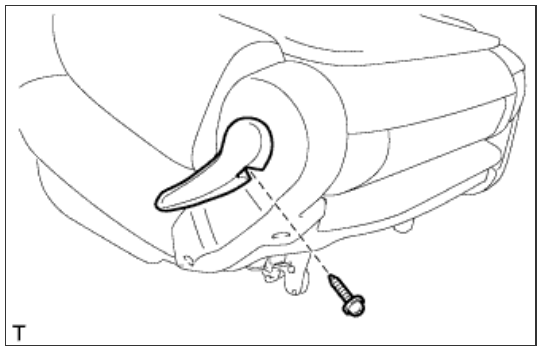
a. Attach the 3 claws in the order shown in the illustration to install the cover.

b. Install the 2 screws.



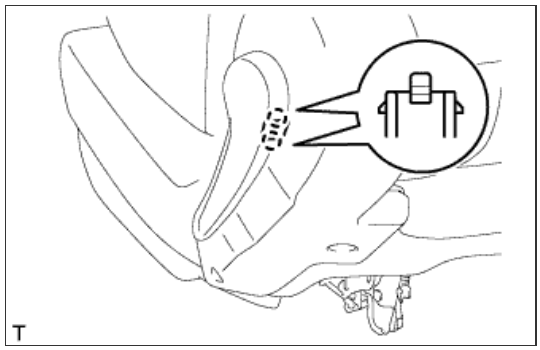

## 27. INSTALL RECLINING ADJUSTER RELEASE HANDLE LH

a. Install the release handle with the screw.




## 28. INSTALL SEAT ADJUSTER BOLT COVER

a. Attach the 2 claws to install the cover.

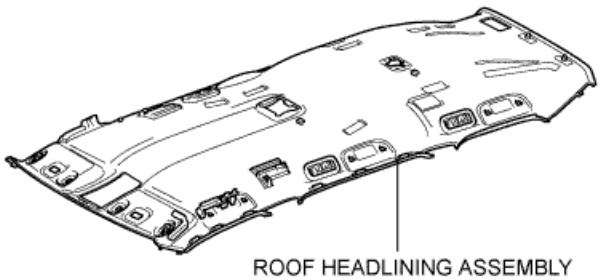



## 29. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

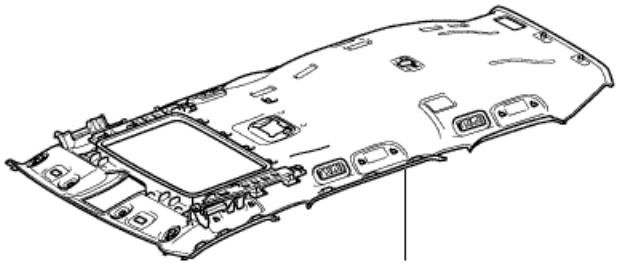
a. Install the rear No. 1 seat assembly ( Click here).

**for Preparation** Click here

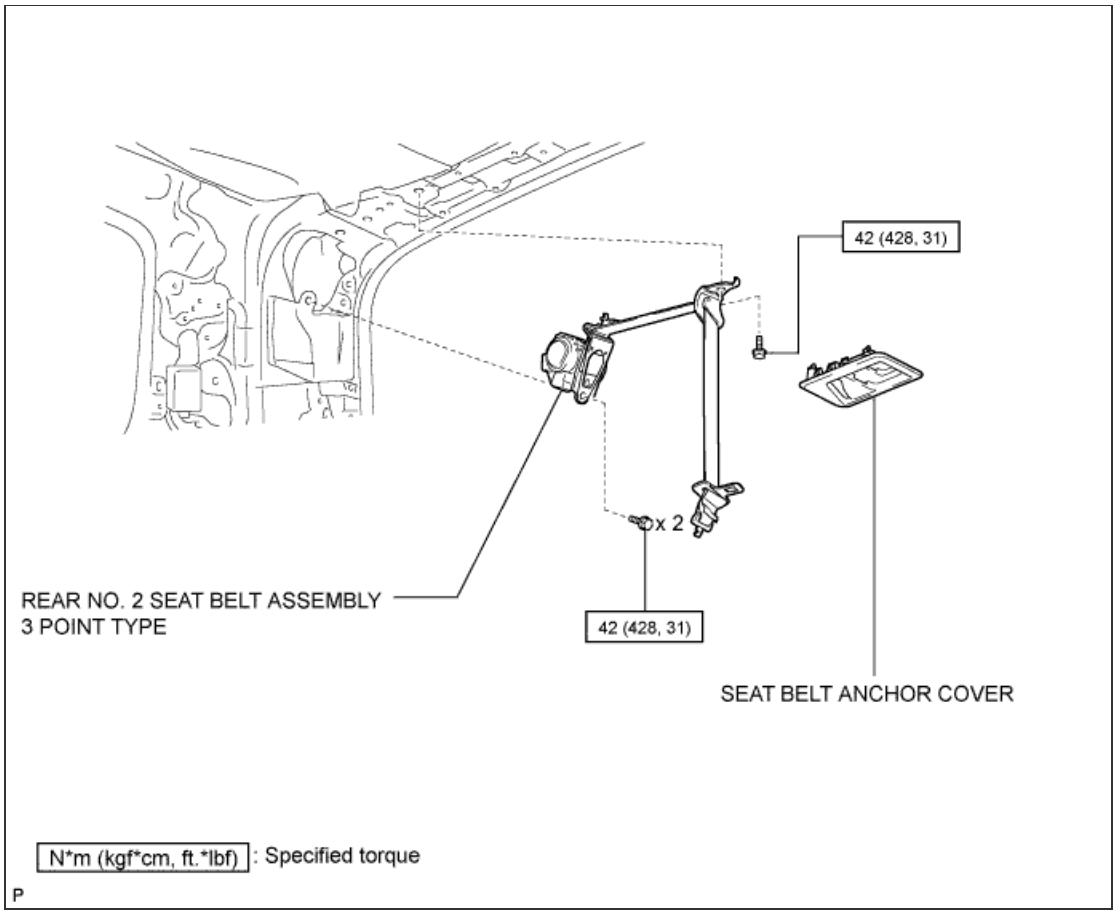
w/o Sliding Roof:




w/ Sliding Roof:



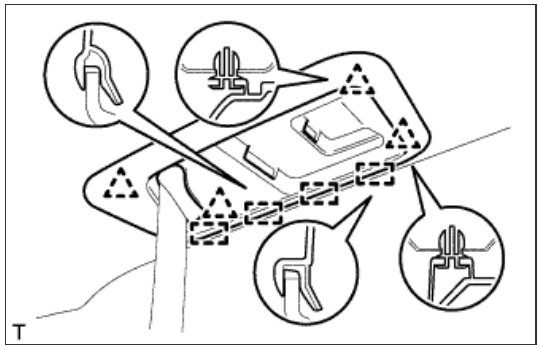

T


42 (428, 31)
x 2
REAR NO. 2 SEAT BELT ASSEMBLY
3 POINT TYPE
42 (428, 31)
SEAT BELT ANCHOR COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
P

**for Preparation** Click here

### 1. REMOVE SEAT BELT ANCHOR COVER

a. Detach the 4 clips and 4 guides, and remove the seat belt anchor cover.




### 2. REMOVE ROOF HEADLINING ASSEMBLY (w/o Sliding Roof)

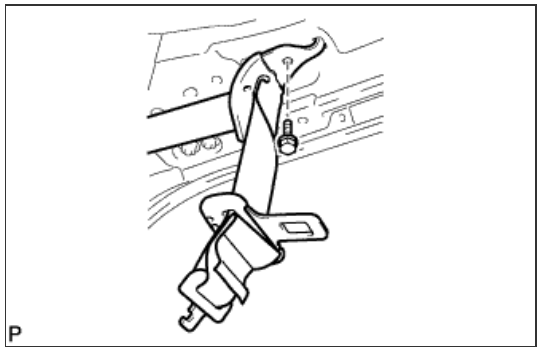
a. Remove the roof headlining (Click here).

### 3. REMOVE ROOF HEADLINING ASSEMBLY (w/ Sliding Roof)

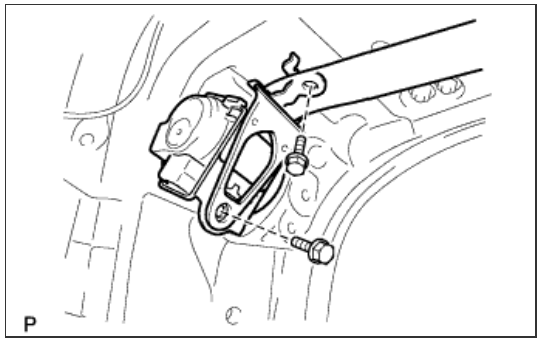
a. Remove the roof headlining (Click here).

### 4. REMOVE REAR NO. 2 SEAT BELT ASSEMBLY 3 POINT TYPE

a. Remove the bolt and through-anchor.




b. Remove the 2 bolts and belt.



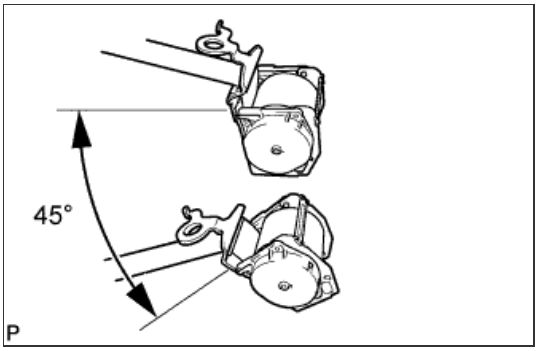
**for Preparation** Click here

## 1. INSPECT REAR NO. 2 SEAT BELT ASSEMBLY 3 POINT TYPE

**NOTICE:**

Do not disassemble the retractor.

a. When the inclination of the retractor is 15° or less, check that the belt can be pulled from the retractor. When the inclination of the retractor is over 45°, check that the belt locks.
If the operation is not as specified, replace the belt.

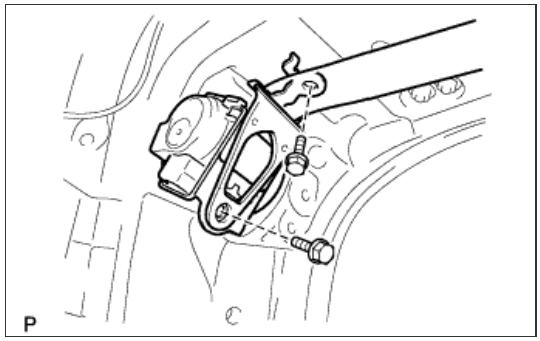


**for Preparation** Click here

## 1. INSTALL REAR NO. 2 SEAT BELT ASSEMBLY 3 POINT TYPE

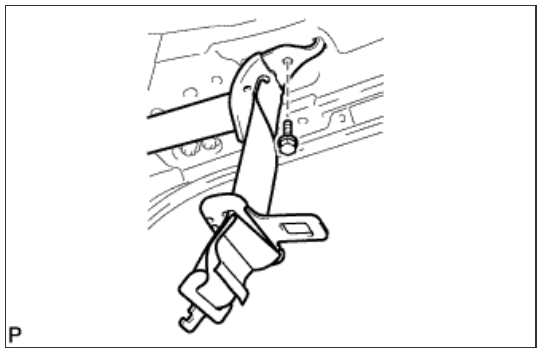
a. Install the belt with the 2 bolts.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




b. Install the through-anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




## 2. INSTALL ROOF HEADLINING ASSEMBLY (w/o Sliding Roof)

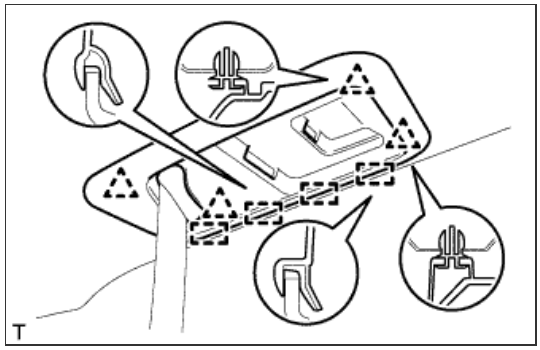
a. Install the roof headlining (Click here).

## 3. INSTALL ROOF HEADLINING ASSEMBLY (w/ Sliding Roof)

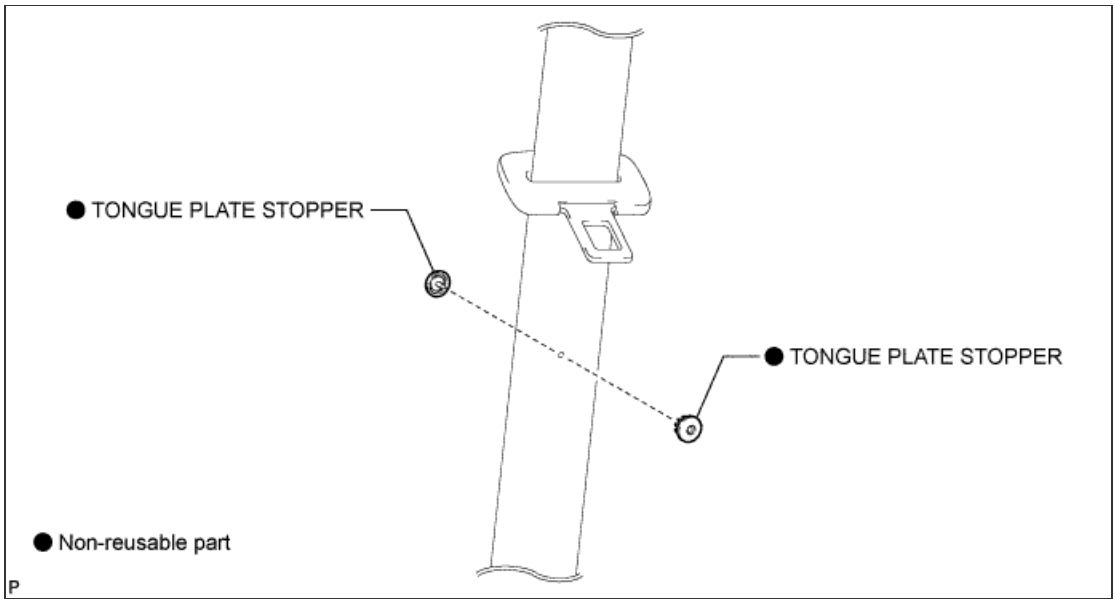
a. Install the roof headlining (Click here).

## 4. INSTALL SEAT BELT ANCHOR COVER

a. Attach the 4 guides and 4 clips to install the seat belt anchor cover.



**for Preparation** Click here



**for Preparation** Click here

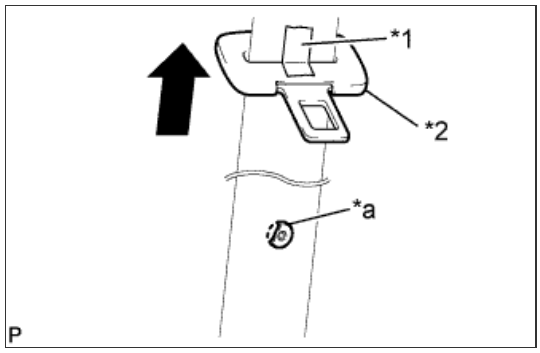
## 1. REMOVE TONGUE PLATE STOPPER

a. Slide the tongue plate above the installation position of the tongue plate stopper, and temporarily hold it with adhesive tape.

b. Remove any pieces of the original tongue plate stopper in the belt webbing with a pair of pliers.

**NOTICE:**

Be careful not to damage the belt webbing during repair.




**Text in Illustration**

| | |
|---|---|
| *1 | Adhesive Tape |
| *2 | Tongue Plate |
| *a | Broken Tongue Plate Stopper |

## 2. INSTALL TONGUE PLATE STOPPER

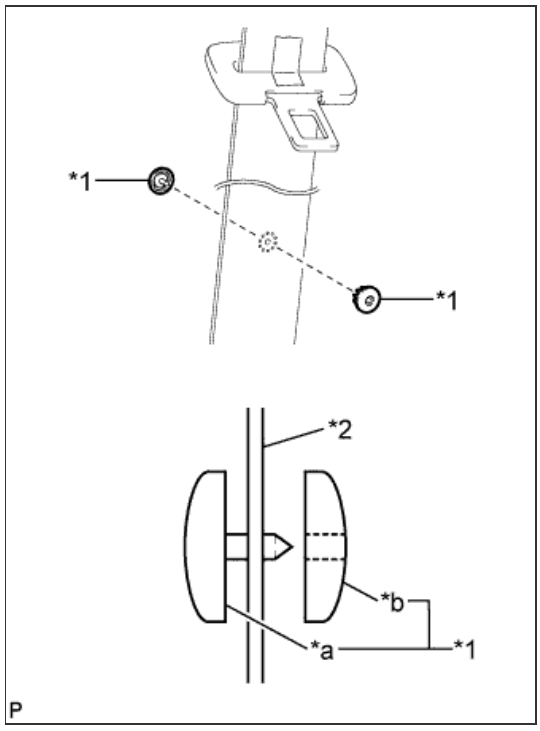
a. Position a new tongue plate stopper in the hole of the belt webbing.

**Text in Illustration**

| | |
|---|---|
| *1 | Tongue Plate Stopper |
| *2 | Belt Webbing |
| *a | Male |
| *b | Female |

**HINT:**

Make sure that the installation direction of the tongue plate stopper is as shown in the illustration.




b. Hold the tongue plate stopper in the hole of the belt webbing using an adjustable wrench, and turn the adjustment screw of the adjustable wrench by hand to compress the tongue plate stopper.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

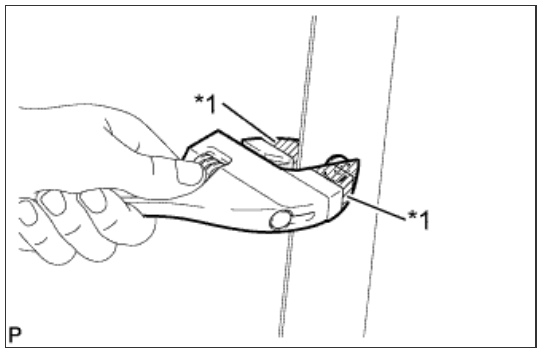
**NOTICE:**

- **When using the adjustable wrench, make sure to position the male and female parts of the tongue plate stopper parallel to each other.**

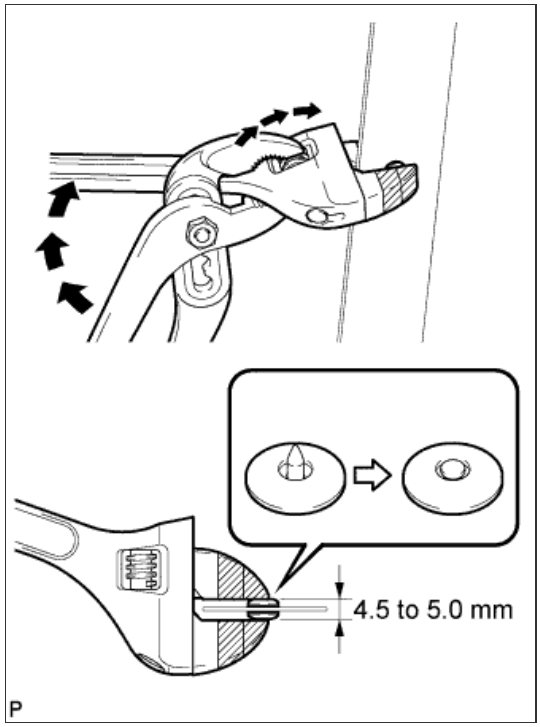
- **Do not use pliers to compress the pin of the tongue plate stopper. They may damage the tongue plate stopper and belt webbing.**

**HINT:**

Tape the jaws of the adjustable wrench before use.



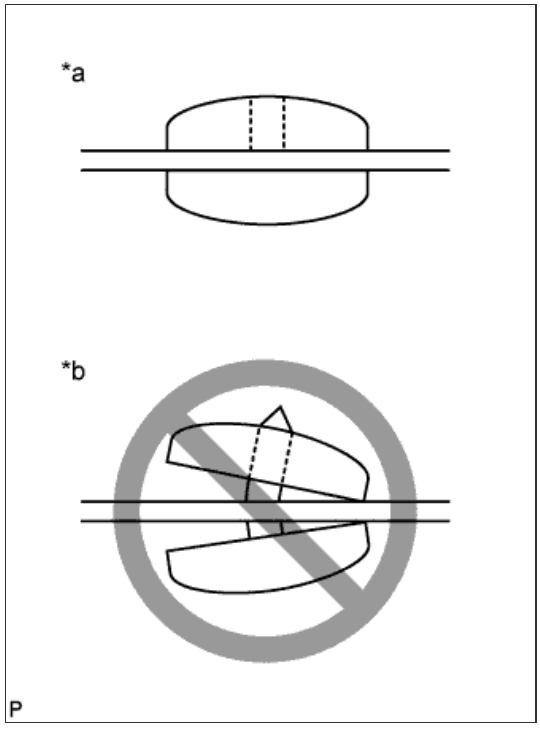

c. When the adjustment screw of the adjustable wrench cannot be turned by hand, tighten the adjustment screw using a pair of adjustable joint pliers until the tongue plate stopper thickness is 4.5 to 5.0 mm (0.177 to 0.197 in.). (Refer to the illustrations.)




d. Make sure that the male pin of the tongue plate stopper has expanded evenly in the hole of the female part and is firmly held to the belt webbing. (Refer to the illustrations.)

**Text in Illustration**

| | |
|---|---|
| *a | CORRECT |
| *b | INCORRECT |



**for Preparation** Click here

## 1.PRECAUTIONS WHEN USING INTELLIGENT TESTER

a. When using the intelligent tester to troubleshoot the CAN communication line or LIN communication line:
Connect the intelligent tester to the vehicle, and turn a courtesy light switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

b. After all DTCs are cleared, check if the trouble occurs again 6 seconds after the engine switch is turned on (IG).

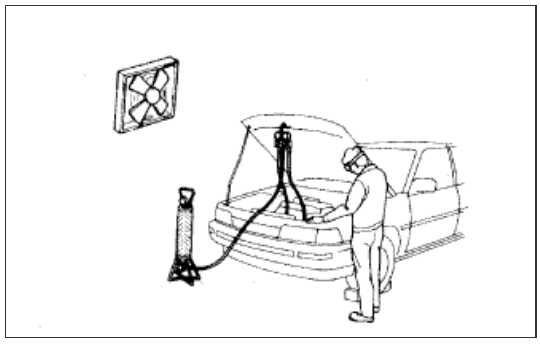
## 2.IF ANY OF FOLLOWING CONDITIONS ARE MET, KEEP ENGINE IDLING WITH A/C ON (ENGINE SPEED AT LESS THAN 2000 RPM) FOR AT LEAST 2 MINUTE:

- Refrigerant gas has been refilled or A/C parts have been replaced.
- The engine has not been started for a long time.

**NOTICE:**

If the engine speed exceeds 2,000 rpm, the A/C compressor may be damaged.

## 3.DO NOT HANDLE REFRIGERANT IN AN ENCLOSED AREA OR NEAR AN OPEN FLAME



## 4.ALWAYS WEAR EYE PROTECTION

## 5.BE CAREFUL NOT TO GET LIQUID REFRIGERANT IN YOUR EYES OR ON YOUR SKIN

If liquid refrigerant gets in your eyes or on your skin:

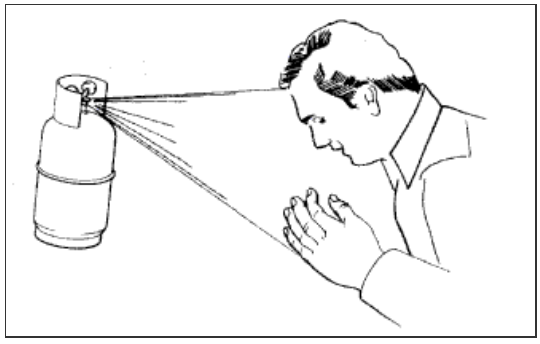
a. Wash the area with lots of cold water.

**CAUTION:**

Do not rub your eyes or skin.

b. Apply clean petroleum jelly to the skin.

c. Go immediately to a hospital or see a physician for professional treatment.

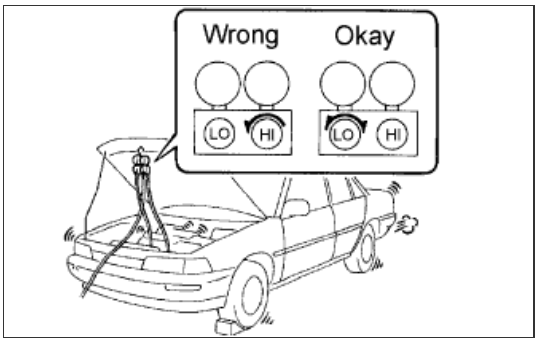


## 6.NEVER HEAT CONTAINER OR EXPOSE IT TO OPEN FLAME

## 7.BE CAREFUL NOT TO DROP CONTAINER OR APPLY PHYSICAL SHOCKS TO IT

## 8.DO NOT OPERATE COMPRESSOR WITH INSUFFICIENT REFRIGERANT IN REFRIGERANT SYSTEM

If there is not enough refrigerant in the refrigerant system, oil lubrication will be insufficient and compressor burnout may occur. Necessary care should be taken to avoid this.




### 9.DO NOT OPEN HIGH PRESSURE MANIFOLD VALVE WHILE COMPRESSOR IS OPERATING

Open and close only the low pressure valve. Opening and closing the high pressure valve could cause the charging cylinder to rupture.

### 10.BE CAREFUL NOT TO OVERCHARGE SYSTEM WITH REFRIGERANT

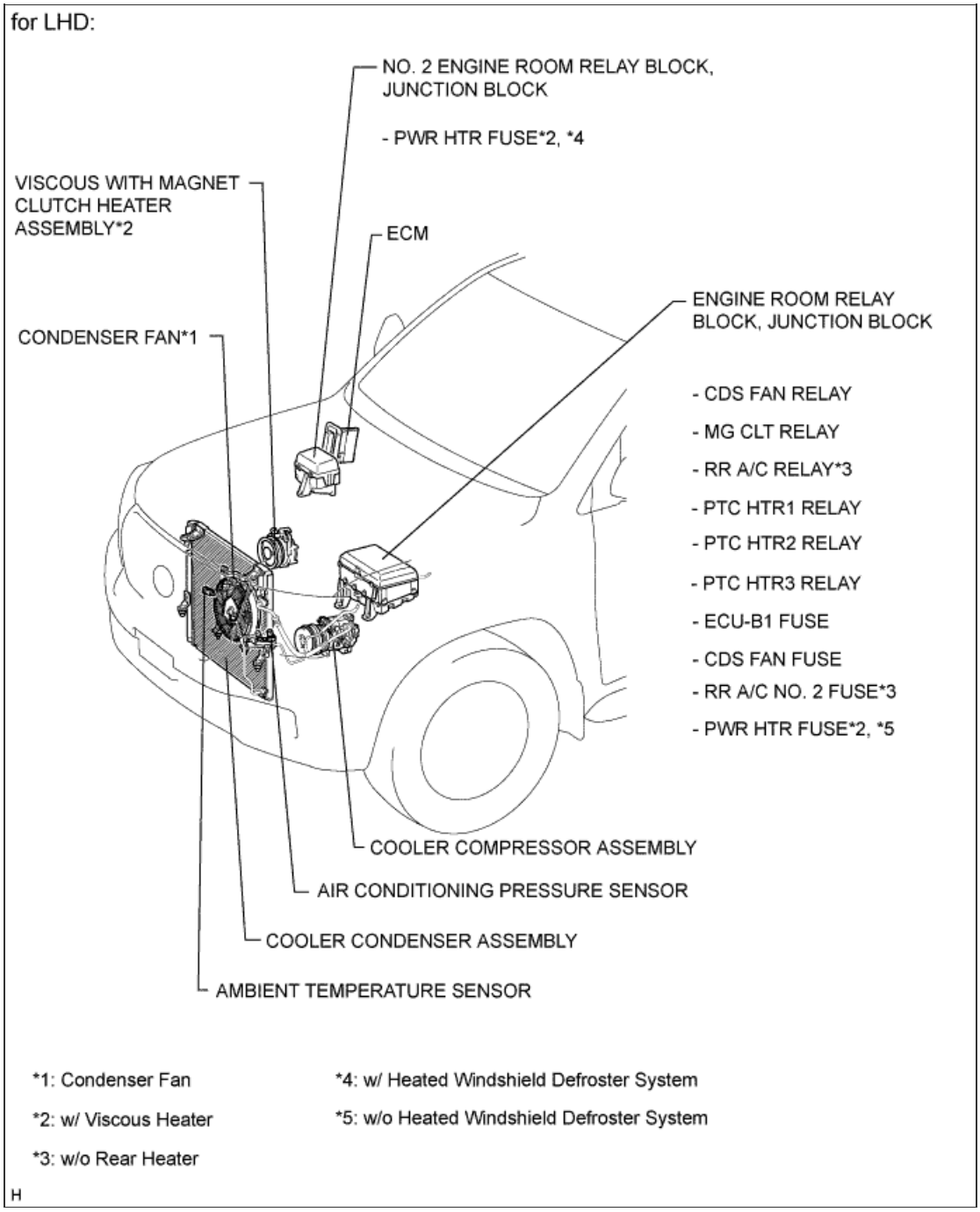
If the refrigerant is overcharged, it causes problems such as insufficient cooling, poor fuel economy and engine overheating.

### 11.DO NOT OPERATE ENGINE AND COMPRESSOR WITHOUT REFRIGERANT

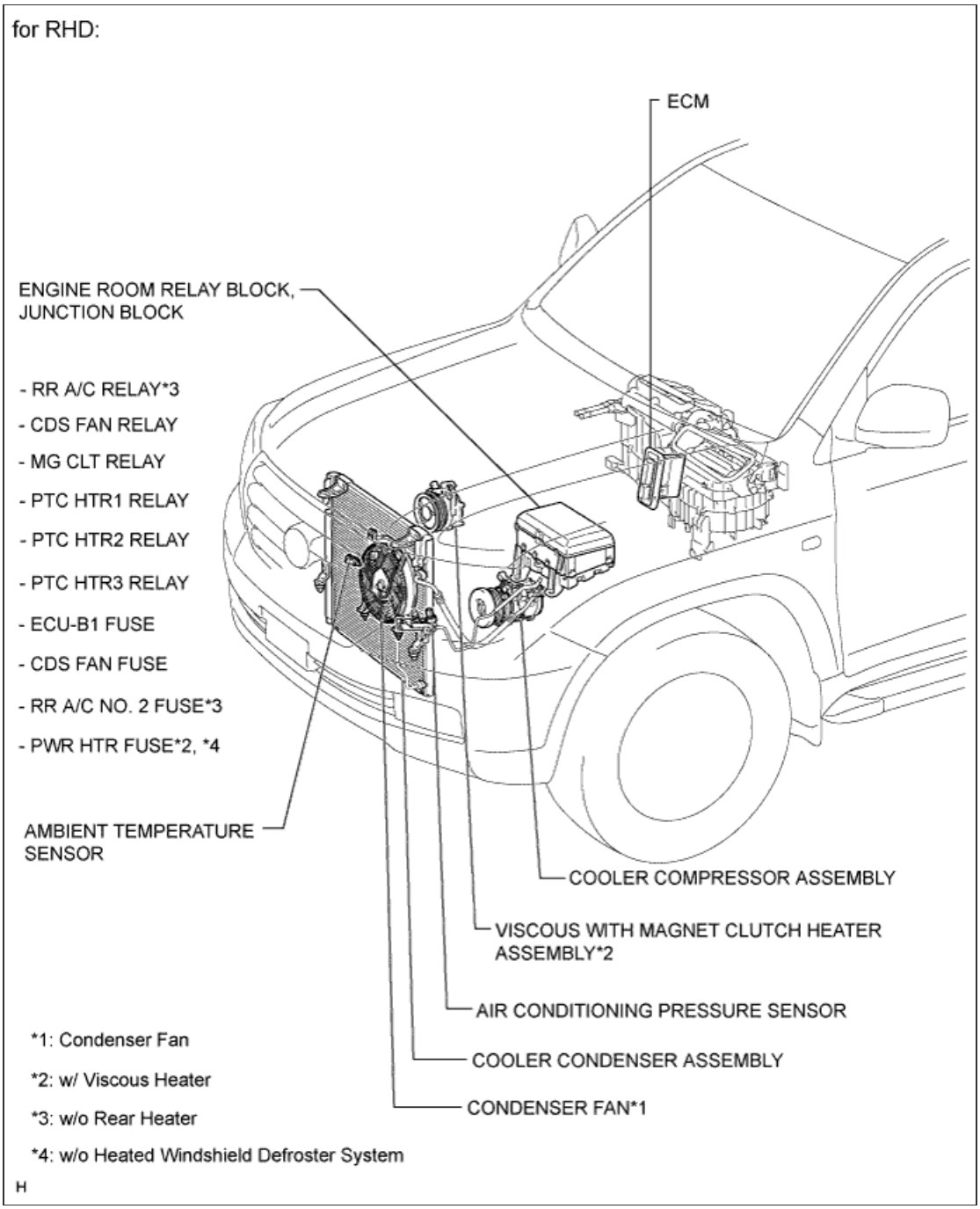
**NOTICE:**

This may damage the inside of the compressor.

**for Preparation** Click here



for RHD:




*1: Condenser Fan

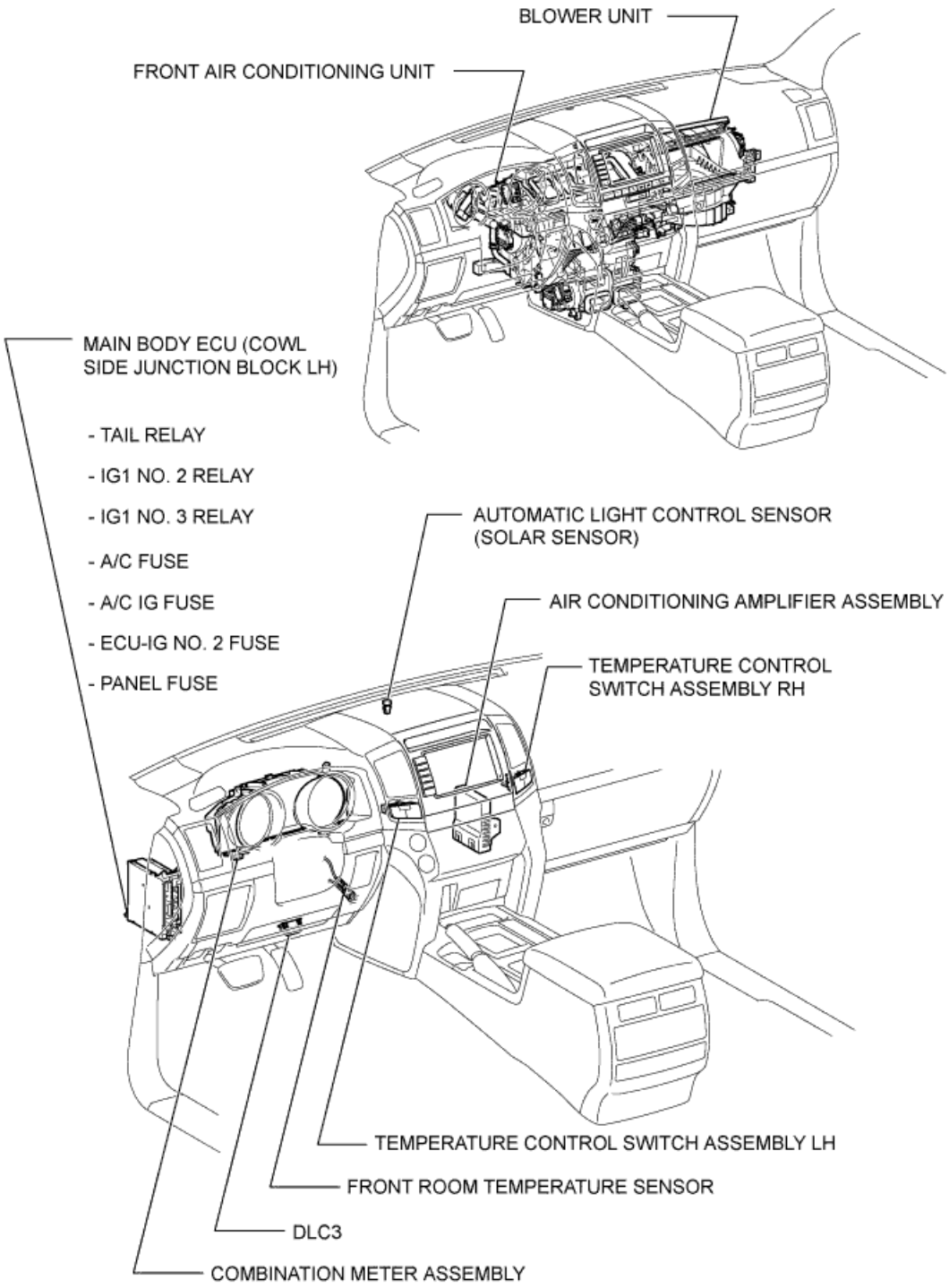
*2: w/ Viscous Heater

*3: w/o Rear Heater

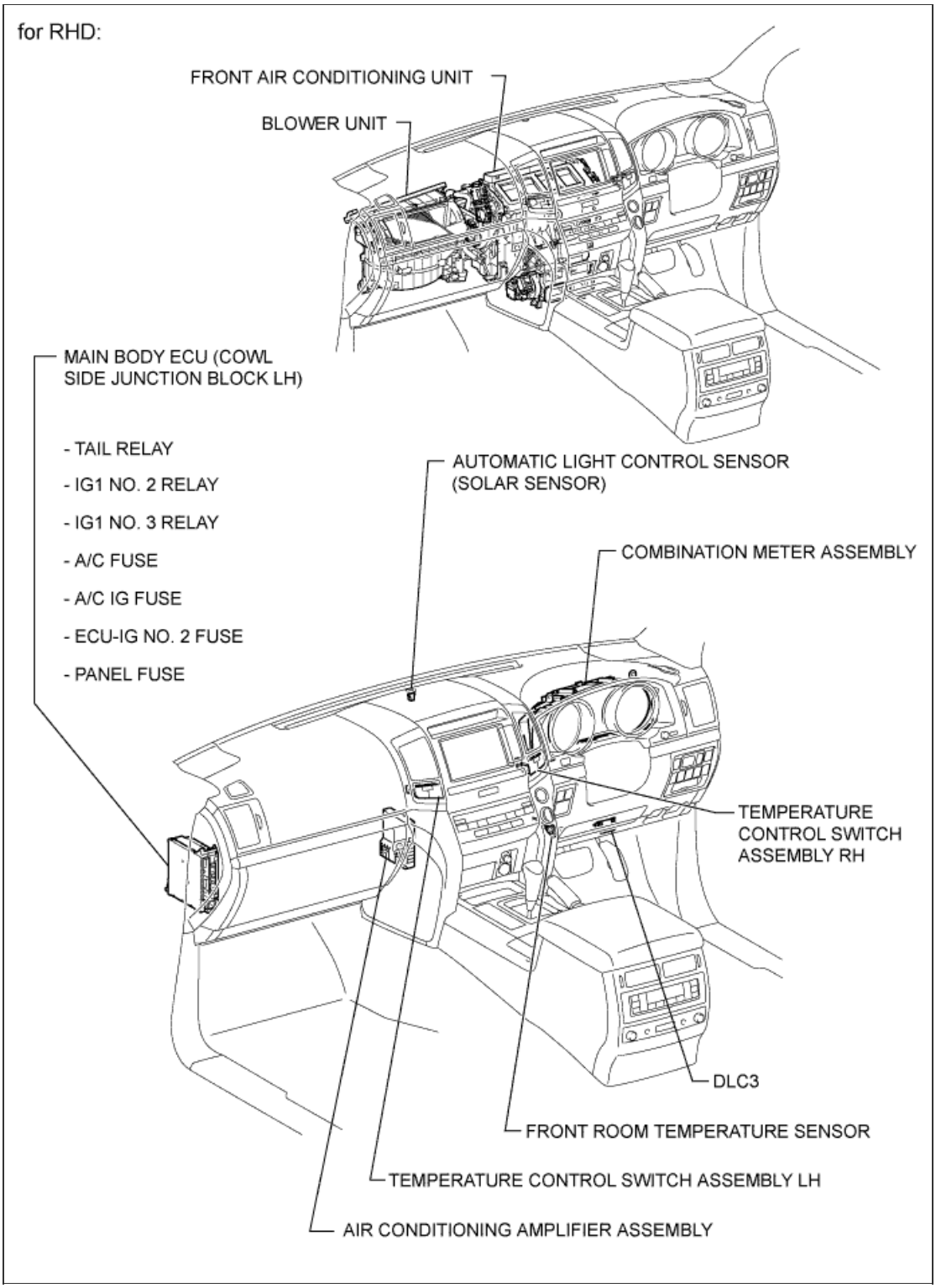
*4: w/o Heated Windshield Defroster System

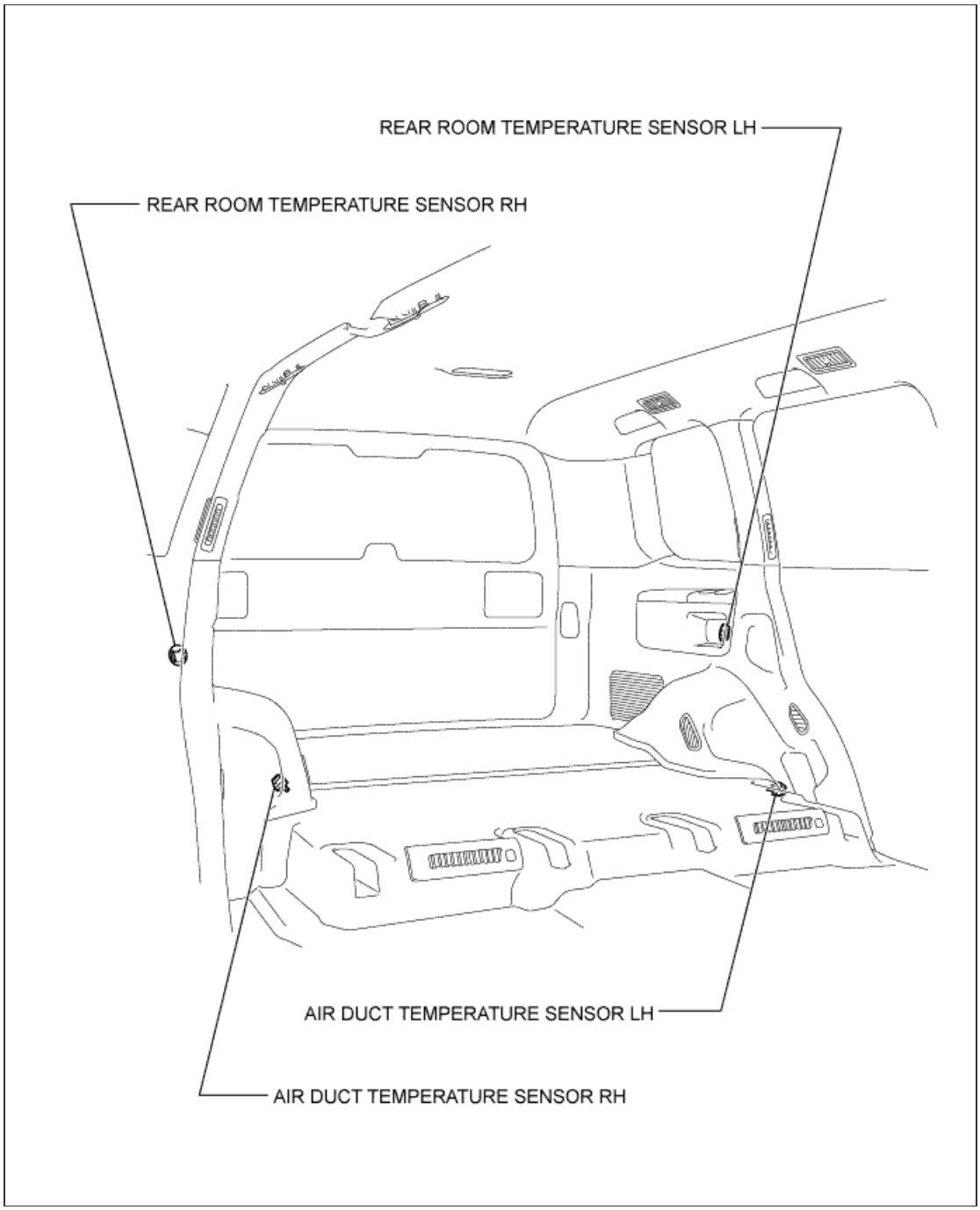
H

for LHD:

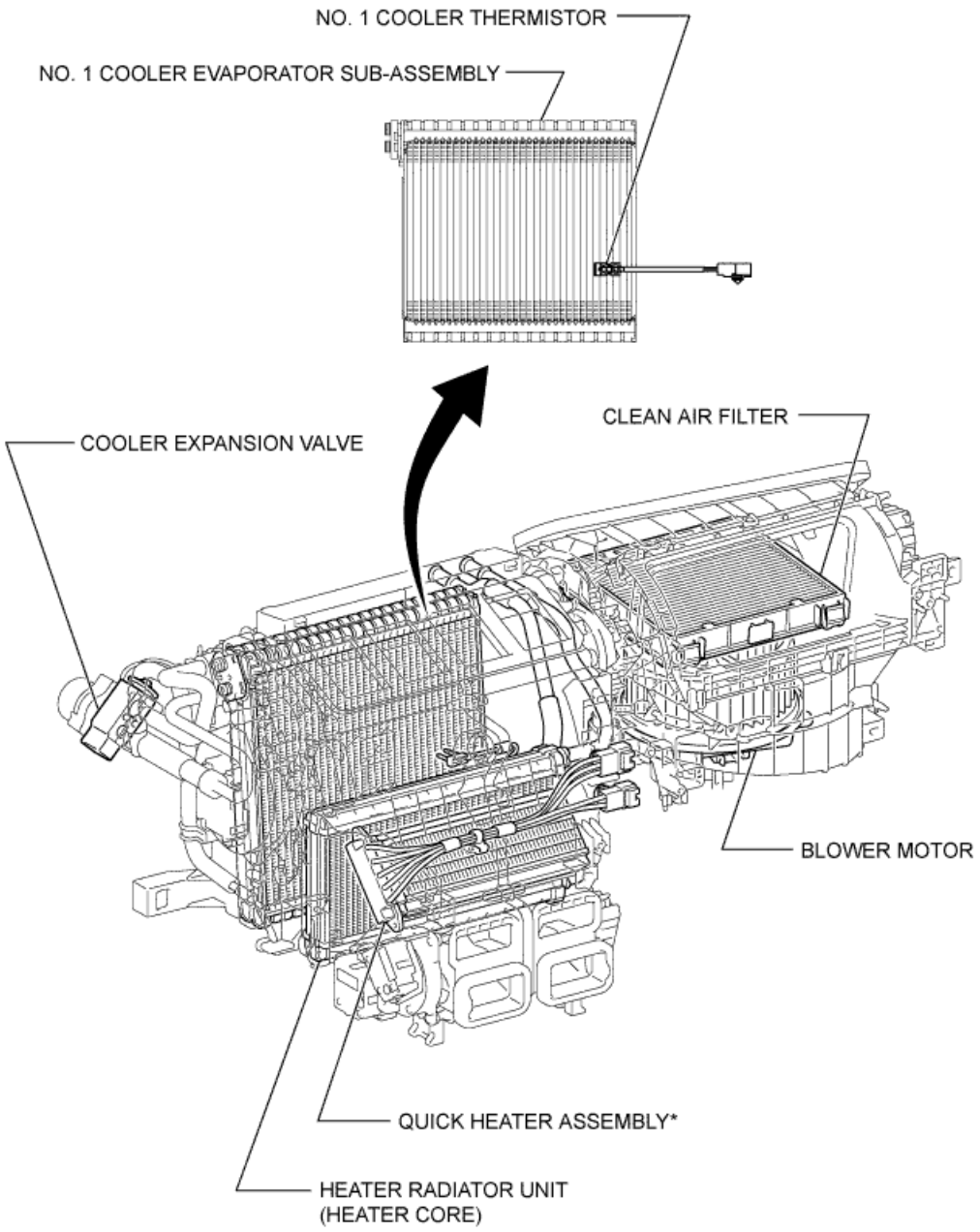

BLOWER UNIT
FRONT AIR CONDITIONING UNIT
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- TAIL RELAY
- IG1 NO. 2 RELAY
- IG1 NO. 3 RELAY
- A/C FUSE
- A/C IG FUSE
- ECU-IG NO. 2 FUSE
- PANEL FUSE
AUTOMATIC LIGHT CONTROL SENSOR (SOLAR SENSOR)
AIR CONDITIONING AMPLIFIER ASSEMBLY
TEMPERATURE CONTROL SWITCH ASSEMBLY RH
TEMPERATURE CONTROL SWITCH ASSEMBLY LH
FRONT ROOM TEMPERATURE SENSOR
DLC3
COMBINATION METER ASSEMBLY

for RHD:


FRONT AIR CONDITIONING UNIT
BLOWER UNIT
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- TAIL RELAY
- IG1 NO. 2 RELAY
- IG1 NO. 3 RELAY
- A/C FUSE
- A/C IG FUSE
- ECU-IG NO. 2 FUSE
- PANEL FUSE
AUTOMATIC LIGHT CONTROL SENSOR (SOLAR SENSOR)
COMBINATION METER ASSEMBLY
TEMPERATURE CONTROL SWITCH ASSEMBLY RH
DLC3
FRONT ROOM TEMPERATURE SENSOR
TEMPERATURE CONTROL SWITCH ASSEMBLY LH
AIR CONDITIONING AMPLIFIER ASSEMBLY

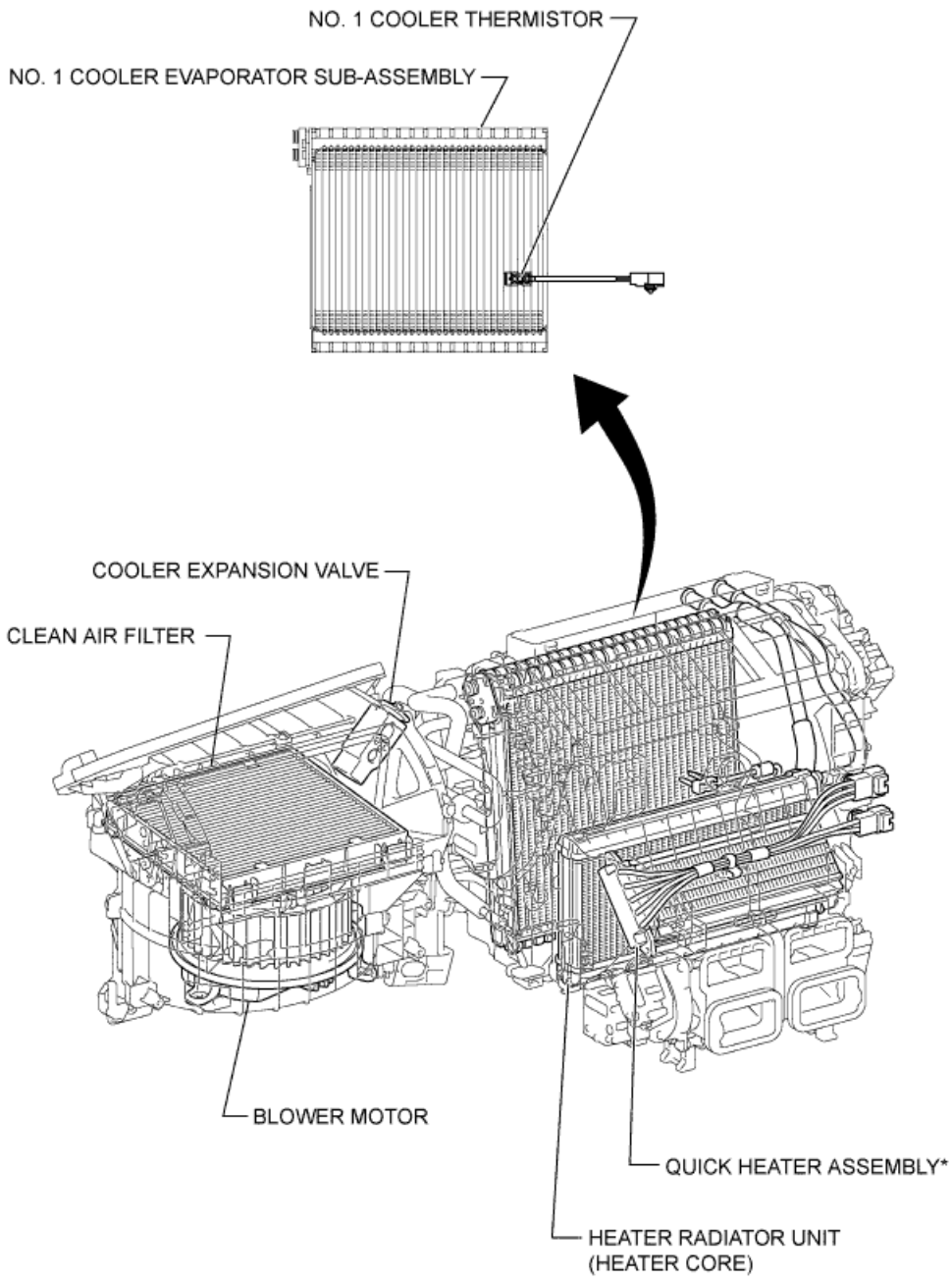

REAR ROOM TEMPERATURE SENSOR LH
REAR ROOM TEMPERATURE SENSOR RH
AIR DUCT TEMPERATURE SENSOR LH
AIR DUCT TEMPERATURE SENSOR RH

for LHD:



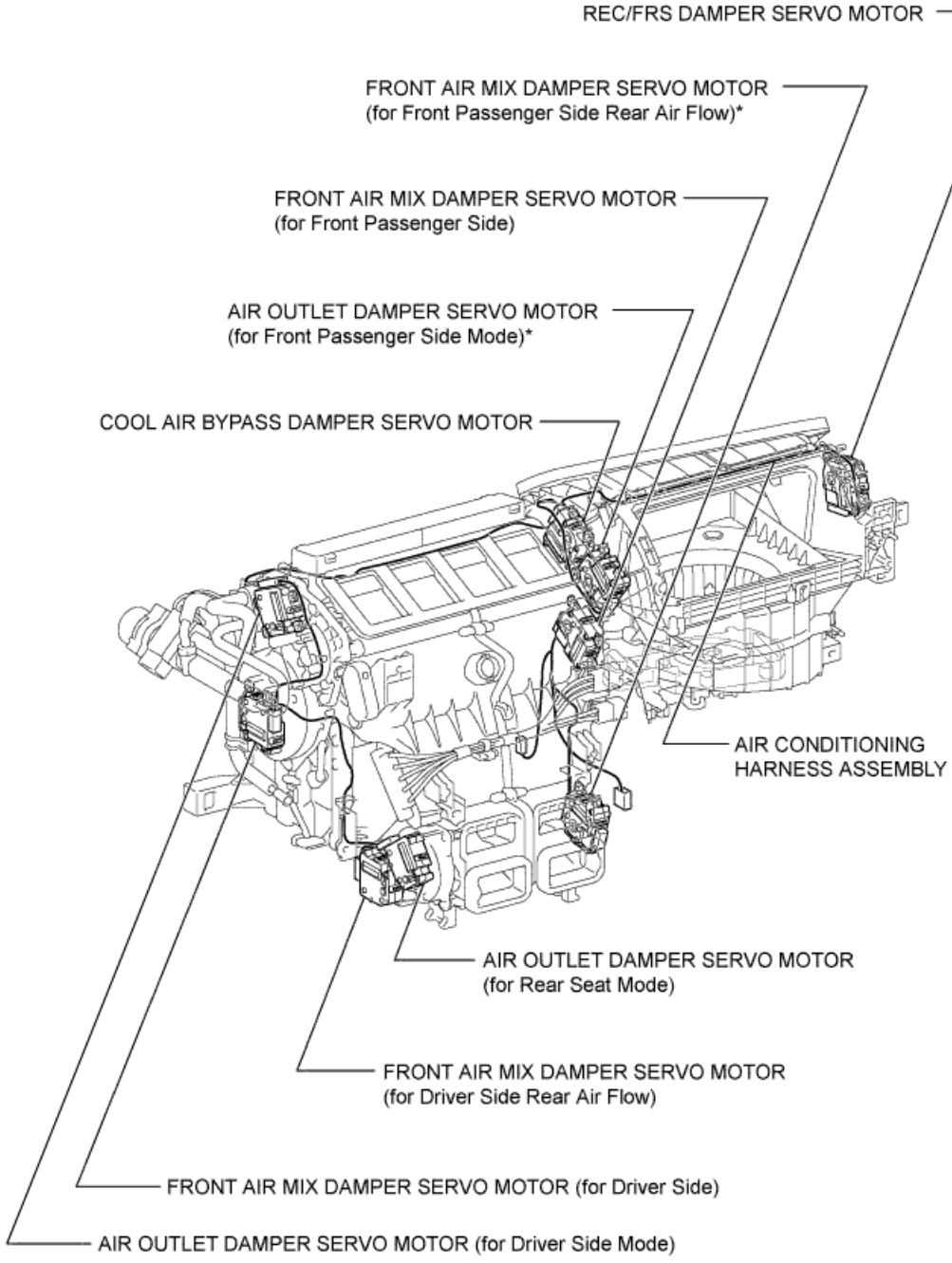

*: w/ PTC Heater

for RHD:



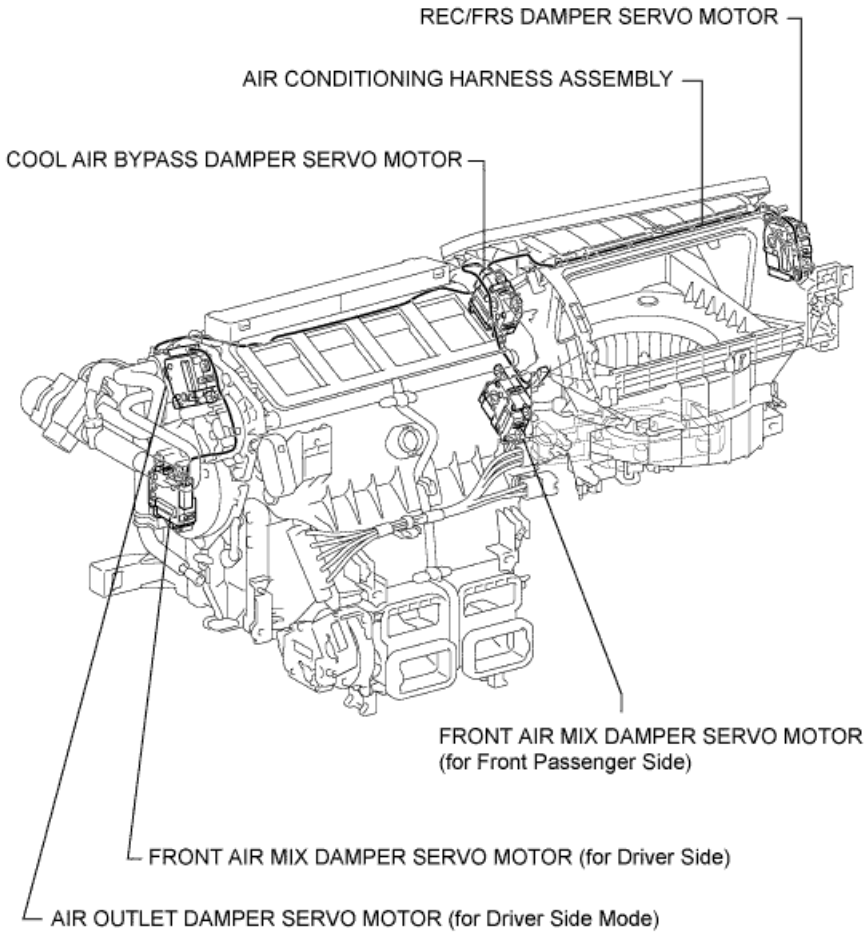

*: w/ PTC Heater

for LHD:



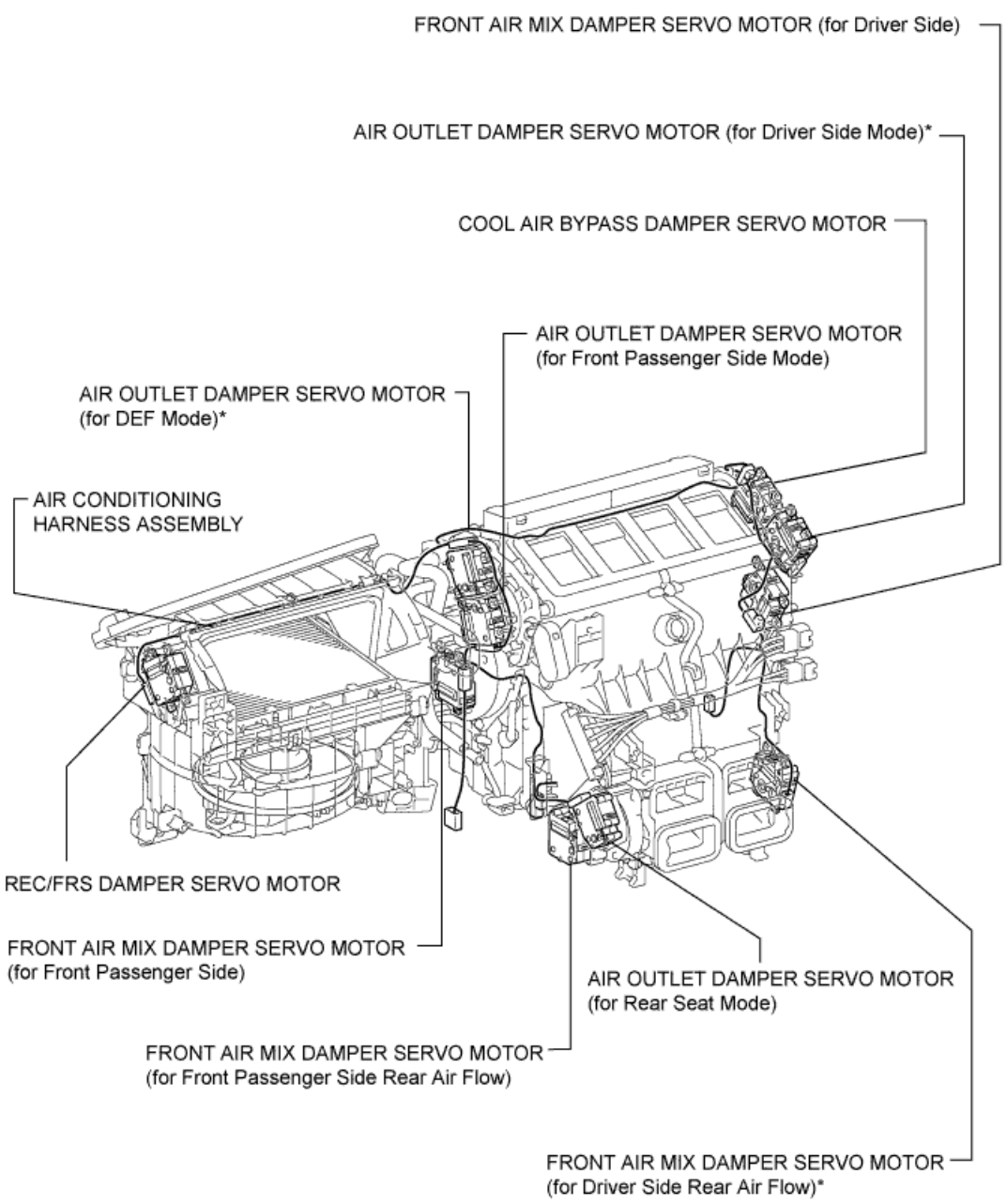

*: for 4-ZONE Type

for LHD (for 2-ZONE Type, w/o Rear Air Duct):



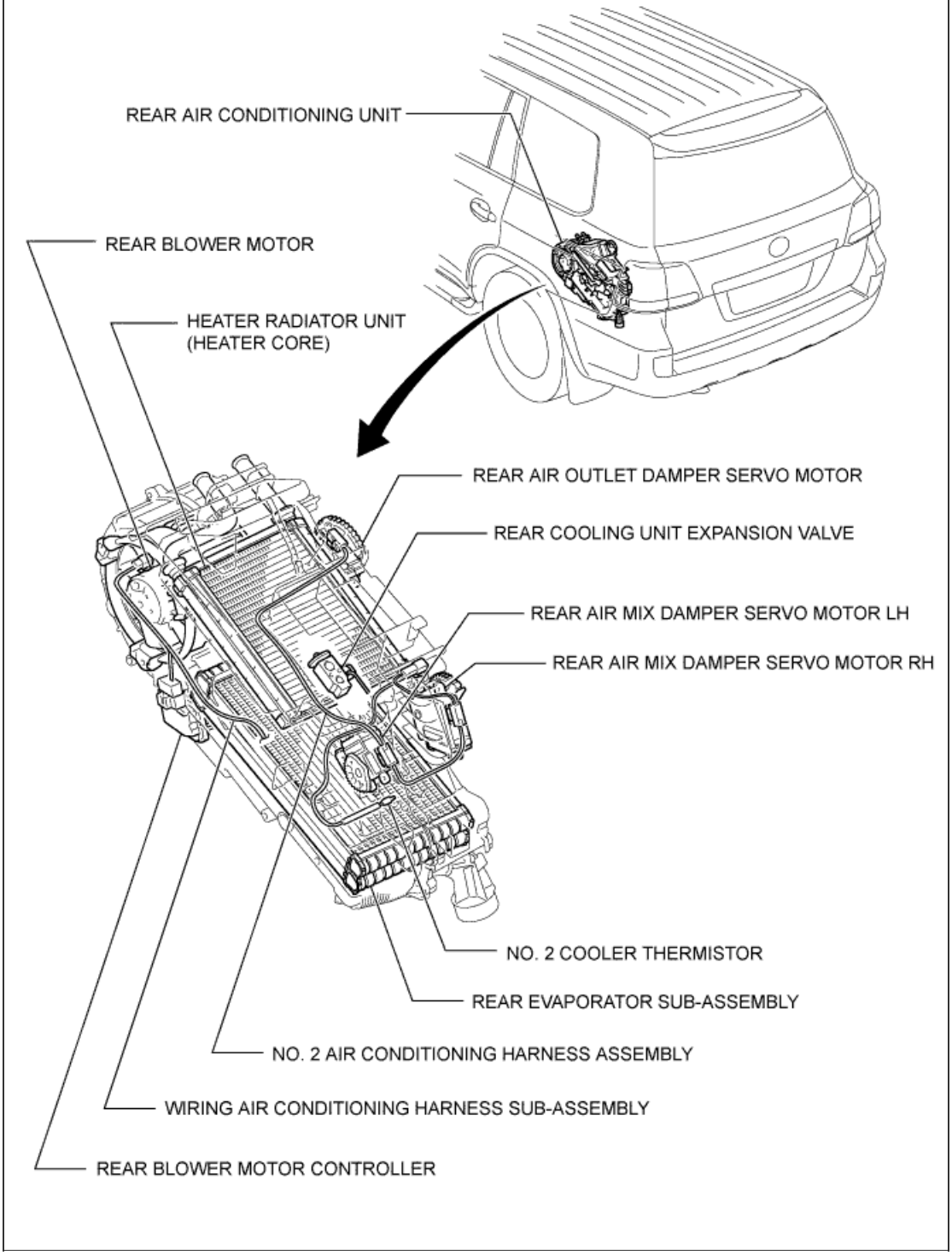

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for RHD:

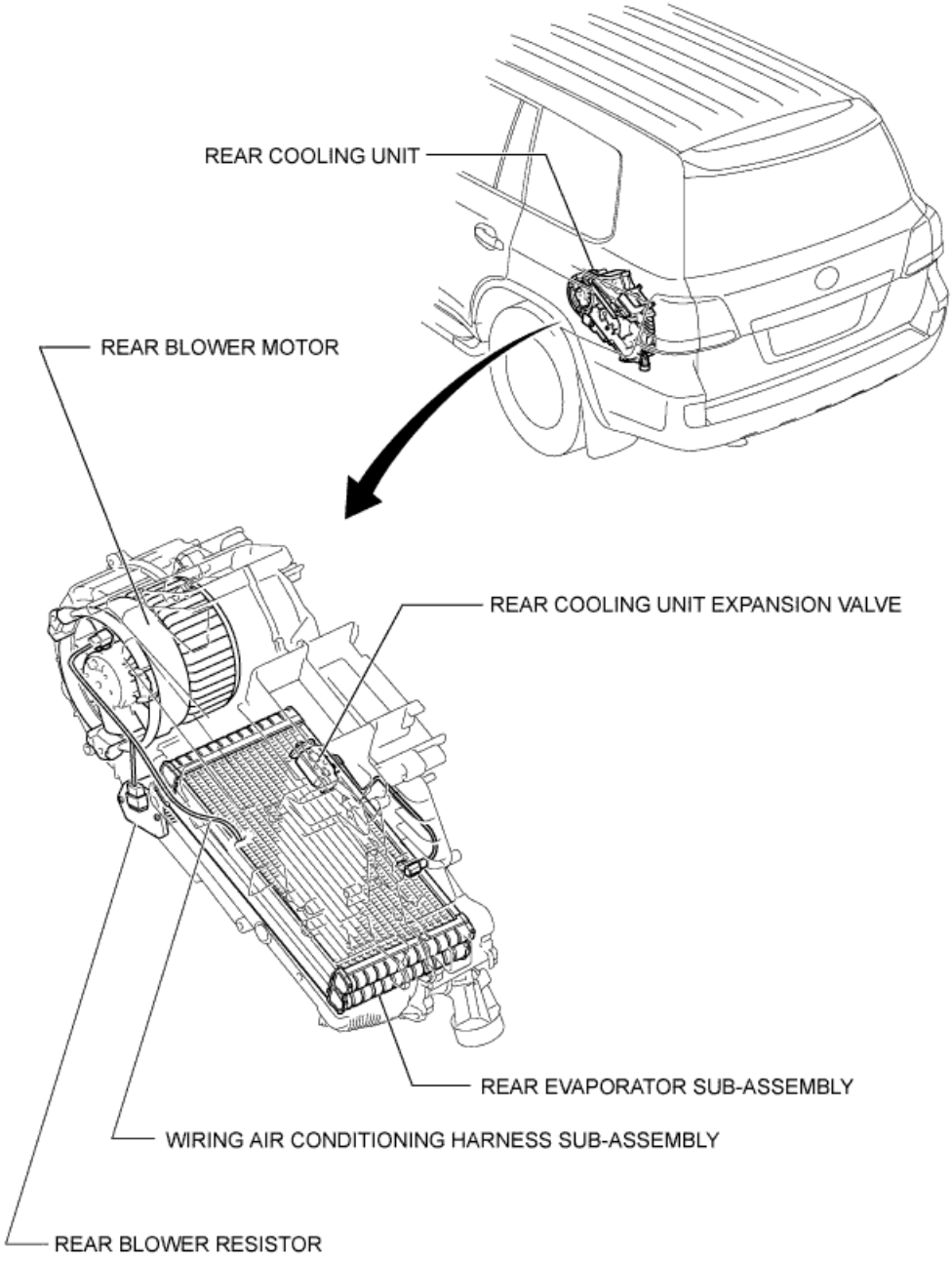



*: for 4-ZONE Type

w/ Rear Heater:



w/o Rear Heater:

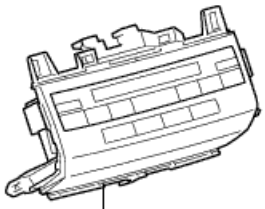



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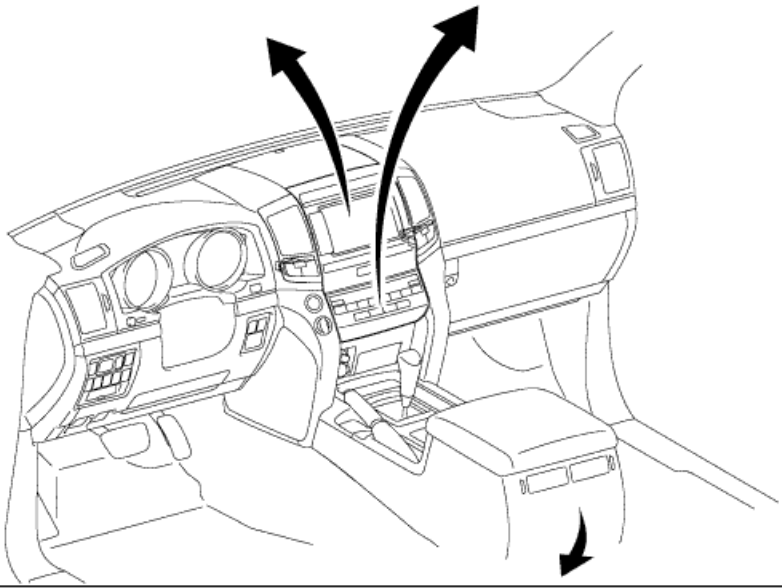
for LHD:



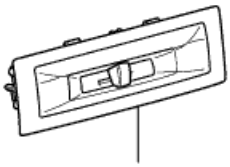
MULTI-DISPLAY*2



AIR CONDITIONING CONTROL ASSEMBLY*1

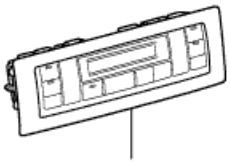


w/o Rear Heater:



NO. 2 AIR CONDITIONING CONTROL ASSEMBLY

w/ Rear Heater:



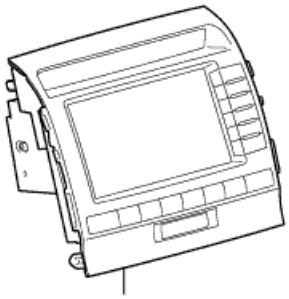
NO. 2 AIR CONDITIONING CONTROL ASSEMBLY

*1: w/o Multi-display

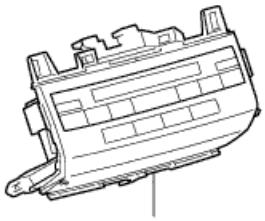
*2: w/ Multi-display

H

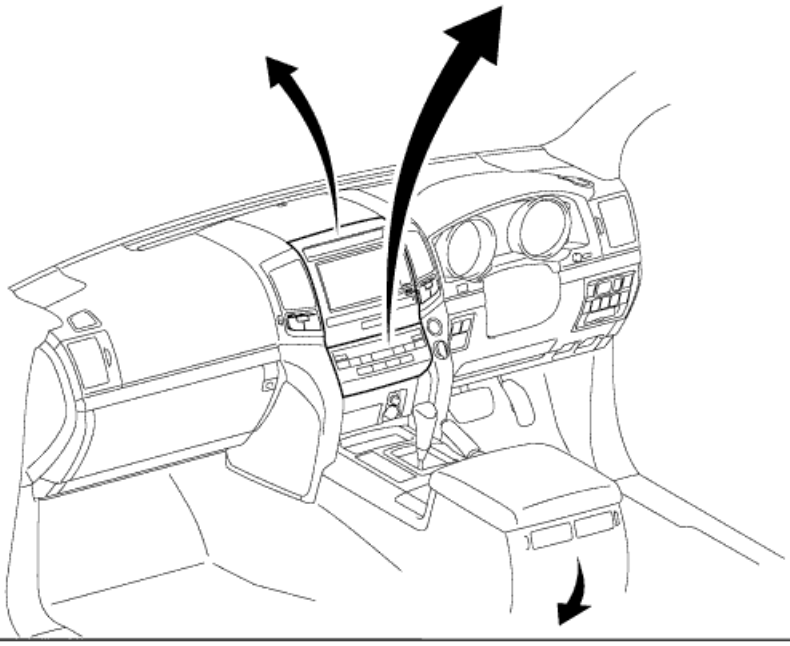
for RHD:



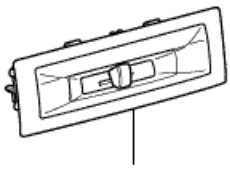
MULTI-DISPLAY*2



AIR CONDITIONING CONTROL ASSEMBLY*1

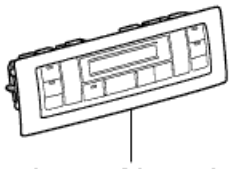


w/o Rear Heater:



NO. 2 AIR CONDITIONING CONTROL ASSEMBLY

w/ Rear Heater:



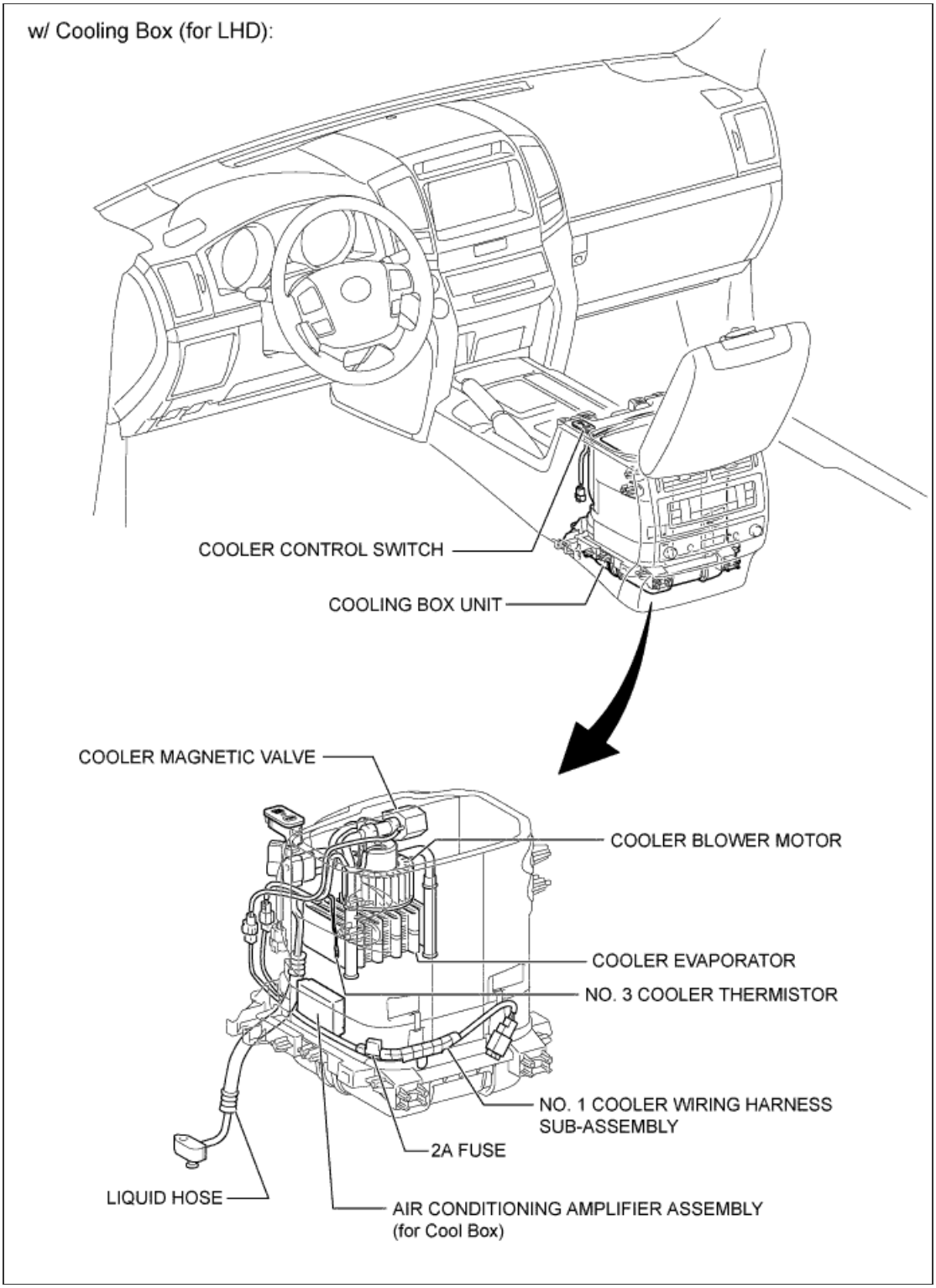
NO. 2 AIR CONDITIONING CONTROL ASSEMBLY

*1: w/o Multi-display

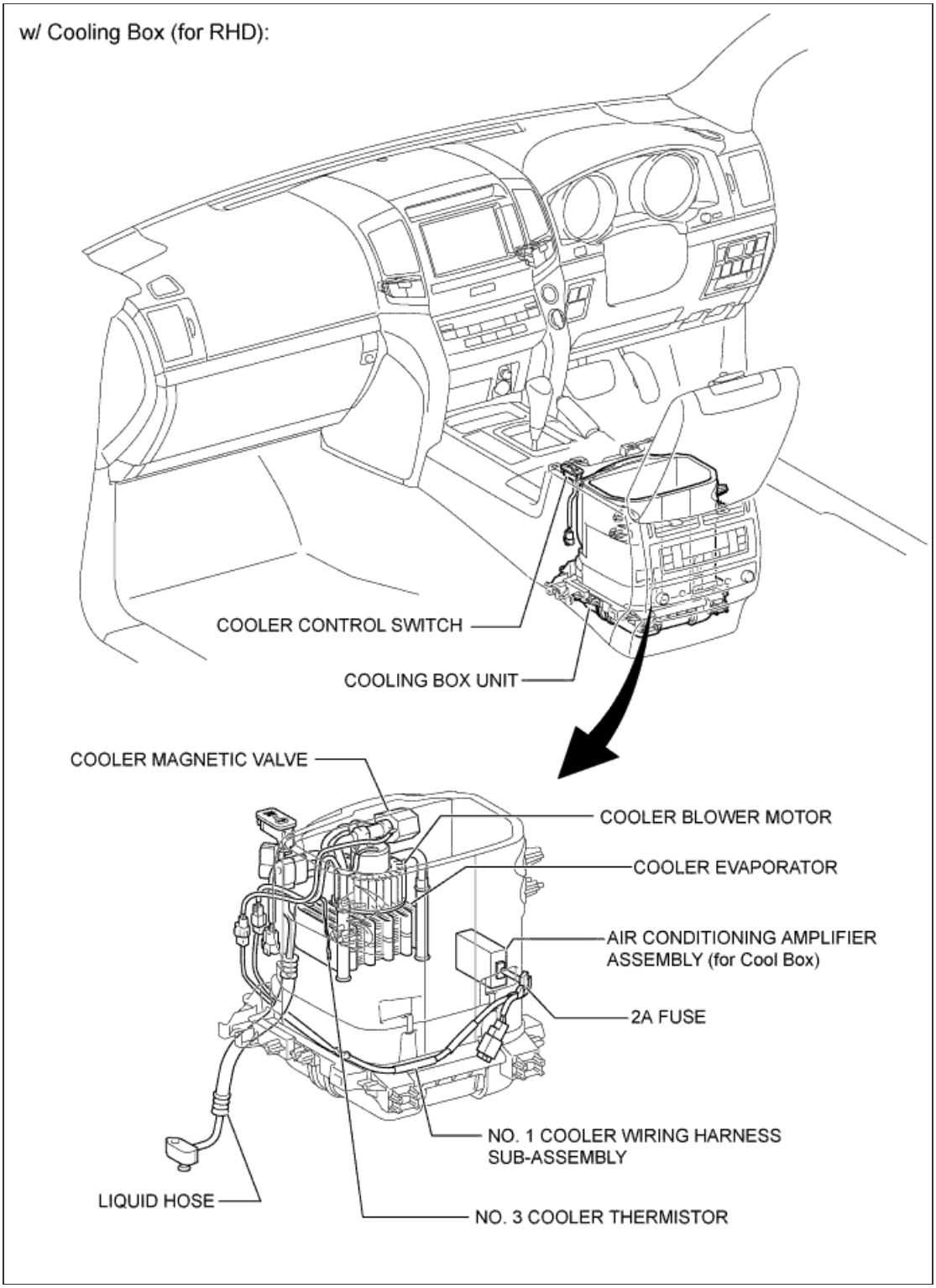
*2: w/ Multi-display

H

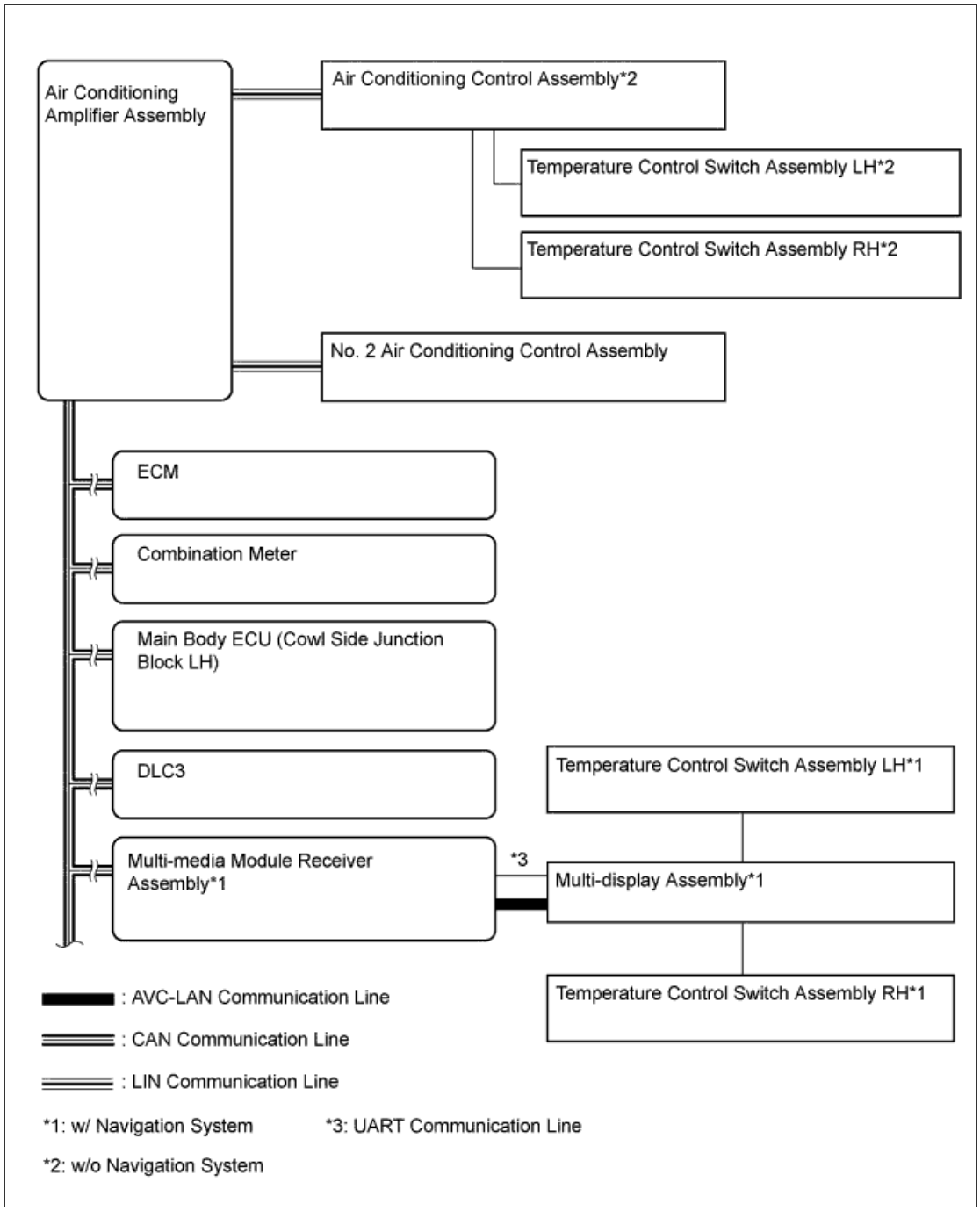
w/ Cooling Box (for LHD):



w/ Cooling Box (for RHD):



**for Preparation** Click here




### Communication Table

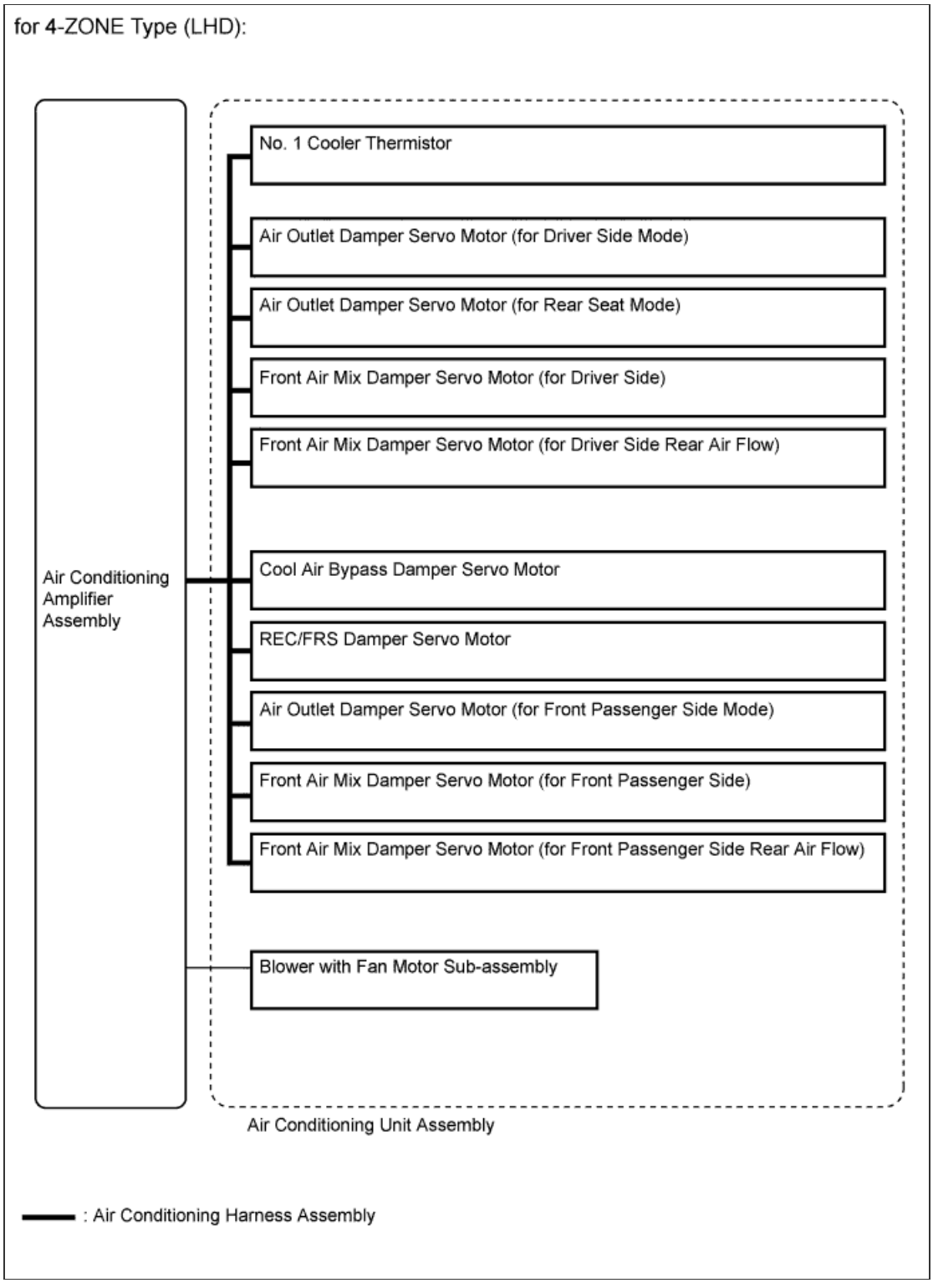
| Transmitter | Receiver | Signal | Communication Line |
|---|---|---|---|
| Air conditioning amplifier assembly | ECM | -Compressor control signal<br>- Heater idle up request signal<br>- Air conditioning system idle up request signal<br>- PTC heater driving number request signal<br>- Ambient temperature signal | CAN |
| | Multi-media module receiver | - Display indication signal<br>- Micro dust and pollen filter switch illumination signal<br>- MODE indication signal<br>- Driver seat set temperature indication signal<br>- Front passenger seat set temperature indication signal | |

| | | | |
|---|---|---|---|
| | assembly*1 | - Rear seat RH side set temperature indication signal*3<br>- Rear seat LH side set temperature indication signal*3<br>- Blower level indication signal<br>- Rear blower level indication signal | |
| ECM | Air conditioning amplifier assembly | - Engine speed signal<br>- Engine coolant temperature signal | CAN |
| Main Body ECU | Air conditioning amplifier assembly | - Panel illumination switch signal | |
| Multi-media module receiver assembly*1 | Air conditioning amplifier assembly | - Front air conditioning operation signal<br>- Rear air conditioning operation signal<br>- Micro dust and pollen filter switch operation signal<br>- AUTO switch signal<br>- OFF switch signal<br>- Blower switch signal (UP, DOWN)<br>- MODE switch signal<br>- DEF switch signal<br>- 4-ZONE switch signal*3<br>- 2-ZONE switch signal<br>- Driver seat set temperature switch signal<br>- Front passenger seat set temperature switch signal<br>- Rear seat RH side set temperature indication signal*3<br>- Rear seat LH side set temperature indication signal*3 | |
| Combination Meter | Air conditioning amplifier assembly | - Vehicle speed signal | |
| Air conditioning amplifier assembly | Air conditioning control assembly*2 | - Front panel indication signal<br>- AUTO indication signal<br>- Blower level indication signal<br>- A/C indication signal<br>- REC indication signal<br>- FRS indication signal<br>- MODE indication signal<br>- 4-ZONE indication signal*3<br>- 2-ZONE indication signal<br>- Pollen indication signal<br>- Driver seat set temperature indication signal<br>- Front passenger seat set temperature indication signal<br>- Rear seat RH side set temperature indication signal*3<br>- Rear seat LH side set temperature indication signal*3<br>- Set temperature indication signal | LIN |
| | No. 2 air conditioning control assembly | - Rear panel indication signal<br>- AUTO indication signal<br>- MODE indication signal<br>- Blower level indication signal<br>- Rear seat RH side set temperature indication signal<br>- Rear seat LH side set temperature indication signal | |
| Air conditioning control assembly*2 | Air conditioning amplifier assembly | - A/C switch signal<br>- AUTO switch signal<br>- OFF switch signal<br>- Blower switch signal (UP, DOWN)<br>- MODE switch signal<br>- DEF switch signal<br>- 4-ZONE switch signal*3<br>- 2-ZONE switch signal<br>- Micro dust and pollen filter switch signal<br>- Driver seat set temperature switch signal<br>- Front passenger seat set temperature switch signal<br>- Rear seat RH side set temperature indication signal*3<br>- Rear seat LH side set temperature indication signal*3 | LIN |
| No. 2 air conditioning control | | - OFF switch signal<br>- AUTO switch signal<br>- MODE switch signal<br>- Blower switch signal (UP, DOWN)<br>- Rear seat RH side set temperature switch | |

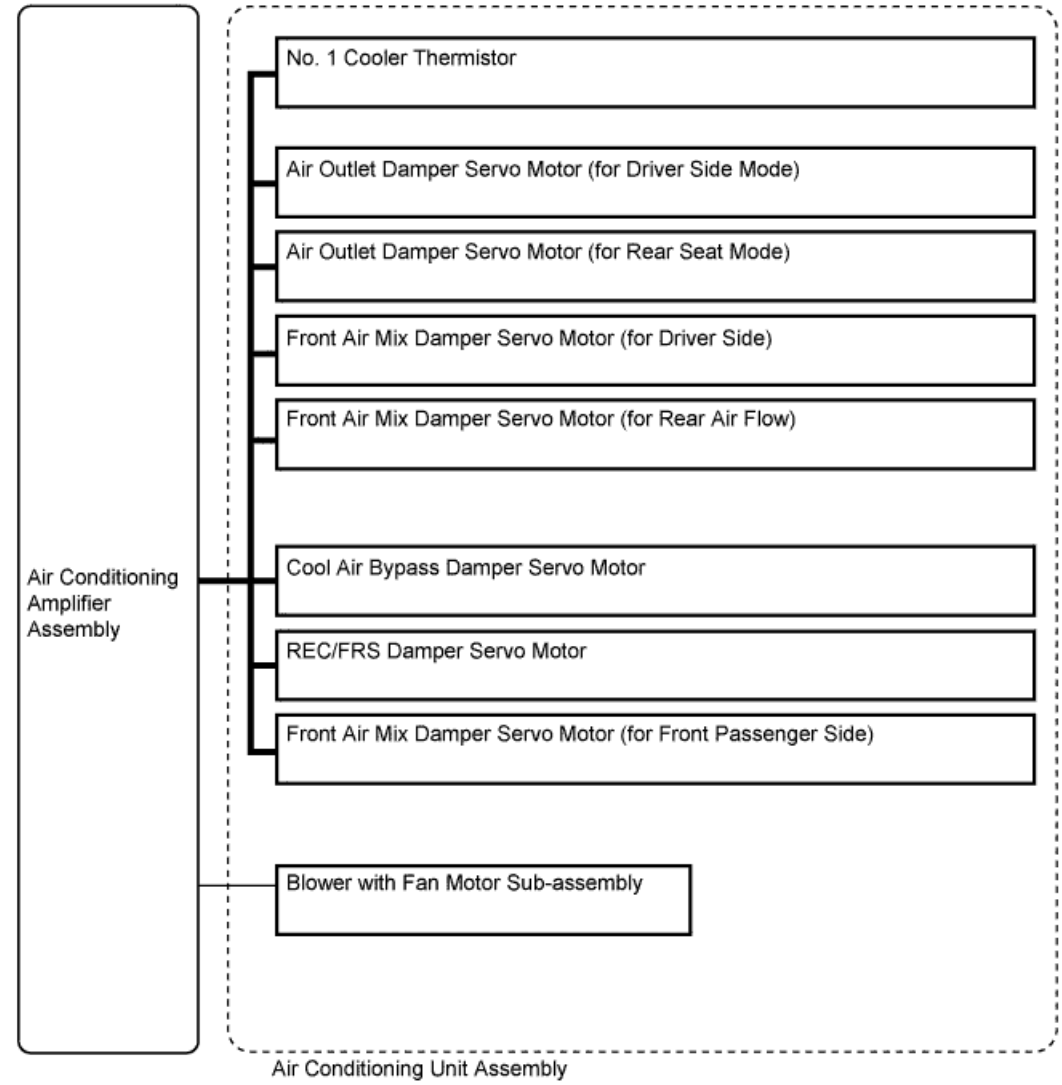
| | | | |
|---|---|---|---|
| assembly | | signal*3<br>- Rear seat LH side set temperature switch signal*3 | |
| Multi-display assembly*1 | Multi-media module receiver assembly*1 | - Display signal<br>- Panel switch signal | AVC-LAN*1 |
| Multi-media module receiver assembly*1 | Multi-display assembly*1 | - Display indication signal | AVC-LAN*1 |
| Multi-display assembly*1 | Multi-media module receiver assembly*1 | - Air conditioning control switch signal | UART*1 |

**HINT:**

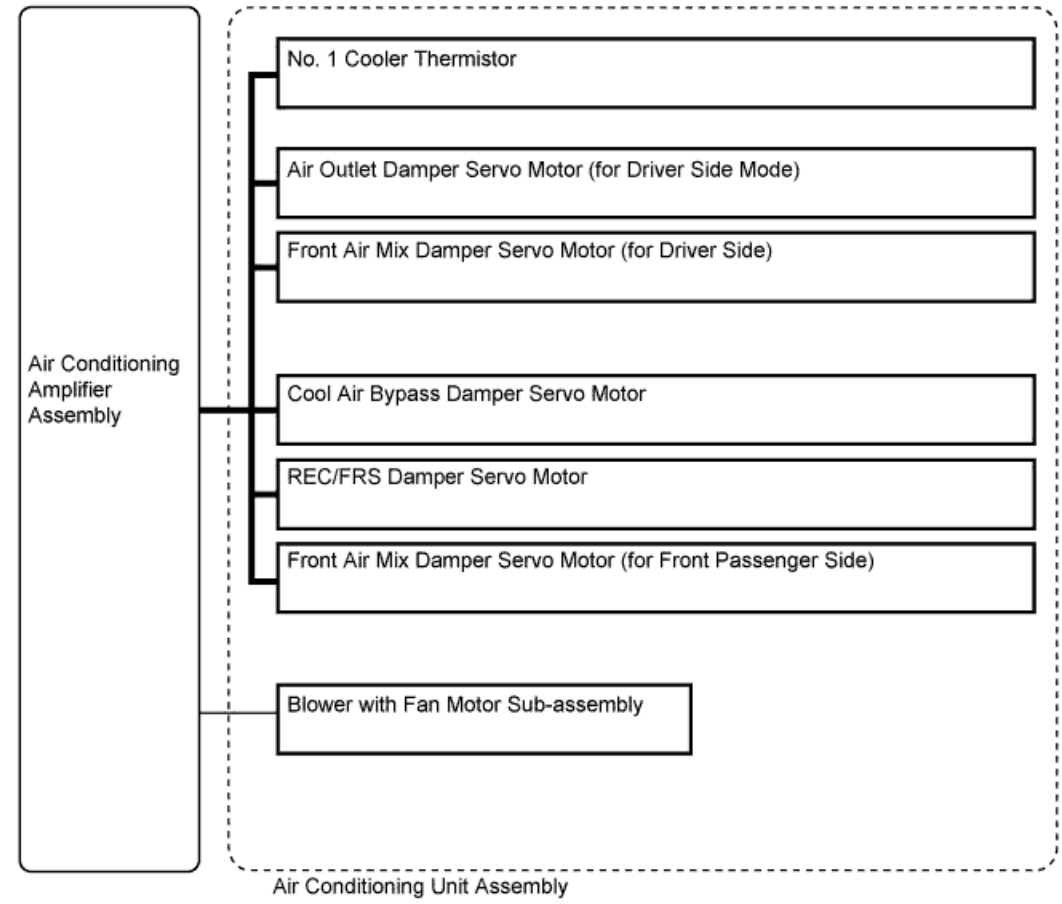
- ***1: w/ Navigation System**
- ***2: w/o Navigation System**
- ***3: for 4-ZONE Type**



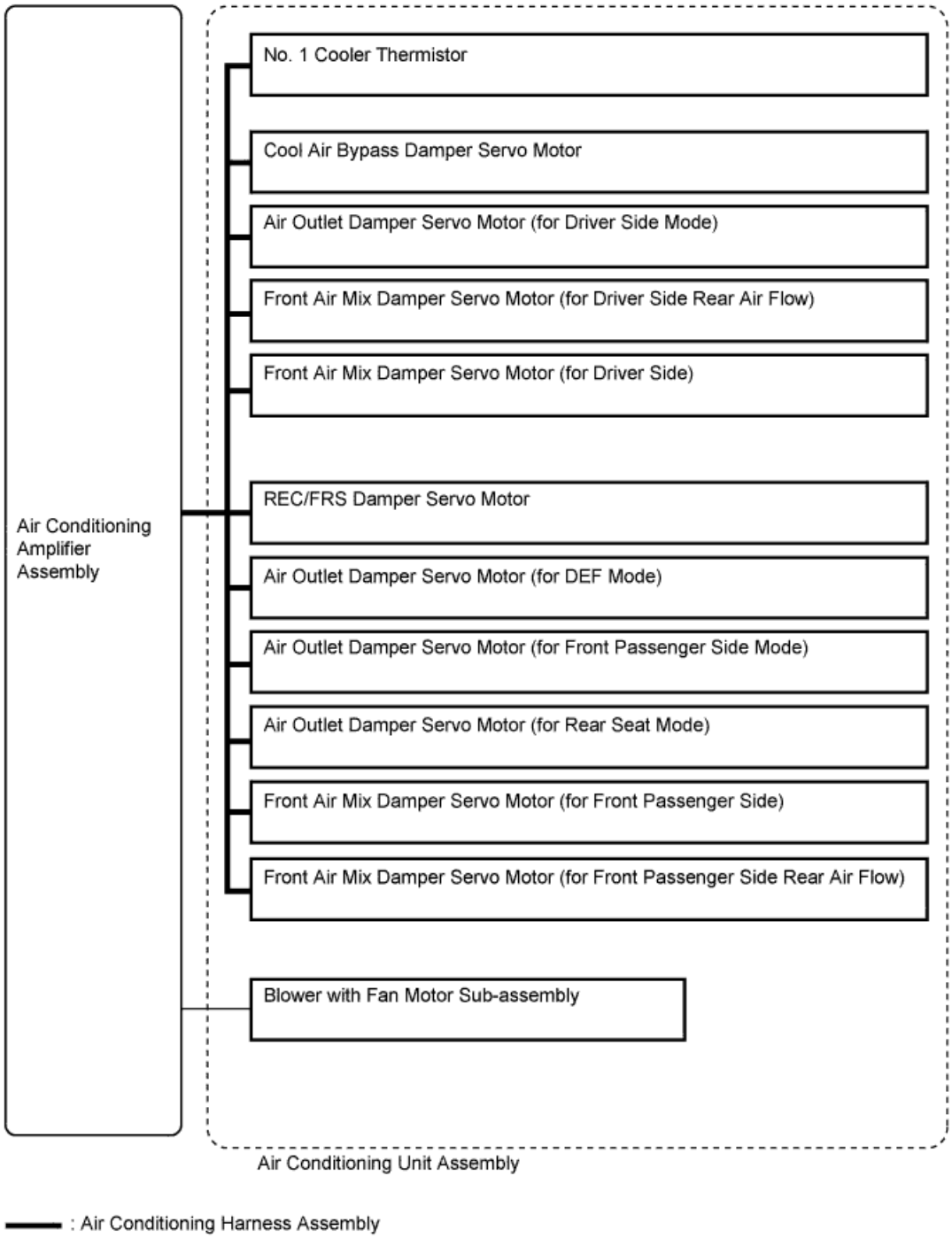
for 2-ZONE Type (LHD, w/ Rear Air Duct):



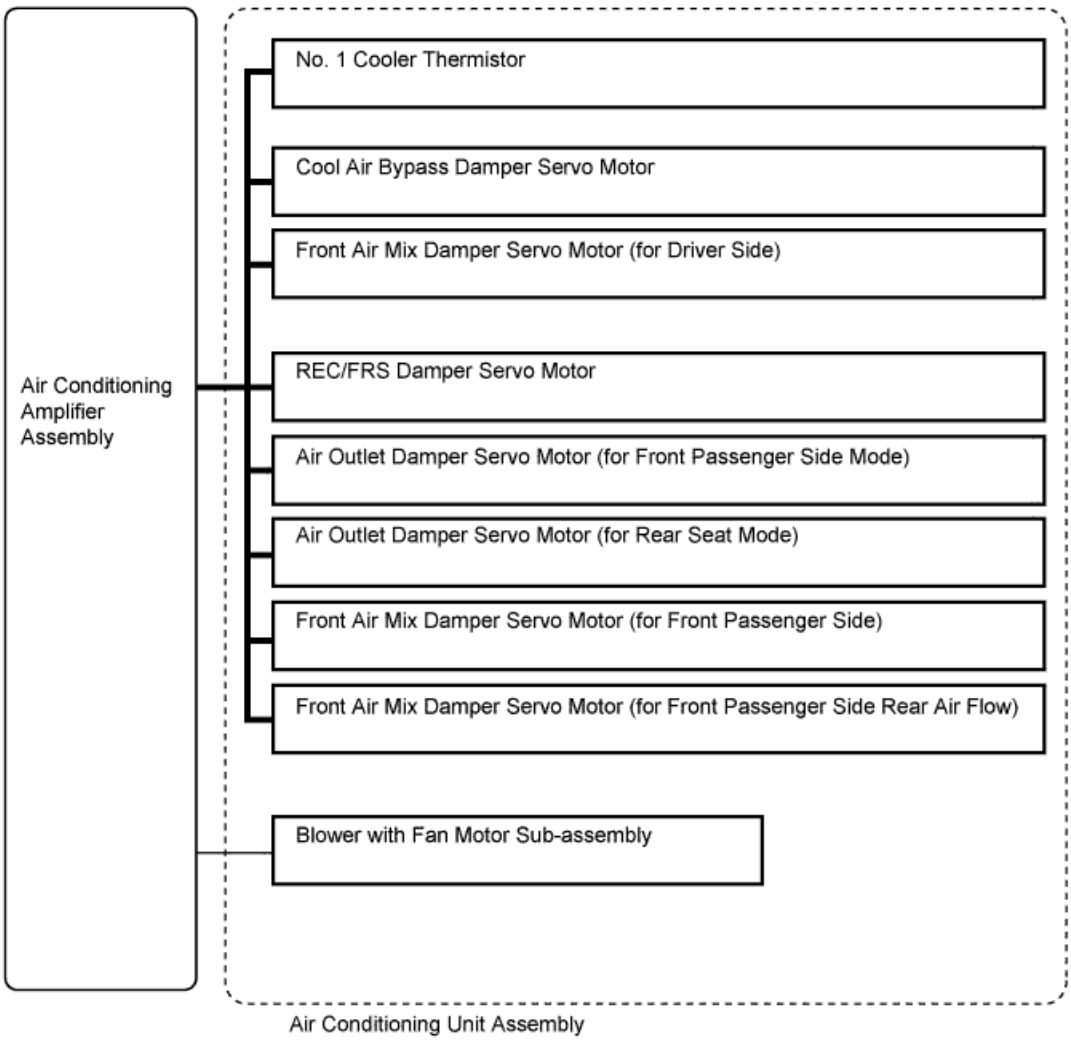
for 2-ZONE Type (LHD, w/o Rear Air Duct):



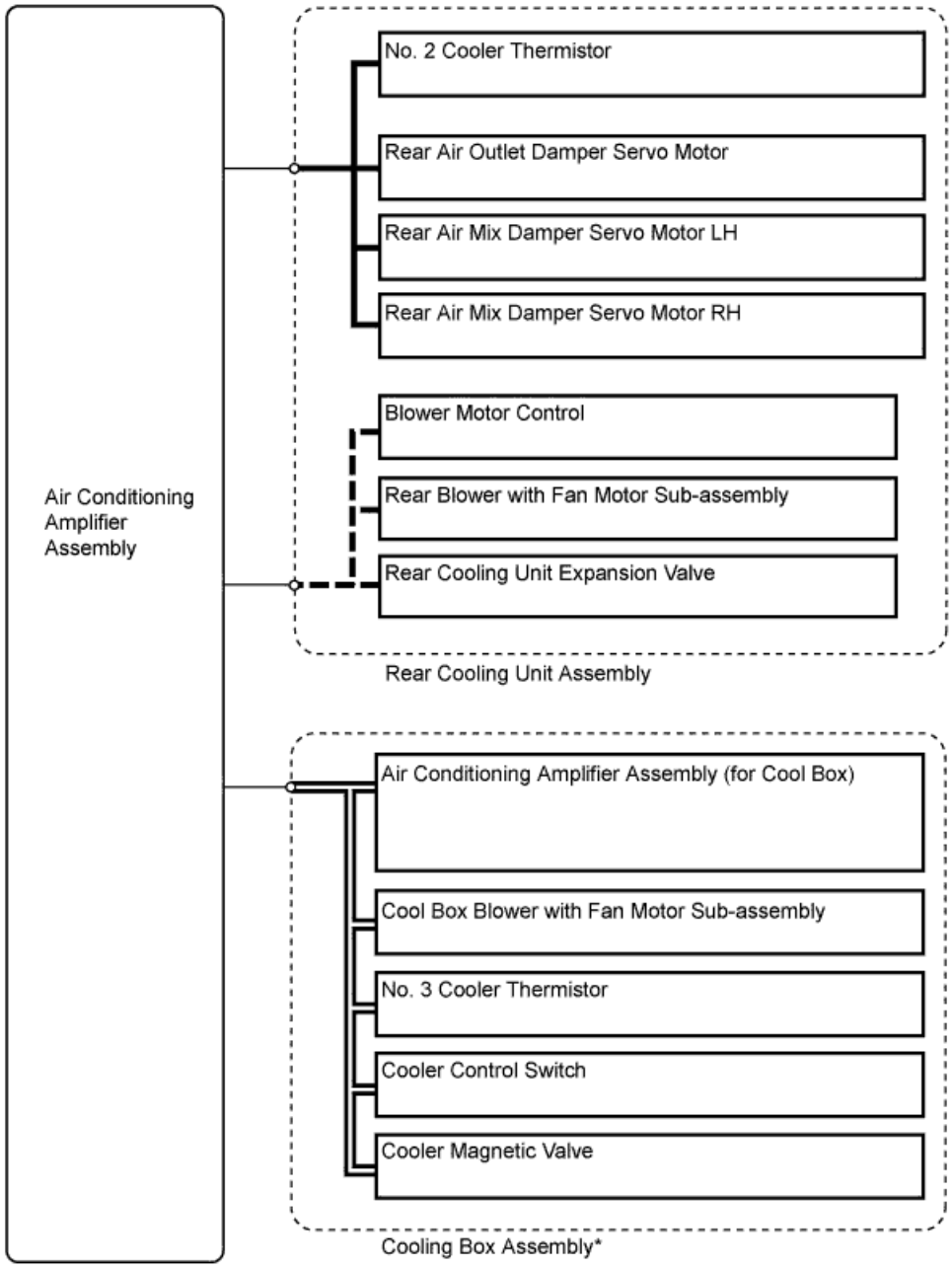
for 4-ZONE Type (RHD):



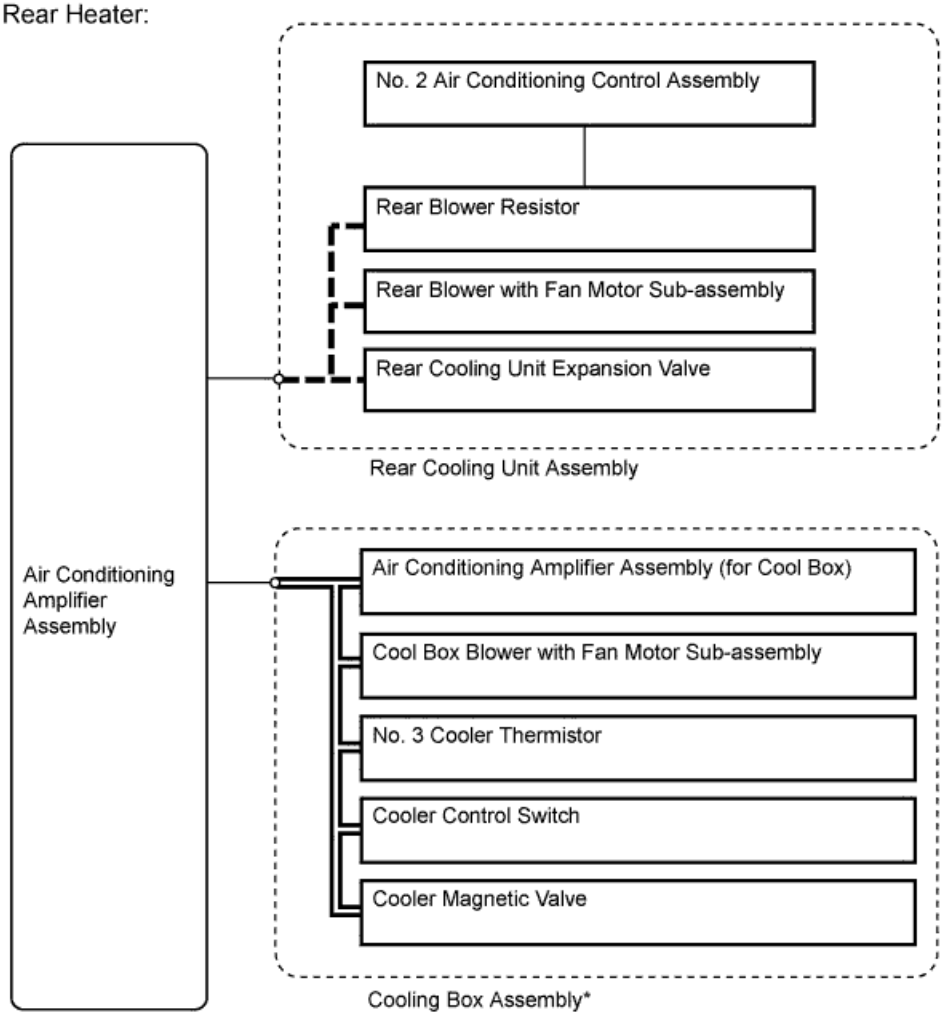
for 2-ZONE Type (RHD):



w/ Rear Heater:



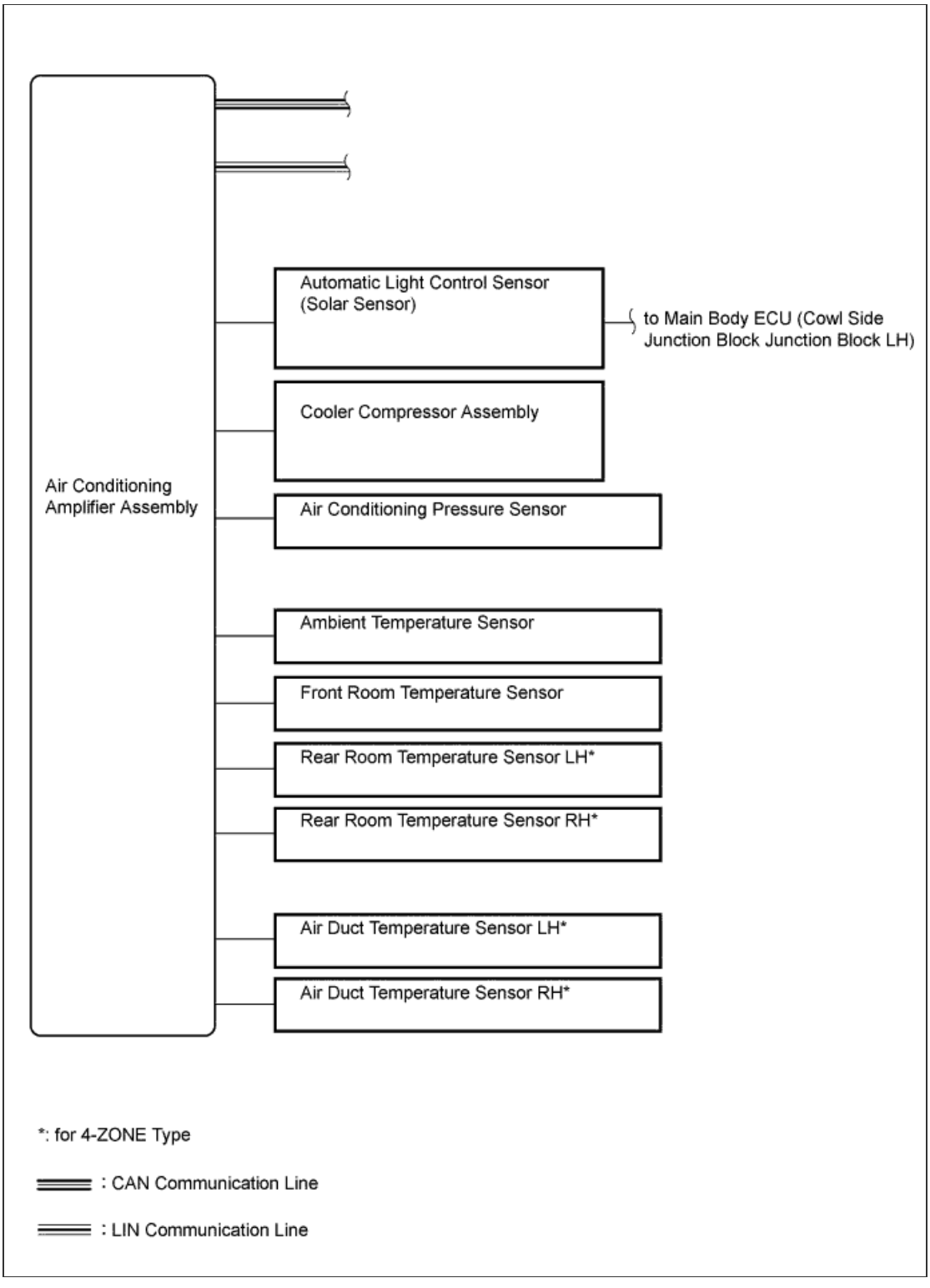
w/o Rear Heater:




▬▬▬ : Wiring Air Conditioning Harness Sub-assembly

═══ : No. 1 Cooler Wiring Harness Sub-assembly

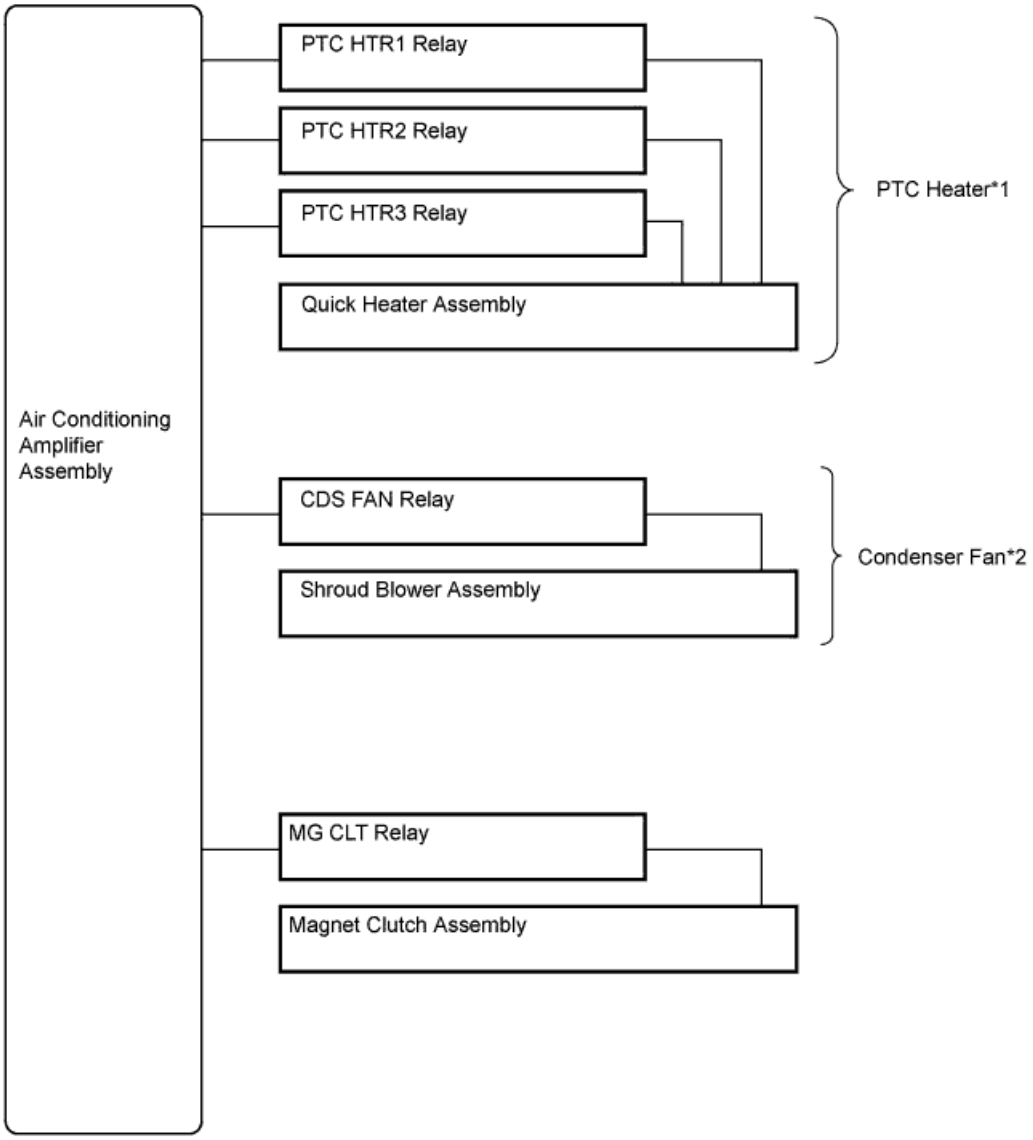
*: w/ Cooling Box




*: for 4-ZONE Type

: CAN Communication Line

: LIN Communication Line




*1: w/ PTC Heater

*2: w/ Shroud Blower Assembly

**for Preparation** Click here

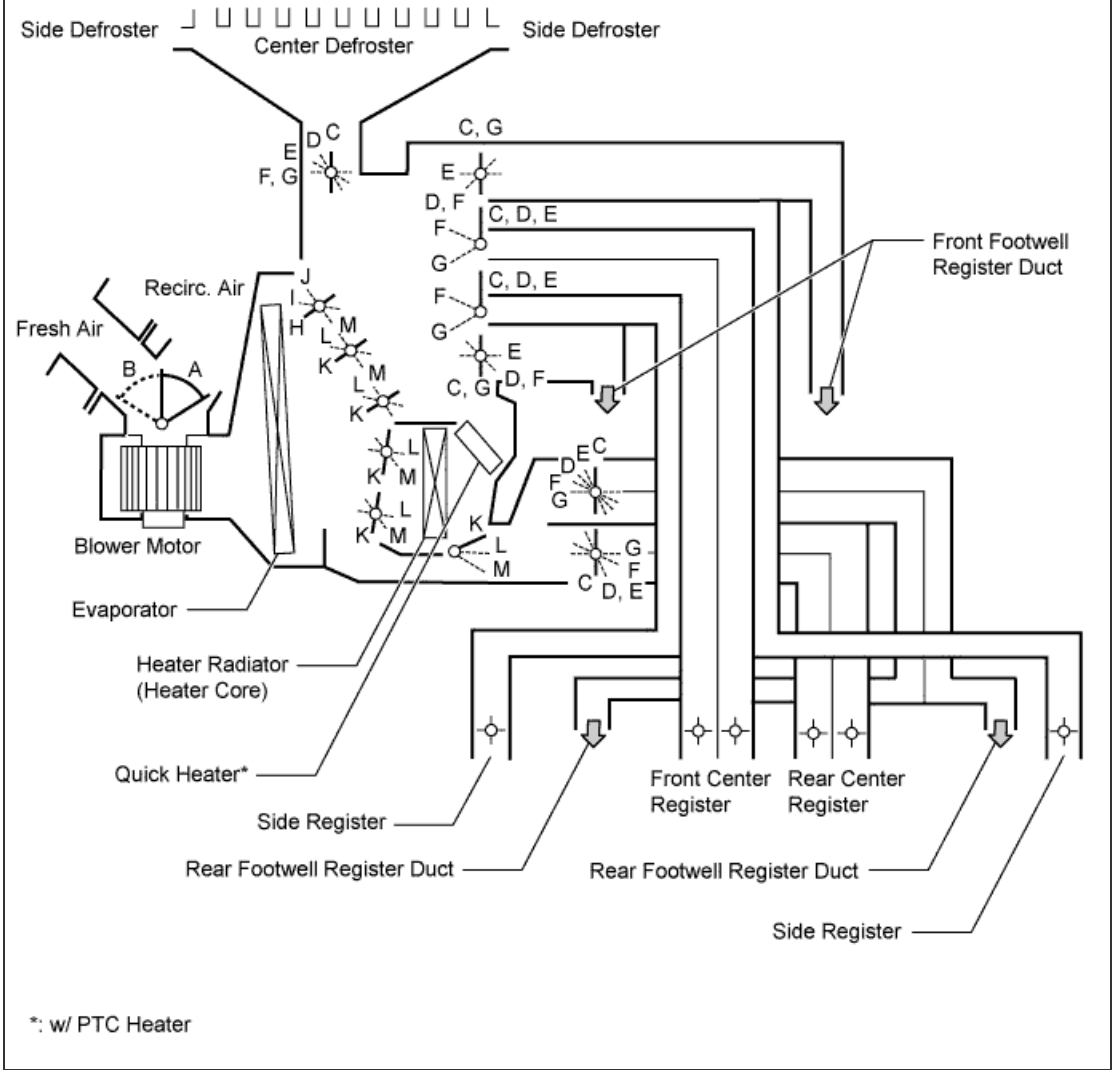
## GENERAL

a. The air conditioning system has the following features:

- The 4-ZONE air conditioner system controls the temperature of the front and rear seats independently. In addition, it uses the amount of sunlight and temperature of each seat to adjust the temperature and airflow volume. When the 4-ZONE switch is on, the temperature, the airflow mode and airflow volume of each of the 4 seats (driver, front passenger, rear left, rear right) are automatically adjusted.
- The 2-ZONE air conditioner system controls the temperature of the left and right seats independently, and sets the temperature for the driver seat and front passenger seat. In addition, it uses the amount of sunlight and temperature of the left and right seats to adjust the temperature and airflow volume.
  When the 2-ZONE switch is on, the temperature, airflow mode and airflow volume of the driver seat and front passenger seat are automatically adjusted.
- In accordance with the temperature set using the temperature control switch, the air conditioning amplifier assembly determines the outlet temperature based on the input signals from various sensors. In addition, corrections are made in accordance with the signals from the water temperature sensor to control the outlet air temperature.
- Controls the blower motor in accordance with the airflow volume determined by the air conditioning amplifier assembly based on the input signals from various sensors.
- Automatically changes the outlets in accordance with the outlet mode ratio that is determined by the air conditioning amplifier assembly based on the input signals from various sensors.
- Based on the signals from the ambient temperature sensor, this system calculates the outside temperature and indicates it in the multi-information display in the combination meter.
- For vehicles with the rear air conditioner, there are rear side and roof side air ducts, and independent temperature and airflow mode adjustments are automatically performed.
- The Positive Temperature Coefficient (PTC) heater system contains a PTC heater that heats the air that has passed through the heater core to ensure proper heater performance.
- A compact, lightweight, and highly efficient straight flow (full-path flow) aluminum heater core is used.
- The micro dust and pollen filter control is used to remove pollen in the air around the upper areas of the driver and front passenger seats.
- The air conditioning amplifier assembly is equipped with a self diagnosis function. If there is a malfunction in the system, it stores the DTCs (Diagnostic Trouble Codes) in its memory.

## MODE POSITION AND DAMPER OPERATION

for Front Air Conditioning:

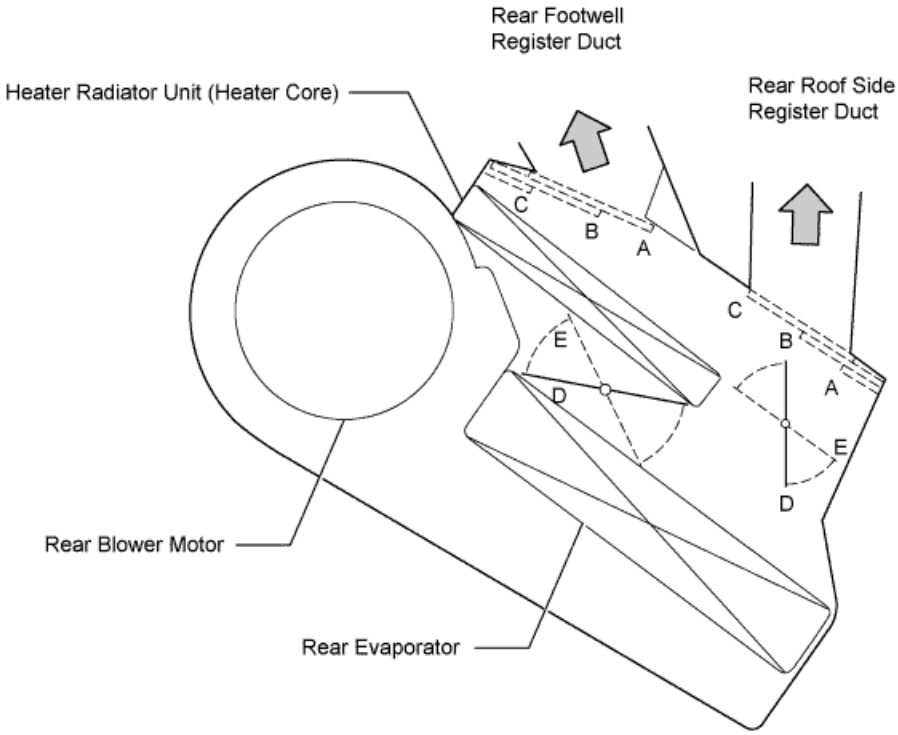



**Function of Main Damper**

| Control Damper | Operation Position | Damper Position | Operation |
|---|---|---|---|
| Air Inlet Control Damper | Fresh | A | Brings in fresh air. |
| | Recirculation | B | Recirculates internal air. |
| Air Mix Control Damper | Max Cool to Max Hot | K, L, M | Varies the mixture ratio of cold air and hot air in order to regulate the temperature continuously from hot to cool. |
| Cool Air Bypass Control Damper | Max Cool to Max Hot | H, I, J | Cool air blows out from the front center register and side registers in order to adjust the temperature around the heads of the occupants during cooling or warming. |
| Mode Control Damper | Def | C | Defrosts the windshield through the center defroster. |
| | Foot/Def | D | Defrosts the windshield through the center defroster and side defroster while air is also blown out from the front and rear footwell register ducts.<br>In addition, air blows out slightly from the front and rear center registers and side register. |
| | Foot | E | Air blows out of the front and rear footwell register duct, front and rear center register and side register.<br>In addition, air blows out slightly from the center defroster and side defroster. |
| | Bi - Level | F | Air blows out of the center registers, side register, and rear center register to defrost the windshield.<br>Air also blows out from the front and rear footwell register ducts. |
| | | G | Air blows out of the center registers and side registers to defrost the windshield. |

| | | | |
|---|---|---|---|
| | Face | | |

for Rear Air Conditioning System:

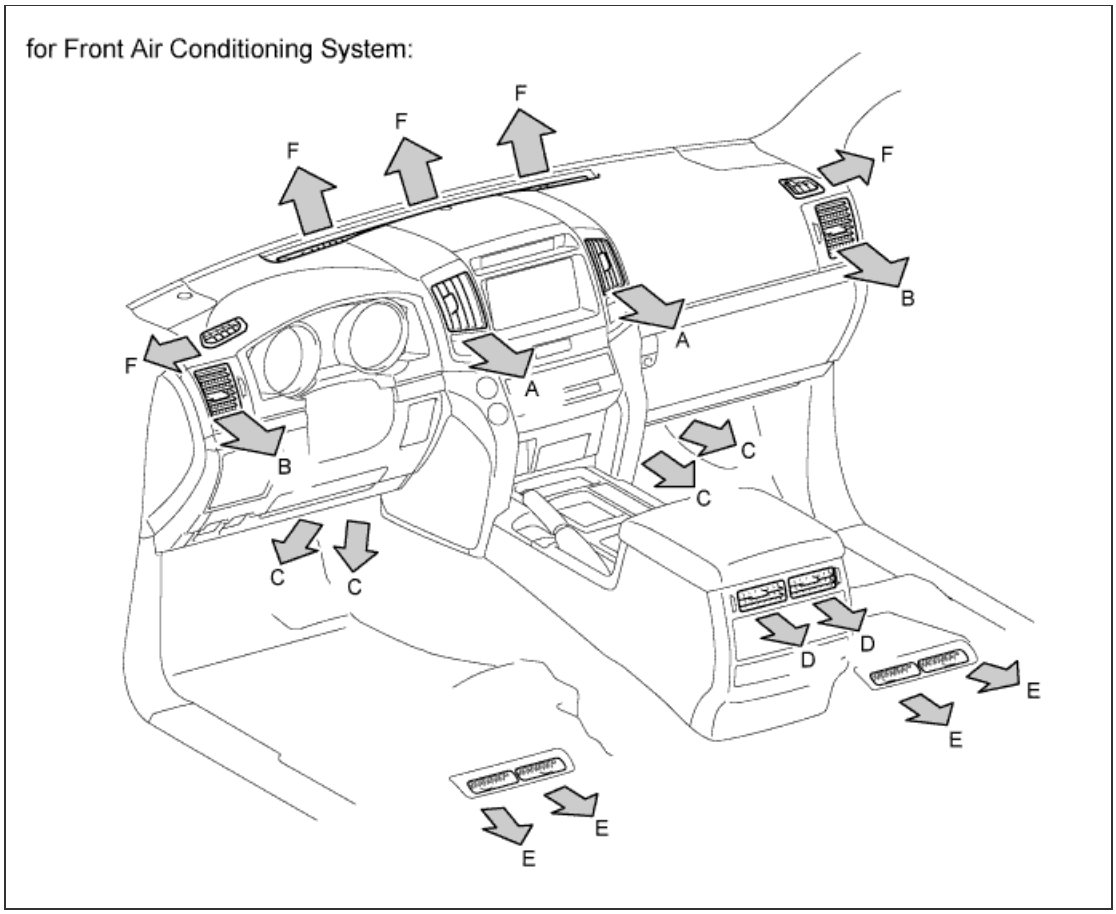



**Function of Main Damper**

| Control Damper | Operation Position | Damper Position | Operation |
|---|---|---|---|
| Mode Control Damper | Face | A | Air blows out of the rear roof side register. |
| | Bi - Level | B | Air blows out of the rear roof side register and rear footwell register. |
| | Foot | C | Air blows out of the rear footwell register. |
| Air Mix Control Damper | Max Cool to Max Hot | D, E | Varies the mixture ratio of cold air and hot air in order to regulate the temperature continuously from hot to cool. |

## AIR OUTLETS AND AIRFLOW VOLUME

for Front Air Conditioning System:

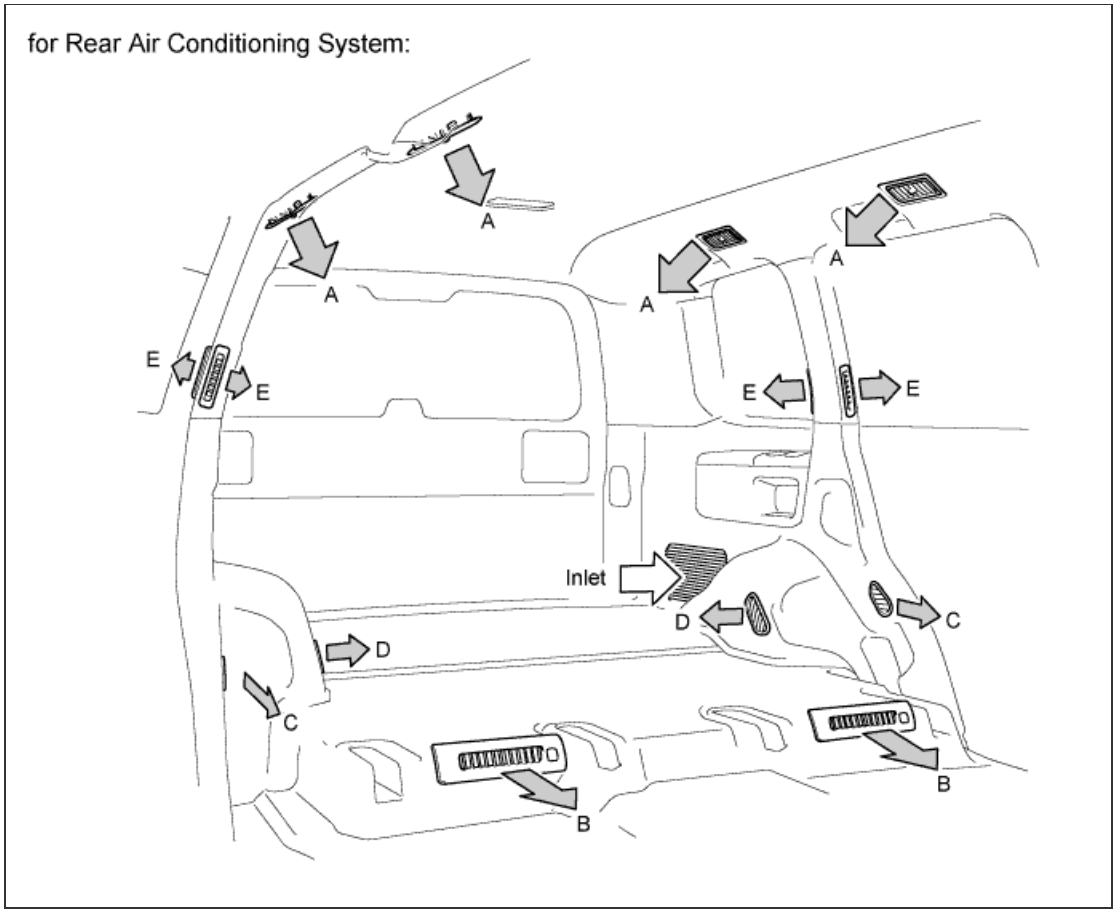



| Air Outlet Mode | | Selectable Mode | | Register | | Register Duct | | | Defroster |
|---|---|---|---|---|---|---|---|---|---|
| | | Automatic | Manual | Center | Side | Front Foot | Rear Face | Rear Foot | |
| | | | | A | B | C | D | E | F |
| | FACE-U*1 | ○ | ○ | ◯ | ◯ | - | ◯ | - | - |
| | FACE-L*2, *6 | ○ | - | ◯ | ◯ | ○ | ◯ | - | - |
| | B/L-U*1 | ○ | ○ | ◯ | ◯ | ○ | ○ | ○ | - |
| | B/L*2 | ○ | - | ◯ | ◯ | ◯ | ○ | ○ | - |
| | FOOT F*3 | ○ | - | ○ | ○ | ◯ | ○ | ○ | ○ |
| | FOOT R*4 | ○ | ○ | ○ | ○ | ◯ | ○ | ◯ | ○ |
| | FOOT D*5 | ○ | - | ○ | ○ | ◯ | ○ | ◯ | ○ |
| | F/D | ○ | ○ | ○ | ○ | ◯ | ○ | ○ | ◯ |
| | DEF | ○ | ○ | - | - | - | - | - | ◯ |

**HINT:**

- **The size of the circle indicates the proportion of airflow volume.**
- ***1: Greater airflow volume at the upper area.**
- ***2: Greater airflow volume at the lower area.**

- ***3: Greater airflow volume at the front.**
- ***4: Greater airflow volume at the rear foot.**
- ***5: Greater airflow volume at the defroster.**
- ***6: In contrast to FACE-U, a small amount of air comes out of the front footwell register duct.**




| Air Outlet Mode | | Register Duct | | | | |
|---|---|---|---|---|---|---|
| | | Roof | Rear Foot 1 | Rear Side 2 | Rear Foot 2 | C Pillar |
| | | A | B | C | D | E |
| | FACE | ○ | - | - | - | - |
| | BI-LEVEL | ○ | ○ | ○ | ○ | ○ |
| | FOOT | - | ○ | ○ | ○ | ○ |

**HINT:**

The size of the circle indicates the proportion of airflow volume.

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the air conditioning system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

**NEXT**

## 2.INSPECT BATTERY VOLTAGE

**Standard Voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

**NEXT**

## 3.CHECK COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the CAN communication system is functioning normally .

for LHD: Click here.
for RHD: Click here.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

**B.** GO TO CAN COMMUNICATION SYSTEM (**Click here**)

**C.** GO TO CAN COMMUNICATION SYSTEM (**Click here**)

**A**

## 4.CHECK COMMUNICATION FUNCTION OF LIN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the LIN communication system is functioning normally ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| LIN DTC is not output | A |
| LIN DTC is output | B |

**B.** GO TO LIN COMMUNICATION SYSTEM (**Click here**)

**A**

## 5.CHECK FOR DTC*

a. Check for DTCs (Click here).

b. Clear the DTC (Click here).

c. Based on the DTCs output above, try to force output of the air conditioning system DTC by simulating the conditions indicated by the DTC. Then recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output | B |

B. → GO TO DTC CHART (**Click here**)

A

## 6.PROBLEM SYMPTOMS TABLE

a. Refer to the Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. → GO TO STEP 8

A

## 7.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here)

b. Data List/Active Test (Click here)

c. Actuator Check (Click here)

d. On-vehicle Inspection

e. Inspection

NEXT

## 8.ADJUST, REPAIR OR REPLACE

NEXT

## 9.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

## CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE)

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Customize Setting.

e. Select the setting by referring to the table below.

**Air Conditioner**

| Display | Default | Contents | Setting | Relevant ECU |
|---|---|---|---|---|
| Set Temperature Shift | Normal | Function to set the temperature shift. | +2 C/+1 C/Normal/-1 C/-2 C | Air conditioning amplifier assembly |
| Compressor/Air Inlet DEF operation | Link | Function to automatically turn the A/C on when the FRONT DEF button is pressed. | Normal/Link | Air conditioning amplifier assembly |
| Compressor Mode | Automatic | Function to turn the A/C on automatically by pressing the AUTO button when the blower is on and the A/C is off. | Manual/Automatic | Air conditioning amplifier assembly |
| Air Inlet Mode | Automatic | Function to automatically change to recirculation mode when the A/C is turned on. | Manual/Automatic | Air conditioning amplifier assembly |
| Foot/DEF Auto Mode | ON | Function to turn the airflow from FOOT/DEF on automatically when auto mode is on. | ON/OFF | Air conditioning amplifier assembly |
| Foot/DEF Automatic Blow Up Function | ON | Function to change the blower level automatically when the defroster is on. | ON/OFF | Air conditioning amplifier assembly |
| Ambient Temperature Shift | Normal | Function to control the shifted ambient temperature in relation to the displayed ambient temperature. | +3 C/+2 C/+1 C/Normal/-1 C/-2 C/-3 C | Air conditioning amplifier assembly |
| Add Foot Air in FACE Mode | ON | When the FACE mode is selected, an additional amount of air blow to the foot area. Selecting OFF will cancel this additional air flow. | ON/OFF | Air conditioning amplifier assembly |

## CUSTOMIZING FUNCTION WITH MULTI-DISPLAY ASSEMBLY (w/ Navigation System)

**NOTICE:**

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

**HINT:**

The following items can be customized.

a. Turn the engine switch on (IG).

b. Enter the following menus: Setup / Vehicle / Vehicle Settings / Vehicle Customization / Climate settings.

**Air Conditioner**

| Display | Default | Contents | Setting | Relevant ECU |
|---|---|---|---|---|
| Auto A/C | On | Enables or disables the function which automatically turns the air conditioning | On or | Air conditioning amplifier |

| | | | | |
|---|---|---|---|---|
| Mode | | on according to the state of the AUTO switch. | Off | assembly |
| Efficient Ventilation Mode | On | Enables or disables the function which automatically switches between recirculation and fresh air modes when the AUTO switch is on. | On or Off | Air conditioning amplifier assembly |

**for Preparation** Click here

## INITIALIZATION SERVO MOTOR

a. Turn the engine switch off.

b. Connect the intelligent tester to the DLC3.

c. Turn the engine switch on (IG).

d. Press the blower OFF switch.

e. Turn the intelligent tester on.

f. Enter the following menus: Body / Air Conditioner / Utility / Servomotor Initialization.

g. According to the intelligent tester display, perform servomotor initialization.

**HINT:**

During initialization, the AUTO indicator light comes on, and then goes off when initialization has finished.

h. According to the intelligent tester display, select the "Exit" switch to finish initialization.

**for Preparation** Click here

**NOTICE:**

Inspect the fuses and relays related to this system before inspecting the suspected areas below.

**HINT:**

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

### Air Conditioning Unit Assembly

| Symptom | Suspected Area | See page |
|---|---|---|
| All functions of air conditioning system do not operate | Harness or connector | - |
| | IG power source circuit | Click here |
| | Back-up power source circuit | Click here |
| | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | LIN communication system*1 | Click here |
| | Air conditioning control assembly*1 | Click here |
| | Navigation system*2 | Click here |
| | Multi-display assembly*2 | Click here |
| | Multi-media module receiver assembly*2 | Click here |
| | Air conditioning amplifier assembly | Click here |
| Switch operation of air conditioning control assembly is not accepted*1 | Harness or connector | - |
| | LIN communication system | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Switch operation of multi-media module receiver assembly is not accepted*2 | Harness or connector | - |
| | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Navigation system | Click here |
| | Multi-display assembly | Click here |
| | Multi-media module receiver assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Switch operation of temperature control switch assembly is not accepted | Heater control switch circuit | Click here |
| | Navigation system*2 | Click here |
| | | Click |

| | | |
|---|---|---|
| | Multi-media module receiver assembly*2 | here |
| | Air conditioning amplifier assembly | Click here |
| | Harness or connector | - |
| Air Flow Control: No blower operation | Harness or connector | - |
| | Blower motor circuit | Click here |
| | Air conditioning amplifier assembly | Click here |
| Air Flow Control: Insufficient air flow | Blower motor circuit | Click here |
| | Air conditioning amplifier assembly | Click here |
| Temperature Control: No cool air comes out | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Volume of refrigerant | Click here |
| | Refrigerant pressure | Click here |
| | Compressor lock sensor circuit | Click here |
| | Air conditioning compressor magnet clutch circuit | Click here |
| | Cooler compressor assembly (1GR-FE) | Click here |
| | Cooler compressor assembly (1UR-FE) | Click here |
| | Cooler compressor assembly (3UR-FE) | Click here |
| | Cooler compressor assembly (1VD-FTV) | Click here |
| | Pressure sensor circuit | Click here |
| | Front air mix damper servo motor (for driver side) circuit | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) circuit | Click here |
| | Front air mix damper servo motor (for front passenger side) circuit | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) circuit | Click here |
| | Room temperature sensor circuit | Click here |
| | Rear room temperature sensor circuit (for driver side)*4 | Click here |
| | Rear room temperature sensor circuit (for front passenger side)*4 | Click here |
| | Solar sensor circuit (for driver side) | Click here |
| | Solar sensor circuit (for front passenger side) | Click here |
| | Ambient temperature sensor circuit | Click here |
| | Evaporator temperature sensor circuit | Click here |
| | Air mix damper servo motor (for driver side) (for LHD) | Click here |
| | Air mix damper servo motor (for driver side) (for RHD) | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) (for LHD) | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) (for RHD) | Click here |

| | | |
|---|---|---|
| | Air mix damper servo motor (for front passenger side) (for LHD) | Click here |
| | Air mix damper servo motor (for front passenger side) (for RHD) | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) (for LHD) | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) (for RHD) | Click here |
| | Air conditioning harness assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Temperature Control: No warm air comes out | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Front air mix damper servo motor (for driver side) circuit | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) circuit | Click here |
| | Front air mix damper servo motor (for front passenger side) circuit | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) circuit | Click here |
| | Room temperature sensor circuit | Click here |
| | Rear room temperature sensor circuit (for driver side)*4 | Click here |
| | Rear room temperature sensor circuit (for front passenger side)*4 | Click here |
| | Solar sensor circuit (for driver side) | Click here |
| | Solar sensor circuit (for front passenger side) | Click here |
| | Ambient temperature sensor circuit | Click here |
| | Air mix damper servo motor (for driver side) (for LHD) | Click here |
| | Air mix damper servo motor (for driver side) (for RHD) | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) (for LHD) | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) (for RHD) | Click here |
| | Air mix damper servo motor (for front passenger side) (for LHD) | Click here |
| | Air mix damper servo motor (for front passenger side) (for RHD) | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) (for LHD) | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) (for RHD) | Click here |
| | Air conditioning harness assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| | Volume of refrigerant | Click here |
| | Refrigerant pressure | Click here |
| | Front air mix damper servo motor (for driver side) circuit | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) circuit | Click here |
| | Front air mix damper servo motor (for front passenger side) | Click |

| | | |
|---|---|---|
| Temperature Control: Output air is warmer or cooler than the set temperature or response is slow | circuit | here |
| | Front air mix damper servo motor (for passenger side rear air flow) circuit | Click here |
| | REC/FRS damper servo motor circuit | Click here |
| | Cool air bypass damper servo motor circuit | Click here |
| | Room temperature sensor circuit | Click here |
| | Rear room temperature sensor circuit (for driver side)*4 | Click here |
| | Rear room temperature sensor circuit (for front passenger side)*4 | Click here |
| | Solar sensor circuit (for driver side) | Click here |
| | Solar sensor circuit (for front passenger side) | Click here |
| | Ambient temperature sensor circuit | Click here |
| | Cooler compressor assembly (1GR-FE) | Click here |
| | Cooler compressor assembly (1UR-FE) | Click here |
| | Cooler compressor assembly (3UR-FE) | Click here |
| | Cooler compressor assembly (1VD-FTV) | Click here |
| | Heater radiator | - |
| | Air mix damper servo motor (for driver side) (for LHD) | Click here |
| | Air mix damper servo motor (for driver side) (for RHD) | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) (for LHD) | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) (for RHD) | Click here |
| | Air mix damper servo motor (for front passenger side) (for LHD) | Click here |
| | Air mix damper servo motor (for front passenger side) (for RHD) | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) (for LHD) | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) (for RHD) | Click here |
| | REC/FRS damper servo motor (for LHD) | Click here |
| | REC/FRS damper servo motor (for RHD) | Click here |
| | Cool air bypass damper servo motor (for LHD) | Click here |
| | Cool air bypass damper servo motor (for LHD) | Click here |
| | Air conditioning harness assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Room temperature sensor circuit | Click here |
| | Rear room temperature sensor circuit (for driver side)*4 | Click here |
| | Rear room temperature sensor circuit (for front passenger | Click |

| | | |
|---|---|---|
| | side)*4 | here |
| | Ambient temperature sensor circuit | Click here |
| | Cool air bypass damper servo motor circuit | Click here |
| | Front air mix damper servo motor (for driver side) circuit | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) circuit | Click here |
| | Front air mix damper servo motor (for front passenger side) circuit | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) circuit | Click here |
| | Air conditioning control assembly*1 | Click here |
| Temperature Control: No temperature control (only Max. cool or Max. warm) | Multi-display assembly*2 | Click here |
| | Multi-media module receiver assembly*2 | Click here |
| | Cool air bypass damper servo motor (for LHD) | Click here |
| | Cool air bypass damper servo motor (for RHD) | Click here |
| | Air mix damper servo motor (for driver side) (for LHD) | Click here |
| | Air mix damper servo motor (for driver side) (for RHD) | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) (for LHD) | Click here |
| | Front air mix damper servo motor (for driver side rear air flow) (for RHD) | Click here |
| | Air mix damper servo motor (for front passenger side) (for LHD) | Click here |
| | Air mix damper servo motor (for front passenger side) (for RHD) | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) (for LHD) | Click here |
| | Front air mix damper servo motor (for front passenger side rear air flow) (for RHD) | Click here |
| | Air conditioning harness assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| PTC heater does not operate*3 | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | PTC heater circuit | Click here |
| | Air conditioning amplifier assembly | Click here |
| | ECM (1GR-FE) | Click here |
| | ECM (1UR-FE) | Click here |
| | ECM (3UR-FE) | Click here |
| | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Air outlet damper servo motor (for driver side mode) circuit | Click here |
| | Air outlet damper servo motor (for front passenger side mode) circuit | Click here |

| | | |
|---|---|---|
| No airflow mode control | Air outlet damper servo motor (for rear seat mode) circuit | Click here |
| | Air outlet damper servo motor (for DEF mode) circuit*4, *5 | Click here |
| | Air outlet damper servo motor (for driver side mode) (for LHD) | Click here |
| | Air outlet damper servo motor (for driver side mode) (for RHD) | Click here |
| | Air outlet damper servo motor (for front passenger side mode) (for LHD) | Click here |
| | Air outlet damper servo motor (for front passenger side mode) (for RHD) | Click here |
| | Air outlet damper servo motor (for rear seat mode) (for LHD) | Click here |
| | Air outlet damper servo motor (for rear seat mode) (for RHD) | Click here |
| | Air outlet damper servo motor (for DEF mode) (for RHD) | Click here |
| | Air conditioning harness assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Blinking of A/C indicator | Air conditioning control assembly*1 | Click here |
| | Multi-media module receiver assembly*2 | Click here |
| | Air conditioning amplifier assembly | Click here |
| | LIN communication system*1 | Click here |
| | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| Diagnostic trouble codes are not stored. Set mode is cleared when engine switch is turned off | Back-up power source circuit | Click here |
| | Air conditioning amplifier assembly | Click here |

*1: w/o Navigation System
*2: w/ Navigation System
*3: w/ PTC Heater
*4: for 4-ZONE Type
*5: for RHD

### Rear Cooling Unit Assembly (w/ Rear Heater)

| Symptom | Suspected Area | See page |
|---|---|---|
| All functions of air conditioning system do not operate | Harness or connector | - |
| | LIN communication system | Click here |
| | IG power source circuit | Click here |
| | Back-up power source circuit | Click here |
| | No. 2 air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Switch operation of No. 2 air conditioning control assembly is not accepted | Harness or connector | - |
| | LIN communication system | Click here |
| | No. 2 air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Air Flow Control: No blower operation | Harness or connector | - |
| | Rear blower motor circuit | Click here |
| | Air conditioning amplifier assembly | Click here |
| Air Flow Control: Insufficient air flow | Rear blower motor circuit | Click here |
| | Air conditioning amplifier assembly | Click here |

| | | |
|---|---|---|
| Temperature Control: No cool air comes out | CAN communication system (for LHD)* | Click here |
| | CAN communication system (for RHD)* | Click here |
| | Volume of refrigerant | Click here |
| | Refrigerant pressure | Click here |
| | Cooler compressor assembly (1GR-FE) | Click here |
| | Cooler compressor assembly (1UR-FE) | Click here |
| | Cooler compressor assembly (3UR-FE) | Click here |
| | Cooler compressor assembly (1VD-FTV) | Click here |
| | Pressure sensor circuit | Click here |
| | Rear air mix damper servo motor (for driver side) circuit* | Click here |
| | Rear air mix damper servo motor (for front passenger side) circuit* | Click here |
| | Rear room temperature sensor (for driver side)* | Click here |
| | Rear room temperature sensor (for front passenger side)* | Click here |
| | Ambient temperature sensor circuit | Click here |
| | Evaporator temperature sensor circuit | Click here |
| | Rear evaporator temperature sensor circuit* | Click here |
| | Rear magnetic valve circuit | Click here |
| | Rear air mix damper servo motor LH | Click here |
| | Rear air mix damper servo motor RH | Click here |
| | No. 2 air conditioning harness assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Temperature Control: No warm air comes out* | CAN communication system (for LHD) | Click here |
| | CAN communication system (for RHD) | Click here |
| | Rear air mix damper servo motor (for driver side) circuit | Click here |
| | Rear air mix damper servo motor (for front passenger side) circuit | Click here |
| | Rear room temperature sensor (for driver side) | Click here |
| | Rear room temperature sensor (for front passenger side) | Click here |
| | Ambient temperature sensor circuit | Click here |
| | Rear air mix damper servo motor LH | Click here |
| | Rear air mix damper servo motor RH | Click here |
| | No. 2 air conditioning harness assembly | Click here |
| | Air duct temperature sensor (for driver side) | Click here |
| | Air duct temperature sensor (for front passenger side) | Click here |
| | Air conditioning amplifier assembly | Click here |

*: for 4-ZONE Type

### Rear Cooling Unit Assembly (w/o Rear Heater)

| Symptom | Suspected Area | See page |
|---|---|---|
| All functions of air conditioning system do not operate | Harness or connector | - |
| | IG power source circuit | Click here |
| | Back-up power source circuit | Click here |
| | No. 2 air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Air Flow Control: No blower operation | Rear blower motor circuit | Click here |
| | Air conditioning amplifier assembly | Click here |
| Air Flow Control: Insufficient air flow | Rear blower motor circuit | Click here |
| | Air conditioning amplifier assembly | Click here |
| Temperature Control: No cool air comes out | Volume of refrigerant | Click here |
| | Refrigerant pressure | Click here |
| | Cooler compressor assembly (1GR-FE) | Click here |
| | Cooler compressor assembly (1UR-FE) | Click here |
| | Cooler compressor assembly (3UR-FE) | Click here |
| | Cooler compressor assembly (1VD-FTV) | Click here |
| | Pressure sensor circuit | Click here |
| | | |

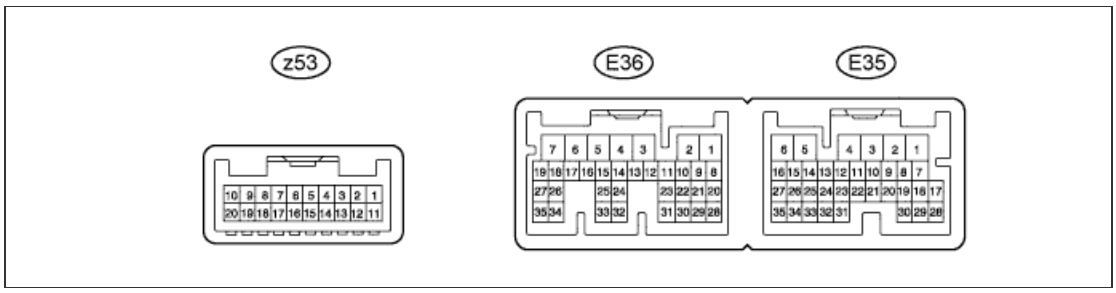
| | | |
|---|---|---|
| | Ambient temperature sensor circuit | Click here |
| | Evaporator temperature sensor circuit | Click here |
| | Rear magnetic valve circuit | Click here |
| | No. 2 air conditioning harness assembly | Click here |
| | Air conditioning amplifier assembly | Click here |

**Cooling Box Assembly (w/ Cooling Box)**

| Symptom | Suspected Area | See page |
|---|---|---|
| Cooling box malfunction | Cooling box magnetic valve circuit | Click here |
| | Cooling box blower motor circuit | Click here |
| | Cooling box control switch circuit | Click here |
| | Cooling box sensor circuit | Click here |
| | Air conditioning amplifier assembly (for cool box) | - |
| | No. 1 cooler wiring harness sub-assembly | - |
| | Noise filter (built into cooling box unit) | - |

**for Preparation** Click here

## CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY (w/ Rear Heater)




a. Disconnect the E36 and E35 air conditioning amplifier assembly connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E36-6 (+B1) - E36-1 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E36-7 (+B2) - E36-1 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E36-5 (IG+) - E36-1 (GND) | G - W-B | Ignition power supply | Engine switch on (IG) | 11 to 14 V |
| | | | Engine switch off | Below 1 V |
| E36-2 (E1) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E36-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E35-6 (E2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E36 and E35 air conditioning amplifier assembly connectors.

d. Measure the voltage and waveform according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| z53-3 (B BUS) - z53-1 (BUS G) | - | Power supply for BUS IC (for front) | Always | 11 to 14 V |
| z53-10 (B BUS) - z53-8 (BUS G) | - | Power supply for BUS IC (for front) | Always | 11 to 14 V |
| E36-14 (RBBU) - E36-12 (RBUG) | L - BR | Power supply for BUS IC (for rear) | Always | 11 to 14 V |
| E35-25 (TR3) - Body ground | V - Body ground | Power supply for driver side duct sensor | Engine switch on (IG) Driver side duct sensor temperature: 25°C (77°F) | 4.8 to 5.2 kΩ |
| E35-26 (TR4) - Body ground | W - Body ground | Power supply for front passenger side duct sensor | Engine switch on (IG) Front passenger side duct sensor temperature: 25°C (77°F) | 4.8 to 5.2 kΩ |
| E35-16 (SG-2) - Body ground | G - Body ground | Ground for pressure sensor | Always | Below 1 Ω |
| E35-29 (SG-5) - Body ground | G - Body ground | Ground for compressor signal | Always | Below 1 Ω |
| E35-32 (SG-1) - Body ground | B - Body ground | Ground for room temperature sensor (for front) | Always | Below 1 Ω |
| z53-6 (SGA) - Body ground | - | Ground for evaporator temperature sensor | Always | Below 1 Ω |

| | | | | |
|---|---|---|---|---|
| z53-1 (BUS G) - Body ground | - | Ground for BUS IC (for front) | Always | Below 1 Ω |
| z53-8 (BUS G) - Body ground | - | Ground for BUS IC (for front) | Always | Below 1 Ω |
| E35-34 (SGND) - Body ground | BR - Body ground | Ground for driver side duct sensor | Always | Below 1 Ω |
| E35-12 (SG-9) - Body ground | L - Body ground | Ground for front passenger side duct sensor | Always | Below 1 Ω |
| E35-2 (SG-6) - Body ground | G - Body ground | Ground for room temperature sensor signal (for Rear LH and Rear RH) | Always | Below 1 Ω |
| E36-12 (RBUG) - Body ground | BR - Body ground | Ground for BUS IC (for rear) | Always | Below 1 Ω |
| E35-1 (SG) - Body ground | P - Body ground | Ground for evaporator temperature sensor signal (for Rear) | Always | Below 1 Ω |
| E36-25 (CFN+) - Body ground*1 | R - Body ground | Condenser fan operation signal | Engine switch on (IG) | 11 to 14 V |
| E36-33 (COOL) - Body ground | W - Body ground | Cool box operation signal | Engine switch on (IG)<br>Cool box switch: On | 11 to 14 V |
| E36-29 (AC1) - Body ground | L - Body ground | Compressor operation signal | Engine switch on (IG)<br>Blower switch: Lo<br>A/C switch: Off | 11 to 14 V |
| | | | Engine switch on (IG)<br>Blower switch: Lo<br>A/C switch: On | Below 1 V |
| E36-22 (ACT) - Body ground | G - Body ground | Compressor operation signal | Engine switch on (IG)<br>Blower switch: Lo<br>A/C switch: Off or on (magnet clutch off) | Below 1 V |
| | | | Engine switch on (IG)<br>Blower switch: Lo<br>A/C switch: On (magnet clutch on) | 11 to 14 V |
| E35-28 (LOCK) - E35-29 (SG-5) | L - G | Air compressor lock sensor signal | Engine idling<br>A/C switch: On (magnet clutch on)<br>Blower switch: Lo | Pulse generation (see waveform 1) |
| E35-10 (TAM) - E35-16 (SG-2) | V - G | Ambient temperature sensor signal | Engine switch on (IG)<br>Ambient temperature: 25°C (77°F) | 1.6 to 1.8 V |
| | | | Engine switch on (IG)<br>Ambient temperature: 50°C (122°F) | 0.5 to 0.7 V |
| E35-27 (S5-1) - E35-16 (SG-2) | LG - G | Power supply for pressure sensor | Engine switch on (IG) | 4.5 to 5.5 V |
| E35-20 (PRE) - E35-16 (SG-2) | R - G | Air conditioning pressure sensor signal | Refrigerant pressure: Normal | 1.0 to 4.8 V |
| | | | Refrigerant pressure: Abnormal (less than 0.392 MPa [4.0 kgf/cm$^2$, 57 psi]) | Below 1 V |
| | | | Refrigerant pressure: Abnormal (less than 3.187 MPa [32.5 kgf/cm$^2$, 463 psi]) | 4.8 V or higher |
| E36-18 (MGC) - E36-1 (GND) | R - W-B | Compressor magnet clutch operation signal | Engine idling<br>Blower switch: Lo<br>A/C switch: On (magnet clutch on permitted) | Below 1 V |
| E36-3 (BLW) - E36-1 (GND) | R - W-B | Blower motor control signal | Engine switch on (IG)<br>Blower switch: Lo | Pulse generation (see waveform 2) |
| E35-9 (TR) - E35-32 | | Room temperature sensor signal (for front) | Engine switch on (IG)<br>Front side interior temperature: 25°C (77°F) | 1.6 to 1.8 V |

| | | | | |
|---|---|---|---|---|
| (SG-1) | W - B | Room temperature sensor signal (for front) | Engine switch on (IG)<br>Front side interior temperature: 50°C (122°F) | 0.5 to 0.7 V |
| E35-7 (TSD) - Body ground | LG - Body ground | Driver side solar sensor signal | Engine switch on (IG)<br>Solar sensor subjected to electric light | 0.8 to 4.3 V |
| E35-8 (TSP) - Body ground | GR - Body ground | Passenger side solar sensor signal | Engine switch on (IG)<br>Solar sensor subjected to electric light | 0.8 to 4.3 V |
| z53-7 (TEA) - z53-6 (SGA) | - | Evaporator temperature sensor signal | Engine switch on (IG)<br>Evaporator temperature: 15°C (59°F) | 1.4 to 1.8 V |
| z53-2 (BUS) - z53-1 (BUS G) | - | BUS IC control signal (for front) | Engine switch on (IG) | Pulse generation |
| z53-9 (BUS) - z53-8 (BUS G) | - | BUS IC control signal (for front) | Engine switch on (IG) | Pulse generation |
| E35-18 (TR) - E35-2 (SG-6) | R - G | Room temperature sensor signal (for Rear LH) | Engine switch on (IG)<br>Vehicle interior temperature: 25°C (77°F) | 1.6 to 1.8 V |
| | | | Engine switch on (IG)<br>Vehicle interior temperature: 50°C (122°F) | 0.5 to 0.7 V |
| E35-19 (TR7) - E35-2 (SG-6) | R - G | Room temperature sensor signal (for Rear RH) | Engine switch on (IG)<br>Vehicle interior temperature: 25°C (77°F) | 1.6 to 1.8 V |
| | | | Engine switch on (IG)<br>Vehicle interior temperature: 50°C (122°F) | 0.5 to 0.7 V |
| E36-13 (RBUS) - E36-12 (RBUG) | R - BR | BUS IC control signal (for rear) | Engine switch on (IG) | Pulse generation |
| E35-17 (TEC) - E35-1 (SG) | W - P | Evaporator temperature sensor signal (for Rear) | Engine switch on (IG)<br>Evaporator temperature: 15°C (59°F) | 1.4 to 1.8 V |
| E36-31 (ALT) - Body ground | R - Body ground | Generator signal | Engine idling | Pulse generation |
| E36-32 (SW1) - Body ground | BR - Body ground | Idle up operation signal | Engine switch on (IG)<br>Idle up switch: Off | Below 1 V |
| | | | Engine switch on (IG)<br>Idle up switch: On | 11 to 14 V |
| E36-20 (LIN1) - E36-1 (GND) | Y - W-B | LIN communication signal<br>(for A/C switch) | Engine switch on (IG) | Pulse generation |
| E36-21 (RLIN) - E36-1 (GND) | L - W-B | LIN communication signal<br>(for Rear A/C switch) | Engine switch on (IG) | Pulse generation |
| E36-27 (PTC1) - Body ground*2 | W - Body ground | PTC1 heater relay operation signal | Engine idling<br>Set temperature: MAX HOT<br>Engine coolant temperature: Below 65°C (149°F)<br>Ambient temperature: Below 10°C (50°F)<br>Blower switch: Off → Lo | Below 1 V → 11 to 14 V |
| E36-26 (PTC2) - Body ground*2 | R - Body ground | PTC2 heater relay operation signal | | |
| E36-35 (PTC3) - Body ground*2 | R - Body ground | PTC3 heater relay operation signal | | |
| E36-17 (BLWH) - E36-1 (GND) | L - W-B | Blower motor control signal (for rear) | Engine switch on (IG)<br>Blower switch: Lo | Pulse generation<br>(see waveform 3) |
| E36-19 (RMGV) - E36-1 (GND) | B - W-B | Rear cooling unit expansion valve signal | Engine switch on (IG) | 11 to 14 V |

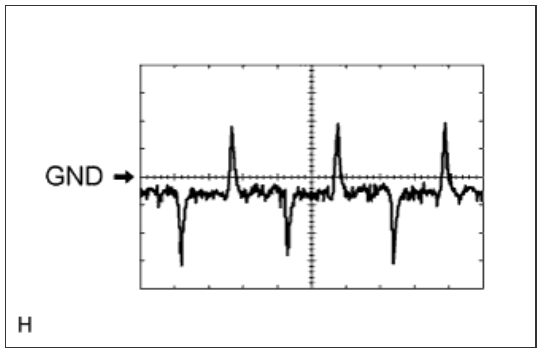
*1: w/ Condenser Fan
*2: w/ PTC Heater

- Using an oscilloscope, check waveform 1

e. Using an oscilloscope, check waveform 1.

**Compressor Lock Sensor Signal**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E35-28 (LOCK) - E35-29 (SG-5) |
| Tool Setting | 200 mV/DIV., 10 ms/DIV. |
| Condition | Engine idling<br>Blower switch: Lo<br>A/C switch: On |



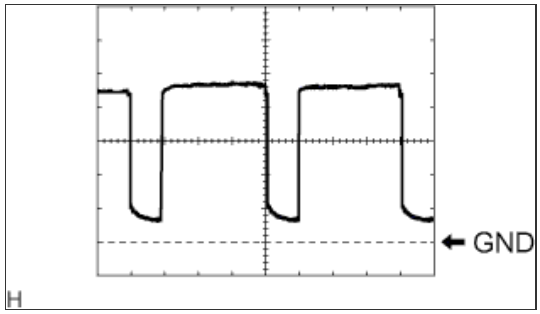

**HINT:**

When the rear blower level is increased, the duty ratio changes accordingly.

f. Using an oscilloscope, check waveform 2.

**Blower Motor Control Signal**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E36-3 (BLW) - E36-1 (GND) |
| Tool Setting | 1 V/DIV., 500 µs/DIV. |
| Condition | Engine switch on (IG)<br>Blower switch: Lo |



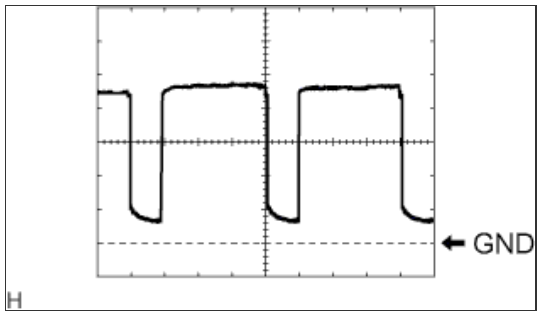

**HINT:**

When the blower level is increased, the duty ratio changes accordingly.

g. Using an oscilloscope, check waveform 3.

**Rear Blower Motor Control Signal**

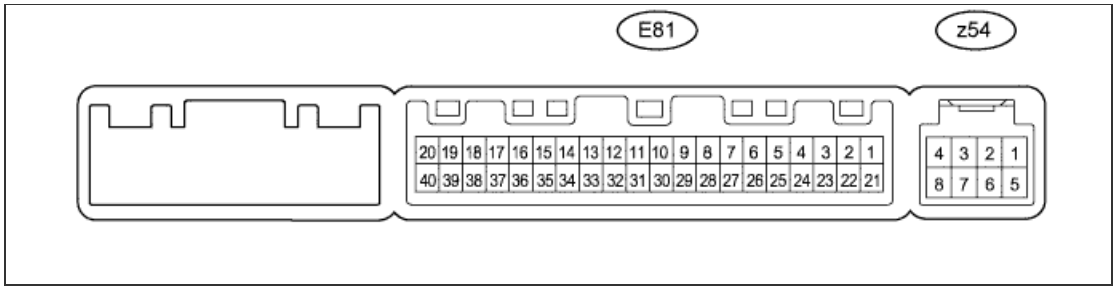
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E36-17 (BLWH) - E36-1 (GND) |
| Tool Setting | 1 V/DIV., 500 µs/DIV. |
| Condition | Engine switch on (IG)<br>Blower switch: Lo |




**HINT:**

When the rear blower level is increased, the duty ratio changes accordingly.

## CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY (w/o Rear Heater)




a. Disconnect the E81 air conditioning amplifier assembly connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E81-21 (+B1) - E81-14 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E81-1 (IG+) - E81-14 (GND) | G - W-B | Ignition power supply | Engine switch on (IG) | 11 to 14 V |
| | | | Engine switch off | Below 1 V |
| E81-14 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E81 air conditioning amplifier assembly connector.

d. Measure the voltage and waveform according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| z54-4 (B BUS) - z54-2 (BUS G) | - | Power supply for BUS IC (for front) | Always | 11 to 14 V |
| E81-35 (SG-5) - Body ground | G - Body ground | Ground for compressor signal | Always | Below 1 Ω |
| E81-13 (SG-2) - Body ground | G - Body ground | Ground for pressure sensor | Always | Below 1 Ω |
| E81-34 (SG-1) - Body ground | B - Body ground | Ground for room temperature sensor (for front) | Always | Below 1 Ω |
| z54-2 (BUS G) - Body ground | - | Ground for BUS IC (for front) | Always | Below 1 Ω |
| z54-5 (SGA) - Body ground | - | Ground for evaporator temperature sensor | Always | Below 1 Ω |
| E81-8 (LOCK) - E81-35 (SG-5) | L - G | Air compressor lock sensor signal | Engine idling<br>A/C switch: On (magnet clutch on)<br>Blower switch: Lo | Pulse generation (see waveform 1) |
| E81-39 (CFN+) - Body ground*1 | R - Body ground | Condenser fan operation signal | Engine switch on (IG)<br>A/C switch: Off | Below 1 V |
| | | | Engine switch on (IG)<br>A/C switch: On | 11 to 14 V |
| E81-15 (COOL) - Body ground | W - Body ground | Cool box operation signal | Engine switch on (IG)<br>Cool box switch: Off | Below 1 V |
| | | | Engine switch on (IG)<br>Cool box switch: On | 11 to 14 V |
| E81-17 (AC1) - Body ground | L - Body ground | Compressor operation signal | Engine switch on (IG)<br>Blower switch: Lo<br>A/C switch: Off | Below 1 V |
| | | | Engine switch on (IG)<br>Blower switch: Lo<br>A/C switch: On | 11 to 14 V |
| E81-27 (ACT) - Body ground | G - Body ground | Compressor operation signal | Engine switch on (IG)<br>Blower switch: Lo<br>A/C switch: Off or on (magnet clutch off) | Below 1 V |
| | | | Engine switch on (IG)<br>Blower switch: Lo<br>A/C switch: On (magnet clutch on) | 11 to 14 V |
| E81-5 (TAM) - E81-13 (SG-2) | V - G | Ambient temperature sensor signal | Engine switch on (IG)<br>Ambient temperature: 25°C (77°F) | 1.6 to 1.8 V |
| | | | Engine switch on (IG)<br>Ambient temperature: 50°C (122°F) | 0.5 to 0.7 V |
| E81-30 (S5-1) - E81-13 (SG-2) | LG - G | Power supply for pressure sensor | Engine switch on (IG) | 4.5 to 5.5 V |
| E81-9 (PRE) - E81-13 (SG-2) | R - G | Air conditioning pressure sensor signal | Refrigerant pressure: Normal | 1.0 to 4.8 V |
| | | | Refrigerant pressure: Abnormal (less than 0.392 MPa [4.0 kgf/cm$^2$, 57 psi]) | Below 1 V |
| | | | Refrigerant pressure: Abnormal (less than 3.187 MPa [32.5 kgf/cm$^2$, 463 psi]) | 4.8 V or higher |
| E81-20 (MGC) - E81-14 (GND) | R - W-B | Compressor magnet clutch operation signal | Engine idling<br>Blower switch: Lo<br>A/C switch: On (magnet clutch on permitted) | Below 1 V |
| E81-18 (RCRL) - E81-14 | B - Body ground | Rear cooler control relay | Engine switch on (IG)<br>Rear blower switch: Off | Below 1 V |

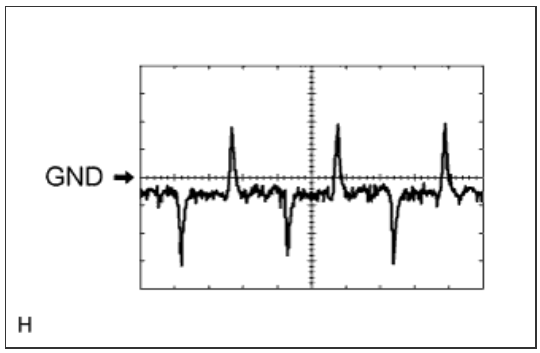
| | | | | |
|---|---|---|---|---|
| (GND) | | operation signal | Engine switch on (IG)<br>Rear blower switch: Lo | 11 to 14 V |
| E81-23 (BLW) - E81-14 (GND) | R - W-B | Blower motor control signal | Engine switch on (IG)<br>Blower switch: Lo | Pulse generation<br>(see waveform 2) |
| E81-29 (TR) - E81-34 (SG-1) | W - B | Room temperature sensor signal (for front) | Engine switch on (IG)<br>Front side interior temperature: 25°C (77°F) | 1.6 to 1.8 V |
| | | | Engine switch on (IG)<br>Front side interior temperature: 50°C (122°F) | 0.5 to 0.7 V |
| E81-32 (TSP) - Body ground | GR - Body ground | Passenger side solar sensor signal | Engine switch on (IG)<br>Solar sensor subjected to electric light | 0.8 to 4.3 V |
| E81-33 (TSD) - Body ground | LG - Body ground | Driver side solar sensor signal | Engine switch on (IG)<br>Solar sensor subjected to electric light | 0.8 to 4.3 V |
| E81-36 (SW1) - Body ground | BR - Body ground | Idle up operation signal | Engine switch on (IG)<br>Idle up switch: Off | Below 1 V |
| | | | Engine switch on (IG)<br>Idle up switch: On | 11 to 14 V |
| z54-6 (TEA) - z54-5 (SGA) | - | Evaporator temperature sensor signal | Engine switch on (IG)<br>Evaporate temperature: 15°C (59°F) | 1.4 to 1.8 V |
| z54-3 (BUS) - z54-2 (BUS G) | - | BUS IC control signal (for front) | Engine switch on (IG) | Pulse generation |
| E81-37 (LIN1) - E81-14 (GND) | Y - W-B | LIN communication signal | Engine switch on (IG) | Pulse generation |
| E81-25 (ALT) - Body ground | R - Body ground | Generator signal | Engine idling | Pulse generation |
| E81-3 (PTC1) - Body ground*2 | W - Body ground | PTC1 heater relay operation signal | Engine idling<br>Set temperature: MAX HOT<br>Engine coolant temperature: Below 65°C (149°F)<br>Ambient temperature: Below 10°C (50°F) | Below 1 V → 11 to 14 V |
| E81-22 (PTC2) - Body ground*2 | R - Body ground | PTC2 heater relay operation signal | | |
| E81-4 (PTC3) - Body ground*2 | R - Body ground | PTC3 heater relay operation signal | | |
| E81-24 (MGCA) - E81-14 (GND) | Y - W-B | Viscous with magnet clutch operation signal | Engine idling<br>Idle up switch: On | Below 1 V |

*1: w/ Condenser Fan
*2: w/ PTC Heater

e. Using an oscilloscope, check waveform 1.

**Compressor Lock Sensor Signal**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E81-8 (LOCK) - E81-35 (SG-5) |
| Tool Setting | 200 mV/DIV., 10 ms/DIV. |
| Condition | Engine idling<br>Blower switch: Lo<br>A/C switch: On |




**HINT:**

When the rear blower level is increased, the duty ratio changes accordingly.

f. Using an oscilloscope, check waveform 2.

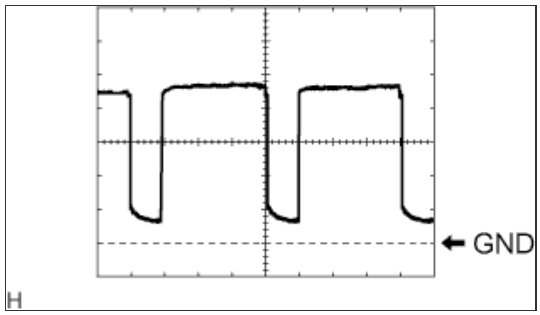
**Blower Motor Control Signal**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E81-23 (BLW) - E81-14 (GND) |
| Tool Setting | 1 V/DIV., 500 µs/DIV. |

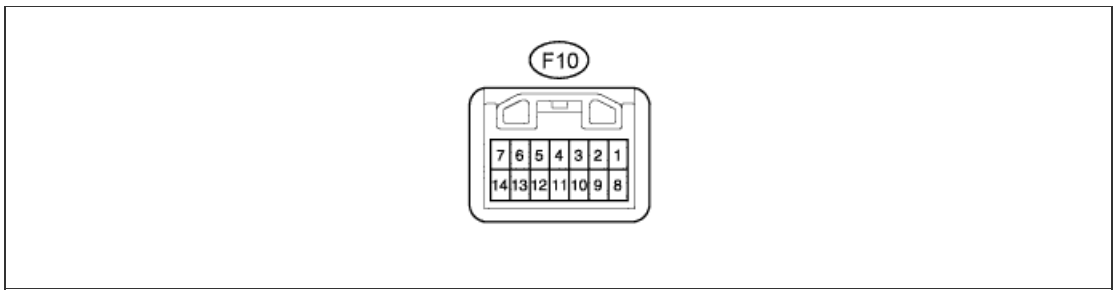
| | |
|---|---|
| Condition | Engine switch on (IG)<br>Blower switch: Lo |

**HINT:**

When the blower level is increased, the duty ratio changes accordingly.




## CHECK AIR CONDITIONING CONTROL ASSEMBLY (w/o Navigation System)




a. Disconnect the F10 air conditioning control assembly connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| F10-7 (IG+) - F10-1 (GND) | G - W-B | Ignition power supply | Engine switch on (IG) | 11 to 14 V |
| | | | Engine switch off | Below 1 V |
| F10-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

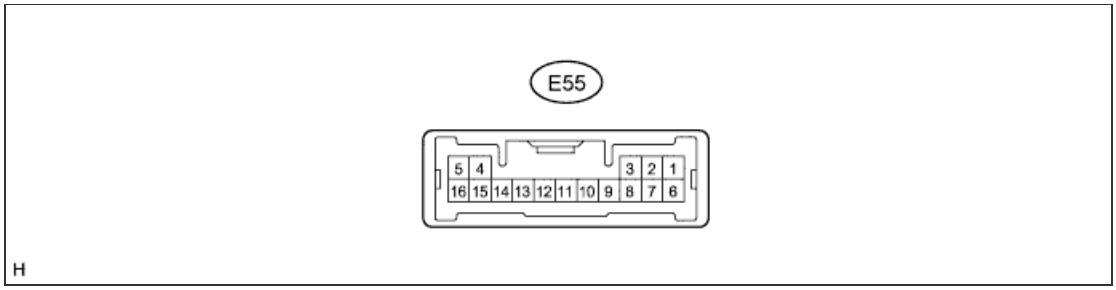
If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the F10 air conditioning control assembly connector.

d. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| F10-12 (DTP+) - F10-1 (GND) | R - W-B | Temperature up switch signal | Temperature up switch not pressed | Below 1 V |
| | | | Temperature up switch pressed | Alternating between 3.5 V or higher and below 1 V |
| F10-10 (PTP+) - F10-1 (GND) | L - W-B | Temperature up switch signal | Temperature up switch not pressed | Below 1 V |
| | | | Temperature up switch pressed | Alternating between 3.5 V or higher and below 1 V |
| F10-9 (S5) - F10-1 (GND) | B - W-B | Signal ground | Always | Below 1 Ω |
| F10-11 (DTP-) - F10-1 (GND) | G - W-B | Temperature down switch signal | Temperature down switch not pressed | Below 1 V |
| | | | Temperature down switch pressed | Alternating between 3.5 V or higher and below 1 V |
| F10-3 (PTP-) - F10-1 (GND) | W - W-B | Temperature down switch signal | Temperature down switch not pressed | Below 1 V |
| | | | Temperature down switch pressed | Alternating between 3.5 V or higher and below 1 V |
| F10-2 (SG) - F10-1 (GND) | GR - W-B | Signal ground | Always | Below 1 Ω |

## CHECK NO. 2 AIR CONDITIONING CONTROL ASSEMBLY



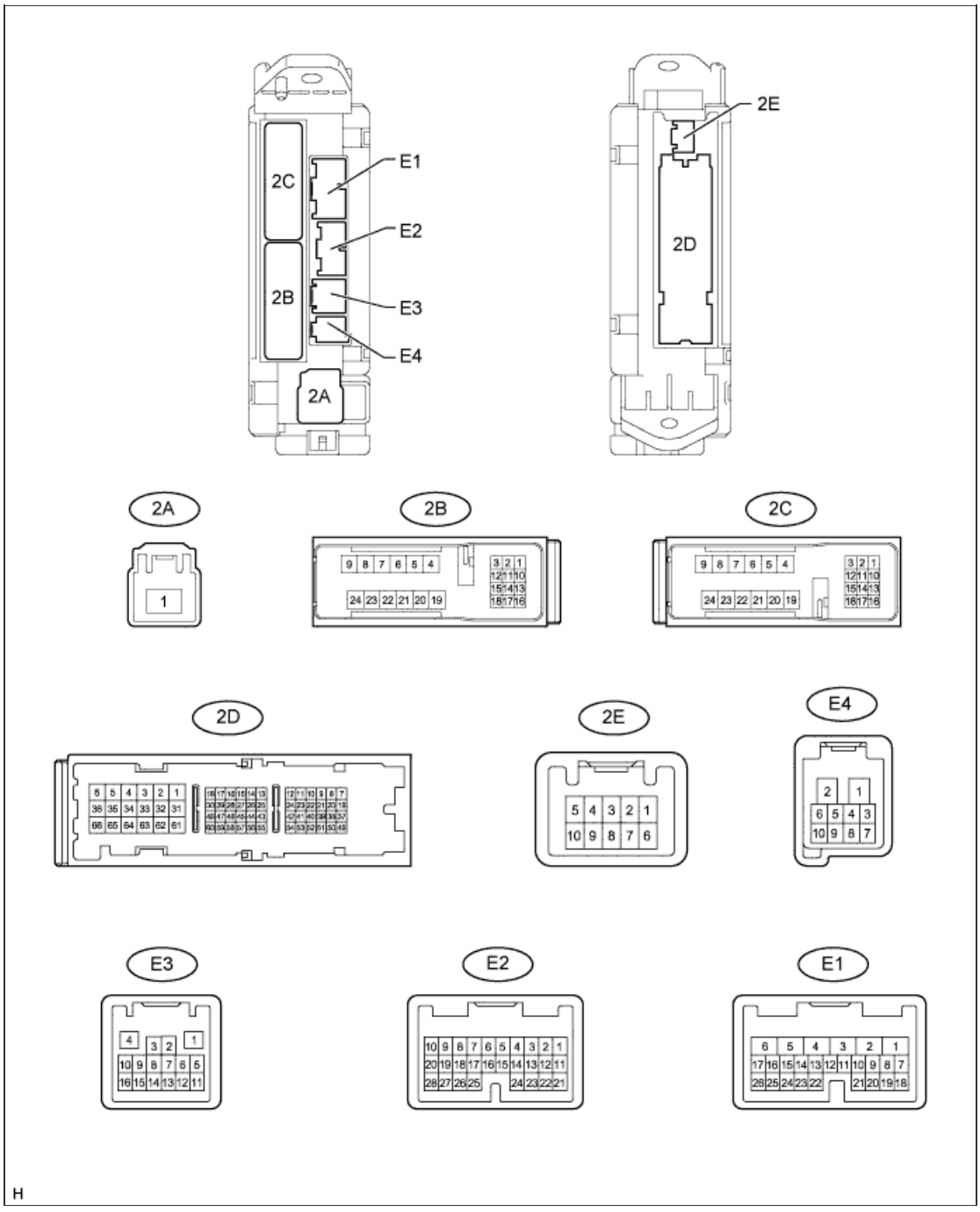

a. Disconnect the E55 air conditioning control assembly connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E55-6 (IG) - E55-1 (E) | G - W-B | Ignition power supply | Always | 11 to 14 V |
| E55-1 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)



a. Disconnect the 2A, 2B, and 2D ECU connectors.

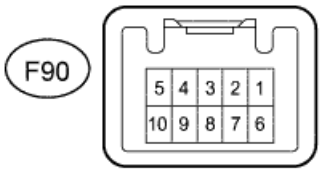
b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2B-20 (BATB) - Body ground | L - Body ground | Battery power supply | Always | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Engine switch on (ACC) | 11 to 14 V |
| 2A-1 (ACC) - Body ground | B - Body ground | ACC power supply | Engine switch off | Below 1 V |
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

**MULTI-DISPLAY ASSEMBLY (w/ Navigation System)**

a. Measure the resistance and voltage according to the value(s) in the table below.




| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| F90-2 (TEC+) - Body ground | R - Body ground | Temperature up switch signal | Temperature up switch not pressed | Below 1 V |
| | | | Temperature up switch pressed | 3.5 V or higher |
| F90-3 (TES+) - Body ground | L - Body ground | Temperature up switch signal | Temperature up switch not pressed | Below 1 V |
| | | | Temperature up switch pressed | 3.5 V or higher |
| F90-6 (AGND) - Body ground | B - Body ground | Signal ground | Always | Below 1 Ω |
| F90-7 (TEC-) - Body ground | G - Body ground | Temperature down switch signal | Temperature down switch not pressed | Below 1 V |
| | | | Temperature down switch pressed | 3.5 V or higher |
| F90-8 (TES-) - Body ground | W - Body ground | Temperature down switch signal | Temperature down switch not pressed | Below 1 V |
| | | | Temperature down switch pressed | 3.5 V or higher |
| F90-9 (BGND) - Body ground | GR - Body ground | Signal ground | Always | Below 1 Ω |

**MULTI-MEDIA MODULE RECEIVER ASSEMBLY (w/ Navigation System) (Click here)**

**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Trouble Codes.

e. Read the DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / (desired system) / Trouble Codes.

e. Clear the DTCs.

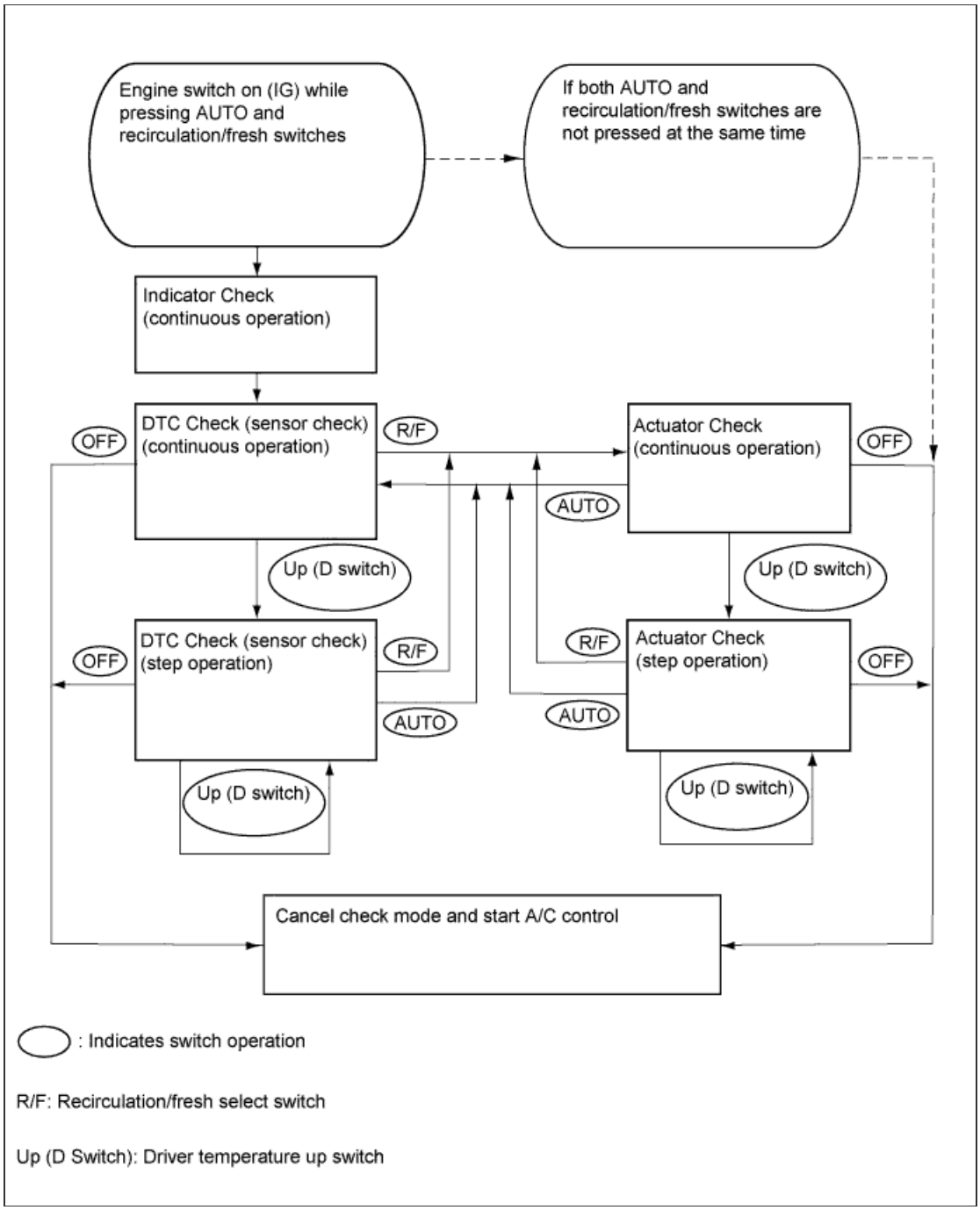
**for Preparation** Click here

## LIST OF OPERATION METHODS

By operating each of the air conditioning control switches as shown in the diagram below, it is possible to enter the diagnostic check mode.

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**




## INDICATOR CHECK

a. Turn the engine switch off.

b. Turn the engine switch on (ACC) and wait at least 5 seconds.

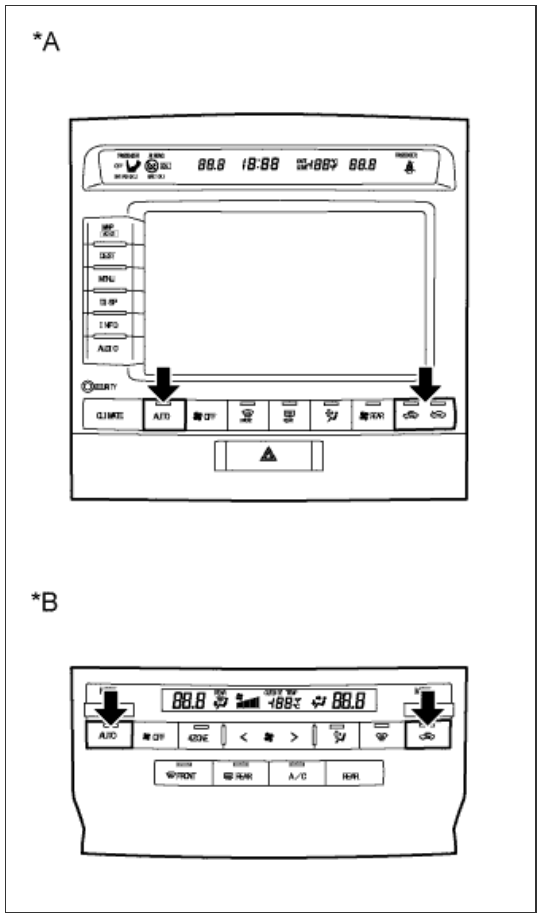
**HINT:**

Vehicle with Navigation System only.

c. Turn the engine switch on (IG) while pressing the A/C control panel "AUTO" switch and "Recirculation/ Fresh" switch simultaneously.
Hold both switches until the indicator check screen appears.

**Text in Illustration**

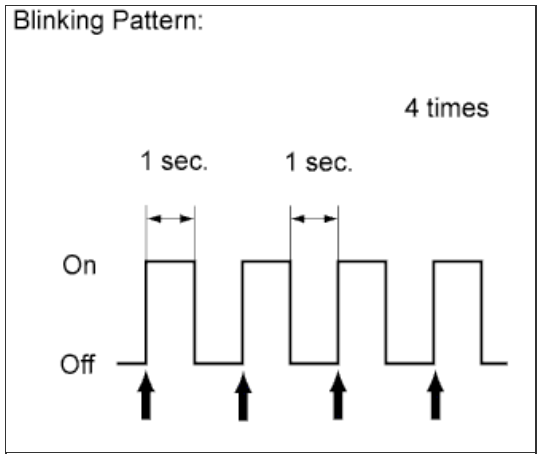
| | |
|---|---|
| *A | w/ Navigation System |
| *B | w/o Navigation System |




d. Check that all indicators turn on and off 4 times in succession at 1 second intervals.

**HINT:**

- **After the indicator check is completed, the system enters the DTC mode automatically.**
- **Press the "OFF" switch to cancel the indicator check.**



**for Preparation** Click here

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

## DATA LIST

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Air Conditioner / Data List.

e. Enter the following menus: Powertrain / Engine and ECT / Data List.

f. According to the display on the intelligent tester, read the Data List.

### Air Conditioner

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Room Temperature Sensor | Front room temperature sensor / Min.: -6.5°C (20.3°F) Max.: 57.25°C (135.05°F) | Actual room temperature for front seat displayed | Open in the circuit: -6.5°C (20.3°F). Short in the circuit: 57.25°C (135.05°F). |
| Ambient Temp Sensor | Ambient temperature sensor / Min.: -23.3°C (-9.94°F) Max.: 65.95°C (150.71°F) | Actual ambient temperature displayed | Open in the circuit: -23.3°C (-9.94°F). Short in the circuit: 65.95°C (150.71°F). |
| Adjusted Ambient Temp | Adjusted ambient temperature / Min.: -30.8°C (-23.44°F) Max.: 50.8°C (123.44°F) | Adjusted ambient temperature displayed | - |
| Evaporator Fin Thermistor | No. 1 cooler thermistor / Min.: -29.7°C (-21.46°F) Max.: 59.55°C (139.19°F) | Actual evaporator temperature displayed | Open in the circuit: -29.7°C (-21.46°F). Short in the circuit: 59.55°C (139.19°F). |
| Evaporator Target Temp | Target evaporator temperature / Min.: 1.5°C (34.7°F) Max.: 4.0°C (39.2°F) | Target evaporator temperature displayed | - |
| Solar Sensor (D Side) | Driver side solar sensor / Min.: 0, Max.: 255 | Driver side solar sensor voltage increases as brightness increases | Open in the circuit: 0 Short in the circuit: 255 |
| Solar Sensor (P Side) | Passenger side solar sensor / Min.: 0, Max.: 255 | Passenger side solar sensor voltage increases as brightness increases | Open in the circuit: 0 Short in the circuit: 255 |
| Engine Coolant Temp | Engine coolant temperature / Min.: 1.3°C (34.34°F) Max.: 90.55°C (194.99°F) | Actual engine coolant temperature displayed while engine warmed up | - |
| Set Temperature (D Side) | Driver side set temperature / MAX COLD: 15.5°C (59.9°F) MAX HOT: 32.5°C (90.5°F) | Driver side actual set temperature displayed | - |
| Set Temperature (P Side) | Passenger side set temperature / MAX COLD: 15.5°C (59.9°F) MAX HOT: 32.5°C (90.5°F) | Passenger side actual set temperature displayed | - |
| A/M Servo Targ Pulse (Rear D) | Rear air mix damper servo motor target pulse / Min.: 9, Max.: 54 (for LHD) Min.: 8, Max.: 53 (for RHD) | for LHD<br>• MAX COOL: 9 (pulse)<br>• MAX HOT: 54 (pulse)<br>for RHD<br>• MAX COOL: 53 (pulse) | - |

| | | | |
|---|---|---|---|
| | | • MAX HOT: 8 (pulse) | |
| A/M Servo Targ Pulse (Rear P) | Rear air mix damper servo motor (for front passenger side) target pulse /<br>Min.: 8, Max.: 53 (for LHD)<br>Min.: 9, Max.: 54 (for RHD) | for LHD<br>• MAX COOL: 53 (pulse)<br>• MAX HOT: 8 (pulse)<br>for RHD<br>• MAX COOL: 9 (pulse)<br>• MAX HOT: 54 (pulse) | - |
| Hand Free Telephone | Handsfree telephone / OFF or ON | ON: Handsfree telephone used<br>OFF: Handsfree telephone not used | - |
| Blower Motor Speed Level | Blower motor speed level /<br>Min.: 0 level,<br>Max.: 31 level | Increases in range between 0 and 31 as blower motor speed increases | - |
| Regulator Pressure Sensor | Refrigerant pressure sensor /<br>Min.: -0.4566 MPaG<br>Max.: 3.2943 MPaG | Actual refrigerant pressure displayed | - |
| Room Temp Sensor (Rear) | Rear room temperature sensor /<br>Min.: -6.5°C (20.3°F)<br>Max.: 57.25°C (135.05°F) | Actual rear room temperature displayed | Open in the circuit: -6.5°C (20.3°F).<br>Short in the circuit: 57.25°C (135.05°F). |
| Ambient Temp Sens (Rear) | No. 2 cooler thermistor /<br>Min.: -29.7°C (-21.46°F)<br>Max.: 59.55°C (139.19°F) | Actual rear evaporator temperature displayed | Open in the circuit: -29.7°C (-21.46°F).<br>Short in the circuit: 59.55°C (139.19°F). |
| Blower Motor Level (Rear) | Rear blower motor speed level /<br>Min.: 0, Max.: 31 | Increases in range between 0 to 31 as rear blower motor speed increases | - |
| Air Mix Servo Targ Pulse(D) | Air mix damper servo motor (for driver side) target pulse /<br>Min.: 8, Max.: 90 (for LHD)<br>Min.: 8, Max.: 90 (for RHD) | for LHD<br>• MAX COOL: 90 (pulse)<br>• MAX HOT: 8 (pulse)<br>for RHD<br>• MAX COOL: 8 (pulse)<br>• MAX HOT: 90 (pulse) | - |
| Air Mix Servo Targ Pulse(P) | Air mix damper servo motor (for front passenger side) target pulse /<br>Min.: 8, Max.: 90 (for LHD)<br>Min.: 8, Max.: 90 (for RHD) | for LHD<br>• MAX COOL: 8 (pulse)<br>• MAX HOT: 90 (pulse)<br>for RHD<br>• MAX COOL: 90 (pulse)<br>• MAX HOT: 8 (pulse) | - |
| Air Inlet Damper Targ Pulse | REC/FRS damper servo motor target pulse /<br>Min.: 9, Max.: 37 | for LHD<br>Recirculation: 37 (pulse)<br>Fresh: 9 (pulse)<br>for RHD<br>Recirculation: 9 (pulse)<br>Fresh: 37 (pulse) | - |
| Cool Air Bypass Pulse | Cool air bypass damper servo motor target pulse /<br>Min.: 6, Max.: 57 | Shut: 6 (pulse)<br>Open: 57 (pulse) | - |
| Electric Heater Count | Electric heater count /<br>Min.: 0, Max.: 3 | - | - |
| Shift Set Temperature | Shift set temperature / +2 C, +1 C, NORMAL, -1 C, -2 C | Customized value displayed | - |
| Air Inlet Mode | Air inlet mode / AUTO, MANUAL | Customized value displayed | - |
| Compressor Mode | Compressor mode / AUTO, MANUAL | Customized value displayed | - |
| Compressor/DEF Mode | Compressor/DEF mode / LINK, NORMAL | Customized value displayed | - |
| Evaporator Control | Evaporator control / AUTO, MANUAL | Customized value displayed | - |
| Button Press Buzzer | Button press buzzer / ON or OFF | Customized value displayed | - |
| Foot/DEF Auto Mode | FOOT/DEF auto mode / ON or OFF | Customized value displayed | - |
| Foot/DEF Auto Blow Up | FOOT/DEF auto blower up function / ON or OFF | Customized value displayed | - |
| Filter Sensor | Filter sensor / LESS, NORMAL, MORE | Customized value displayed | - |
| Rear A/P HI Set | Rear A/P HI set / ON or OFF | Customized value displayed | - |
| Ambient Temperature Shift | Ambient temperature shift / +3 C, +2 C, +1 C, NORMAL, -1 C, -2 C, -3 C | Customized value displayed | - |
| | | | |

| | | | |
|---|---|---|---|
| A/O Damper FACE Pos(D) | Air outlet damper servo motor (for driver side mode) target pulse /<br>Min.: 6, Max.: 117 | FACE1: 117 (pulse)<br>FACE2: 109 (pulse)<br>B/L1: 93 (pulse)<br>B/L2: 81 (pulse)<br>FOOT-F: 41 (pulse)<br>FOOT-R: 41 (pulse)<br>FOOT-D: 52 (pulse)<br>F/D: 18 (pulse)<br>DEF: 6 (pulse) | - |
| A/O Damper FACE Pos(P) | Air outlet damper servo motor (for front passenger side mode) target pulse /<br>Min.: 6, Max.: 117 (for LHD)<br>Min.: 9, Max.: 120 (for RHD) | for LHD<br>• FACE1: 117 (pulse)<br>• FACE2: 109 (pulse)<br>• B/L1: 93 (pulse)<br>• B/L2: 81 (pulse)<br>• FOOT-F: 41 (pulse)<br>• FOOT-R: 41 (pulse)<br>• FOOT-D: 52 (pulse)<br>• F/D: 18 (pulse)<br>• DEF: 6 (pulse)<br>for RHD<br>• FACE1: 9 (pulse)<br>• FACE2: 17 (pulse)<br>• B/L1: 33 (pulse)<br>• B/L2: 45 (pulse)<br>• FOOT-F: 85 (pulse)<br>• FOOT-R: 85 (pulse)<br>• FOOT-D: 74 (pulse)<br>• F/D: 108 (pulse)<br>• DEF: 120 (pulse) | - |
| Air Mix Servo Targ Pls(F&R D) | Front air mix damper servo motor (for driver side rear air flow) target pulse /<br>Min.: 13, Max.: 41 (for LHD)<br>Min.: 5, Max.: 33 (for RHD) | for LHD<br>• MAX COOL: 13 (pulse)<br>• MAX HOT: 41 (pulse)<br>for RHD<br>• MAX COOL: 33 (pulse)<br>• MAX HOT: 5 (pulse) | - |
| Air Mix Servo Targ Pls(F&R P) | Front air mix damper servo motor (for front passenger side rear air flow) target pulse /<br>Min.: 5, Max.: 33 (for LHD)<br>Min.: 13, Max.: 41 (for RHD) | for LHD<br>• MAX COOL: 33 (pulse)<br>• MAX HOT: 5 (pulse)<br>for RHD<br>• MAX COOL: 13 (pulse)<br>• MAX HOT: 41 (pulse) | - |
| Air Outlet Servo Pls (F&R D) | Air outlet damper servo motor (for rear seat mode) target pulse /<br>Min.: 9, Max.: 79 | FACE1: 9 (pulse)<br>B/L1: 28 (pulse)<br>FOOT-O: 41 (pulse)<br>F/D: 67 (pulse)<br>DEF: 79 (pulse) | - |
| Air Outlet Servo Pulse (R) | Rear air outlet damper servo motor target pulse /<br>Min.: 7, Max.: 83 | FOOT: 7 (pulse)<br>B/L: 42 (pulse)<br>FACE: 83 (pulse) | - |
| Room Temperature Sensor (RP) | Rear room temperature sensor /<br>Min.: -6.5°C (20.3°F)<br>Max.: 57.25°C (135.05°F) | Actual rear room temperature displayed | Open in the circuit: -6.5°C (20.3°F)<br>Short in the circuit: 57.25°C (135.05°F) |
| Set Temperature (Rear D side) | Rear driver side set temperature /<br>MAX COLD: 0°C (32°F)<br>MAX HOT: 32°C (54°F) | Rear driver side actual set temperature displayed | - |
| Set Temperature (Rear P side) | Rear passenger side set temperature /<br>MAX COLD: 0°C (32°F)<br>MAX HOT: 32°C (54°F) | Rear passenger side actual set temperature displayed | - |
| Foot Duct Sensor(Rear D) | Min.: -12.7°C (9.14°F)<br>Max.: 76.55°C (169.79°F) | Actual air duct temperature sensor (for driver side) displayed | Open in the circuit: -12.7°C (9.14°F)<br>Short in the circuit: 76.55°C (169.79°F) |
| Foot Duct Sensor(Rear P) | Min.: -12.7°C (9.14°F)<br>Max.: 76.55°C (169.79°F) | Actual air duct temperature sensor (for passenger side) displayed | Open in the circuit: -12.7°C (9.14°F)<br>Short in the circuit: 76.55°C (169.79°F) |
| Number of Trouble Codes | Number of trouble codes /<br>Min.: 0, Max.: 255 | Number of DTCs displayed | - |
| | | • FACE1: 117 (pulse)<br>• FACE2: 109 (pulse)<br>• B/L1: 93 (pulse) | |

| | | | |
|---|---|---|---|
| A/O Damper FOOT/DEF Pos(P) | Air outlet damper servo motor (for DEF mode) target pulse / Min.: 6, Max.: 117 | • B/L2: 81 (pulse)<br>• FOOT-D: 52 (pulse)<br>• FOOT-R: 41 (pulse)<br>• FOOT-F: 41 (pulse)<br>• F/D: 18 (pulse)<br>• DEF: 6 (pulse) | - |

**Engine**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| A/C Signal | A/C signal / ON or OFF | ON: A/C Switch on<br>OFF: A/C Switch off | - |

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Air Conditioner / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Blower Motor | Front blower motor | Min.: 0, Max.: 31 | - |
| Magnetic Clutch Relay | Magnetic clutch relay | OFF or ON | - |
| Air Mix Servo Targ Pulse(D) | Air mix servo motor pulse (Front A/C D side) | Min.: 8, Max.: 90 | - |
| Air Mix Servo Targ Pulse(P) | Air mix servo motor pulse (Front A/C P side) | Min.: 8, Max.: 90 | - |
| Air Inlet Damper Targ Pulse | Air inlet damper target pulse | Min.: 9, Max.: 37 | - |
| Cool Air Bypass Pulse | Driver side cool air bypass pulse | Min.: 6, Max.: 57 | - |
| Rear Blower Motor | Rear blower motor | Min.: 0, Max.: 31 | - |
| Rear Air Mix Servo Targ Pulse | Rear air mix damper servo motor pulse | for LHD<br>Min.: 9, Max.: 54<br>for RHD<br>Min.: 8, Max.: 53 | - |
| DEF A/O Servo Pulse(D) | Rear air outlet damper servo motor pulse | Min.: 7, Max.: 83 | - |
| Rear A/M Servo Pulse(P) | Rear air mix damper servo motor (for front passenger side) pulse | for LHD<br>Min.: 8, Max.: 53<br>for RHD<br>Min.: 9, Max.: 54 | - |
| Rear A/C Mag Valve | Rear A/C magnetic valve | OFF or ON | - |
| Face A/O Servo Pulse(D) | Air outlet servo motor pulse (D side) | Min.: 6, Max.: 117 | - |
| Face A/O Servo Pulse(P) | Air outlet servo motor pulse (P side) | for LHD<br>Min.: 6, Max.: 117<br>for RHD<br>Min.: 9, Max.: 120 | - |
| A/M Servo Puls(F&R D) | Air mix servo motor pulse (Front A/C rear air flow D side) | for LHD<br>Min.: 9, Max.: 54<br>for RHD<br>Min.: 8, Max.: 53 | - |
| A/M Servo Puls(F&R P) | Air mix servo motor pulse (Front A/C rear air flow P side) | for LHD<br>Min.: 8, Max.: 53<br>for RHD<br>Min.: 9, Max.: 54 | - |
| A/O Servo Pulse(F&R D) | Air outlet servo motor pulse (Front A/C rear air flow D side) | Min.: 9, Max.: 79 | - |

| | | | |
|---|---|---|---|
| A/O Servo Pulse(Rr D) | Air outlet servo motor pulse (Rr D side) | Min.: 7, Max.: 83 | - |

**for Preparation** Click here

**HINT:**

If a trouble code is output during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.

*: The air conditioning amplifier memorizes the DTC of the respective malfunction that has occurred for the period of the time indicated in the brackets.

**Air Conditioning Amplifier**

| DTC Code | Detection Item | Memory* | Diagnostic Note | See page |
|---|---|---|---|---|
| B1411/11 | Room Temperature Sensor Circuit | Stored (8.5 min. or more) | If the front side room temperature is approx. -18.6 (-1.48) or less, DTC B1411/11 may be output even though the system is normal. | Click here |
| B1412/12 | Ambient Temperature Sensor Circuit | Stored (8.5 min. or more) | If ambient temperature is approx. -52.9 (- 63.22) or less, a malfunction code may be output even though the system is normal. | Click here |
| B1413/13 | Evaporator Temperature Sensor Circuit | Stored (8.5 min. or more) | - | Click here |
| B1417/17 | Rear Evaporator Temperature Sensor Circuit | Stored (8.5 min. or more) | - | Click here |
| B1419/19 | Rear Room Temperature Sensor Circuit | Stored (30 sec.) | If the rear driver side room temperature is approx. -18.6 (-1.48) or less, DTC B1419/19 may be output even though the system is normal. | Click here |
| B1422/22 | Compressor Lock Sensor Circuit | - | - | Click here |
| B1423/23 | Pressure Sensor Circuit | - | - | Click here |
| B1429/29 | Rear Air Foot Duct Sensor Circuit on Front Passenger Side | Stored (8.5 min. or more) | - | Click here |
| B1441/41 | Air Mix Damper Control Servo Motor Circuit (Passenger Side) | Stored (30 sec.) | - | Click here |
| B1442/42 | Air Inlet Damper Control Servo Motor Circuit | Stored (30 sec.) | - | Click here |
| B1443/43 | Air Outlet Damper Control Servo Motor Circuit | Stored (30 sec.) | - | Click here |
| B1445/45 | Passenger Side Cool Air Bypass Damper Control | Stored (30 sec.) | - | Click here |
| B1446/46 | Air Mix Damper Control Servo Motor Circuit (Driver Side) | Stored (30 sec.) | - | Click here |
| B1447/47 | Rear Air Mix Damper Control Servo Motor Circuit on Driver Side | Stored (30 sec.) | - | Click here |
| B1448/48 | Passenger Side FACE Servo Motor Circuit | Stored (30 sec.) | - | Click here |
| B1449/49 | Rear Air Outlet Damper Control Servo Motor Circuit | Stored (30 sec.) | - | Click here |
| B1455/55 | Driver Side Air Outlet Damper FOOT/DEF Control Servo Motor Circuit | Stored (30 sec.) | - | Click here |
| B1457/57 | Driver Side Air Outlet Damper Control Servo Motor Circuit | Stored (30 sec.) | - | Click here |
| B1458/58 | Passenger Side Air Outlet Damper Control Servo Motor Circuit | Stored (30 sec.) | - | Click here |
| B1467/67 | Rear Air Foot Duct Sensor Circuit on Driver Side | Stored (8.5 min. or more) | - | Click here |
| B1468/68 | Rear Passenger Side Room Temperature Sensor Circuit | Stored (8.5 min. or more) | If the rear passenger side room temperature is approx. -18.6 (-1.48) or less, DTC B1468/68 may be output even though the system is normal. | Click here |
| B1486/86 | Driver Side Air Outlet Damper Control Servo Motor Circuit | Stored (30 sec.) | - | Click here |
| | Rear Air Mix Damper Control Servo | Stored | | Click |

| | | | | |
|---|---|---|---|---|
| B1488/88 | Motor Circuit on Front Passenger Side | (30 sec.) | - | here |
| B1497/97 | BUS IC Communication Malfunction | - | - | Click here |
| B14A2 | Driver Side Solar Sensor Short Circuit | Stored (8.5 min. or more) | If the check is performed in a dark place, DTC B14A3 may be output. | Click here |
| B14A3 | Front Passenger Side Solar Sensor Short Circuit | Stored (8.5 min. or more) | If the check is performed in a dark place, DTC B14A2 may be output. | Click here |
| U0100 | Lost Communication with ECM / PCM "A" | - | - | Click here |
| U0142 | Lost Communication with Body Control Module "B" | - | - | Click here |
| U0155 | Lost Communication with Instrument Panel Cluster (IPC) Control Module | - | - | Click here |

## DTC B1411/11 Room Temperature Sensor Circuit

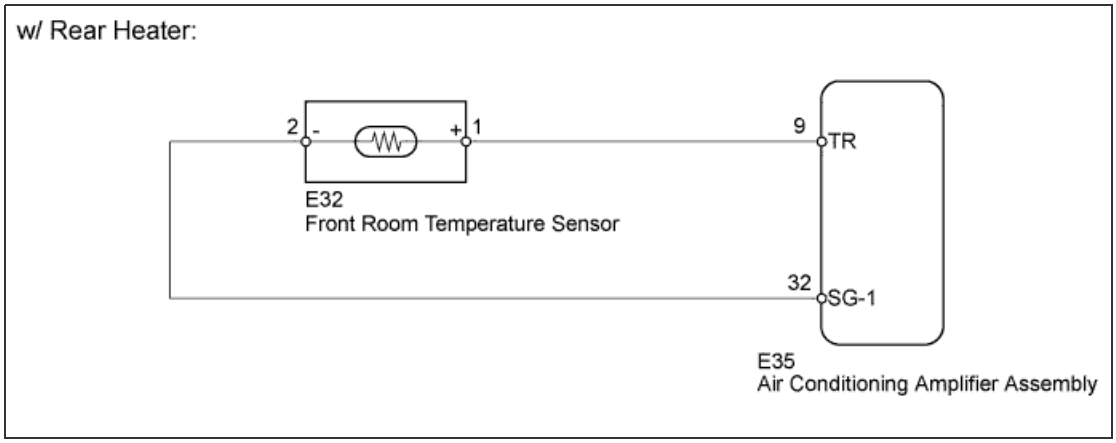
**for Preparation** Click here

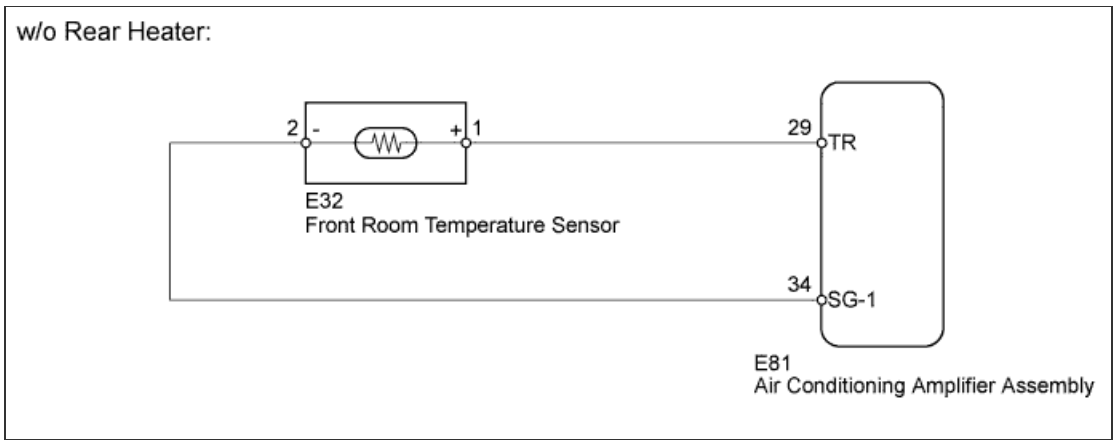
### DESCRIPTION

The front room temperature sensor for the front seat is installed in the instrument panel to detect the room temperature and control the heater and air conditioner "auto" mode. The resistance of the room temperature sensor changes in accordance with the front room temperature. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.
The air conditioning amplifier assembly applies voltage (5 V) to the front room temperature sensor and reads voltage changes as the resistance of the front room temperature sensor changes. This sensor also sends the appropriate signals to the air conditioning amplifier assembly.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1411/11 | An open or short in the front room temperature sensor circuit. | • Front room temperature sensor<br>• Harness or connector between room temperature sensor and air conditioning amplifier assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (FRONT ROOM TEMPERATURE SENSOR)

a. Use the Data List to check if the front room temperature sensor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Room Temperature Sensor | Front room temperature sensor /<br>Min.: -6.5°C (20.3°F)<br>Max.: 57.25°C (135.05°F) | Actual room temperature for front seat displayed | Open in the circuit: -6.5°C (20.3°F).<br>Short in the circuit: 57.25°C (135.05°F). |

**OK:**

**The display is as specified in the normal condition.**

NG → Go to step 2

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 2.INSPECT ROOM TEMPERATURE SENSOR

a. Remove the front room temperature sensor (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

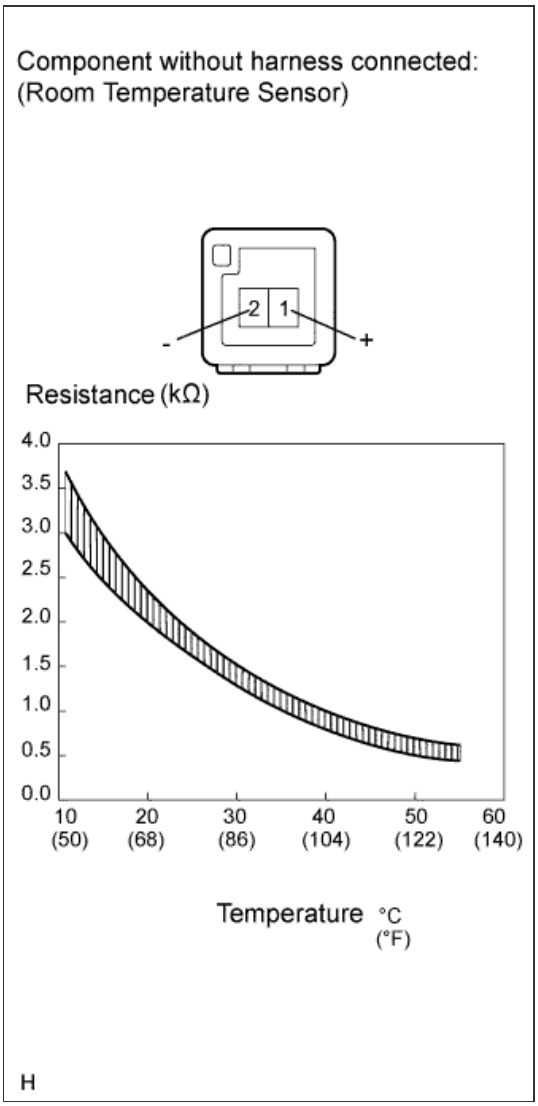
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+) - 2 (-) | 10°C (50°F) | 3.00 to 3.73 kΩ |
| | 15°C (59°F) | 2.45 to 2.88 kΩ |
| | 20°C (68°F) | 1.95 to 2.30 kΩ |
| | 25°C (77°F) | 1.60 to 1.80 kΩ |
| | 30°C (86°F) | 1.28 to 1.47 kΩ |
| | 35°C (95°F) | 1.00 to 1.22 kΩ |
| | 40°C (104°F) | 0.80 to 1.00 kΩ |
| | 45°C (113°F) | 0.65 to 0.85 kΩ |
| | 50°C (122°F) | 0.50 to 0.70 kΩ |
| | 55°C (131°F) | 0.44 to 0.60 kΩ |
| | 60°C (140°F) | 0.36 to 0.50 kΩ |

**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).




NG → REPLACE FRONT ROOM TEMPERATURE SENSOR (Click here)

OK

## 3.CHECK HARNESS AND CONNECTOR (FRONT ROOM TEMPERATURE SENSOR - AIR CONDITIONING AMPLIFIER)

a. w/ Rear Heater

i. Disconnect the E32 sensor connector.

ii. Disconnect the E35 amplifier connector.

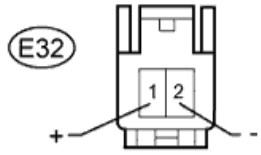
iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

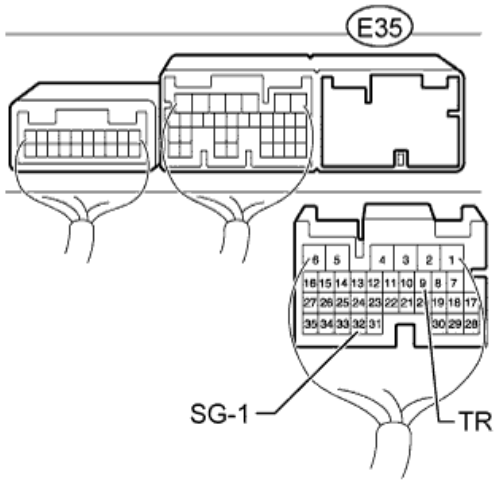
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E32-1 (+) - E35-9 (TR) | Always | Below 1 Ω |
| E32-2 (-) - E35- | | |

| | | |
|---|---|---|
| 32 (SG-1) | | |
| E35-9 (TR) - Body ground | Always | 10 kΩ or higher |
| E35-32 (SG-1) - Body ground | | |

Front view of wire harness connector:
(to Front Room Temperature Sensor)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




**b.** w/o Rear Heater

**i.** Disconnect the E32 sensor connector.

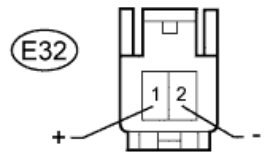
**ii.** Disconnect the E81 amplifier connector.

**iii.** Measure the resistance according to the value(s) in the table below.

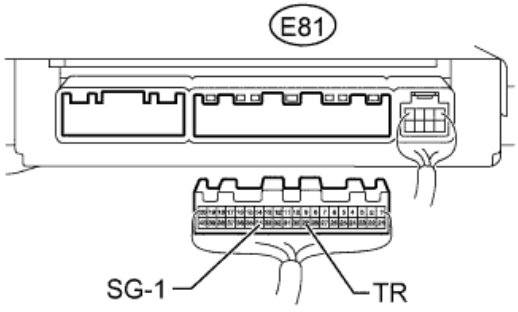
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E32-1 (+) - E81-29 (TR) | Always | Below 1 Ω |
| E32-2 (-) - E81-34 (SG-1) | | |
| E81-29 (TR) - Body ground | Always | 10 kΩ or higher |
| E81-34 (SG-1) - Body ground | | |

Front view of wire harness connector:
(to Front Room Temperature Sensor)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## DTC B1449/49 Rear Air Outlet Damper Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

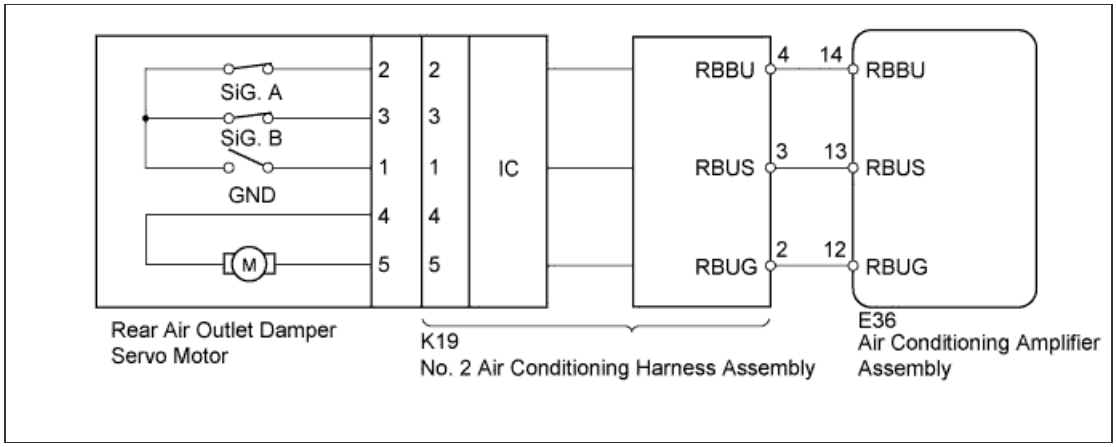
The rear air outlet damper servo motor sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the rear air outlet damper to the appropriate position, which controls the air outlet modes.

**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1449/49 | The rear air outlet damper position does not change even if the air conditioning amplifier assembly operates the rear air outlet damper servo motor. | • **Rear air outlet damper servo motor**<br>• **No. 2 air conditioning harness assembly**<br>• **Harness or connector between No. 2 air conditioning harness assembly and air conditioning amplifier assembly**<br>• **Air conditioning amplifier assembly** |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (REAR AIR OUTLET DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Air Outlet Servo Pulse (R) | Rear air outlet damper servo motor target pulse / Min.: 7, Max.: 83 | Foot: 7 (pulse)<br>B/L: 42 (pulse)<br>FACE: 83 (pulse) | - |

**OK:**

**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.CHECK HARNESS AND CONNECTOR (NO. 2 AIR CONDITIONING HARNESS - AIR CONDITIONING AMPLIFIER)

a. Disconnect the K19 No. 2 air conditioning harness assembly connector.

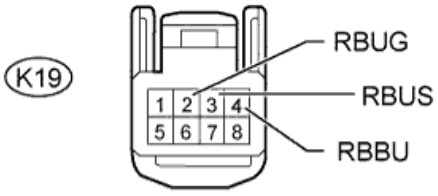
b. Disconnect the E36 amplifier connector.

c. Measure the resistance according to the value(s) in the table below.

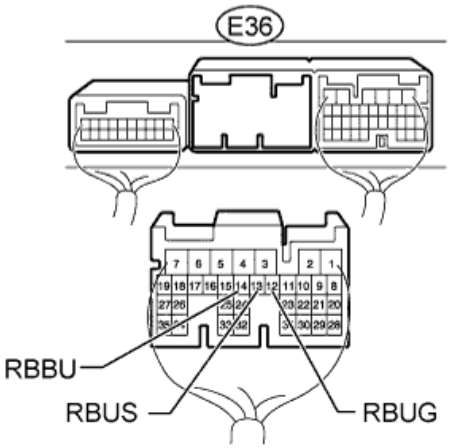
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K19-2 (RBUG) - E36-12 (RBUG) | Always | Below 1 Ω |
| K19-3 (RBUS) - E36-13 (RBUS) | | |
| K19-4 (RBBU) - E36-14 (RBBU) | | |
| E36-12 (RBUG) - Body ground | Always | 10 kΩ or higher |
| E36-13 (RBUS) - Body ground | | |
| E36-14 (RBBU) - Body ground | | |

Front view of wire harness connector: (to No. 2 Air Conditioning Harness Assembly)




Rear view of wire harness connector: (to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.CHECK REAR AIR OUTLET DAMPER SERVO MOTOR

a. Replace the rear air outlet damper servo motor ( Click here).

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1449/49 is not output | A |
| DTC B1449/49 is output | B |

B → Go to step 4

A

END (REAR AIR OUTLET DAMPER SERVO MOTOR IS DEFECTIVE)

4.CHECK NO. 2 AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the No. 2 air conditioning harness assembly (Click here).

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1449/49 is not output | A |
| DTC B1449/49 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (NO. 2 AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

## DTC B1412/12 Ambient Temperature Sensor Circuit

**for Preparation** Click here

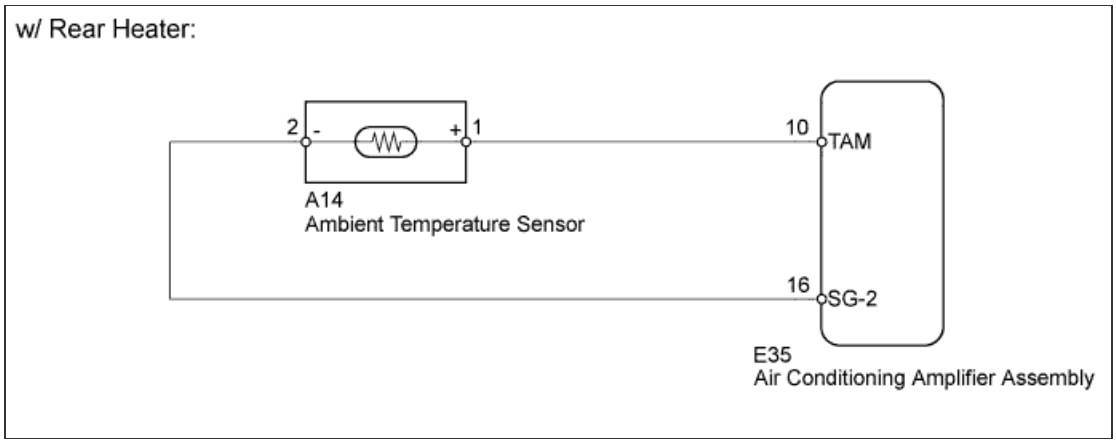
### DESCRIPTION

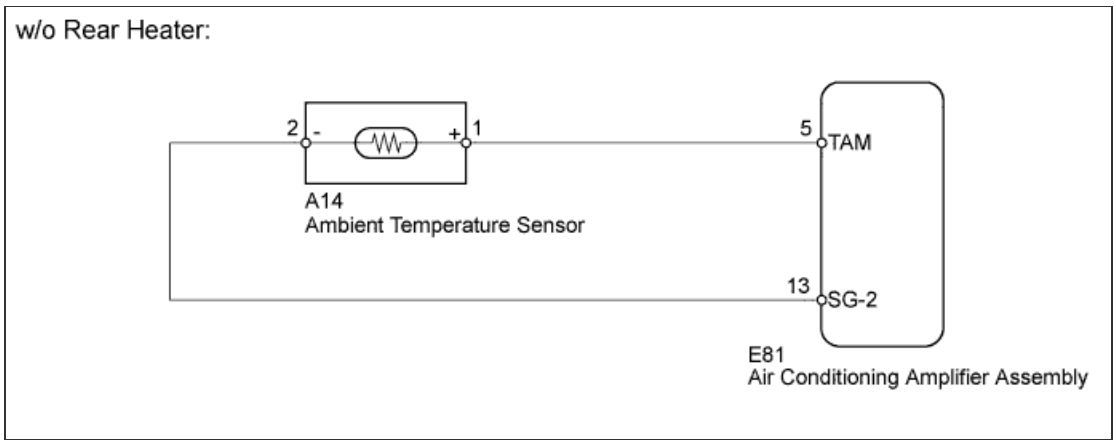
The ambient temperature sensor is installed in the front part of the condenser to detect the ambient temperature and control the air conditioner "auto" mode. The sensor connected to the air conditioning amplifier assembly detects fluctuations in the ambient temperature. This data is used for controlling the room temperature. The sensor sends a signal to the air conditioning amplifier assembly. The resistance of the ambient temperature sensor changes in accordance with the ambient temperature. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.

The air conditioning amplifier assembly applies voltage (5 V) to the ambient temperature sensor and reads voltage changes as the resistance of the ambient temperature sensor changes.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1412/12 | An open or short in the ambient temperature sensor circuit. | • Ambient temperature sensor<br>• Harness or connector between ambient temperature sensor and air conditioning amplifier assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AMBIENT TEMPERATURE SENSOR)

a. Use the Data List to check if the ambient temperature sensor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Ambient Temp Sensor | Ambient temperature sensor<br>/<br>Min: -23.3°C (-9.94°F)<br>Max: 65.95°C (150.71°F) | Actual ambient temperature displayed | Open in the circuit: -23.3°C (-9.94°F).<br>Short in the circuit: 65.95°C (150.71°F). |

**OK:**
**The display is as specified in the normal condition.**

NG → Go to step 2

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

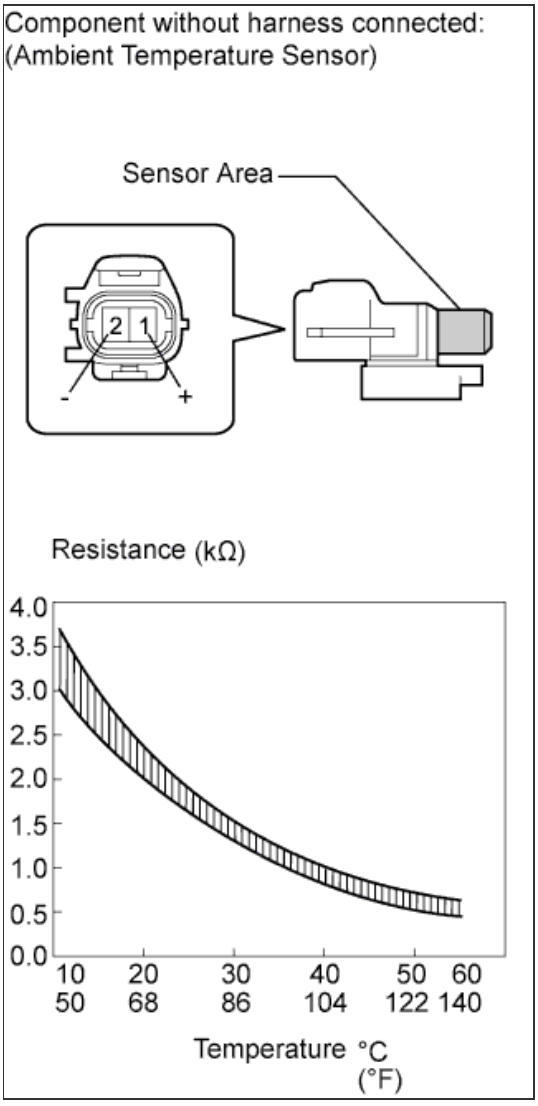
## 2.INSPECT AMBIENT TEMPERATURE SENSOR

a. Remove the ambient temperature sensor (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+) - 2 (-) | 10°C (50°F) | 3.00 to 3.73 kΩ |
| | 15°C (59°F) | 2.45 to 2.88 kΩ |
| | 20°C (68°F) | 1.95 to 2.30 kΩ |
| | 25°C (77°F) | 1.60 to 1.80 kΩ |
| | 30°C (86°F) | 1.28 to 1.47 kΩ |
| | 35°C (95°F) | 1.00 to 1.22 kΩ |
| | 40°C (104°F) | 0.80 to 1.00 kΩ |
| | 45°C (113°F) | 0.65 to 0.85 kΩ |
| | 50°C (122°F) | 0.50 to 0.70 kΩ |
| | 55°C (131°F) | 0.44 to 0.60 kΩ |
| | 60°C (140°F) | 0.36 to 0.50 kΩ |




**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

NG → REPLACE AMBIENT TEMPERATURE SENSOR (Click here)

OK

## 3.CHECK HARNESS AND CONNECTOR (AMBIENT TEMPERATURE SENSOR - AIR CONDITIONING AMPLIFIER)

a. w/ Rear Heater

i. Disconnect the A14 sensor connector.

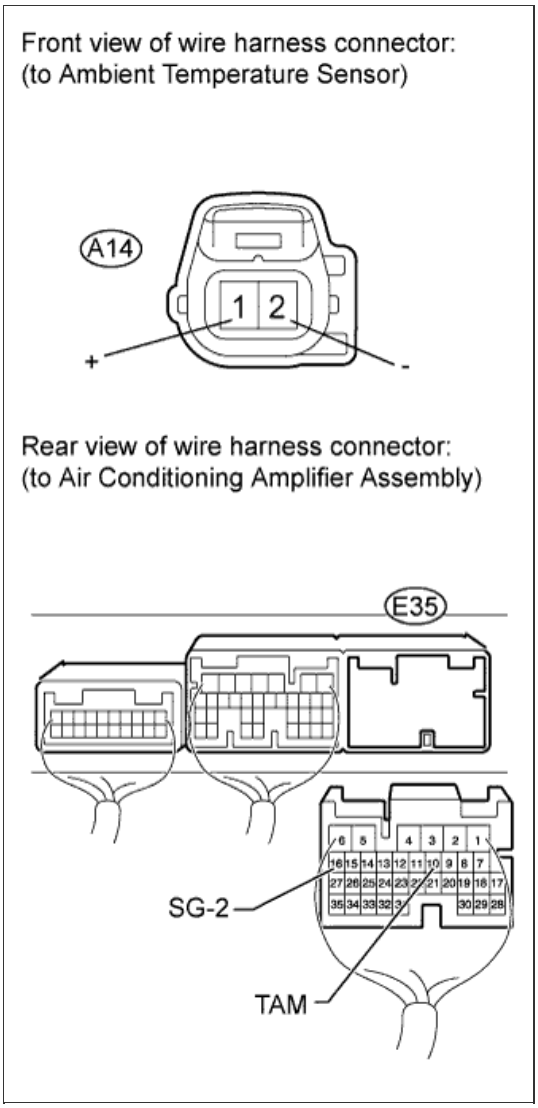
ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A14 (+) -1 - E35-10 (TAM) | Always | Below 1 Ω |
| A14-2 (-) - E35- | | |

| | | |
|---|---|---|
| 16 (SG-2) | | |
| E35-10 (TAM) - Body ground | Always | 10 kΩ or higher |
| E35-16 (SG-2) - Body ground | | |




**b.** w/o Rear Heater

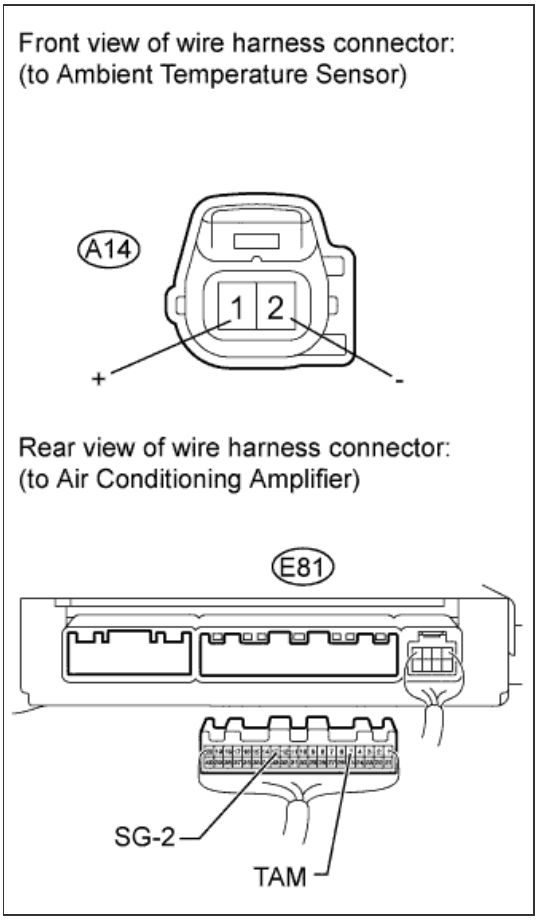
**i.** Disconnect the A14 sensor connector.

**ii.** Disconnect the E81 amplifier connector.

**iii.** Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A14-1 (+) - E81-5 (TAM) | Always | Below 1 Ω |
| A14-2 (-) - E81-13 (SG-2) | | |
| E81-5 (TAM) - Body ground | Always | 10 kΩ or higher |
| E81-13 (SG-2) - Body ground | | |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## DTC B1455/55 Driver Side Air Outlet Damper FOOT/DEF Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

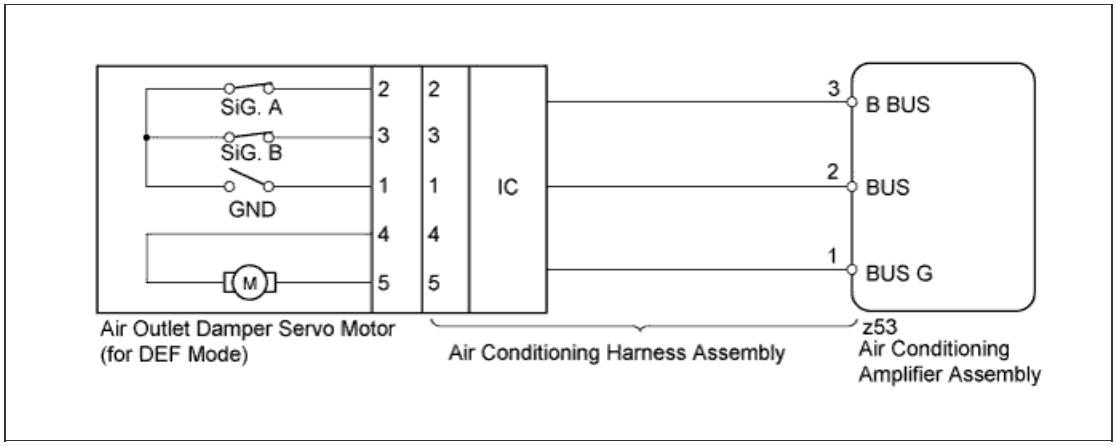
Air outlet damper servo motor (for DEF mode) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air outlet damper (for DEF mode) to any position, which controls the air outlet changes.

**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1455/55 | The air outlet damper position does not change even if the air conditioning amplifier assembly operates the air outlet damper servo motor (for DEF mode) | • Air outlet damper servo motor (for DEF mode)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR OUTLET DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| A/O Damper FOOT/DEF Pos(P) | Air outlet damper servo motor (for DEF mode) target pulse /<br>Min.: 6, Max.: 117 | • FACE1: 117 (pulse)<br>• FACE2: 109 (pulse)<br>• B/L1: 93 (pulse)<br>• B/L2: 81 (pulse)<br>• FOOT-D: 52 (pulse)<br>• FOOT-R: 41 (pulse)<br>• FOOT-F: 41 (pulse)<br>• F/D: 18 (pulse)<br>• DEF: 6 (pulse) | - |

**OK:**

**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |

| | |
|---|---|
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**2.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR DEF MODE)**

a. Replace the air outlet servo motor (for DEF mode) ( Click here).

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1455/55 is not output | A |
| DTC B1455/55 is output | B |

B → Go to step 3

A

**END (AIR OUTLET DAMPER SERVO MOTOR [FOR DEF MODE] IS DEFECTIVE)**

**3.CHECK AIR CONDITIONING HARNESS ASSEMBLY**

a. Replace the air conditioning harness assembly (Click here).

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1455/55 is not output | A |
| DTC B1455/55 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)**

## DTC B1413/13 Evaporator Temperature Sensor Circuit

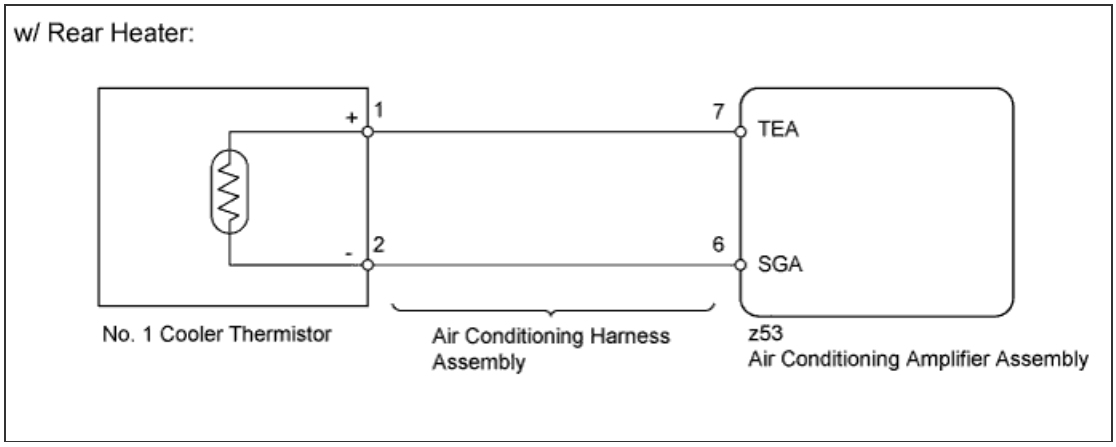
**for Preparation** Click here

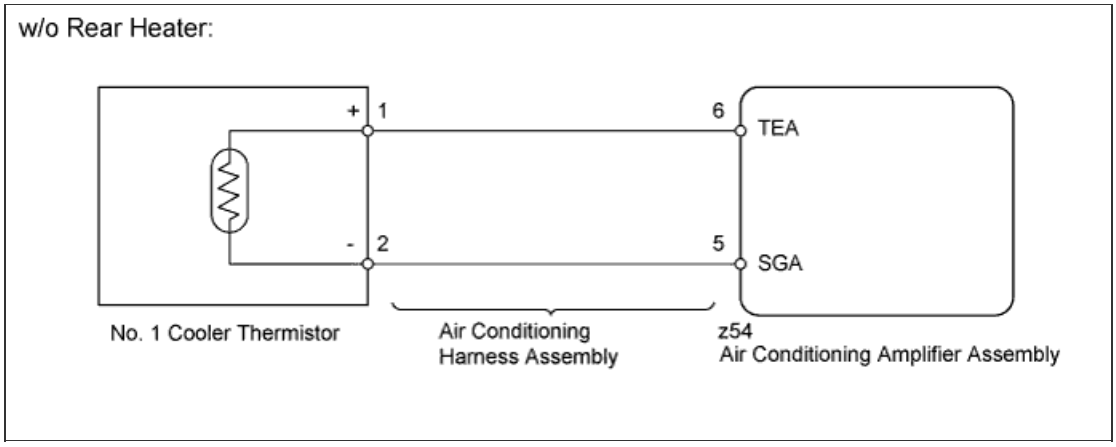
### DESCRIPTION

The No. 1 cooler thermistor is installed on the evaporator in the air conditioner unit to detect the cooled air temperature that has passed through the evaporator and control the air conditioning. It sends appropriate signals to the air conditioning amplifier assembly. The resistance of the No. 1 cooler thermistor changes in accordance with the cooled air temperature that has passed through the evaporator. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.
The air conditioning amplifier assembly applies voltage (5 V) to the No. 1 cooler thermistor and reads voltage changes as the resistance of the No. 1 cooler thermistor changes. This sensor is used for frost prevention.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1413/13 | An open or short in the No. 1 cooler thermistor circuit. | • No. 1 cooler thermistor<br>• Air conditioning harness assembly (No. 1 cooler thermistor)<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (NO. 1 COOLER THERMISTOR)

a. Use the Data List to check if the No. 1 cooler thermistor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Evaporator Fin Thermistor | No. 1 cooler thermistor / Min.: -29.7°C (-21.46°F) Max.: 59.55°C (139.19°F) | Actual evaporator temperature displayed | Open in the circuit: -29.7°C (-21.46°F).<br>Short in the circuit: 59.55°C (139.19°F). |

**OK:**
**The display is as specified in the normal condition.**

NG → Go to step 2

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 2.INSPECT NO. 1 COOLER THERMISTOR

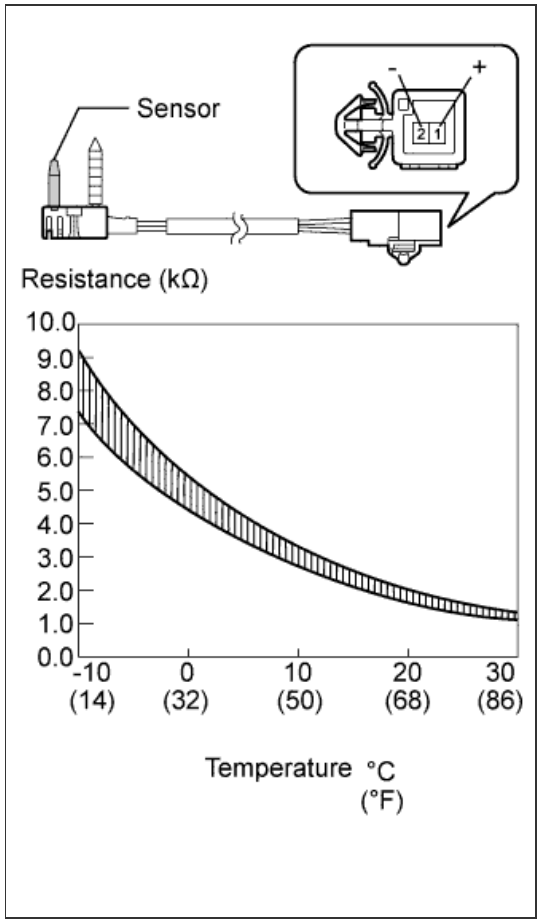
a. Remove the No. 1 cooler thermistor.

- for LHD (Click here)
- for RHD (Click here)

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+) - 2 (-) | -10°C (14°F) | 7.30 to 9.10 kΩ |
| | -5°C (23°F) | 5.65 to 6.95 kΩ |
| | 0°C (32°F) | 4.40 to 5.35 kΩ |
| | 5°C (41°F) | 3.40 to 4.15 kΩ |
| | 10°C (50°F) | 2.70 to 3.25 kΩ |
| | 15°C (59°F) | 2.14 to 2.58 kΩ |
| | 20°C (68°F) | 1.71 to 2.05 kΩ |
| | 25°C (77°F) | 1.38 to 1.64 kΩ |
| | 30°C (86°F) | 1.11 to 1.32 kΩ |




**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG (for LHD) | C |
| NG (for RHD) | D |

B → REPLACE AIR CONDITIONING HARNESS ASSEMBLY (Click here)

C → REPLACE NO. 1 COOLER THERMISTOR (Click here)

D → REPLACE NO. 1 COOLER THERMISTOR (Click here)

A

REPLACE AIR CONDITIONING HARNESS ASSEMBLY (Click here)

## DTC B1457/57 Driver Side Air Outlet Damper Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

The front air mix damper servo motor (for driver side rear air flow) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the front air mix damper (for driver side rear air flow) to any position. As a result, the amount of air that has passed through the evaporator and is passing through the heater core is adjusted, and the temperature of the air blowing toward the rear driver side is controlled.

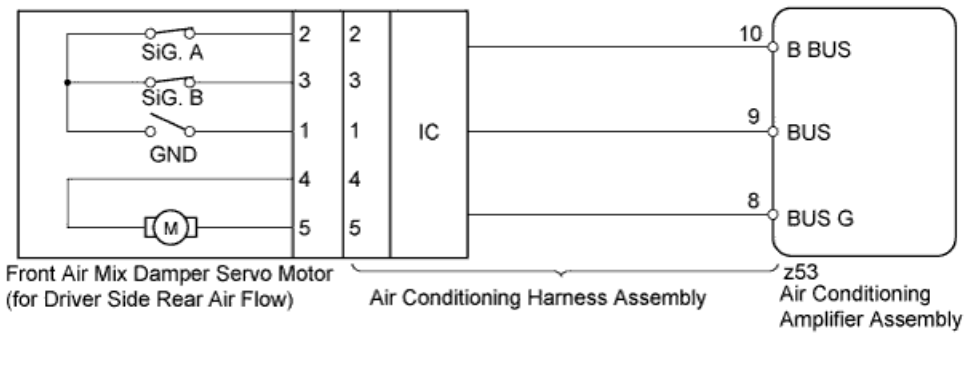
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

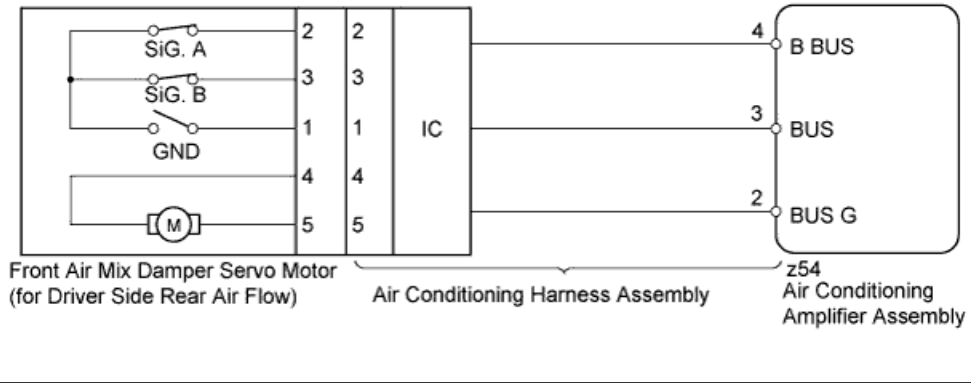
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1457/57 | The air mix damper position does not change even if the air conditioning amplifier assembly operates the front air mix damper servo motor. | • Front air mix damper servo motor (for driver side rear air flow)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM

w/ Rear Heater:




w/o Rear Heater:




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (FRONT AIR MIX DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | for LHD<br>• MAX COOL: 13 (pulse) | |

| | | | |
|---|---|---|---|
| Air Mix Servo Targ Pls(F&R D) | Front air mix damper servo motor (for driver side rear air flow) target pulse / Min.: 13, Max.: 41 (for LHD) Min.: 5, Max.: 33 (for RHD) | for RHD<br>• MAX HOT: 41 (pulse)<br>• MAX COOL: 33 (pulse)<br>• MAX HOT: 5 (pulse) | - |

**OK:**

**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING HARNESS ASSEMBLY (Click here)

A

## 2.CHECK FRONT AIR MIX DAMPER SERVO MOTOR

a. Replace the front air mix damper servo motor (for driver side rear air flow).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1457/57 is not output | A |
| DTC B1457/57 is output | B |

B → Go to step 3

A

END (FRONT AIR MIX DAMPER SERVO MOTOR IS DEFECTIVE)

## 3.CHECK AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1457/57 is not output | A |
| DTC B1457/57 is output | B |

B

REPLACE AIR CONDITIONING HARNESS ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

## DTC B1417/17 Rear Evaporator Temperature Sensor Circuit

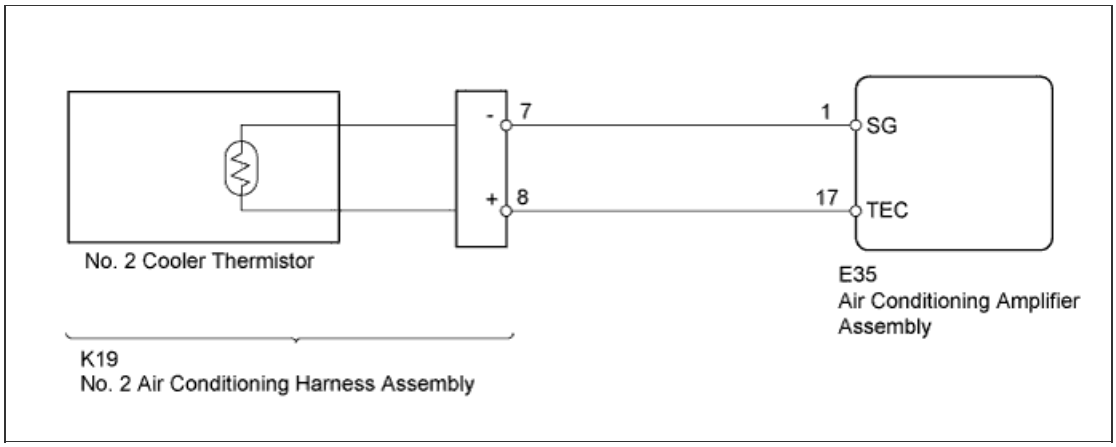
**for Preparation** Click here

### DESCRIPTION

The No. 2 cooler thermistor is installed on the evaporator in the rear air conditioning unit to detect the cooled air temperature that has passed through the evaporator and control the air conditioning. It sends appropriate signals to the air conditioning amplifier assembly. The resistance of the No. 2 cooler thermistor changes in accordance with the cooled air temperature that has passed through the rear evaporator. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.
The air conditioning amplifier assembly applies voltage (5 V) to the No. 2 cooler thermistor and reads voltage changes as the resistance of the No. 2 cooler thermistor changes. This sensor is used for frost prevention.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1417/17 | An open or short in the No. 2 cooler thermistor circuit. | • Harness or connector between No. 2 air conditioning harness assembly and air conditioning amplifier assembly<br>• No. 2 air conditioning harness assembly (No. 2 cooler thermistor)<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.READ VALUE USING INTELLIGENT TESTER (NO. 2 COOLER THERMISTOR)**

a. Use the Data List to check if the No. 2 cooler thermistor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Ambient Temp Sens (Rear) | No. 2 cooler thermistor / Min.: -29.7°C (-21.46°F)<br>Max.: 59.55°C (139.19°F) | Actual rear evaporator temperature displayed | Open in the circuit: -29.7°C (-21.46°F).<br>Short in the circuit: 59.55°C (139.19°F). |

**OK:**
**The display is as specified in the normal condition.**

NG → Go to step 2

OK

**REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)**

**2.INSPECT NO. 2 COOLER THERMISTOR**

a. Remove the No. 2 air conditioning harness assembly (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

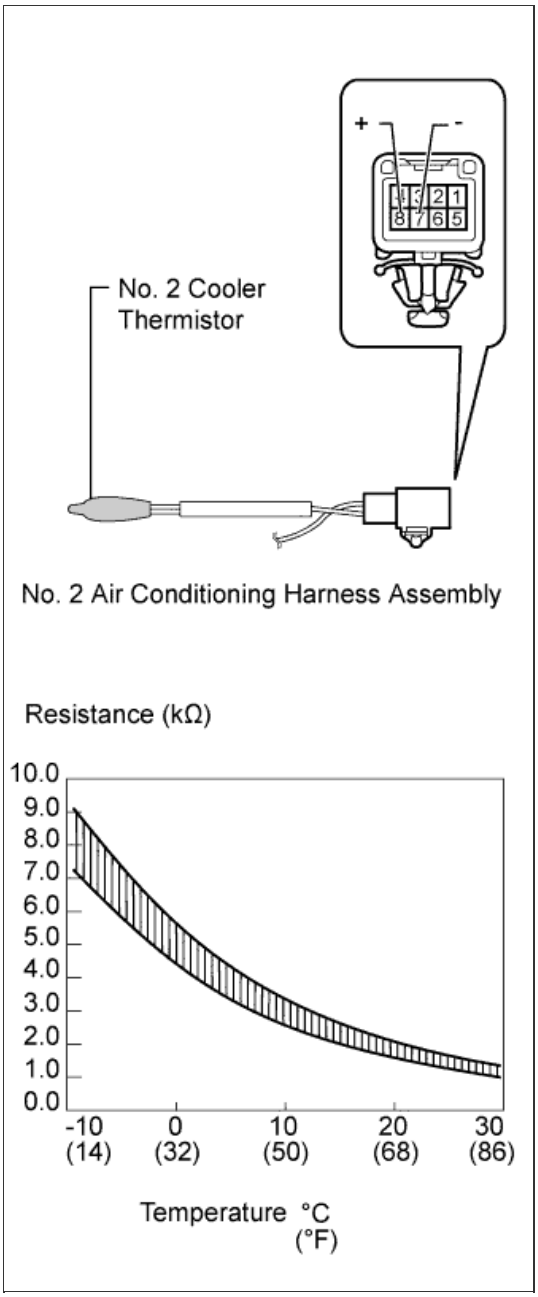
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 7 (-) - 8 (+) | -10°C (14°F) | 7.40 to 9.20 kΩ |
| | -5°C (23°F) | 5.65 to 7.00 kΩ |
| | 0°C (32°F) | 4.35 to 5.40 kΩ |
| | 5°C (41°F) | 3.40 to 4.20 kΩ |
| | 10°C (50°F) | 2.68 to 3.30 kΩ |
| | 15°C (59°F) | 2.10 to 2.60 kΩ |
| | 20°C (68°F) | 1.66 to 2.10 kΩ |
| | 25°C (77°F) | 1.32 to 1.66 kΩ |
| | 30°C (86°F) | 1.05 to 1.35 kΩ |

**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).




NG → REPLACE NO. 2 AIR CONDITIONING HARNESS ASSEMBLY (Click here)

OK

## 3.CHECK HARNESS AND CONNECTOR (NO. 2 AIR CONDITIONING HARNESS - AIR CONDITIONING AMPLIFIER)

a. Disconnect the K19 No. 2 air conditioning harness connector.

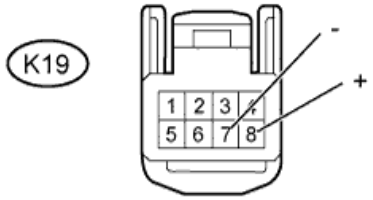
b. Disconnect the E35 amplifier connector.

c. Measure the resistance according to the value(s) in the table below.

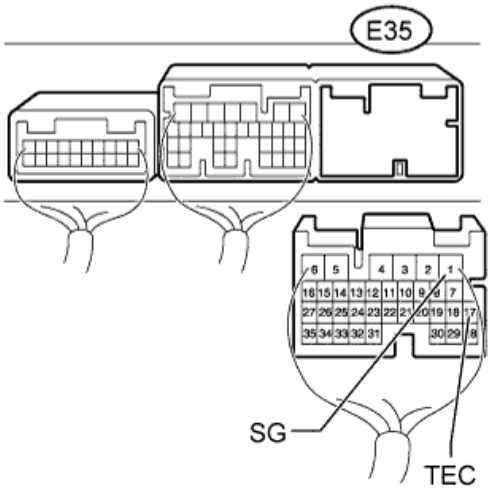
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K19-8 (+) - E35-17 (TEC) | Always | Below 1 Ω |
| K19-7 (-) - E35-1 (SG) | Always | Below 1 Ω |
| E35-17 (TEC) - Body ground | Always | 10 kΩ or higher |
| E35-1 (SG) - Body ground | Always | 10 kΩ or higher |

Front view of wire harness connector:
(to No. 2 Air Conditioning Harness Assembly)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**4.CHECK NO. 2 AIR CONDITIONING HARNESS ASSEMBLY (OPERATION)**

a. Replace the No. 2 air conditioning harness assembly with a normal one and check that the condition returns to normal ( Click here).

NEXT

**5.CHECK FOR DTC**

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

**OK:**
**DTC B1417 is not output.**

NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (**Click here**)

OK

REPLACE NO. 2 AIR CONDITIONING HARNESS ASSEMBLY (**Click here**)

## DTC B1458/58 Passenger Side Air Outlet Damper Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

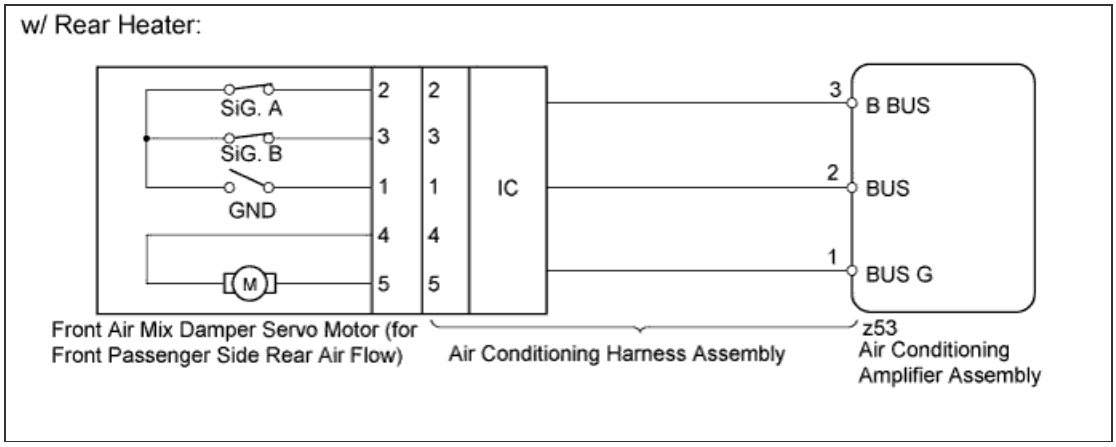
The front air mix damper servo motor (for front passenger side rear air flow) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the front air mix damper (for front passenger side rear air flow) to any position. As a result, the amount of air that has passed through the evaporator and is passing through the heater core is adjusted, and the temperature of the air blowing toward the rear passenger side is controlled.

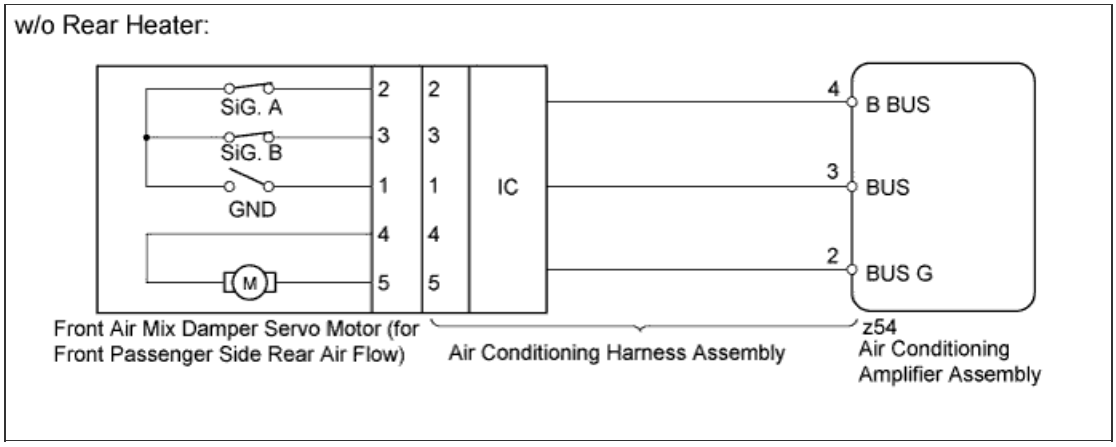
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1458/58 | The air mix damper position does not change even if the air conditioning amplifier assembly operates the front air mix damper servo motor. | • Front air mix damper servo motor (for front passenger side rear air flow)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (FRONT AIR MIX DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | for LHD<br>• MAX COOL: 33 (pulse) | |

| | | | |
|---|---|---|---|
| Air Mix Servo Targ Pls (F&R P) | Front air mix damper servo motor (for front passenger side rear air flow) target pulse /<br>Min.: 5, Max.: 33 (for LHD)<br>Min.: 13, Max.: 41 (for RHD) | for RHD<br>• MAX HOT: 5 (pulse)<br>• MAX COOL: 13 (pulse)<br>• MAX HOT: 41 (pulse) | - |

**OK:**

**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR FRONT PASSENGER SIDE REAR AIR FLOW)

a. Replace the front air mix damper servo motor (for front passenger side rear air flow).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1458/58 is not output | A |
| DTC B1458/58 is output | B |

B → Go to step 3

A

END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE REAR AIR FLOW] IS DEFECTIVE)

## 3.CHECK AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1458/58 is not output | A |
| DTC B1458/58 is output | B |

B

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

## DTC B1419/19 Rear Room Temperature Sensor Circuit

**for Preparation** Click here

### DESCRIPTION

The rear room temperature sensor LH*1 or RH*2 (for driver side) is installed in the rear quarter trim board LH*1 or RH*2 to detect the rear room temperature and control the heater and air conditioner "auto" mode. The resistance of the rear room temperature sensor LH*1 or RH*2 changes in accordance with the rear room temperature for the LH*1 or RH*2 seat. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.

The air conditioning amplifier assembly applies a voltage (5 V) to the rear room temperature sensor LH*1 or RH*2 and reads voltage changes as changes in the resistance of the rear room temperature sensor LH*1 or RH*2.

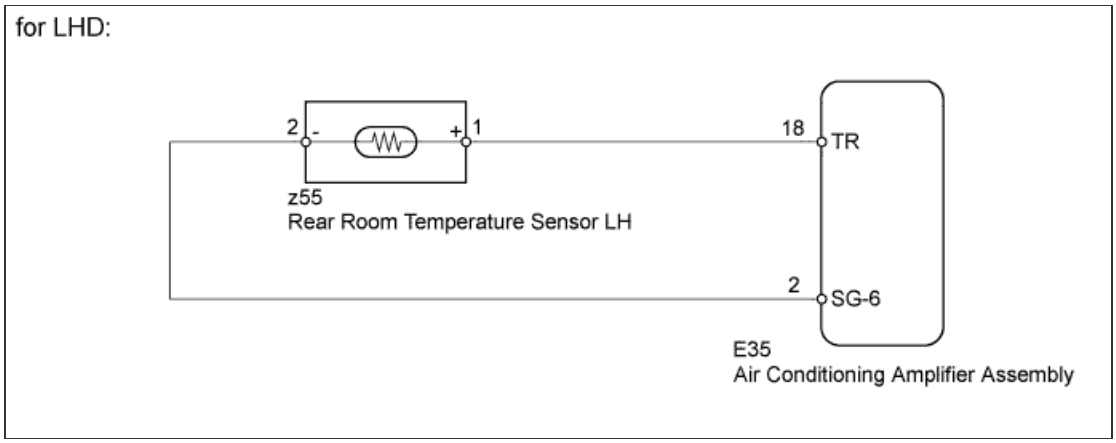
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1419/19 | An open or short in the rear room temperature sensor LH*1 or RH*2 circuit. | • Rear room temperature sensor LH*1<br>• Rear room temperature sensor RH*2<br>• Harness or connector between rear room temperature sensor LH and air conditioning amplifier assembly*1<br>• Harness or connector between rear room temperature sensor RH and air conditioning amplifier assembly*2<br>• Air conditioning amplifier assembly |

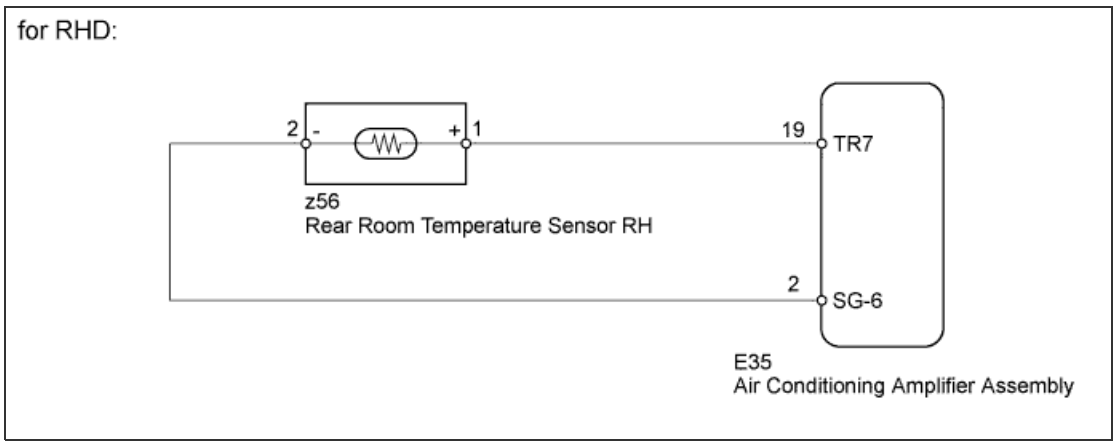
**HINT:**

*1: for LHD

*2: for RHD

### WIRING DIAGRAM




### INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (AIR CONDITIONER)

a. Use the Data List to check if the rear room temperature sensor LH*1 or RH*2 is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Room Temp Sensor (Rear) | Rear room temperature sensor for LH*1 or RH*2 / Min.: -6.5°C (20.3°F) Max.: 57.25°C (135.05°F) | Actual rear room temperature for LH*1 or RH*2 displayed | Open in the circuit: -6.5°C (20.3°F). Short in the circuit: 57.25°C (135.05°F). |

**HINT:**

*1: for LHD

*2: for RHD

**OK:**

**The display is as specified in the normal condition.**

**NG** → Go to step 2

**OK**

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 2.INSPECT REAR ROOM TEMPERATURE SENSOR

a. for LHD

i. Remove the rear room temperature sensor LH ( Click here).

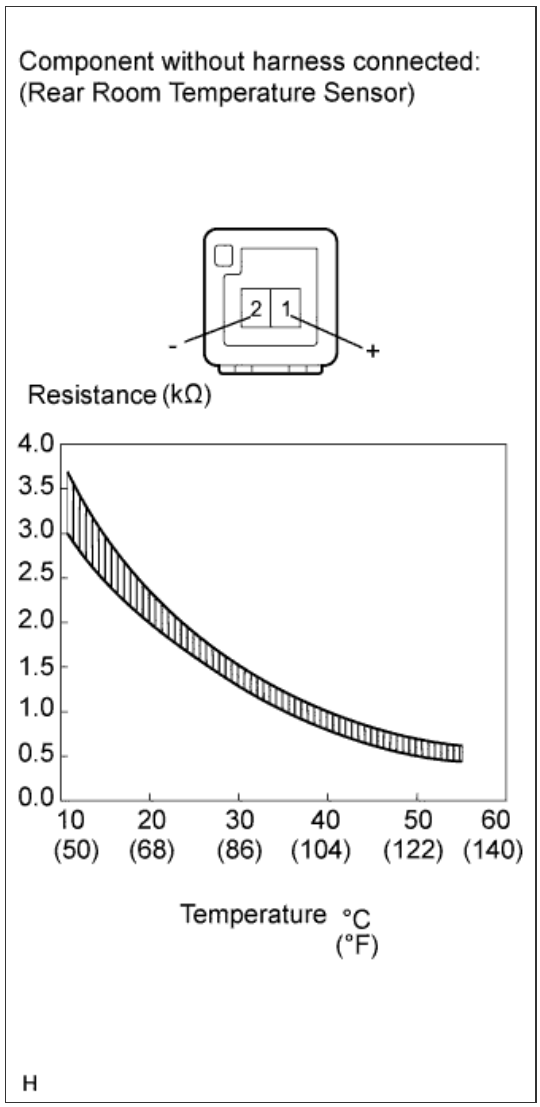
b. for RHD

i. Remove the rear room temperature sensor RH ( Click here).

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+) - 2 (-) | 10°C (50°F) | 3.00 to 3.73 kΩ |
| | 15°C (59°F) | 2.45 to 2.88 kΩ |
| | 20°C (68°F) | 1.95 to 2.30 kΩ |
| | 25°C (77°F) | 1.60 to 1.80 kΩ |
| | 30°C (86°F) | 1.28 to 1.47 kΩ |
| | 35°C (95°F) | 1.00 to 1.22 kΩ |
| | 40°C (104°F) | 0.80 to 1.00 kΩ |
| | 45°C (113°F) | 0.65 to 0.85 kΩ |
| | 50°C (122°F) | 0.50 to 0.70 kΩ |
| | 55°C (131°F) | 0.44 to 0.60 kΩ |
| | 60°C (140°F) | 0.36 to 0.50 kΩ |




**NOTICE:**

Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for LHD) | B |
| NG (for RHD) | C |

**B** → REPLACE REAR ROOM TEMPERATURE SENSOR LH (Click here)

C

REPLACE REAR ROOM TEMPERATURE SENSOR RH ( Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (REAR ROOM TEMPERATURE SENSOR - AIR CONDITIONING AMPLIFIER)

a. for LHD

i. Disconnect the z55 sensor connector.

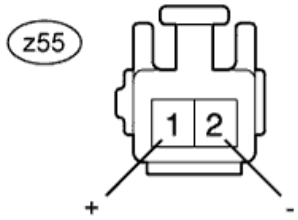
ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

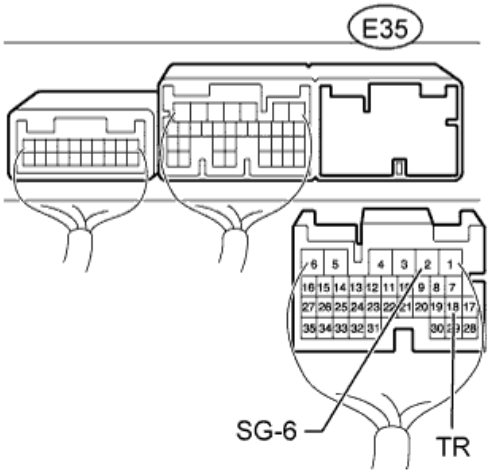
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z55-1 (+) - E35-18 (TR) | Always | Below 1 Ω |
| z55-2 (-) - E35-2 (SG-6) | | |
| E35-18 (TR) - Body ground | Always | 10 kΩ or higher |
| E35-2 (SG-6) - Body ground | | |

Front view of wire harness connector:
(to Rear Room Temperature Sensor LH)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




b. for RHD

i. Disconnect the z56 sensor connector.

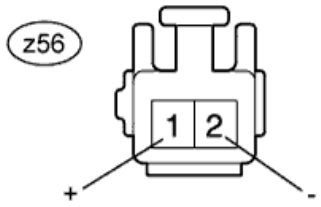
ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

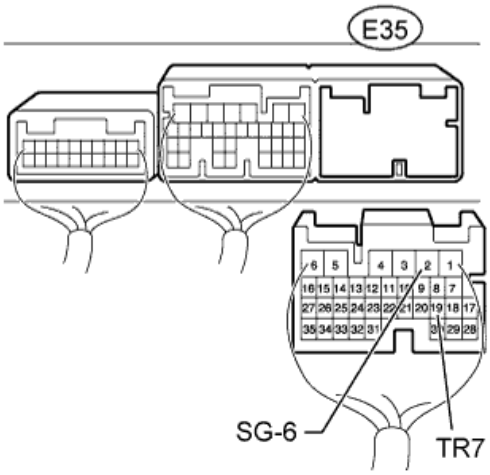
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z56-2 (-) - E35-2 (SG-6) | Always | Below 1 Ω |
| z56-1 (+) - E35-19 (TR7) | | |
| E35-2 (SG-6) - Body ground | Always | 10 kΩ or higher |
| E35-19 (TR7) - Body ground | | |

Front view of wire harness connector:
(to Rear Room Temperature Sensor RH)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## DTC B1467/67 Rear Air Foot Duct Sensor Circuit on Driver Side

**for Preparation** Click here

### DESCRIPTION

The air duct temperature sensor LH*1 or RH*2 (for driver side) detects the duct temperature and sends the appropriate signals to the air conditioning amplifier assembly.

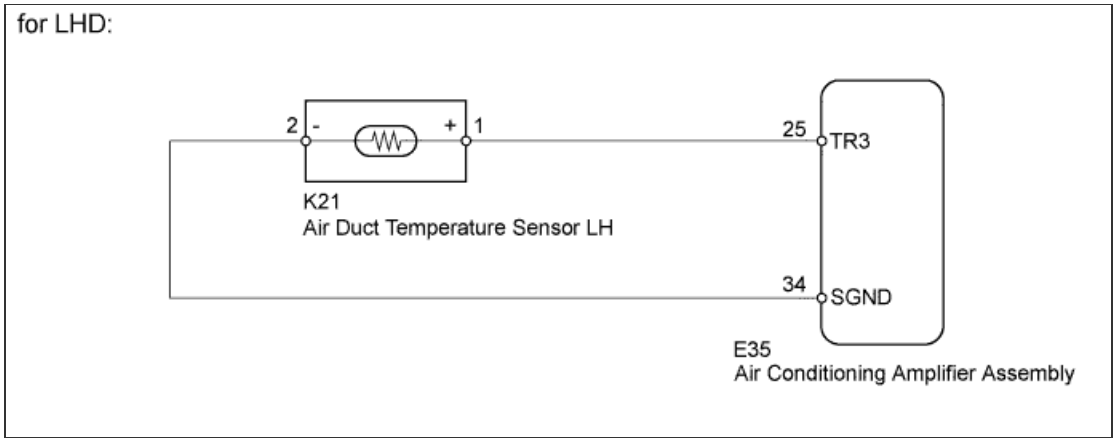
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1467/67 | An open or short in the air duct temperature sensor LH*1 or RH*2 circuit. | • Air duct temperature sensor LH*1<br>• Air duct temperature sensor RH*2<br>• Harness or connector (air duct temperature sensor LH)*1<br>• Harness or connector (air duct temperature sensor RH)*2<br>• Air conditioning amplifier assembly |

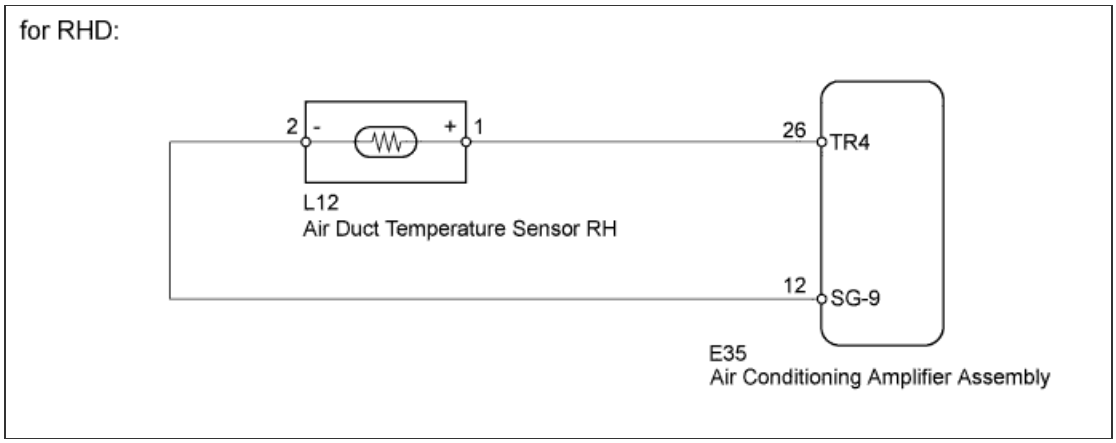
**HINT:**

*1: for LHD

*2: for RHD

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR DUCT TEMPERATURE SENSOR)

a. Use the Data List to check if the air duct temperature sensor LH*1 or RH*2 (for driver side) is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| Foot Duct Sensor (Rear D) | Min.: -12.7°C (9.14°F)<br>Max.: 76.55°C (169.79°F) | Actual air duct temperature sensor (for driver side) displayed | Open in the circuit: -12.7°C (9.14°F)<br>Short in the circuit: 76.55°C (169.79°F) |

**HINT:**

*1: for LHD

*2: for RHD

**OK:**

**The display is as specified in the normal condition.**

**NG** → **Go to step 2**

**OK**

**REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)**

**2.CHECK AIR DUCT TEMPERATURE SENSOR**

a. for LHD

i. Remove the air duct temperature sensor LH ( Click here).

b. for RHD

i. Remove the air duct temperature sensor RH ( Click here).

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+) - 2 (-) | at 10°C (50°F) | 9.4 to 10.5 kΩ |
| | at 15°C (59°F) | 7.5 to 8.3 kΩ |
| | at 20°C (68°F) | 6.0 to 6.5 kΩ |
| | at 25°C (77°F) | 4.5 to 5.2 kΩ |
| | at 30°C (86°F) | 3.8 to 4.2 kΩ |
| | at 35°C (95°F) | 3.1 to 3.4 kΩ |
| | at 40°C (104°F) | 2.5 to 2.8 kΩ |
| | at 45°C (113°F) | 2.0 to 2.3 kΩ |
| | at 50°C (122°F) | 1.6 to 2.0 kΩ |
| | at 55°C (131°F) | 1.3 to 1.6 kΩ |
| | at 60°C (140°F) | 1.1 to 1.4 kΩ |

**NOTICE:**

- **Touching the sensor even slightly may change the resistance value. Hold the connector of the sensor.**
- **When measuring the resistance, the sensor temperature must be the same as the ambient temperature.**

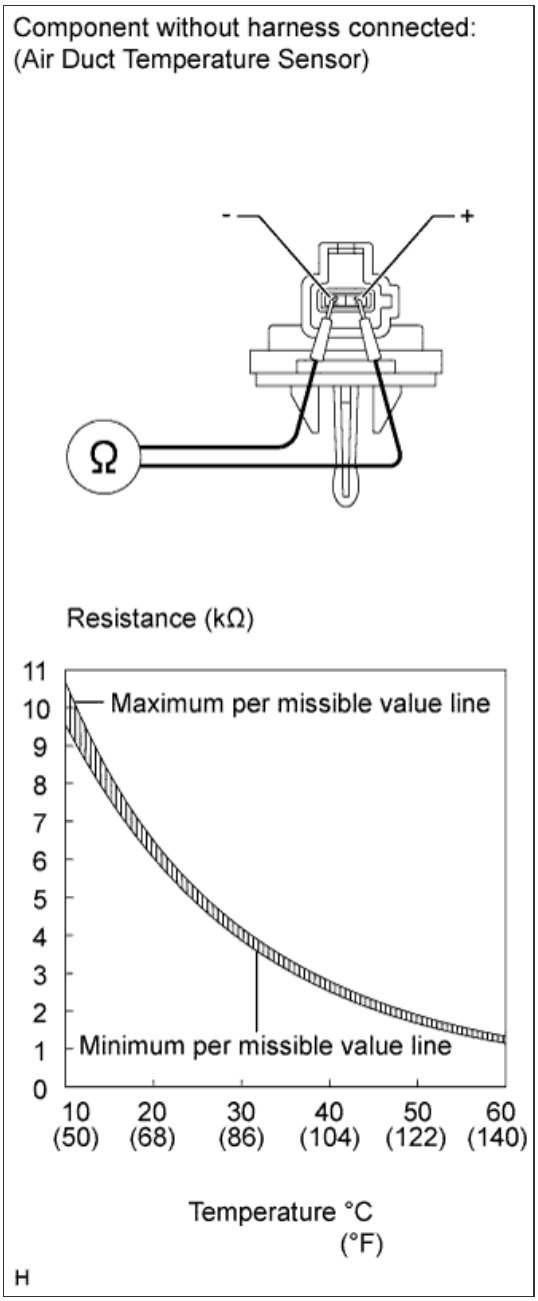
**HINT:**

As the temperature increases, the resistance decreases (see the graph).

If the resistance value is not as specified, replace the sensor.

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for LHD) | B |
| NG (for RHD) | C |



B → REPLACE AIR DUCT TEMPERATURE SENSOR LH (Click here)

C → REPLACE AIR DUCT TEMPERATURE SENSOR RH (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - AIR DUCT TEMPERATURE SENSOR)

a. for LHD

i. Disconnect the K21 sensor connector.

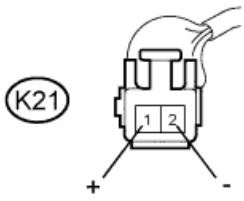
ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

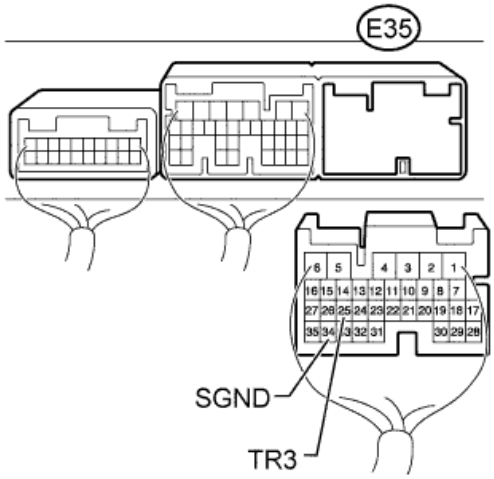
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E35-25 (TR3) - K21-1 (+) | Always | Below 1 Ω |
| E35-34 (SGND) - K21-2 (-) | | |
| E35-25 (TR3) - Body ground | Always | 10 kΩ or higher |
| E35-34 (SGND) - Body ground | | |

Front view of wire harness connector:
(to Air Duct Temperature Sensor LH)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




b. for RHD

i. Disconnect the L12 sensor connector.

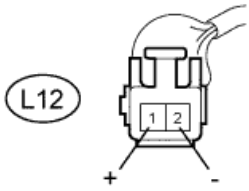
ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

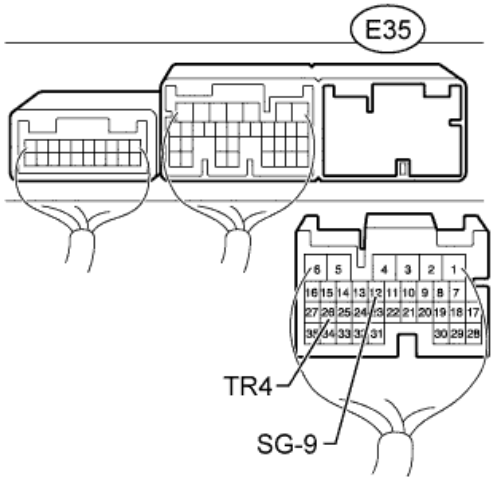
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E35-26 (TR4) - L12-1 (+) | Always | Below 1 Ω |
| E35-12 (SG-9) - L12-2 (-) | | |
| E35-26 (TR4) - Body ground | Always | 10 kΩ or higher |
| E35-12 (SG-9) - Body ground | | |

Front view of wire harness connector:
(to Air Duct Temperature Sensor RH)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## DTC B1422/22 Compressor Lock Sensor Circuit

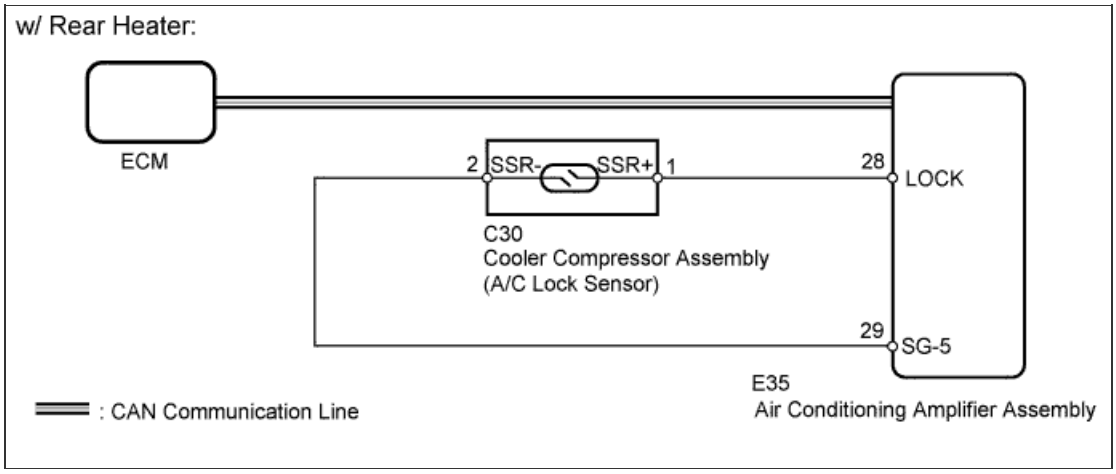
**for Preparation** Click here

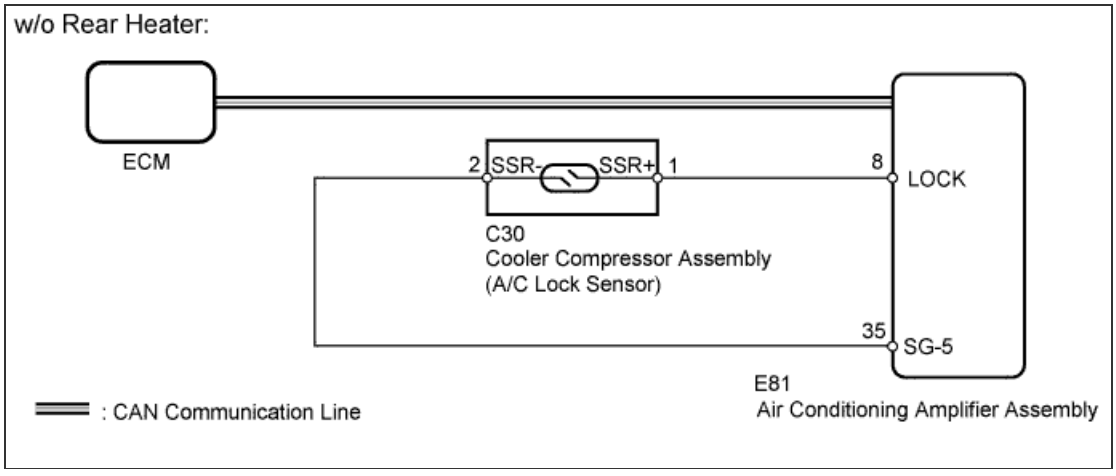
### SYSTEM DESCRIPTION

The ECM sends the engine speed signal to the air conditioning amplifier assembly via CAN communication.
The air conditioning amplifier assembly reads the difference between compressor speed and engine speed. When the difference becomes too large, the air conditioning amplifier assembly determines that the compressor is locked, and turns the magnetic clutch off.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1422/22 | An open or short in the compressor lock sensor circuit. | • Cooler compressor assembly (A/C lock sensor)<br>• Compressor drive belt<br>• Harness or connector between cooler compressor assembly and air conditioning amplifier assembly<br>• Air conditioning amplifier assembly<br>• CAN communication line |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.CHECK CAN COMMUNICATION SYSTEM

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

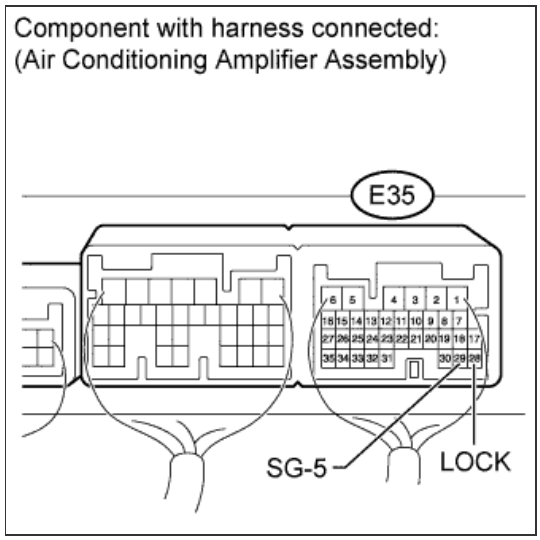
C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

## 2.INSPECT AIR CONDITIONING AMPLIFIER ASSEMBLY

a. w/ Rear Heater

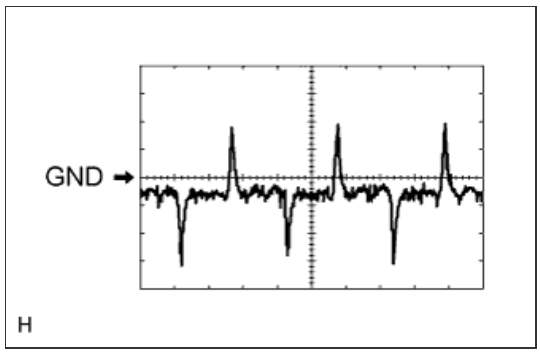
i. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).




ii. Measure the waveform of the connector.

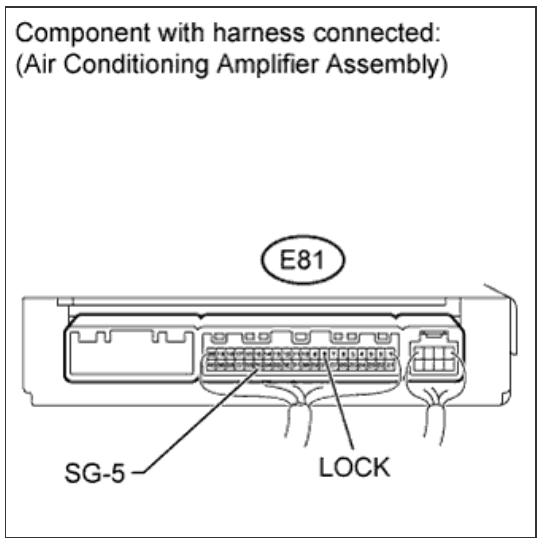
**Measurement Condition**

| Item | Contents |
|---|---|
| Terminal No. (Symbol) | E35-28 (LOCK) - E35-29 (SG-5) |
| Tool Setting | 200 mV/DIV., 10 ms/DIV. |
| Condition | Engine running<br>A/C switch on<br>Blower switch LO |




b. w/o Rear Heater

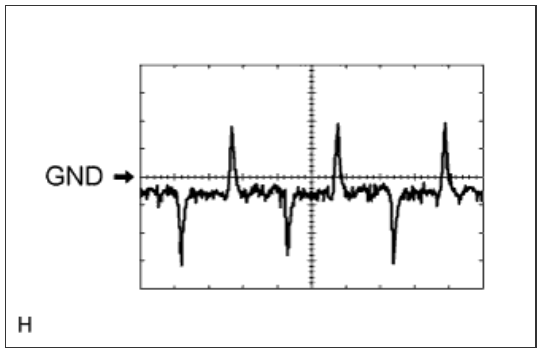
i. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).




ii. Measure the waveform of the connector.

**Measurement Condition**

| Item | Contents |
|---|---|
| Terminal No. (Symbol) | E81-8 (LOCK) - E81-35 (SG-5) |
| Tool Setting | 200 mV/DIV., 10 ms/DIV. |
| Condition | Engine running<br>A/C switch on<br>Blower switch LO |




NG → Go to step 3

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

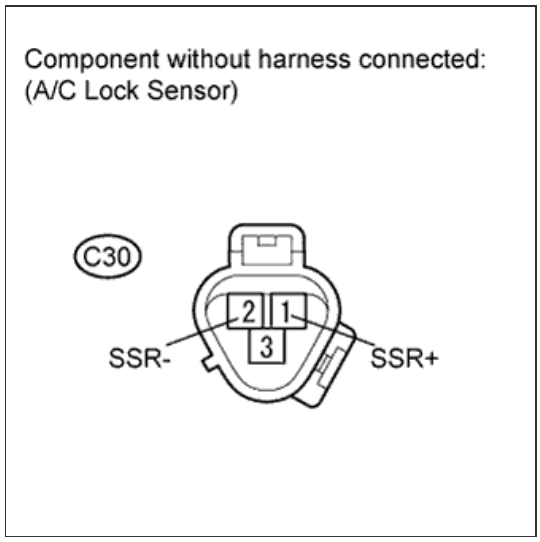
3.INSPECT COOLER COMPRESSOR ASSEMBLY (A/C LOCK SENSOR)

a. Disconnect the C30 connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| C30-1 (SSR+) - C30-2 (SSR-) | 20°C (68°F) | 65 to 125 Ω |




NG → REPLACE COOLER COMPRESSOR ASSEMBLY (A/C LOCK SENSOR)

OK

4.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - A/C LOCK SENSOR)

a. w/ Rear Heater

i. Disconnect the E35 amplifier connector.

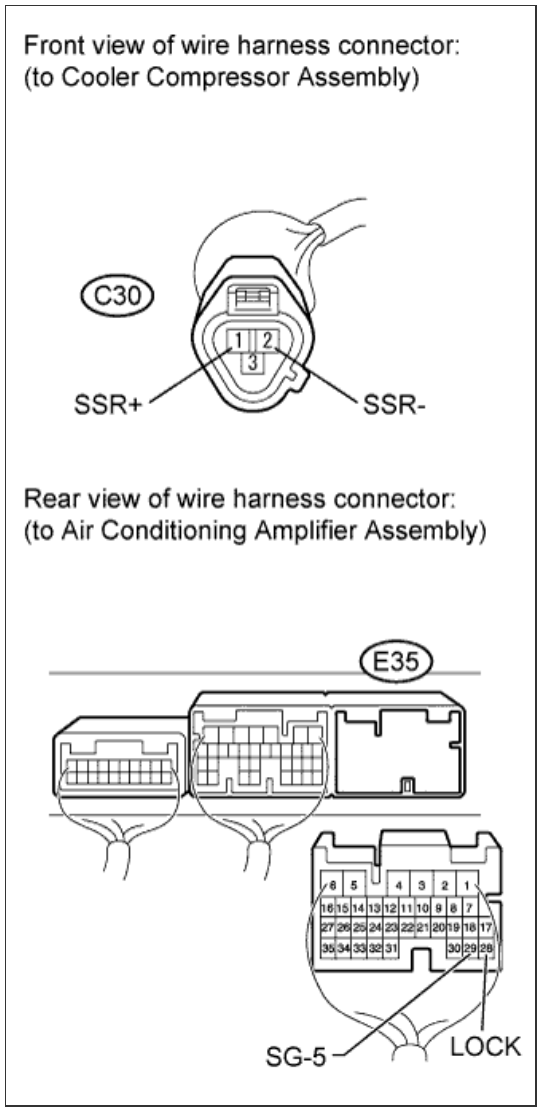
ii. Disconnect the C30 compressor connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E35-28 (LOCK) - C30-1 (SSR+) | Always | Below 1 Ω |
| E35-29 (SG-5) - C30-2 (SSR-) | Always | Below 1 Ω |
| E35-28 (LOCK) - Body ground | Always | 10 kΩ or higher |
| E35-29 (SG-5) - | | |

| | | |
|---|---|---|
| Body ground | Always | 10 kΩ or higher |




b. w/o Rear Heater

i. Disconnect the E81 amplifier connector.

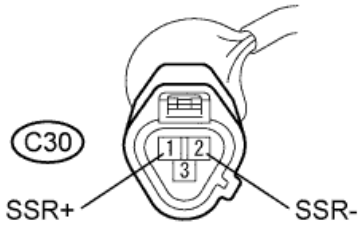
ii. Disconnect the C30 compressor connector.

iii. Measure the resistance according to the value(s) in the table below.

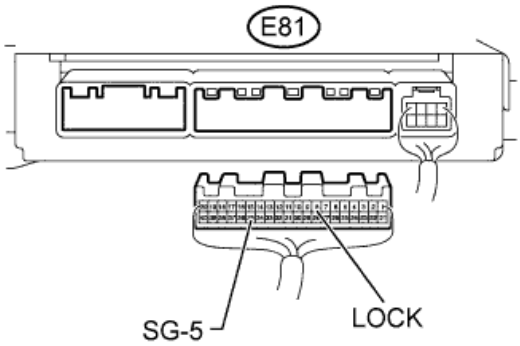
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-8 (LOCK) - C30-1 (SSR+) | Always | Below 1 Ω |
| E81-35 (SG-5) - C30-2 (SSR-) | Always | Below 1 Ω |
| E81-8 (LOCK) - Body ground | Always | 10 kΩ or higher |
| E81-35 (SG-5) - Body ground | Always | 10 kΩ or higher |

Front view of wire harness connector:
(to Cooler Compressor Assembly)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## DTC B1468/68 Rear Passenger Side Room Temperature Sensor Circuit

**for Preparation** Click here

### DESCRIPTION

The rear room temperature sensor RH*1 or LH*2 (for front passenger side) is installed in the rear quarter trim board RH*1 or LH*2 to detect the rear room temperature and control the heater and air conditioner "auto" mode. The resistance of the rear room temperature sensor RH*1 or LH*2 changes in accordance with the rear room temperature for RH*1 or LH*2 seat. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.

The air conditioning amplifier applies a voltage (5 V) to the rear room temperature sensor RH*1 or LH*2 and reads voltage changes as changes in the resistance of the rear room temperature sensor RH*1 or LH*2.

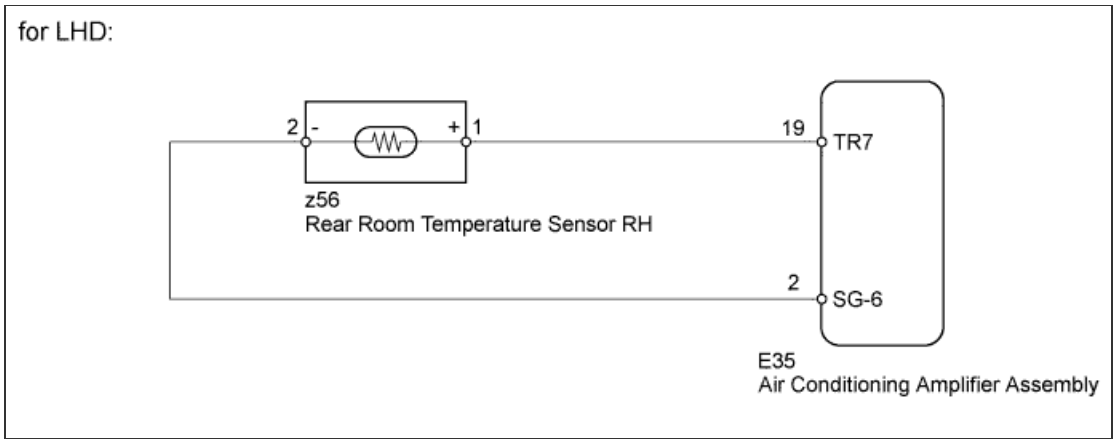
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1468/68 | An open or short in the rear room temperature sensor RH*1 or LH*2 circuit. | • Rear room temperature sensor RH*1<br>• Rear room temperature sensor LH*2<br>• Harness or connector between rear room temperature sensor RH and air conditioning amplifier assembly*1<br>• Harness or connector between rear room temperature sensor LH and air conditioning amplifier assembly*2<br>• Air conditioning amplifier assembly |

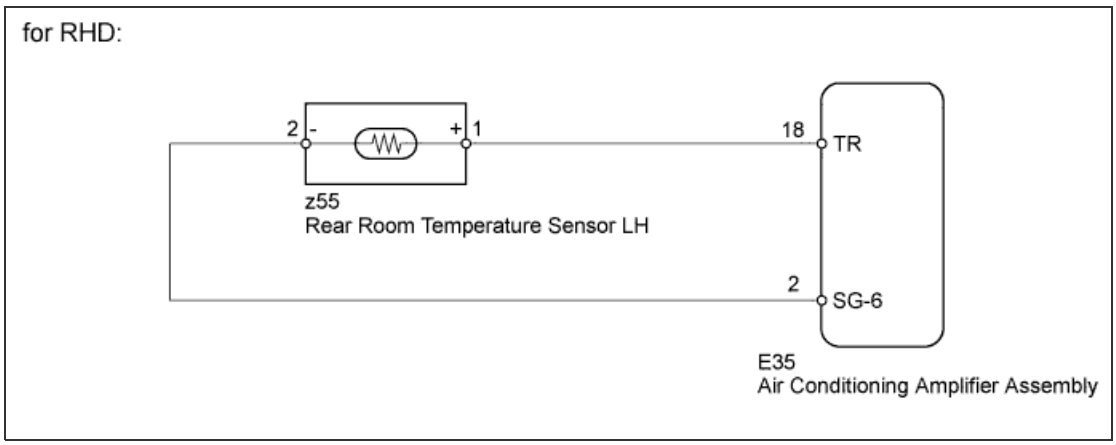
**HINT:**

*1: for LHD

*2: for RHD

### WIRING DIAGRAM




### INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (AIR CONDITIONER)

a. Use the Data List to check if the rear room temperature sensor RH*1 or LH*2 is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Room Temperature Sensor (RP) | Rear room temperature sensor for RH*1 or LH*2 / Min.: -6.5°C (20.3°F) Max.: 57.25°C (135.05°F) | Actual rear room temperature for RH*1 or LH*2 displayed | Open in the circuit: -6.5°C (20.3°F). Short in the circuit: 57.25°C (135.05°F). |

**HINT:**

*1: for LHD

*2: for RHD

**OK:**

**The display is as specified in the normal condition.**

NG → Go to step 2

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 2.INSPECT REAR ROOM TEMPERATURE SENSOR

a. for LHD
Remove the rear room temperature sensor RH ( Click here).

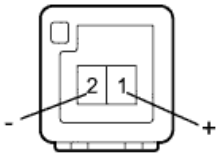
b. for RHD
Remove the rear room temperature sensor LH ( Click here).

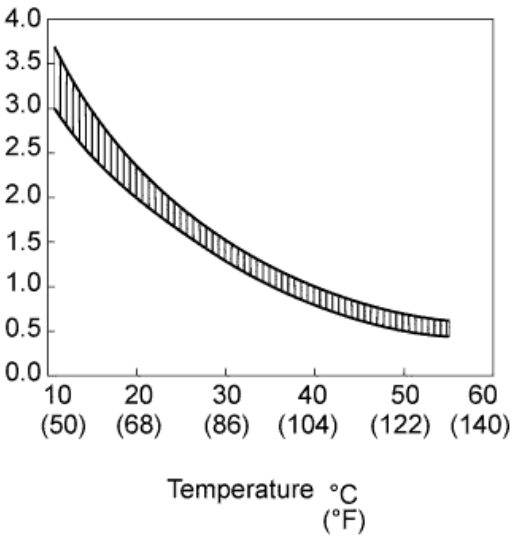
c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+) - 2 (-) | 10°C (50°F) | 3.00 to 3.73 kΩ |
| | 15°C (59°F) | 2.45 to 2.88 kΩ |
| | 20°C (68°F) | 1.95 to 2.30 kΩ |
| | 25°C (77°F) | 1.60 to 1.80 kΩ |
| | 30°C (86°F) | 1.28 to 1.47 kΩ |
| | 35°C (95°F) | 1.00 to 1.22 kΩ |
| | 40°C (104°F) | 0.80 to 1.00 kΩ |
| | 45°C (113°F) | 0.65 to 0.85 kΩ |
| | 50°C (122°F) | 0.50 to 0.70 kΩ |
| | 55°C (131°F) | 0.44 to 0.60 kΩ |
| | 60°C (140°F) | 0.36 to 0.50 kΩ |

Component without harness connected:
(Rear Room Temperature Sensor)




H

**NOTICE:**

Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for LHD) | B |
| NG (for RHD) | C |

B → REPLACE REAR ROOM TEMPERATURE SENSOR RH ( Click here)

C

REPLACE REAR ROOM TEMPERATURE SENSOR LH (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (REAR ROOM TEMPERATURE SENSOR - AIR CONDITIONING AMPLIFIER)

a. for LHD

i. Disconnect the z56 sensor connector.

ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z56-2 (-)- E35-2 (SG-6) | Always | Below 1 Ω |
| z56-1 (+) - E35-19 (TR7) | | |
| E35-2 (SG-6) - Body ground | Always | 10 kΩ or higher |
| E35-19 (TR7) - Body ground | | |

b. for RHD

i. Disconnect the z55 sensor connector.

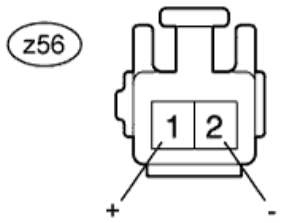
ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

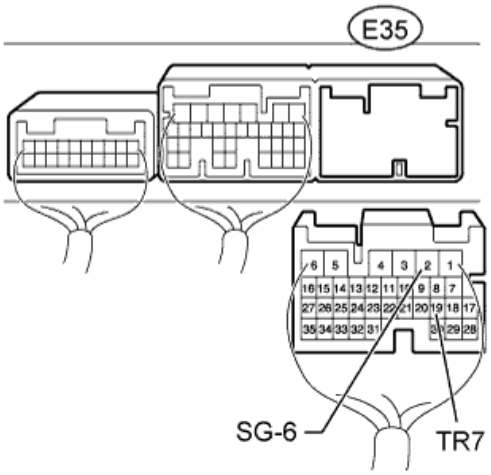
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z55-2 (-) - E35-2 (SG-6) | Always | Below 1 Ω |
| z55-1 (+) - E35-18 (TR) | | |
| E35-2 (SG-6) - Body ground | Always | 10 kΩ or higher |
| E35-18 (TR) - Body ground | | |

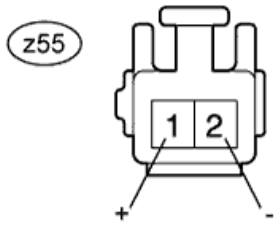
Front view of wire harness connector:
(to Rear Room Temperature Sensor RH)



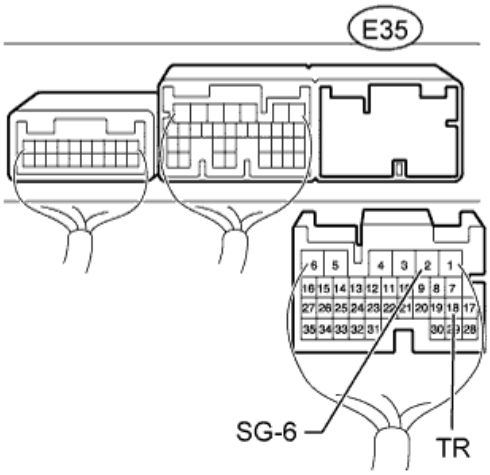

Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)



Front view of wire harness connector:
(to Rear Room Temperature Sensor LH)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## DTC B1423/23 Pressure Sensor Circuit

**for Preparation** Click here

### DESCRIPTION

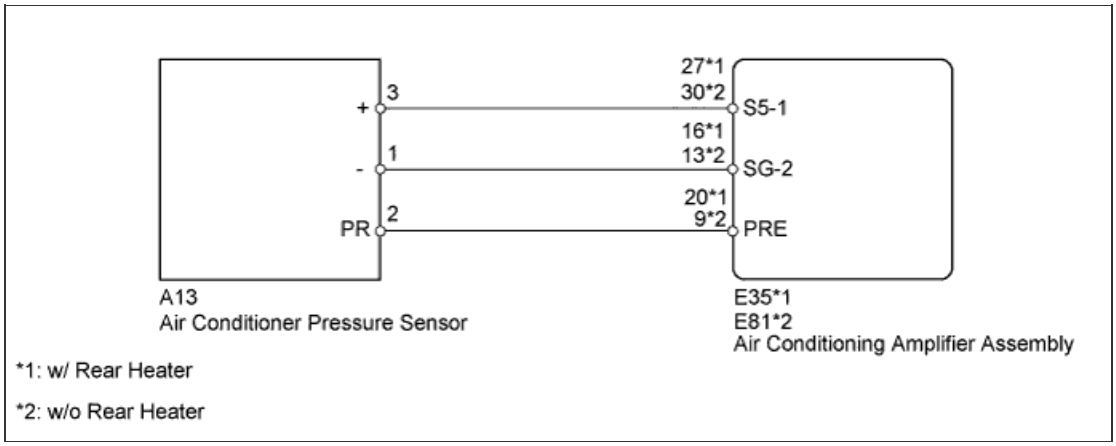
This DTC is output when refrigerant pressure is extremely low (-0.4566 MPaG (-4.6 kgf/cm $^2$, -66 psi) or less) or extremely high (3.2943 MPaG (33.6 kgf/cm$^2$, 477 psi) or more). The air conditioner pressure sensor, which is installed on the pipe of the high pressure side to detect refrigerant pressure, outputs the refrigerant pressure signal to the air conditioning amplifier assembly. The air conditioning amplifier assembly converts the signal to pressure according to the sensor characteristics to control the compressor.

**HINT:**

Be sure to check the refrigerant volume first when this DTC is output because this DTC can also be output if there is no refrigerant in the cycle.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1423/23 | • An open or short in the air conditioner pressure sensor circuit<br>• Refrigerant pressure on the high pressure side is extremely low (-0.4566 MPaG (-4.6 kgf/cm$^2$, -66 psi) or less) or extremely high (3.2943 MPaG (33.6 kgf/cm$^2$, 477 psi) or more) | • Air conditioner pressure sensor<br>• Harness or connector<br>• Cooler expansion valve (blocked, stuck)<br>• Cooler condenser assembly (blocked, deterioration of cooling capacity due to dirt)<br>• Cooler dryer (moisture in the refrigerant cycle cannot be absorbed)<br>• Condenser fan (condenser cannot be cooled down)<br>• Air conditioning system (leaks, blocked)<br>• Refrigerant pipe line<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

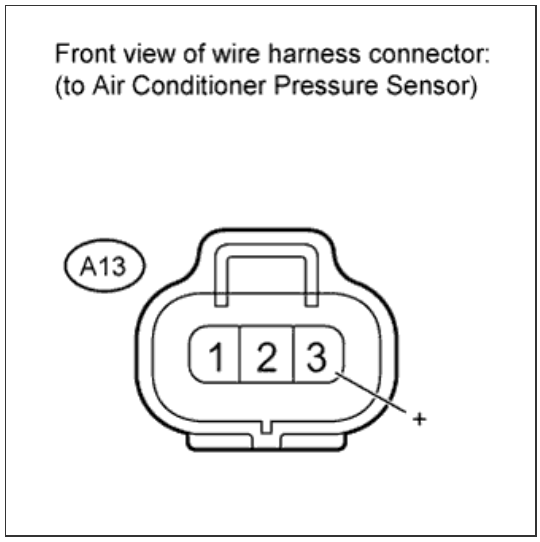
**1.CHECK HARNESS AND CONNECTOR (POWER SOURCE CIRCUIT)**

a. Disconnect the A13 air conditioner pressure sensor connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A13-3 (+) - Body ground | Engine switch on (IG) | 4.4 to 5.5 V |




NG → Go to step 5

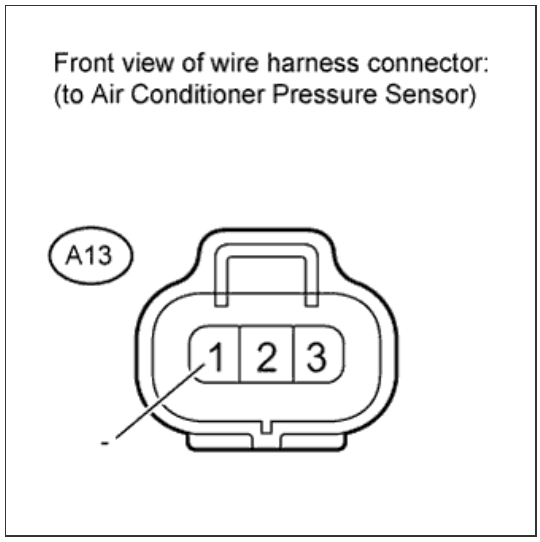
OK

## 2.CHECK HARNESS AND CONNECTOR (GROUND CIRCUIT)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A13-1 (-) - Body ground | Always | Below 1 Ω |



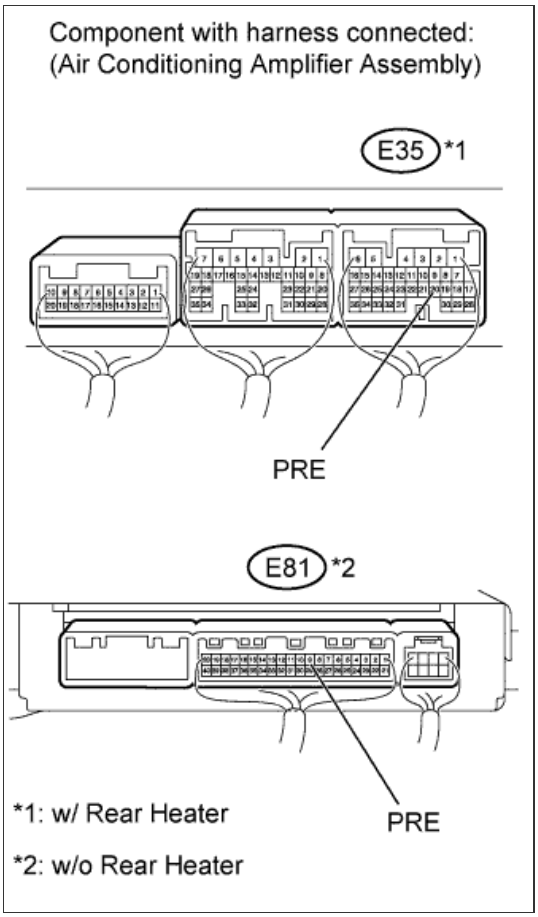

NG → Go to step 6

OK

## 3.INSPECT AIR CONDITIONER PRESSURE SENSOR (SENSOR SIGNAL CIRCUIT)

a. Reconnect the A13 pressure sensor connector.

b. Remove the air conditioning amplifier with its connectors still connected.




**Standard Voltage:**

**w/ Rear Heater:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-20 (PRE) - Body ground | • Engine switch on (IG)<br>• A/C switch off | 0.7 to 4.8 V |

**w/o Rear Heater:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-9 (PRE) - Body ground | • Engine switch on (IG)<br>• A/C switch off | 0.7 to 4.8 V |

**HINT:**

If the measured voltage is not within the normal range, there may be a malfunction in the air conditioning amplifier assembly, air conditioner pressure sensor, or wire harness. It is also possible that the amount of refrigerant may not be appropriate.

NG → Go to step 7

OK

**4.INSPECT AIR CONDITIONER PRESSURE SENSOR (SENSOR SIGNAL CIRCUIT)**

a. Measure the voltage when the following conditions are satisfied.

| Item | Condition |
|---|---|
| Engine Speed | 1500 rpm |

| | |
|---|---|
| Vehicle Doors | Fully open |
| Temperature Setting | MAX COLD |
| Blower Speed | HI |
| A/C Switch | ON |
| R/F Switch | RECIRCULATION |
| Interior Temperature | 25 to 35°C (77 to 95°F) |

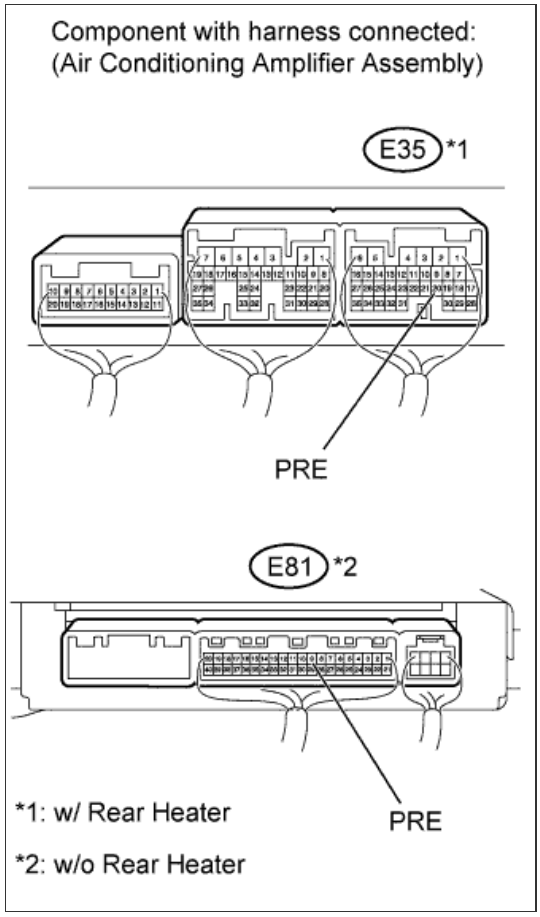
**NOTICE:**

- **If refrigerant pressure on the high pressure side becomes extremely high during the inspection (if the voltage exceeds 4.8 V), the fail-safe function stops compressor operation. Therefore, measure the voltage before the fail-safe operation.**
- **It is necessary to measure the voltage for a certain amount of time (approximately 10 minutes) because the problem symptom may recur after a while.**

**HINT:**

When the outside air temperature is low (below -1.5°C (29.3°F)), the compressor stops due to operation of the ambient temperature and the evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.

i. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**w/ Rear Heater:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-20 (PRE) - Body ground | • Engine switch on (IG)<br>• A/C switch on | 0.7 to 4.8 V |

**w/o Rear Heater:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| B81-9 (PRE) - | • Engine switch on (IG) | |

| | | |
|---|---|---|
| Body ground | • A/C switch on | 0.7 to 4.8 V |

NG → Go to step 13

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

5.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - PRESSURE SENSOR)

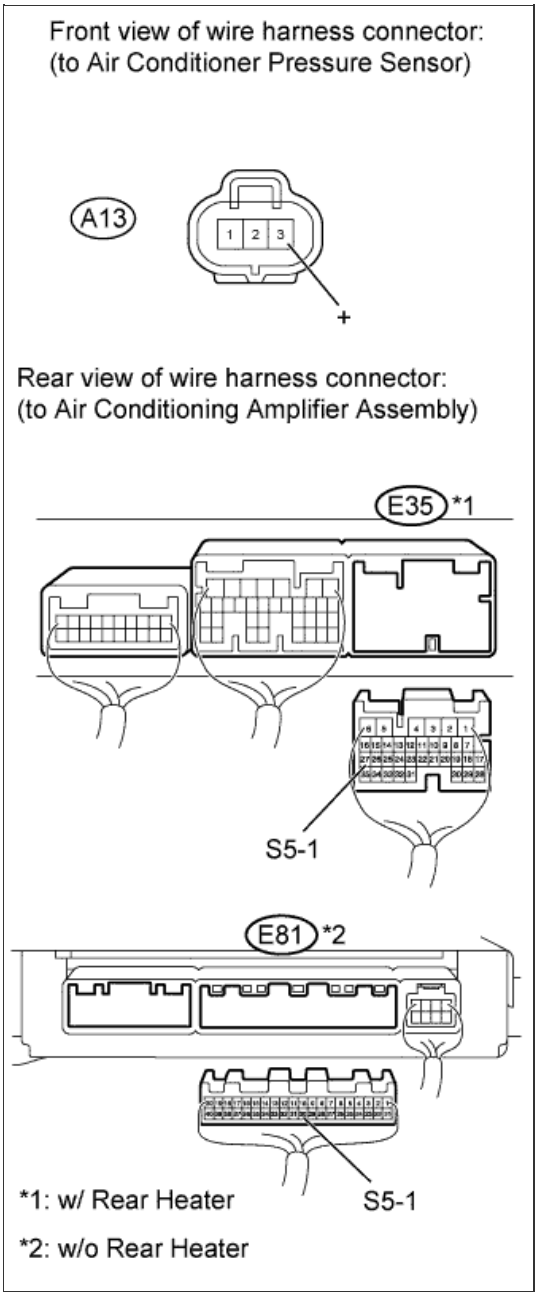
a. Disconnect the E35*1 or E81*2 amplifier connector.

**HINT:**

*1: w/ Rear Heater

*2: w/o Rear Heater

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**w/ Rear Heater:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A13-3 (+) - E35-27 (S5-1) | Always | Below 1 Ω |
| E35-27 (S5-1) - Body ground | Always | 10 kΩ or higher |

**w/o Rear Heater:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| A13-3 (+) - E81-30 (S5-1) | Always | Below 1 Ω |
| E81-30 (S5-1) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 6.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - PRESSURE SENSOR)

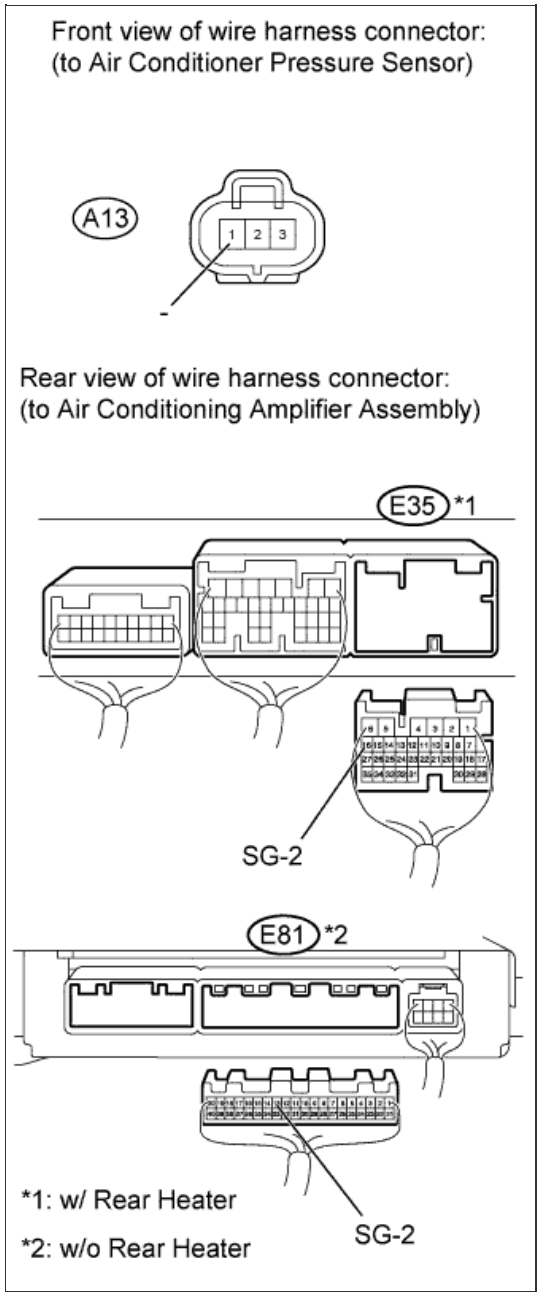
a. Disconnect the E35*1 or E81*2 amplifier connector.

**HINT:**

*1: w/ Rear Heater

*2: w/o Rear Heater

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**w/ Rear Heater:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A13-1 (-) - E35-16 (SG-2) | Always | Below 1 Ω |
| E35-16 (SG-2) - Body ground | Always | 10 kΩ or higher |

**w/o Rear Heater:**

| | | Specified |
|---|---|---|

| Tester Connection | Condition | Condition |
|---|---|---|
| A13-1 (-) - E81-13 (SG-2) | Always | Below 1 Ω |
| E81-13 (SG-2) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

7.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - PRESSURE SENSOR)

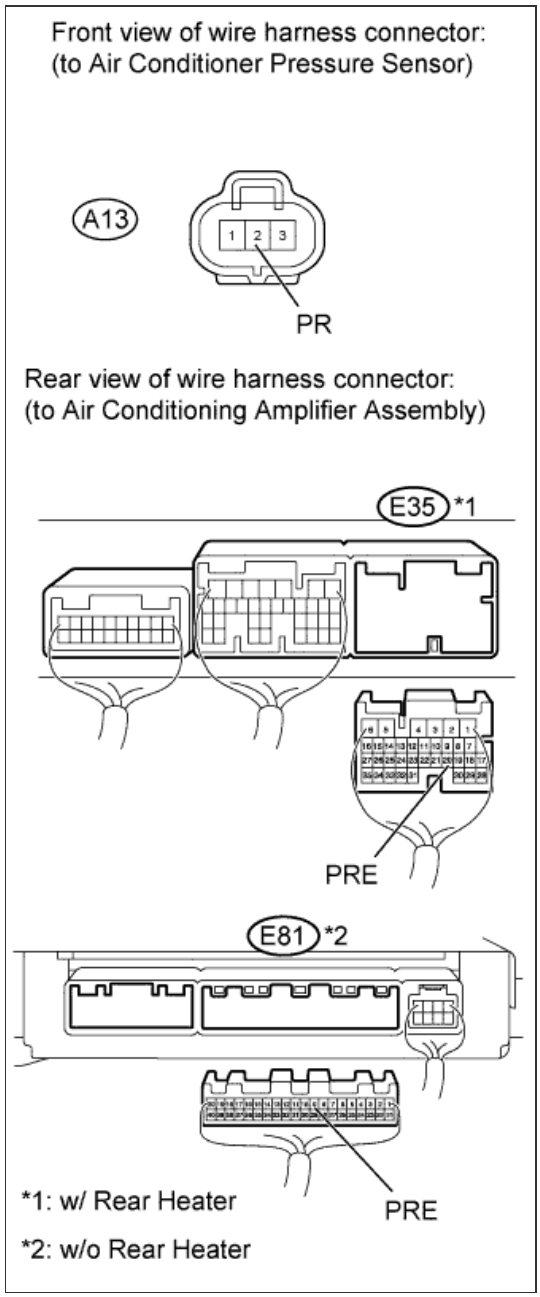
a. Disconnect the E35*1 or E81*2 amplifier connector.

**HINT:**

*1: w/ Rear Heater

*2: w/o Rear Heater

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

**w/ Rear Heater:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A13-2 (PR) - E35-20 (PRE) | Always | Below 1 Ω |
| E35-20 (PRE) - Body ground | Always | 10 kΩ or higher |

**w/o Rear Heater:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A13-2 (PR) - E81-9 (PRE) | Always | Below 1 Ω |
| E81-9 (PRE) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.INSPECT FOR AIR CONDITIONING SYSTEM LEAK

a. Install the manifold gauge set.

b. Recover the refrigerant from the air conditioning system using a refrigerant recovery unit.

c. Evacuate the air conditioning system and check that vacuum can be maintained in it.

**OK:**

**Vacuum can be maintained in the air conditioning system.**

**HINT:**

If vacuum cannot be maintained in the air conditioning system, refrigerant may be leaking from it. In this case, it is necessary to repair or replace the leaking part of the air conditioning system.

NG → Go to step 12

OK

## 9.CHARGE REFRIGERANT

a. Add an appropriate amount of refrigerant (Click here).

NEXT

## 10.RECHECK DTC

a. Recheck for the DTC when the following conditions are satisfied.

| Item | Condition |
|---|---|
| Engine Speed | 1500 rpm |
| Vehicle Doors | Fully open |
| Temperature Setting | MAX COLD |
| Blower Speed | HI |
| A/C Switch | ON |
| R/F Switch | RECIRCULATION |
| Interior Temperature | 25 to 35°C (77 to 95°F) |

**NOTICE:**

If refrigerant pressure on the high pressure side becomes high, the DTC will be stored. Therefore, it is necessary to measure the voltage for a certain amount of time (approximately 10 minutes) because the DTC may be stored after the air conditioning system operates for a while.

**HINT:**

When the outside air temperature is low (below -1.5°C (29.3°F)), the compressor stops due to operation of the ambient temperature sensor and the evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.

**OK:**

**DTC B1423 is not output.**

**NOTICE:**

If the DTC was output due to an insufficient or excessive amount of refrigerant, the problem may have been solved after performing the

previous step. However, the root cause of insufficient refrigerant may be refrigerant leaks. The root cause of excessive refrigerant may be adding refrigerant when the level was insufficient. Therefore, identify and repair the area where refrigerant leaks as necessary.

NG → Go to step 11

OK

END

## 11.CHECK AIR CONDITIONER PRESSURE SENSOR

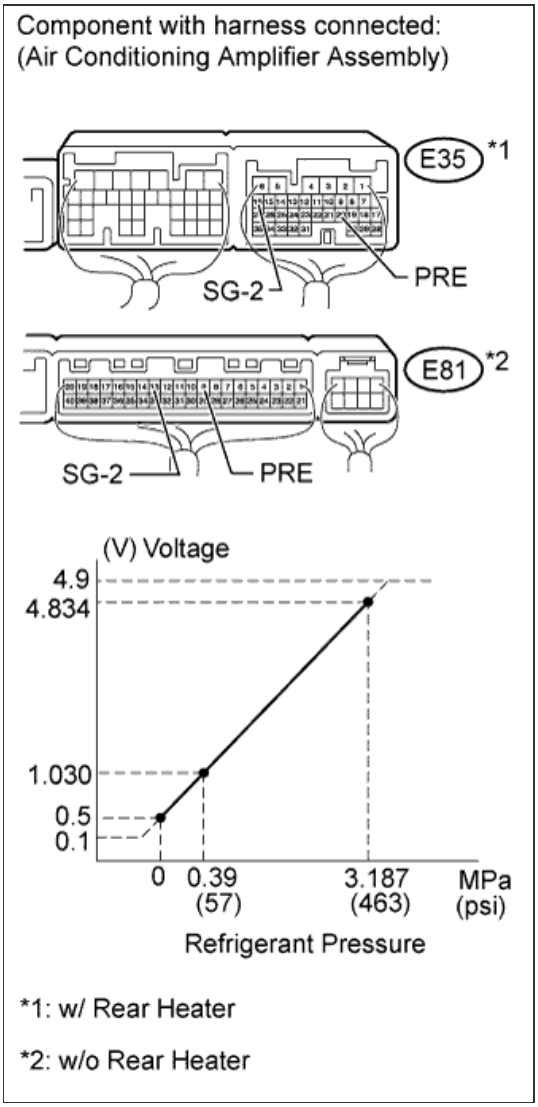
a. Install the manifold gauge set.

b. Reconnect the A13 air conditioner pressure sensor connector.

c. Remove the air conditioning amplifier assembly with its connectors still connected.

d. Turn the engine switch on (IG).

e. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

**w/ Rear Heater:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E35-20 (PRE) - E35-16 (SG-2) | Refrigerant pressure: Normal pressure (less than 3.0732 MPa [31.4 kgf/cm$^2$, 445 psi] and more than 0.1762 MPa [1.8 kgf/cm$^2$, 25 psi]) | 1.0 to 4.8 V |
| | Refrigerant pressure: Abnormal (less than 0.1762 MPa [1.8 kgf/cm$^2$, 25 psi]) | Below 1 V |
| | Refrigerant pressure: Abnormal (more than 3.0732 MPa [31.4 kgf/cm$^2$, 445 psi]) | 4.8 V or higher |

**w/o Rear Heater:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-9 (PRE) - E81-13 (SG-2) | Refrigerant pressure: Normal pressure (less than 3.0732 MPa [31.4 kgf/cm$^2$, 445 psi] and more than 0.1762 MPa [1.8 kgf/cm$^2$, 25 psi]) | 1.0 to 4.8 V |
| | Refrigerant pressure: Abnormal (less than 0.1762 MPa [1.8 kgf/cm$^2$, 25 psi]) | Below 1 V |
| | Refrigerant pressure: Abnormal (more than 3.0732 MPa [31.4 kgf/cm$^2$, 445 psi]) | 4.8 V or higher |

NG → REPLACE AIR CONDITIONER PRESSURE SENSOR (Click here)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

12.REPAIR AIR CONDITIONING SYSTEM LEAK

a. Identify the area where refrigerant leaks (Click here).

b. Repair the identified area of the air conditioning system.

c. Evacuate the air conditioning system.

NEXT

CHARGE REFRIGERANT (Click here)

13.INSPECT CONDENSER FAN

**NOTICE:**

For vehicles without an condenser fan, go to "CHARGE REFRIGERANT".

a. Inspect that the condenser fan operates normally ( Click here).

NG → REPLACE CONDENSER FAN (Click here)

OK

14.CHARGE REFRIGERANT

a. Use a refrigerant recovery unit to recover refrigerant.

b. Evacuate the air conditioning system.

c. Add an appropriate amount of refrigerant (Click here).

**HINT:**

If refrigerant is added and the system has not been properly evacuated (insufficient vacuum time), moisture in the air remaining in the system will freeze in the expansion valve, blocking the flow on the high pressure side. Therefore, in order to confirm the problem, recover the refrigerant and properly evacuate the system. Add an appropriate amount of refrigerant, and check for the DTC.

NEXT

15.RECHECK DTC

a. Recheck for the DTC when the following conditions are satisfied.

| Item | Condition |
|---|---|
| Engine Speed | 1500 rpm |
| Vehicle Doors | Fully open |
| Temperature Setting | MAX COLD |
| Blower Speed | HI |
| A/C Switch | ON |
| R/F Switch | RECIRCULATION |
| Interior Temperature | 25 to 35°C (77 to 95°F) |

**NOTICE:**

If refrigerant pressure on the high pressure side becomes high, the DTC will be stored. Therefore, it is necessary to measure the voltage for a certain amount of time (approximately 10 minutes) because the DTC may be stored after the air conditioning system operates for a while.

**HINT:**

- **When the outside air temperature is low (below -1.5°C (29.3°F)), the compressor stops due to operation of the ambient temperature sensor and the evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.**
- **If refrigerant is added and the system has not been properly evacuated (insufficient vacuum time), moisture in the air remaining in the system will freeze in the expansion valve, blocking the flow on the high pressure side. Therefore, in order to confirm the problem, recover the refrigerant and properly evacuate the system. Add an appropriate amount of refrigerant, and check for the DTC. If the DTC is not output after this procedure, it indicates that the cooler dryer in the condenser is not able to absorb moisture in the refrigerant cycle. In this case, to complete the repair it is necessary to replace the cooler dryer.**

**OK:**
**DTC B1423 is not output.**

**NG** → **Go to step 16**

**OK**

**REPLACE COOLER DRYER (Click here)**

**16.REPLACE COOLER EXPANSION VALVE**

a. Replace the cooler expansion valve with a normal one.
for LHD (Click here)
for RHD (Click here)

**HINT:**

Replace the cooler expansion valve with a normal one because the cooler expansion valve is either stuck or clogged.

**NEXT**

**17.CHARGE REFRIGERANT**

a. Add an appropriate amount of refrigerant (Click here).

**NEXT**

**18.RECHECK DTC**

a. Recheck for the DTC when the following conditions are satisfied.

| Item | Condition |
|---|---|
| Engine Speed | 1500 rpm |
| Vehicle Doors | Fully open |
| Temperature Setting | MAX COLD |
| Blower Speed | HI |
| A/C Switch | ON |
| R/F Switch | RECIRCULATION |

| | |
|---|---|
| Interior Temperature | 25 to 35°C (77 to 95°F) |

**NOTICE:**

If refrigerant pressure on the high pressure side becomes high, the DTC will be stored. Therefore, it is necessary to measure the voltage for a certain amount of time (approximately 10 minutes) because the DTC may be stored after the air conditioning system operates for a while.

**HINT:**

- **When the outside air temperature is low (below -1.5°C (29.3°F)), the compressor stops due to operation of the ambient temperature sensor and the evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.**
- **If refrigerant pressure is not normal after replacing the expansion valve with a normal one, the condenser or pipes may be clogged due to dirt, dust or other contaminants. In this case, clean or replace the condenser or pipes.**

**OK:**
**DTC B1423 is not output.**

**NG** → REPLACE COOLER CONDENSER ASSEMBLY (Click here)

**OK** → END

## DTC B1486/86 Driver Side Air Outlet Damper Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

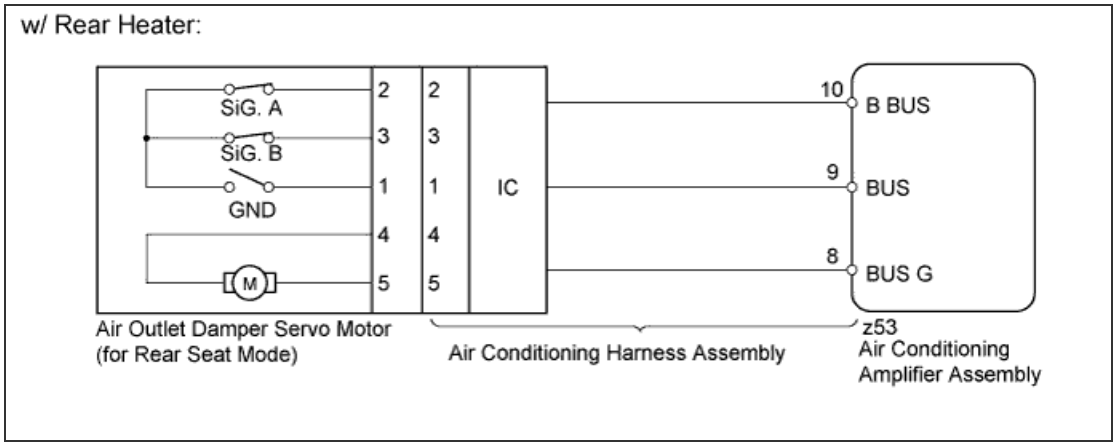
The air outlet damper servo motor (for rear seat mode) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air outlet damper to any position, which controls the air outlet changes.

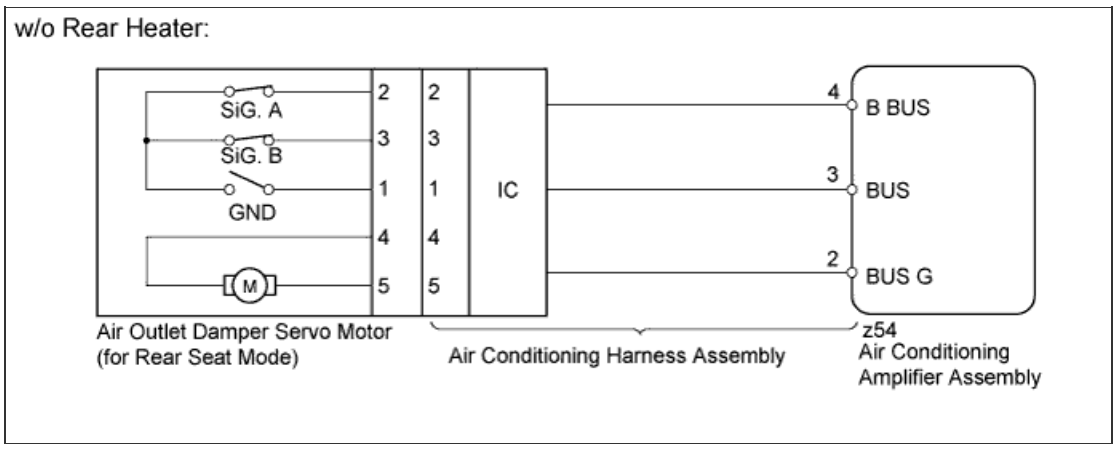
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1486/86 | The air outlet damper position does not change even if the air conditioning amplifier assembly operates the air outlet damper servo motor. | • Air outlet damper servo motor (for rear seat mode)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR OUTLET DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | Air outlet damper servo motor (for rear seat mode) target pulse / | FACE1: 9 (pulse)<br>FACE2: 9 (pulse)<br>B/L1: 28 (pulse)<br>B/L2: 34 (pulse)<br>FOOT-O: 41 (pulse) | |

| | | | |
|---|---|---|---|
| Air Outlet Servo Pls (F&R D) | Min.: 9, Max.: 79 | FOOT-D: 41 (pulse)<br>FOOT-R: 41 (pulse)<br>FOOT-F: 58 (pulse)<br>F/D: 67 (pulse)<br>DEF: 79 (pulse) | - |

**OK:**

**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**2.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR REAR SEAT MODE)**

a. Replace the air outlet damper servo motor (for rear seat mode) ( Click here).

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1486/86 is not output | A |
| DTC B1486/86 is output | B |

B → Go to step 3

A

**END (AIR OUTLET DAMPER SERVO MOTOR [FOR REAR SEAT MODE] IS DEFECTIVE)**

**3.CHECK AIR CONDITIONING HARNESS ASSEMBLY**

a. Replace the air conditioning harness assembly (Click here).

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1486/86 is not output | A |
| DTC B1486/86 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)**

## DTC B1429/29 Rear Air Foot Duct Sensor Circuit on Front Passenger Side

**for Preparation** Click here

### DESCRIPTION

The air duct temperature sensor RH*1 or LH*2 (for front passenger side) detects the duct temperature and sends the appropriate signals to the air conditioning amplifier assembly.

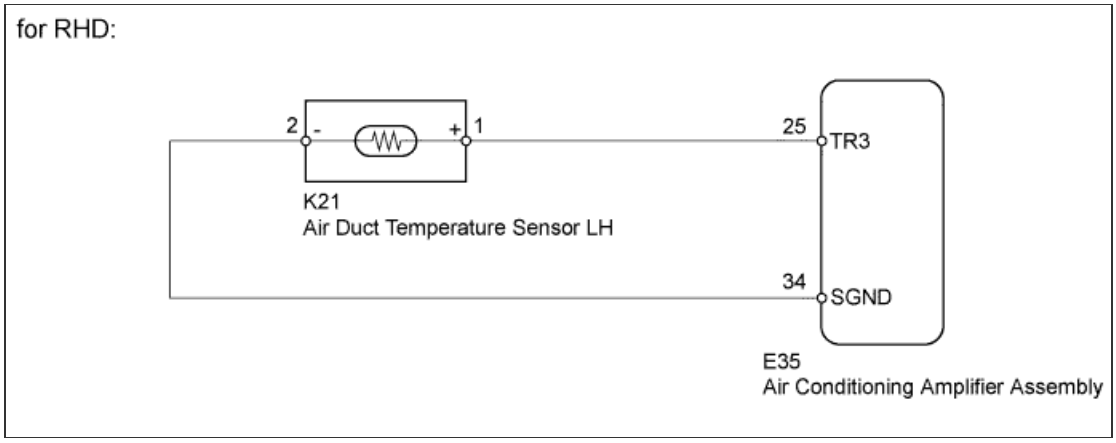
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1429/29 | An open or short in the air duct temperature sensor RH*1 or LH*2 circuit. | • Air duct temperature sensor RH*1<br>• Air duct temperature sensor LH*2<br>• Harness or connector (air duct temperature sensor RH)*1<br>• Harness or connector (air duct temperature sensor LH)*2<br>• Air conditioning amplifier assembly |

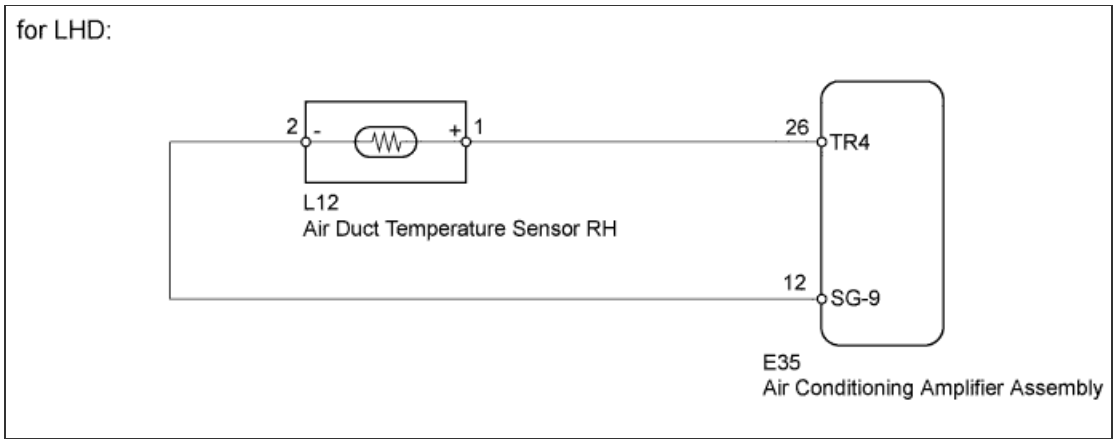
**HINT:**

*1: for LHD

*2: for RHD

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR DUCT TEMPERATURE SENSOR)

a. Use the Data List to check if the air duct temperature sensor RH*1 or LH*2 (for front passenger side) is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| Foot Duct Sensor (Rear P) | Min.: -12.7°C (9.14°F)<br>Max.: 76.55°C (169.79°F) | Actual air duct temperature sensor (for passenger side) displayed | Open in the circuit: -12.7°C (9.14°F)<br>Short in the circuit: 76.55°C (169.79°F) |

**HINT:**

*1: for LHD

*2: for RHD

**OK:**

**The display is as specified in the normal condition.**

NG → Go to step 2

OK →

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 2.CHECK AIR DUCT TEMPERATURE SENSOR

a. for LHD

i. Remove the air duct temperature sensor RH ( Click here).

b. for RHD

i. Remove the air duct temperature sensor LH ( Click here).

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+) - 2 (-) | at 10°C (50°F) | 9.4 to 10.5 kΩ |
| | at 15°C (59°F) | 7.5 to 8.3 kΩ |
| | at 20°C (68°F) | 6.0 to 6.5 kΩ |
| | at 25°C (77°F) | 4.5 to 5.2 kΩ |
| | at 30°C (86°F) | 3.8 to 4.2 kΩ |
| | at 35°C (95°F) | 3.1 to 3.4 kΩ |
| | at 40°C (104°F) | 2.5 to 2.8 kΩ |
| | at 45°C (113°F) | 2.0 to 2.3 kΩ |
| | at 50°C (122°F) | 1.6 to 2.0 kΩ |
| | at 55°C (131°F) | 1.3 to 1.6 kΩ |
| | at 60°C (140°F) | 1.1 to 1.4 kΩ |

**NOTICE:**

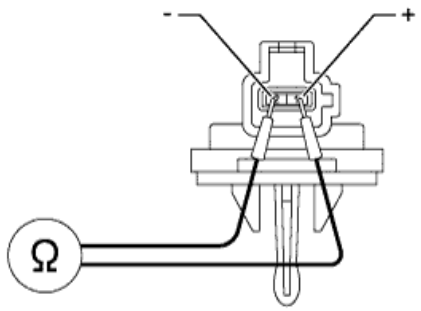
- **Touching the sensor even slightly may change the resistance value. Hold the connector of the sensor.**
- **When measuring the resistance, the sensor temperature must be the same as the ambient temperature.**

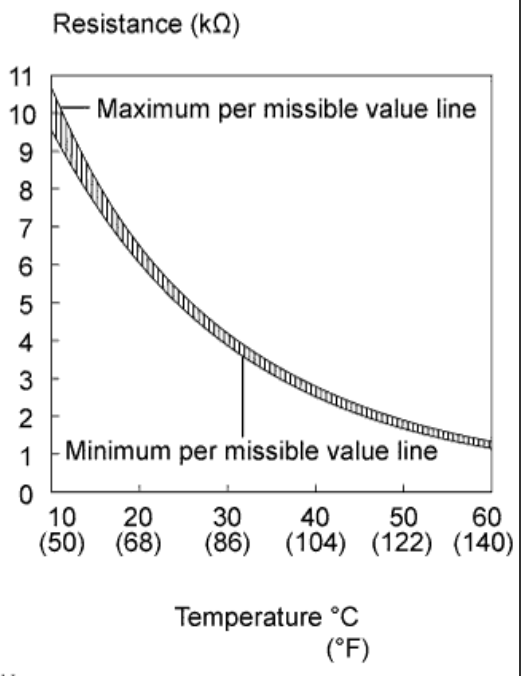
**HINT:**

As the temperature increases, the resistance decreases (see the graph).

If the resistance value is not as specified, replace the sensor.

Component without harness connected:
(Air Duct Temperature Sensor)




H

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for LHD) | B |
| NG (for RHD) | C |

B → REPLACE AIR DUCT TEMPERATURE SENSOR RH (Click here)

C → REPLACE AIR DUCT TEMPERATURE SENSOR LH (Click here)

A

### 3.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - AIR DUCT TEMPERATURE SENSOR)

a. for LHD

i. Disconnect the L12 sensor connector.

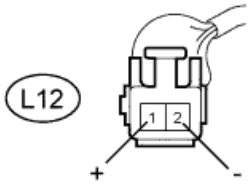
ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

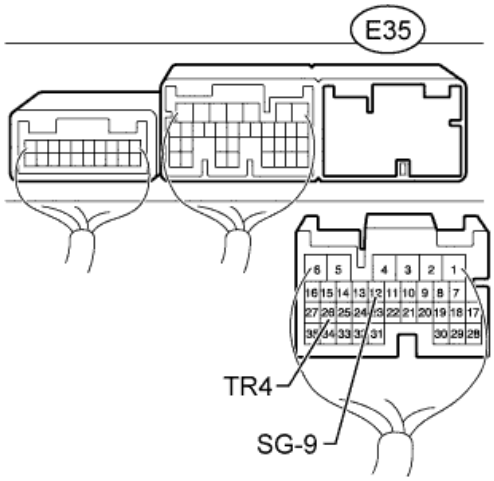
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E35-26 (TR4) - L12-1 (+) | Always | Below 1 Ω |
| E35-12 (SG-9) - L12-2 (-) | | |
| E35-26 (TR4) - Body ground | Always | 10 kΩ or higher |
| E35-12 (SG-9) - Body ground | | |

Front view of wire harness connector:
(to Air Duct Temperature Sensor RH)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




b. for RHD

i. Disconnect the K21 sensor connector.

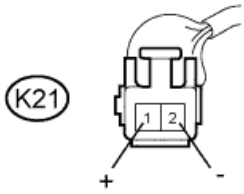
ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

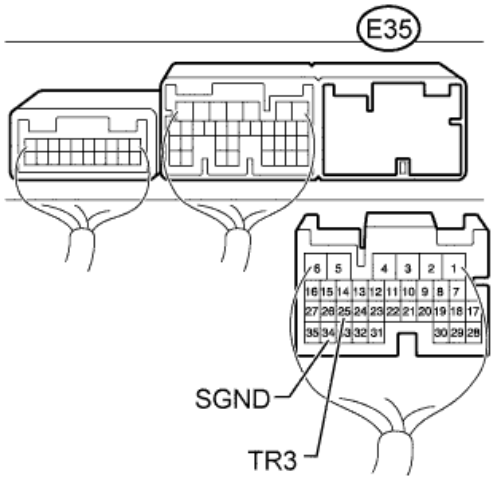
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E35-25 (TR3) - K21-1 (+) | Always | Below 1 Ω |
| E35-34 (SGND) - K21-2 (-) | | |
| E35-25 (TR3) - Body ground | Always | 10 kΩ or higher |
| E35-34 (SGND) - Body ground | | |

Front view of wire harness connector:
(to Air Duct Temperature Sensor LH)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## DTC B1488/88 Rear Air Mix Damper Control Servo Motor Circuit on Front Passenger Side

**for Preparation** Click here

### DESCRIPTION

The rear air mix damper servo motor RH*1 or LH*2 sends pulse signals to indicate the damper position to the air conditioning amplifier assembly. The air conditioning amplifier assembly activates the motor (normal or reverse) based on these signals to move the rear air mix damper to the appropriate position. This adjusts the amount of air passing through the heater core after passing the evaporator and controls the temperature of the blown air.

**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

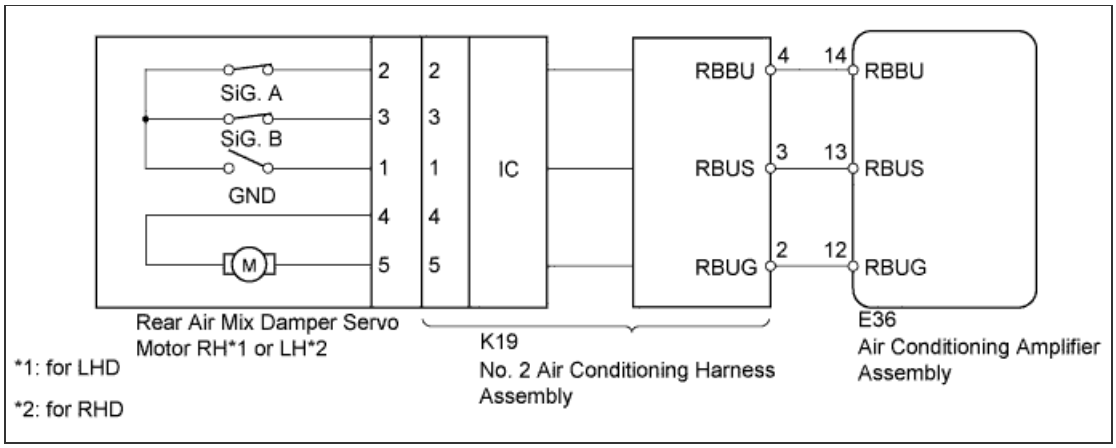
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1488/88 | The rear air mix damper position does not change even if the air conditioning amplifier assembly operates the air mix damper servo motor. | • Rear air mix damper servo motor RH*1<br>• Rear air mix damper servo motor LH*2<br>• No. 2 air conditioning harness assembly<br>• Harness or connector<br>• Air conditioning amplifier assembly |

**HINT:**

*1: for LHD

*2: for RHD

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (REAR AIR MIX DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| A/M Servo Targ Pulse (Rear P) | Rear air mix damper servo motor (for front passenger side) target pulse /<br>Min.: 8, Max.: 53 (for LHD)<br>Min.: 9, Max.: 54 (for RHD) | for LHD<br>• MAX COOL: 53 (pulse)<br>• MAX HOT: 8 (pulse)<br>for RHD<br>• MAX COOL: 9 (pulse)<br>• MAX HOT: 54 (pulse) | - |

**OK:**
**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.CHECK HARNESS AND CONNECTOR (NO. 2 AIR CONDITIONING HARNESS - AIR CONDITIONING AMPLIFIER)

a. Disconnect the K19 No. 2 air conditioning harness connector.

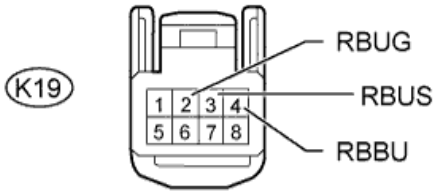
b. Disconnect the E36 amplifier connector.

c. Measure the resistance according to the value(s) in the table below.

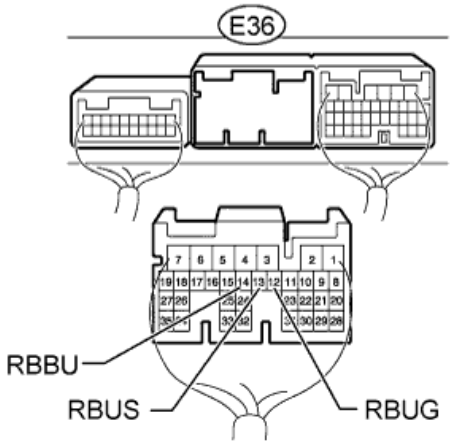
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K19-2 (RBUG) - E36-12 (RBUG) | Always | Below 1 Ω |
| K19-3 (RBUS) - E36-13 (RBUS) | | |
| K19-4 (RBBU) - E36-14 (RBBU) | | |
| E36-12 (RBUG) - Body ground | Always | 10 kΩ or higher |
| E36-13 (RBUS) - Body ground | | |
| E36-14 (RBBU) - Body ground | | |

Front view of wire harness connector:
(to No. 2 Air Conditioning Harness Assembly)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.CHECK REAR AIR MIX DAMPER SERVO MOTOR

a. Replace the rear air mix damper servo motor ( Click here).

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1488/88 is not output | A |
| DTC B1488/88 is output | B |

B → Go to step 4

A → END (REAR AIR MIX DAMPER SERVO MOTOR IS DEFECTIVE)

**4.CHECK NO. 2 AIR CONDITIONING HARNESS ASSEMBLY**

a. Replace the No. 2 air conditioning harness assembly (Click here).

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1488/88 is not output | A |
| DTC B1488/88 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A → END (NO. 2 AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

## DTC B1441/41 Air Mix Damper Control Servo Motor Circuit (Passenger Side)

**for Preparation** Click here

### DESCRIPTION

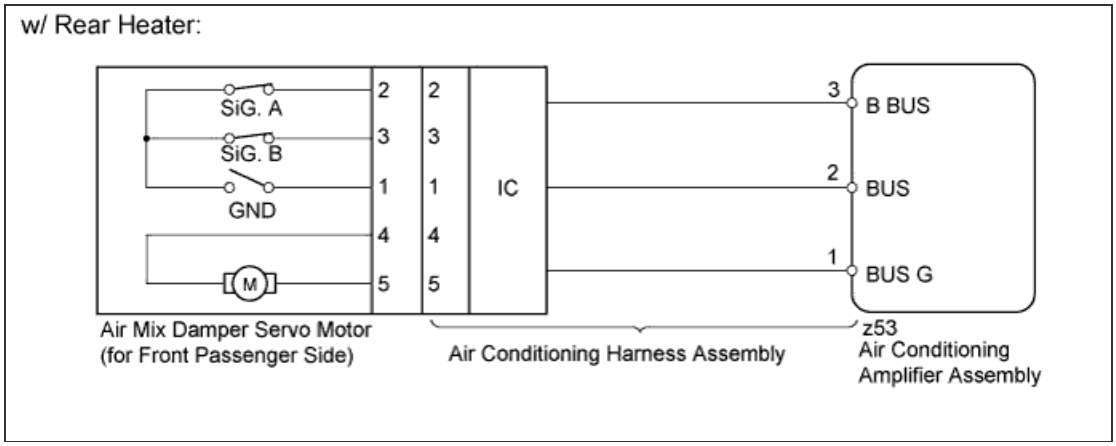
The front air mix damper servo motor (for front passenger side) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the front air mix damper (for front passenger side) to any position. As a result, the amount of air that has passed through the evaporator and is passing through the heater core is adjusted, and the temperature of the air blowing toward the front passenger side is controlled.

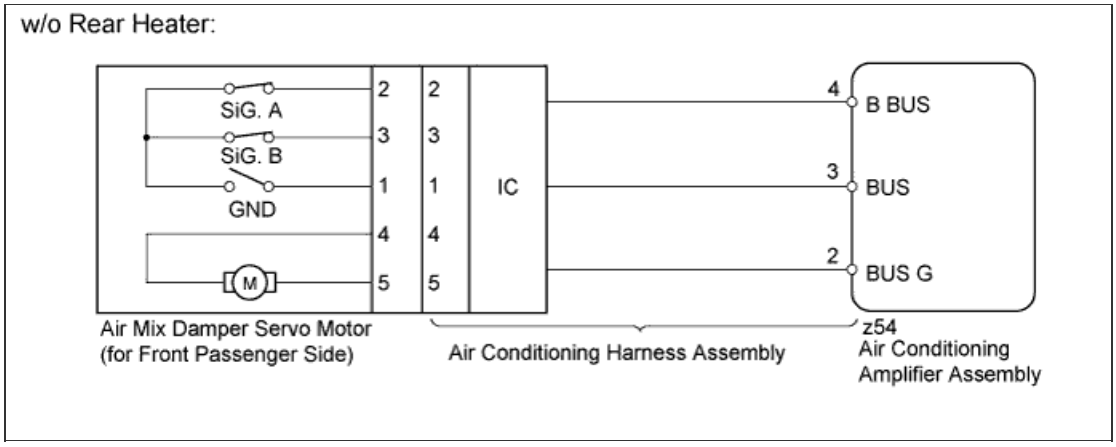
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1441/41 | The air mix damper position does not change even if the air conditioning amplifier assembly operates the air mix damper servo motor. | • Air mix damper servo motor (for front passenger side)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR MIX DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | for LHD<br>• MAX COOL: 8 (pulse) | |

| | | | |
|---|---|---|---|
| Air Mix Servo Targ Pulse (P) | Air mix damper servo motor (for front passenger side) target pulse /<br>Min.: 8, Max.: 90 (for LHD)<br>Min.: 8, Max.: 90 (for RHD) | for RHD<br>• MAX HOT: 90 (pulse)<br>• MAX COOL: 90 (pulse)<br>• MAX HOT: 8 (pulse) | - |

**OK:**

**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.CHECK AIR MIX DAMPER SERVO MOTOR (FOR FRONT PASSENGER SIDE)

a. Replace the air mix damper servo motor (for front passenger side).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1441/41 is not output | A |
| DTC B1441/41 is output | B |

B → Go to step 3

A

END (AIR MIX DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE] IS DEFECTIVE)

## 3.CHECK AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1441/41 is not output | A |
| DTC B1441/41 is output | B |

B

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

## DTC B1497/97 BUS IC Communication Malfunction

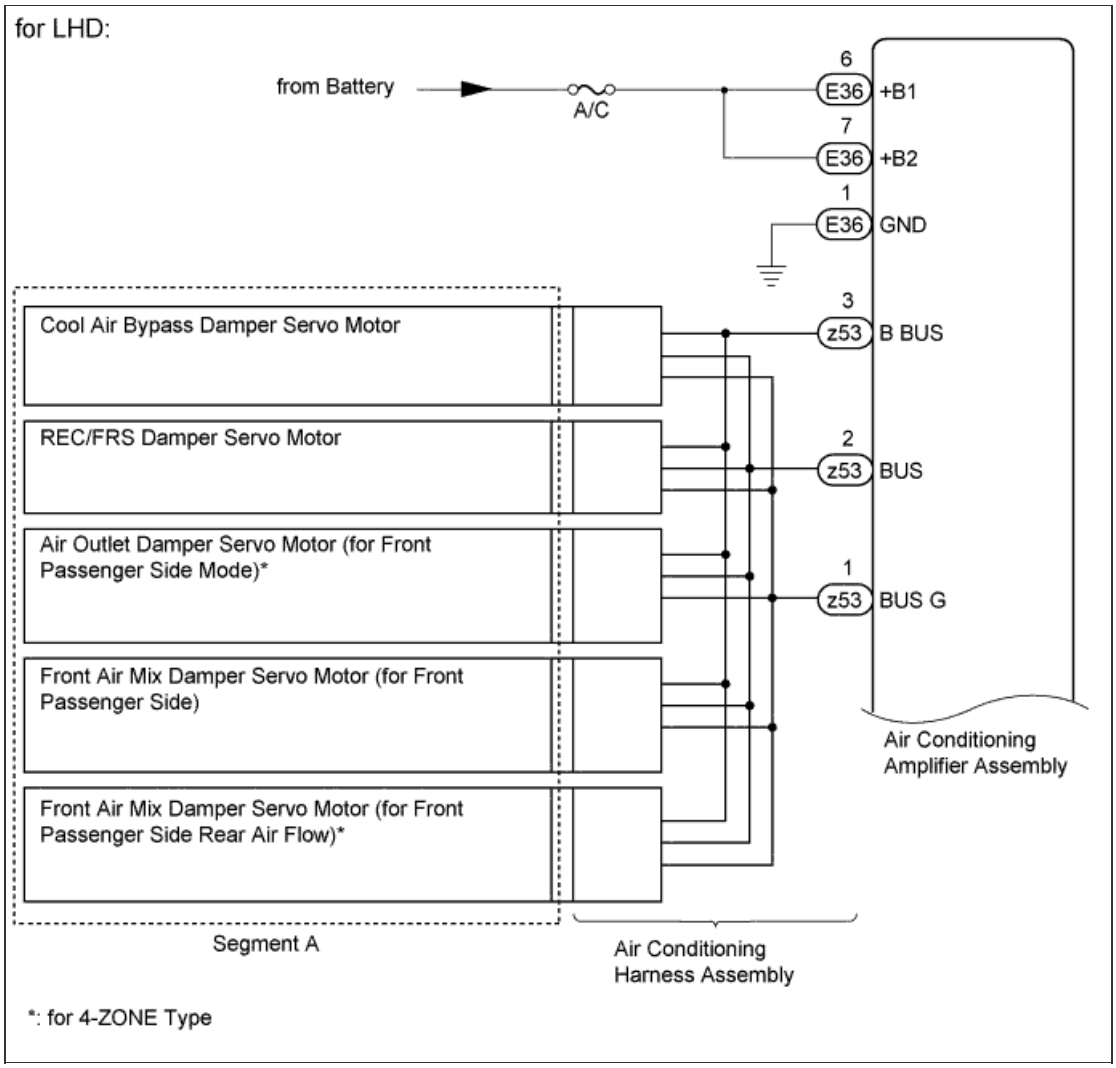
**for Preparation** Click here

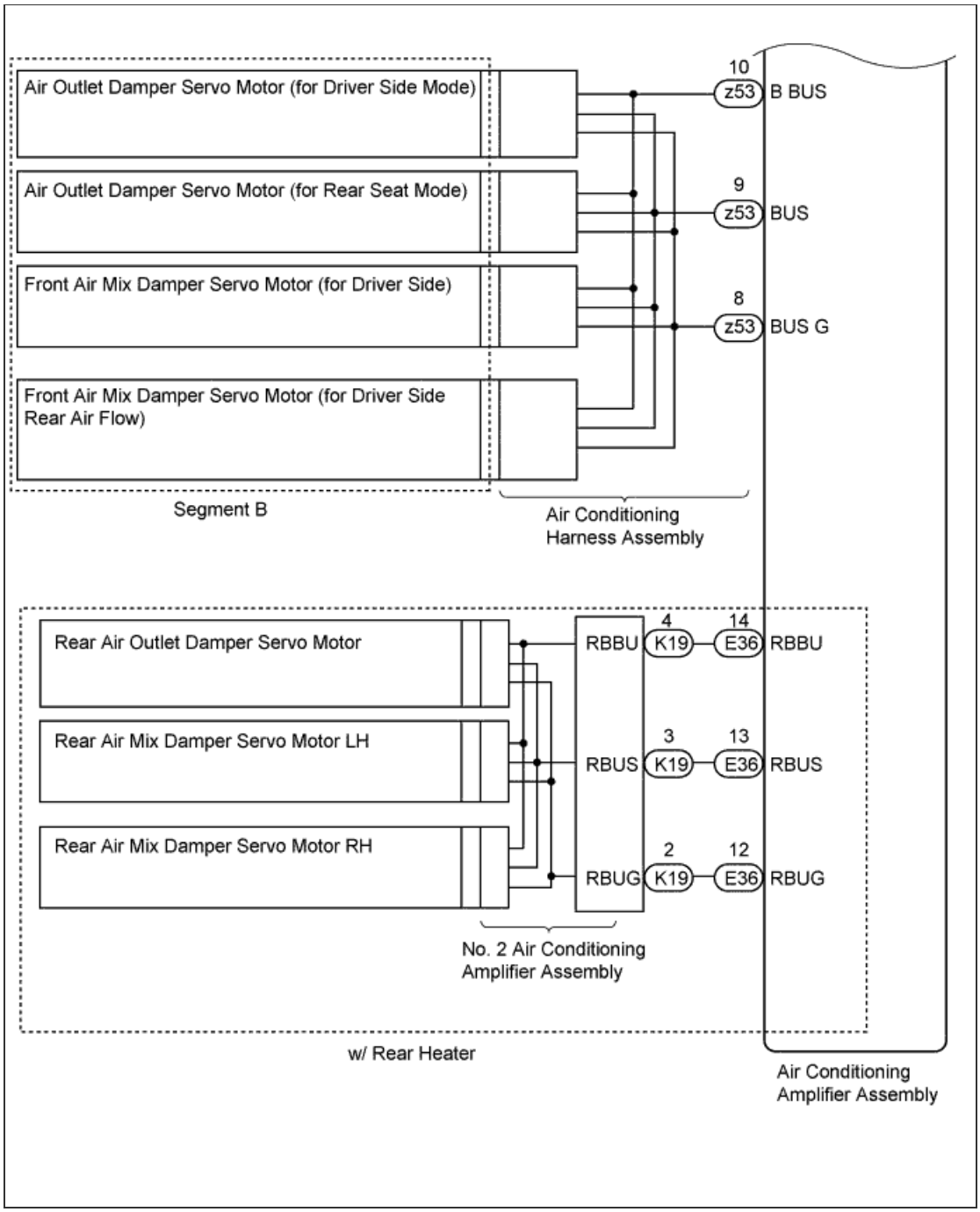
### DESCRIPTION

The air conditioning harness assembly connects the air conditioning amplifier assembly and each servo motor. The air conditioning amplifier assembly supplies power and sends operation instructions to each servo motor through the air conditioning harness assembly. Each servo motor sends the damper position information to the air conditioning amplifier assembly.

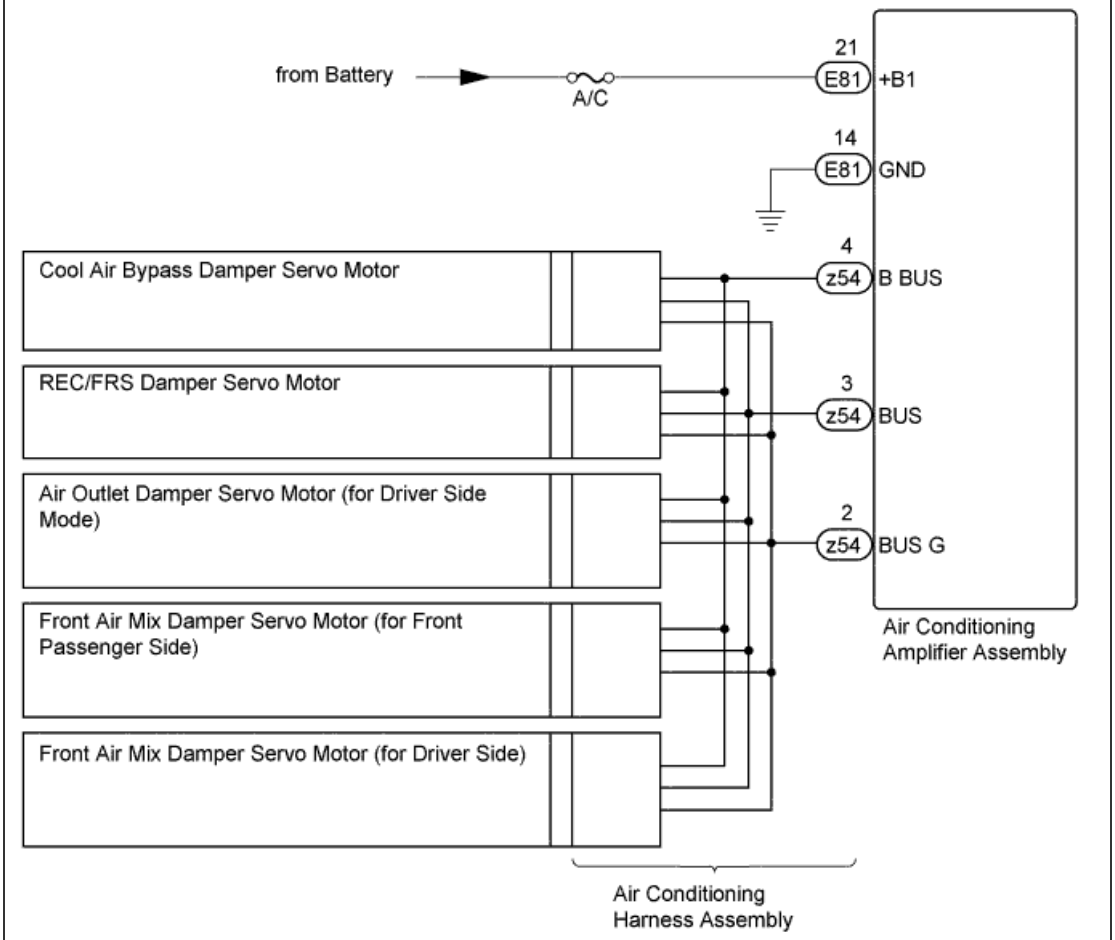
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1497/97 | An open or error in the communication line. | • Cool air bypass damper servo motor<br>• REC/FRS damper servo motor<br>• Air outlet damper servo motor (for front passenger side mode) (for 4-Zone Type)<br>• Front air mix damper servo motor (for front passenger side)<br>• Front air mix damper servo motor (for front passenger side rear air flow) (for 4-Zone Type)<br>• Air outlet damper servo motor (for driver side mode)<br>• Air outlet damper servo motor (for rear seat mode)<br>• Front air mix damper servo motor (for driver side)<br>• Front air mix damper servo motor (for driver side rear air flow)<br>• Air outlet damper servo motor (for DEF mode) (for RHD)<br>• Air conditioning harness assembly<br>• Rear air outlet damper servo motor (w/ Rear Heater)<br>• Rear air mix damper servo motor LH (w/ Rear Heater)<br>• Rear air mix damper servo motor RH (w/ Rear Heater)<br>• No. 2 air conditioning harness assembly (w/ Rear Heater)<br>• Harness or connector (w/ Rear Heater)<br>• Air conditioning amplifier assembly |

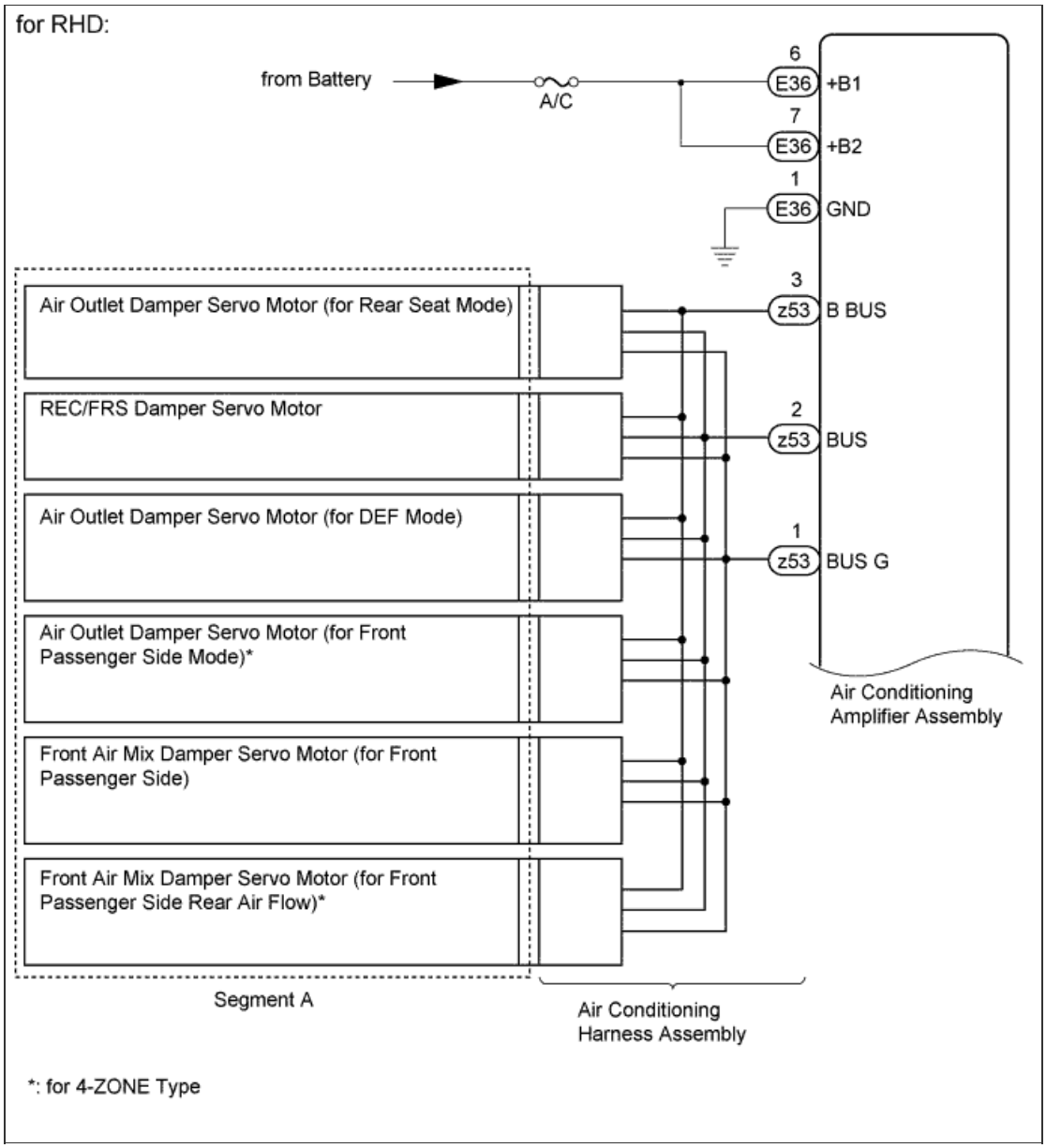
### WIRING DIAGRAM

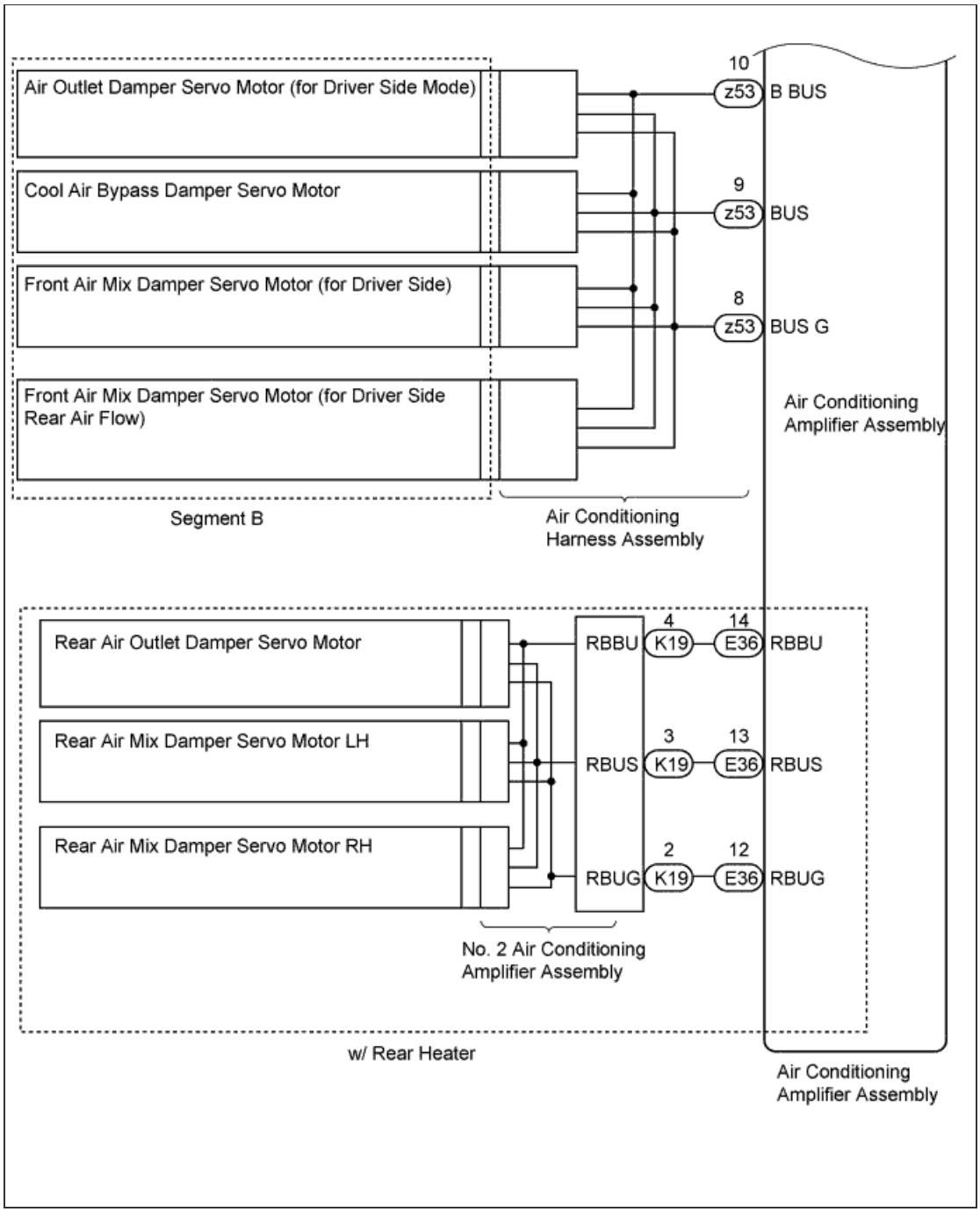

for LHD:
from Battery
A/C
6
E36
+B1
7
E36
+B2
1
E36
GND
Cool Air Bypass Damper Servo Motor
REC/FRS Damper Servo Motor
Air Outlet Damper Servo Motor (for Front Passenger Side Mode)*
Front Air Mix Damper Servo Motor (for Front Passenger Side)
Front Air Mix Damper Servo Motor (for Front Passenger Side Rear Air Flow)*
3
z53
B BUS
2
z53
BUS
1
z53
BUS G
Air Conditioning Amplifier Assembly
Segment A
Air Conditioning Harness Assembly
*: for 4-ZONE Type


Air Outlet Damper Servo Motor (for Driver Side Mode)
Air Outlet Damper Servo Motor (for Rear Seat Mode)
Front Air Mix Damper Servo Motor (for Driver Side)
Front Air Mix Damper Servo Motor (for Driver Side Rear Air Flow)
Segment B
Air Conditioning Harness Assembly
10
z53
B BUS
9
z53
BUS
8
z53
BUS G
Rear Air Outlet Damper Servo Motor
Rear Air Mix Damper Servo Motor LH
Rear Air Mix Damper Servo Motor RH
RBBU
RBUS
RBUG
4
3
2
K19
14
13
12
E36
RBBU
RBUS
RBUG
No. 2 Air Conditioning Amplifier Assembly
w/ Rear Heater
Air Conditioning Amplifier Assembly

for LHD (w/o Rear Heater):




for RHD:
from Battery
A/C
6
E36
+B1
7
E36
+B2
1
E36
GND
3
z53
B BUS
2
z53
BUS
1
z53
BUS G
Air Conditioning Amplifier Assembly
Air Outlet Damper Servo Motor (for Rear Seat Mode)
REC/FRS Damper Servo Motor
Air Outlet Damper Servo Motor (for DEF Mode)
Air Outlet Damper Servo Motor (for Front Passenger Side Mode)*
Front Air Mix Damper Servo Motor (for Front Passenger Side)
Front Air Mix Damper Servo Motor (for Front Passenger Side Rear Air Flow)*
Segment A
Air Conditioning Harness Assembly
*: for 4-ZONE Type




## INSPECTION PROCEDURE

### 1.CHECK FOR DTC

a. Clear the DTC (Click here).

b. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 2

A

### USE SIMULATION METHOD TO CHECK (Click here)

### 2.CHECK HARNESS AND CONNECTOR (POWER SOURCE)

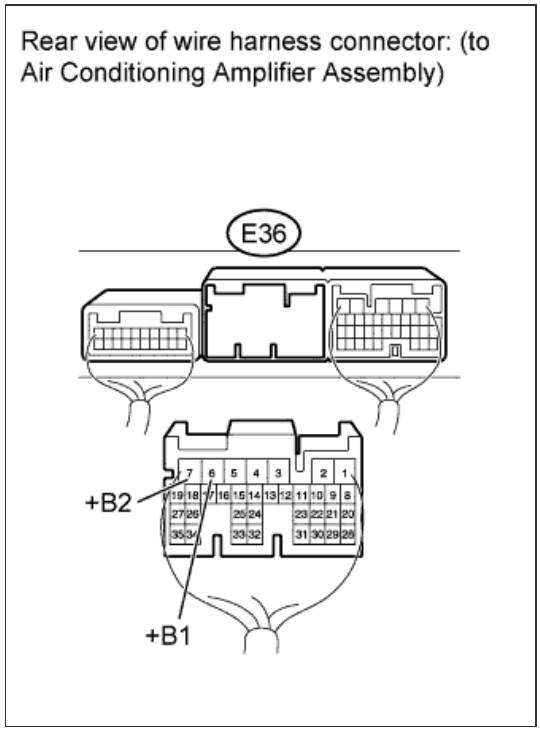
a. w/ Rear Heater

i. Disconnect the E36 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-6 (+B1) - Body ground | Always | 11 to 14 V |
| E36-7 (+B2) - Body ground | | |



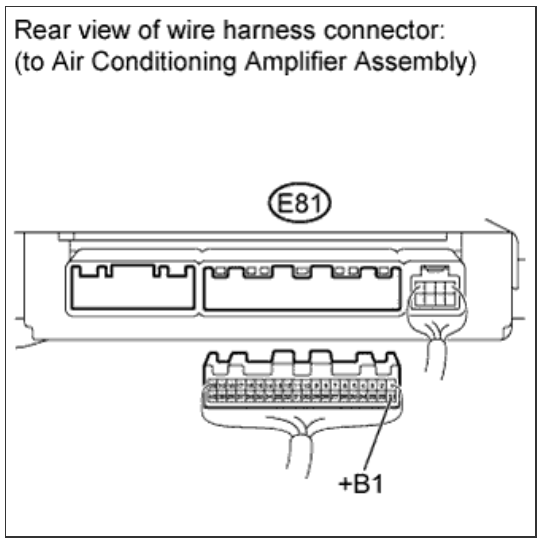

b. w/o Rear Heater

i. Disconnect the E81 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-21 (+B1) - Body ground | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER

a. Select the Active Test, using the intelligent tester to generate a control command, and then check that the servo motor operates.

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Air Mix Servo Targ Pulse(D) | Air mix servo motor pulse (Front A/C D side) | Min.: 8, Max.: 90 | - |
| Air Mix Servo Targ Pulse(P) | Air mix servo motor pulse (Front A/C P side) | Min.: 8, Max.: 90 | - |
| Air Inlet Damper Targ Pulse | Air inlet damper target pulse | Min.: 9, Max.: 37 | - |
| Cool Air Bypass Pulse | Driver side cool air bypass pulse | Min.: 6, Max.: 57 | - |
| Rear Air Mix Servo Targ Pulse | Rear air mix damper servo motor pulse | for LHD<br>Min.: 9, Max.: 54<br>for RHD<br>Min.: 8, Max.: 53 | - |
| | Rear air outlet damper servo | | |

| | | | |
|---|---|---|---|
| DEF A/O Servo Pulse(D) | motor pulse | Min.: 7, Max.: 83 | - |
| Rear A/M Servo Pulse(P) | Rear air mix damper servo motor (for front passenger side) pulse | for LHD<br>Min.: 8, Max.: 53<br>for RHD<br>Min.: 9, Max.: 54 | - |
| Face A/O Servo Pulse(D) | Air outlet servo motor pulse (D side) | Min.: 6, Max.: 117 | - |
| Face A/O Servo Pulse(P) | Air outlet servo motor pulse (P side) | for LHD<br>Min.: 6, Max.: 117<br>for RHD<br>Min.: 9, Max.: 120 | - |
| A/M Servo Puls(F&R D) | Air mix servo motor pulse (Front A/C rear air flow D side) | for LHD<br>Min.: 9, Max.: 54<br>for RHD<br>Min.: 8, Max.: 53 | - |
| A/M Servo Puls(F&R P) | Air mix servo motor pulse (Front A/C rear air flow P side) | for LHD<br>Min.: 8, Max.: 53<br>for RHD<br>Min.: 9, Max.: 54 | - |
| A/O Servo Pulse(F&R D) | Air outlet servo motor pulse (Front A/C rear air flow D side) | Min.: 9, Max.: 79 | - |
| A/O Servo Pulse(Rr D) | Air outlet servo motor pulse (Rr D side) | Min.: 7, Max.: 83 | - |

**OK:**

**Arm of the servo motor selected in the Active Test moves smoothly**

b. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in servo motor connected to air conditioning harness (for LHD) | A |
| Malfunction in servo motor connected to air conditioning harness (for RHD) | B |
| Malfunction in servo motor connected to air conditioning harness (for Rear) (w/ Rear Heater) | C |

B → Go to step 24

C → Go to step 39

A

## 4.CHECK VEHICLE TYPE

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in servo motor connected to air conditioning harness (Segment A) (w/ Rear Heater) | A |
| Malfunction in servo motor connected to air conditioning harness (Segment B) (w/ Rear Heater) | B |
| Malfunction in servo motor connected to air conditioning harness (w/o Rear Heater) | C |

B → Go to step 12

C → Go to step 17

A

## 5.SYSTEM CHECK (AIR CONDITIONING HARNESS [SEGMENT A])

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in cool air bypass damper servo motor | A |
| Malfunction in REC/FRS damper servo motor | B |
| Malfunction in air outlet damper servo motor (for front passenger side mode) | C |
| Malfunction in air mix damper servo motor | D |
| Malfunction in all of the servo motors connected to the air conditioning harness (segment A) | E |

B → Go to step 7

C → Go to step 8

D → Go to step 9

E → Go to step 38

A

## 6.CHECK COOL AIR BYPASS DAMPER SERVO MOTOR

a. Replace the cool air bypass damper servo motor.

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

## END (COOL AIR BYPASS DAMPER SERVO MOTOR IS DEFECTIVE)

## 7.CHECK REC/FRS DAMPER SERVO MOTOR

a. Replace the REC/FRS damper servo motor.

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (REC/FRS DAMPER SERVO MOTOR IS DEFECTIVE)

8.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR FRONT PASSENGER SIDE MODE)

a. Replace the air outlet damper servo motor (for front passenger side mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE MODE] IS DEFECTIVE)

9.CHECK AIR MIX SERVO MOTOR

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in air mix damper servo motor (front passenger side) | A |
| Malfunction in front air mix damper servo motor (front passenger side rear air flow) | B |

B → Go to step 11

A

10.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FRONT PASSENGER SIDE)

a. Replace the air mix damper servo motor (front passenger side).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE] IS DEFECTIVE

## 11.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FRONT PASSENGER SIDE REAR AIR FLOW)

a. Replace the front air mix damper servo motor (front passenger side rear air flow).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE REAR AIR FLOW] IS DEFECTIVE)

## 12.SYSTEM CHECK (AIR CONDITIONING HARNESS [SEGMENT B])

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in air mix damper servo motor (for driver side mode) | A |
| Malfunction in air outlet damper servo motor (for rear seat mode) | B |
| Malfunction in front air mix damper servo motor (for driver side mode) | C |
| Malfunction in front air mix damper servo motor (for driver side rear air flow) | D |
| Malfunction in all of the servo motors connected to the air conditioning harness (segment A) | E |

B → Go to step 14

C → Go to step 15

D → Go to step 16

E → Go to step 38

A

## 13.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR DRIVER SIDE MODE)

a. Replace the air mix damper servo motor (for driver side mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR DRIVER SIDE MODE] IS DEFECTIVE)

## 14.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR REAR SEAT MODE)

a. Replace the air outlet damper servo motor (for rear seat mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR REAR SEAT MODE] IS DEFECTIVE)

## 15.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR DRIVER SIDE)

a. Replace the front air mix damper servo motor (for driver side).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR DRIVER SIDE] IS DEFECTIVE)

## 16.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR DRIVER SIDE REAR AIR FLOW)

a. Replace the front air mix damper servo motor (for driver side rear air flow).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

**END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR DRIVER SIDE REAR AIR FLOW] IS DEFECTIVE)**

**17.SYSTEM CHECK**

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in cool air bypass damper servo motor | A |
| Malfunction in REC/FRS damper servo motor | B |
| Malfunction in front air outlet damper servo motor (for driver side mode) | C |
| Malfunction in air mix damper servo motor | D |
| Malfunction in all of the servo motors connected to the air conditioning harness (segment A) | E |

B → Go to step 19

C → Go to step 20

D → Go to step 21

E → Go to step 38

A

**18.CHECK COOL AIR BYPASS DAMPER SERVO MOTOR**

a. Replace the cool air bypass damper servo motor.

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (COOL AIR BYPASS DAMPER SERVO MOTOR IS DEFECTIVE)

19.CHECK REC/FRS DAMPER SERVO MOTOR

a. Replace the REC/FRS damper servo motor.

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (REC/FRS DAMPER SERVO MOTOR IS DEFECTIVE)

20.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR DRIVER SIDE MODE)

a. Replace the front air outlet damper servo motor (for driver side mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR DRIVER SIDE MODE] IS DEFECTIVE)

21.CHECK AIR MIX DAMPER SERVO MOTOR

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in front air mix damper servo motor (front passenger side) | A |
| Malfunction in front air mix damper servo motor (for driver side) | B |

B → Go to step 23

A

## 22.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR FRONT PASSENGER SIDE)

a. Replace the front air mix damper servo motor (for front passenger side).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1441/41 is not output | A |
| DTC B1441/41 is output | B |

B → Go to step 38

A

END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE] IS DEFECTIVE

## 23.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR DRIVER SIDE)

a. Replace the front air mix damper servo motor (for driver side).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR DRIVER SIDE] IS DEFECTIVE)

## 24.CHECK VEHICLE TYPE

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in servo motor connected to air conditioning harness (Segment A) | A |
| Malfunction in servo motor connected to air conditioning harness (Segment B) | B |

B → Go to step 33

A

## 25.SYSTEM CHECK (AIR CONDITIONING HARNESS [SEGMENT A])

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in REC/FRS damper servo motor | A |
| Malfunction in front air mix damper servo motor (for front passenger side) | B |
| Malfunction in front air mix damper servo motor (for front passenger side rear air flow) | C |
| Malfunction in air outlet damper servo motor | D |
| Malfunction in all of the servo motors connected to the air conditioning harness (segment A) | E |

B → Go to step 27

C → Go to step 28

D → Go to step 29

E → Go to step 38

A

## 26.CHECK REC/FRS DAMPER SERVO MOTOR

a. Replace the REC/FRS damper servo motor.

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

## END (REC/FRS DAMPER SERVO MOTOR IS DEFECTIVE)

## 27.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR FRONT PASSENGER SIDE)

a. Replace the front air mix damper servo motor (for front passenger side).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1441/41 is not output | A |
| DTC B1441/41 is output | B |

B → Go to step 38

A

**END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE] IS DEFECTIVE**

**28.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR FRONT PASSENGER SIDE REAR AIR FLOW)**

a. Replace the front air mix damper servo motor (for front passenger side rear air flow).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

**END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE REAR AIR FLOW] IS DEFECTIVE)**

**29.CHECK AIR OUTLET DAMPER SERVO MOTOR**

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in air outlet damper servo motor (for front passenger side mode) | A |
| Malfunction in air outlet damper servo motor (for rear seat mode) | B |
| Malfunction in air outlet damper servo motor (for DEF mode) | C |

B → Go to step 31

C → Go to step 32

A

**30.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR FRONT PASSENGER SIDE MODE)**

a. Replace the air outlet damper servo motor (for front passenger side mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE MODE] IS DEFECTIVE)

## 31.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR REAR SEAT MODE)

a. Replace the air outlet damper servo motor (for rear seat mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR REAR SEAT MODE] IS DEFECTIVE)

## 32.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR DEF MODE)

a. Replace the air outlet damper servo motor (for DEF mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR DEF MODE] IS DEFECTIVE)

## 33.SYSTEM CHECK (SEGMENT B)

a. According to the test, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Malfunction in air outlet damper servo motor (for driver side mode) | A |
| Malfunction in cool air bypass damper servo motor | B |
| Malfunction in front air mix damper servo motor (for driver side) | C |
| Malfunction in air mix damper servo motor (for driver side rear air flow) | D |
| Malfunction in all of the servo motors connected to the air conditioning harness (segment B) | E |

B → Go to step 35

C → Go to step 36

D → Go to step 37

E → Go to step 38

A

**34.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR DRIVER SIDE MODE)**

a. Replace the air outlet damper servo motor (for driver side mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

**END (AIR OUTLET DAMPER SERVO MOTOR [FOR DRIVER SIDE MODE] IS DEFECTIVE)**

**35.CHECK COOL AIR BYPASS DAMPER SERVO MOTOR**

a. Replace the cool air bypass damper servo motor.

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| | |

| | |
|---|---|
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (COOL AIR BYPASS DAMPER SERVO MOTOR IS DEFECTIVE)

36.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR DRIVER SIDE)

a. Replace the front air mix damper servo motor (for driver side).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR DRIVER SIDE] IS DEFECTIVE)

37.CHECK FRONT AIR MIX DAMPER SERVO MOTOR (FOR DRIVER SIDE REAR AIR FLOW)

a. Replace the air mix damper servo motor (for driver side rear air flow).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 38

A

END (FRONT AIR MIX DAMPER SERVO MOTOR [FOR DRIVER SIDE REAR AIR FLOW] IS DEFECTIVE)

38.CHECK AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

39.SYSTEM CHECK (REAR AIR CONDITIONING HARNESS)

a. According to the test, proceed to the next step.

Result

| Result | Proceed to |
|---|---|
| Malfunction in rear air mix damper servo motor LH | A |
| Malfunction in rear air mix damper servo motor RH | B |
| Malfunction in rear air outlet damper servo motor | C |
| Malfunction in all of the servo motors connected to the rear air conditioning harness | D |

B → Go to step 41

C → Go to step 42

D → Go to step 43

A

40.CHECK REAR AIR MIX DAMPER SERVO MOTOR LH

a. Replace the rear air mix damper servo motor LH ( Click here).

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 43

A

END (REAR AIR MIX DAMPER SERVO MOTOR LH IS DEFECTIVE)

41.CHECK REAR AIR MIX DAMPER SERVO MOTOR RH

a. Replace the rear air mix damper servo motor RH ( Click here).

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 43

A

END (REAR AIR MIX DAMPER SERVO MOTOR RH IS DEFECTIVE)

## 42.CHECK REAR AIR OUTLET DAMPER SERVO MOTOR

a. Replace the rear air outlet damper servo motor ( Click here).

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/8897 is not output | A |
| DTC B1497/97 is output | B |

B → Go to step 43

A

END (REAR AIR OUTLET DAMPER SERVO MOTOR IS DEFECTIVE)

## 43.CHECK HARNESS AND CONNECTOR (NO. 2 AIR CONDITIONING HARNESS - AIR CONDITIONING AMPLIFIER)

a. Disconnect the K19 No. 2 air conditioning harness connector.

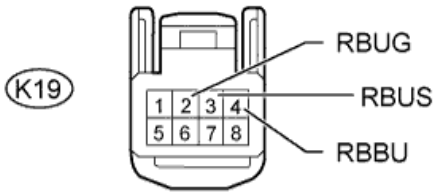
b. Disconnect the E36 amplifier connector.

c. Measure the resistance according to the value(s) in the table below.

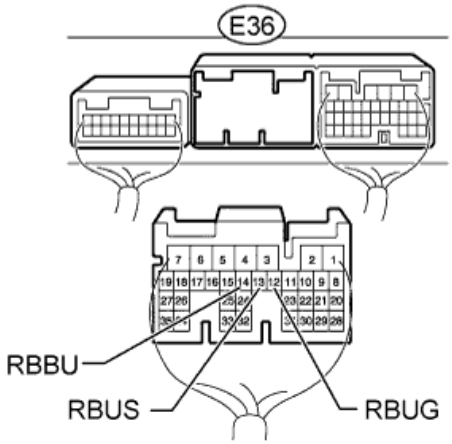
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K19-2 (RBUG) - E36-12 (RBUG) | Always | Below 1 Ω |
| K19-3 (RBUS) - E36-13 (RBUS) | | |
| K19-4 (RBBU) - E36-14 (RBBU) | | |
| E36-12 (RBUG) - Body ground | Always | 10 kΩ or higher |
| E36-13 (RBUS) - Body ground | | |
| E36-14 (RBBU) - Body ground | | |

Front view of wire harness connector:
(to No. 2 Air Conditioning Harness Assembly)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**44.CHECK NO. 2 AIR CONDITIONING HARNESS ASSEMBLY**

a. Replace the No. 2 air conditioning harness assembly (Click here).

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497/97 is not output | A |
| DTC B1497/97 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**END (NO. 2 AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)**

## DTC B1442/42 Air Inlet Damper Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

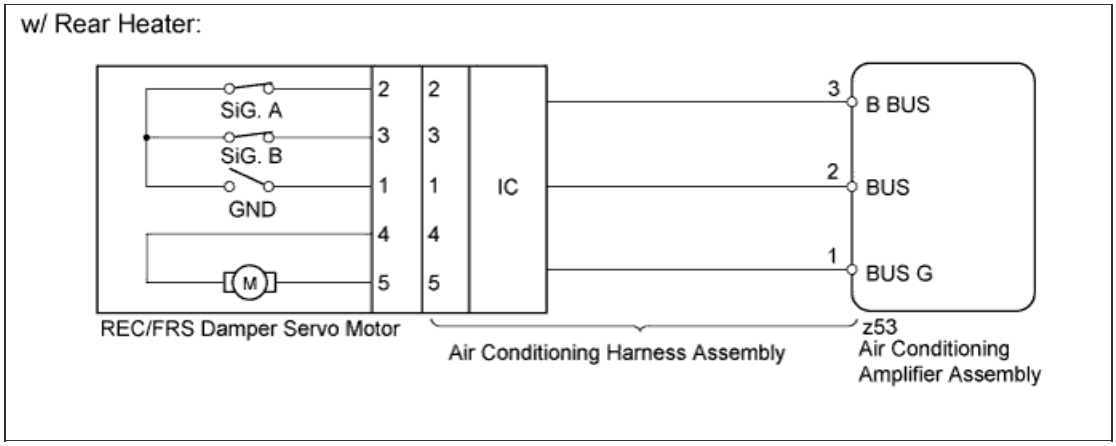
The REC/FRS damper servo motor sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air inlet damper to any position, which controls the intake air settings (fresh, fresh/recirculation and recirculation).

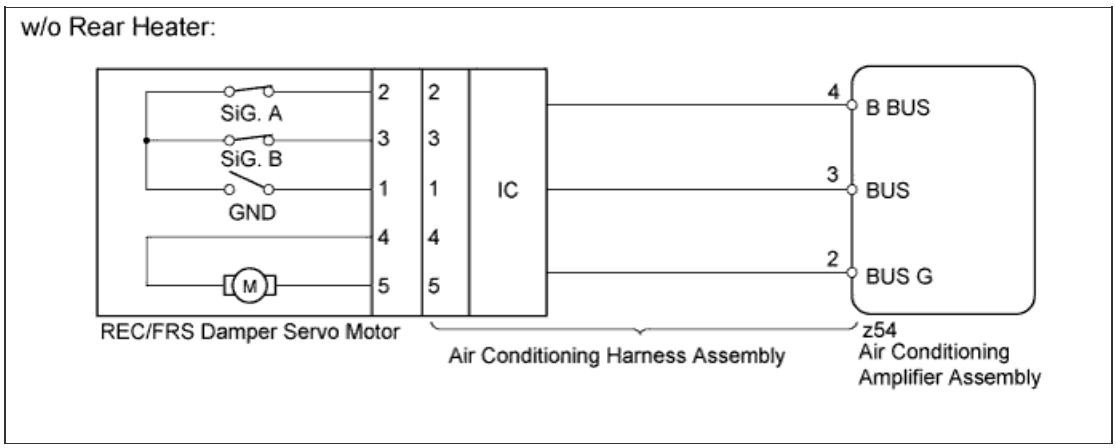
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1442/42 | The air inlet damper position does not change even if the air conditioning amplifier assembly operates the REC/FRS damper servo motor. | • REC/FRS damper servo motor<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (REC/FRS DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Air Inlet Damper Targ Pulse | REC/FRS damper servo motor target pulse / Min.: 9, Max.: 37 | for LHD<br>Recirculation: 37 (pulse)<br>Fresh: 9 (pulse)<br>for RHD<br>Recirculation: 9 (pulse)<br>Fresh: 37 (pulse) | - |

**OK:**
**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**2.CHECK REC/FRS DAMPER SERVO MOTOR**

a. Replace the REC/FRS damper servo motor.

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1442/42 is not output | A |
| DTC B1442/42 is output | B |

B → Go to step 3

A

**END (REC/FRS DAMPER SERVO MOTOR IS DEFECTIVE)**

**3.CHECK AIR CONDITIONING HARNESS ASSEMBLY**

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1442/42 is not output | A |
| DTC B1442/42 is output | B |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

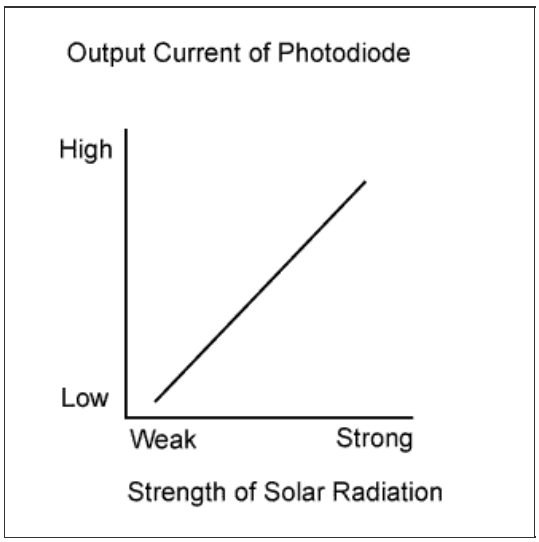
A

**END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)**

## DTC B14A2 Driver Side Solar Sensor Short Circuit

**for Preparation** Click here

### DESCRIPTION



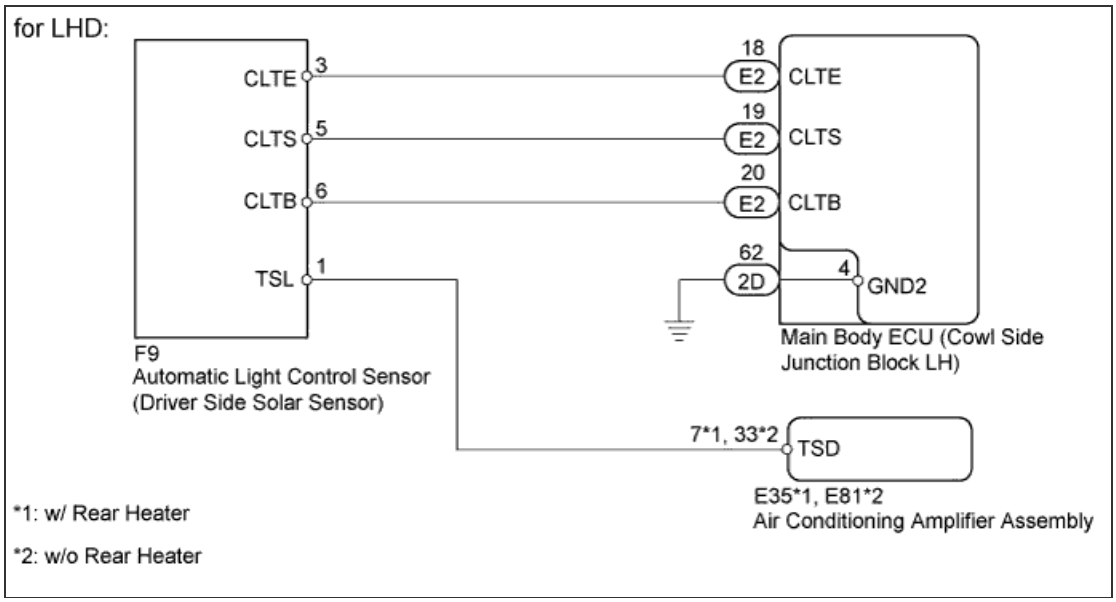

The automatic light control sensor (solar sensor), which is installed on the upper side of the instrument panel, detects sunlight and controls the air conditioning in auto mode. The output current from the solar sensor varies according to the amount of sunlight. When the sunlight increases, the output current increases. As the sunlight decreases, the output current decreases. The air conditioning amplifier assembly detects output current from the solar sensor.

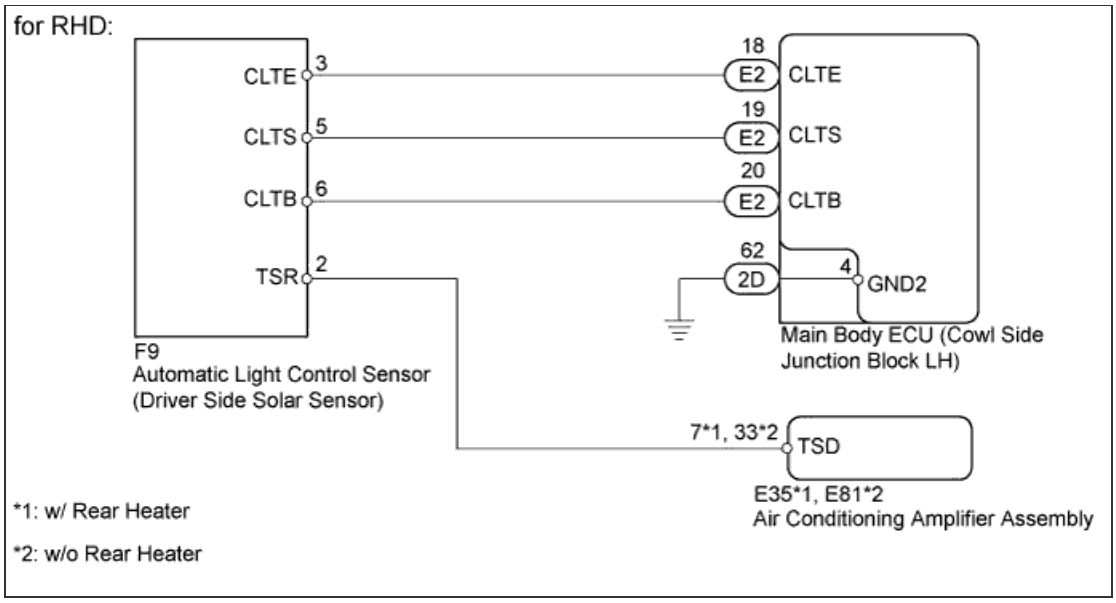
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B14A2 | An open or short in the driver side solar sensor circuit. | • Automatic light control sensor (solar sensor)<br>• Harness or connector between solar sensor and air conditioning amplifier assembly<br>• Harness or connector between solar sensor and main body ECU (cowl side junction block LH)<br>• Main body ECU (cowl side junction block LH)<br>• Air conditioning amplifier assembly |

**HINT:**

If DTC B1244 is output at the same time, troubleshoot DTC B1244 first.

### WIRING DIAGRAM






## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (DRIVER SIDE SOLAR SENSOR)

a. Use the Data List to check if the driver side solar sensor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Solar Sensor (D Side) | Driver side solar sensor / Min.: 0, Max.: 255 | Driver side solar sensor voltage increases as brightness increases | Open in the circuit: 0. Short in the circuit: 255. |

**OK:**

**The display is as specified in the normal condition.**

NG → Go to step 2

OK →

### REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

### 2.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - AUTOMATIC LIGHT CONTROL SENSOR)

a. w/ Rear Heater

i. Disconnect the F9 sensor connector.

ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

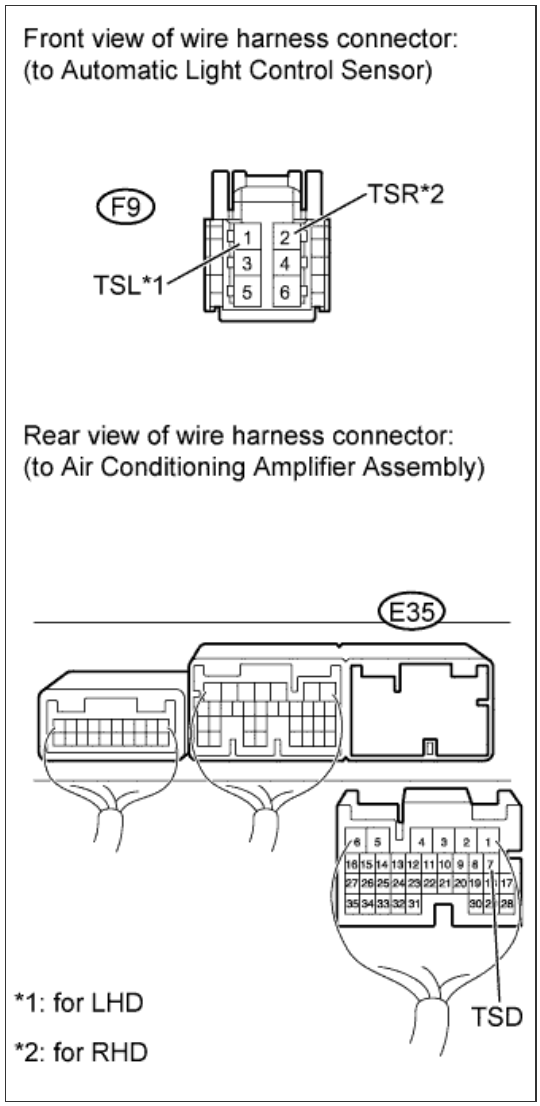
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E35-7 (TSD) - F9-1 (TSL)*1 | Always | Below 1 Ω |
| E35-7 (TSD) - F9-2 (TSR)*2 | Always | Below 1 Ω |
| E35-7 (TSD) - Body ground | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD




b. w/o Rear Heater

i. Disconnect the F9 sensor connector.

ii. Disconnect the E81 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

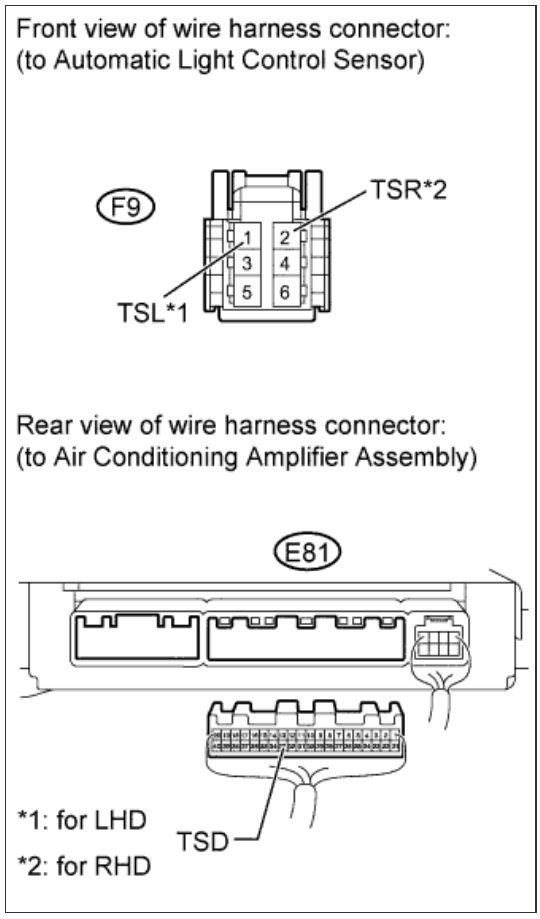
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-33 (TSD) - F9-1 (TSL)*1 | Always | Below 1 Ω |
| E81-33 (TSD) - F9-2 (TSR)*2 | Always | Below 1 Ω |
| E81-33 (TSD) - Body ground | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.INSPECT AUTOMATIC LIGHT CONTROL SENSOR (TSL, TSR - CLTE VOLTAGE)

a. Remove the automatic light control sensor (Click here).

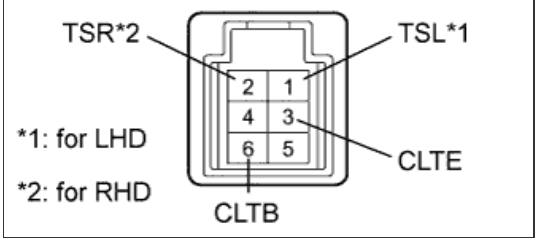
b. Apply battery voltage between terminals 6 (CLTB) and 3 (CLTE) of the solar sensor.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (TSL) - 3 (CLTE)*1 | Sensor exposed to electric light | 0.8 to 4.3 V |
| | Sensor covered with a cloth | Below 0.8 V |
| 2 (TSR) - 3 (CLTE)*2 | Sensor exposed to electric light | 0.8 to 4.3 V |
| | Sensor covered with a cloth | Below 0.8 V |

Component with harness connected:
(Automatic Light Control Sensor)




**HINT:**

- **As the inspection light is moved away from the sensor, the voltage decreases.**
- **Use an incandescent light for inspection. Bring it about 300 mm (11.8 in.) from the solar sensor.**
- ***1: for LHD**
- ***2: for RHD**

NG → REPLACE AUTOMATIC LIGHT CONTROL SENSOR (Click here)

OK

## 4.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - AUTOMATIC LIGHT CONTROL SENSOR)

a. Disconnect the E2 ECU connector.

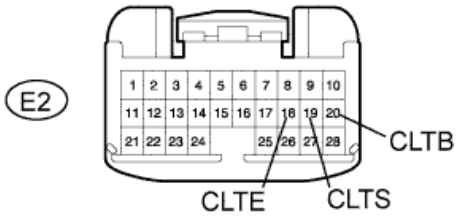
b. Disconnect the F9 sensor connector.

c. Measure the resistance according to the value(s) in the table below.

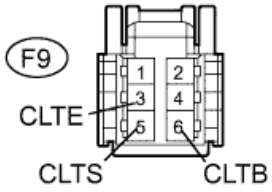
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E2-20 (CLTB) - F9-6 (CLTB) | Always | Below 1 Ω |
| E2-19 (CLTS) - F9-5 (CLTS) | | |
| E2-18 (CLTE) - F9-3 (CLTE) | | |
| E2-20 (CLTB) - Body ground | Always | 10 kΩ or higher |
| E2-19 (CLTS) - Body ground | | |
| E2-18 (CLTE) - Body ground | | |

Front view of wire harness connector:
(to Main Body ECU)




Front view of wire harness connector:
(to Automatic Light Control Sensor)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## DTC B1443/43 Air Outlet Damper Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

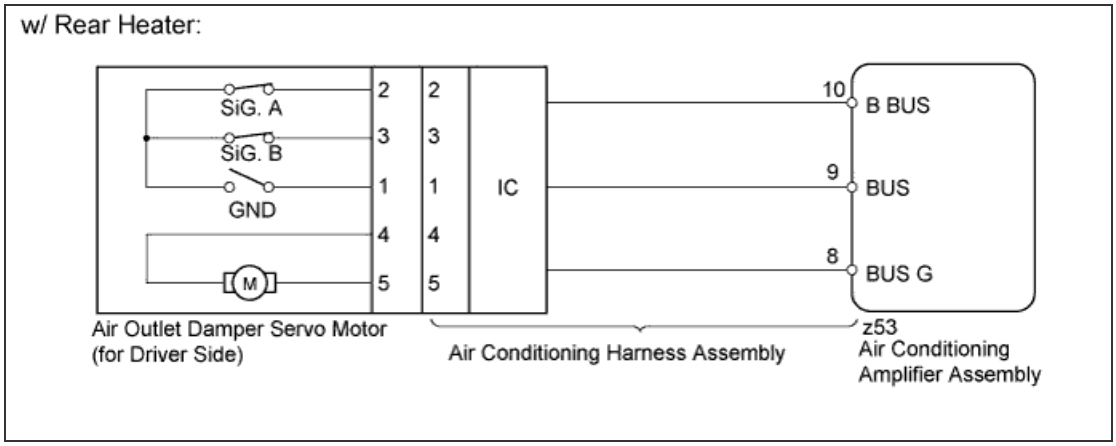
The air outlet damper servo motor (for driver side mode) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air outlet damper (for driver side mode) to any position, which controls the air outlet changes.

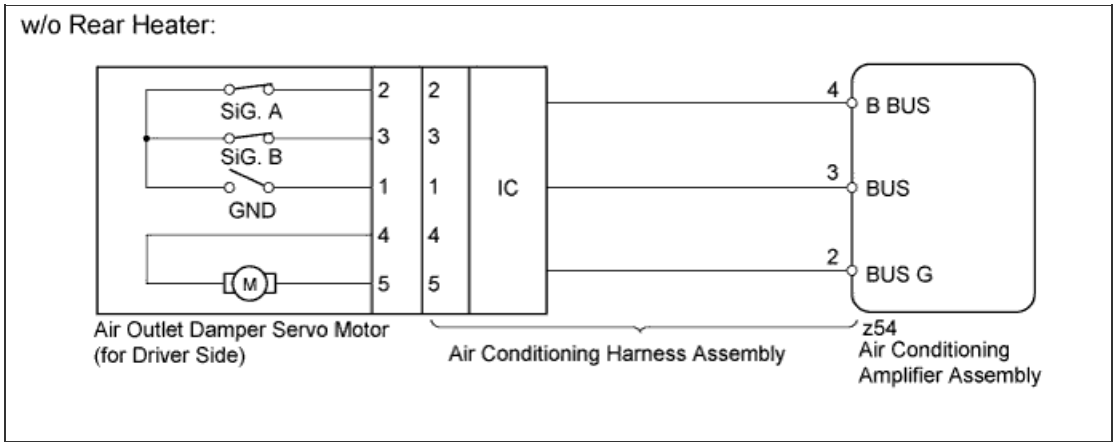
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1443/43 | The air outlet damper position does not change even if the air conditioning amplifier assembly operates the air outlet damper servo motor. | • Air outlet damper servo motor (for driver side mode)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR OUTLET DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| A/O Damper FACE Pos(D) | Air outlet damper servo motor (for driver side mode) target pulse / | FACE1: 117 (pulse)<br>FACE2: 109 (pulse)<br>B/L1: 93 (pulse)<br>B/L2: 81 (pulse)<br>FOOT-F: 41 (pulse) | - |

| | | | |
|---|---|---|---|
| | Min.: 6, Max.: 117 | FOOT-R: 41 (pulse)<br>FOOT-D: 52 (pulse)<br>F/D: 18 (pulse)<br>DEF: 6 (pulse) | |

**OK:**
**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR DRIVER SIDE)

a. Replace the air outlet damper servo motor (for driver side mode)

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1443/43 is not output | A |
| DTC B1443/43 is output | B |

B → Go to step 3

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR DRIVER SIDE] IS DEFECTIVE)

## 3.CHECK AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1443/43 is not output | A |
| DTC B1443/43 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

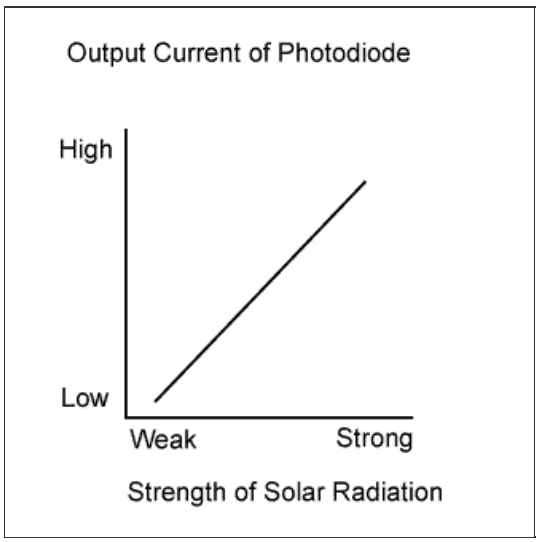
A

END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

## DTC B14A3 Front Passenger Side Solar Sensor Short Circuit

**for Preparation** Click here

### DESCRIPTION



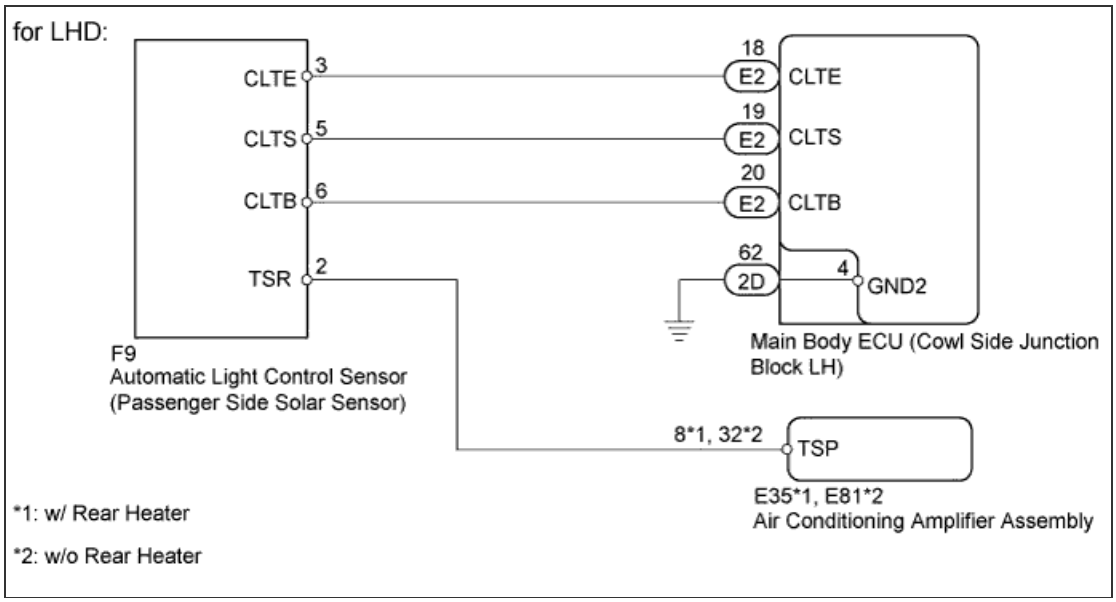

The automatic light control sensor (solar sensor), which is installed on the upper side of the instrument panel, detects sunlight and controls the air conditioning in auto mode. The output current from the solar sensor varies according to the amount of sunlight. When the sunlight increases, the output current increases. As the sunlight decreases, the output current decreases. The air conditioning amplifier assembly detects output current from the solar sensor.

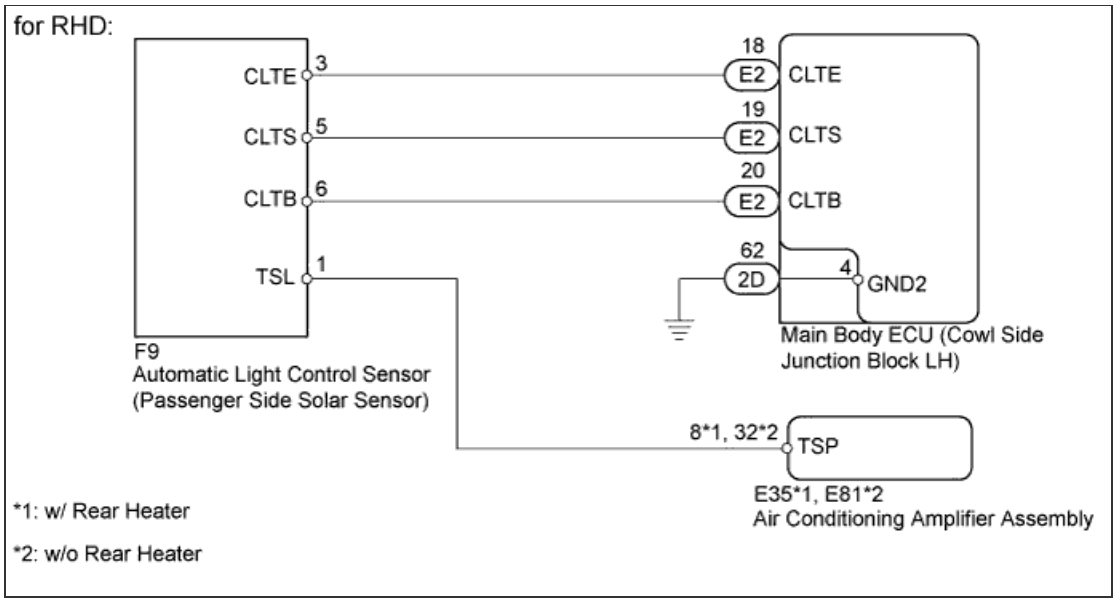
| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B14A3 | An open or short in the passenger side solar sensor circuit. | • Automatic light control sensor (solar sensor)<br>• Harness or connector between solar sensor and air conditioning amplifier assembly<br>• Harness or connector between solar sensor and main body ECU (cowl side junction block LH)<br>• Main body ECU (cowl side junction block LH)<br>• Air conditioning amplifier assembly |

**HINT:**

If DTC B1244 is output at the same time, troubleshoot DTC B1244 first.

### WIRING DIAGRAM






## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (PASSENGER SIDE SOLAR SENSOR)

a. Use the Data List to check if the front passenger side solar sensor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Solar Sensor (P Side) | Passenger side solar sensor / Min.: 0, Max.: 255 | Passenger side solar sensor voltage increases as brightness increases | Open in the circuit: 0. Short in the circuit: 255. |

**OK:**

**The display is as specified in the normal condition.**

NG → Go to step 2

OK →

### REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

### 2.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - AUTOMATIC LIGHT CONTROL SENSOR)

a. w/ Rear Heater

i. Disconnect the F9 sensor connector.

ii. Disconnect the E35 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

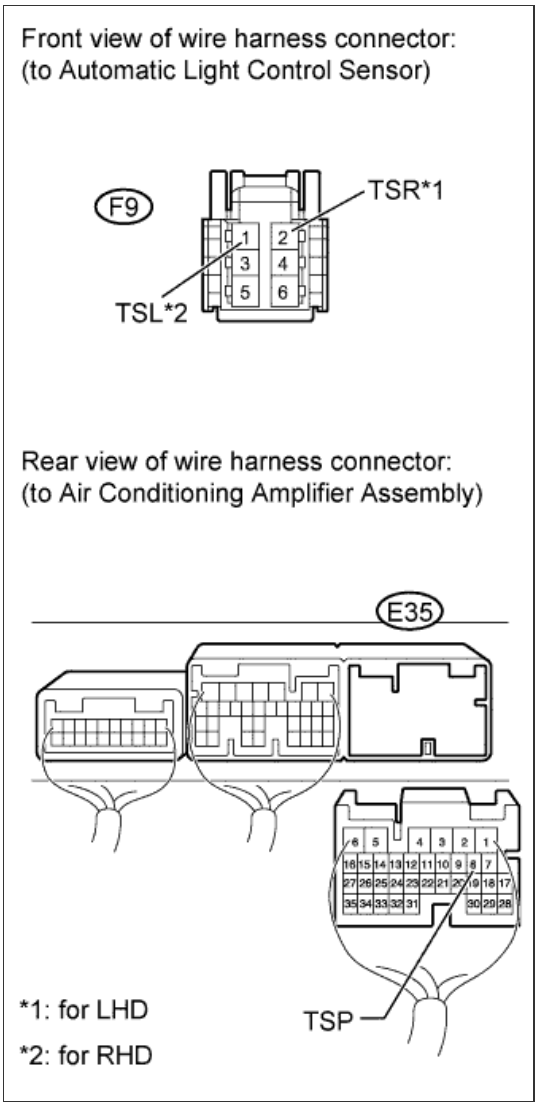
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E35-8 (TSP) - F9-2 (TSR)*1 | Always | Below 1 Ω |
| E35-8 (TSP) - F9-1 (TSL)*2 | Always | Below 1 Ω |
| E35-8 (TSP) - Body ground | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD




b. w/o Rear Heater

i. Disconnect the F9 sensor connector.

ii. Disconnect the E81 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

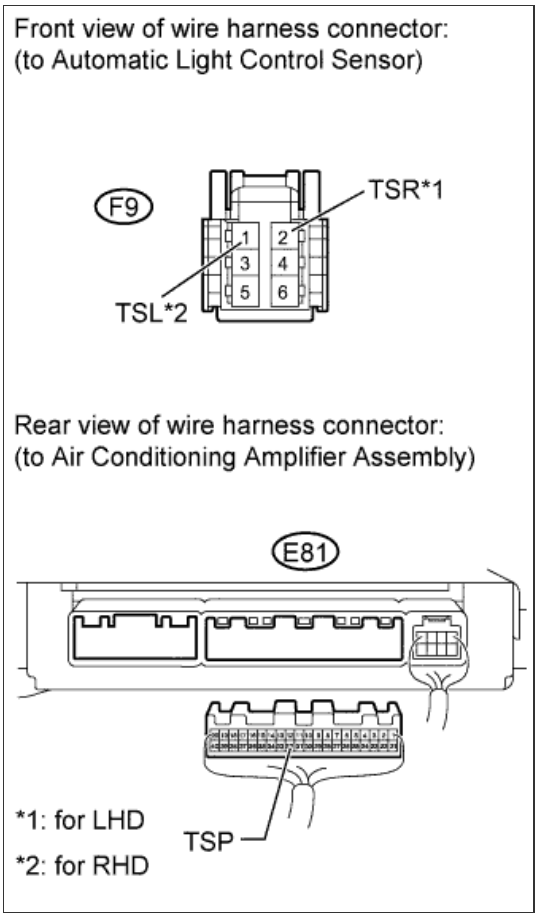
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-32 (TSP) - F9-2 (TSR)*1 | Always | Below 1 Ω |
| E81-32 (TSP) - F9-1 (TSL)*2 | Always | Below 1 Ω |
| E81-32 (TSP) - Body ground | Always | 10 kΩ or higher |

**HINT:**

*1: for LHD

*2: for RHD



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.INSPECT AUTOMATIC LIGHT CONTROL SENSOR (TSR, TSL - CLTE VOLTAGE)

a. Remove the automatic light control sensor (Click here).

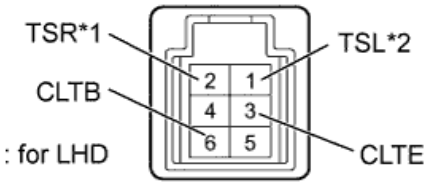
b. Apply battery voltage between terminals 6 (CLTB) and 3 (CLTE) of the solar sensor.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2 (TSR) - 3 (CLTE)*1 | Sensor exposed to electric light | 0.8 to 4.3 V |
| | Sensor covered with a cloth | Below 0.8 V |
| 1 (TSL) - 3 (CLTE)*2 | Sensor exposed to electric light | 0.8 to 4.3 V |
| | Sensor covered with a cloth | Below 0.8 V |

Component with harness connected:
(Automatic Light Control Sensor)




**HINT:**

- **As the inspection light is moved away from the sensor, the voltage decreases.**
- **Use an incandescent light for inspection. Bring it about 300 mm (11.8 in.) from the solar sensor.**
- ***1: for LHD**
- ***2: for RHD**

NG → REPLACE AUTOMATIC LIGHT CONTROL SENSOR (Click here)

OK

## 4.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - AUTOMATIC LIGHT CONTROL SENSOR)

a. Disconnect the E2 ECU connector.

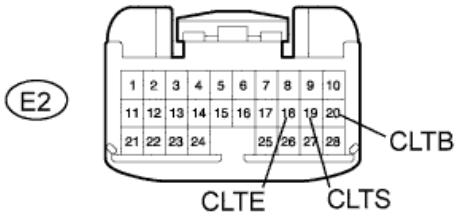
b. Disconnect the F9 sensor connector.

c. Measure the resistance according to the value(s) in the table below.

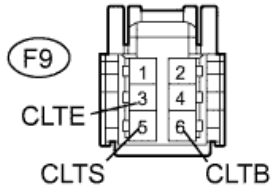
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E2-20 (CLTB) - F9-6 (CLTB) | Always | Below 1 Ω |
| E2-19 (CLTS) - F9-5 (CLTS) | | |
| E2-18 (CLTE) - F9-3 (CLTE) | | |
| E2-20 (CLTB) - Body ground | Always | 10 kΩ or higher |
| E2-19 (CLTS) - Body ground | | |
| E2-18 (CLTE) - Body ground | | |

Front view of wire harness connector:
(to Main Body ECU)




Front view of wire harness connector:
(to Automatic Light Control Sensor)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## DTC B1445/45 Passenger Side Cool Air Bypass Damper Control

**for Preparation** Click here

### DESCRIPTION

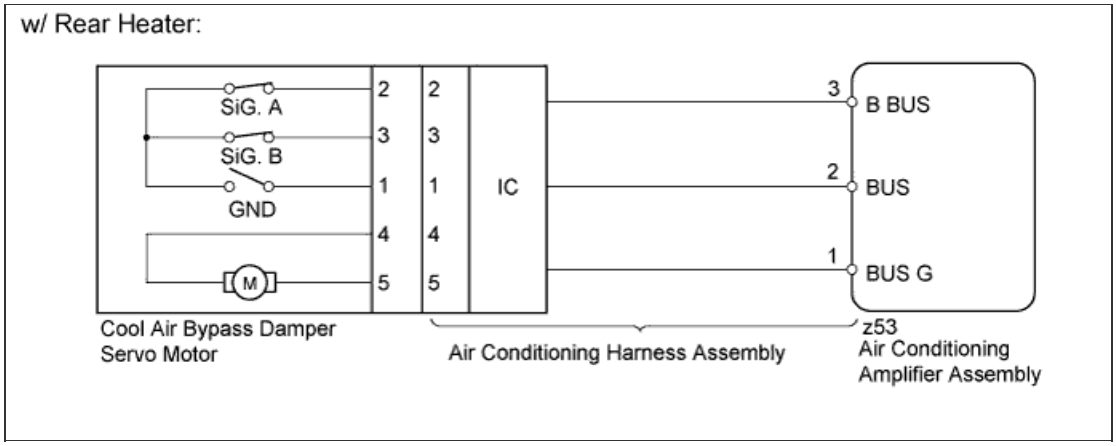
The cool air bypass damper servo motor sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the cool air bypass damper to any position. As a result, when the air conditioner is operating, the temperature of the air blowing toward the head area is controlled.

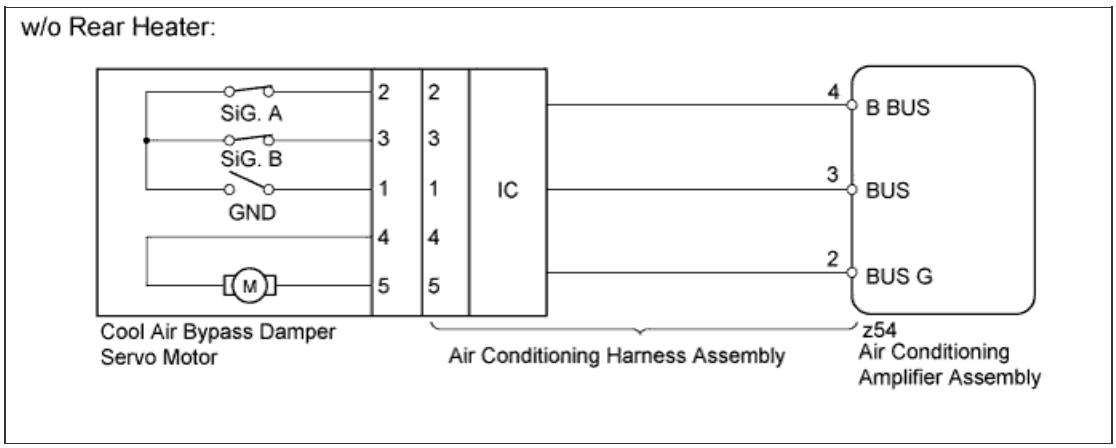
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1445/45 | The cool air bypass damper position does not change even if the air conditioning amplifier assembly operates the cool air bypass damper servo motor. | • Cool air bypass damper servo motor<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (COOL AIR BYPASS DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Cool Air Bypass Pulse | Cool air bypass damper servo motor target pulse / Min.: 6, Max.: 57 | Shut: 6 (pulse)<br>Open: 57 (pulse) | - |

**OK:**

**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**2.CHECK COOL AIR BYPASS DAMPER SERVO MOTOR**

a. Replace the cool air bypass damper servo motor.

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1445/45 is not output | A |
| DTC B1445/45 is output | B |

B → Go to step 3

A

**END (COOL AIR BYPASS DAMPER SERVO MOTOR IS DEFECTIVE)**

**3.CHECK AIR CONDITIONING HARNESS ASSEMBLY**

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1445/45 is not output | A |
| DTC B1445/45 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)**

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0142 Lost Communication with Body Control Module "B"

## DTC U0155 Lost Communication with Instrument Panel Cluster (IPC) Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0100 | No communication with ECM | • CAN communication system<br>• ECM<br>• Air conditioning amplifier assembly |
| U0142 | No communication with main body ECU (cowl side junction block LH) | • CAN communication system<br>• Main body ECU (cowl side junction block LH)<br>• Air conditioning amplifier assembly |
| U0155 | No communication with combination meter assembly | • CAN communication system<br>• Combination meter assembly<br>• Air conditioning amplifier assembly |

### INSPECTION PROCEDURE

**1.CHECK CAN COMMUNICATION SYSTEM**

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

for LHD: Click here.
for RHD: Click here.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

## DTC B1446/46 Air Mix Damper Control Servo Motor Circuit (Driver Side)

**for Preparation** Click here

### DESCRIPTION

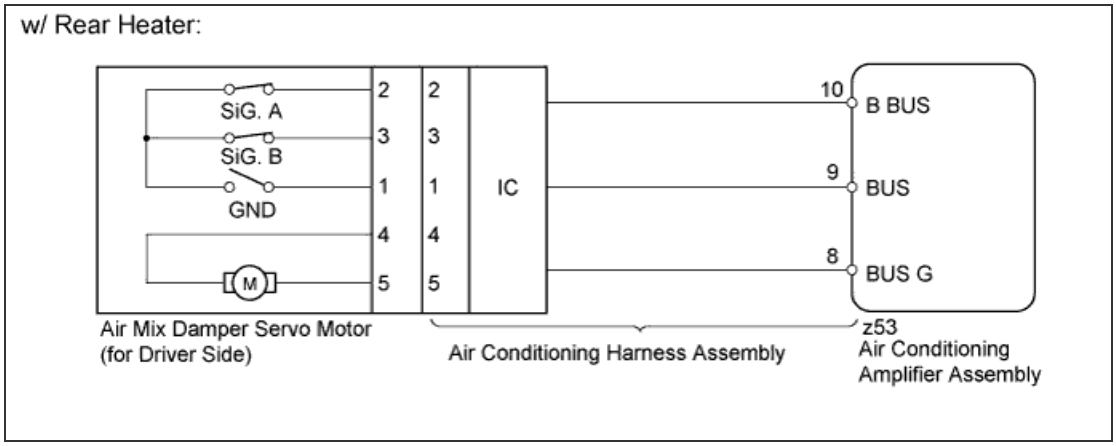
The front air mix damper servo motor (for driver side) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air mix damper (for driver side) to any position. As a result, the amount of air that has passed through the evaporator and is passing through the heater core is adjusted, and the temperature of the air blowing toward the driver side is controlled.

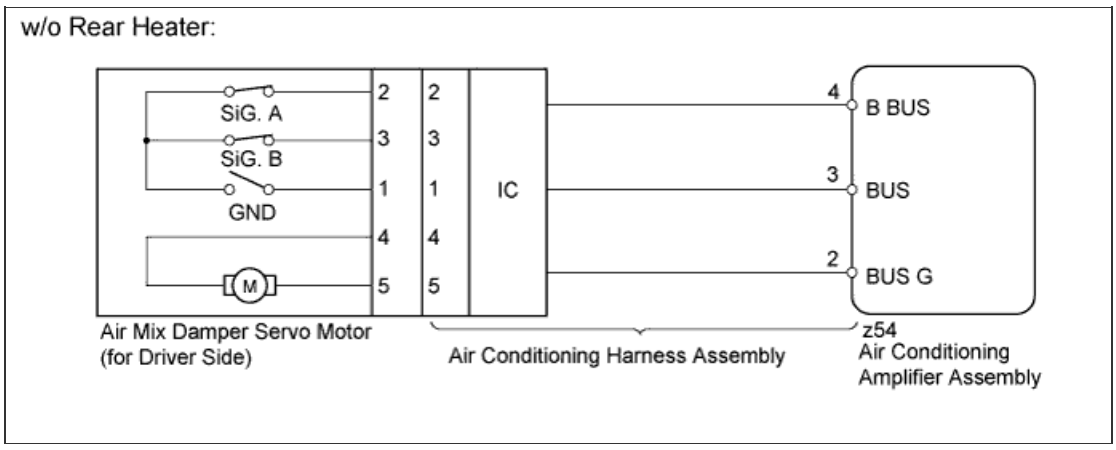
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1446/46 | The air mix damper position does not change even if the air conditioning amplifier assembly operates the air mix damper servo motor. | • Air mix damper servo motor (for driver side)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR MIX DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | Air mix damper servo motor (for driver side) target | for LHD<br>• MAX COOL: 90 (pulse)<br>• MAX HOT: 8 (pulse) | |

| | | | |
|---|---|---|---|
| Air Mix Servo Targ Pulse(D) | pulse /<br>Min.: 8, Max.: 90 (for LHD)<br>Min.: 8, Max.: 90 (for RHD) | for RHD<br>• MAX COOL: 8 (pulse)<br>• MAX HOT: 90 (pulse) | - |

**OK:**
**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.CHECK AIR MIX DAMPER SERVO MOTOR (FOR DRIVER SIDE)

a. Replace the air mix damper servo motor (for driver side).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1446/46 is not output | A |
| DTC B1446/46 is output | B |

B → Go to step 3

A

END (AIR MIX DAMPER SERVO MOTOR [FOR DRIVER SIDE] IS DEFECTIVE)

## 3.CHECK AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1446/46 is not output | A |
| DTC B1446/46 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0142 Lost Communication with Body Control Module "B"

## DTC U0155 Lost Communication with Instrument Panel Cluster (IPC) Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0100 | No communication with ECM | • CAN communication system<br>• ECM<br>• Air conditioning amplifier assembly |
| U0142 | No communication with main body ECU (cowl side junction block LH) | • CAN communication system<br>• Main body ECU (cowl side junction block LH)<br>• Air conditioning amplifier assembly |
| U0155 | No communication with combination meter assembly | • CAN communication system<br>• Combination meter assembly<br>• Air conditioning amplifier assembly |

### INSPECTION PROCEDURE

**1.CHECK CAN COMMUNICATION SYSTEM**

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

for LHD: Click here.
for RHD: Click here.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

## DTC B1447/47 Rear Air Mix Damper Control Servo Motor Circuit on Driver Side

**for Preparation** Click here

### DESCRIPTION

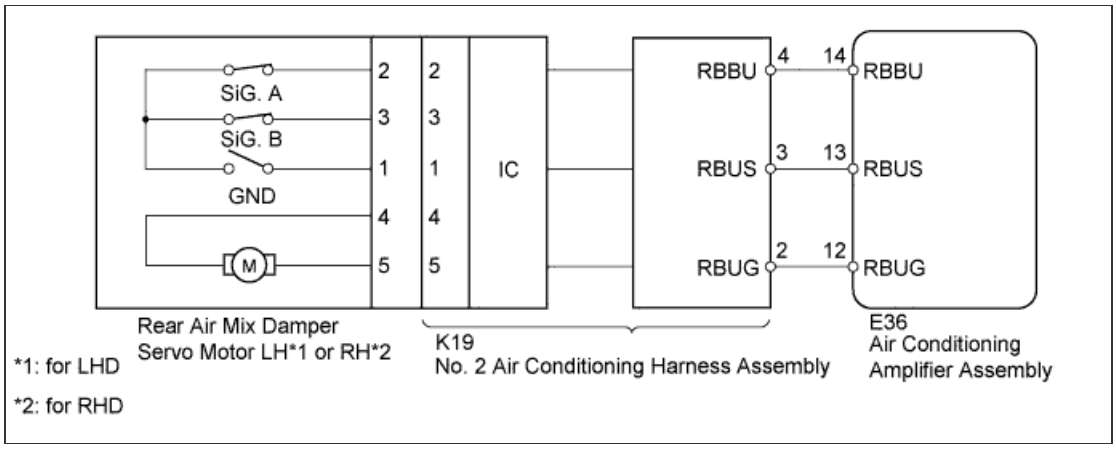
The rear air mix damper servo motor (for driver side) sends pulse signals to indicate the damper position to the air conditioning amplifier assembly. The air conditioning amplifier assembly activates the motor (normal or reverse) based on these signals to move the rear air mix damper to the appropriate position. This adjusts the amount of air passing through the heater core after passing the evaporator and controls the temperature of the blown air.

**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1447/47 | The rear air mix damper position does not change even if the air conditioning amplifier assembly operates the rear air mix damper servo motor. | • Rear air mix damper servo motor<br>• No. 2 air conditioning harness assembly<br>• Wire harness between No. 2 air conditioning harness assembly and air conditioning amplifier assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (REAR AIR MIX DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| A/M Servo Targ Pulse (Rear D) | Rear air mix damper servo motor target pulse<br>/<br>Min.: 9, Max.: 54 (for LHD)<br>Min.: 8, Max.: 53 (for RHD) | for LHD<br>• MAX COOL: 9 (pulse)<br>• MAX HOT: 54 (pulse)<br>for RHD<br>• MAX COOL: 53 (pulse)<br>• MAX HOT: 8 (pulse) | - |

**OK:**

**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.CHECK HARNESS AND CONNECTOR (NO. 2 AIR CONDITIONING HARNESS - AIR CONDITIONING AMPLIFIER)

a. Disconnect the K19 No. 2 air conditioning harness connector.

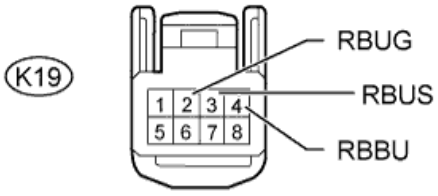
b. Disconnect the E36 amplifier connector.

c. Measure the resistance according to the value(s) in the table below.

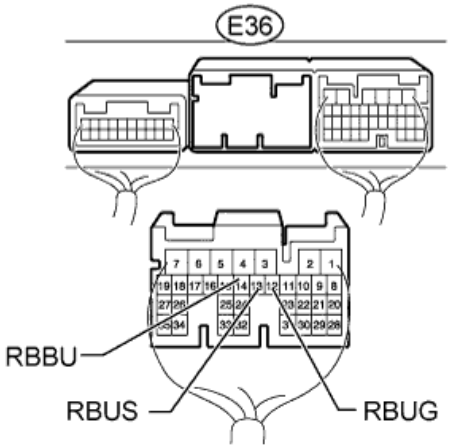
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K19-2 (RBUG) - E36-12 (RBUG) | Always | Below 1 Ω |
| K19-3 (RBUS) - E36-13 (RBUS) | | |
| K19-4 (RBBU) - E36-14 (RBBU) | | |
| E36-12 (RBUG) - Body ground | Always | 10 kΩ or higher |
| E36-13 (RBUS) - Body ground | | |
| E36-14 (RBBU) - Body ground | | |

Front view of wire harness connector: (to No. 2 Air Conditioning Harness Assembly)




Rear view of wire harness connector: (to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.CHECK REAR AIR MIX DAMPER SERVO MOTOR

a. Replace the rear air mix damper servo motor ( Click here).

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1447/47 is not output | A |
| DTC B1447/47 is output | B |

B → Go to step 4

A

END (REAR AIR MIX DAMPER SERVO MOTOR IS DEFECTIVE)

4.CHECK NO. 2 AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the No. 2 air conditioning harness assembly (Click here).

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1447/47 is not output | A |
| DTC B1447/47 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (NO. 2 AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0142 Lost Communication with Body Control Module "B"

## DTC U0155 Lost Communication with Instrument Panel Cluster (IPC) Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0100 | No communication with ECM | • CAN communication system<br>• ECM<br>• Air conditioning amplifier assembly |
| U0142 | No communication with main body ECU (cowl side junction block LH) | • CAN communication system<br>• Main body ECU (cowl side junction block LH)<br>• Air conditioning amplifier assembly |
| U0155 | No communication with combination meter assembly | • CAN communication system<br>• Combination meter assembly<br>• Air conditioning amplifier assembly |

### INSPECTION PROCEDURE

**1.CHECK CAN COMMUNICATION SYSTEM**

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

for LHD: Click here.
for RHD: Click here.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

## DTC B1448/48 Passenger Side FACE Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

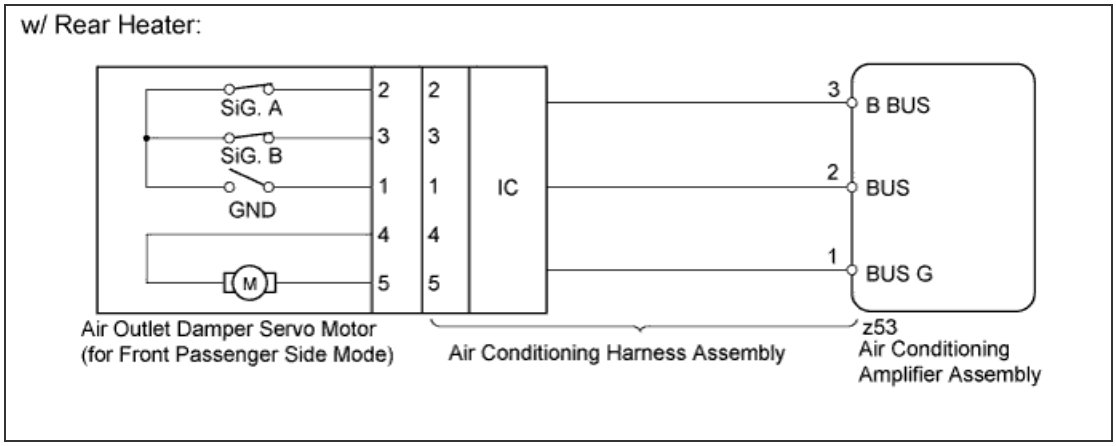
The air outlet damper servo motor (for front passenger side mode) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air outlet damper (for front passenger side mode) to any position, which controls the air outlet changes.

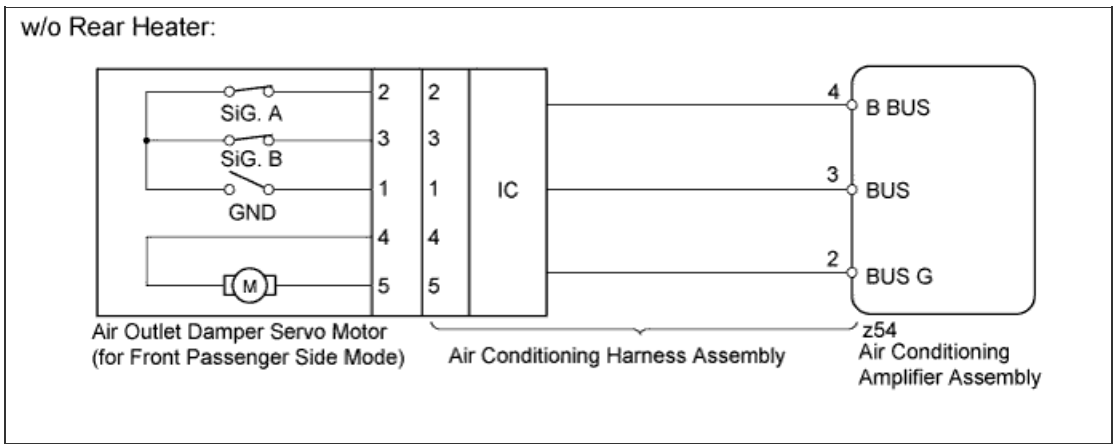
**HINT:**

Confirm that no mechanical problem is present because this trouble code can be output when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1448/48 | The air outlet damper position does not change even if the air conditioning amplifier assembly operates the air outlet damper servo motor. | • Air outlet damper servo motor (for front passenger side mode)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR OUTLET DAMPER SERVO MOTOR)

a. Use the Data List to check if the servo motor is functioning properly.

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| | | for LHD<br>• FACE1: 117 (pulse)<br>• FACE2: 109 | |

| | | | |
|---|---|---|---|
| A/O Damper FACE Pos(P) | Air outlet damper servo motor (for front passenger side mode) target pulse /<br>Min.: 6, Max.: 117 (for LHD)<br>Min.: 9, Max.: 120 (for RHD) | (pulse)<br>• B/L1: 93 (pulse)<br>• B/L2: 81 (pulse)<br>• FOOT-F: 41 (pulse)<br>• FOOT-R: 41 (pulse)<br>• FOOT-D: 52 (pulse)<br>• F/D: 18 (pulse)<br>• DEF: 6 (pulse)<br>for RHD<br>• FACE1: 9 (pulse)<br>• FACE2: 17 (pulse)<br>• B/L1: 33 (pulse)<br>• B/L2: 45 (pulse)<br>• FOOT-F: 85 (pulse)<br>• FOOT-R: 85 (pulse)<br>• FOOT-D: 74 (pulse)<br>• F/D: 108 (pulse)<br>• DEF: 120 (pulse) | - |

**OK:**
**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (Checking from the DTC) | A |
| OK (Checking from the PROBLEM SYMPTOMS TABLE) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**2.CHECK AIR OUTLET DAMPER SERVO MOTOR (FOR FRONT PASSENGER SIDE MODE)**

a. Replace the air outlet damper servo motor (for front passenger side mode).

for LHD: Click here
for RHD: Click here

**HINT:**

Since the servo motor cannot be inspected while it is removed from the vehicle, replace the servo motor with a normal one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1448/482 is not output | A |
| DTC B1448/48 is output | B |

B → Go to step 3

A

END (AIR OUTLET DAMPER SERVO MOTOR [FOR FRONT PASSENGER SIDE MODE] IS DEFECTIVE)

3.CHECK AIR CONDITIONING HARNESS ASSEMBLY

a. Replace the air conditioning harness assembly.

for LHD: Click here
for RHD: Click here

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1448/48 is not output | A |
| DTC B1448/48 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS DEFECTIVE)

**for Preparation** Click here

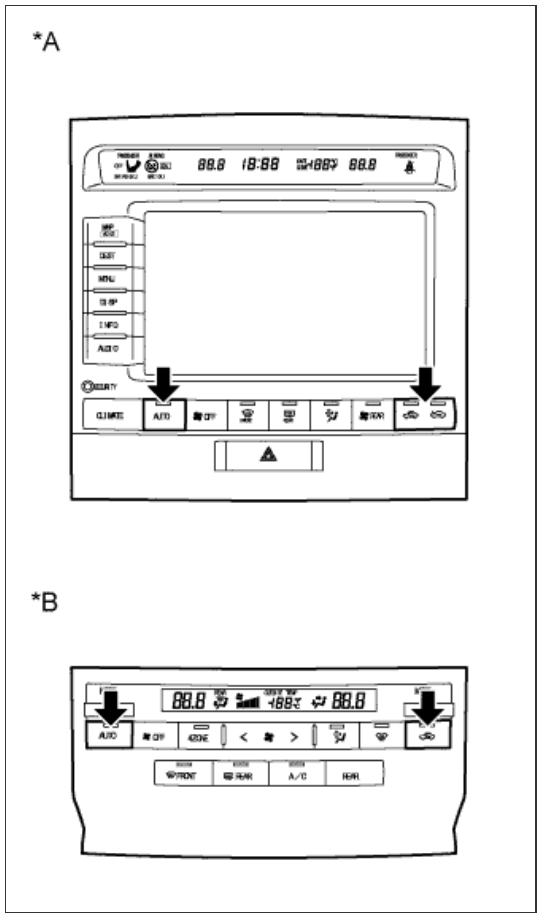
## ACTUATOR CHECK

a. Start the engine and warm it up.

b. Perform the indicator check (Click here).

**Text in Illustration**

| | |
|---|---|
| *A | w/ Navigation System |
| *B | w/o Navigation System |




c. Press the "Recirculation/Fresh" switch.

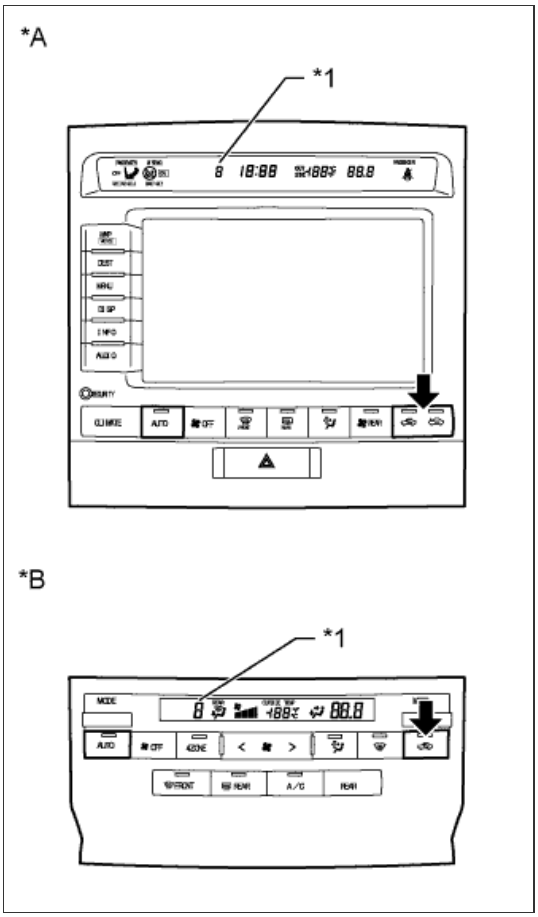
d. By performing the actuator check, each damper, motor, and relay are automatically operated at 1 second intervals in a continuous cycle from step No. 1 to No. 10. During this operation, check the temperature and airflow indicated on the display as well as by hand.

**HINT:**

- **If a slower display is desired, press the driver temperature up switch to stop the automatic display. The display changes to step operation display mode which allows the display to be changed 1 step for each press of the switch.**
- **The buzzer sounds when the display code changes.**
- **Codes are displayed from smaller to larger numbers in order.**
- **To cancel the check mode, press the "OFF" switch.**
- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

**Text in Illustration**

| | |
|---|---|
| *A | w/ Navigation System |
| *B | w/o Navigation System |
| *1 | Code Display |




### Front Air Conditioning Unit

| Step No. | Display Code | Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Blower Level | Air Mix Damper Dr. Pa. | Air Mix Damper FrRr Dr. Pa. | Airflow Vent Dr. Pa. DEF Mode | Airflow Vent FrRr | Air Inlet | Cool Air Bypass Damper | Compressor |
| 1 | 0 | 0 | 0% | 0% | FACE | FACE | FRESH | -14% | OFF |
| 2 | 1 | 1 | | | | | | | |
| 3 | 2 | 17 | | | | | RECIRCULATION/FRESH | | ON |
| 4 | 3 | 17 | | | | | RECIRCULATION | 113.0% | |
| 5 | 4 | 17 | 50% | 50% | B/L | B/L | | | |
| 6 | 5 | 17 | | | | | | | |
| 7 | 6 | 17 | | | FOOT | FOOT | FRESH | | |
| 8 | 7 | 17 | 100% | 100% | FOOT | | | | |
| 9 | 8 | 17 | | | F/D | | | | |
| 10 | 9 | 31 | | | DEF | | | 113.5% | |

### Rear Air Conditioning Unit

| Step No. | Display Code | Conditions | | | |
|---|---|---|---|---|---|
| | | Rear Blower Level | Rear Air Mix Damper Dr. Pa. | Rear Airflow Vent Dr. Pa. | Rear Magnetic Valve |
| 1 | 0 | 0 | 0% | FACE | OFF |
| 2 | 1 | 3 | | | |
| 3 | 2 | 17 | | | ON |
| 4 | 3 | 17 | | | |
| 5 | 4 | 17 | 50% | B/L | OFF |
| 6 | 5 | 17 | | | |
| 7 | 6 | 17 | | FOOT | |
| 8 | 7 | 17 | 100% | | |
| 9 | 8 | 17 | | | |
| 10 | 9 | 31 | | | |

**for Preparation** Click here

## DESCRIPTION

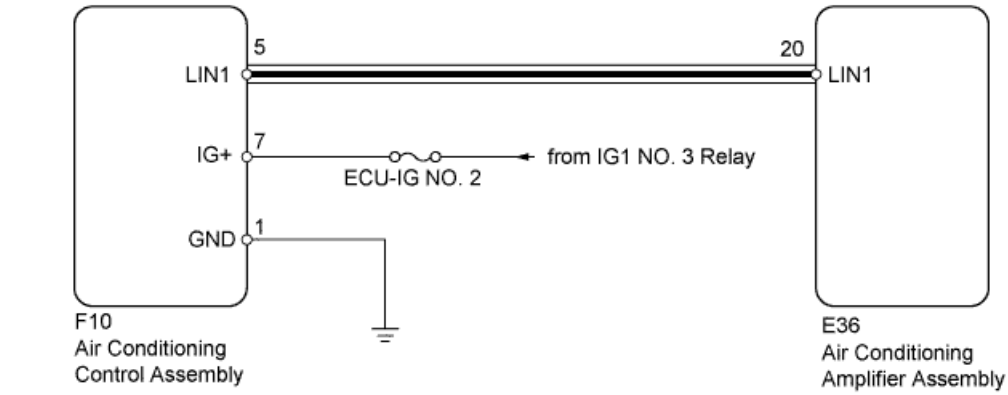
This circuit* consists of the air conditioning control assembly and the air conditioning amplifier assembly. When the air conditioning control assembly is operated, signals are transmitted to the air conditioning amplifier assembly through the LIN communication system.
If the LIN communication system malfunctions, the air conditioning amplifier assembly does not operate even if the air conditioning control assembly is operated.

**HINT:**

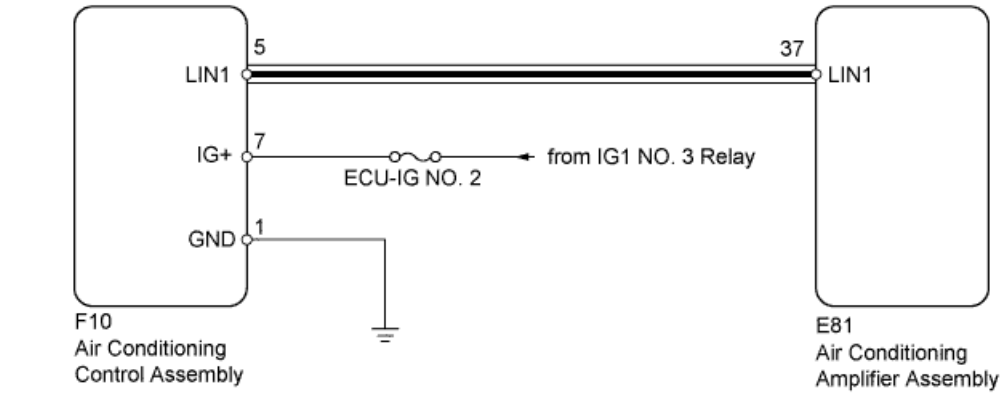
*: w/o Multi-display

## WIRING DIAGRAM

w/ Rear Heater:




w/o Rear Heater:




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (ECU-IG NO. 2)

a. Remove the ECU-IG NO. 2 fuse from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| ECU-IG NO. 2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

## 2.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING CONTROL - BODY GROUND AND BATTERY)

a. Disconnect the F10 air conditioning control assembly connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

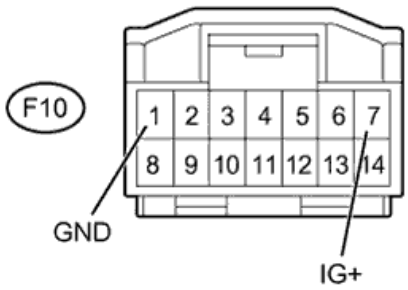
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F10-1 (GND) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F10-1 (GND) - F10-7 (IG+) | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector: (to Air Conditioning Control Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - AIR CONDITIONING CONTROL)

a. w/ Rear Heater

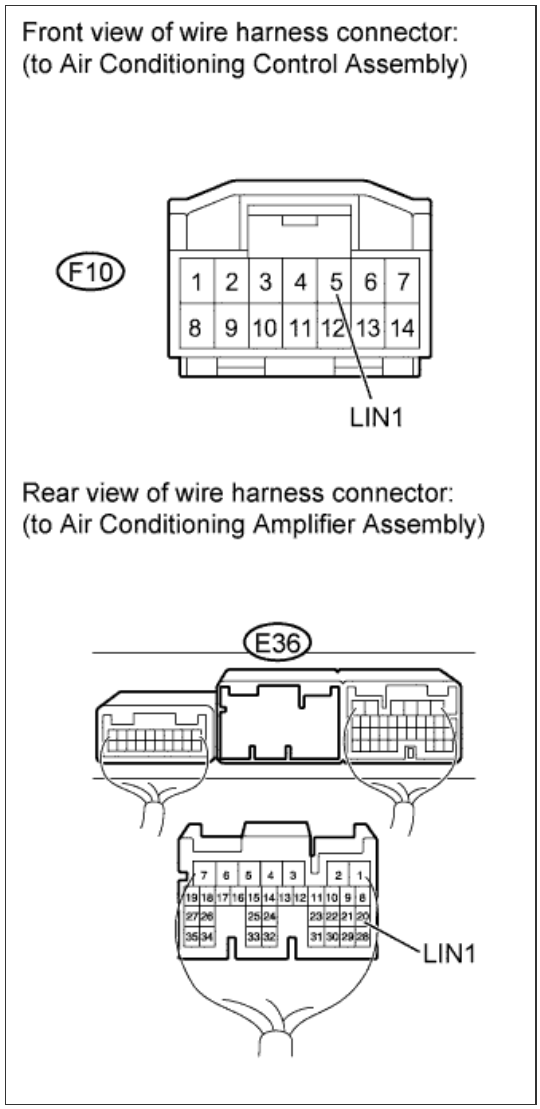
i. Disconnect the F10 air conditioning control assembly connector.

ii. Disconnect the E36 amplifier connector.

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-20 (LIN1) - F10-5 (LIN1) | Always | Below 1 Ω |
| E36-20 (LIN1) - Body ground | Always | 10 kΩ or higher |




**b.** w/o Rear Heater

**i.** Disconnect the F10 air conditioning control assembly connector.

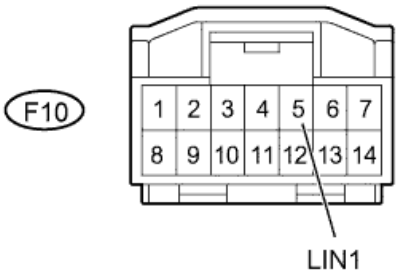
**ii.** Disconnect the E81 amplifier connector.

**iii.** Measure the resistance according to the value(s) in the table below.

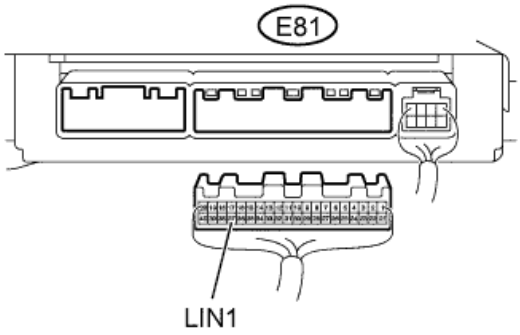
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-37 (LIN1) - F10-5 (LIN1) | Always | Below 1 Ω |
| E81-37 (LIN1) - Body ground | Always | 10 kΩ or higher |

Front view of wire harness connector:
(to Air Conditioning Control Assembly)




Rear view of wire harness connector:
(to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**4.CHECK AIR CONDITIONING CONTROL ASSEMBLY (OPERATION)**

a. Replace the air conditioning control assembly with a new or properly functioning one.

b. Operate the front air conditioning control to check that it functions properly.

**OK:**
**Air conditioning control assembly function operates normally.**

NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK

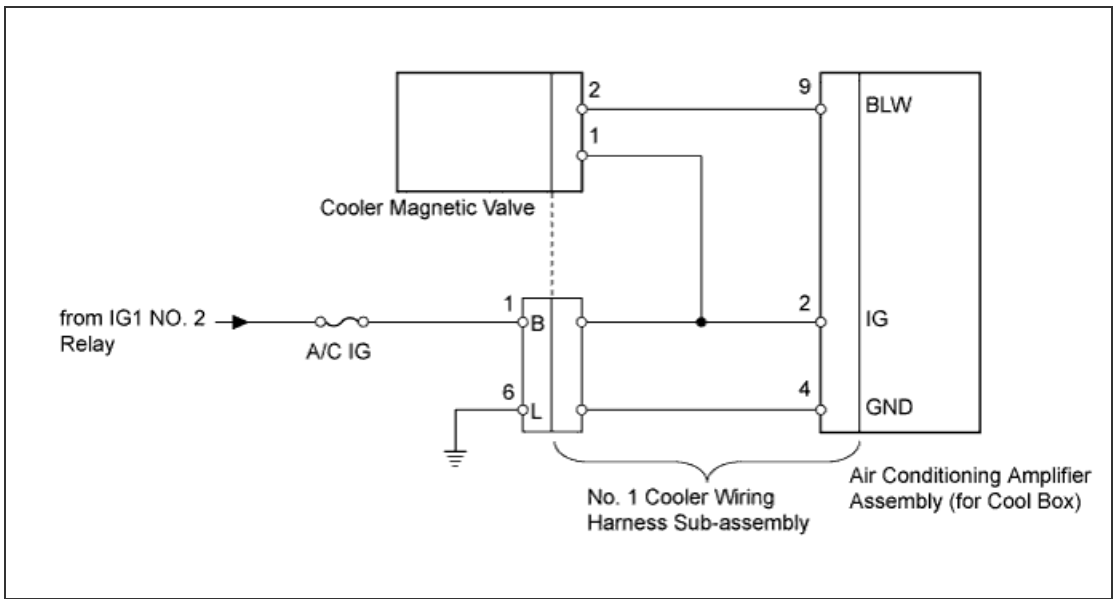
REPLACE AIR CONDITIONING CONTROL ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

The cooler expansion valve (cooler magnetic valve) is controlled by the air conditioning amplifier assembly (for cool box).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (A/C IG)

a. Remove the A/C IG fuse from the cowl side junction block LH.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A/C IG fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (NO. 1 COOLER WIRING HARNESS - BATTERY)

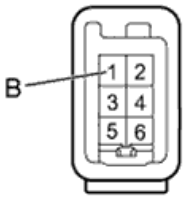
a. Disconnect the No. 1 cooler wiring harness sub-assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (B) - Body ground | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector: (to No. 1 Cooler Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.CHECK HARNESS AND CONNECTOR (NO. 1 COOLER WIRING HARNESS - BODY GROUND)

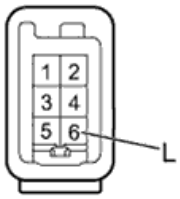
a. Disconnect the No. 1 cooler wiring harness sub-assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 6 (L) - Body ground | Always | Below 1 Ω |

Front view of wire harness connector: (to No. 1 Cooler Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK NO. 1 COOLER WIRING HARNESS SUB-ASSEMBLY (OPERATION)

a. Replace the No. 1 cooler wiring harness sub-assembly with a normal one and check that the condition returns to normal.

**OK:**
**Same problem does not occur.**

NG → Go to step 5

OK

REPLACE NO. 1 COOLER WIRING HARNESS SUB-ASSEMBLY

## 5.CHECK COOLER MAGNETIC VALVE (OPERATION)

a. Replace the cooler magnetic valve (Click here).

**HINT:**

Since the cooler magnetic valve cannot be inspected while it is removed from the vehicle, replace the cooler magnetic valve with a normal one and check that the condition returns to normal.

**OK:**

**Same problem does not occur.**

NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (for Cool Box) (Click here)

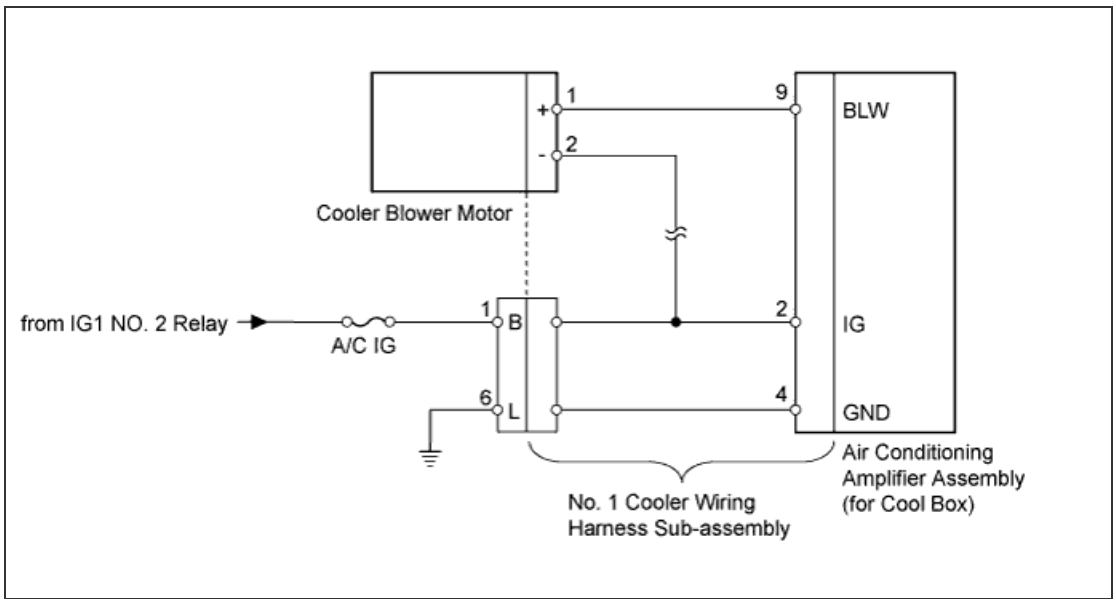
OK → REPLACE COOLER MAGNETIC VALVE (Click here)

**for Preparation** Click here

## DESCRIPTION

The cooler blower motor is operated by signals from the air conditioning amplifier assembly (for cool box).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (A/C IG)

a. Remove the A/C IG fuse from the cowl side junction block LH.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A/C IG fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (NO. 1 COOLER WIRING HARNESS - BATTERY)

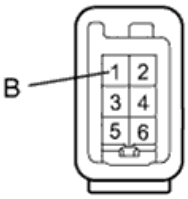
a. Disconnect the No. 1 cooler wiring harness sub-assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 (B) - Body ground | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector: (to No. 1 Cooler Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 3.CHECK HARNESS AND CONNECTOR (NO. 1 COOLER WIRING HARNESS - BODY GROUND)

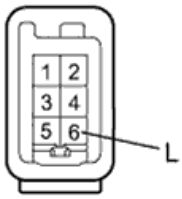
a. Disconnect the No. 1 cooler wiring harness sub-assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 6 (L) - Body ground | Always | Below 1 Ω |

Front view of wire harness connector: (to No. 1 Cooler Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 4.CHECK NO. 1 COOLER WIRING HARNESS SUB-ASSEMBLY (OPERATION)

a. Replace the No. 1 cooler wiring harness sub-assembly with a normal one and check that the condition returns to normal.

**OK:**
**Same problem does not occur.**

NG → Go to step 5

OK

### REPLACE NO. 1 COOLER WIRING HARNESS SUB-ASSEMBLY

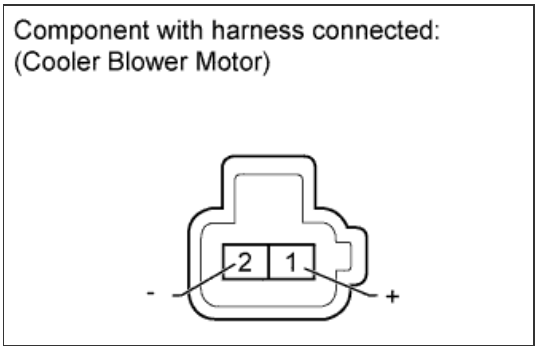
### 5.INSPECT COOLER BLOWER MOTOR

a. Remove the cooler blower motor (Click here).

b. Connect the positive (+) lead from the battery to terminal 1 and negative (-) to terminal 2, then check that the motor operates smoothly.

**OK:**

**Cooler blower motor operates smoothly.**




NG → REPLACE COOLER BLOWER MOTOR (Click here)

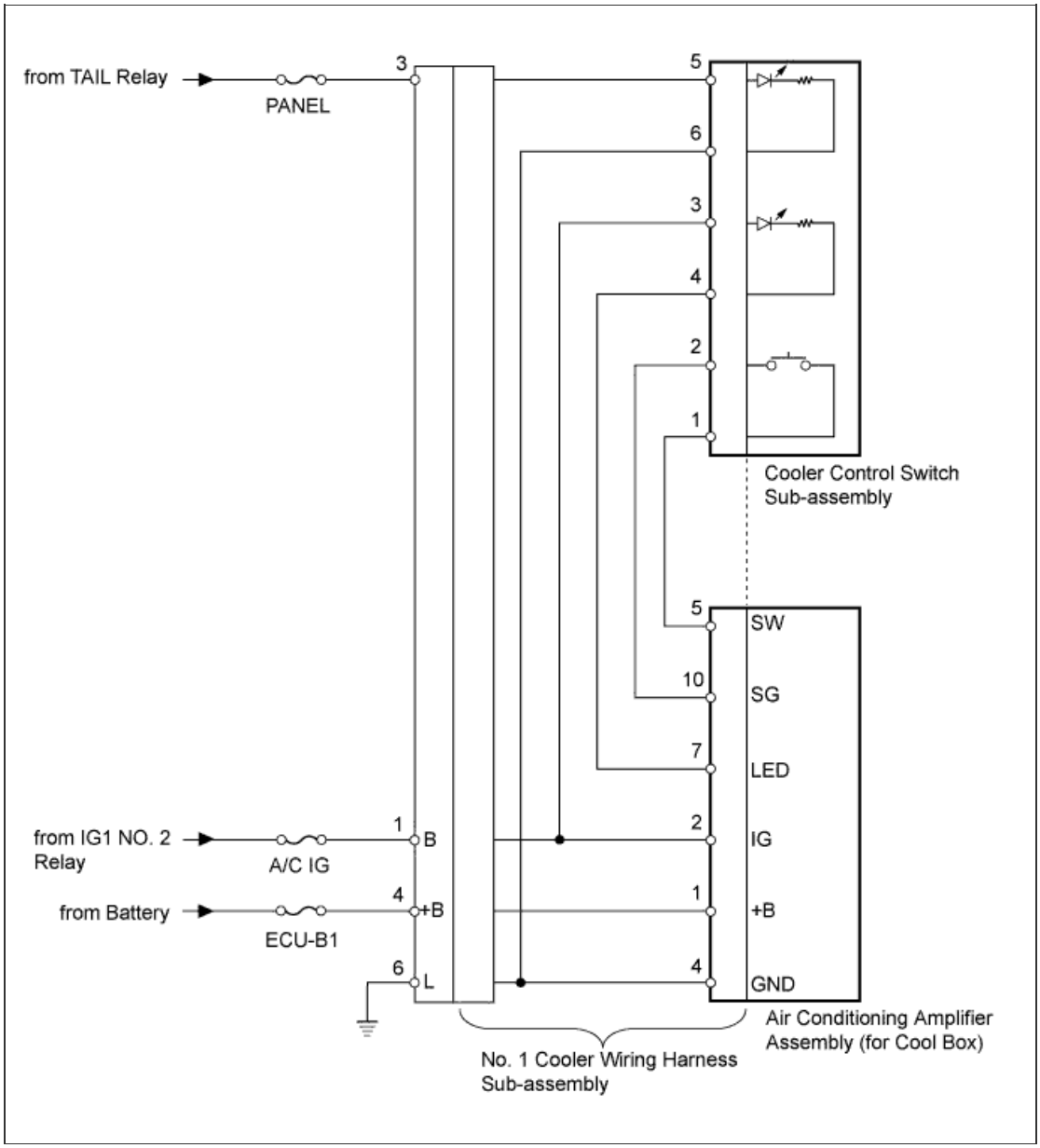
OK → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (for Cool Box) ( Click here)

**for Preparation** Click here

## DESCRIPTION

The cooler control switch is the activation switch for the cooling box. If the cooling box does not activate when the cooler control switch is pushed, there may be a malfunction in the circuit shown below.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (PANEL, A/C IG, ECU-B1)

a. Remove the PANEL and A/C IG fuses from the cowl side junction block LH.

b. Remove the ECU-B1 fuse from the engine room relay block.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| PANEL fuse | Always | Below 1 Ω |
| ECU-B1 fuse | Always | Below 1 Ω |
| A/C IG fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

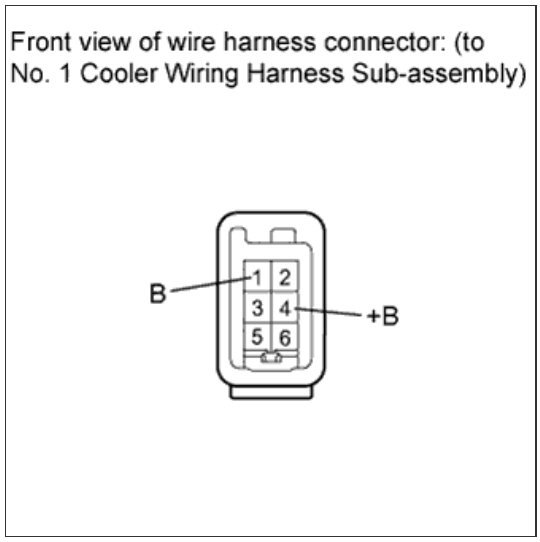
## 2.CHECK HARNESS AND CONNECTOR (NO. 1 COOLER WIRING HARNESS - BATTERY)

a. Disconnect the No. 1 cooler wiring harness sub-assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 4 (+B) - Body ground | Always | 11 to 14 V |
| 1 (B) - Body ground | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

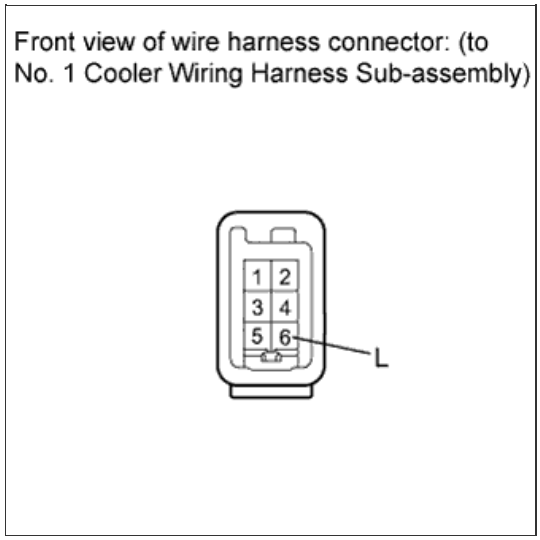
## 3.CHECK HARNESS AND CONNECTOR (NO. 1 COOLER WIRING HARNESS - BODY GROUND)

a. Disconnect the No. 1 cooler wiring harness sub-assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 6 (L) - Body ground | Always | Below 1 Ω |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK NO. 1 COOLER WIRING HARNESS SUB-ASSEMBLY (OPERATION)

a. Replace the No. 1 cooler wiring harness sub-assembly with a normal one and check that the condition returns to normal.

**OK:**

**Same problem does not occur.**

NG → Go to step 5

OK

REPLACE NO. 1 COOLER WIRING HARNESS SUB-ASSEMBLY

5.INSPECT COOLER CONTROL SWITCH SUB-ASSEMBLY

a. Remove the cooler control switch sub-assembly (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

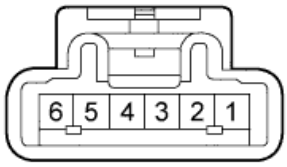
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 - 2 | On | Below 1 Ω |
| 1 - 2 | Off | 10 kΩ or higher |

c. Apply battery voltage to the cooler control switch connector and check that the cooler control switch illuminates.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 3<br>Battery negative (-) → Terminal 4 | LED illuminates |
| Battery positive (+) → Terminal 5<br>Battery negative (-) → Terminal 6 | LED illuminates |

Component with harness connected:
(Cooler Control Switch Sub-assembly)




NG → REPLACE COOLER CONTROL SWITCH SUB-ASSEMBLY (Click here)

OK

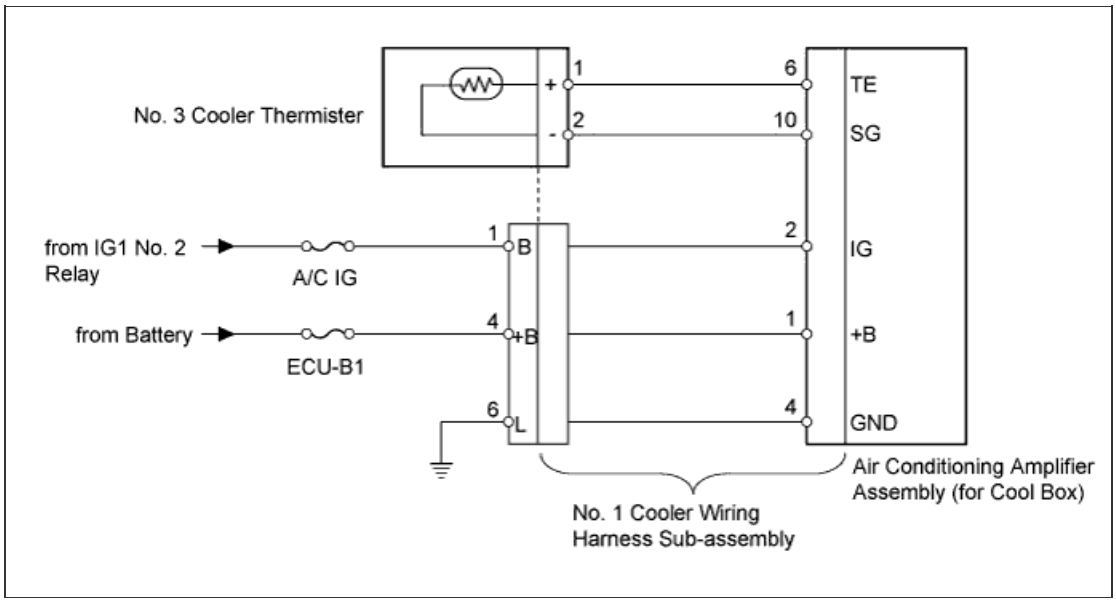
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (for Cool Box) (Click here)

**for Preparation** Click here

## DESCRIPTION

The No. 3 cooler thermistor is installed on the evaporator in the cooling box unit to detect the cooled air temperature that has passed through the evaporator and control the cooling box. It sends appropriate signals to the air conditioning amplifier assembly (for cool box). The resistance of the No. 3 cooler thermistor changes in accordance with the cooled air temperature that has passed through the evaporator. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.
The air conditioning amplifier assembly (for cool box) applies voltage (12 V) to the No. 3 cooler thermistor and reads voltage changes as the resistance of the No. 3 cooler thermistor changes.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (A/C IG, ECU-B1)

a. Remove the A/C IG fuse from the cowl side junction block LH.

b. Remove the ECU-B1 fuse from the engine room relay block.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A/C IG fuse | Always | Below 1 Ω |
| ECU-B1 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (NO. 1 COOLER WIRING HARNESS - BATTERY)

a. Disconnect the No. 1 cooler wiring harness sub-assembly connector.

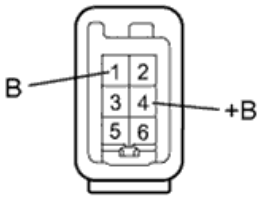
b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| 4 (+B) - Body ground | Always | 11 to 14 V |
| 1 (B) - Body ground | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector: (to No. 1 Cooler Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 3.CHECK HARNESS AND CONNECTOR (NO. 1 COOLER WIRING HARNESS - BODY GROUND)

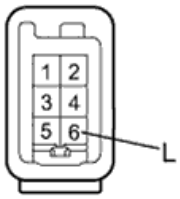
a. Disconnect the No. 1 cooler wiring harness sub-assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 6 (L) - Body ground | Always | Below 1 Ω |

Front view of wire harness connector: (to No. 1 Cooler Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 4.CHECK NO. 1 COOLER WIRING HARNESS SUB-ASSEMBLY (OPERATION)

a. Replace the No. 1 cooler wiring harness sub-assembly with a normal one and check that the condition returns to normal.

**OK:**
**Same problem does not occur.**

NG → Go to step 5

OK

REPLACE NO. 1 COOLER WIRING HARNESS SUB-ASSEMBLY

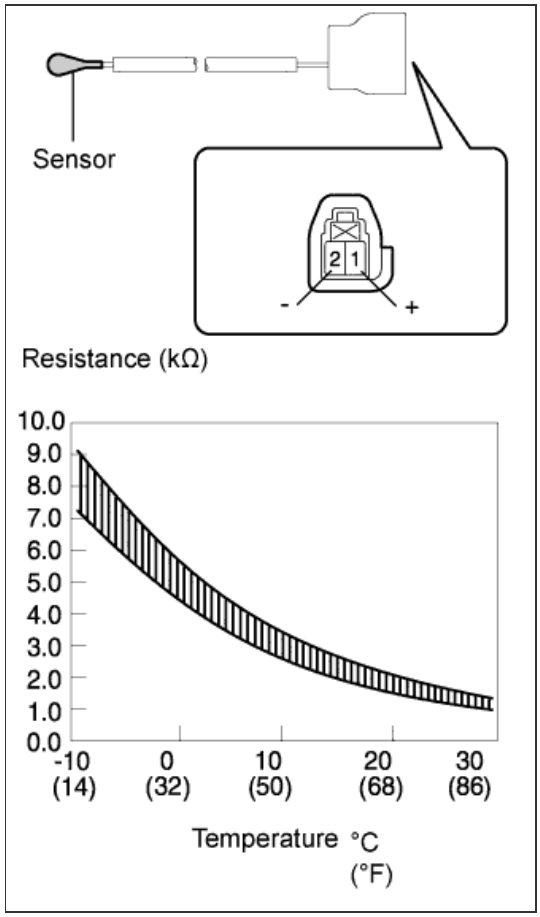
### 5.CHECK NO. 3 COOLER THERMISTOR

a. Remove the No. 3 cooler thermistor (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+) - 2 (-) | -10°C (14°F) | 7.30 to 9.10 kΩ |
| | -5°C (23°F) | 5.65 to 6.95 kΩ |
| | 0°C (32°F) | 4.40 to 5.35 kΩ |
| | 5°C (41°F) | 3.40 to 4.15 kΩ |
| | 10°C (50°F) | 2.70 to 3.25 kΩ |
| | 15°C (59°F) | 2.14 to 2.58 kΩ |
| | 20°C (68°F) | 1.71 to 2.05 kΩ |
| | 25°C (77°F) | 1.38 to 1.64 kΩ |
| | 30°C (86°F) | 1.11 to 1.32 kΩ |




**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

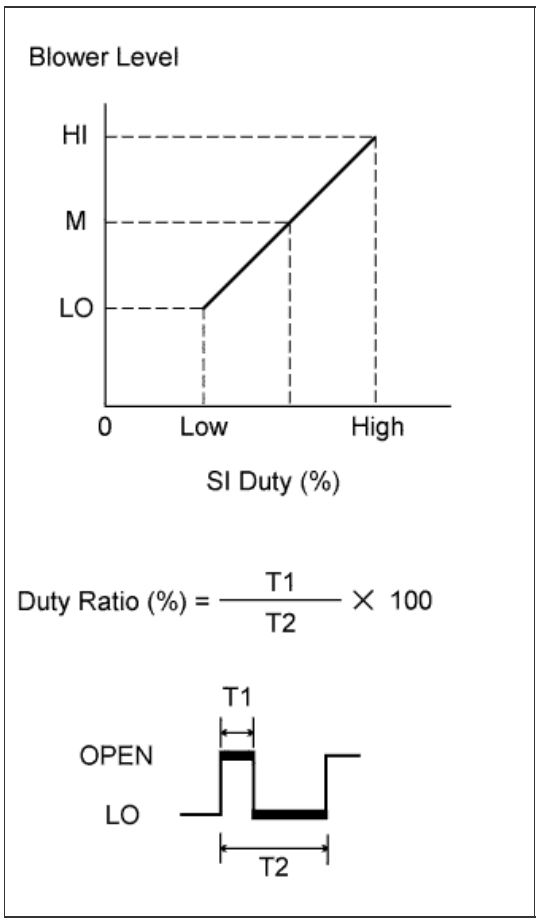
**NG** → REPLACE NO. 3 COOLER THERMISTOR (Click here)

**OK**

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (for Cool Box) (Click here)

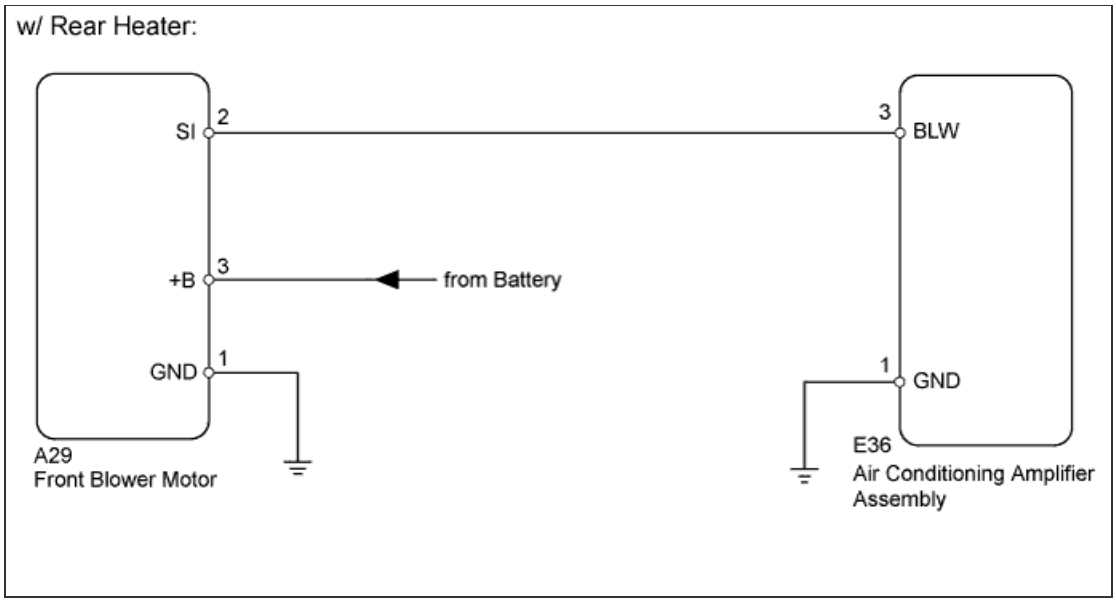
**for Preparation** Click here

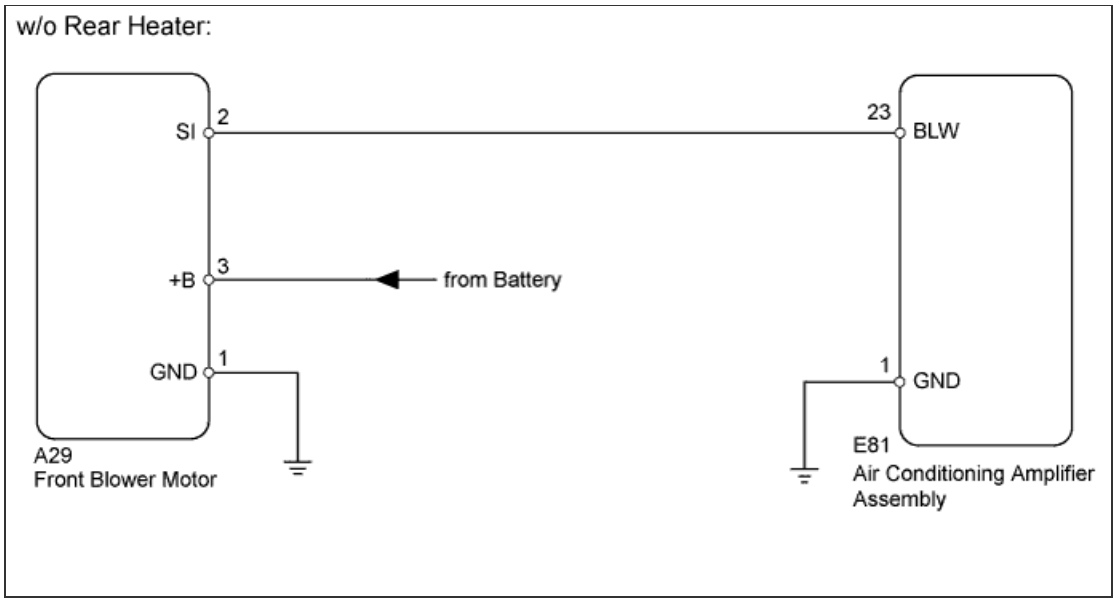
## DESCRIPTION




The blower motor is operated by signals from the air conditioning amplifier assembly. The blower motor speed signals are transmitted by changes in the duty ratio.
Duty Ratio:
The duty ratio is the ratio of the blower motor OPEN time (T1) to the total of the blower motor OPEN and LO time (T2).
The blower motor controller controls the blower motor speed.

## WIRING DIAGRAM






## INSPECTION PROCEDURE

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (FRONT BLOWER MOTOR)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check that the front blower motor operates.

**Air Conditioner**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Blower Motor | Front blower motor | Min.: 0, Max.: 31 | - |

**Result**

| Result | Proceed to |
|---|---|
| Front blower motor operates normally | A |
| Front blower motor does not operate | B |
| Front blower motor operates but does not change speed | C |

| | |
|---|---|
| B | Go to step 2 |
| C | Go to step 6 |

A

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

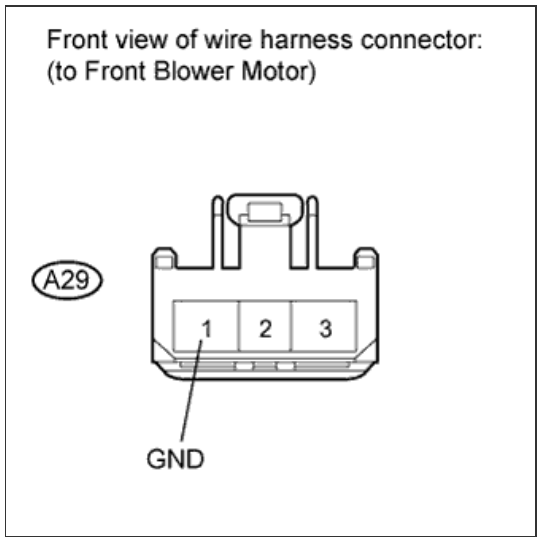
### 2.CHECK HARNESS AND CONNECTOR (FRONT BLOWER MOTOR - BODY GROUND)

a. Disconnect the A29 motor connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A29-1 (GND) - Body ground | Always | Below 1 Ω |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

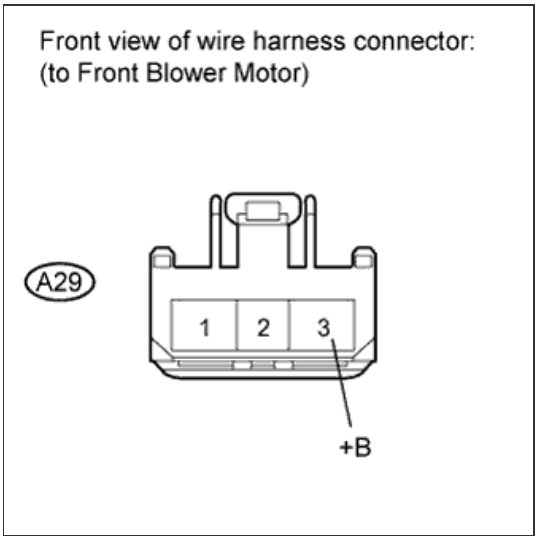
### 3.CHECK HARNESS AND CONNECTOR (FRONT BLOWER MOTOR - BATTERY)

a. Disconnect the A29 motor connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A29-3 (+B) - Body ground | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 4.CHECK FRONT BLOWER MOTOR (SI VOLTAGE)

a. Disconnect the E36*1 or E81*2 amplifier connector.

b. Reconnect the A29 motor connector.

c. Measure the voltage according to the value(s) in the table below.

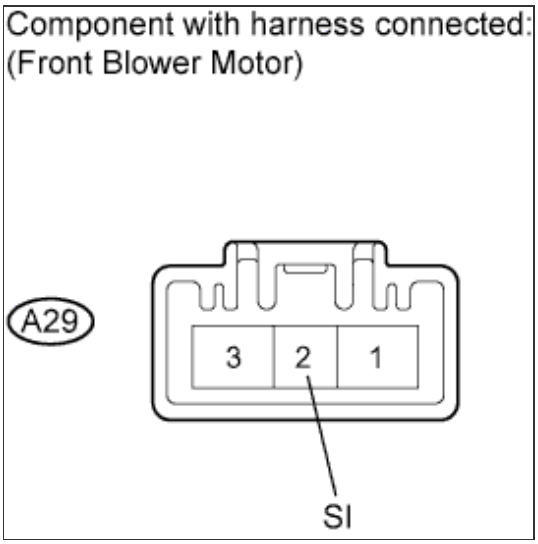
**HINT:**

*1: for LHD

*2: for RHD

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A29-2 (SI) - Body ground | Engine switch on (IG) | 4.5 to 5.5 V |




NG → REPLACE FRONT BLOWER MOTOR (Click here)

OK

### 5.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - FRONT BLOWER MOTOR)

a. w/ Rear Heater

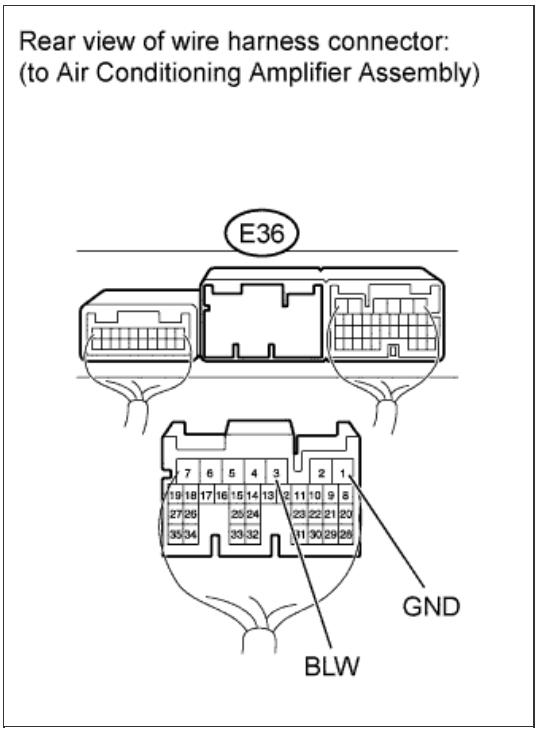
i. Disconnect the E36 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| | Engine switch | |

| | | |
|---|---|---|
| E36-3 (BLW) - E36-1 (GND) | on (IG)<br>Blower switch off | 4.5 to 5.5 V |



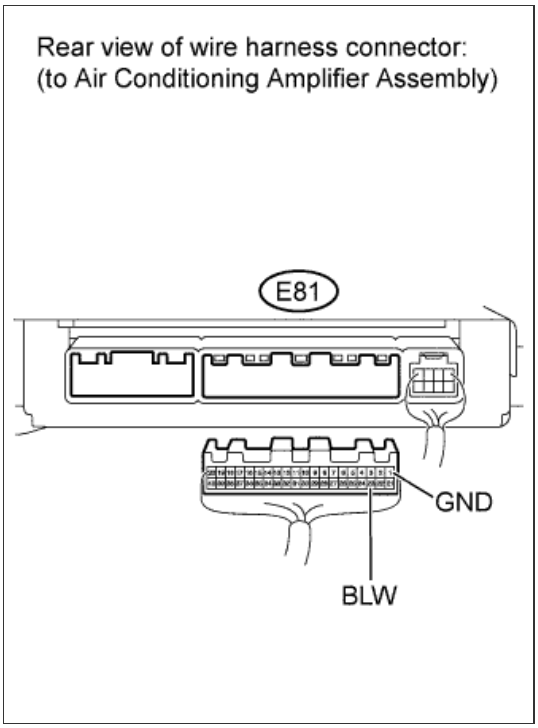

b. w/o Rear Heater

i. Disconnect the E81 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-23 (BLW) - E81-1 (GND) | Engine switch on (IG)<br>Blower switch off | 4.5 to 5.5 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 6.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - FRONT BLOWER MOTOR)

a. w/ Rear Heater

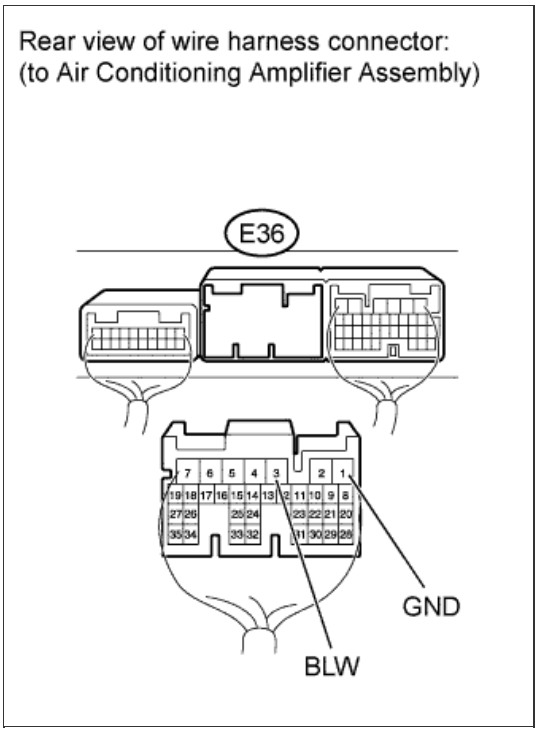
i. Disconnect the E36 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester | Switch | Specified |
|---|---|---|

| Connection | Condition | Condition |
|---|---|---|
| E36-3 (BLW) - E36-1 (GND) | Engine switch on (IG) Blower switch off | 4.5 to 5.5 V |



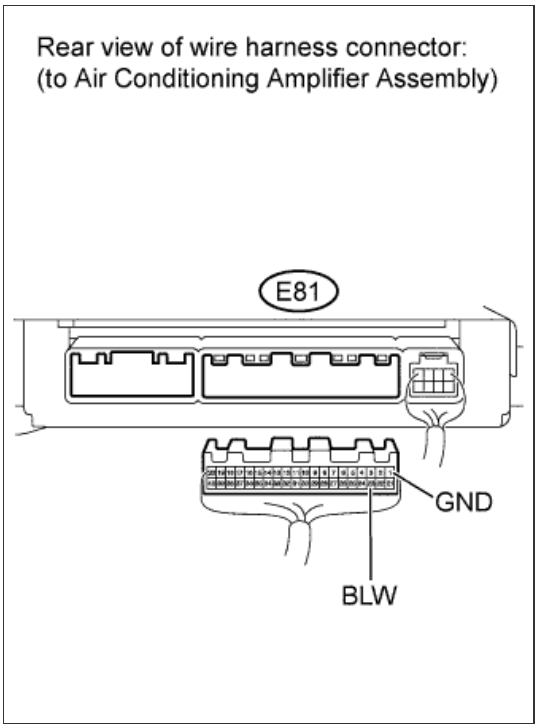

b. w/o Rear Heater

i. Disconnect the E81 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-23 (BLW) - E81-1 (GND) | Engine switch on (IG) Blower switch off | 4.5 to 5.5 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 7.CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY (BLW SIGNAL)

a. w/ Rear Heater

i. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

ii. Using an oscilloscope, check the waveform.

**Measurement Condition**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E36-3 (BLW) - E36-1 (GND) |

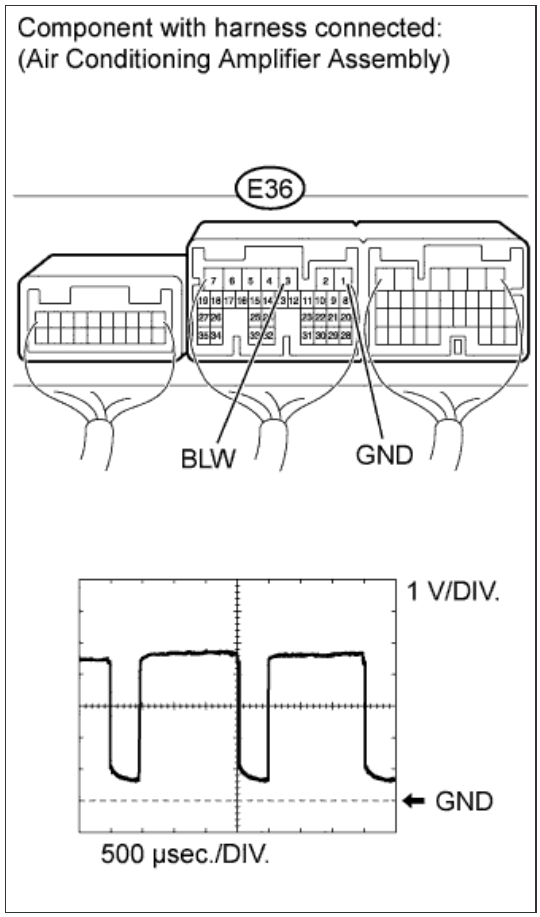
| | |
|---|---|
| Tool Setting | 1 V/DIV., 500 µsec./DIV. |
| Condition | Engine switch on (IG)<br>Blower switch: off → on |

**OK:**

**Waveform is as shown in the illustration.**

**HINT:**

Waveform varies with the blower level.




b. w/o Rear Heater

i. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

ii. Using an oscilloscope, check the waveform.

**Measurement Condition**

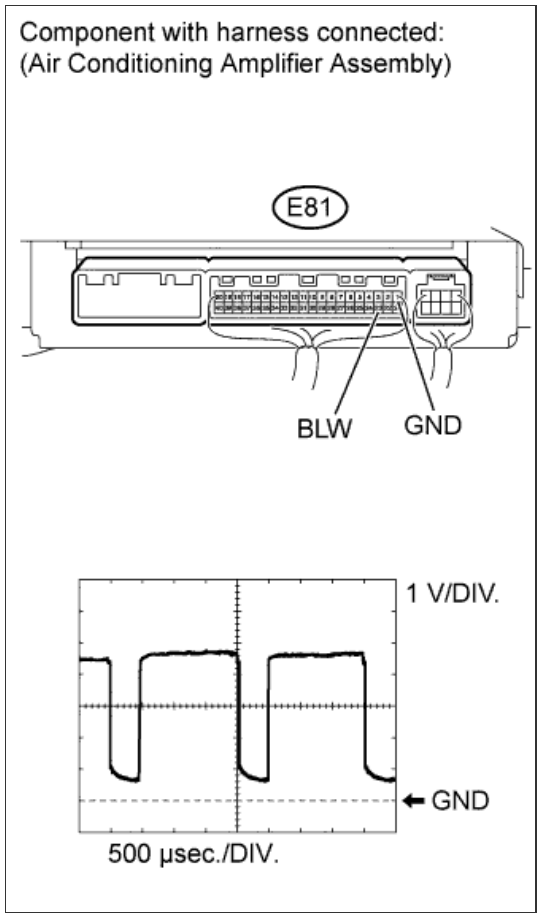
| Item | Content |
|---|---|
| Terminal No. (Symbol) | E81-23 (BLW) - E81-1 (GND) |
| Tool Setting | 1 V/DIV., 500 µsec./DIV. |
| Condition | Engine switch on (IG)<br>Blower switch: OFF → ON |

**OK:**

**Waveform is as shown in the illustration.**

**HINT:**

Waveform varies with the blower level.




NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK → REPLACE FRONT BLOWER MOTOR (Click here)

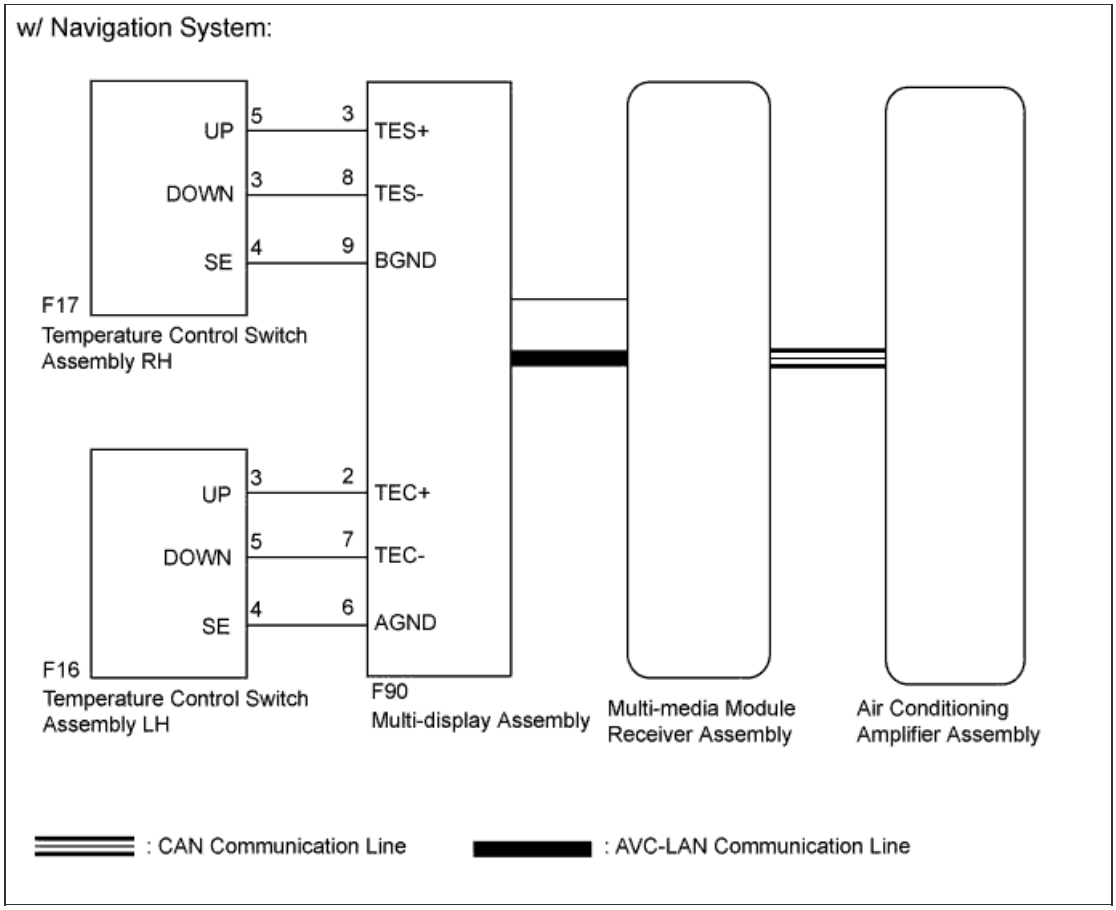
**for Preparation** Click here

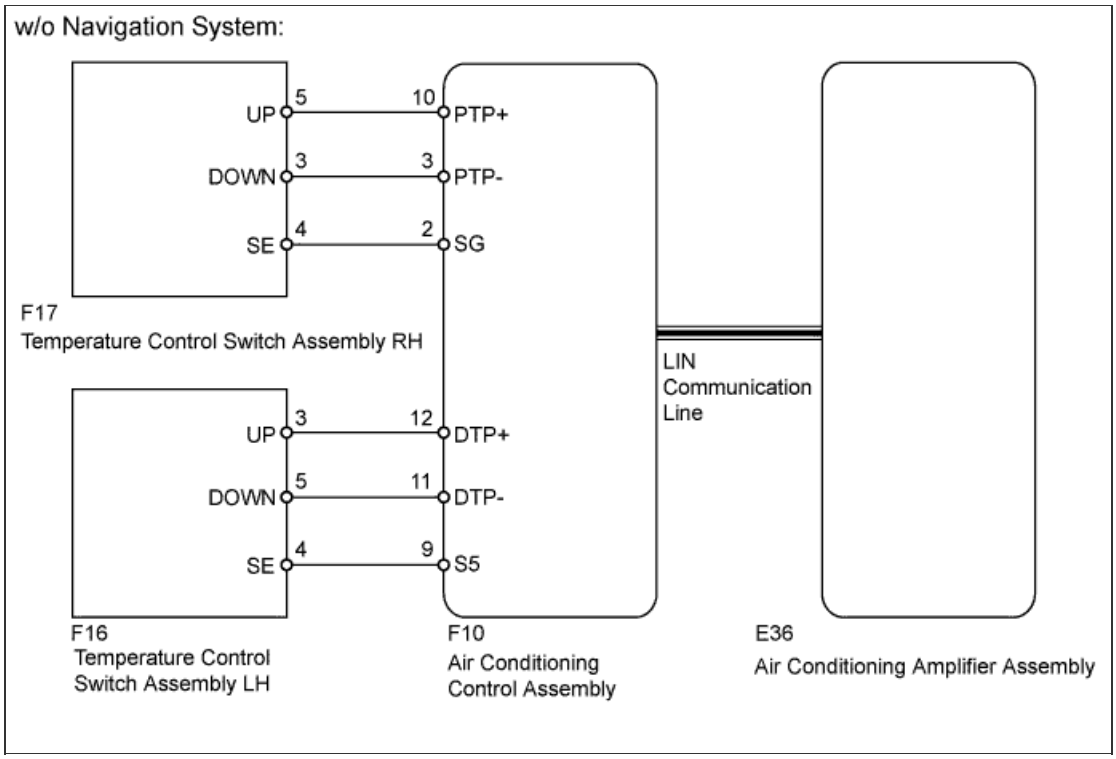
## DESCRIPTION

The temperature control switch assembly LH and RH sends the temperature up and down signal to the air conditioning amplifier assembly through the multi-display assembly*1 or the air conditioning control assembly*2.

*1: w/ Navigation System
*2: w/o Navigation System

## WIRING DIAGRAM






## INSPECTION PROCEDURE

### 1.CHECK VEHICLE TYPE

a. Check if the vehicle is equipped with the navigation system.

**Result**

| Result | Proceed to |
|---|---|
| w/ Navigation System | A |
| w/o Navigation System | B |

B → Go to step 9

A

### 2.CHECK CAN COMMUNICATION SYSTEM

a. Check the CAN communication system.

**OK:**

**CAN communication system has no problem.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for LHD) | B |
| NG (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

### 3.CHECK OPERATION

a. Check that the temperature control switches operate.

**Result**

| Result | Proceed |
|---|---|

| | |
|---|---|
| | to |
| Temperature control switch LH does not operate | A |
| Temperature control switch RH does not operate | B |
| Temperature control switch LH and RH do not operate | C |

B → Go to step 6

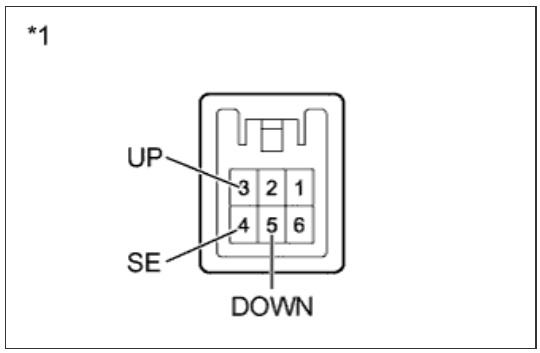
C → Go to step 8

A

## 4.INSPECT TEMPERATURE CONTROL SWITCH ASSEMBLY LH

a. Remove the temperature control switch assembly LH ( Click here).

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (UP) - 4 (SE) | UP switch pressed | Below 1 Ω |
| | UP switch not pressed | 10 kΩ or higher |
| 5 (DOWN) - 4 (SE) | DOWN switch pressed | Below 1 Ω |
| | DOWN switch not pressed | 10 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Temperature Control Switch Assembly LH) |

NG → REPLACE TEMPERATURE CONTROL SWITCH ASSEMBLY LH (Click here)

OK

## 5.CHECK HARNESS AND CONNECTOR (TEMPERATURE CONTROL SWITCH ASSEMBLY LH - MULTI-DISPLAY ASSEMBLY)

a. Disconnect the F16 temperature control switch assembly LH connector.

b. Disconnect the F90 multi-display assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F16-3 (UP) - F90-2 (TEC+) | Always | Below 1 Ω |
| F16-5 (DOWN) - F90-7 (TEC-) | Always | Below 1 Ω |
| F16-4 (SE) - F90-6 (AGND) | Always | Below 1 Ω |
| F16-3 (UP) - Body ground | Always | 10 kΩ or higher |
| F16-5 (DOWN) - Body ground | Always | 10 kΩ or higher |
| F16-4 (SE) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

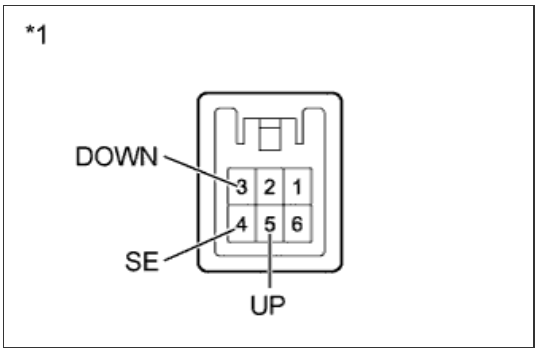
OK

REPLACE MULTI-DISPLAY ASSEMBLY (Click here)

## 6.INSPECT TEMPERATURE CONTROL SWITCH ASSEMBLY RH

a. Remove the temperature control switch assembly RH ( Click here).

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 5 (UP) - 4 (SE) | UP switch pressed | Below 1 Ω |
| | UP switch not pressed | 10 kΩ or higher |
| 3 (DOWN) - 4 (SE) | DOWN switch pressed | Below 1 Ω |
| | DOWN switch not pressed | 10 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Temperature Control Switch Assembly RH) |

NG → REPLACE TEMPERATURE CONTROL SWITCH ASSEMBLY RH (Click here)

OK

## 7.CHECK HARNESS AND CONNECTOR (TEMPERATURE CONTROL SWITCH ASSEMBLY RH - MULTI-DISPLAY ASSEMBLY)

a. Disconnect the F17 temperature control switch assembly RH connector.

b. Disconnect the F90 multi-display assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F17-5 (UP) - F90-3 (TES+) | Always | Below 1 Ω |
| F17-3 (DOWN) - F90-8 (TES-) | Always | Below 1 Ω |
| F17-4 (SE) - F90-9 (BGND) | Always | Below 1 Ω |
| F17-5 (UP) - Body ground | Always | 10 kΩ or higher |
| F17-3 (DOWN) - Body ground | Always | 10 kΩ or higher |
| F17-4 (SE) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MULTI-DISPLAY ASSEMBLY (Click here)

## 8.CHECK MULTI-DISPLAY ASSEMBLY

a. Replace the multi-display assembly with a new or normally functioning one ( Click here).

b. Check that the temperature control with temperature control switch LH and RH.

**OK:**
**Temperature control with temperature control switch LH and RH.**

NG → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

OK

## END (MULTI-DISPLAY ASSEMBLY IS DEFECTIVE)

## 9.CHECK LIN COMMUNICATION SYSTEM

a. Check the LIN communication system.

**OK:**
**LIN communication system has no problem.**

NG → GO TO LIN COMMUNICATION SYSTEM (Click here)

OK

## 10.CHECK OPERATION

a. Check that the temperature control switches operate.

**Result**

| Result | Proceed to |
|---|---|
| Temperature control switch LH does not operate | A |
| Temperature control switch RH does not operate | B |
| Temperature control switch LH and RH do not operate | C |

B → Go to step 13

C → Go to step 15

A

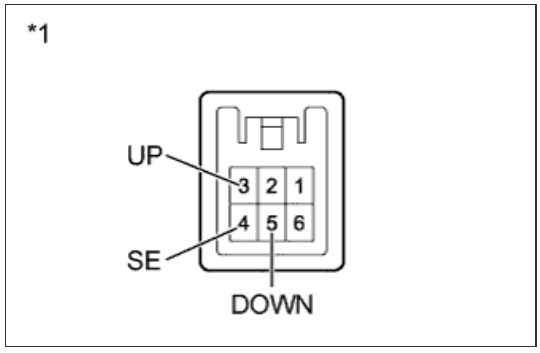
## 11.INSPECT TEMPERATURE CONTROL SWITCH ASSEMBLY LH

a. Remove the temperature control switch assembly LH ( Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 3 (UP) - 4 (SE) | UP switch pressed | Below 1 Ω |
| | UP switch not pressed | 10 kΩ or higher |
| 5 (DOWN) - 4 (SE) | DOWN switch pressed | Below 1 Ω |
| | DOWN switch not pressed | 10 kΩ or higher |



**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Temperature Control Switch Assembly LH) |

NG → REPLACE TEMPERATURE CONTROL SWITCH ASSEMBLY LH (Click here)

OK

**12.CHECK HARNESS AND CONNECTOR (TEMPERATURE CONTROL SWITCH ASSEMBLY LH - AIR CONDITIONING CONTROL ASSEMBLY)**

a. Disconnect the F16 temperature control switch assembly LH connector.

b. Disconnect the F10 air conditioning control assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F16-3 (UP) - F10-12 (DTP+) | Always | Below 1 Ω |
| F16-5 (DOWN) - F10-11 (DTP-) | Always | Below 1 Ω |
| F16-4 (SE) - F10-9 (S5) | Always | Below 1 Ω |
| F16-3 (UP) - Body ground | Always | 10 kΩ or higher |
| F16-5 (DOWN) - Body ground | Always | 10 kΩ or higher |
| F16-4 (SE) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

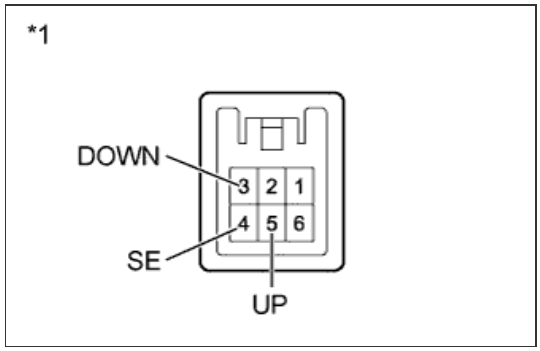
OK

REPLACE AIR CONDITIONING CONTROL ASSEMBLY (Click here)

**13.INSPECT TEMPERATURE CONTROL SWITCH ASSEMBLY RH**

a. Remove the temperature control switch assembly RH ( Click here).

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 5 (UP) - 4 (SE) | UP switch pressed | Below 1 Ω |
| | UP switch not pressed | 10 kΩ or higher |
| 3 (DOWN) - 4 (SE) | DOWN switch pressed | Below 1 Ω |
| | DOWN switch not pressed | 10 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Component without harness connected (Temperature Control Switch Assembly RH) |

REPLACE TEMPERATURE CONTROL SWITCH ASSEMBLY RH

NG → (Click here)

OK

**14.CHECK HARNESS AND CONNECTOR (TEMPERATURE CONTROL SWITCH ASSEMBLY RH - AIR CONDITIONING CONTROL ASSEMBLY)**

a. Disconnect the F17 temperature control switch assembly RH connector.

b. Disconnect the F10 air conditioning control assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F17-5 (UP) - F10-10 (PTP+) | Always | Below 1 Ω |
| F17-3 (DOWN) - F10-3 (PTP-) | Always | Below 1 Ω |
| F17-4 (SE) - F10-2 (SG) | Always | Below 1 Ω |
| F17-5 (UP) - Body ground | Always | 10 kΩ or higher |
| F17-3 (DOWN) - Body ground | Always | 10 kΩ or higher |
| F17-4 (SE) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING CONTROL ASSEMBLY (Click here)

**15.CHECK AIR CONDITIONING CONTROL ASSEMBLY**

a. Replace the air conditioning control assembly with a new or normally functioning one ( Click here).

b. Check that the temperature control with temperature control switch LH and RH.

**OK:**

**Temperature control with temperature control switch LH and RH.**

NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK

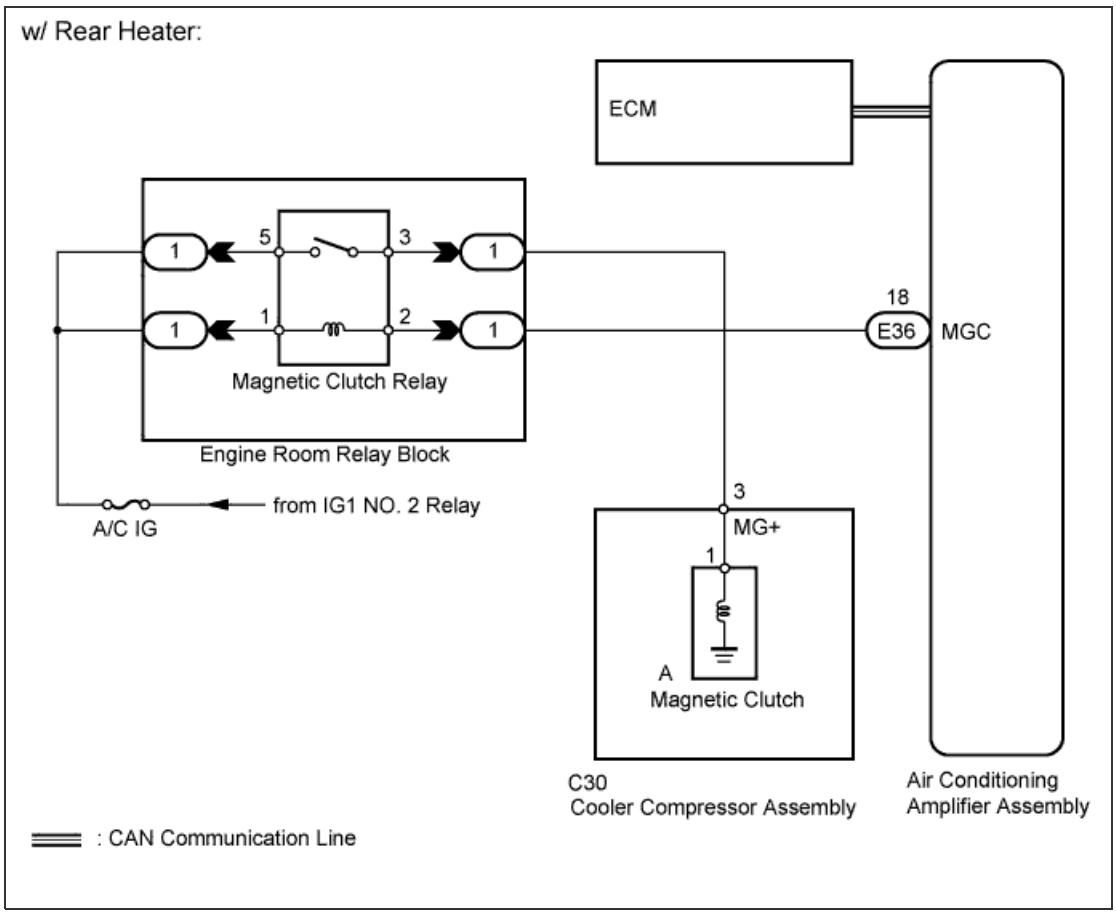
END (AIR CONDITIONING CONTROL ASSEMBLY IS DEFECTIVE)

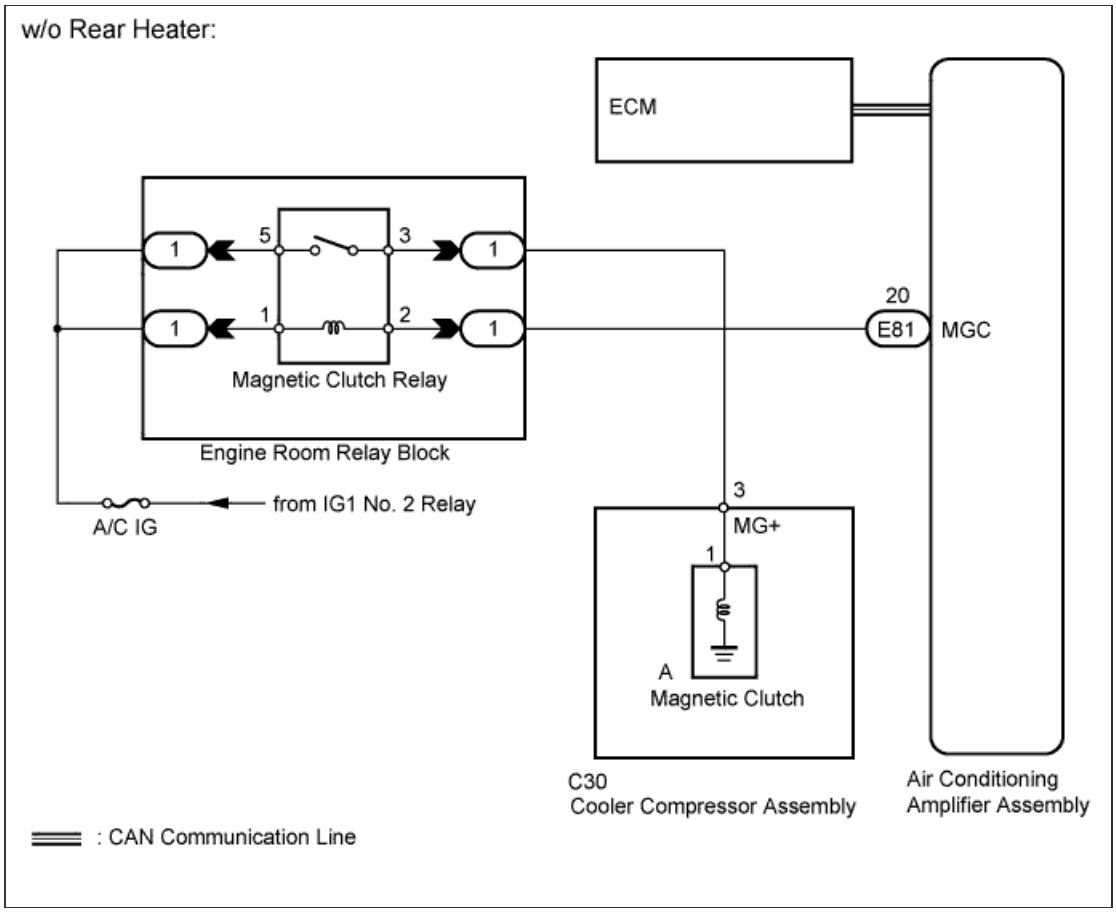
**for Preparation** Click here

## DESCRIPTION

When the air conditioning amplifier assembly is turned on, a magnetic clutch on signal is sent from the MGC terminal of the air conditioning amplifier assembly. Then, the magnetic clutch relay turns on to operate the magnetic clutch.

## WIRING DIAGRAM






## INSPECTION PROCEDURE

### 1.CHECK CAN COMMUNICATION SYSTEM

a. Check for CAN communication system DTCs related to the air conditioning system.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

### 2.READ VALUE USING INTELLIGENT TESTER (A/C SIGNAL)

a. Use the Data List to check if the A/C switch is functioning properly.

**Engine**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| A/C Signal | A/C signal / ON or OFF | ON: A/C switch on<br>OFF: A/C switch off | - |

**OK:**

**The display is as specified in the normal condition.**

NG → Go to step 3

OK

REPLACE ECM (Click here)

### 3.INSPECT FUSE (A/C IG)

a. Remove the A/C IG fuse from the cowl side junction block LH.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A/C IG fuse | Always | Below 1 Ω |

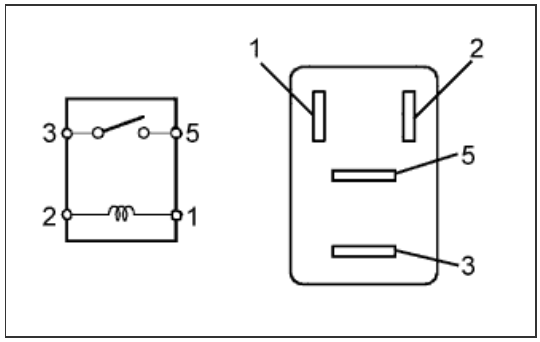
NG → REPLACE FUSE (A/C IG)

OK

### 4.INSPECT MAGNETIC CLUTCH RELAY

a. Remove the magnetic clutch relay from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Voltage not applied to terminals 1 and 2 | 10 kΩ or higher |
| 3 - 5 | Voltage applied to terminals 1 and 2 | Below 1 Ω |

c. Install the magnetic clutch relay to the engine room relay block.

NG → REPLACE MAGNETIC CLUTCH RELAY

OK

### 5.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY)

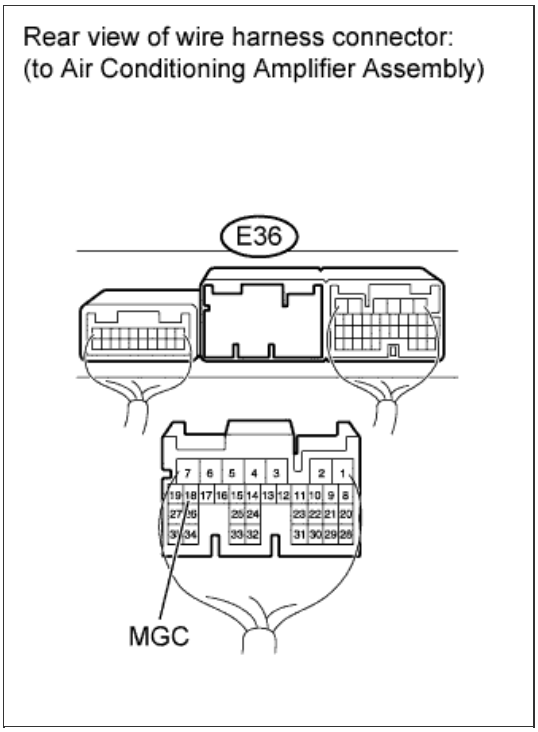
a. w/ Rear Heater

i. Disconnect the E36 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E36-18 (MGC) - Body ground | Engine switch off | Below 1 V |
| E36-18 (MGC) - Body ground | Engine switch on (IG) | 11 to 14 V |



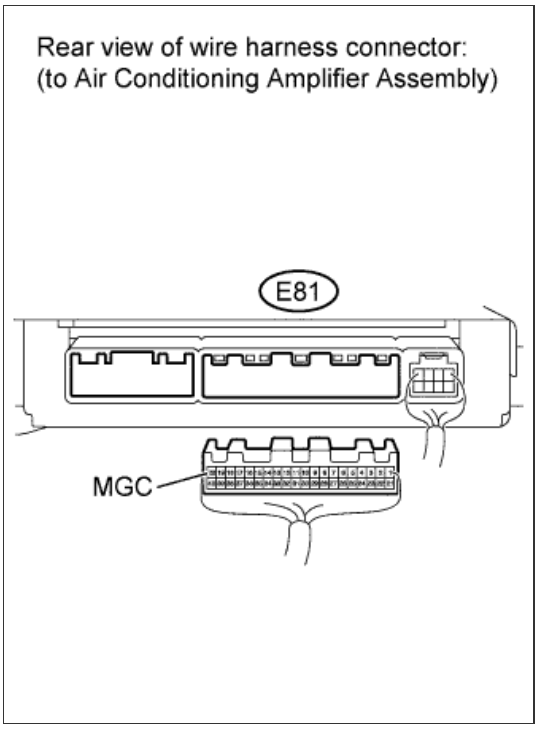

b. w/o Rear Heater

i. Disconnect the E81 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-20 (MGC) - Body ground | Engine switch off | Below 1 V |
| E81-20 (MGC) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 6.INSPECT AIR CONDITIONING AMPLIFIER ASSEMBLY

a. w/ Rear Heater

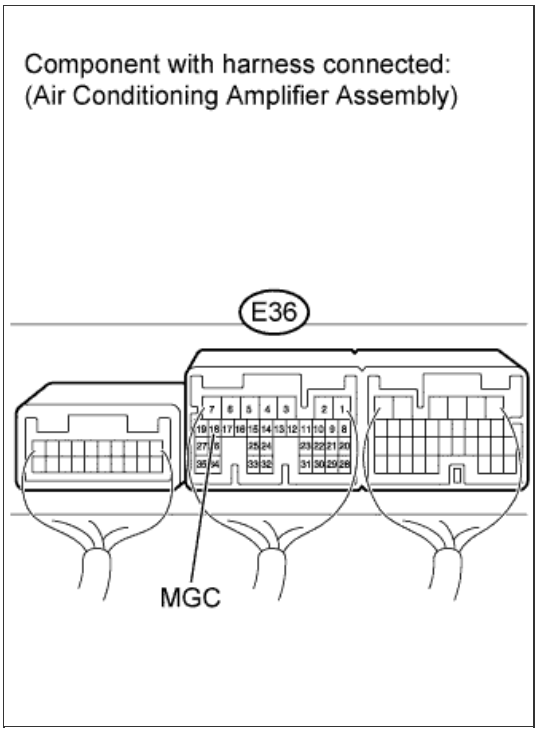
i. Reconnect the E36 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| | | |

| | | |
|---|---|---|
| E36-18 (MGC) - Body ground | Engine switch on (IG)<br>A/C switch off | 11 to 14 V |
| E36-18 (MGC) - Body ground | Engine switch on (IG)<br>A/C switch on | Below 1 V |



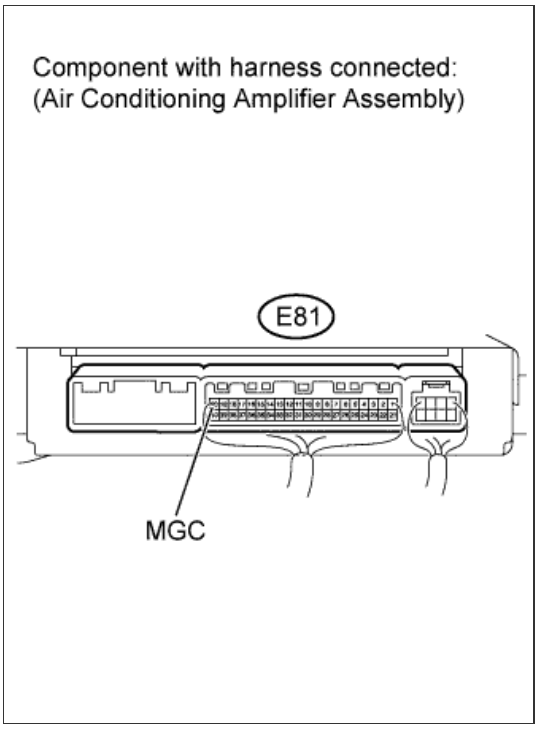

b. w/o Rear Heater

i. Reconnect the E81 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-20 (MGC) - Body ground | Engine switch on (IG)<br>A/C switch off | 11 to 14 V |
| E81-20 (MGC) - Body ground | Engine switch on (IG)<br>A/C switch on | Below 1 V |




NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK

## 7.INSPECT COOLER COMPRESSOR ASSEMBLY

a. Disconnect the C30 compressor connector.

b. Disconnect the A magnetic clutch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

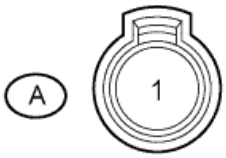
| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| C30-3 (MG+) - A-1 | Always | Below 1 Ω |
| C30-3 (MG+) - Body ground | Always | 10 kΩ or higher |

Component with harness connected:
(Cooler Compressor Assembly)




Front view of wire harness connector:
(to Magnetic Clutch)




NG → REPLACE COOLER COMPRESSOR ASSEMBLY (Click here)

OK

## 8.INSPECT MAGNETIC CLUTCH

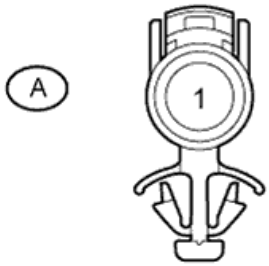
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A-1 - Body ground | 20°C (68°F) | 3.4 to 3.8 Ω |

b. When connector terminal A-1 is connected to the positive (+) battery terminal, check that the following occurs: 1) the operating sound of the magnetic clutch can be heard, and 2) the hub and rotor of the magnetic clutch lock.

Component without harness connected:
(Magnetic Clutch)




NG → REPLACE MAGNETIC CLUTCH

OK

## 9.CHECK HARNESS AND CONNECTOR (ENGINE ROOM RELAY BLOCK - BATTERY)

a. Remove the magnetic clutch relay from the engine room relay block.

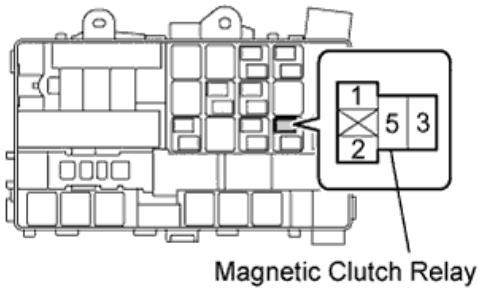
b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| Relay block magnetic clutch relay terminal 5 - Body ground | Engine switch on (IG) | 11 to 14 V |
| Relay block magnetic clutch relay terminal 1 - Body ground | Engine switch on (IG) | 11 to 14 V |

Engine Room Relay Block:




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR (ENGINE ROOM RELAY BLOCK - BATTERY)

OK

REPAIR OR REPLACE HARNESS OR CONNECTOR (ENGINE ROOM RELAY BLOCK - COOLER COMPRESSOR)

**for Preparation** Click here

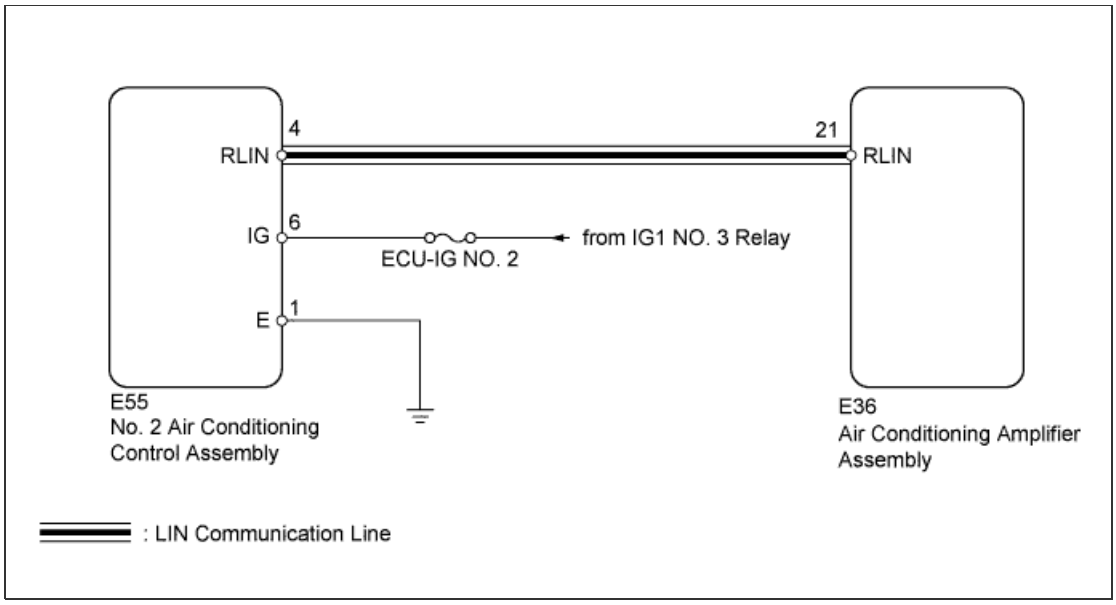
## DESCRIPTION

This circuit consists of the No. 2 air conditioning control assembly* and the air conditioning amplifier assembly. When the No. 2 air conditioning control assembly is operated, signals are transmitted to the air conditioning amplifier assembly through the LIN communication system.
If the LIN communication system malfunctions, the air conditioning amplifier assembly does not operate even if the No. 2 air conditioning control assembly is operated.

**HINT:**

*: w/ Rear Heater

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (ECU-IG NO. 2)

a. Remove the ECU-IG NO. 2 fuse from the cowl side junction block LH.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| ECU-IG NO. 2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (NO. 2 AIR CONDITIONING CONTROL - BODY GROUND AND BATTERY)

a. Disconnect the E55 No. 2 air conditioning control assembly connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

**Standard Resistance:**

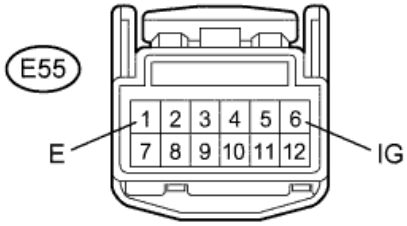
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E55-1 (E) - Body | Always | Below 1 Ω |

| | | |
|---|---|---|
| ground | | |

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E55-6 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector: (to No. 2 Air Conditioning Control Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - NO. 2 AIR CONDITIONING CONTROL)

a. Disconnect the E55 No. 2 air conditioning control assembly connector.

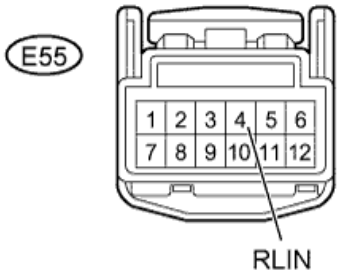
b. Disconnect the E36 amplifier connector.

c. Measure the resistance according to the value(s) in the table below.

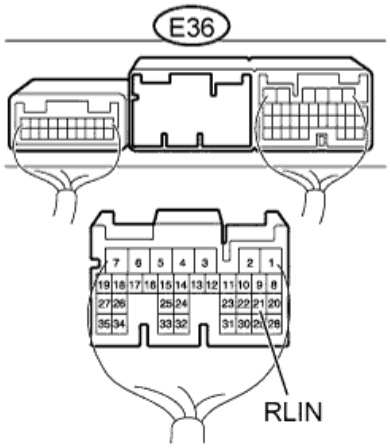
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-21 (RLIN) - E55-4 (RLIN) | Always | Below 1 Ω |
| E55-4 (RLIN) - Body ground | Always | 10 kΩ or higher |
| E36-21 (RLIN) - Body ground | | |

Front view of wire harness connector: (to No. 2 Air Conditioning Control Assembly)




Rear view of wire harness connector: (to Air Conditioning Amplifier Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (OPERATION)

a. Replace the No. 2 air conditioning control assembly with a new or properly functioning one ( Click here).

b. Operate the No. 2 air conditioning control assembly to check that it functions properly.

**OK:**

**No. 2 air conditioning control assembly function operates normally.**

NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

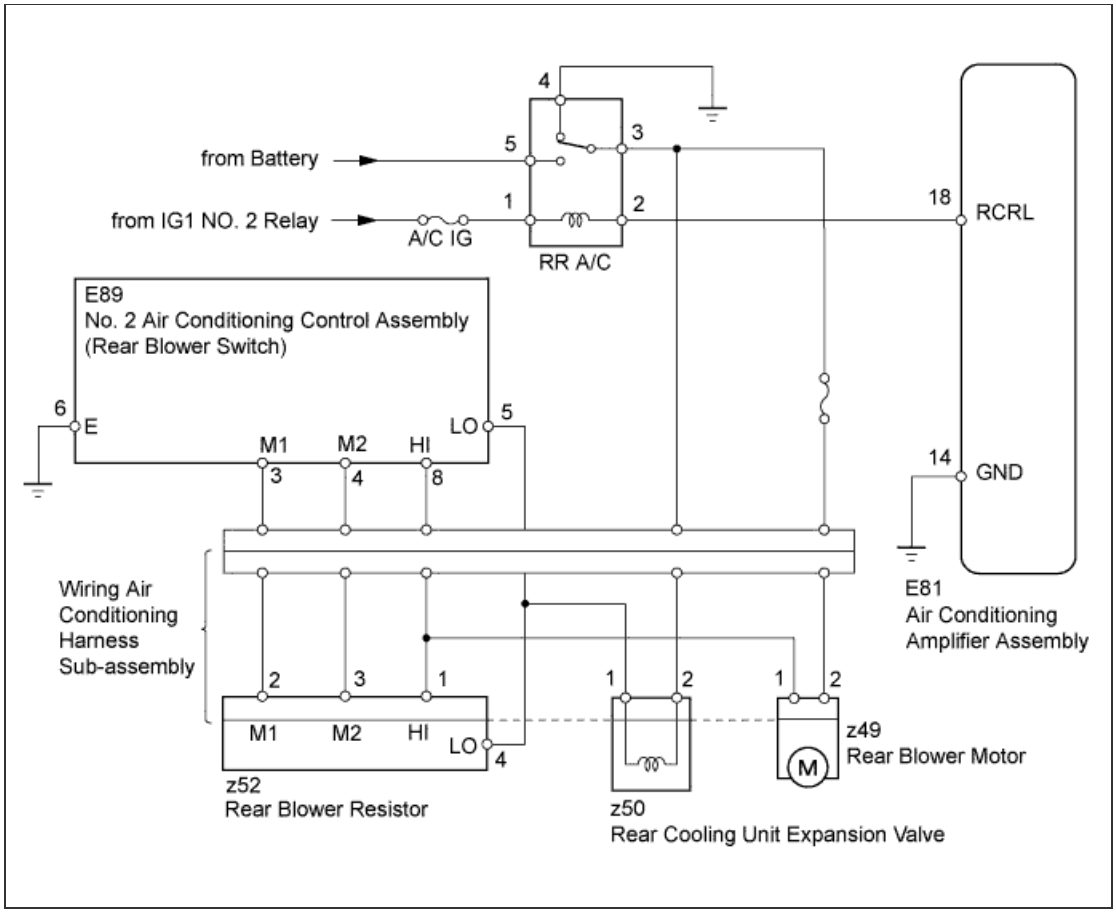
OK → REPLACE NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

When the No. 2 air conditioning control assembly (rear blower switch) is set to position LO or higher, the contact of the RR A/C relay is closed, current flows to the rear blower motor, and the rear blower motor operates. The rear blower motor speed can be changed by exchanging the ground and the rear blower resistor circuit with the No. 2 air conditioning control assembly (rear blower switch).

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (A/C IG, RR A/C NO.2)

a. Remove the A/C IG and RR A/C NO. 2 fuses from the cowl side junction block LH.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A/C IG fuse | Always | Below 1 Ω |
| RR A/C NO. 2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

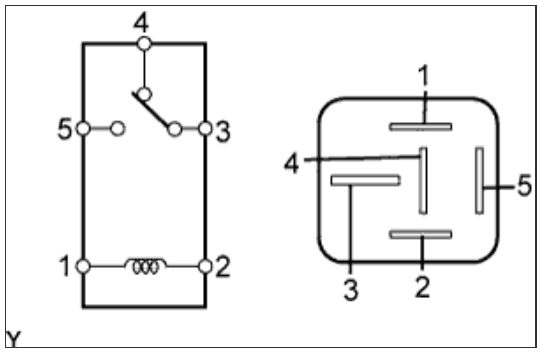
### 2.INSPECT RR A/C RELAY

a. Remove the RR A/C relay from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 4 | Battery voltage is not applied between terminals 1 and 2 | Below 1 Ω |
| 3 - 5 | Battery voltage is not applied between terminals 1 and 2 | 10 kΩ or higher |
| 3 - 4 | Battery voltage is applied to terminals 1 and 2 | 10 kΩ or higher |
| 3 - 5 | Battery voltage is applied to terminals 1 and 2 | Below 1 Ω |




NG → REPLACE RR A/C RELAY

OK

## 3.INSPECT REAR BLOWER MOTOR

a. Disconnect the z49 motor connector.

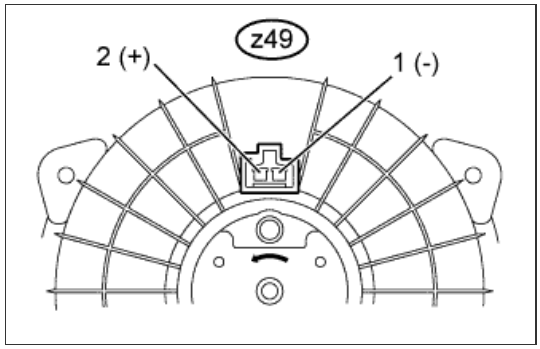
b. Connect the battery's positive (+) lead to terminal 2 and the negative (-) lead to terminal 1, then check that the rear blower motor operates smoothly.

**OK:**
**The rear blower motor operates smoothly.**

c. Measure the current according to the value(s) in the table below.

**Standard Current:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z49-1 (-) - z49-2 (+) | Rear blower motor operates | 1 to 3 A |




NG → REPLACE REAR BLOWER MOTOR (Click here)

OK

## 4.INSPECT NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (REAR BLOWER SWITCH)

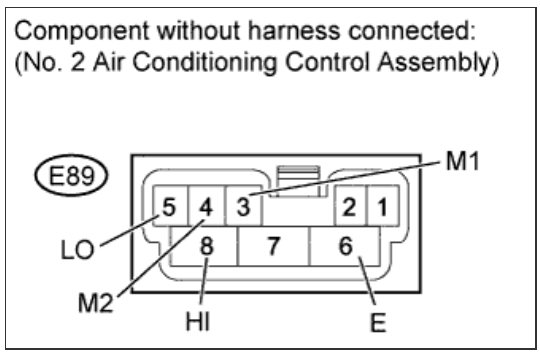
a. Remove the No. 2 air conditioning control assembly (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| ALL - E89-6 (E) | OFF | 10 kΩ or higher |
| E89-5 (LO) - E89-6 (E) | LO | Below 1 Ω |
| E89-3 (M1) - E89-6 (E) | M1 | Below 1 Ω |
| E89-4 (M2) - E89-6 (E) | M2 | Below 1 Ω |
| E89-8 (HI) - E89-6 (E) | HI | Below 1 Ω |

Component without harness connected:
(No. 2 Air Conditioning Control Assembly)




NG → REPLACE NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (Click here)

OK

## 5.INSPECT REAR BLOWER RESISTOR

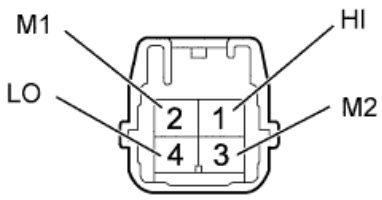
a. Remove the rear blower resistor (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z52-1 (HI) - z52-2 (M1) | Always | 1.32 to 1.52 Ω |
| z52-1 (HI) - z52-3 (M2) | Always | 0.39 to 0.45 Ω |
| z52-1 (HI) - z52-4 (LO) | Always | 2.24 to 2.4 Ω |

Component without harness connected:
(Rear Blower Resistor)




NG → REPLACE REAR BLOWER RESISTOR (Click here)

OK

## 6.CHECK REAR COOLING UNIT EXPANSION VALVE (OPERATION)

a. Replace the rear cooling unit expansion valve (Click here).

**HINT:**

Since the rear cooling unit expansion valve cannot be inspected while it is removed from the vehicle, replace the rear cooling unit expansion valve with a normal one and check that the condition returns to normal.

**OK:**

**Same problem does not occur.**

NG → Go to step 7

OK → CHECK REAR COOLING UNIT EXPANSION VALVE (Click here)

## 7.CHECK HARNESS AND CONNECTOR (REAR BLOWER RESISTOR - WIRING AIR CONDITIONING HARNESS)

a. Disconnect the wiring air conditioning harness sub-assembly connector.

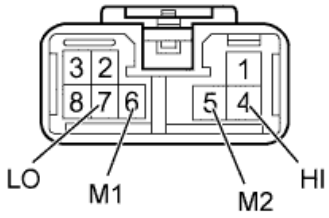
b. Disconnect the z52 rear blower resistor connector.

c. Measure the resistance according to the value(s) in the table below.

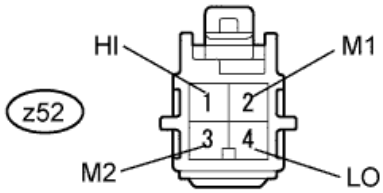
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 6 (M1) - z52-2 (M1) | Always | Below 1 Ω |
| 5 (M2) - z52-3 (M2) | Always | Below 1 Ω |
| 4 (HI) - z52-1 (HI) | Always | Below 1 Ω |
| 7 (LO) - z52-4 (LO) | Always | Below 1 Ω |

Front view of wire harness connector:
(to Wiring Air Conditioning Harness Sub-assembly)




Front view of wire harness connector:
(to Rear Blower Resistor)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.CHECK HARNESS AND CONNECTOR (REAR BLOWER SWITCH - WIRING AIR CONDITIONING HARNESS)

a. Disconnect the E89 No. 2 air conditioning control assembly connector.

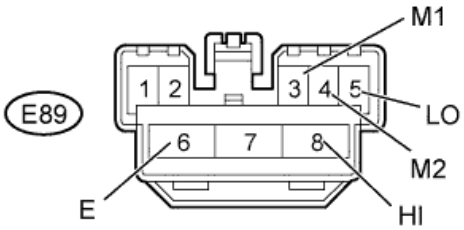
b. Disconnect the Wiring air conditioning harness sub-assembly connector.

c. Measure the resistance according to the value(s) in the table below.

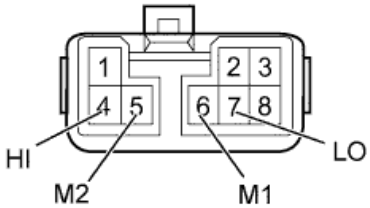
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E89-3 (M1) - 6 (M1) | Always | Below 1 Ω |
| E89-4 (M2) - 5 (M2) | Always | Below 1 Ω |
| E89-8 (HI) - 4 (HI) | Always | Below 1 Ω |
| E89-5 (LO) - 7 (LO) | Always | Below 1 Ω |
| E89-6 (E) - Body ground | Always | Below 1 Ω |

Front view of wire harness connector:
(to No. 2 Air Conditioning Control Assembly)




Front view of wire harness connector:
(to Wiring Air Conditioning Harness Sub-assembly)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 9.CHECK HARNESS AND CONNECTOR (REAR BLOWER RESISTOR - REAR BLOWER MOTOR)

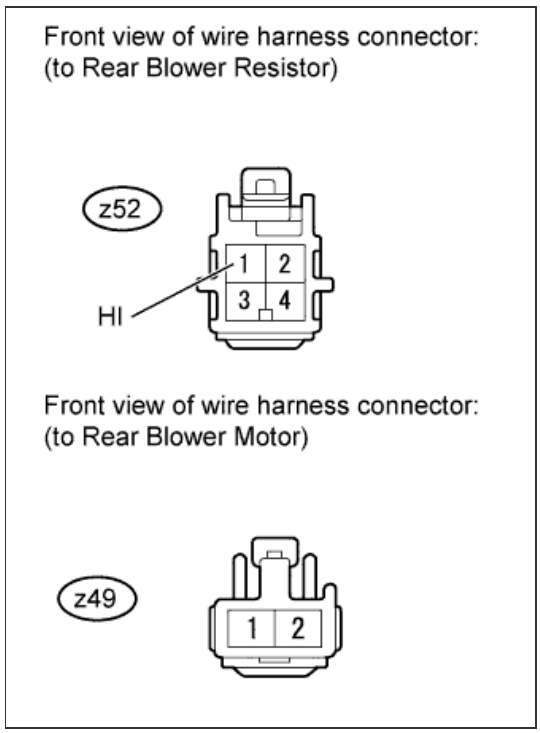
a. Disconnect the z52 rear blower resistor connector.

b. Disconnect the z49 rear motor connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z52-1 (HI) - z49-1 | Always | Below 1 Ω |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 10.CHECK HARNESS AND CONNECTOR (REAR BLOWER MOTOR - BODY GROUND AND BATTERY)

a. Disconnect the z49 rear motor connector.

b. Measure the resistance according to the value(s) in the table below.

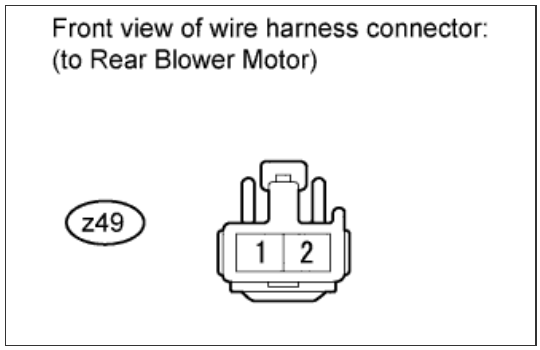
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z49-2 - Body ground | Always | Below 1 Ω |

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| z49-2 - Body ground | Engine switch on (IG)<br>Heater control (blower switch) HI | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

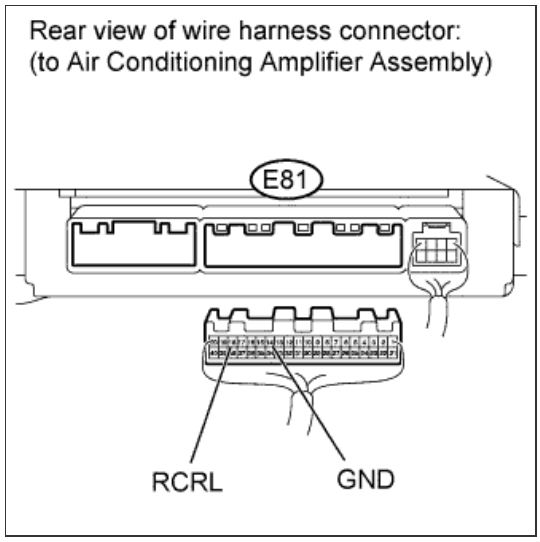
## 11.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY AND BODY GROUND)

a. Disconnect the E81air conditioning amplifier connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-18 (RCRL) - Body ground | Engine switch on (IG)<br>Heater control (blower switch): OFF | 11 to 14 V |
| E81-18 (RCRL) - Body ground | Engine switch on (IG)<br>Heater control (blower switch): ON | Below 1 V |




c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-14 (GND) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

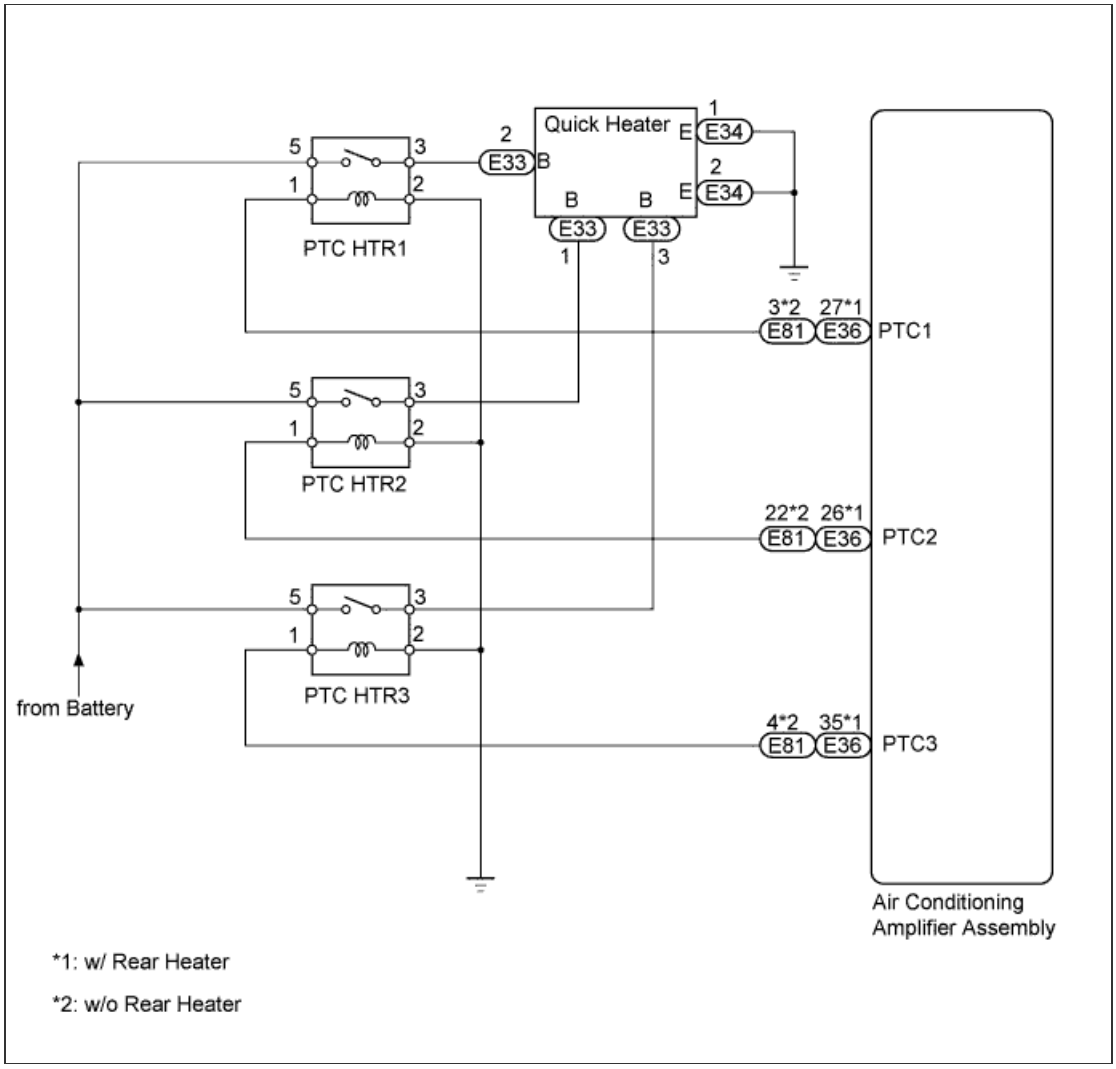
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**for Preparation** Click here

## DESCRIPTION

PTC heater relays are closed in accordance with signals from the air conditioning amplifier assembly and power is supplied to the quick heater assembly installed on the radiator heater unit.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

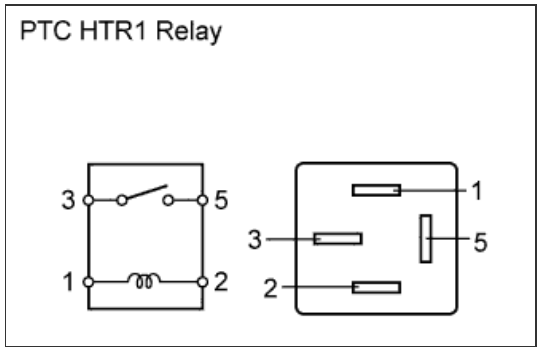
### 1.INSPECT PTC HEATER RELAY (PTC HTR1)

a. Remove the PTC HTR1 relay from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage not applied between terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage applied to terminals 1 and 2 | Below 1 Ω |




NG → REPLACE PTC HEATER RELAY

OK

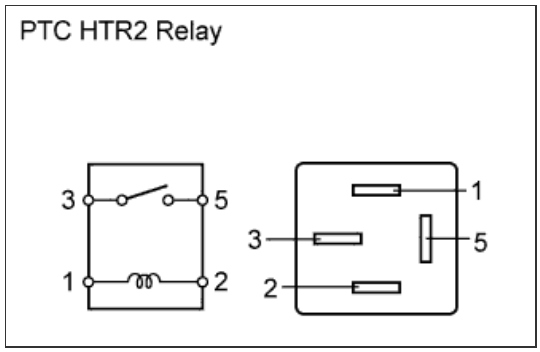
## 2.INSPECT PTC HEATER RELAY (PTC HTR2)

a. Remove the PTC HTR2 relay from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage not applied between terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage applied to terminals 1 and 2 | Below 1 Ω |




NG → REPLACE PTC HEATER RELAY

OK

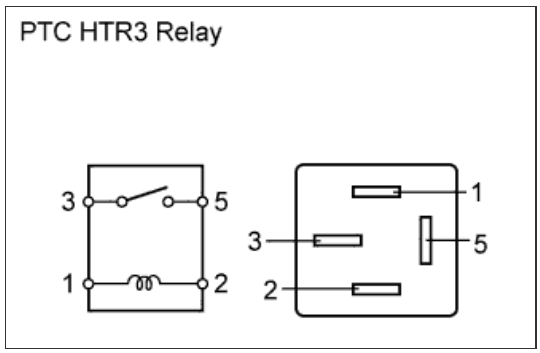
## 3.INSPECT PTC HEATER RELAY (PTC HTR3)

a. Remove the PTC HTR3 relay from the engine room relay block.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage not applied between terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage applied to terminals 1 and 2 | Below 1 Ω |




NG → REPLACE PTC HEATER RELAY

OK

## 4.CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

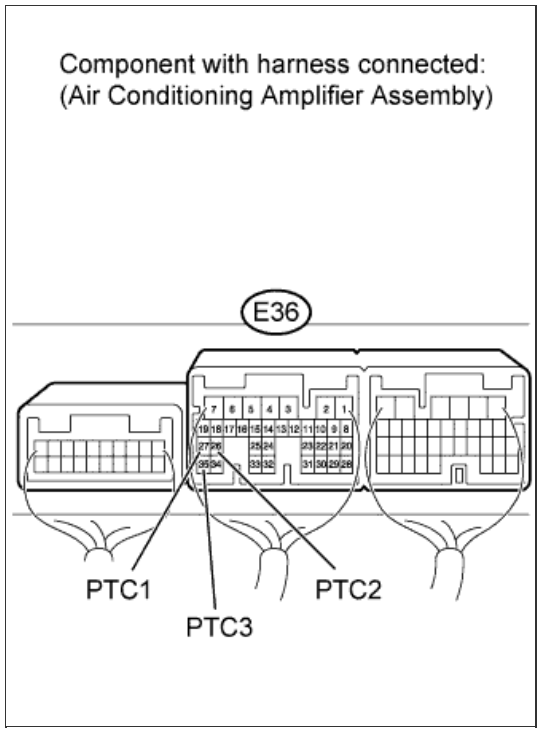
a. w/ Rear Heater

i. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-27 (PTC1) - Body ground | Engine switch on (IG)<br>Temperature setting: MAX, HOT<br>MODE switch: FOOT<br>Engine coolant temperature: 55°C (131°F) or less<br>Blower switch: off | 11 to 14 V |
| E36-26 (PTC2) - Body ground | | |
| E36-35 (PTC3) - Body ground | | |



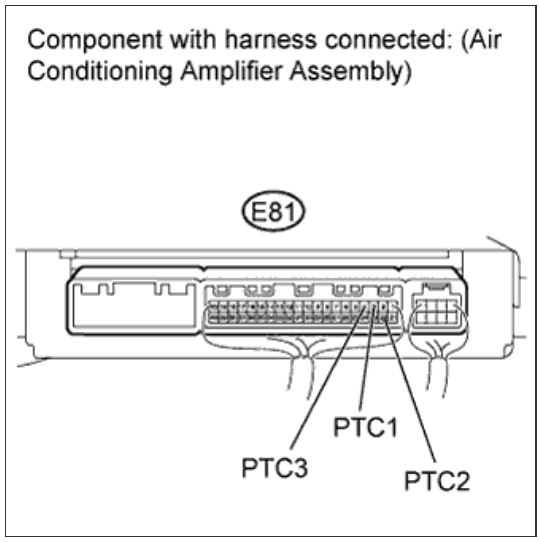

b. w/o Rear Heater

i. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-3 (PTC1) - Body ground | Engine switch on (IG)<br>Temperature setting: MAX, HOT<br>MODE switch: FOOT<br>Engine coolant temperature: 55°C (131°F) or less<br>Blower switch: off | 11 to 14 V |
| E81-22 (PTC2) - Body ground | | |
| E81-4 (PTC3) - Body ground | | |




NG → Go to step 8

OK

## 5.CHECK HARNESS AND CONNECTOR (PTC HEATER RELAY - QUICK HEATER)

a. Remove the quick heater relays from the engine room relay block.

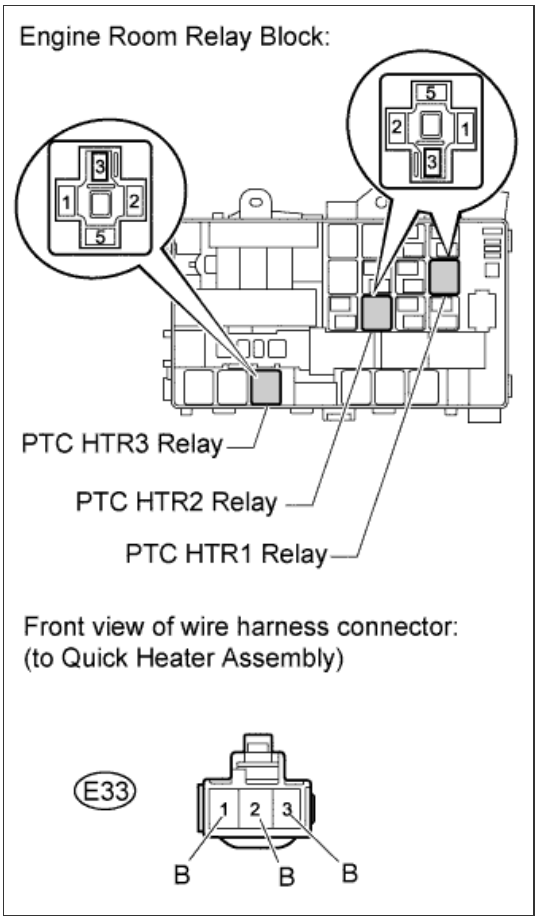
b. Disconnect the E33 quick heater assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| PTC HTR2 terminal 3 - E33-1 (B) | Always | Below 1 Ω |
| PTC HTR1 terminal 3 - E33-2 | | |

| | | |
|---|---|---|
| (B) | | |
| PTC HTR3 terminal 3 - E33-3 (B) | | |
| PTC HTR2 terminal 3 - Body ground | Always | 10 kΩ or higher |
| PTC HTR1 terminal 3 - Body ground | | |
| PTC HTR3 terminal 3 - Body ground | | |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

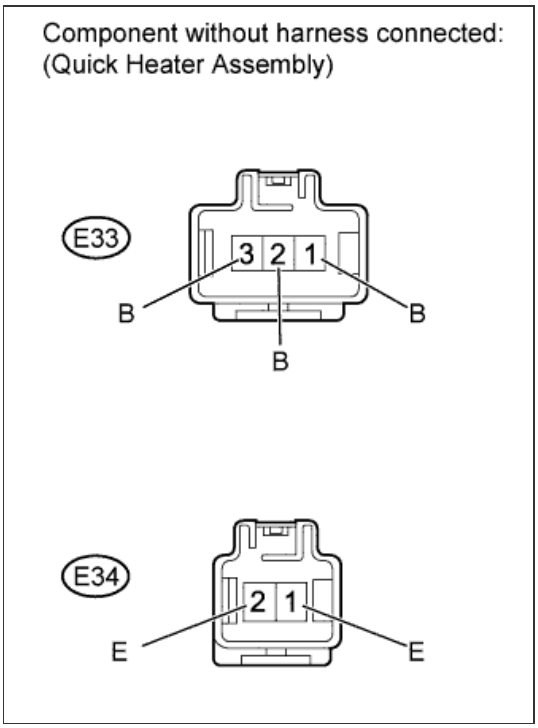
## 6.INSPECT QUICK HEATER ASSEMBLY

a. Disconnect the E33 and E34 quick heater connectors.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E33-1 (B) - E34-1 (E) | Always | Below 1 Ω |
| E33-2 (B) - E34-1 (E) | | |
| E33-3 (B) - E34-2 (E) | | |




NG → REPLACE QUICK HEATER RELAY (Click here)

OK

## 7.CHECK HARNESS AND CONNECTOR (QUICK HEATER - BODY GROUND)

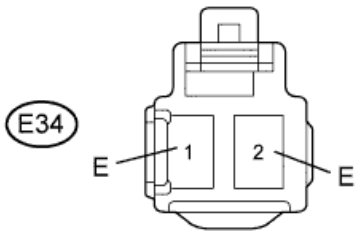
a. Disconnect the E34 quick heater assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E34-1 (E) - Body ground | Always | 10 kΩ or higher |
| E34-2 (E) - Body ground | | |

Front view of wire harness connector: (to Quick Heater Assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - PTC HTR RELAY)

a. w/ Rear Heater

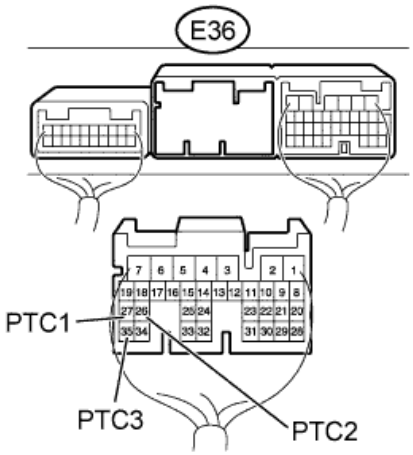
i. Disconnect the E36 amplifier connector.

ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-27 (PTC1) - Body ground | Always | Below 1 Ω |
| E36-26 (PTC2) - Body ground | | |
| E36-35 (PTC3) - Body ground | | |

Rear view of wire harness connector: (to Air Conditioning Amplifier Assembly)




b. w/o Rear Heater

i. Disconnect the E81 amplifier connector.

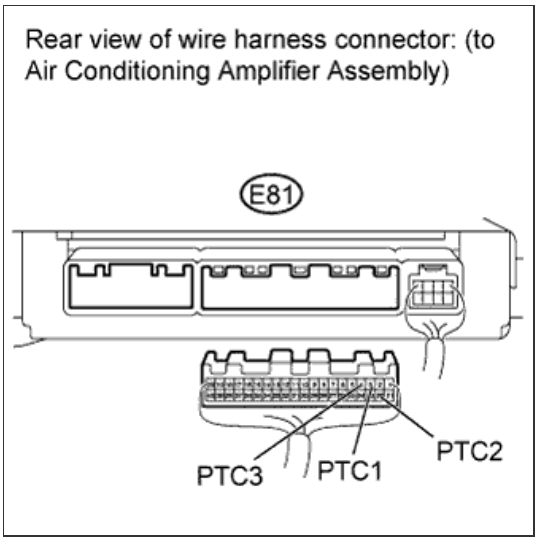
ii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-3 (PTC1) - Body ground | Always | Below 1 Ω |
| E81-22 (PTC2) - Body ground | | |
| E81-4 (PTC3) - Body ground | | |

**Result**

| Result | Proceed to |
|---|---|
| OK (for LHD) | A |
| OK (for RHD) | B |
| NG | C |



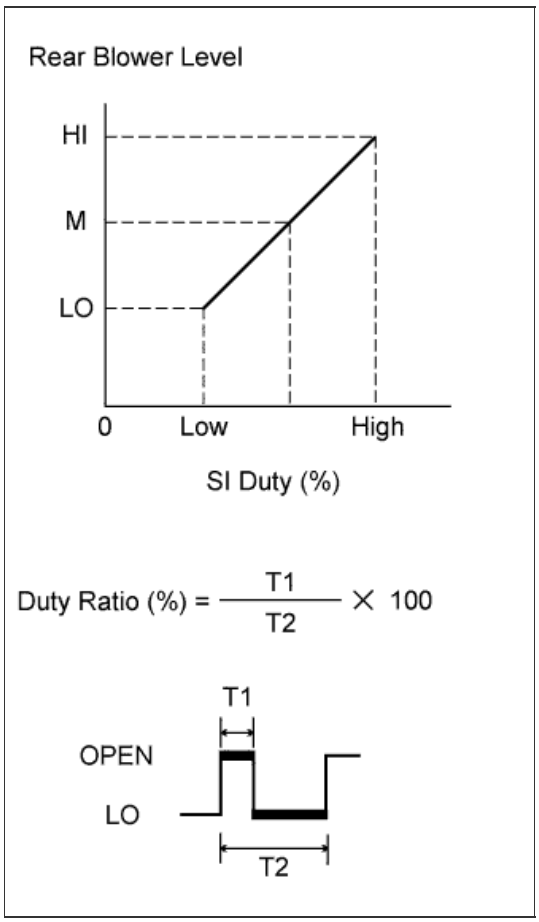

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

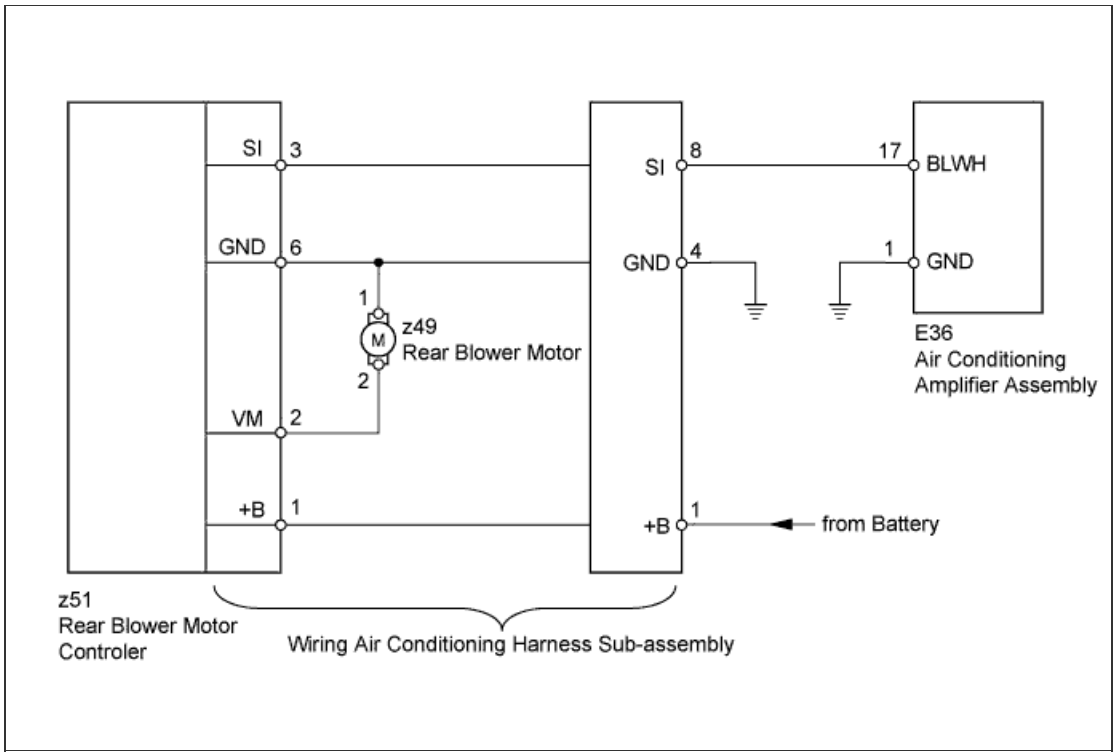
**for Preparation** Click here

## DESCRIPTION




The rear blower motor (w/ rear heater) is operated by signals from the air conditioning amplifier assembly. The rear blower motor speed signals are transmitted by changes in the duty ratio.
Duty Ratio:
The duty ratio is the ratio of the rear blower motor OPEN time (T1) to the total of the rear blower motor OPEN and LO time (T2).
The rear blower motor controller controls the rear blower motor speed.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (REAR BLOWER MOTOR)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check that the rear blower motor operates.

**Air Conditioner**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Rear Blower Motor | Rear blower motor | Min.: 0, Max.: 31 | - |

**Result**

| Result | Proceed to |
|---|---|
| Rear blower motor operates normally | A |
| Rear blower motor does not operate | B |
| Rear blower motor operates but does not change speed | C |

| | |
|---|---|
| B | Go to step 2 |
| C | Go to step 5 |

A

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

### 2.CHECK HARNESS AND CONNECTOR (WIRING AIR CONDITIONING HARNESS - BODY GROUND)

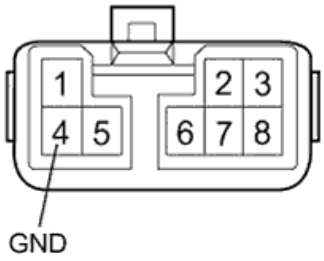
a. Disconnect the wiring air conditioning harness sub-assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 4 (GND) - Body ground | Always | Below 1 Ω |

Front view of wire harness connector: (to Air Conditioning Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 3.CHECK HARNESS AND CONNECTOR (WIRING AIR CONDITIONING HARNESS - BATTERY)

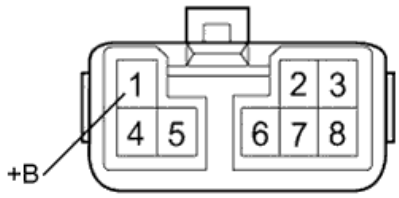
a. Disconnect the wiring air conditioning harness sub-assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (+B) - Body ground | Always | 11 to 14 V |

Front view of wire harness connector: (to Air Conditioning Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 4.CHECK WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY (SI VOLTAGE)

a. Disconnect the E36 amplifier connector.

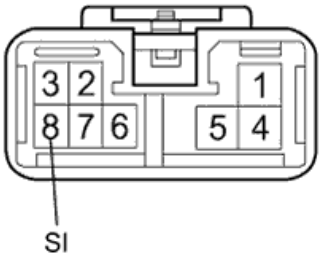
b. Reconnect the wiring air conditioning harness sub-assembly connector.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 8 (SI) - Body ground | Engine switch on (IG) | 4.5 to 5.5 V |

Component with harness connected: (Air Conditioning Wiring Harness Sub-assembly)



NG → Go to step 7

OK

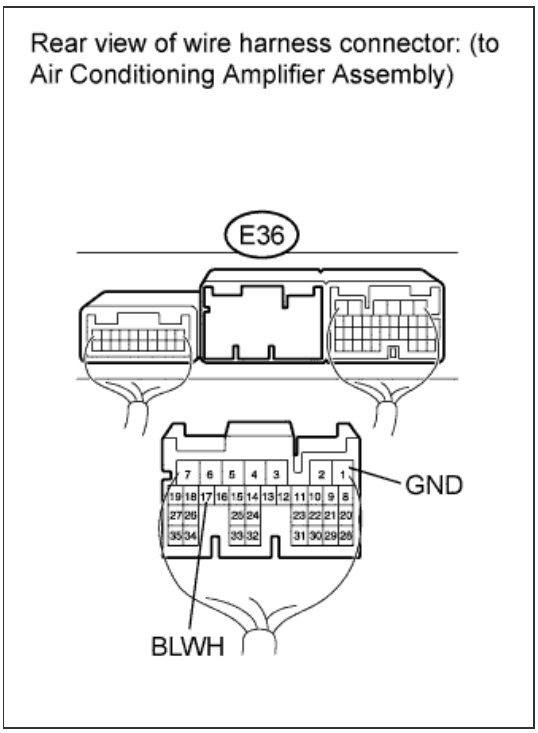
## 5.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - WIRING AIR CONDITIONING HARNESS)

a. Disconnect the E36 amplifier connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E36-17 (BLWH) - E36-1 (GND) | Engine switch on (IG)<br>Blower switch off | 4.5 to 5.5 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 6.CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY (BLWH SIGNAL)

a. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

b. Using an oscilloscope, check the waveform.

**Measurement Condition**

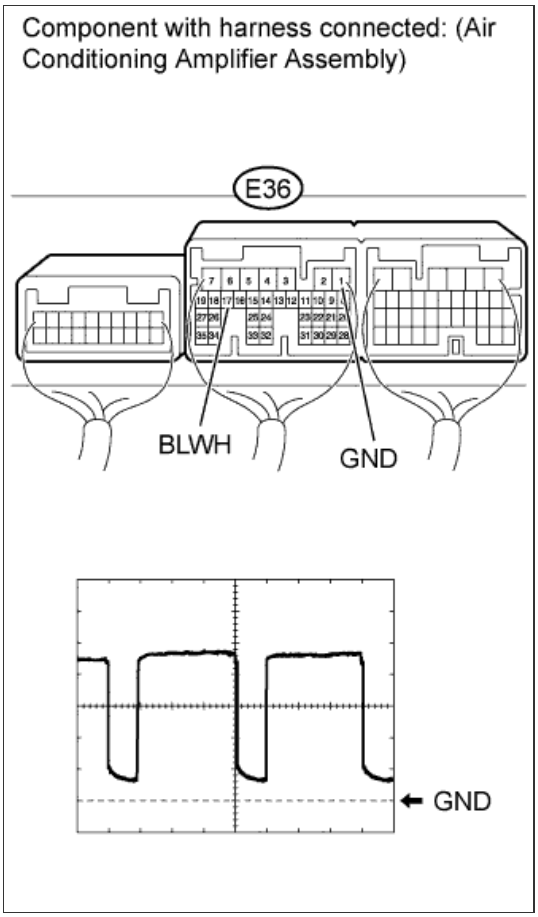
| Item | Content |
|---|---|
| Terminal No.(Symbol) | E36-17 (BLWH) - E36-1 (GND) |
| Tool Setting | 1 V/DIV., 500 µs/DIV. |
| Condition | Engine switch on (IG)<br>Blower switch: off → on |

**OK:**

**Waveform is as shown in the illustration.**

**HINT:**

Waveform varies with the blower level.




NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK ↓

**7.CHECK WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY (OPERATION)**

a. Replace the wiring air conditioning harness sub-assembly with a normal one and check that the condition returns to normal.

**OK:**
**Same problem does not occur.**

NG → Go to step 8

OK ↓

**REPLACE WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY**

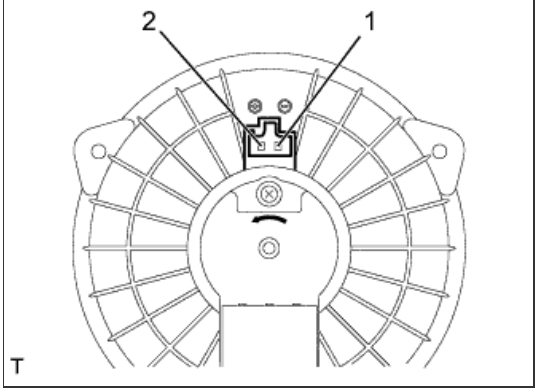
**8.INSPECT REAR BLOWER MOTOR**

a. Disconnect the z32 motor connector.

b. Connect the positive (+) lead of the battery to terminal 2 and the negative (-) lead to terminal 1, then check that the rear blower motor operates smoothly.

**OK:**
**The rear blower motor operates smoothly.**

Component without harness connected:
(Rear Blower Motor)




NG → REPLACE REAR BLOWER MOTOR (Click here)

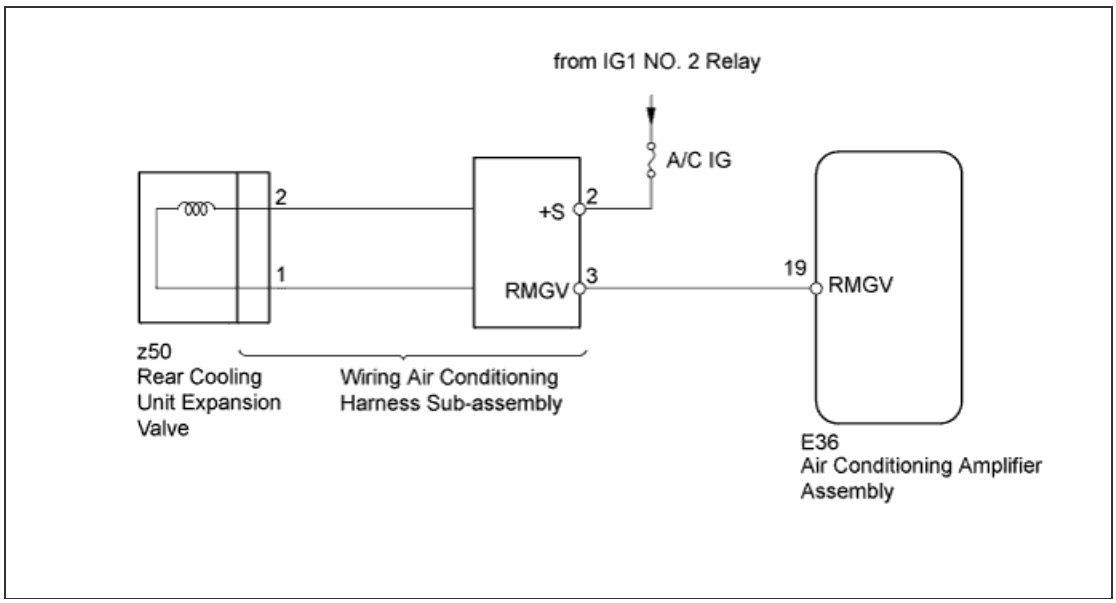
OK → REPLACE REAR BLOWER MOTOR CONTROLLER (Click here)

**for Preparation** Click here

## DESCRIPTION

The rear cooling unit expansion valve (rear magnetic valve) is controlled by the air conditioning amplifier assembly.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (REAR A/C MAG VALVE)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check that the rear cooling unit expansion valve operates.

**OK:**
**Rear cooling unit expansion valve operates normally.**

Air Conditioner

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Rear A/C Mag Valv | Rear cooling unit expansion valve | OFF or ON | - |

NG → Go to step 2

OK

### REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

### 2.INSPECT FUSE (A/C IG)

a. Remove the A/C IG fuse from the cowl side junction block LH.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A/C IG fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

## 3.CHECK HARNESS AND CONNECTOR (WIRING AIR CONDITIONING HARNESS - BATTERY)

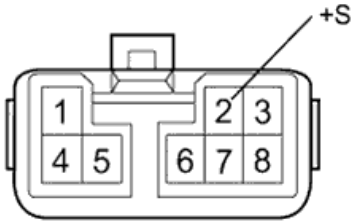
a. Disconnect the wiring air conditioning harness sub-assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2 (+S) - Body ground | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector: (to Air Conditioning Wiring Harness Sub-assembly)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (WIRING AIR CONDITIONING HARNESS - AIR CONDITIONING AMPLIFIER)

a. Disconnect the wiring air conditioning harness sub-assembly connector.

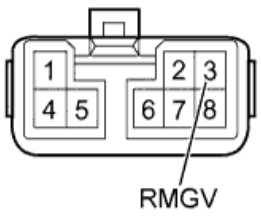
b. Disconnect the E36 amplifier connector.

c. Measure the resistance according to the value(s) in the table below.

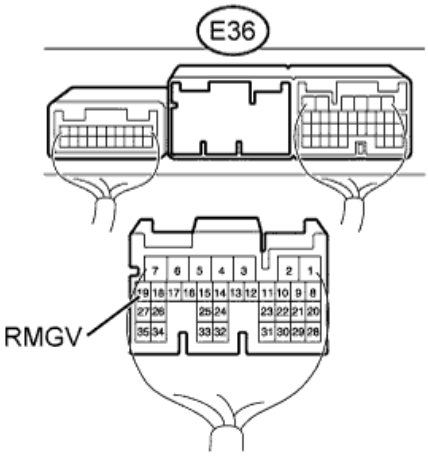
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 (RMGV) - E36-19 (RMGV) | Always | Below 1 Ω |
| 3 (RMGV) - Body ground | Always | 10 kΩ or higher |
| E36-19 (RMGV) - Body ground | | |

Front view of wire harness connector: (to Air Conditioning Wiring Harness Sub-assembly)




Rear view of wire harness connector: (to Air Conditioning Amplifier Assembly)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.CHECK REAR COOLING UNIT EXPANSION VALVE (OPERATION)

a. Replace the rear cooling unit expansion valve (Click here).

**HINT:**

Since the rear cooling unit expansion valve cannot be inspected while it is removed from the vehicle, replace the rear cooling unit expansion valve with a normal one and check that the condition returns to normal.

**OK:**

**Same problem does not occur.**

NG → Go to step 6

OK

REPLACE REAR COOLING UNIT EXPANSION VALVE (Click here)

6.CHECK WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY (OPERATION)

a. Replace the wiring air conditioning harness sub-assembly with a normal one and check that the condition returns to normal.

**OK:**

**Same problem does not occur.**

NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK

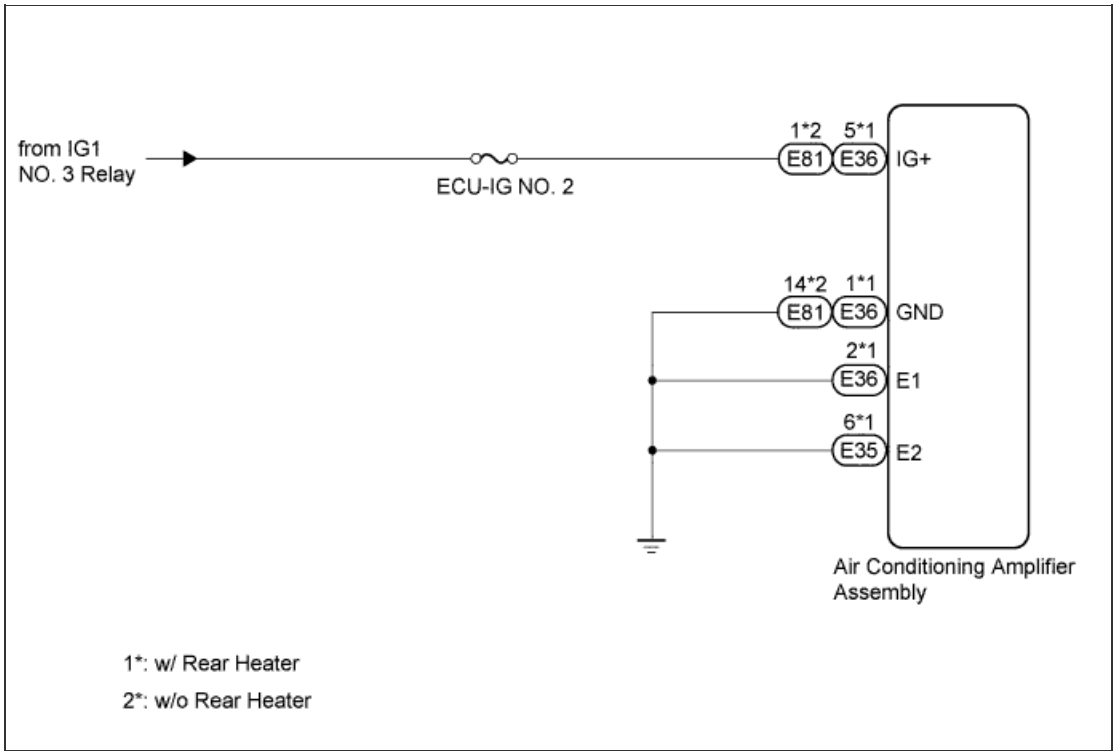
REPLACE WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY

**for Preparation** Click here

## DESCRIPTION

The main power source is supplied to the air conditioning amplifier assembly when the engine switch is on (IG). The power source is used for operating the air conditioning amplifier assembly and servo motor, etc.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Start the engine before inspection. Check the relay or battery if the entry and start system does not start.

### 1.INSPECT FUSE (ECU-IG NO. 2)

a. Remove the ECU-IG NO. 2 fuse from the cowl side junction block LH.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| ECU-IG NO. 2 fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY AND BODY GROUND)

a. w/ Rear Heater

i. Disconnect the E35 and E36 amplifier connectors.

ii. Measure the voltage according to the value(s) in the table below.

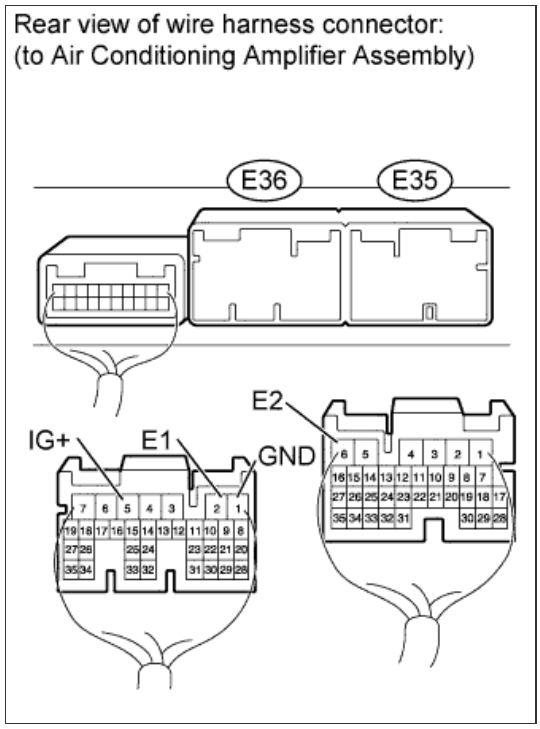
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E36-5 (IG+) - Body ground | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-1 (GND) - Body ground | Always | Below 1 Ω |
| E36-2 (E1) - Body ground | | |
| E35-6 (E2) - Body ground | | |




b. w/o Rear Heater

i. Disconnect the E81 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

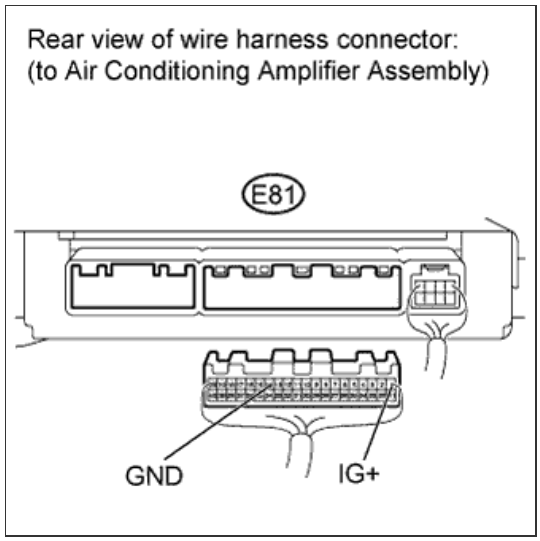
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-1 (IG+) - Body ground | Engine switch off | Below 1 V |
| | Engine switch on (IG) | 11 to 14 V |

iii. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-14 (GND) - Body ground | Always | Below 1 Ω |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

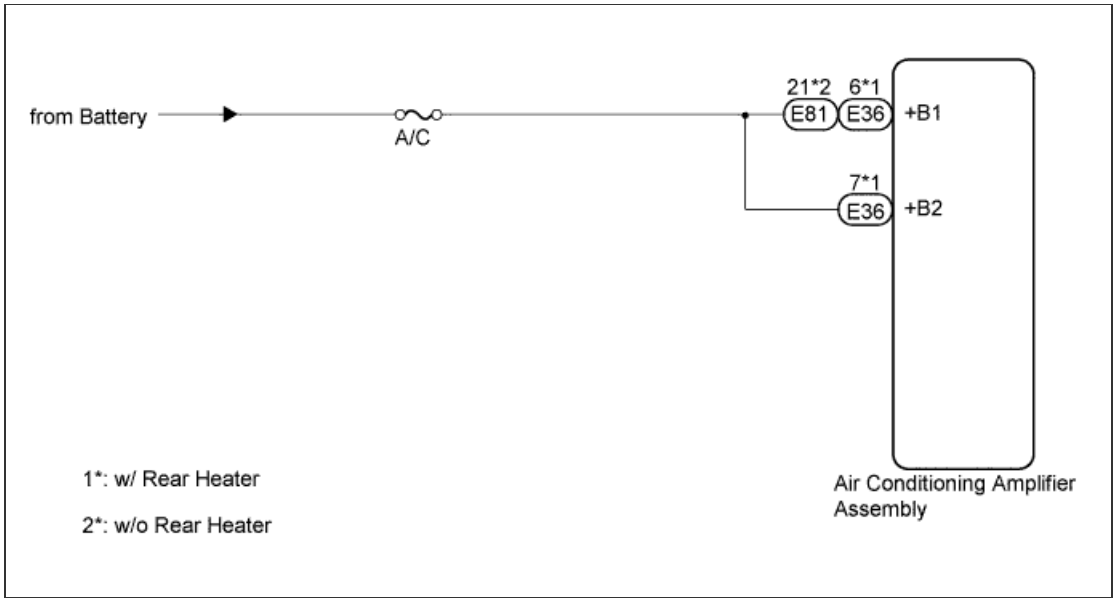
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

The back-up power source circuit for the air conditioning amplifier assembly is shown below. Power is supplied even when turning the engine switch off and is used for diagnostic trouble code memory, etc.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.INSPECT FUSE (A/C)

a. Remove the A/C fuse from the cowl side junction block LH.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A/C fuse | Always | Below 1 Ω |

NG → REPLACE FUSE

OK

### 2.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY)

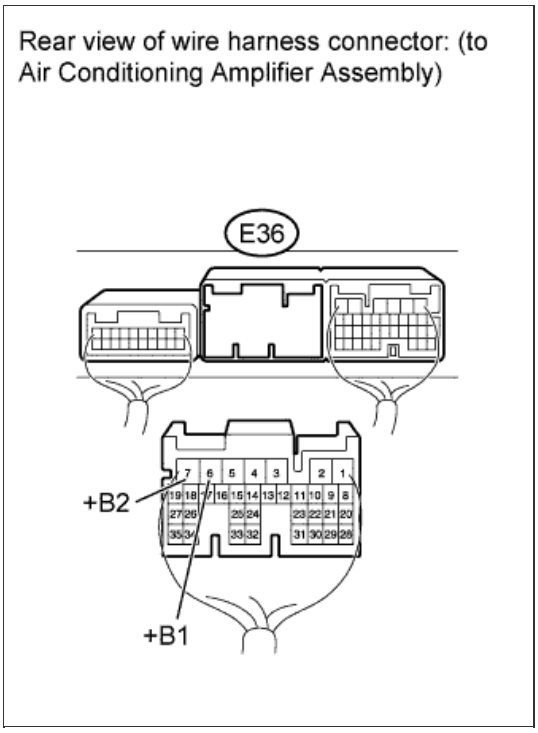
a. w/ Rear Heater

i. Disconnect the E36 amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-6 (+B1) - Body ground | Always | 11 to 14 V |
| E36-7 (+B2) - Body ground | | |



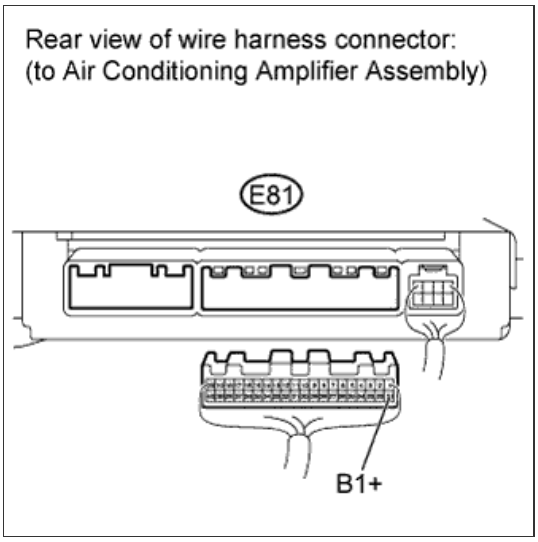

b. w/o Rear Heater

i. Disconnect the E81amplifier connector.

ii. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-21 (+B1) - Body ground | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**for Preparation** Click here

## 1.PRECAUTIONS WHEN USING THE INTELLIGENT TESTER

a. When using the intelligent tester to troubleshoot the CAN communication line or LIN communication line:
Connect the intelligent tester to the vehicle, and turn a courtesy light switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

b. After all DTCs are cleared, check if the trouble occurs again 6 seconds after the ignition switch is turned to ON.

## 2.IF ANY OF FOLLOWING CONDITIONS ARE MET, KEEP ENGINE IDLING (ENGINE SPEED AT LESS THAN 2000 RPM) WITH AIR CONDITIONING SWITCH ON FOR AT LEAST 2 MINUTES

- Refrigerant gas has been refilled or parts of the air conditioning system have been replaced.
- The engine has not been started for a long time.

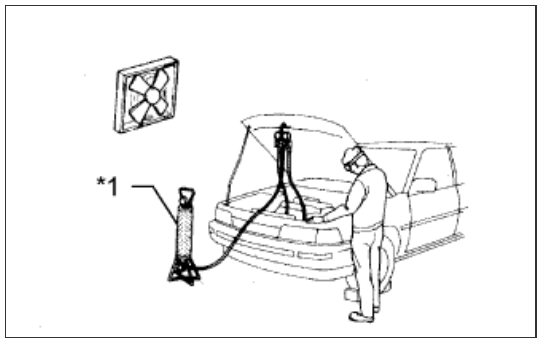
**NOTICE:**

If the engine speed is more than 2000 rpm, the cooler compressor assembly may be damaged.

## 3.DO NOT HANDLE REFRIGERANT IN AN ENCLOSED AREA OR NEAR AN OPEN FLAME

**Text in Illustration**

| | |
|---|---|
| *1 | Charging Cylinder |




## 4.ALWAYS WEAR EYE PROTECTION

## 5.BE CAREFUL NOT TO GET LIQUID REFRIGERANT IN YOUR EYES OR ON YOUR SKIN

If liquid refrigerant gets in your eyes or on your skin:

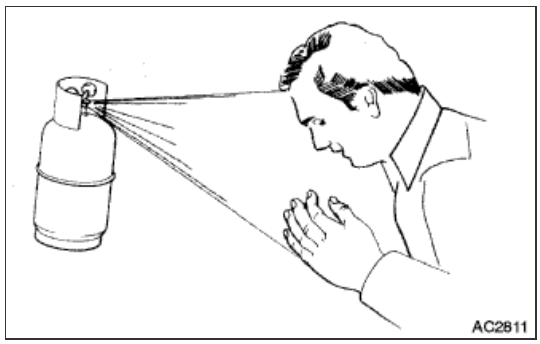
a. Wash the area with lots of cold water.

**CAUTION:**

Do not rub your eyes or skin.

b. Apply clean petroleum jelly to the skin.

c. Go immediately to a hospital or see a physician for professional treatment.




## 6.NEVER HEAT CONTAINER OR EXPOSE IT TO OPEN FLAME

## 7.BE CAREFUL NOT TO DROP CONTAINER OR APPLY PHYSICAL SHOCKS TO IT

## 8.DO NOT OPERATE COMPRESSOR WITH INSUFFICIENT REFRIGERANT IN REFRIGERANT SYSTEM

If there is not enough refrigerant in the refrigerant system, oil lubrication will be insufficient and compressor burnout may occur. Necessary care should be taken to avoid this.

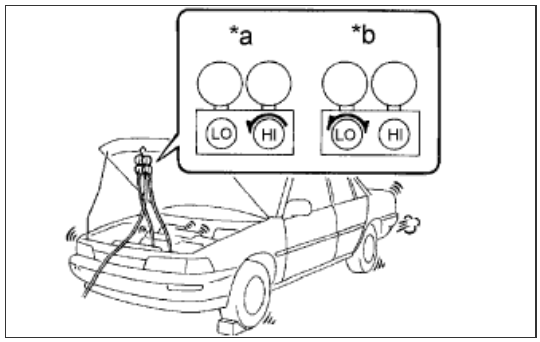
## 9.DO NOT OPEN HIGH PRESSURE MANIFOLD VALVE WHILE COMPRESSOR IS OPERATING

Open and close only the low pressure valve. Opening and closing the high pressure valve could cause the charging cylinder to rupture.

**Text in Illustration**

| | |
|---|---|
| *a | Incorrect |

| | |
|---|---|
| *b | Correct |




**10.BE CAREFUL NOT TO OVERCHARGE SYSTEM WITH REFRIGERANT**

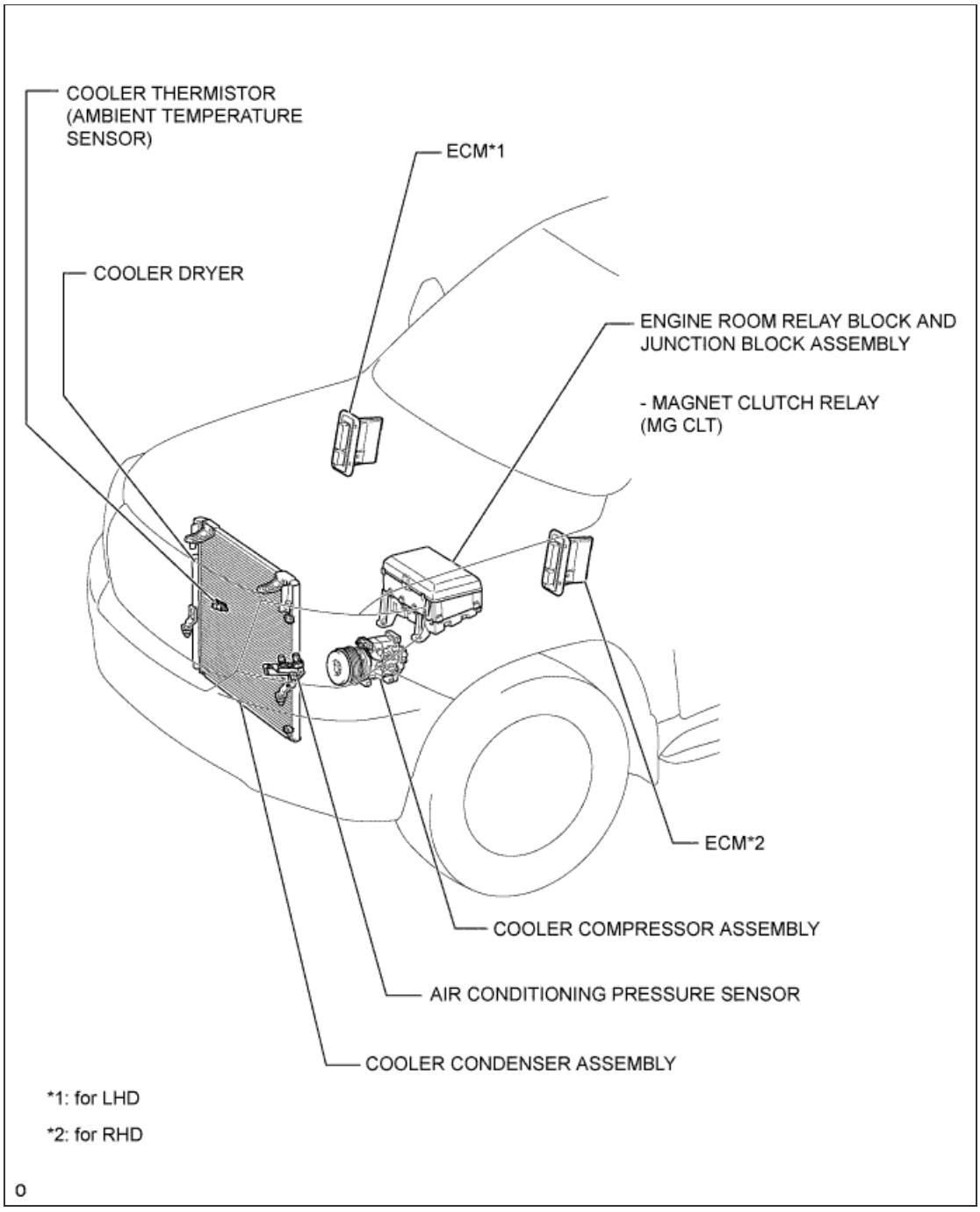
If the refrigerant is overcharged, it causes problems such as insufficient cooling, poor fuel economy and engine overheating.

**11.DO NOT OPERATE ENGINE AND COOLER COMPRESSOR ASSEMBLY WITHOUT REFRIGERANT**

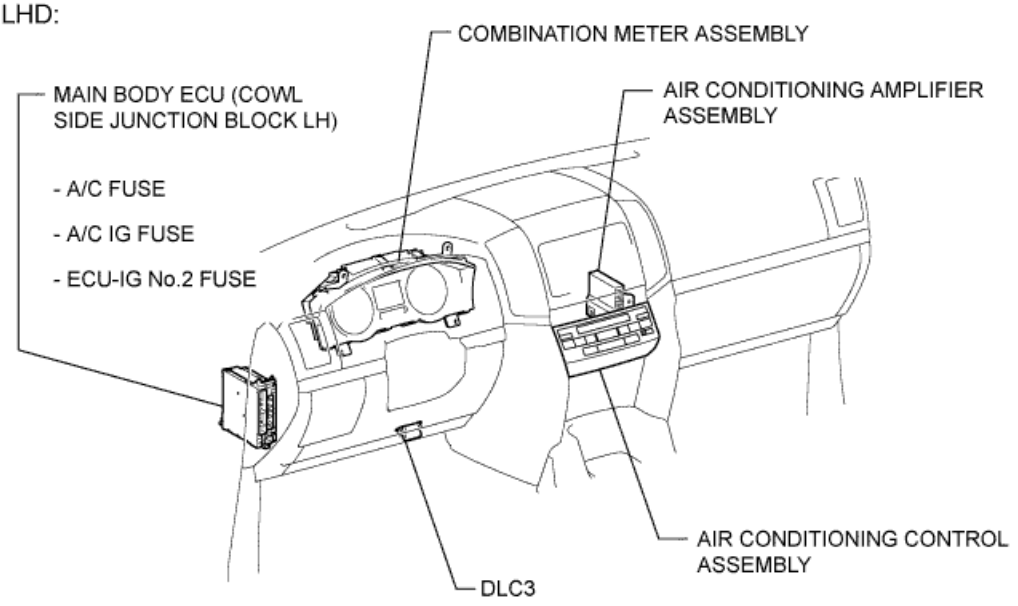
**NOTICE:**

This may damage the inside of the cooler compressor assembly.

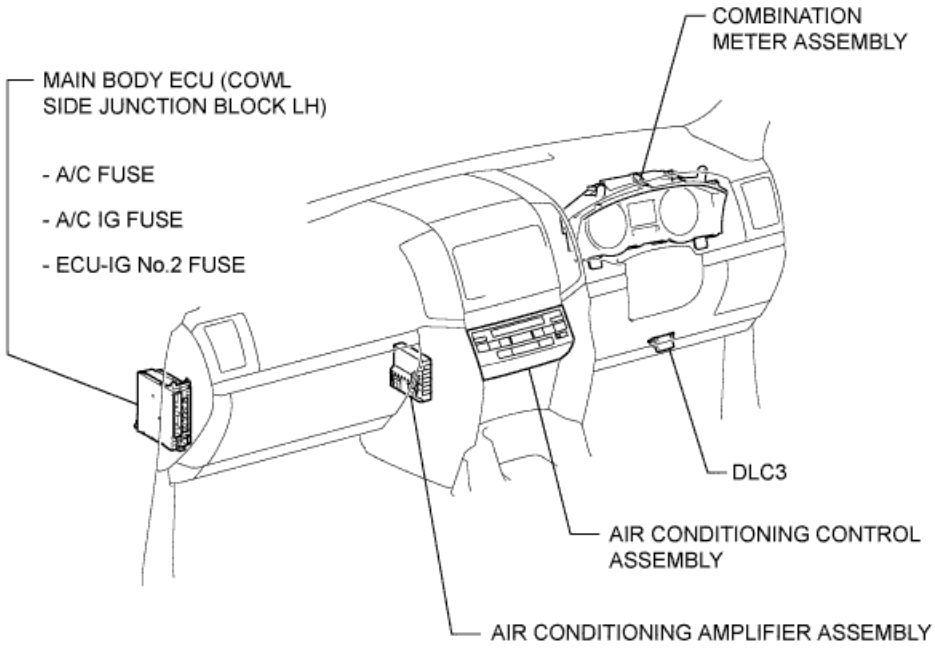
**for Preparation** Click here



for LHD:

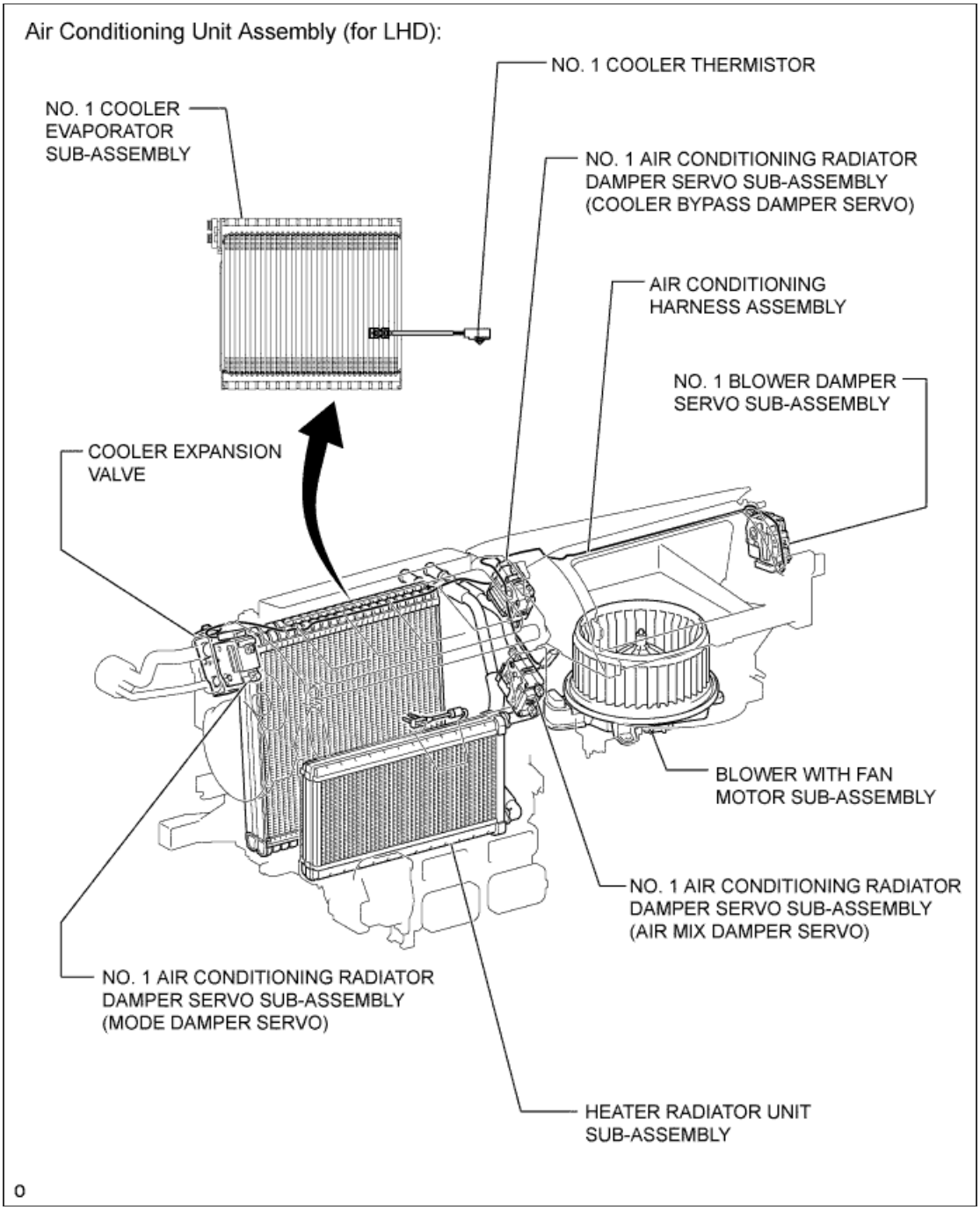



for RHD:



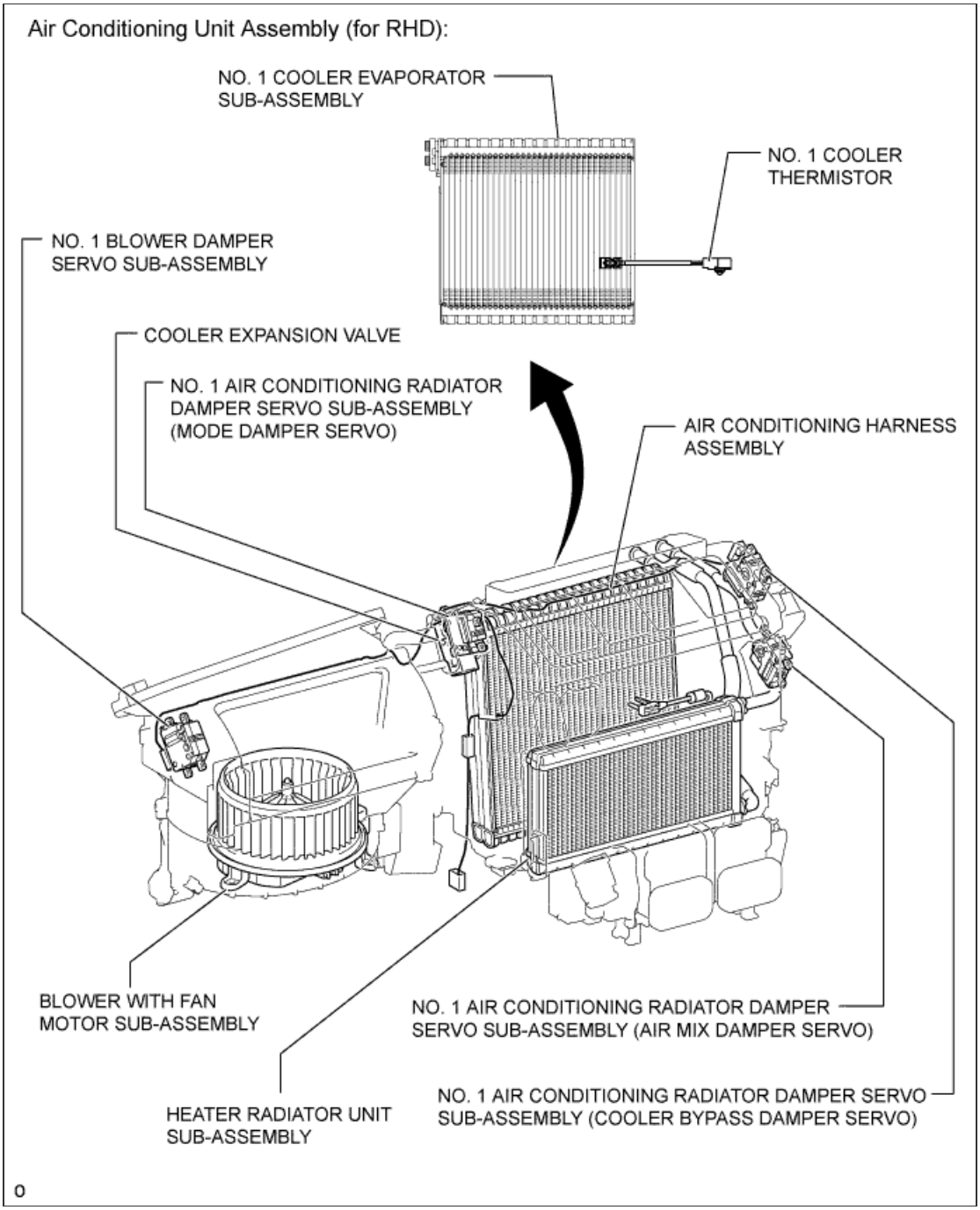

o

Air Conditioning Unit Assembly (for LHD):



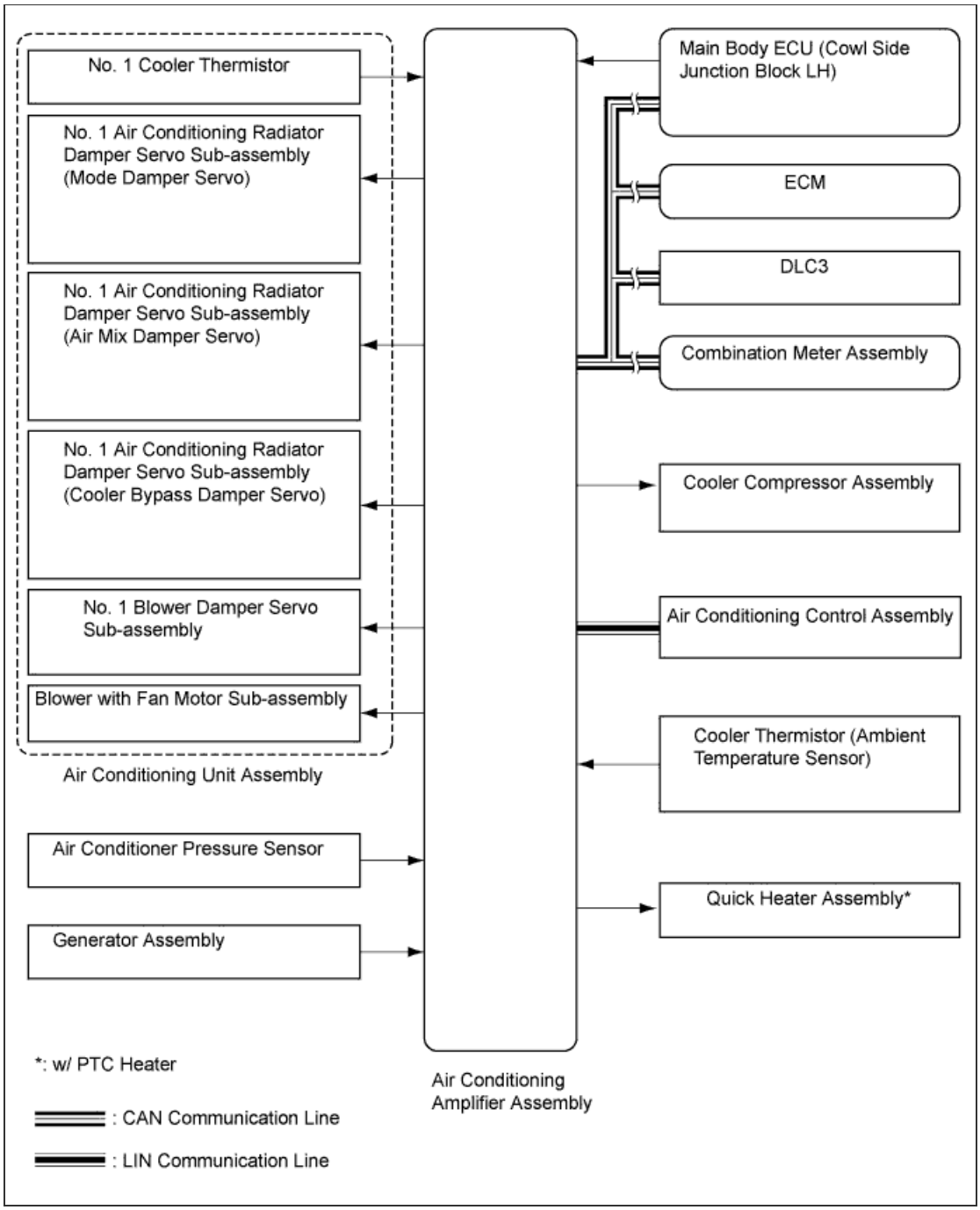

o

Air Conditioning Unit Assembly (for RHD):




o

**for Preparation** Click here




### Communication Table

| Transmitter | Receiver | Signal | Communication Line |
|---|---|---|---|
| Air conditioning amplifier assembly | ECM | - Air conditioning idle up request signal<br>- Heater idle up request signal<br>- PTC heater idle up request signal* | CAN |
| ECM | Air conditioning amplifier assembly | - Engine speed signal<br>- Engine coolant temperature signal<br>- Air conditioning cut off signal<br>- PTC heater idle up permission signal* | |
| Main body ECU | Air conditioning amplifier assembly | - Destination symbol information signal<br>- Destination package information signal<br>- Steering wheel location information signal | |
| Combination meter assembly | Air conditioning amplifier assembly | Vehicle speed signal | |

| | | | |
|---|---|---|---|
| Air conditioning amplifier assembly | Air conditioning control assembly | - Air conditioning control switches condition indication signals<br>- Set temperature indication signal | LIN |
| Air conditioning control assembly | Air conditioning amplifier assembly | Air conditioning control switches signals | |

*: w/ PTC Heater

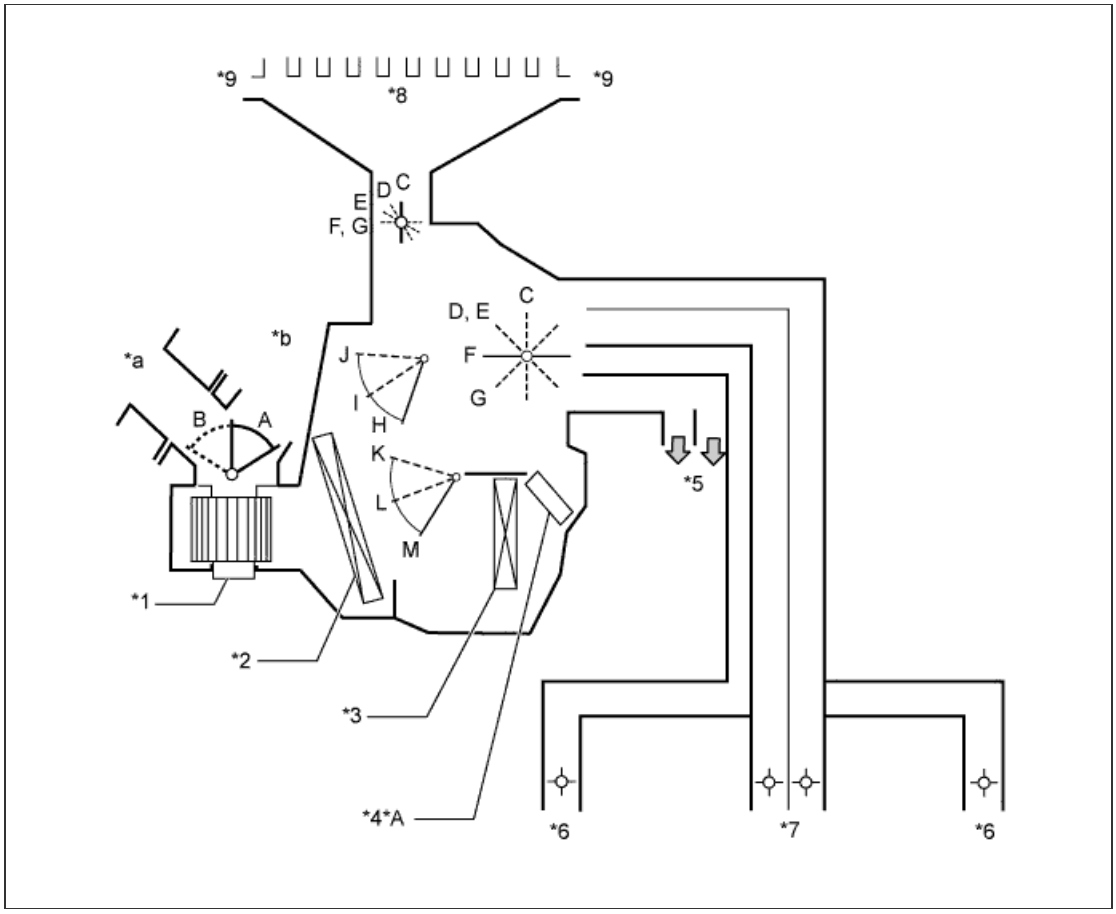
**for Preparation** Click here

## GENERAL

a. The air conditioning system has the following control.

| Control | Outline |
|---|---|
| Diagnosis | A Diagnostic Trouble Code (DTC) is stored in memory when the air conditioning amplifier assembly detects a problem with the air conditioning system. |

## MODE POSITION AND DAMPER OPERATION




### Text in Illustration

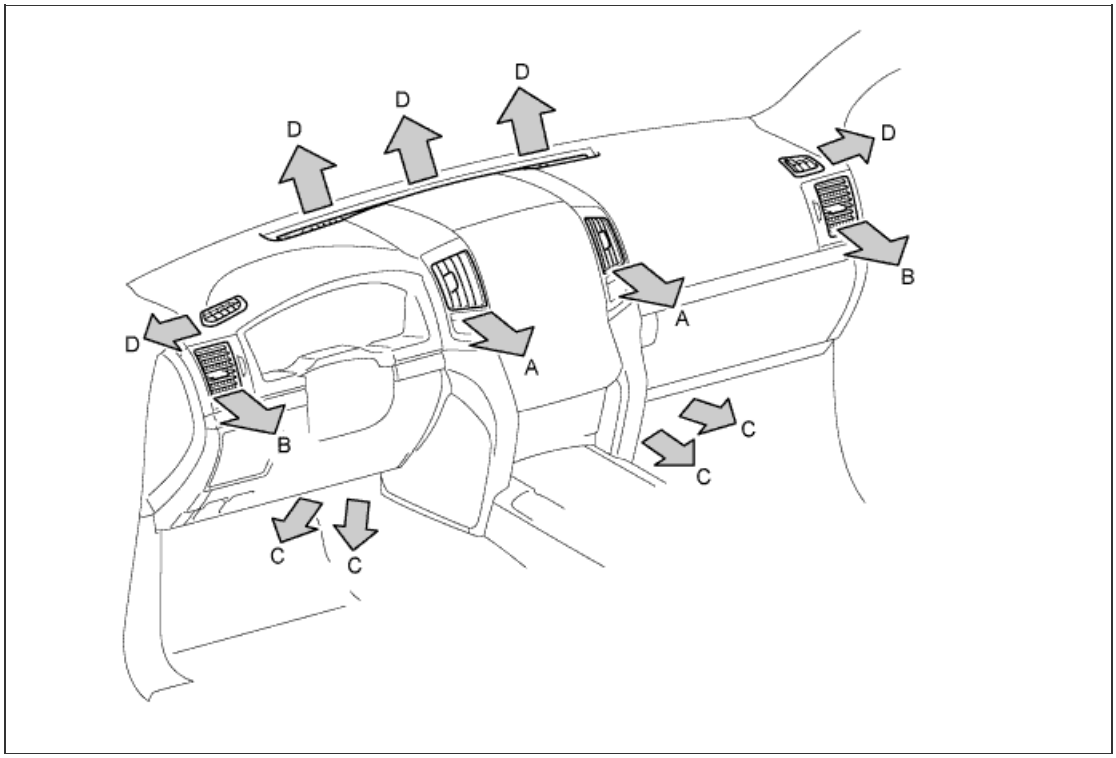
| | | | |
|---|---|---|---|
| *A | w/ PTC Heater | - | - |
| *1 | Blower with Fan Motor Sub-assembly | *2 | No. 1 Cooler Evaporator Sub-assembly |
| *3 | Heater Radiator Unit Sub-assembly | *4 | Footwell Register Duct |
| *5 | Side Register | *6 | Center Register |
| *7 | Center Defroster | *8 | Side Defroster |
| *a | Fresh Air | *b | Recirculation Air |

### Function of Main Damper

| Control Damper | Operation Position | Damper Position | Operation |
|---|---|---|---|
| Air Inlet Control Damper | Fresh | A | Brings in fresh air. |
| | Recirculation | B | Recirculates internal air. |
| Air Mix Control Damper | Max Cool to Max Hot | K, L, M | Varies the mixture ratio of cold air and hot air in order to regulate the temperature continuously from hot to cool. |
| Cool Air Bypass | Max Cool to | | Cool air blows out from the front center register and side registers in order to adjust the temperature |

| | | | |
|---|---|---|---|
| Control Damper | Max Hot | H, I, J | around the heads of the occupants during cooling or warming. |
| Mode Control Damper | Def | C | Defrosts the windshield through the center defroster and side defrosters. |
| | Foot/Def | D | Defrosts the windshield through the center defroster and side defrosters while air is also blown out from the footwell register duct.<br>In addition, air blows out slightly from the center register and side registers. |
| | Foot | E | Air blows out of the footwell register ducts, center register and side registers.<br>In addition, air blows out slightly from the center defroster and side defrosters. |
| | Bi-Level | F | Air blows out of the center register and side registers.<br>Air also blows out from the footwell register ducts. |
| | Face | G | Air blows out of the center register and side registers. |

## AIR OUTLETS AND AIRFLOW VOLUME




| Air Outlet Mode | | Center | Side | Foot | Defroster |
|---|---|---|---|---|---|
| | | A | B | C | D |
| | FACE | ○ | ○ | - | - |
| | B/L | ○ | ○ | ○ | - |
| | FOOT | ○ | ○ | ◯ | ○ |
| | F/D | ○ | ○ | ◯ | ◯ |
| | DEF | - | - | - | ◯ |

**HINT:**

The size of the circle indicates the proportion of airflow volume.

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the air conditioning system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

**NEXT**

## 2.INSPECT BATTERY VOLTAGE

**Standard voltage:**
**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

**NEXT**

## 3.CHECK COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the CAN communication system is functioning normally .

for LHD: Click here.
for RHD: Click here.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

**B.** GO TO CAN COMMUNICATION SYSTEM (**Click here**)

**C.** GO TO CAN COMMUNICATION SYSTEM (**Click here**)

**A**

## 4.CHECK COMMUNICATION FUNCTION OF LIN COMMUNICATION SYSTEM*

a. Use the intelligent tester to check if the LIN communication system is functioning normally ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| LIN DTC is not output | A |
| LIN DTC is output | B |

**B.** GO TO LIN COMMUNICATION SYSTEM (**Click here**)

**A**

## 5.CHECK FOR DTC*

a. Check for DTCs (Click here).

b. Clear the DTCs (Click here).

c. Based on the DTCs output above, try to force output of the air conditioning system DTC by simulating the conditions indicated by the DTC. Then recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC is not output | A |
| DTC is output | B |

B. → GO TO DIAGNOSTIC TROUBLE CODE CHART ( **Click here**)

A

## 6.PROBLEM SYMPTOMS TABLE

a. Refer to the Problem Symptoms Table (Click here).

**Result**

| Result | Proceed to |
|---|---|
| Fault is not listed in problem symptoms table | A |
| Fault is listed in problem symptoms table | B |

B. → ADJUST, REPAIR OR REPLACE IN ACCORDANCE WITH PROBLEM SYMPTOMS TABLE

A

## 7.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here)

b. Data List/Active Test (Click here)

c. On-vehicle Inspection

d. Inspection

NEXT

## 8.ADJUST, REPAIR OR REPLACE

NEXT

## 9.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

## 1. CUSTOMIZE AIR CONDITIONING SYSTEM

a. Customizing with intelligent tester

i. Connect the intelligent tester to the DLC3.

ii. Turn the ignition switch to ON.

iii. Turn the intelligent tester on.

iv. Enter the following menus: Body / Air Conditioner / Utility / Customize.

v. Select the setting by referring to the table below.

**Air Conditioner**

| Display | Default | Content | Setting | Relevant ECU |
|---|---|---|---|---|
| Ambient Temperature Shift | Normal | Function to control the shifted ambient temperature in relation to the displayed ambient temperature. | +3 C/+2 C/+1 C/Normal/-1 C/-2 C/-3 C | Air conditioning amplifier assembly |

**for Preparation** Click here

## INITIALIZATION SERVO MOTOR

a. Turn the engine switch off.

b. Connect the intelligent tester to the DLC3.

c. Turn the engine switch on (IG).

d. Press the blower OFF switch.

e. Turn the intelligent tester on.

f. Enter the following menus: Body / Air Conditioner / Utility / Servomotor Initialization.

g. According to the intelligent tester display, perform servomotor initialization.

**HINT:**

During initialization, the AUTO indicator light comes on, and then goes off when initialization has finished.

h. According to the intelligent tester display, select the "Exit" switch to finish initialization.

**for Preparation** Click here

**HINT:**

- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Air Conditioning System**

| Symptom | Suspected Area | See page |
|---|---|---|
| All functions of the air conditioning system do not operate | Proceed to "IG Power Source Circuit" | Click here |
| | Proceed to "Air Conditioning Control Panel Circuit" | Click here |
| Air Flow Control: No blower operation | Proceed to "Blower Motor Circuit" | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Air Flow Control: No blower control | Proceed to "Blower Motor Circuit" | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| Air Flow Control: Insufficient air flow | Proceed to "Blower Motor Circuit" | Click here |
| Temperature Control: No cool air comes out | Proceed to "CAN Communication System (for LHD)" | Click here |
| | Proceed to "CAN Communication System (for RHD)" | Click here |
| | Check volume of refrigerant | Click here |
| | Check for refrigerant gas leak | Click here |
| | Proceed to "Pressure Sensor Circuit" | Click here |
| | Proceed to "Compressor Lock Sensor Circuit" | Click here |
| | Proceed to "Air Mix Damper Control Servo Motor Circuit (Driver Side)" | Click here |
| | Proceed to "Cool Air Bypass Damper Control" | Click here |
| | Proceed to "Ambient Temperature Sensor Circuit" | Click here |
| | Proceed to "Evaporator Temperature Sensor Circuit" | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) (for LHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) (for RHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) (for LHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) (for RHD) | Click here |
| | Air conditioning harness assembly (for LHD) | Click here |

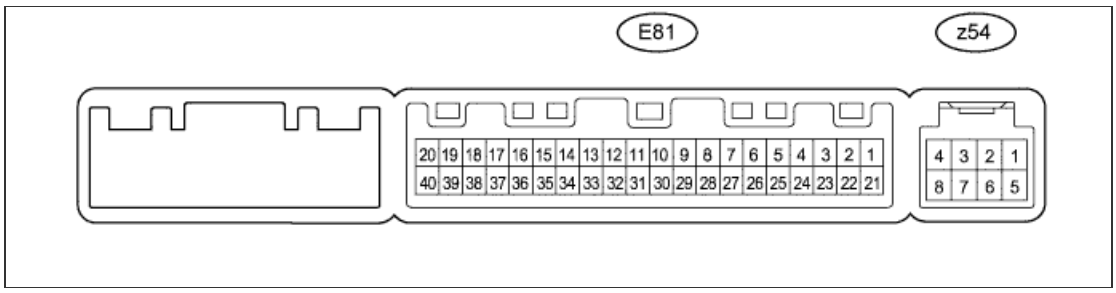
| | | |
|---|---|---|
| | Air conditioning harness assembly (for RHD) | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| | Cooler expansion valve (for LHD) | Click here |
| | Cooler expansion valve (for RHD) | Click here |
| | ECM (for 1VD-FTV) | Click here |
| | ECM (for 1GR-FE) | Click here |
| Temperature Control: No warm air comes out | Proceed to "CAN Communication System (for LHD)" | Click here |
| | Proceed to "CAN Communication System (for RHD)" | Click here |
| | Proceed to "Air Mix Damper Control Servo Motor Circuit (Driver Side)" | Click here |
| | Proceed to "Cool Air Bypass Damper Control" | Click here |
| | Proceed to "Ambient Temperature Sensor Circuit" | Click here |
| | Proceed to "PTC Heater Circuit" (w/ PTC Heater) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) (for LHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) (for RHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) (for LHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) (for RHD) | Click here |
| | Air conditioning harness assembly (for LHD) | Click here |
| | Air conditioning harness assembly (for RHD) | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| | Heater radiator unit sub-assembly (for LHD) | Click here |
| | Heater radiator unit sub-assembly (for RHD) | Click here |
| | ECM (for 1VD-FTV) | Click here |
| | ECM (for 1GR-FE) | Click here |
| | Proceed to "CAN Communication System (for LHD)" | Click here |
| | Proceed to "CAN Communication System (for RHD)" | Click here |
| | Check volume of refrigerant | Click here |
| | Check for refrigerant gas leak | Click here |
| | Proceed to "Pressure Sensor Circuit" | Click here |
| | Proceed to "Compressor Lock Sensor Circuit" | Click here |
| | Proceed to "Air Mix Damper Control Servo Motor Circuit (Driver Side)" | Click here |
| | Proceed to "Cool Air Bypass Damper Control" | Click |

| | | |
|---|---|---|
| Temperature Control: Output air is warmer or cooler than set temperature or response is slow | | here |
| | Proceed to "Air Inlet Damper Control Servo Motor Circuit" | Click here |
| | Proceed to "Ambient Temperature Sensor Circuit" | Click here |
| | Proceed to "Evaporator Temperature Sensor Circuit" | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) (for LHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) (for RHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) (for LHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) (for RHD) | Click here |
| | No. 1 blower damper servo sub-assembly | Click here |
| | Air conditioning harness assembly (for LHD) | Click here |
| | Air conditioning harness assembly (for RHD) | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| | Cooler expansion valve (for LHD) | Click here |
| | Cooler expansion valve (for RHD) | Click here |
| | Heater radiator unit sub-assembly (for LHD) | Click here |
| | Heater radiator unit sub-assembly (for RHD) | Click here |
| | ECM (for 1VD-FTV) | Click here |
| | ECM (for 1GR-FE) | Click here |
| Temperature Control: No temperature control (only MAX. COOL or MAX. HOT) | Proceed to "CAN Communication System (for LHD)" | Click here |
| | Proceed to "CAN Communication System (for RHD)" | Click here |
| | Proceed to "Air Mix Damper Control Servo Motor Circuit (Driver Side)" | Click here |
| | Proceed to "Cool Air Bypass Damper Control" | Click here |
| | Proceed to "Ambient Temperature Sensor Circuit" | Click here |
| | Proceed to "Evaporator Temperature Sensor Circuit" | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) (for LHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) (for RHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) (for LHD) | Click here |
| | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) (for RHD) | Click here |
| | Air conditioning harness assembly (for LHD) | Click here |
| | Air conditioning harness assembly (for RHD) | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| | | |

| | | |
|---|---|---|
| | ECM (for 1VD-FTV) | Click here |
| | ECM (for 1GR-FE) | Click here |
| No air inlet control | Proceed to "Air Inlet Damper Control Servo Motor Circuit" | Click here |
| | No. 1 blower damper servo sub-assembly | Click here |
| | Air conditioning harness assembly (for LHD) | Click here |
| | Air conditioning harness assembly (for RHD) | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| No air flow mode control | Proceed to "Air Outlet Damper Control Servo Motor Circuit" | Click here |
| | No. 1 blower damper servo sub-assembly (for LHD) | Click here |
| | No. 1 blower damper servo sub-assembly (for RHD) | Click here |
| | Air conditioning harness assembly (for LHD) | Click here |
| | Air conditioning harness assembly (for RHD) | Click here |
| | Air conditioning control assembly | Click here |
| | Air conditioning amplifier assembly | Click here |
| PTC heater does not operate (w/ PTC Heater) | Proceed to "PTC Heater Circuit" | Click here |
| | Proceed to "CAN Communication System (for LHD)" | Click here |
| | Air conditioning amplifier assembly | Click here |
| | ECM | Click here |
| Engine idle up does not occur or is continuous | Proceed to "CAN Communication System (for LHD)" | Click here |
| | Proceed to "CAN Communication System (for RHD)" | Click here |
| | Proceed to "Compressor Lock Sensor Circuit" | Click here |
| | Air conditioning amplifier assembly | Click here |
| | Proceed to "ECD System (for 1VD-FTV)" | Click here |
| | Proceed to "SFI System (for 1GR-FE)" | Click here |
| Blinking of air conditioning switch indicator | Air conditioning amplifier assembly | Click here |
| Diagnostic trouble codes are not stored, and set mode is cleared when ignition switch is off | Proceed to "Back-up Power Source Circuit" | Click here |
| | Air conditioning amplifier assembly | Click here |

**for Preparation** Click here

## CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY




a. Disconnect the E81 air conditioning amplifier assembly connector.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E81-21 (+B1) - E81-14 (GND) | R - W-B | Battery power source | Always | 11 to 14 V |
| E81-1 (IG+) - E81-14 (GND) | G - W-B | Ignition power supply | Ignition switch ON | 11 to 14 V |
| | | | Ignition switch off | Below 1 V |
| E81-14 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E81 air conditioning amplifier assembly connector.

d. Measure the voltage, resistance and waveform according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E81-8 (LOCK) - E81-35 (SG-5) | L - G | Compressor lock sensor signal | Engine idling<br>Blower switch LO level<br>A/C switch on (magnet clutch on) | Pulse generation (see waveform 1) |
| E81-35 (SG-5) - Body ground | G - Body ground | Ground for compressor lock sensor signal | Always | Below 1 Ω |
| E81-13 (SG-2) - Body ground | G - Body ground | Ground for pressure sensor | Always | Below 1 Ω |
| E81-17 (AC1) - Body ground | L - Body ground | Air conditioning operation request signal | Engine idling<br>Blower switch LO level<br>A/C switch off | 11 to 14 V |
| | | | Engine idling<br>Blower switch LO level<br>A/C switch on | Below 1 V |
| E81-27 (ACT) - Body ground | G - Body ground | Magnet clutch operation permission signal | Engine idling<br>Blower switch LO level<br>A/C switch off or A/C switch on (magnet clutch off) | 11 to 14 V |
| | | | Engine idling<br>Blower switch LO level<br>A/C switch on (magnet clutch on) | Below 1 V |
| E81-5 (TAM) - E81-13 (SG-2) | V - G | Ambient temperature sensor signal | Ignition switch ON<br>Ambient temperature 25°C (77°F) | 1.6 to 1.8 V |
| | | | Ignition switch ON<br>Ambient temperature 50°C (122°F) | 0.5 to 0.7 V |
| E81-30 (S5-1) - E81-13 (SG-2) | LG - G | Power supply for pressure sensor | Ignition switch ON | 4.5 to 5.5 V |

| | | | | |
|---|---|---|---|---|
| E81-9 (PRE) - E81-13 (SG-2) | R - G | Air conditioning pressure sensor signal | Engine idling<br>Blower switch LO level<br>A/C switch on | 0.63 to 4.72 V |
| | | | Engine idling<br>Blower switch LO level<br>A/C switch off | 0.63 to 4.72 V |
| E81-20 (MGC) - E81-14 (GND) | R - W-B | Magnet clutch operation signal | Engine idling<br>Blower switch LO level<br>A/C switch on (magnet clutch on permitted) | Below 1 V |
| | | | Engine idling<br>Blower switch LO level<br>A/C switch off or on (magnet clutch on not permitted) | 11 to 14 V |
| E81-23 (BLW) - E81-14 (GND) | R - W-B | Blower motor control signal | Ignition switch ON<br>Blower switch LO level | Pulse generation (see waveform 2) |
| E81-37 (LIN1) - E81-14 (GND) | Y - W-B | LIN communication signal | Ignition switch ON | Pulse generation |
| E81-25 (ALT) - Body ground | R - Body ground | Generator signal | Engine idling | Pulse generation |
| E81-3 (PTC1) - Body ground* | W - Body ground | PTC heater relay operation signal | Engine idling<br>Set temperature MAX. HOT<br>Engine coolant temperature below 65°C (149°F)<br>Ambient temperature below 10°C (50°F)<br>Blower switch off → LO level | Below 1 V → 11 to 14 V |
| E81-22 (PTC2) - Body ground* | R - Body ground | | | |
| E81-4 (PTC3) - Body ground* | R - Body ground | | | |
| z54-4 (B BUS) - z54-2 (BUS G) | - | Power supply for BUS IC | Ignition switch ON | 11 to 14 V |
| z54-5 (SGA) - Body ground | - | Ground for No. 1 cooler thermistor | Always | Below 1 Ω |
| z54-2 (BUS G) - Body ground | - | Ground for BUS IC | Always | Below 1 Ω |
| z54-6 (TEA) - z54-5 (SGA) | - | No. 1 cooler thermistor signal | Ignition switch ON<br>Evaporator temperature 15°C (59°F) | 1.4 to 1.8 V |
| z54-3 (BUS) - z54-2 (BUS G) | - | BUS IC control signal | Ignition switch ON | Pulse generation |

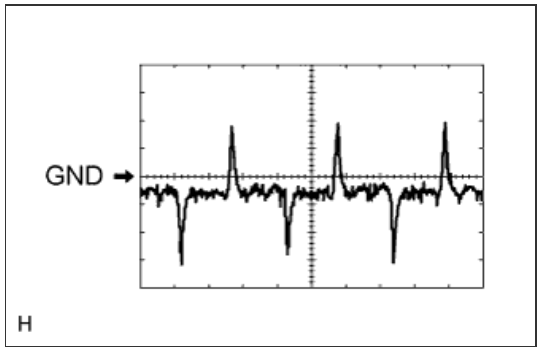
*: w/ PTC Heater

If the result is not as specified, the air conditioning amplifier assembly may have a malfunction.

e. Using an oscilloscope, check waveform 1.

**Compressor Lock Sensor Signal**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E81-8 (LOCK) - E81-35 (SG-5) |
| Tool Setting | 200 mV/DIV., 10 ms/DIV. |
| Condition | Engine idling<br>Blower switch LO level<br>A/C switch on (magnet clutch on) |




**HINT:**

When the rear blower level is increased, the duty ratio changes accordingly.

f. Using an oscilloscope, check waveform 2.

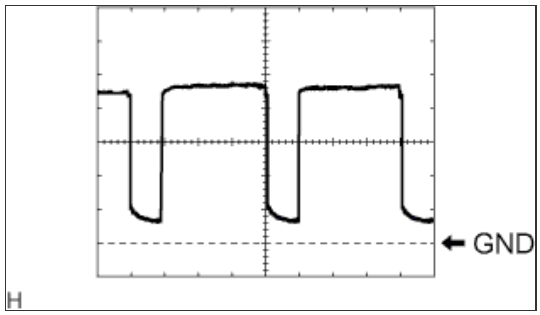
**Blower Motor Control Signal**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E81-23 (BLW) - E81-14 (GND) |
| | |

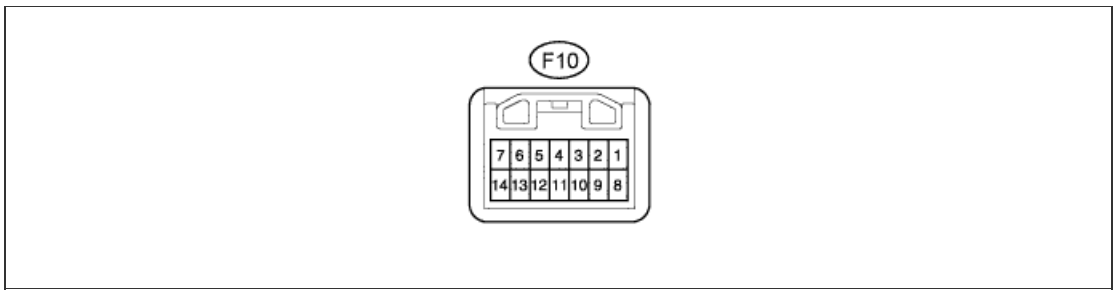
| | |
|---|---|
| Tool Setting | 1 V/DIV., 500 us/DIV. |
| Condition | Ignition switch ON<br>Blower switch LO level |

**HINT:**

When the blower level is increased, the duty ratio changes accordingly.




## CHECK AIR CONDITIONING CONTROL ASSEMBLY




a. Disconnect the F10 air conditioning control assembly connector.

b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| F10-7 (IG+) - F10-1 (GND) | G - W-B | Ignition power supply | Ignition switch ON | 11 to 14 V |
| | | | Ignition switch off | Below 1 V |
| F10-1 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

If the result is not as specified, there may be a malfunction on the wire harness side.

**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Air Conditioner / Trouble Codes.

e. Read the DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Air Conditioner / Trouble Codes.

e. Clear the DTCs.

**for Preparation** Click here

**HINT:**

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

**NOTICE:**

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

## DATA LIST

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Air Conditioner / Data List.

e. Enter the following menus: Powertrain / Engine and ECT / Data List.

f. According to the display on the intelligent tester, read the Data List.

### Air Conditioner

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Ambient Temp Sensor | Cooler thermistor (ambient temperature sensor) / Min.: -23.3°C (-9.94°F) Max.: 65.95°C (150.71°F) | Actual ambient temperature displayed | Open in the circuit: -23.3°C (-9.94°F). Short in the circuit: 65.95°C (150.71°F). |
| Adjusted Ambient Temp | Adjusted ambient temperature / Min.: -30.8°C (-23.44°F) Max.: 50.8°C (123.44°F) | Adjusted ambient temperature displayed | - |
| Evaporator Fin Thermistor | No. 1 cooler thermistor / Min.: -29.7°C (-21.46°F) Max.: 59.55°C (139.19°F) | Actual evaporator temperature displayed | Open in the circuit: -29.7°C (-21.46°F). Short in the circuit: 59.55°C (139.19°F). |
| Engine Coolant Temp | Engine coolant temperature / Min.: 1.3°C (34.34°F) Max.: 90.55°C (194.99°F) | Actual engine coolant temperature displayed while engine warmed up | - |
| Blower Motor Speed Level | Blower with fan motor sub-assembly speed level / Min.: 0 level, Max.: 31 level | Increases in range between 0 and 31 as blower with fan motor sub-assembly speed increases | - |
| Regulator Pressure Sensor | Air conditioner pressure sensor / Min.: -0.4566 MPaG Max.: 3.2943 MPaG | Actual refrigerant pressure displayed | - |
| Air Mix Servo Targ Pulse(D) | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) target pulse / Min.: 0, Max.: 255 | **for LHD**<br>• MAX. COOL: 90 (pulse)<br>• MAX. HOT: 8 (pulse)<br>**for RHD**<br>• MAX. COOL: 8 (pulse)<br>• MAX. HOT: 90 (pulse) | - |
| Air Outlet Servo Pulse(D) | No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) target pulse / Min.: 0, Max.: 255 | • FACE: 117 (pulse)<br>• B/L: 93 (pulse)<br>• FOOT: 41 (pulse)<br>• F/D: 18 (pulse)<br>• DEF: 6 (pulse) | - |
| Air Inlet | No. 1 blower damper servo sub-assembly target | **for LHD**<br>• Recirculation: 37 (pulse) | |

| | | | |
|---|---|---|---|
| Damper Targ Pulse | pulse /<br>Min.: 0, Max.: 255 | • Fresh: 9 (pulse)<br>**for RHD**<br>• Recirculation: 9 (pulse)<br>• Fresh: 37 (pulse) | - |
| Cool Air Bypass Pulse | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) target pulse /<br>Min.: 0, Max.: 255 | • Shut and DEF mode: 6 (pulse)<br>• Shut: 28 (pulse)<br>• Open: 57 (pulse) | - |
| Electric Heater Count* | Number of electrical heaters operating /<br>Min.: 0, Max.: 3 | Actual heater counts displayed | - |
| Ambient Temperature Shift | Ambient temperature shift / +3 C, +2 C, +1 C, NORMAL, -1 C, -2 C, -3 C | Customized value displayed | - |
| Number of Trouble Codes | Number of trouble codes /<br>Min.: 0, Max.: 255 | Number of DTCs displayed | - |

**Engine**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| A/C Signal | Air conditioning signal / ON or OFF | • ON: A/C switch on<br>• OFF: A/C switch off | - |

*: w/ PTC Heater

## ACTIVE TEST

**HINT:**

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect the intelligent tester to the DLC3.

b. Turn the ignition switch to ON.

c. Turn the intelligent tester on.

d. Enter the following menus: Body / Air Conditioner / Active Test.

e. According to the display on the intelligent tester, perform the Active Test.

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Blower Motor | Blower with fan motor sub-assembly | Min.: 0, Max.: 31 | - |
| Magnetic Clutch Relay | Magnet clutch relay | OFF or ON | - |
| Heater Active Level* | Quick heater assembly | Min.: 0, Max.: 3 | |
| Air Mix Servo Targ Pulse(D) | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) | Min.: 0, Max.: 255 | - |
| Air Outlet Servo Pulse(D) | No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) | Min.: 0, Max.: 255 | - |
| Air Inlet Damper Targ Pulse | No. 1 blower damper servo sub-assembly | Min.: 0, Max.: 255 | - |
| Cool Air Bypass Pulse | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) | Min.: 0, Max.: 255 | - |

*: w/ PTC Heater

**for Preparation** Click here

**HINT:**

- **If a trouble code is output during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.**
- ***: The air conditioning amplifier assembly stores the DTC of the respective malfunction that has occurred for the period of the time indicated in the brackets.**

### Air Conditioning Amplifier

| DTC Code | Detection Item | Memory* | Diagnostic Note | See page |
|---|---|---|---|---|
| B1412 | Ambient Temperature Sensor Circuit | Stored (8.5 minutes or more) | If ambient temperature is approximately -52.9 (- 63.22) or less, a malfunction code may be output even though the system is normal. | Click here |
| B1413 | Evaporator Temperature Sensor Circuit | Stored (8.5 minutes or more) | - | Click here |
| B1422 | Compressor Lock Sensor Circuit | - | - | Click here |
| B1423 | Pressure Sensor Circuit | - | - | Click here |
| B1442 | Air Inlet Damper Control Servo Motor Circuit | Stored (30 minutes or more) | - | Click here |
| B1443 | Air Outlet Damper Control Servo Motor Circuit | Stored (30 minutes or more) | - | Click here |
| B1445 | Cool Air Bypass Damper Control | Stored (30 minutes or more) | - | Click here |
| B1446 | Air Mix Damper Control Servo Motor Circuit (Driver Side) | Stored (30 minutes or more) | - | Click here |
| B1497 | Communication Malfunction (Bus Ic) | - | - | Click here |
| U0100 | Lost Communication with ECM / PCM "A" | - | - | Click here |
| U0142 | Lost Communication with Body Control Module "B" | - | - | Click here |
| U0155 | Lost Communication with Instrument Panel Cluster (IPC) Control Module | - | - | Click here |

## DTC B1412 Ambient Temperature Sensor Circuit

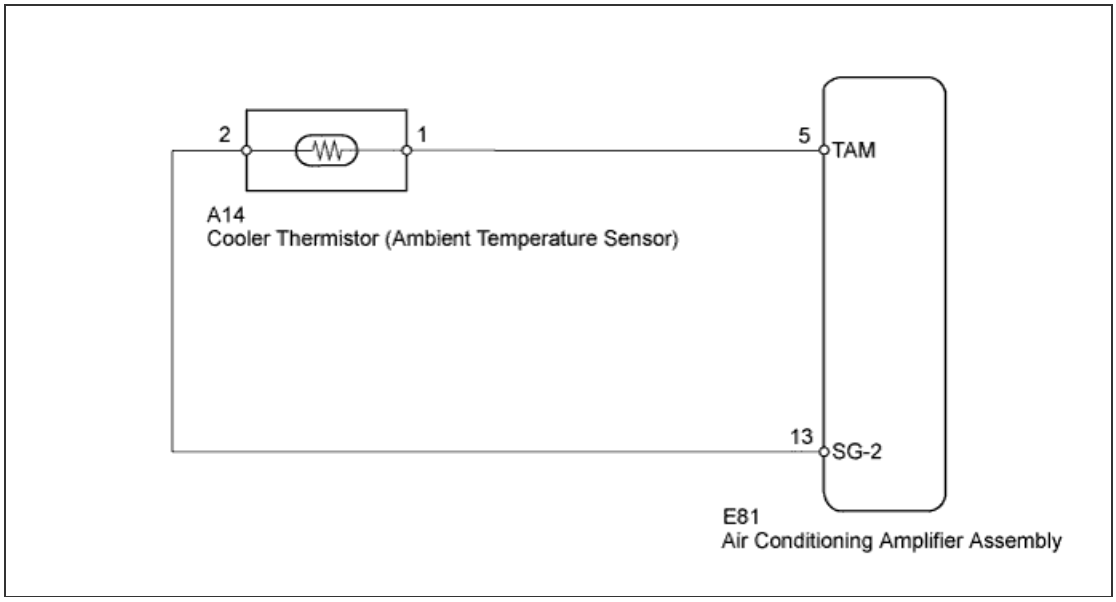
**for Preparation** Click here

### DESCRIPTION

The cooler thermistor (ambient temperature sensor) is installed in the front part of the cooler condenser assembly. This sensor is connected to the air conditioning amplifier assembly and detects fluctuations in the ambient temperature. The sensor sends a signal to the air conditioning amplifier assembly. The resistance of the cooler thermistor (ambient temperature sensor) changes in accordance with the ambient temperature. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.
The air conditioning amplifier assembly applies a voltage (5 V) to the cooler thermistor (ambient temperature sensor) and reads voltage changes as changes in the resistance of the cooler thermistor (ambient temperature sensor).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1412 | An open or short in the cooler thermistor (ambient temperature sensor) circuit is detected for 8.5 minutes or more. | • Cooler thermistor (ambient temperature sensor)<br>• Harness or connector<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AMBIENT TEMP SENSOR)

a. Use the Data List to check if the cooler thermistor (ambient temperature sensor) is functioning properly ( Click here).

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Ambient Temp Sensor | Cooler thermistor (ambient temperature sensor) /<br>Min: -23.3°C (-9.94°F)<br>Max: 65.95°C (150.71°F) | Actual ambient temperature displayed | Open in the circuit: -23.3°C (-9.94°F).<br>Short in the circuit: 65.95°C (150.71°F). |

**OK:**
**The display is as specified in the normal condition column.**

**Result**

| Result | Proceed to |
|---|---|
| OK (When troubleshooting according to problem symptoms table) | A |
| OK (When troubleshooting according to the DTC) | B |
| NG | C |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

C → Go to step 2

A

PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

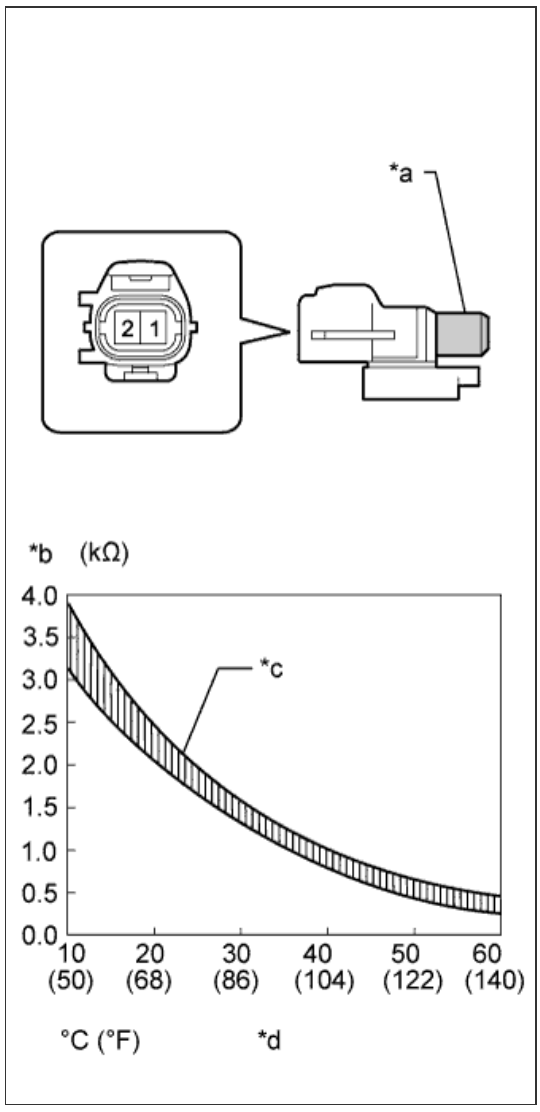
## 2.INSPECT COOLER THERMISTOR (AMBIENT TEMPERATURE SENSOR)

a. Remove the cooler thermistor (ambient temperature sensor) ( Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | 10°C (50°F) | 3.00 to 3.73 kΩ |
| | 15°C (59°F) | 2.45 to 2.88 kΩ |
| | 20°C (68°F) | 1.95 to 2.30 kΩ |
| | 25°C (77°F) | 1.60 to 1.80 kΩ |
| | 30°C (86°F) | 1.28 to 1.47 kΩ |
| | 35°C (95°F) | 1.00 to 1.22 kΩ |
| | 40°C (104°F) | 0.80 to 1.00 kΩ |
| | 45°C (113°F) | 0.65 to 0.85 kΩ |
| | 50°C (122°F) | 0.50 to 0.70 kΩ |
| | 55°C (131°F) | 0.44 to 0.60 kΩ |
| | 60°C (140°F) | 0.36 to 0.50 kΩ |




**Text in Illustration**

| | |
|---|---|
| *a | Sensing Portion |
| *b | Resistance |
| *c | Allowable Range |
| *d | Temperature |

**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (refer to the graph).

NG → REPLACE COOLER THERMISTOR (AMBIENT TEMPERATURE SENSOR) (Click here)

OK

## 3.CHECK HARNESS AND CONNECTOR (COOLER THERMISTOR - AIR CONDITIONING AMPLIFIER)

a. Disconnect the A14 cooler thermistor (ambient temperature sensor) connector.

b. Disconnect the E81 air conditioning amplifier assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A14-1 - E81-5 | | |

| | | |
|---|---|---|
| (TAM) | Always | Below 1 Ω |
| A14-2 - E81-13 (SG-2) | | |
| E81-5 (TAM) - Body ground | Always | 10 kΩ or higher |
| E81-13 (SG-2) - Body ground | | |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## DTC B1445 Cool Air Bypass Damper Control

**for Preparation** Click here

### DESCRIPTION

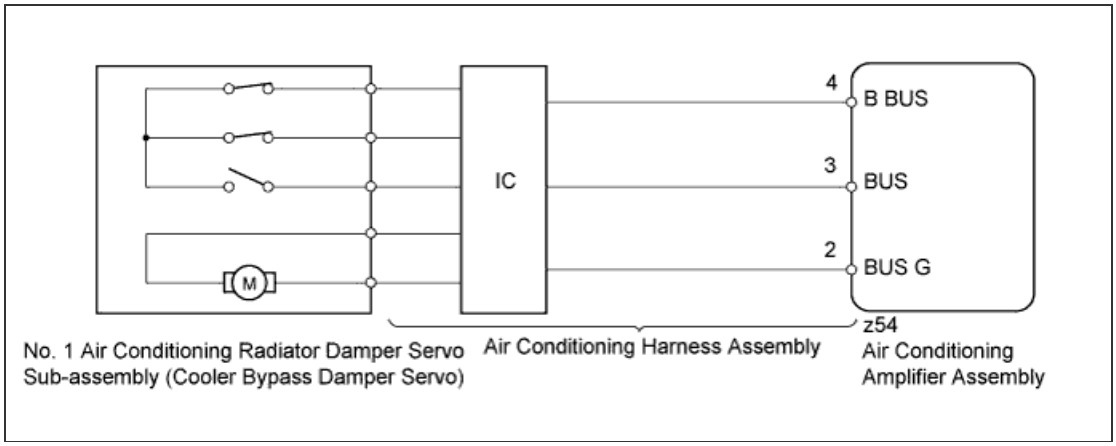
The No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air outlet damper to any position, which controls the air outlet changes.

**HINT:**

Confirm that no mechanical problem is present because this trouble code may be stored when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1445 | The air outlet damper position does not change for 30 seconds or more when the air conditioning amplifier assembly operates the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo). | • No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (COOL AIR BYPASS PULSE)

a. Use the Data List to check if the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) is functioning properly (Click here).

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Cool Air Bypass Pulse | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) target pulse / Min.: 0, Max.: 255 | • Shut and DEF mode: 6 (pulse)<br>• Shut: 28 (pulse)<br>• Open: 57 (pulse) | - |

**OK:**

**The display is as specified in the normal condition column.**

**Result**

| Result | Proceed to |
|---|---|
| OK (When troubleshooting according to the DTC) | A |
| OK (When troubleshooting according to problem symptoms table) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (COOLER BYPASS DAMPER SERVO)

a. Temporarily replace the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo).

for LHD: Click here.
for RHD: Click here.

**HINT:**

Since the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) cannot be inspected while it is removed from the vehicle, replace the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) with a new or normally functioning one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1445 is not output | A |
| DTC B1445 is output | B |

B → Go to step 3

A

END (NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY [COOLER BYPASS DAMPER SERVO] IS FAULTY)

## 3.REPLACE AIR CONDITIONING HARNESS ASSEMBLY

a. Temporarily replace the air conditioning harness assembly with a new or normally functioning one.

for LHD: Click here.
for RHD: Click here.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1445 is not output | A |
| DTC B1445 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS FAULTY)

## DTC B1413 Evaporator Temperature Sensor Circuit

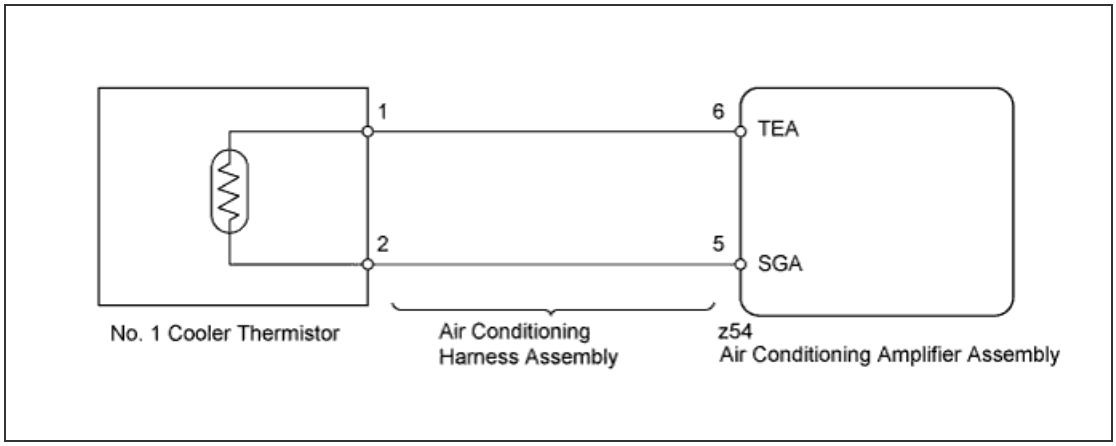
**for Preparation** Click here

### DESCRIPTION

The No. 1 cooler thermistor is installed on the evaporator in the air conditioner unit to detect the cooled air temperature that has passed through the evaporator and control the air conditioning. It sends appropriate signals to the air conditioning amplifier assembly. The resistance of the No. 1 cooler thermistor changes in accordance with the cooled air temperature that has passed through the evaporator. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.
The air conditioning amplifier assembly applies voltage (5 V) to the No. 1 cooler thermistor and reads voltage changes as the resistance of the No. 1 cooler thermistor changes. This sensor is used for frost prevention.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1413 | An open or short in the No. 1 cooler thermistor circuit is detected for 8.5 minutes or more. | • No. 1 cooler thermistor<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.READ VALUE USING INTELLIGENT TESTER (EVAPORATOR FIN THERMISTOR)**

a. Use the Data List to check if the No. 1 cooler thermistor is functioning properly ( Click here).

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Evaporator Fin Thermistor | No. 1 cooler thermistor / Min.: -29.7°C (-21.46°F) Max.: 59.55°C (139.19°F) | Actual evaporator temperature displayed | Open in the circuit: -29.7°C (-21.46°F). Short in the circuit: 59.55°C (139.19°F). |

**OK:**
**The display is as specified in the normal condition.**

**Result**

| Result | Proceed to |
|---|---|
| OK (When troubleshooting according to problem symptoms table) | A |
| OK (When troubleshooting according to the DTC) | B |
| NG | C |

| | |
|---|---|
| B | REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here) |
| C | Go to step 2 |

A

PROCEED TO NEXT INSPECTION PROCEDURE SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

## 2.INSPECT NO. 1 COOLER THERMISTOR

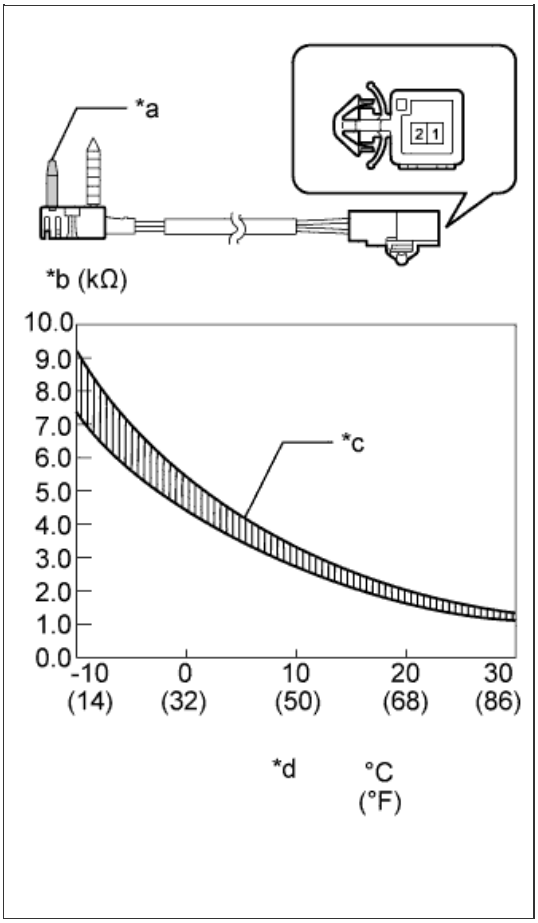
a. Remove the No. 1 cooler thermistor.

- for LHD: Click here.
- for RHD: Click here.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | -10°C (14°F) | 7.30 to 9.10 kΩ |
| | -5°C (23°F) | 5.65 to 6.95 kΩ |
| | 0°C (32°F) | 4.40 to 5.35 kΩ |
| | 5°C (41°F) | 3.40 to 4.15 kΩ |
| | 10°C (50°F) | 2.70 to 3.25 kΩ |
| | 15°C (59°F) | 2.14 to 2.58 kΩ |
| | 20°C (68°F) | 1.71 to 2.05 kΩ |
| | 25°C (77°F) | 1.38 to 1.64 kΩ |
| | 30°C (86°F) | 1.11 to 1.32 kΩ |




**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

**Text in Illustration**

| | |
|---|---|
| *a | Sensor |
| *b | Resistance |
| *c | Allowable Range |
| *d | Temperature |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for LHD) | B |
| NG (for RHD) | C |

B → REPLACE NO. 1 COOLER THERMISTOR (Click here)

C → REPLACE NO. 1 COOLER THERMISTOR (Click here)

A

## 3.INSPECT AIR CONDITIONING HARNESS ASSEMBLY

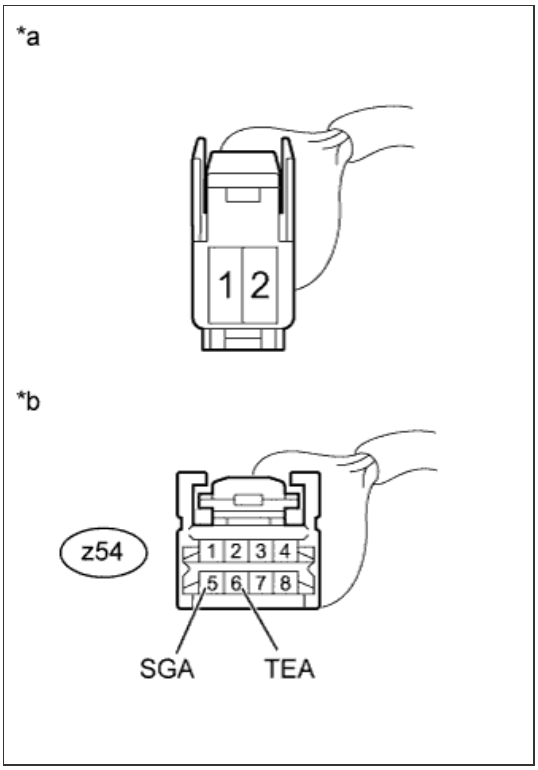
a. Remove the air conditioning harness assembly.

for LHD: Click here.
for RHD: Click here.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| z54-6 (TEA) - 2 | Always | Below 1 Ω |
| z54-5 (SGA) - 1 | Always | Below 1 Ω |
| z54-6 (TEA) - Body ground | Always | 10 kΩ or higher |
| z54-5 (SGA) - Body ground | Always | 10 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to No. 1 Cooler Thermistor) |
| *b | Front view of wire harness connector (to Air Conditioning Amplifier Assembly) |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for LHD) | B |
| NG (for RHD) | C |

B

REPLACE AIR CONDITIONING HARNESS ASSEMBLY (Click here)

C

REPLACE AIR CONDITIONING HARNESS ASSEMBLY (Click here)

A

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

# DTC B1446 Air Mix Damper Control Servo Motor Circuit (Driver Side)

**for Preparation** Click here

## DESCRIPTION

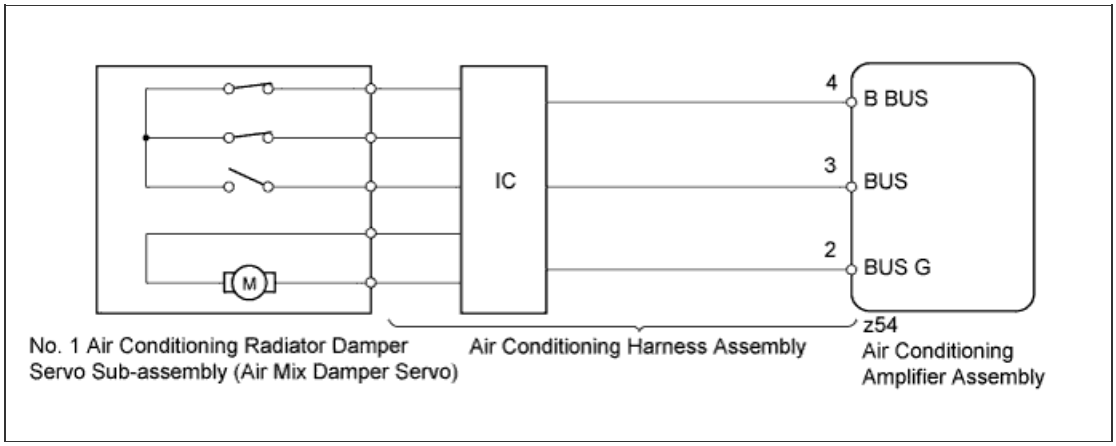
The No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air mix damper to any position. As a result, the air mix damper varies the mixture of hot air from the heater core and cold air from the evaporator so that the temperature of the air is as requested.

**HINT:**

Confirm that no mechanical problem is present because this trouble code may be stored when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1446 | The air mix damper position does not change for 30 seconds or more when the air conditioning amplifier assembly operates the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo). | • No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.READ VALUE USING INTELLIGENT TESTER (AIR MIX SERVO TARG PULSE [D])

a. Use the Data List to check if the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) is functioning properly (Click here).

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Air Mix Servo Targ Pulse (D) | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) target pulse / Min.: 0, Max.: 255 | **for LHD**<br>• MAX. COOL: 90 (pulse)<br>• MAX. HOT: 8 (pulse)<br>**for RHD**<br>• MAX. COOL: 8 (pulse)<br>• MAX. HOT: 90 (pulse) | - |

**OK:**

**The display is as specified in the normal condition column.**

Result

| Result | Proceed to |
|---|---|
| OK (When troubleshooting according to the DTC) | A |
| OK (When troubleshooting according to problem symptoms table) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**2.REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (AIR MIX DAMPER SERVO)**

a. Temporarily replace the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo).

for LHD: Click here.
for RHD: Click here.

**HINT:**

Since the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) cannot be inspected while it is removed from the vehicle, replace the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) with a new or normally functioning one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B1446 is not output | A |
| DTC B1446 is output | B |

B → Go to step 3

A

END (NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY [AIR MIX DAMPER SERVO] IS FAULTY)

**3.REPLACE AIR CONDITIONING HARNESS ASSEMBLY**

a. Temporarily replace the air conditioning amplifier assembly with a new or normally functioning one.

for LHD: Click here.
for RHD: Click here.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B1446 is not output | A |
| DTC B1446 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS FAULTY)

## DTC B1422 Compressor Lock Sensor Circuit

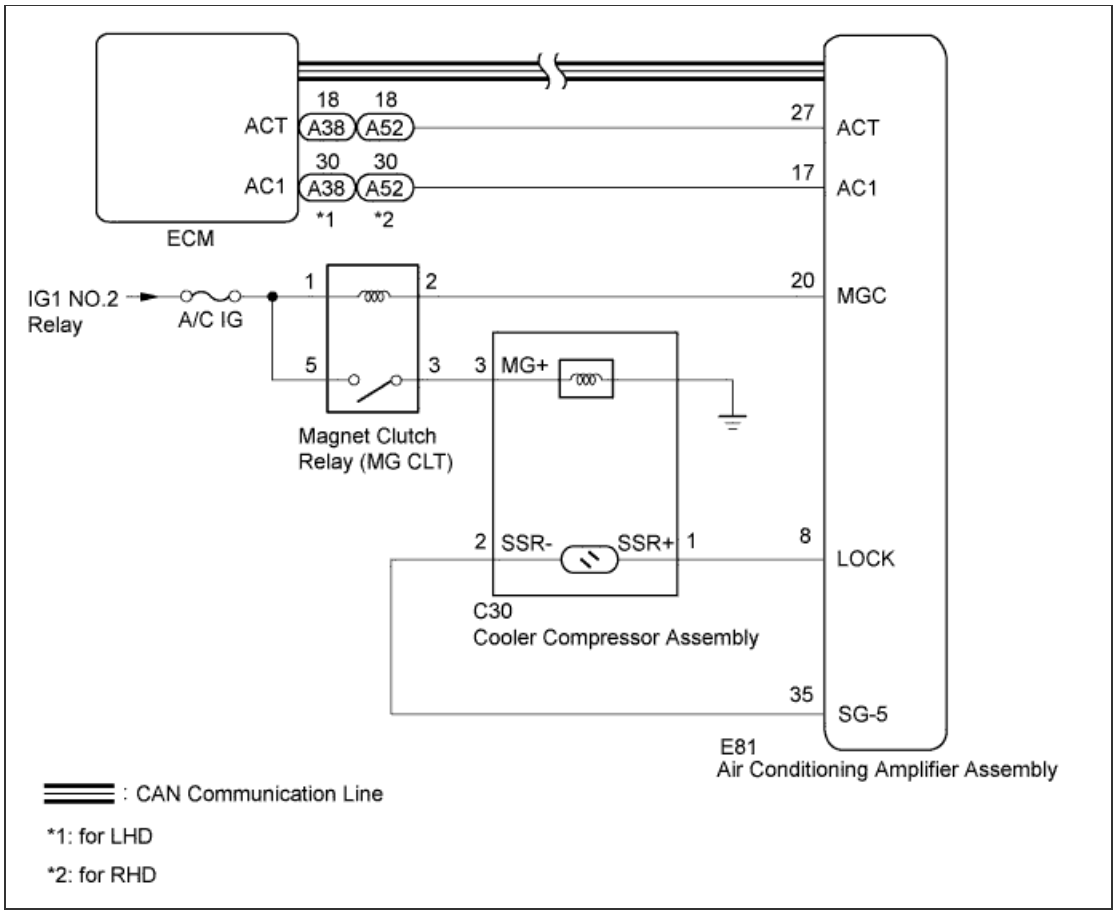
**for Preparation** Click here

### SYSTEM DESCRIPTION

The ECM sends the engine speed signal to the air conditioning amplifier assembly via CAN communication.
The air conditioning amplifier assembly sends an air conditioning operation request signal to the ECM via direct line, and the ECM sends a magnet clutch operation permission signal to the air conditioning amplifier assembly via direct line.
The air conditioning amplifier assembly reads the difference between compressor speed and engine speed. When the difference becomes too large, the air conditioning amplifier assembly determines that the cooler compressor assembly is locked and turns the magnet clutch assembly off.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1422 | An open or short in the compressor lock sensor circuit. | • Cooler compressor assembly<br>• Harness or connector<br>• Magnet clutch relay (MG CLT)<br>• Air conditioning amplifier assembly<br>• ECM<br>• CAN communication system |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**HINT:**

As DTC B1422 is also output when the fan & generator V-belt is damaged or loose, inspect the belt before performing troubleshooting.

#### 1.CHECK CAN COMMUNICATION SYSTEM

a. Use the intelligent tester to check if the CAN communication system is functioning normally ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |

| | |
|---|---|
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

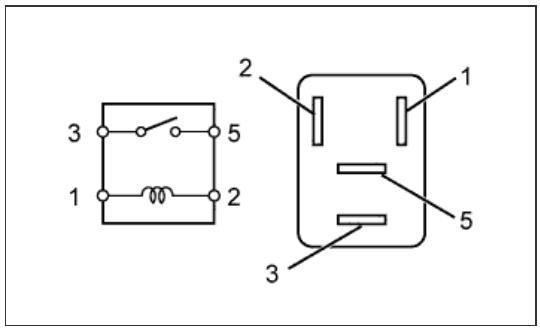
C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

## 2.INSPECT MAGNET CLUTCH RELAY (MG CLT)

a. Remove the magnet clutch relay (MG CLT).

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage is not applied to terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage is applied to terminals 1 and 2 | Below 1 Ω |

NG → REPLACE MAGNET CLUTCH RELAY (MG CLT)

OK

## 3.CHECK HARNESS AND CONNECTOR (MAGNET CLUTCH RELAY - BATTERY, AIR CONDITIONING AMPLIFIER AND COOLER COMPRESSOR)

a. Remove the magnet clutch relay (MG CLT).

b. Disconnect the E81 air conditioning amplifier assembly connector.

c. Disconnect the C30 cooler compressor assembly connector.

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| Magnet clutch relay terminal 1 - Body ground | Ignition switch ON | 11 to 14 V |
| | Ignition switch off | Below 1 V |
| Magnet clutch relay terminal 5 - Body ground | Ignition switch ON | 11 to 14 V |
| | Ignition switch off | Below 1 V |

e. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Magnet clutch relay terminal 2 - E81-20 (MGC) | Always | Below 1 Ω |
| Magnet clutch relay terminal 3 - C30-3 (MG+) | | |
| Magnet clutch relay terminal 1 - Body ground | | |
| Magnet clutch | | |

| | | |
|---|---|---|
| relay terminal 2 - Body ground | Always | 10 kΩ or higher |
| Magnet clutch relay terminal 3 - Body ground | | |
| Magnet clutch relay terminal 4 - Body ground | | |

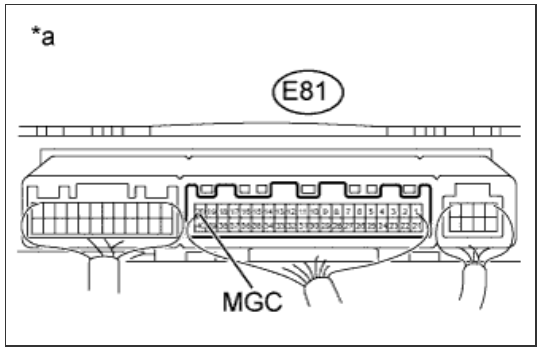
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

a. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-20 (MGC) - Body ground | • Engine idling<br>• Blower switch LO level<br>• A/C switch on (magnet clutch on permitted) | Below 1 V |
| | • Engine idling<br>• Blower switch LO level<br>• A/C switch off or on (magnet clutch on not permitted) | 11 to 14 V |

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected (Air Conditioning Amplifier Assembly) |

NG → Go to step 7

OK

## 5.INSPECT COOLER COMPRESSOR ASSEMBLY

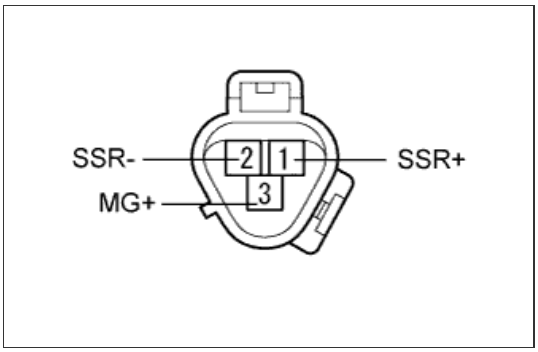
a. Remove the cooler compressor assembly.

for 1VD-FTV: Click here.
for 1GR-FE: Click here.

b. Check the magnet clutch operation.

**OK:**

| Measurement Connection | Specified Condition |
|---|---|
| Battery positive (+) → 3 (MG+)<br>Battery negative (-) → cooler compressor assembly body | Magnet clutch engages |




c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (SSR+) - 2 (SSR-) | 20°C (68°F) | 160 to 320 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1VD-FTV) | B |
| NG (for 1GR-FE) | C |

B → REPLACE COOLER COMPRESSOR ASSEMBLY (Click here)

C → REPLACE COOLER COMPRESSOR ASSEMBLY (Click here)

A

## 6.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - COOLER COMPRESSOR)

a. Disconnect the E81 air conditioning amplifier assembly connector.

b. Disconnect the C30 cooler compressor connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-8 (LOCK) - C30-1 (SSR+) | Always | Below 1 Ω |
| E81-35 (SG-5) - C30-2 (SSR-) | Always | Below 1 Ω |
| E81-8 (LOCK) - Body ground | Always | 10 kΩ or higher |
| E81-35 (SG-5) - Body ground | Always | 10 kΩ or higher |

**Result**

| Result | Proceed to |
|---|---|
| OK (When troubleshooting according to problem symptoms table) | A |
| OK (When troubleshooting according to the DTC) | B |
| NG | C |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

## 7.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - ECM)

a. Disconnect the E81 air conditioning amplifier assembly connector.

b. Disconnect the A38*1 or A52*2 ECM connector.

*1: for LHD
*2: for RHD

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

**for LHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-17 (AC1) - A38-30 (AC1) | Always | Below 1 Ω |
| E81-27 (ACT) - A38-18 (ACT) | Always | Below 1 Ω |
| E81-17 (AC1) - Body ground | Always | 10 kΩ or higher |
| E81-27 (ACT) - Body ground | Always | 10 kΩ or higher |

**for RHD**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-17 (AC1) - A52-30 (AC1) | Always | Below 1 Ω |
| E81-27 (ACT) - A52-18 (ACT) | Always | Below 1 Ω |
| E81-17 (AC1) - Body ground | Always | 10 kΩ or higher |
| E81-27 (ACT) - Body ground | Always | 10 kΩ or higher |

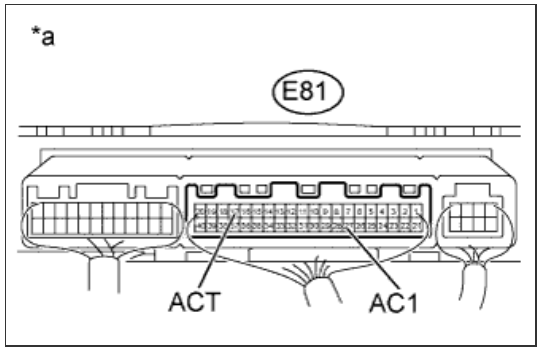
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 8.CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

a. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-17 (AC1) - Body ground | • Engine idling<br>• Blower switch LO level<br>• A/C switch on | Below 1 V |
| | • Engine idling<br>• Blower switch LO level<br>• A/C switch off | 11 to 14 V |
| | • Engine idling<br>• Blower switch | |

| | | |
|---|---|---|
| E81-27 (ACT) - Body ground | • LO level<br>• A/C switch on (magnet clutch on) | Below 1 V |
| | • Engine idling<br>• Blower switch LO level<br>• A/C switch off or on (magnet clutch off) | 11 to 14 V |

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected (Air Conditioning Amplifier Assembly) |

NG → Go to step 9

OK →

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**9.REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY**

a. Temporarily replace the air conditioning amplifier assembly with a new or normally functioning one ( Click here).

b. Check the air conditioning system to check it functions properly.

**OK:**
**Air conditioning system functions operate normally.**

**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (for 1GR-FE) | B |
| NG (for 1VD-FTV) | C |

B → REPLACE ECM (Click here)

C → REPLACE ECM (Click here)

A →

END (AIR CONDITIONING AMPLIFIER ASSEMBLY IS FAULTY)

## DTC B1497 Communication Malfunction (Bus Ic)

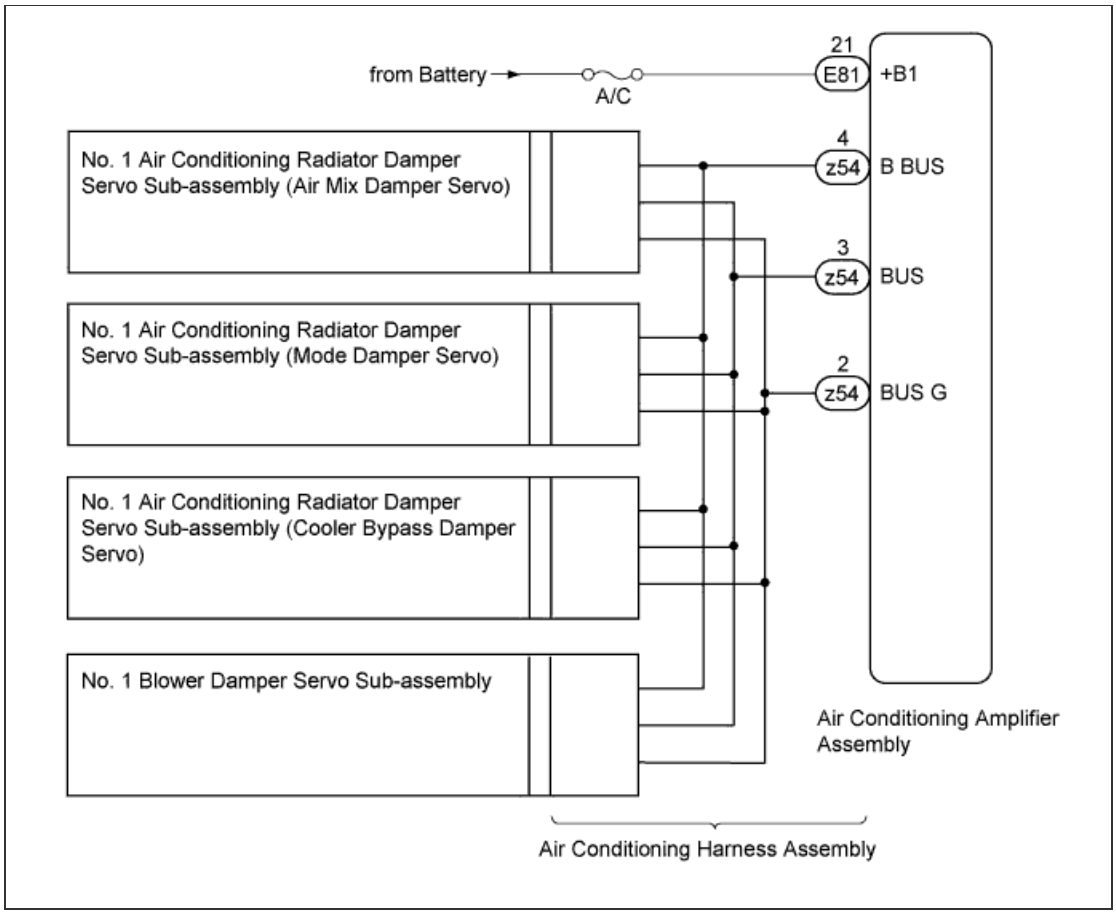
**for Preparation** Click here

### DESCRIPTION

The air conditioning harness assembly connects the air conditioning amplifier assembly and servo motors. The air conditioning amplifier assembly supplies power and sends operation instructions to each servo motor through the air conditioning harness assembly. Each servo motor sends damper position information to the air conditioning amplifier assembly.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1497 | An error or open in the communication line. | • Air conditioning harness assembly<br>• No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo)<br>• No. 1 blower damper servo sub-assembly<br>• No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo)<br>• No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo)<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

#### 1.CHECK FOR DTC

a. Clear the DTC (Click here).

b. Check for the DTC (Click here).

**Result**

| Result | Proceed to |
|---|---|

| | |
|---|---|
| DTC B1497 is not output | A |
| DTC B1497 is output | B |

B → Go to step 2

A

USE SIMULATION METHOD TO CHECK (Click here)

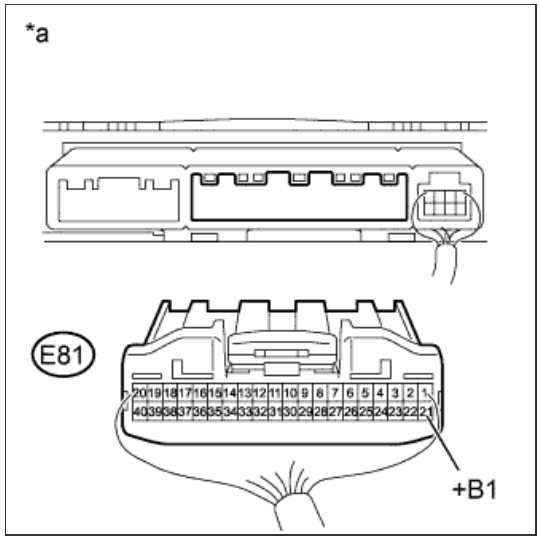
## 2.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY)

a. Disconnect the E81 air conditioning amplifier assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-21 (+B1) - Body ground | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER

a. Select the Active Test, use the intelligent tester to generate a control command, and then check that items operate ( Click here).

**Air Conditioner**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Air Mix Servo Targ Pulse(D) | No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) | Min.: 0, Max.: 255 | - |
| Air Inlet Damper Targ Pulse | No. 1 blower damper servo sub-assembly | Min.: 0, Max.: 255 | - |
| Air Outlet Servo Pulse(D) | No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) | Min.: 0, Max.: 255 | - |
| Cool Air Bypass Pulse | No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) | Min.: 0, Max.: 255 | - |

**OK:**

**Arm of the damper servo motor selected in the Active Test moves smoothly.**

b. According to the test result, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| One of the damper servo motors is malfunctioning | A |
| All of the damper servo motors are malfunctioning | B |

B → Go to step 9

A

## 4.SYSTEM CHECK

a. According to the test result, proceed to the next step.

**Result**

| Result | Proceed to |
|---|---|
| Only the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) is malfunctioning | A |
| Only the No. 1 blower damper servo sub-assembly is malfunctioning | B |
| Only the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) is malfunctioning | C |
| Only the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) is malfunctioning | D |

B → Go to step 6

C → Go to step 7

D → Go to step 8

A

## 5.REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (AIR MIX DAMPER SERVO)

a. Temporarily replace the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo).

for LHD: Click here.
for RHD: Click here.

**HINT:**

Since the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) cannot be inspected while it is removed from the vehicle, replace the No. 1 air conditioning radiator damper servo sub-assembly (air mix damper servo) with a new or normally functioning one and check that the condition returns to normal.

b. Clear the DTC (Click here).

c. Check for the DTC (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497 is not output | A |
| DTC B1497 is output | B |

B → Go to step 9

A

END (NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY [AIR MIX DAMPER SERVO] IS FAULTY)

## 6.REPLACE NO. 1 BLOWER DAMPER SERVO SUB-ASSEMBLY

a. Temporarily replace the No. 1 blower damper servo sub-assembly ( Click here).

**HINT:**

Since the No. 1 blower damper servo sub-assembly cannot be inspected while it is removed from the vehicle, replace the No. 1 blower damper servo sub-assembly with a new or normally functioning one and check that the condition returns to normal.

b. Clear the DTC (Click here).

c. Check for the DTC (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B1497 is not output | A |
| DTC B1497 is output | B |

B → Go to step 9

A

END (NO. 1 BLOWER DAMPER SERVO SUB-ASSEMBLY IS FAULTY)

7.REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (MODE DAMPER SERVO)

a. Temporarily replace the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo).

for LHD: Click here.
for RHD: Click here.

**HINT:**

Since the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) cannot be inspected while it is removed from the vehicle, replace the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) with a new or normally functioning one and check that the condition returns to normal.

b. Clear the DTC (Click here).

c. Check for the DTC (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B1497 is not output | A |
| DTC B1497 is output | B |

B → Go to step 9

A

END (NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY [MODE DAMPER SERVO] IS FAULTY)

8.REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (COOLER BYPASS DAMPER SERVO)

a. Temporarily replace the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo).

for LHD: Click here.
for RHD: Click here.

**HINT:**

Since the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) cannot be inspected while it is removed from the vehicle, replace the No. 1 air conditioning radiator damper servo sub-assembly (cooler bypass damper servo) with a new or normally functioning one and check that the condition returns to normal.

b. Clear the DTC (Click here).

c. Check for the DTC (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B1497 is not output | A |
| DTC B1497 is output | B |

B → Go to step 9

A

END (NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY [COOLER BYPASS DAMPER SERVO] IS FAULTY)

9.REPLACE AIR CONDITIONING HARNESS ASSEMBLY

a. Temporarily replace the air conditioning harness assembly.

for LHD: Click here.
for RHD: Click here.

**HINT:**

Since the air conditioning harness assembly cannot be inspected while it is removed from the vehicle, replace the air conditioning harness assembly with a new or normally functioning one and check that the condition returns to normal.

b. Clear the DTC (Click here).

c. Check for the DTC (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1497 is not output | A |
| DTC B1497 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A → END (AIR CONDITIONING HARNESS ASSEMBLY IS FAULTY)

## DTC B1423 Pressure Sensor Circuit

**for Preparation** Click here

### DESCRIPTION

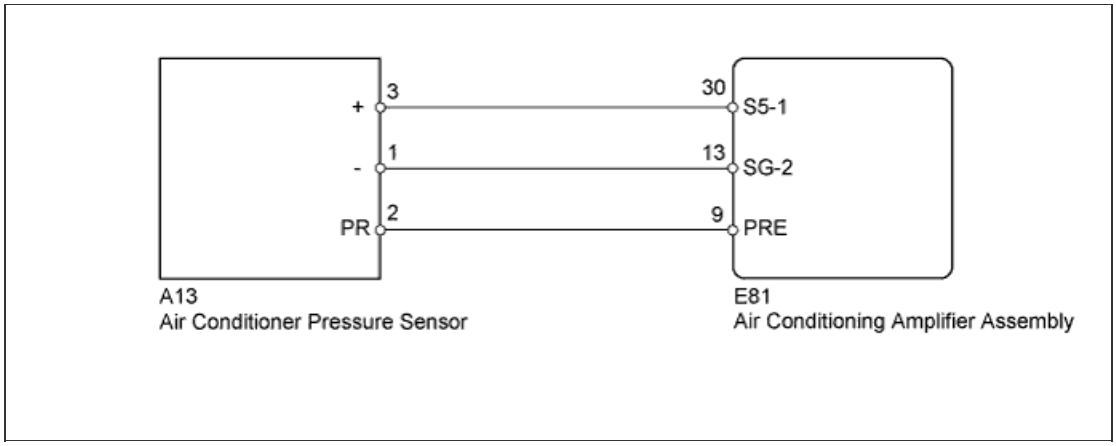
This DTC is stored when refrigerant pressure is extremely low (0.176 MPa [1.8 kgf/cm $^2$, 25.5 psi] or less) or extremely high (3.025 MPa [30.9 kgf/cm $^2$, 438.6 psi] or higher). The air conditioner pressure sensor, which is installed on the pipe of the high pressure side to detect refrigerant pressure, outputs the refrigerant pressure signal to the air conditioning amplifier assembly. The air conditioning amplifier assembly converts the signal to a pressure value according to the sensor characteristics to control the compressor.

**HINT:**

Be sure to check the refrigerant volume first when this DTC is output because this DTC may also be stored if there is no refrigerant in the cycle.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1423 | Either condition is met:<br>• An open or short in the air conditioner pressure sensor circuit.<br>• Refrigerant pressure on the high pressure side is extremely low or extremely high. | • Air conditioner pressure sensor<br>• Harness or connector<br>• Cooler expansion valve<br>• Cooler condenser assembly<br>• Cooler dryer<br>• Refrigerant pipe line<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.CHECK HARNESS AND CONNECTOR (PRESSURE SENSOR - BATTERY AND BODY GROUND)**

a. Disconnect the A13 air conditioner pressure sensor connector.

b. Measure the voltage according to the value(s) in the table below.

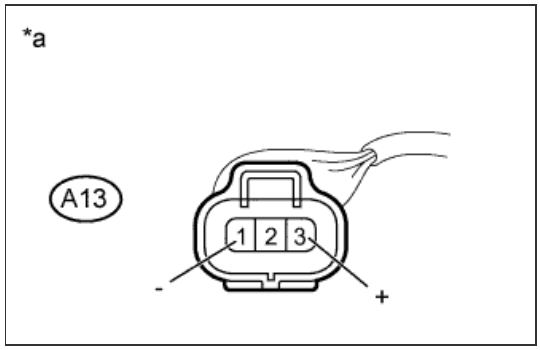
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A13-3 (+) - Body ground | Ignition switch ON | 4.75 to 5.25 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A13-1 (-) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| | |

| | |
|---|---|
| *a | Front view of wire harness connector<br>(to Air Conditioning Pressure Sensor) |

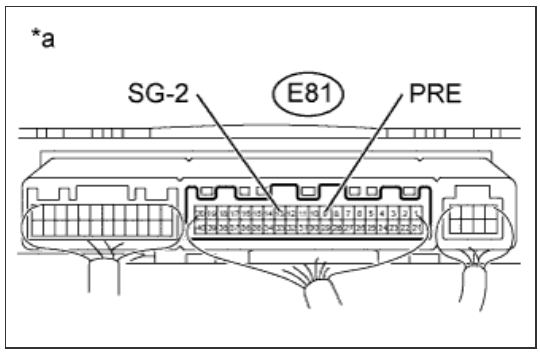
NG → Go to step 4

OK

## 2.CHECK AIR CONDITIONER PRESSURE SENSOR

a. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-9 (PRE) - E81-13 (SG-2) | Engine idling<br>Blower switch LO level<br>A/C switch off | 0.63 to 4.72 V |

**HINT:**

If the measured voltage is not within the normal range, there may be a malfunction in the air conditioning amplifier assembly, air conditioner pressure sensor or wire harness. It is also possible that the amount of refrigerant may not be appropriate.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-13 (SG-2) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected<br>(Air Conditioning Amplifier Assembly) |

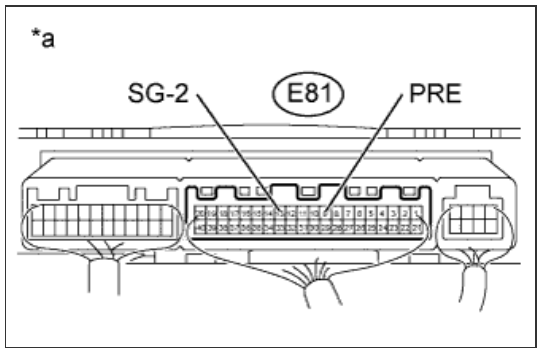
NG → Go to step 5

OK

## 3.CHECK AIR CONDITIONER PRESSURE SENSOR

a. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

b. Measure the voltage when the following conditions are met.




**Measurement Condition**

| Item | Condition |
|---|---|
| Engine Speed | 2000 rpm |
| Vehicle Doors | Fully open |
| Temperature Setting | MAX. COOL |
| Blower Speed | Hi |
| A/C Switch | On |
| R/F Switch | Recirculation |
| Interior Temperature | 25 to 35°C (77 to 95°F) |

**NOTICE:**

- **If refrigerant pressure on the high pressure side becomes extremely high during the inspection (the voltage exceeds 4.8**

V), the fail-safe function stops compressor operation. Therefore, measure the voltage before the fail-safe operation.

- It is necessary to measure the voltage for a certain amount of time (approximately 10 minutes) because the problem symptom may recur after a while.

**HINT:**

When the outside air temperature is low (below -1.5°C [29.3°F]), the compressor stops due to operation of the ambient temperature sensor and evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.

i. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-9 (PRE) - E81-13 (SG-2) | Conditions in "Measurement Condition" chart above are met | 0.63 to 4.72 V |

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected (Air Conditioning Amplifier Assembly) |

**Result**

| Result | Proceed to |
|---|---|
| OK (When troubleshooting according to problem symptoms table) | A |
| OK (When troubleshooting according to the DTC) | B |
| NG | C |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

C → Go to step 13

A

PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**4.CHECK HARNESS AND CONNECTOR (PRESSURE SENSOR - AIR CONDITIONING AMPLIFIER)**

a. Disconnect the A13 air conditioner pressure sensor connector.

b. Disconnect the E81 air conditioning amplifier assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A13-1 (-) - E81-13 (SG-2) | Always | Below 1 Ω |
| A13-3 (+) - E81-30 (S5-1) | Always | Below 1 Ω |
| E81-13 (SG-2) - Body ground | Always | 10 kΩ or higher |
| E81-30 (S5-1) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**5.CHECK HARNESS AND CONNECTOR (PRESSURE SENSOR - AIR CONDITIONING AMPLIFIER)**

a. Disconnect the A13 air conditioner pressure sensor connector.

b. Disconnect the E81 air conditioning amplifier assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A13-2 (PR) - E81-9 (PRE) | Always | Below 1 Ω |
| E81-9 (PRE) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 6.CHECK FOR AIR CONDITIONING SYSTEM LEAK

a. Install a manifold gauge set.

b. Recover the refrigerant from the air conditioning system using a refrigerant recovery unit ( Click here).

c. Evacuate the air conditioning system and check that vacuum can be maintained in it.

**OK:**

**Vacuum can be maintained in the air conditioning system.**

**HINT:**

If vacuum cannot be maintained in the air conditioning system, refrigerant may be leaking from it. In this case, it is necessary to repair or replace the leaking part of the air conditioning system.

NG → Go to step 12

OK

## 7.CHARGE REFRIGERANT

a. Use a refrigerant recovery unit to recover refrigerant.

b. Evacuate the air conditioning system.

c. Add an appropriate amount of refrigerant (Click here).

**HINT:**

If refrigerant is added and the system has not been properly evacuated (insufficient vacuum time), moisture in the air remaining in the system will freeze in the expansion valve, blocking the flow on the high pressure side. Therefore, in order to confirm the problem, recover the refrigerant and properly evacuate the system. Add an appropriate amount of refrigerant, and then check for the DTC.

NEXT

## 8.CHECK FOR DTC

a. Check for DTCs when the following conditions are met ( Click here).

**Measurement Condition**

| Item | Condition |
|---|---|
| Engine Speed | 2000 rpm |
| Vehicle Doors | Fully open |
| Temperature Setting | MAX. COOL |
| Blower Speed | Hi |
| A/C Switch | On |
| R/F Switch | Recirculation |
| Interior Temperature | 25 to 35°C (77 to 95°F) |

**NOTICE:**

If refrigerant pressure on the high pressure side becomes high, a DTC will be stored. Therefore, it is necessary to check for DTCs after a certain amount of time (approximately 10 minutes) has passed because the DTC may be stored after the air conditioning system operates for a while.

**HINT:**

When the outside air temperature is low (below -1.5°C [29.3°F]), the compressor stops due to operation of the ambient temperature sensor and evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.

**Result**

| Result | Proceed to |
|---|---|
| DTC B1423 is not output | A |
| DTC B1423 is output | B |

**NOTICE:**

If the DTC was stored due to an insufficient or excessive amount of refrigerant, the problem may have been solved after performing the previous step. However, the root cause of insufficient refrigerant may be refrigerant leakage. Therefore, identify and repair the area where refrigerant leaks as necessary. The root cause of excessive refrigerant may be adding too much refrigerant.

B → Go to step 9

A

END (AMOUNT OF REFRIGERANT IS FAULTY)

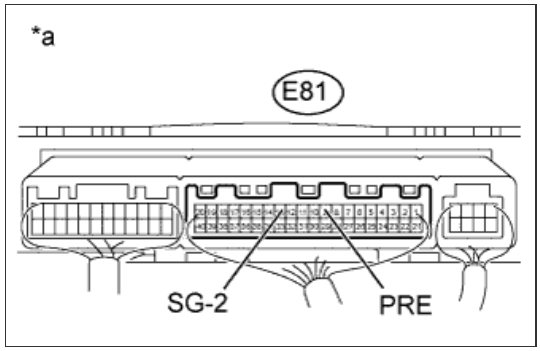
## 9.CHECK AIR CONDITIONER PRESSURE SENSOR

a. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-9 (PRE) - E81-13 (SG-2) | Engine idling<br>Blower switch LO level<br>A/C switch on | 0.63 to 4.72 V |




**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected<br>(Air Conditioning Amplifier Assembly) |

NG → Go to step 10

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 10.REPLACE AIR CONDITIONER PRESSURE SENSOR

a. Temporarily replace the air conditioner pressure sensor with a new or normally functioning one ( Click here).

NEXT

## 11.CHECK FOR DTC

a. Check for DTCs when the following conditions are met ( Click here).

**Measurement Condition**

| Item | Condition |
|---|---|
| Engine Speed | 2000 rpm |
| Vehicle Doors | Fully open |
| Temperature Setting | MAX. COOL |
| Blower Speed | Hi |
| A/C Switch | On |
| R/F Switch | Recirculation |
| Interior Temperature | 25 to 35°C (77 to 95°F) |

**NOTICE:**

If refrigerant pressure on the high pressure side becomes high, a DTC will be stored. Therefore, it is necessary to check for DTCs after a certain amount of time (approximately 10 minutes) has passed because the DTC may be stored after the air conditioning system operates for a while.

**HINT:**

- **When the outside air temperature is low (below -1.5°C [29.3°F]), the compressor stops due to operation of the ambient temperature sensor and evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.**
- **If refrigerant pressure is not normal after replacing the expansion valve with a new or normally functioning one, the cooler condenser assembly or pipes may be clogged due to dirt, dust or other contaminants. In this case, clean or replace the cooler condenser assembly or pipes.**

**Result**

| Result | Proceed to |
|---|---|
| DTC B1423 is not output | A |
| DTC B1423 is output | B |

**B** → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**A**

END (AIR CONDITIONER PRESSURE SENSOR IS FAULTY)

**12.REPAIR AIR CONDITIONING SYSTEM LEAK**

a. Identify the area where refrigerant leaks (Click here).

b. Repair the identified area of the air conditioning system.

c. Evacuate the air conditioning system.

**NEXT**

CHARGE REFRIGERANT (Click here)

**13.CHARGE REFRIGERANT**

a. Use a refrigerant recovery unit to recover refrigerant.

b. Evacuate the air conditioning system.

c. Add an appropriate amount of refrigerant (Click here).

**HINT:**

If refrigerant is added and the system has not been properly evacuated (insufficient vacuum time), moisture in the air remaining in the system will freeze in the expansion valve, blocking the flow on the high pressure side. Therefore, in order to confirm the problem, recover the refrigerant and properly evacuate the system. Add an appropriate amount of refrigerant, and then check for the DTC.

**NEXT**

**14.CHECK FOR DTC**

a. Check for DTCs when the following conditions are met ( Click here).

**Measurement Condition**

| Item | Condition |
|---|---|
| Engine Speed | 2000 rpm |
| Vehicle Doors | Fully open |
| Temperature Setting | MAX. COOL |
| Blower Speed | Hi |
| A/C Switch | On |
| R/F Switch | Recirculation |
| Interior Temperature | 25 to 35°C (77 to 95°F) |

**NOTICE:**

If refrigerant pressure on the high pressure side becomes high, a DTC will be stored. Therefore, it is necessary to check for DTCs after a certain amount of time (approximately 10 minutes) has passed because the DTC may be stored after the air conditioning system operates for a while.

**HINT:**

- **When the outside air temperature is low (below -1.5°C [29.3°F]), the compressor stops due to operation of the ambient temperature sensor and evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.**
- **If refrigerant is added and the system has not been properly evacuated (insufficient vacuum time), moisture in the air remaining in the system will freeze in the expansion valve, blocking the flow on the high pressure side. Therefore, in order to confirm the problem, recover the refrigerant and properly evacuate the system. Add an appropriate amount of refrigerant and check for the DTC. If the DTC is not output after this procedure, it indicates that the cooler dryer in the cooler condenser assembly is not able to absorb moisture in the refrigerant cycle. In this case, to complete the repair, it is necessary to replace the cooler dryer.**

**Result**

| Result | Proceed to |
|---|---|
| DTC B1423 is not output | A |
| DTC B1423 is output | B |

B → Go to step 15

A

REPLACE COOLER DRYER (Click here)

15.REPLACE COOLER EXPANSION VALVE

a. Temporarily replace the cooler expansion valve with a new or normally functioning one.

for LHD: Click here.
for RHD: Click here.

**HINT:**

Replace the cooler expansion valve with a new or normally functioning one because the cooler expansion valve is either stuck or clogged.

NEXT

16.CHARGE REFRIGERANT

a. Use a refrigerant recovery unit to recover refrigerant.

b. Evacuate the air conditioning system.

c. Add an appropriate amount of refrigerant (Click here).

**HINT:**

If refrigerant is added and the system has not been properly evacuated (insufficient vacuum time), moisture in the air remaining in the system will freeze in the expansion valve, blocking the flow on the high pressure side. Therefore, in order to confirm the problem, recover the refrigerant and properly evacuate the system. Add an appropriate amount of refrigerant, and then check for the DTC.

NEXT

17.CHECK FOR DTC

a. Check for DTCs when the following conditions are met ( Click here).

**Measurement Condition**

| Item | Condition |
|---|---|
| Engine Speed | 2000 rpm |
| Vehicle Doors | Fully open |
| Temperature Setting | MAX. COOL |
| Blower Speed | Hi |
| A/C Switch | On |
| R/F Switch | Recirculation |
| Interior Temperature | 25 to 35°C (77 to 95°F) |

**NOTICE:**

If refrigerant pressure on the high pressure side becomes high, a DTC will be stored. Therefore, it is necessary to check for DTCs after a certain amount of time (approximately 10 minutes) has passed because the DTC may be stored after the air conditioning system operates for a while.

**HINT:**

- **When the outside air temperature is low (below -1.5°C [29.3°F]), the compressor stops due to operation of the ambient temperature sensor and evaporator temperature sensor to prevent the evaporator from freezing. In this case, perform the inspection in a warm indoor environment.**
- **If refrigerant pressure is not normal after replacing the expansion valve with a new or normally functioning one, the cooler condenser assembly or pipes may be clogged due to dirt, dust or other contaminants. In this case, clean or replace the cooler condenser assembly or pipes.**

**Result**

| Result | Proceed to |
|---|---|
| DTC B1423 is not output | A |
| DTC B1423 is output | B |

B → CLEAN OR REPLACE COOLER CONDENSER ASSEMBLY OR PIPES (**Click here**)

A → END (COOLER EXPANSION VALVE IS FAULTY)

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0142 Lost Communication with Body Control Module "B"

## DTC U0155 Lost Communication with Instrument Panel Cluster (IPC) Control Module

**for Preparation** Click here

### DESCRIPTION

The air conditioning amplifier assembly communicates with the ECM and meter ECU through the CAN communication system.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0100 | No communication with ECM | • CAN communication system<br>• ECM<br>• Air conditioning amplifier assembly |
| U0142 | No communication with main body ECU (cowl side junction block LH) | • CAN communication system<br>• Main body ECU (cowl side junction block LH)<br>• Air conditioning amplifier assembly |
| U0155 | No communication with combination meter assembly | • CAN communication system<br>• Combination meter assembly<br>• Air conditioning amplifier assembly |

### INSPECTION PROCEDURE

**1.CHECK CAN COMMUNICATION SYSTEM**

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

for LHD: Click here.
for RHD: Click here.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

## DTC B1442 Air Inlet Damper Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

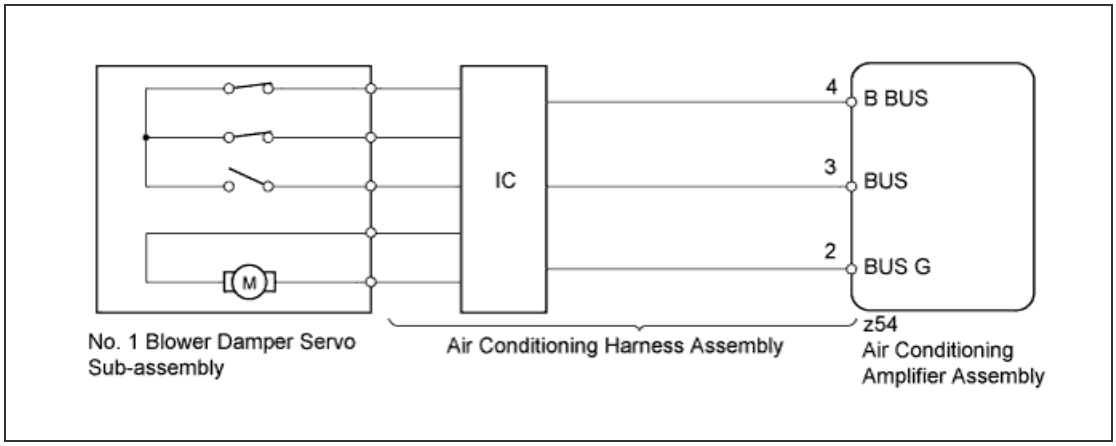
The No. 1 blower damper servo sub-assembly sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air inlet damper to any position, which controls the intake air settings (fresh, fresh/recirculation and recirculation).

**HINT:**

Confirm that no mechanical problem is present because this trouble code may be stored when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1442 | The air inlet damper position does not change for 30 seconds or more when the air conditioning amplifier assembly operates the No. 1 blower damper servo sub-assembly. | • No. 1 blower damper servo sub-assembly<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR INLET DAMPER TARG PULSE)

a. Use the Data List to check if the No. 1 blower damper servo sub-assembly is functioning properly ( Click here).

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Air Inlet Damper Targ Pulse | No. 1 blower damper servo sub-assembly target pulse / Min.: 0, Max.: 255 | **for LHD**<br>• Recirculation: 37 (pulse)<br>• Fresh: 9 (pulse)<br>**for RHD**<br>• Recirculation: 9 (pulse)<br>• Fresh: 37 (pulse) | - |

**OK:**

**The display is as specified in the normal condition column.**

**Result**

| Result | Proceed to |
|---|---|
| OK (When troubleshooting according to the DTC) | A |
| OK (When troubleshooting according to problem symptoms table) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

## 2.CHECK NO. 1 BLOWER DAMPER SERVO SUB-ASSEMBLY

a. Temporarily replace the No. 1 blower damper servo sub-assembly ( Click here).

**HINT:**

Since the No. 1 blower damper servo sub-assembly cannot be inspected while it is removed from the vehicle, replace the No. 1 blower damper servo sub-assembly with a new or normally functioning one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1442 is not output | A |
| DTC B1442 is output | B |

B → Go to step 3

A

END (NO. 1 BLOWER DAMPER SERVO SUB-ASSEMBLY IS FAULTY)

## 3.CHECK AIR CONDITIONING HARNESS ASSEMBLY

a. Temporarily replace the air conditioning harness assembly with a new or normally functioning one.

for LHD: Click here.
for RHD: Click here.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1442 is not output | A |
| DTC B1442 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

END (AIR CONDITIONING HARNESS ASSEMBLY IS FAULTY)

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0142 Lost Communication with Body Control Module "B"

## DTC U0155 Lost Communication with Instrument Panel Cluster (IPC) Control Module

**for Preparation** Click here

### DESCRIPTION

The air conditioning amplifier assembly communicates with the ECM and meter ECU through the CAN communication system.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0100 | No communication with ECM | • CAN communication system<br>• ECM<br>• Air conditioning amplifier assembly |
| U0142 | No communication with main body ECU (cowl side junction block LH) | • CAN communication system<br>• Main body ECU (cowl side junction block LH)<br>• Air conditioning amplifier assembly |
| U0155 | No communication with combination meter assembly | • CAN communication system<br>• Combination meter assembly<br>• Air conditioning amplifier assembly |

### INSPECTION PROCEDURE

**1.CHECK CAN COMMUNICATION SYSTEM**

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

for LHD: Click here.
for RHD: Click here.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

**USE SIMULATION METHOD TO CHECK (Click here)**

## DTC B1443 Air Outlet Damper Control Servo Motor Circuit

**for Preparation** Click here

### DESCRIPTION

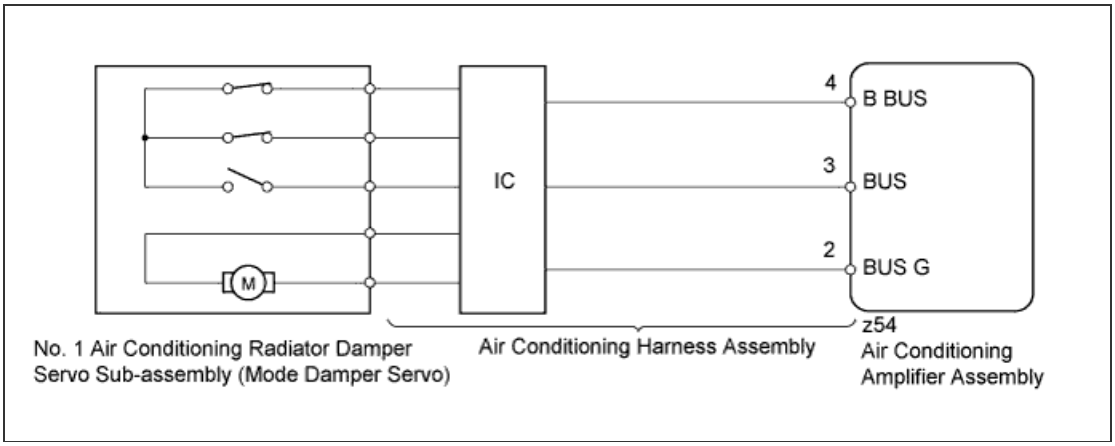
The No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) sends pulse signals to inform the air conditioning amplifier assembly of the damper position. The air conditioning amplifier assembly activates the motor (normal or reverse) based on the signals to move the air outlet damper to any position, which controls the air outlet changes.

**HINT:**

Confirm that no mechanical problem is present because this trouble code may be stored when either a damper link or damper is mechanically locked.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1443 | The air outlet damper position does not change for 30 seconds or more when the air conditioning amplifier assembly operates the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo). | • No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo)<br>• Air conditioning harness assembly<br>• Air conditioning amplifier assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.READ VALUE USING INTELLIGENT TESTER (AIR OUTLET SERVO PULSE [D])

a. Use the Data List to check if the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) is functioning properly (Click here).

**Air Conditioner**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Air Outlet Servo Pulse(D) | No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) target pulse / Min.: 0, Max.: 255 | • FACE: 117 (pulse)<br>• B/L: 93 (pulse)<br>• FOOT: 41 (pulse)<br>• F/D: 18 (pulse)<br>• DEF: 6 (pulse) | - |

**OK:**

**The display is as specified in the normal condition column.**

**Result**

| Result | Proceed to |
|---|---|

| | |
|---|---|
| OK (When troubleshooting according to the DTC) | A |
| OK (When troubleshooting according to problem symptoms table) | B |
| NG | C |

B → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**2.REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (MODE DAMPER SERVO)**

a. Temporarily replace the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo).

for LHD: Click here.
for RHD: Click here.

**HINT:**

Since the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) cannot be inspected while it is removed from the vehicle, replace the No. 1 air conditioning radiator damper servo sub-assembly (mode damper servo) with a new or normally functioning one.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1443 is not output | A |
| DTC B1443 is output | B |

B → Go to step 3

A

**END (NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY [MODE DAMPER SERVO] IS FAULTY)**

**3.REPLACE AIR CONDITIONING HARNESS ASSEMBLY**

a. Temporarily replace the air conditioning harness assembly with a new or normally functioning one.

for LHD: Click here.
for RHD: Click here.

b. Clear the DTCs (Click here).

c. Check for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1443 is not output | A |
| DTC B1443 is output | B |

B → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

A

**END (AIR CONDITIONING HARNESS ASSEMBLY IS FAULTY)**

## DTC U0100 Lost Communication with ECM / PCM "A"

## DTC U0142 Lost Communication with Body Control Module "B"

## DTC U0155 Lost Communication with Instrument Panel Cluster (IPC) Control Module

**for Preparation** Click here

### DESCRIPTION

The air conditioning amplifier assembly communicates with the ECM and meter ECU through the CAN communication system.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0100 | No communication with ECM | • CAN communication system<br>• ECM<br>• Air conditioning amplifier assembly |
| U0142 | No communication with main body ECU (cowl side junction block LH) | • CAN communication system<br>• Main body ECU (cowl side junction block LH)<br>• Air conditioning amplifier assembly |
| U0155 | No communication with combination meter assembly | • CAN communication system<br>• Combination meter assembly<br>• Air conditioning amplifier assembly |

### INSPECTION PROCEDURE

**1.CHECK CAN COMMUNICATION SYSTEM**

a. Use the intelligent tester to check if the CAN communication system is functioning normally.

for LHD: Click here.
for RHD: Click here.

**Result**

| Result | Proceed to |
|---|---|
| CAN DTC is not output | A |
| CAN DTC is output (for LHD) | B |
| CAN DTC is output (for RHD) | C |

B → GO TO CAN COMMUNICATION SYSTEM (Click here)

C → GO TO CAN COMMUNICATION SYSTEM (Click here)

A

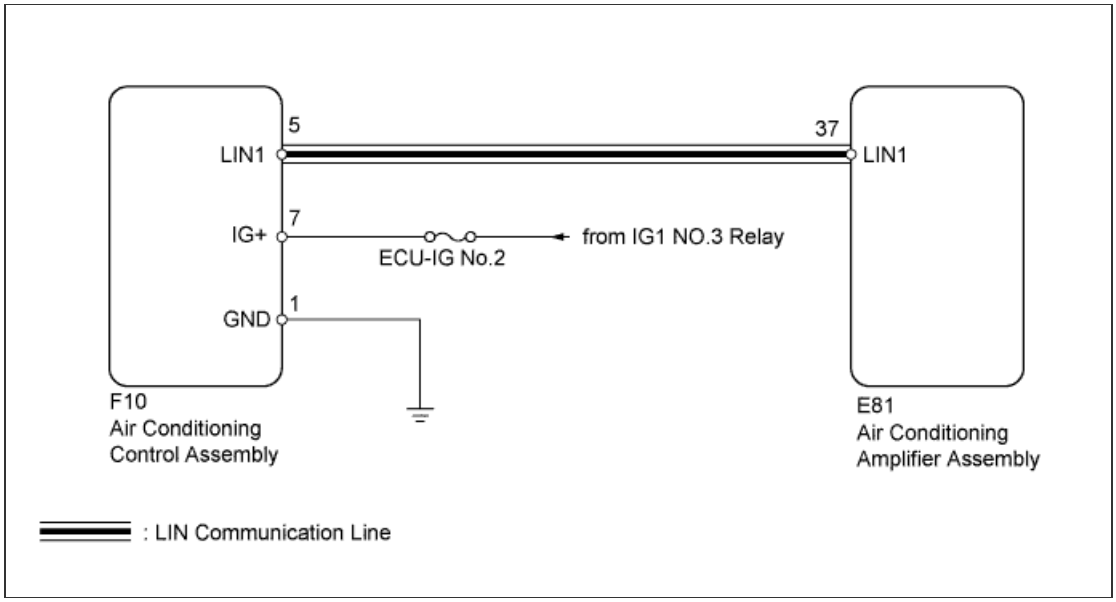
**USE SIMULATION METHOD TO CHECK (Click here)**

**for Preparation** Click here

## DESCRIPTION

This circuit consists of the air conditioning control assembly and air conditioning amplifier assembly. When the air conditioning control assembly is operated, signals are transmitted to the air conditioning amplifier assembly through the LIN communication system.
If the LIN communication system malfunctions, the air conditioning amplifier assembly does not operate when the air conditioning control assembly is operated.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses and relays for circuits related to this system before performing the following inspection procedure.

### 1.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - AIR CONDITIONING CONTROL)

a. Disconnect the E81 air conditioning amplifier assembly connector.

b. Disconnect the F10 air conditioning control assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-37 (LIN1) - F10-5 (LIN1) | Always | Below 1 Ω |
| F10-5 (LIN1) - Body ground | Always | 10 kΩ or higher |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

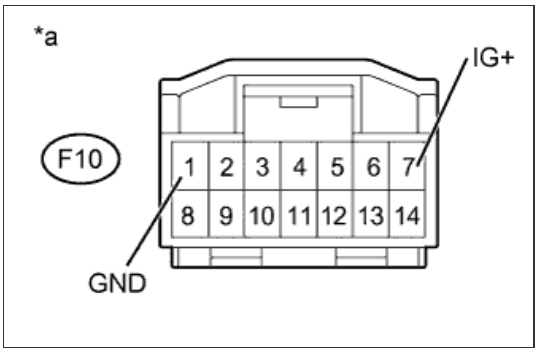
### 2.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING CONTROL - BATTERY AND BODY GROUND)

a. Disconnect the F10 air conditioning control assembly connector.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F10-7 (IG+) - F10-1 (GND) | Ignition switch off | Below 1 V |
| | Ignition switch ON | 11 to 14 V |




c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F10-1 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Air Conditioning Control Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**3.REPLACE AIR CONDITIONING CONTROL ASSEMBLY**

a. Temporarily replace the air conditioning control assembly with a new or normally functioning one ( Click here).

NEXT

**4.CHECK AIR CONDITIONING CONTROL ASSEMBLY**

a. Operate the air conditioning control assembly to check that it functions properly.

**OK:**

**Air conditioning control assembly operates normally.**

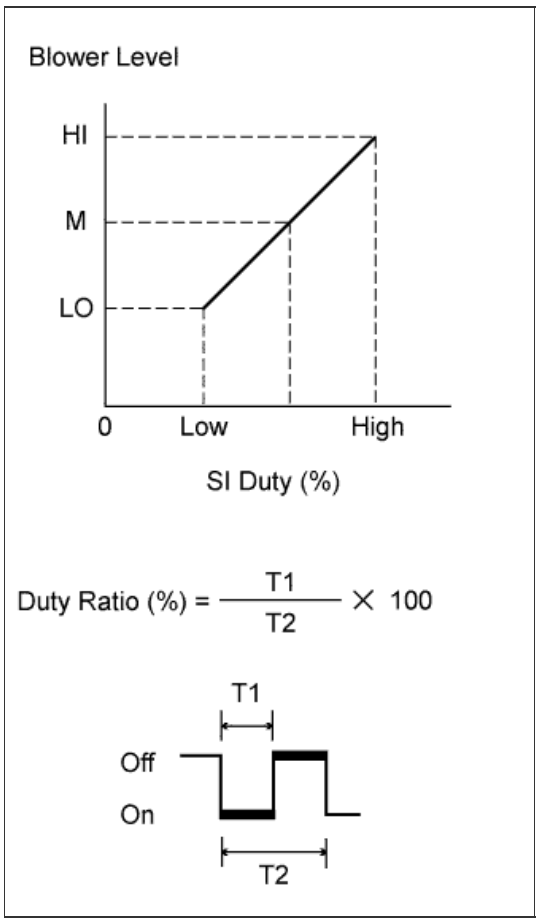
NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK

**END (AIR CONDITIONING CONTROL ASSEMBLY IS FAULTY)**

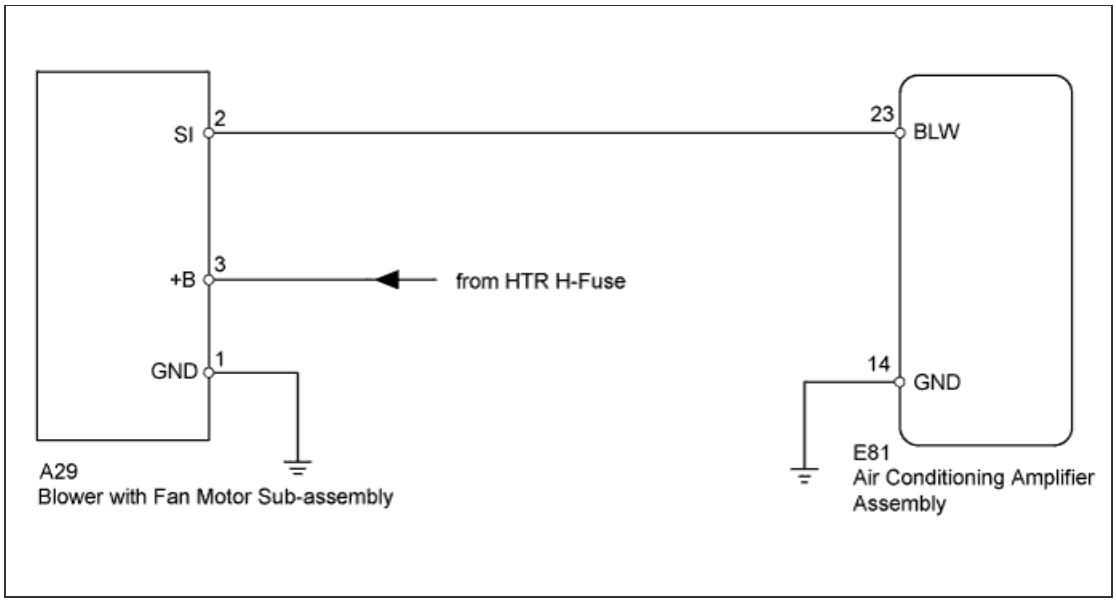
**for Preparation** Click here

## DESCRIPTION




The blower with fan motor sub-assembly operates according to signals from the air conditioning amplifier assembly. The blower with fan motor sub-assembly speed signals are transmitted by changes in the duty ratio.
Duty Ratio:
The duty ratio is the ratio of the blower with fan motor sub-assembly on time (T1) to the total of the blower with fan motor sub-assembly on and off time (T2).
The air conditioning amplifier assembly controls the blower with fan motor sub-assembly speed.

## WIRING DIAGRAM



## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

### 1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (BLOWER MOTOR)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check that the blower with fan motor sub-assembly operates (Click here).

**Air Conditioner**

| Tester Display | Test Part | Control Range | Diagnostic Note |
|---|---|---|---|
| Blower Motor | Blower with fan motor sub-assembly | Min.: 0, Max.: 31 | - |

**OK:**

**Blower with fan motor sub-assembly operates and blower with fan motor sub-assembly speed changes.**

NG → Go to step 2

OK →

### PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

### 2.CHECK HARNESS AND CONNECTOR (BLOWER WITH FAN MOTOR - BATTERY AND BODY GROUND)

a. Disconnect the A29 blower with fan motor sub-assembly connector.

b. Measure the voltage according to the value(s) in the table below.

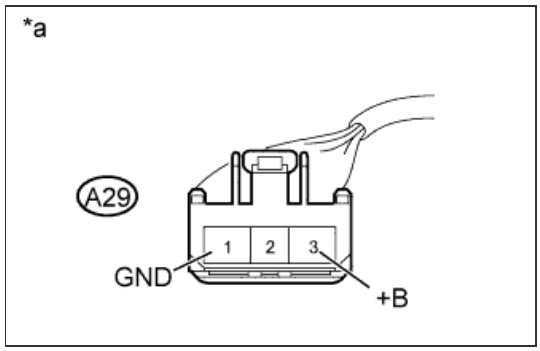
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A29-3 (+B) - Body ground | Always | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A29-1 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Blower with Fan Motor Sub-assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

### 3.CHECK HARNESS AND CONNECTOR (BLOWER WITH FAN MOTOR - AIR CONDITIONING AMPLIFIER)

a. Disconnect the E81 air conditioning amplifier assembly connector.

b. Disconnect the A29 blower with fan motor sub-assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-23 (BLW) - A29-2 (SI) | Always | Below 1 Ω |
| E81-23 (BLW) - | | |

| | | |
|---|---|---|
| Body ground | Always | 10 kΩ or higher |
| E81-14 (GND) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

a. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

b. Using an oscilloscope, check the waveform.

**Measurement Condition**

| Item | Content |
|---|---|
| Terminal No. (Symbol) | E81-23 (BLW) - E81-14 (GND) |
| Tool Setting | 1 V/DIV., 500 µs/DIV. |
| Condition | Ignition switch ON<br>Blower switch LO level |

**OK:**

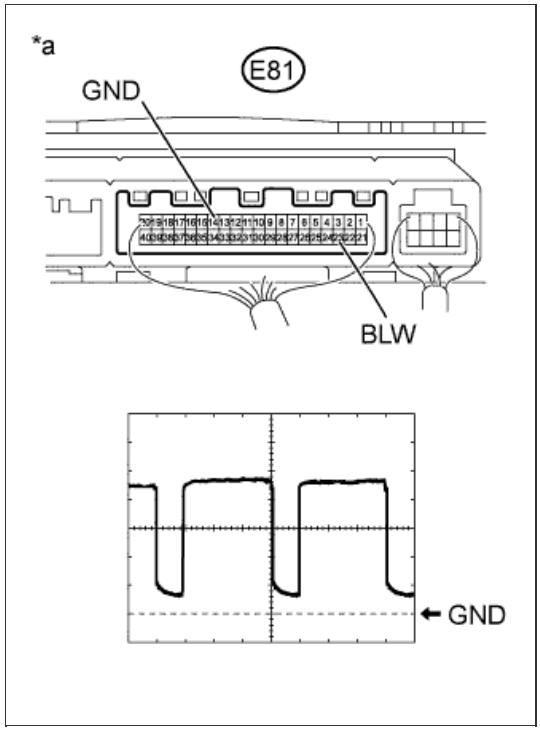
**Waveform is as shown in the illustration.**

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected<br>(Air Conditioning Amplifier Assembly) |

**HINT:**

Waveform varies with the blower level.




NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK

## 5.REPLACE BLOWER WITH FAN MOTOR SUB-ASSEMBLY

a. Temporarily replace the blower with fan motor sub-assembly with a new or normally functioning one ( Click here).

NEXT

## 6.CHECK BLOWER WITH FAN MOTOR SUB-ASSEMBLY

a. Operate the blower with fan motor sub-assembly to check that it functions properly.

**OK:**

**Blower with fan motor sub-assembly operates normally.**

NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

OK

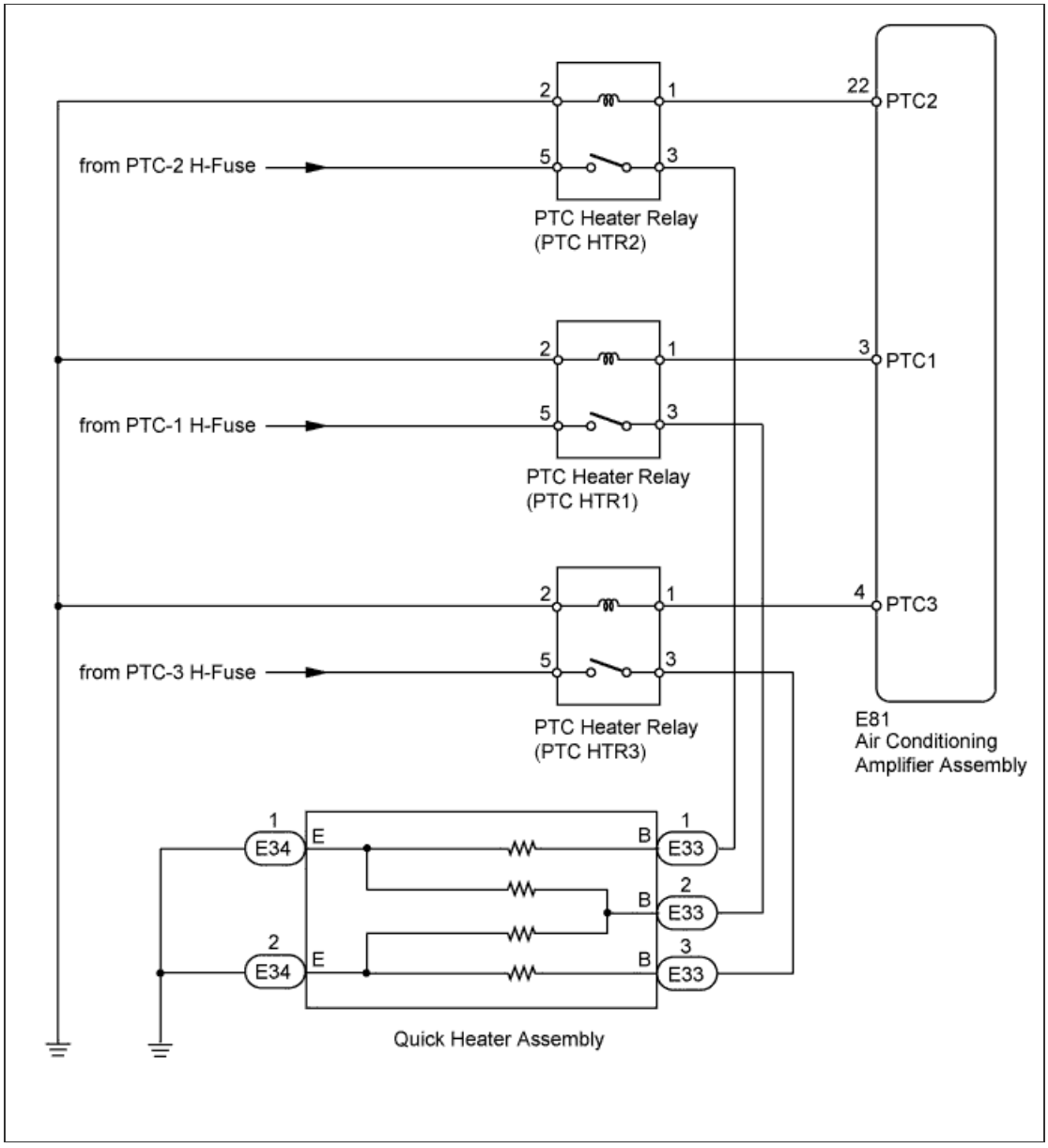
END (BLOWER WITH FAN MOTOR SUB-ASSEMBLY IS FAULTY)

**for Preparation** Click here

## DESCRIPTION

PTC heater relays are closed in accordance with signals from the air conditioning amplifier assembly and power is supplied to the quick heater assembly installed on the radiator heater unit.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses and relays for circuits related to this system before performing the following inspection procedure.

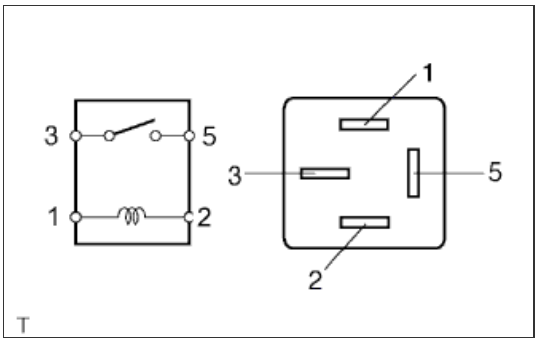
### 1.INSPECT PTC HEATER RELAY (PTC HTR1, PTC HTR2, PTC HTR3)

a. Remove the PTC heater relays from the engine room relay block and junction block assembly.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage is not applied between terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage is applied between terminals 1 and 2 | Below 1 Ω |




NG → REPLACE PTC HEATER RELAY (PTC HTR1, PTC HTR2, PTC HTR3)

OK

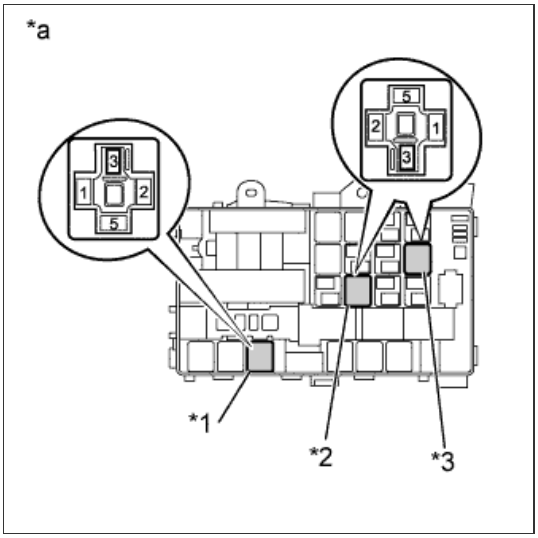
**2.CHECK HARNESS AND CONNECTOR (PTC HEATER RELAY - BATTERY)**

a. Remove the PTC heater relays from the engine room relay block and junction block assembly.

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| PTC HTR1 relay terminal 5 - Body ground | Always | 11 to 14 V |
| PTC HTR2 relay terminal 5 - Body ground | | |
| PTC HTR3 relay terminal 5 - Body ground | | |




**Text in Illustration**

| | |
|---|---|
| *a | Component without relay installed (Engine Room Relay Block and Junction Block Assembly) |
| *1 | PTC Heater Relay (PTC HTR3) |
| *2 | PTC Heater Relay (PTC HTR2) |
| *3 | PTC Heater Relay (PTC HTR1) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**3.CHECK HARNESS AND CONNECTOR (PTC HEATER RELAY - AIR CONDITIONING AMPLIFIER AND BODY GROUND)**

a. Remove the PTC heater relays from the engine room relay block and junction block assembly.

b. Disconnect the E81 air conditioning amplifier assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| PTC HTR1 relay terminal 1 - E81-3 (PTC1) | Always | Below 1 Ω |
| PTC HTR2 relay terminal 1 - E81-22 | | |

| | | |
|---|---|---|
| (PTC2) | | |
| PTC HTR3 relay terminal 1 - E81-4 (PTC3) | | |
| PTC HTR1 relay terminal 1 - Body ground | Always | 10 kΩ or higher |
| PTC HTR2 relay terminal 1 - Body ground | | |
| PTC HTR3 relay terminal 1 - Body ground | | |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| PTC HTR1 relay terminal 2 - Body ground | Always | Below 1 Ω |
| PTC HTR2 relay terminal 2 - Body ground | | |
| PTC HTR3 relay terminal 2 - Body ground | | |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**4.CHECK HARNESS AND CONNECTOR (PTC HEATER RELAY - QUICK HEATER)**

a. Remove the PTC heater relays from the engine room relay block and junction block assembly.

b. Disconnect the E33 quick heater assembly connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| PTC HTR1 relay terminal 3 - E33-2 (B) | Always | Below 1 Ω |
| PTC HTR2 relay terminal 3 - E33-1 (B) | | |
| PTC HTR3 relay terminal 3 - E33-3 (B) | | |
| PTC HTR1 relay terminal 3 - Body ground | Always | 10 kΩ or higher |
| PTC HTR2 relay terminal 3 - Body ground | | |
| PTC HTR3 relay terminal 3 - Body ground | | |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

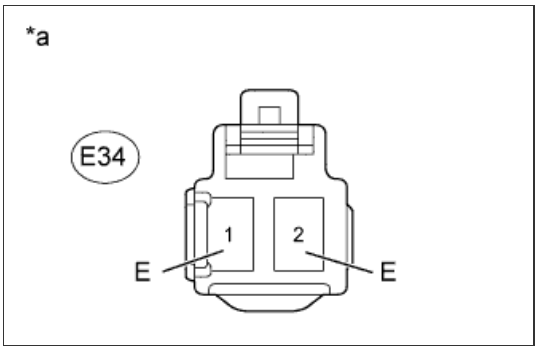
## 5.CHECK HARNESS AND CONNECTOR (QUICK HEATER - BODY GROUND)

a. Disconnect the E34 quick heater assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E34-1 (E) - Body ground | Always | Below 1 Ω |
| E34-2 (E) - Body ground | | |




**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Quick Heater Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

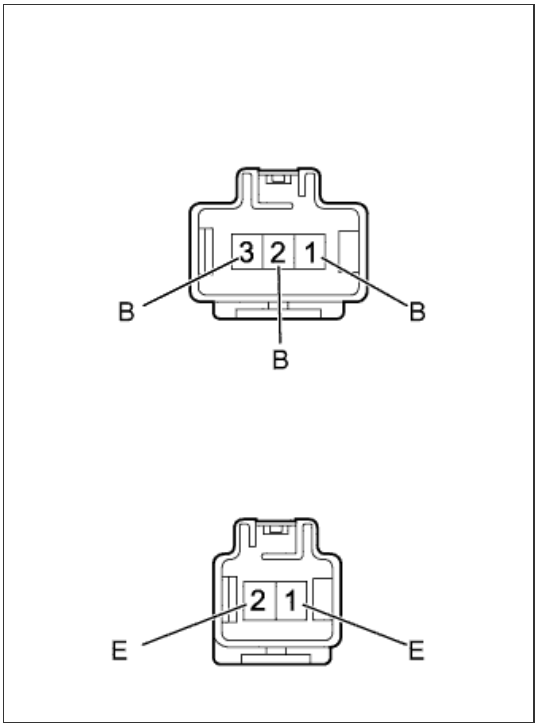
## 6.INSPECT QUICK HEATER ASSEMBLY

a. Remove the quick heater assembly (Click here).

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (B) - 1 (E) | Always | Below 1 kΩ |
| 2 (B) - 1 (E) | | |
| 2 (B) - 2 (E) | | |
| 3 (B) - 2 (E) | | |



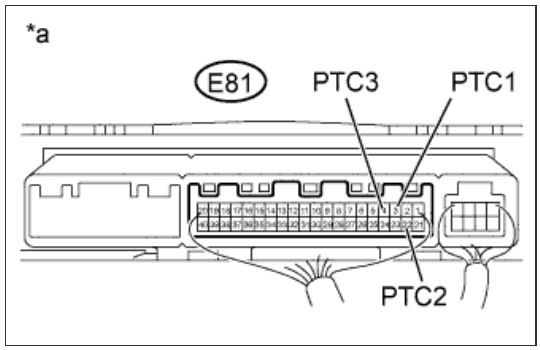

NG → REPLACE QUICK HEATER ASSEMBLY (Click here)

OK

## 7.CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

a. Remove the air conditioning amplifier assembly with its connectors still connected (Click here).

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-3 (PTC1) - Body ground | Engine idling<br>Set temperature MAX. HOT<br>Engine coolant temperature below 65°C (149°F)<br>Ambient temperature below 10°C (50°F)<br>Blower switch off → LO level | Below 1 V → 11 to 14 V* |
| E81-22 (PTC2) - Body ground | | |
| E81-4 (PTC3) - Body ground | | |

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected (Air Conditioning Amplifier Assembly) |

**HINT:**

*: After the measurement conditions are met, wait 30 seconds before performing measurements.

NG → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

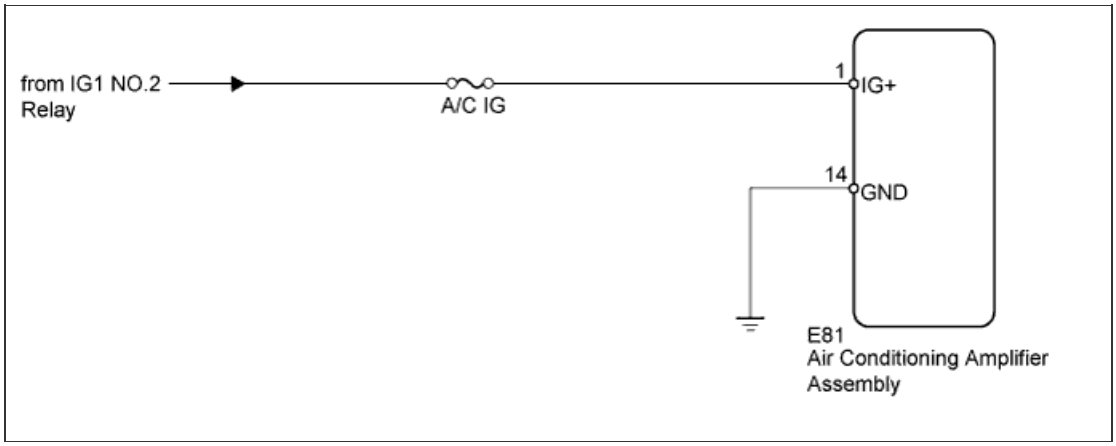
OK → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**for Preparation** Click here

## DESCRIPTION

The main power source is supplied to the air conditioning amplifier assembly when the ignition switch is turned to ON. The power source is used for operating the air conditioning amplifier assembly, servo motors, etc.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses and relays for circuits related to this system before performing the following inspection procedure.

### 1.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY AND BODY GROUND)

a. Disconnect the E81 air conditioning amplifier assembly connector.

b. Measure the voltage according to the value(s) in the table below.

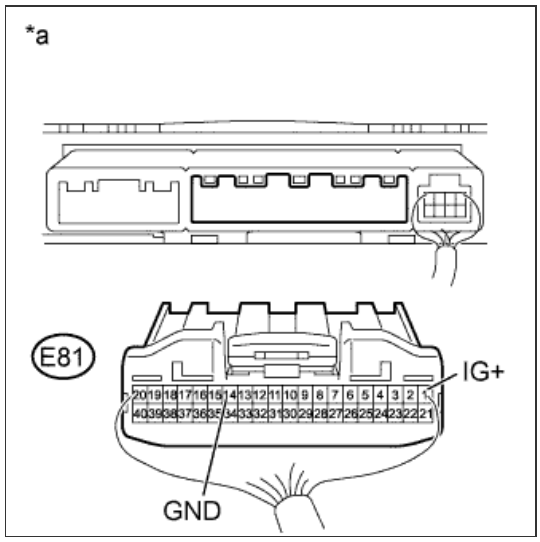
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E81-1 (IG+) - Body ground | Ignition switch off | Below 1 V |
| | Ignition switch ON | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-14 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *a | Rear view of wire harness connector (to Air Conditioning Amplifier Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

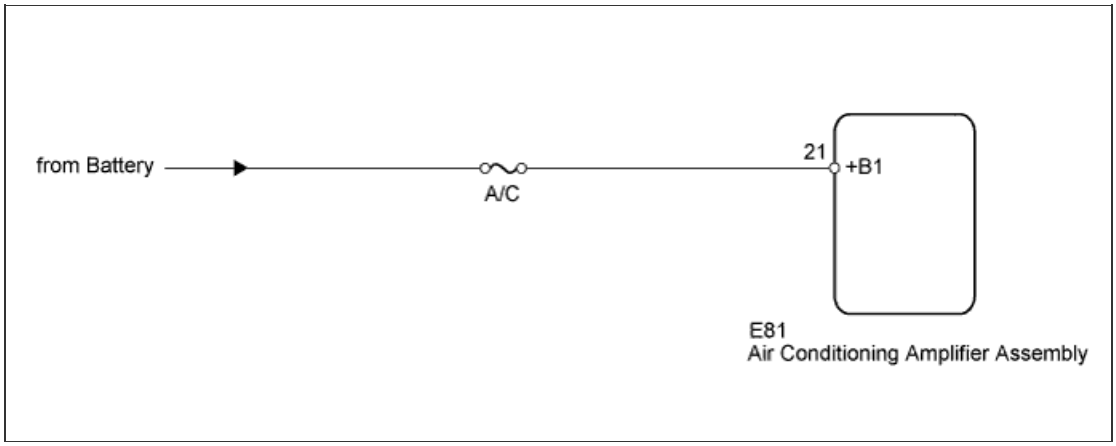
PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**for Preparation** Click here

## DESCRIPTION

The back-up power source circuit for the air conditioning amplifier assembly is shown below. Power is supplied even after the ignition switch is turned off and is used for diagnostic trouble code memory, etc.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**1.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY)**

a. Disconnect the E81 air conditioning amplifier assembly connector.

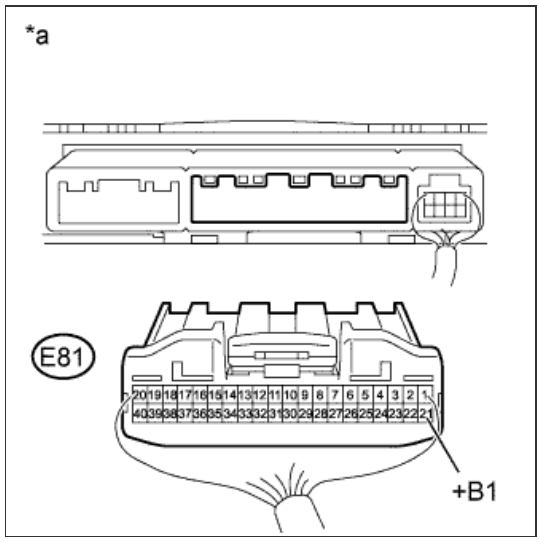
b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E81-21 (+B1) - Body ground | Always | 11 to 14 V |

**Text in Illustration**

| | |
|---|---|
| *a | Rear view of wire harness connector (to Air Conditioning Amplifier Assembly) |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

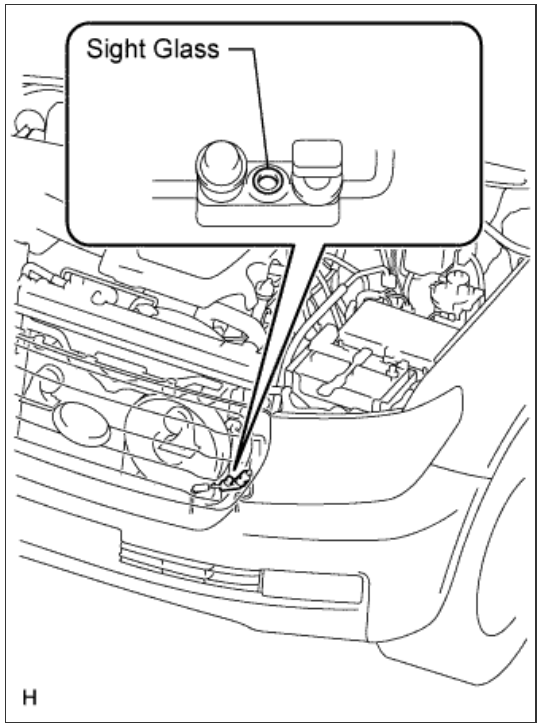
PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE ( Click here)

**for Preparation** Click here

## 1. INSPECT REFRIGERANT VOLUME

a. Check the sight glass on the liquid pipe A.
Test conditions:

- Temperature at the air inlet is 30 to 35°C (86 to 95°F).
- Engine is running at 1500 rpm.
- Blower speed control switch is at HI.
- A/C switch is on.
- Temperature control switch is at the MAX. COOL position.
- Doors are fully open.




| Item | Symptom | Amount of Refrigerant | Corrective Procedures |
|---|---|---|---|
| 1 | Bubbles visible | Insufficient* | (1) Check for gas leakage and repair if necessary<br>(2) Add refrigerant until bubbles disappear |
| 2 | No bubbles visible | Empty, insufficient or too much | Refer to items 3 and 4 |
| 3 | No temperature difference between compressor inlet and outlet | Empty or nearly empty | (1) Check for gas leakage with halogen leak detector and repair if necessary<br>(2) Add refrigerant until bubbles disappear |
| 4 | Considerable temperature difference between compressor inlet and outlet | Correct or too much | Refer to items 5 and 6 |
| 5 | Immediately after A/C is off, refrigerant becomes clear | Too much | (1) Drain or discharge refrigerant<br>(2) Bleed air and supply proper amount of purified refrigerant |
| 6 | Immediately after A/C is off, refrigerant foams and then becomes clear | Correct | - |

**HINT:**

*: If the ambient temperature is higher than usual but cooling is sufficient, bubbles in the sight glass are permissible.

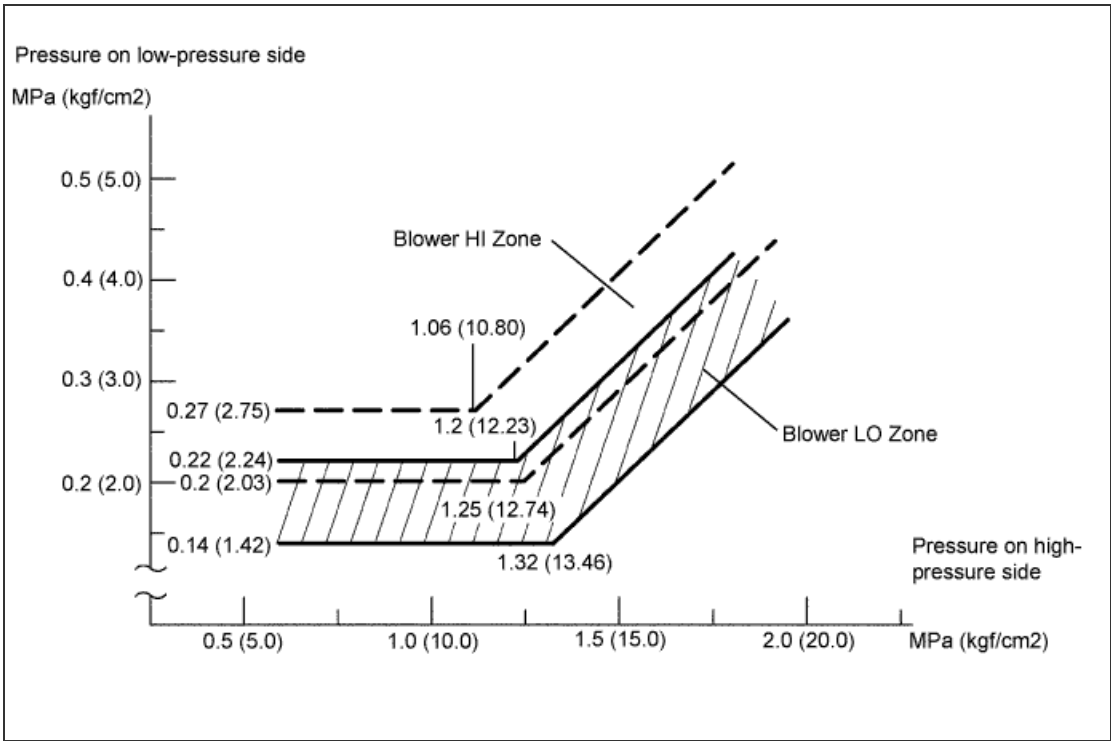
## 2. INSPECT REFRIGERANT PRESSURE WITH MANIFOLD GAUGE SET

a. This method uses a manifold gauge set to locate problem areas. Read the manifold gauge pressure when these conditions are established.

Test conditions:

- Temperature at the air inlet with the switch set at RECIRC is 30 to 35°C (86 to 95°F).
- Engine is running at 1500 rpm.
- All doors are fully open.
- Blower speed control switch is at HI.
- A/C switch is on.

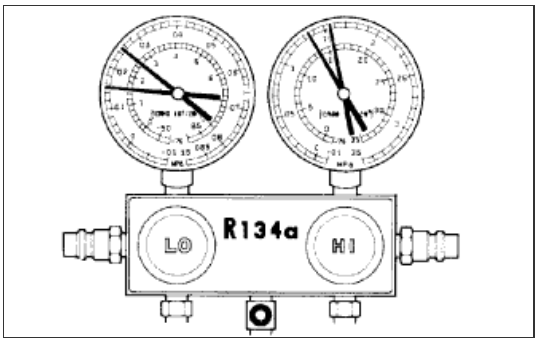
Gauge readings (Reference).



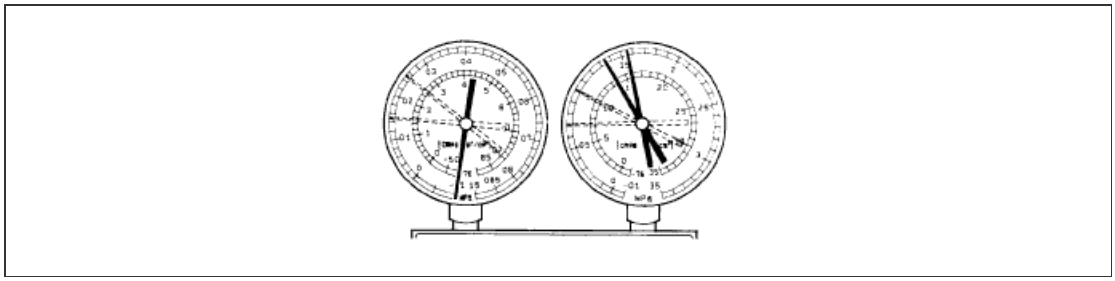

i. Normally functioning refrigeration system

**Gauge Reading:**

| Pressure Side | Refrigerant Volume |
|---|---|
| Low | 0.15 to 0.25 MPa (1.5 to 2.5 kgf/cm$^2$) |
| High | 1.37 to 1.57 MPa (14 to 16 kgf/cm$^2$) |



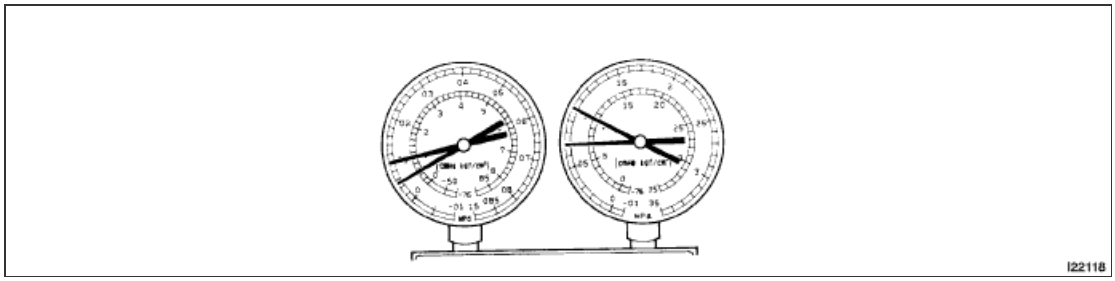

ii. The A/C system periodically changes between normal and improper function due to moisture in the refrigerant system.



| Symptoms | Probable Cause | Diagnosis | Corrective Actions |
|---|---|---|---|
| During operation, pressure | Moisture in refrigeration system freezes at expansion valve orifice, | - Dryer is overly saturated<br>- Moisture in refrigeration | 1. Replace cooler dryer<br>2. Remove moisture from |

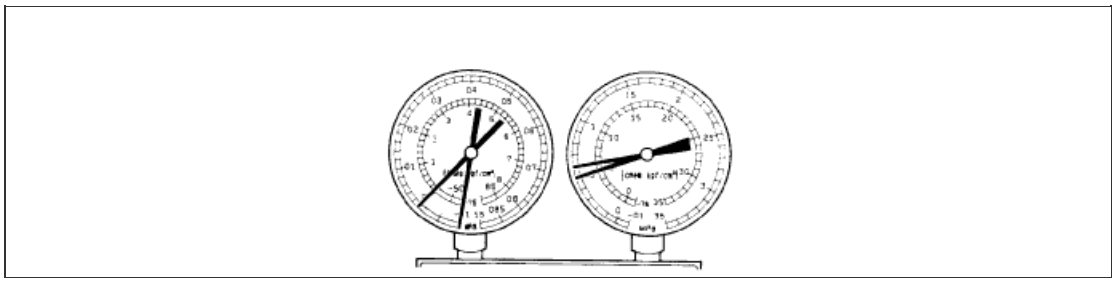
| | | | |
|---|---|---|---|
| on low pressure side cycles between normal and vacuum | causing temporary stop of cycle. However, when melted, normal state is restored. | system freezes at expansion valve orifice and blocks refrigerant circulation | cycle by repeatedly evacuating air<br>3. Supply appropriate volume of new refrigerant |

iii. The A/C system does not function effectively due to insufficient refrigerant.



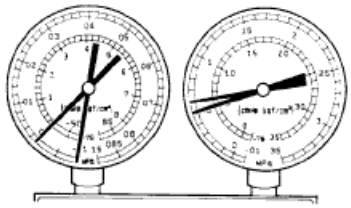

| Symptoms | Probable Cause | Diagnosis | Corrective Actions |
|---|---|---|---|
| - Pressure low on both low and high pressure sides<br>- Cooling performance insufficient | Gas leakage from refrigeration system | - Insufficient refrigerant<br>- Refrigerant leakage | 1. Check for gas leakage and repair if necessary<br>2. Supply appropriate volume of new refrigerant<br>3. If indicated pressure value close to 0 when connected to gauge, create vacuum after inspecting and repairing the location of leakage |

iv. The A/C system does not function effectively due to poor circulation of the refrigerant.



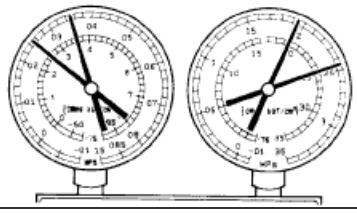
| Symptoms | Probable Cause | Diagnosis | Corrective Actions |
|---|---|---|---|
| - Pressure low on both low and high pressure sides<br>- Frost exists on piping from condenser to A/C unit | Refrigerant flow obstructed by dirt in condenser | Condenser clogged | Replace condenser |

v. The A/C system does not function or functions intermittently because the refrigerant does not circulate.



| Symptoms | Probable Cause | Diagnosis | Corrective Actions |
|---|---|---|---|
| - Vacuum indicated on low pressure side, and extremely low pressure indicated on high pressure side<br>- Frost or condensation seen on piping on both sides of condenser or expansion valve | - Refrigerant flow obstructed by moisture or dirt in refrigeration system<br>- Refrigerant flow obstructed by gas leakage from expansion valve | Refrigerant does not circulate | 1. Check expansion valve refrigerant<br>2. Clean expansion valve by blowing air<br>3. Replace condenser<br>4. Evacuate air and charge appropriate volume of new refrigerant<br>5. For gas leakage from expansion valve, replace expansion valve |

vi. The A/C system does not function effectively due to overcharged refrigerant or insufficient cooling of the condenser.

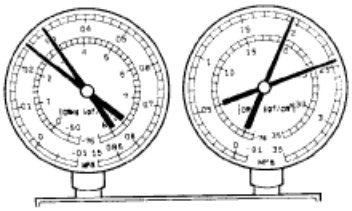


| Symptoms | Probable Cause | Diagnosis | Corrective Actions |
|---|---|---|---|
| Pressure extremely high on both low and high-pressure sides | - Excessive refrigerant<br>- Cooling performance of condenser insufficient | - Condenser is dirty<br>- Condenser fan motor is malfunctioning<br>- Excessive refrigerant | 1. Clean condenser<br>2. Check condenser fan motor operation<br>3. If 1 and 2 normal, check the amount of refrigerant and supply appropriate volume of refrigerant |

vii. The A/C system does not function due to air in the refrigeration system.

**CAUTION:**

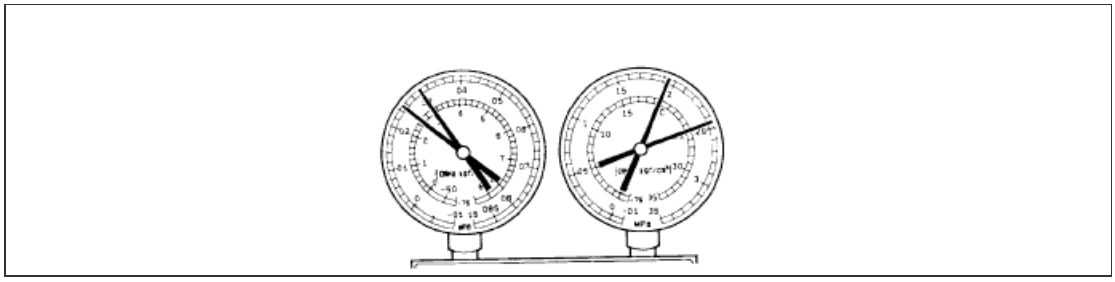
The low-pressure piping may be very hot and cause serious burns.



HINT: These gauge indications occur when the refrigeration system opens and the refrigerant is charged without vacuum purging

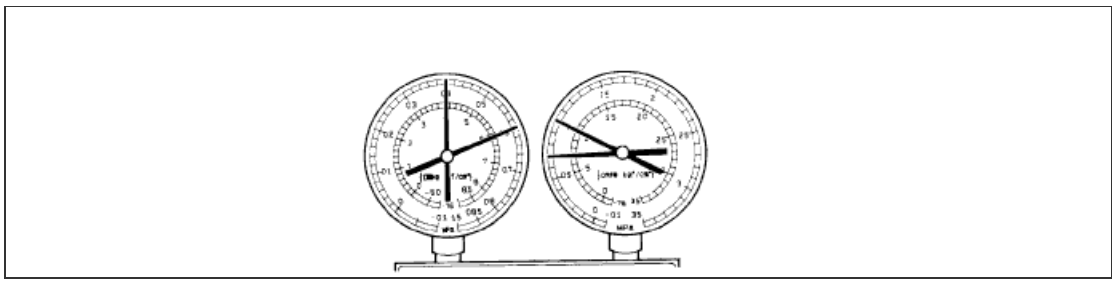
| Symptoms | Probable Cause | Diagnosis | Corrective Actions |
|---|---|---|---|
| - Pressure extremely high on both low and high-pressure sides<br>- Low-pressure piping is too hot to touch | Air in refrigeration system | - Air in refrigeration system<br>- Vacuum purging insufficient | 1. Check if compressor oil is dirty or insufficient<br>2. Evacuate air and charge new refrigerant |

viii. The A/C system does not function effectively due to an expansion valve malfunction.



| Symptoms | Probable Cause | Diagnosis | Corrective Actions |
|---|---|---|---|
| - Pressure extremely high on both low and high-pressure sides<br>- Frost or condensation on piping on low-pressure side | Problem with expansion valve | - Excessive refrigerant in low pressure piping<br>- Expansion valve too wide open | Replace expansion valve |

ix. The A/C system does not function due to a defective compressor.



| Symptoms | Probable Cause | Diagnosis | Corrective Actions |
|---|---|---|---|
| - Pressure extremely high on both low and high-pressure sides<br>- Pressure extremely low on high pressure side | Internal leakage in compressor | - Compression failure<br>- Leakage from damaged valve or broken sliding parts | Repair or replace compressor |

**for Preparation** Click here

## 1. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 2. CHARGE REFRIGERANT

*SST*

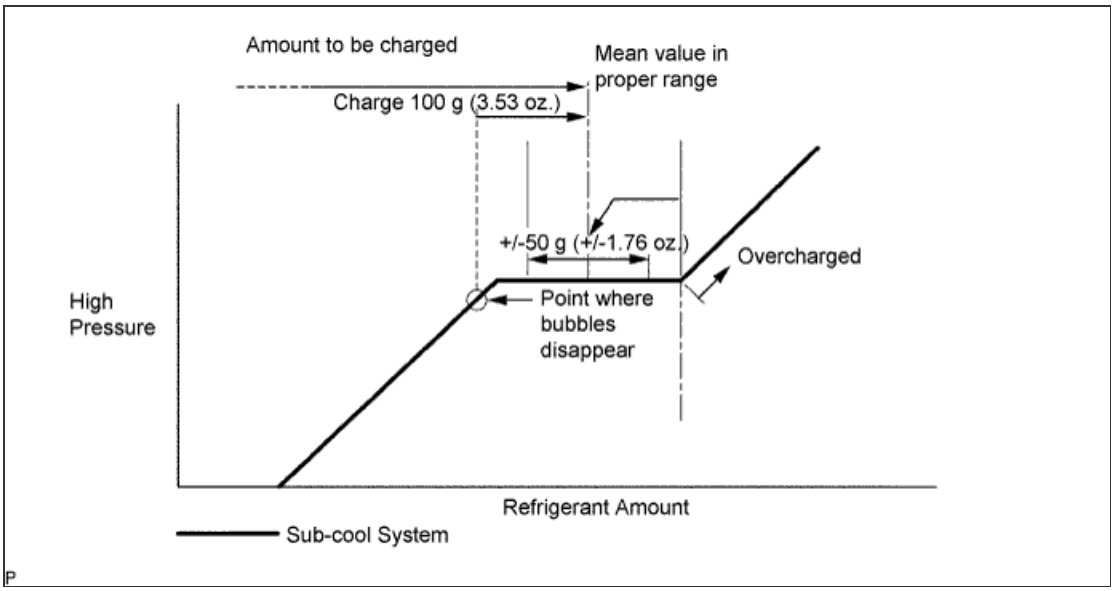
09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly**

**without any refrigerant, and will overheat.**

- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 3. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 4. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

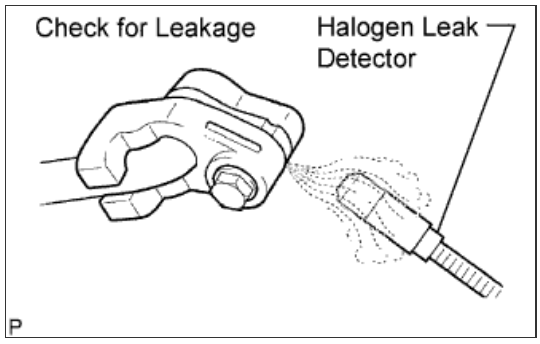
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

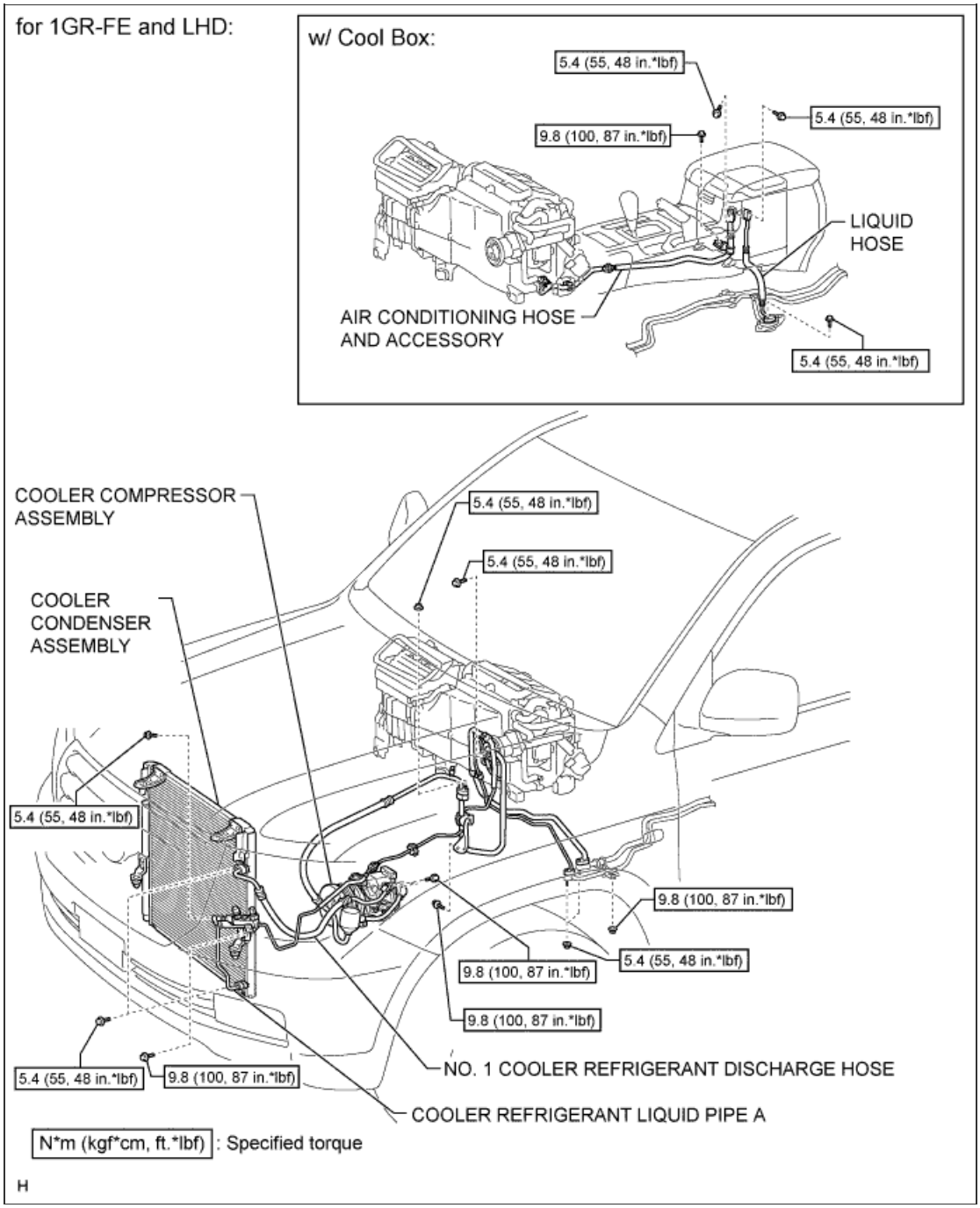
c. Using a halogen leak detector, check the refrigerant line for leakage.

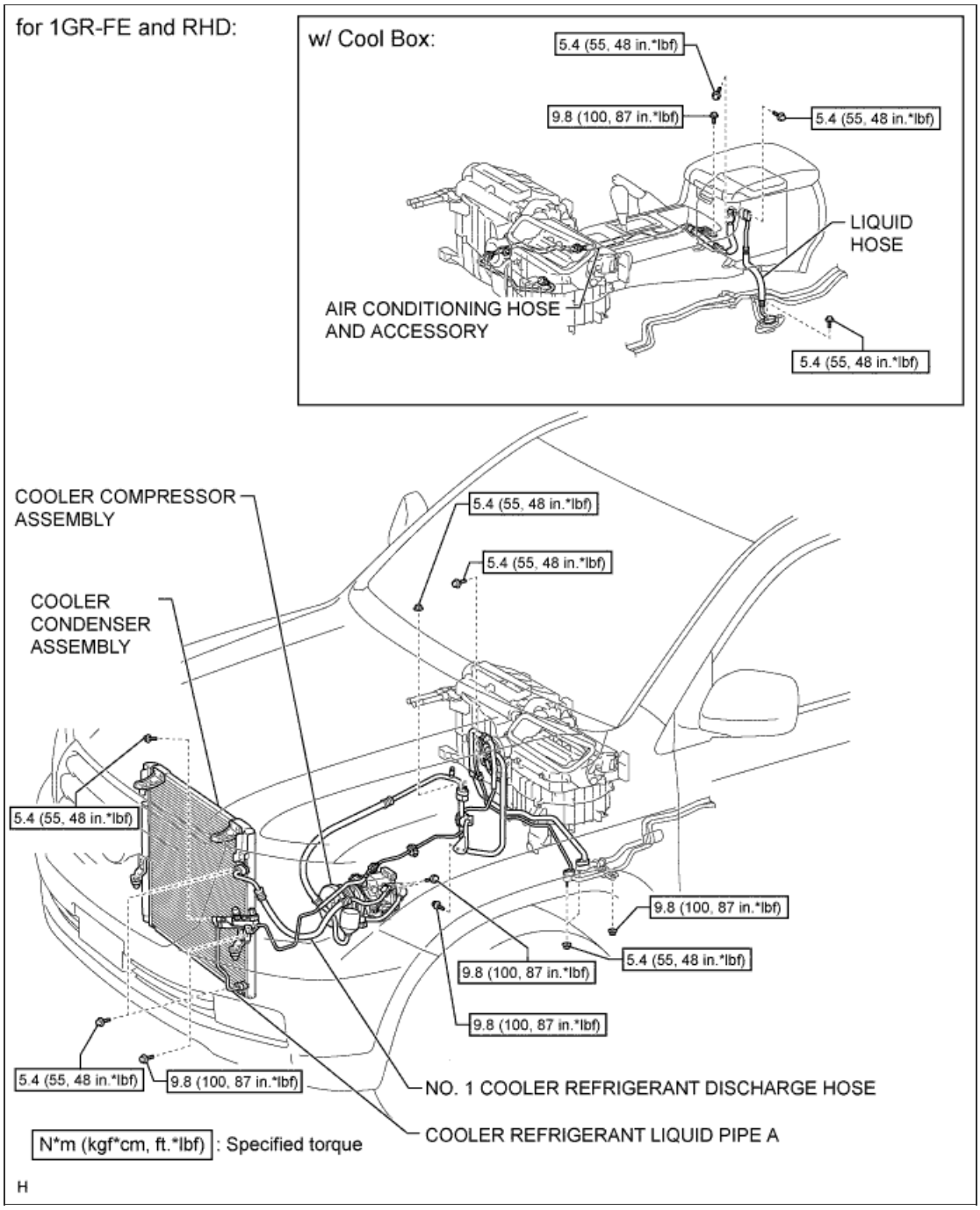
d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

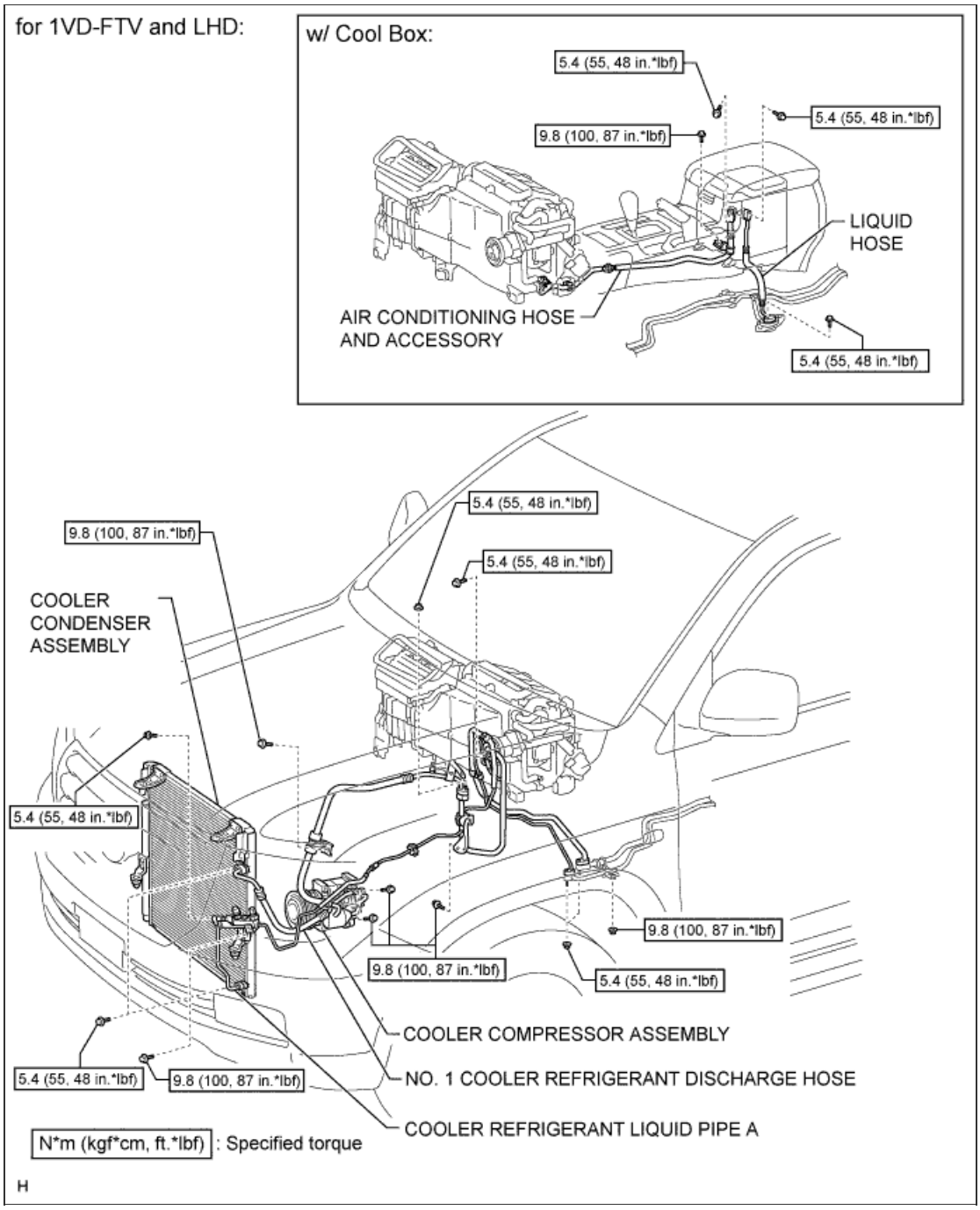
e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

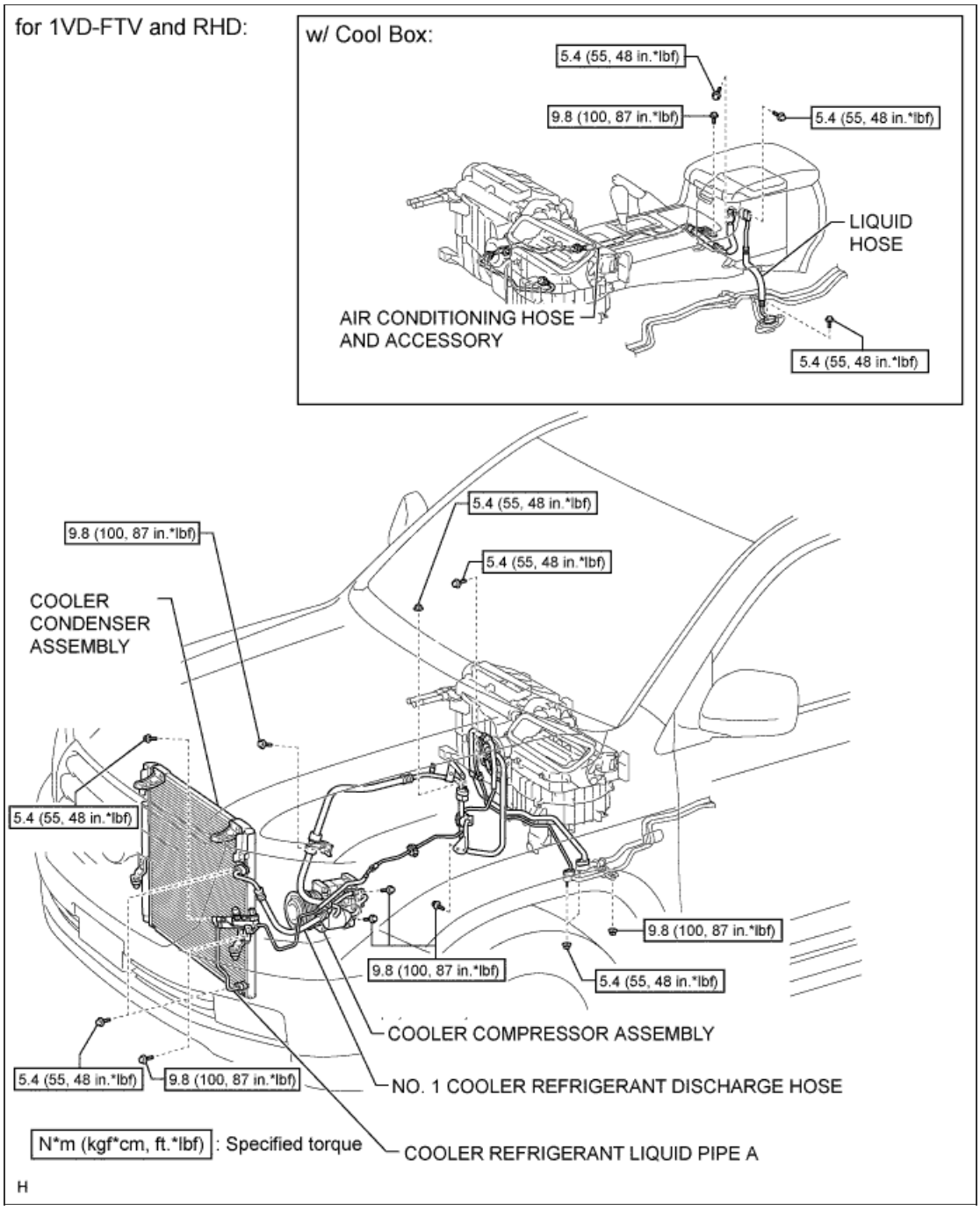


**for Preparation** Click here

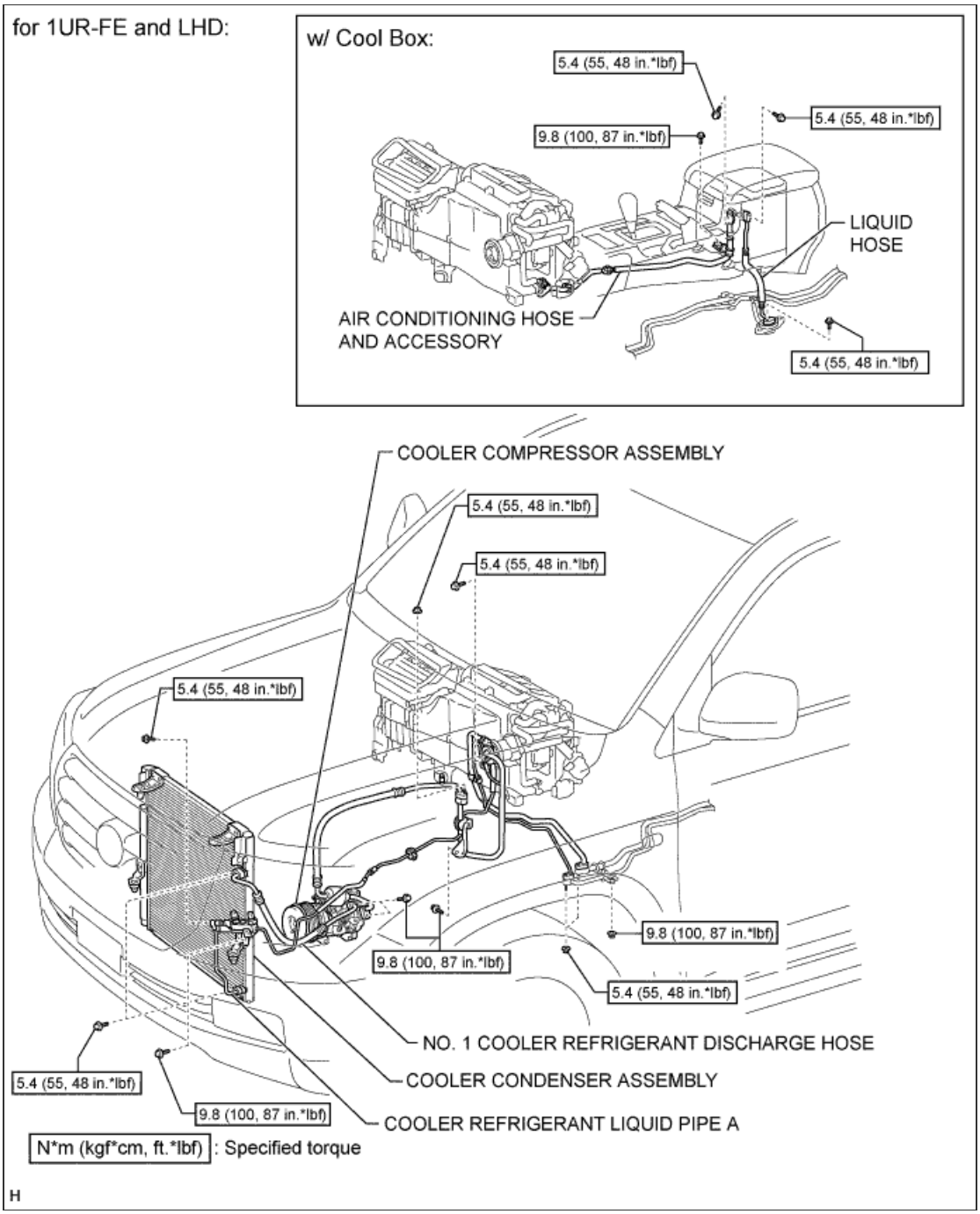



for 1GR-FE and RHD:
w/ Cool Box:
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
LIQUID HOSE
AIR CONDITIONING HOSE AND ACCESSORY
5.4 (55, 48 in.*lbf)
COOLER COMPRESSOR ASSEMBLY
5.4 (55, 48 in.*lbf)
5.4 (55, 48 in.*lbf)
COOLER CONDENSER ASSEMBLY
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
NO. 1 COOLER REFRIGERANT DISCHARGE HOSE
COOLER REFRIGERANT LIQUID PIPE A
N*m (kgf*cm, ft.*lbf) : Specified torque
H

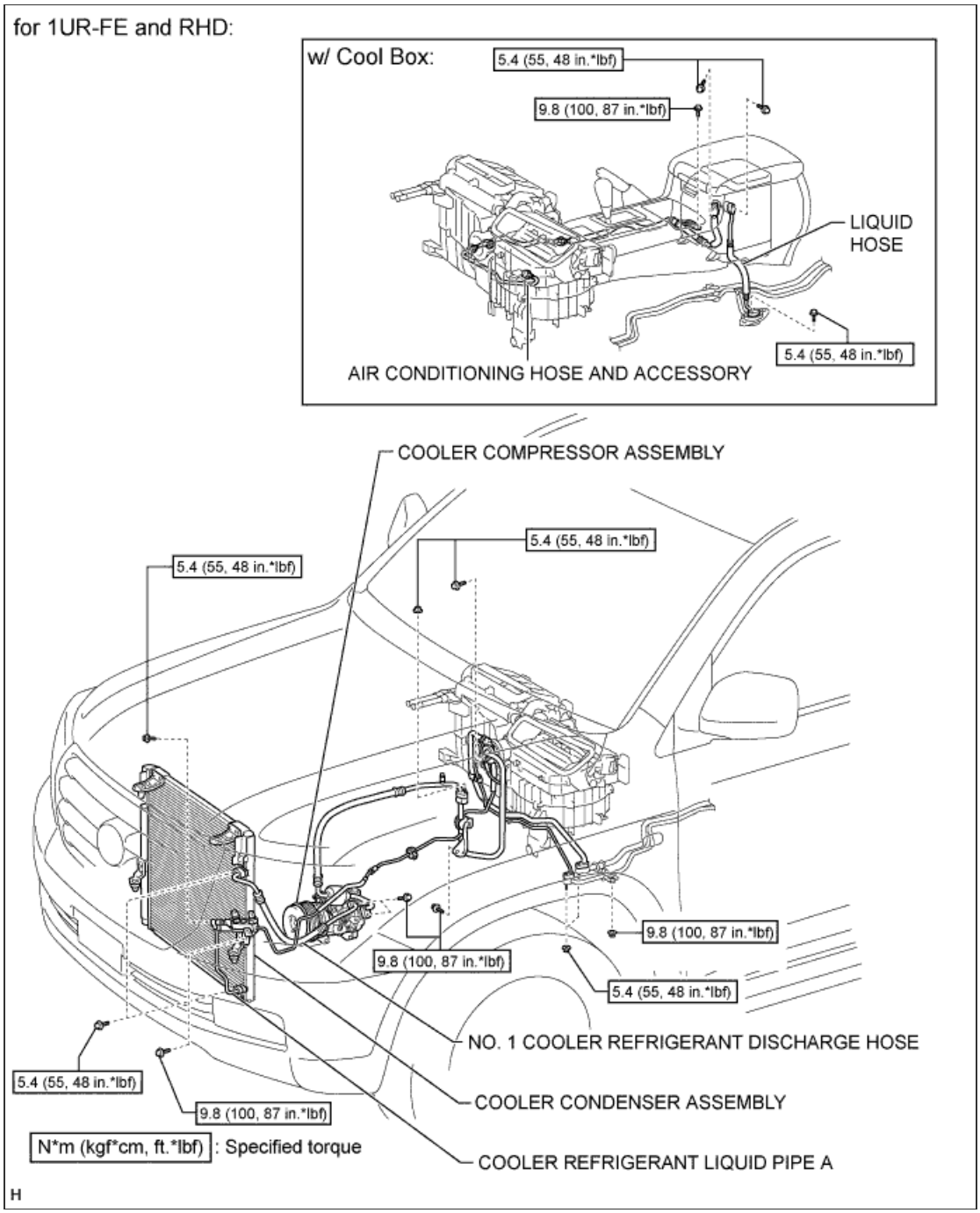

for 1VD-FTV and LHD:
w/ Cool Box:
5.4 (55, 48 in.*lbf)
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
LIQUID HOSE
AIR CONDITIONING HOSE AND ACCESSORY
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
COOLER CONDENSER ASSEMBLY
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
COOLER COMPRESSOR ASSEMBLY
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
NO. 1 COOLER REFRIGERANT DISCHARGE HOSE
COOLER REFRIGERANT LIQUID PIPE A
N*m (kgf*cm, ft.*lbf) : Specified torque
H

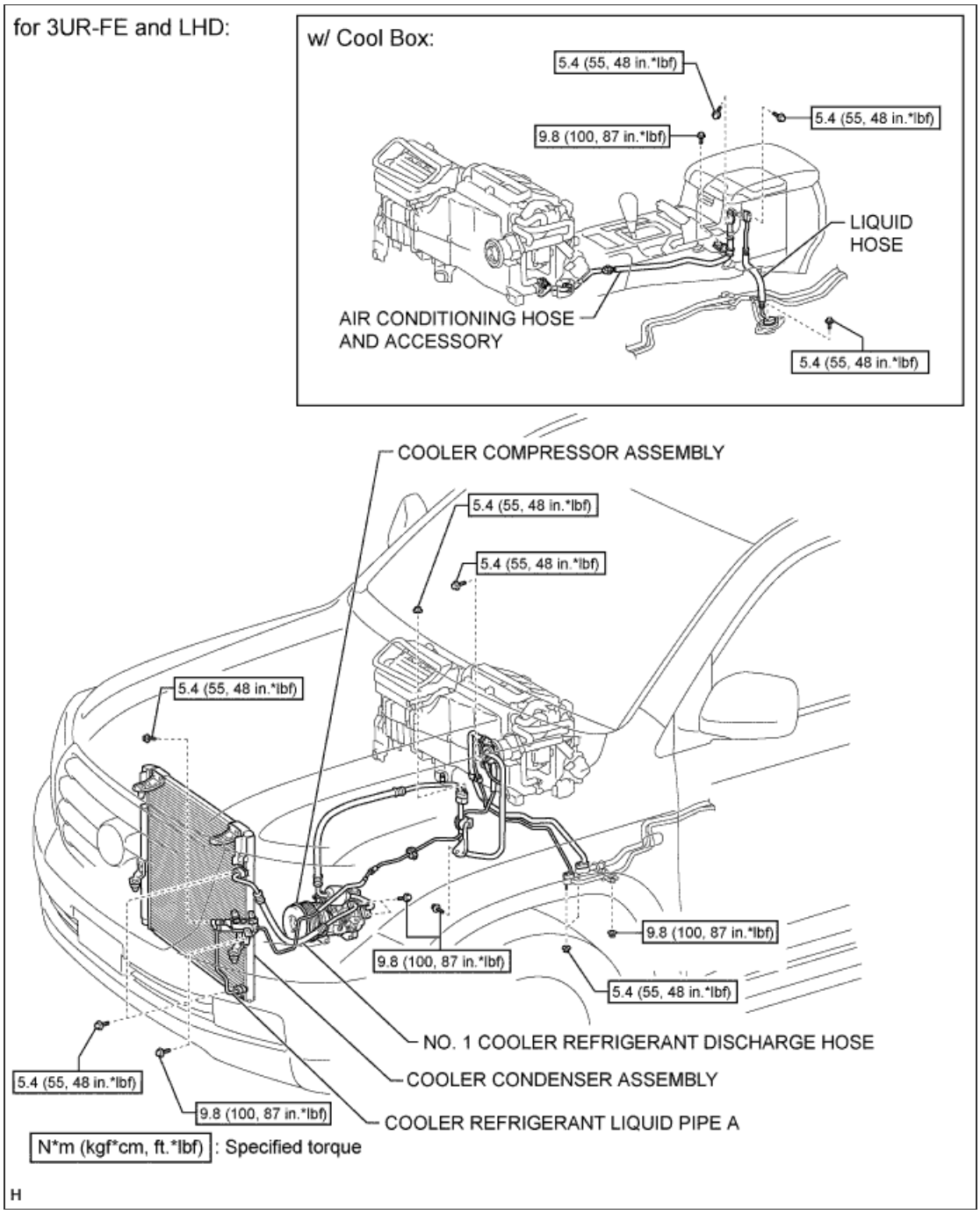

for 1VD-FTV and RHD:
w/ Cool Box:
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
LIQUID HOSE
AIR CONDITIONING HOSE AND ACCESSORY
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
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COOLER CONDENSER ASSEMBLY
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COOLER COMPRESSOR ASSEMBLY
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9.8 (100, 87 in.*lbf)
NO. 1 COOLER REFRIGERANT DISCHARGE HOSE
N*m (kgf*cm, ft.*lbf) : Specified torque
COOLER REFRIGERANT LIQUID PIPE A
H

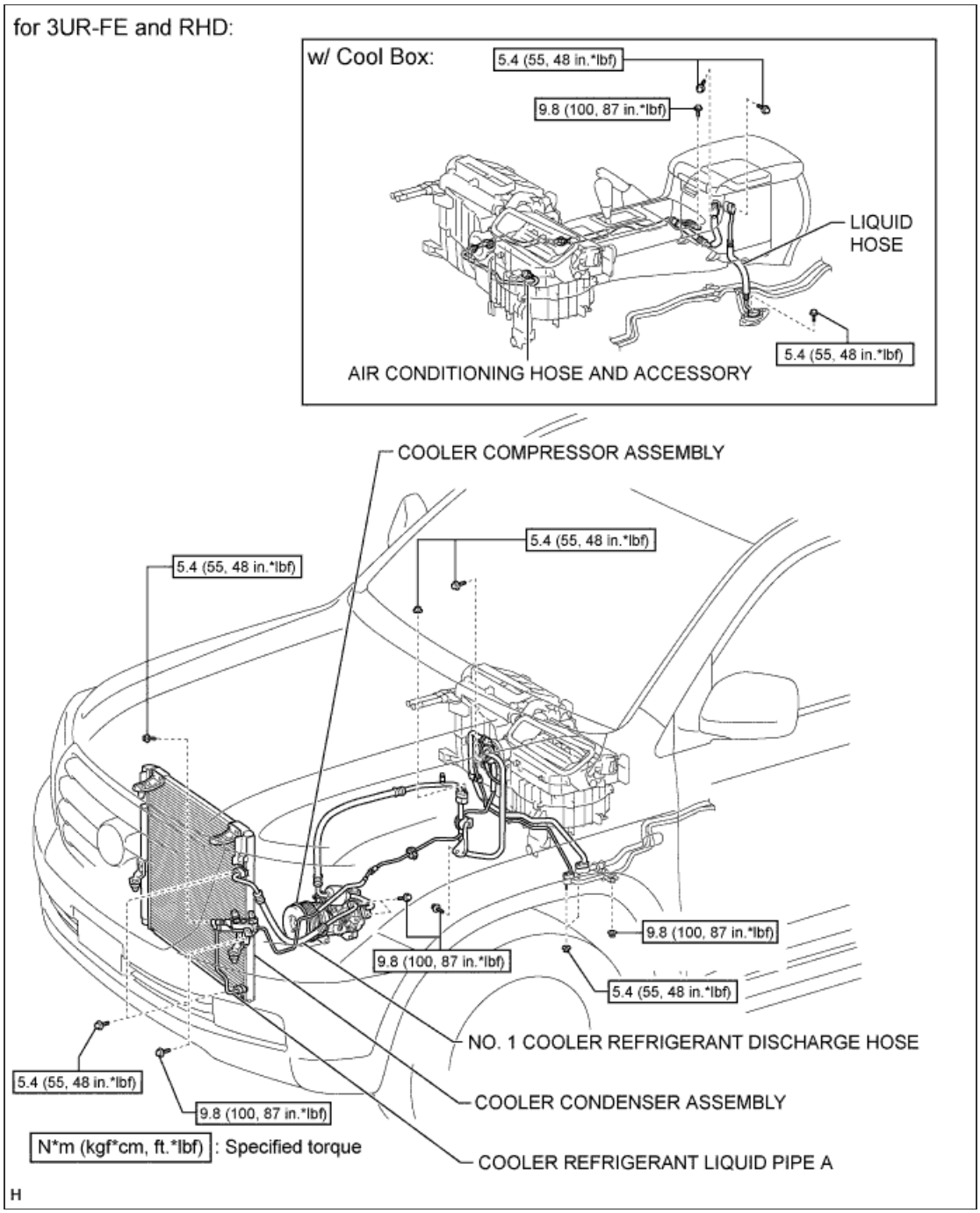
for 1UR-FE and LHD:

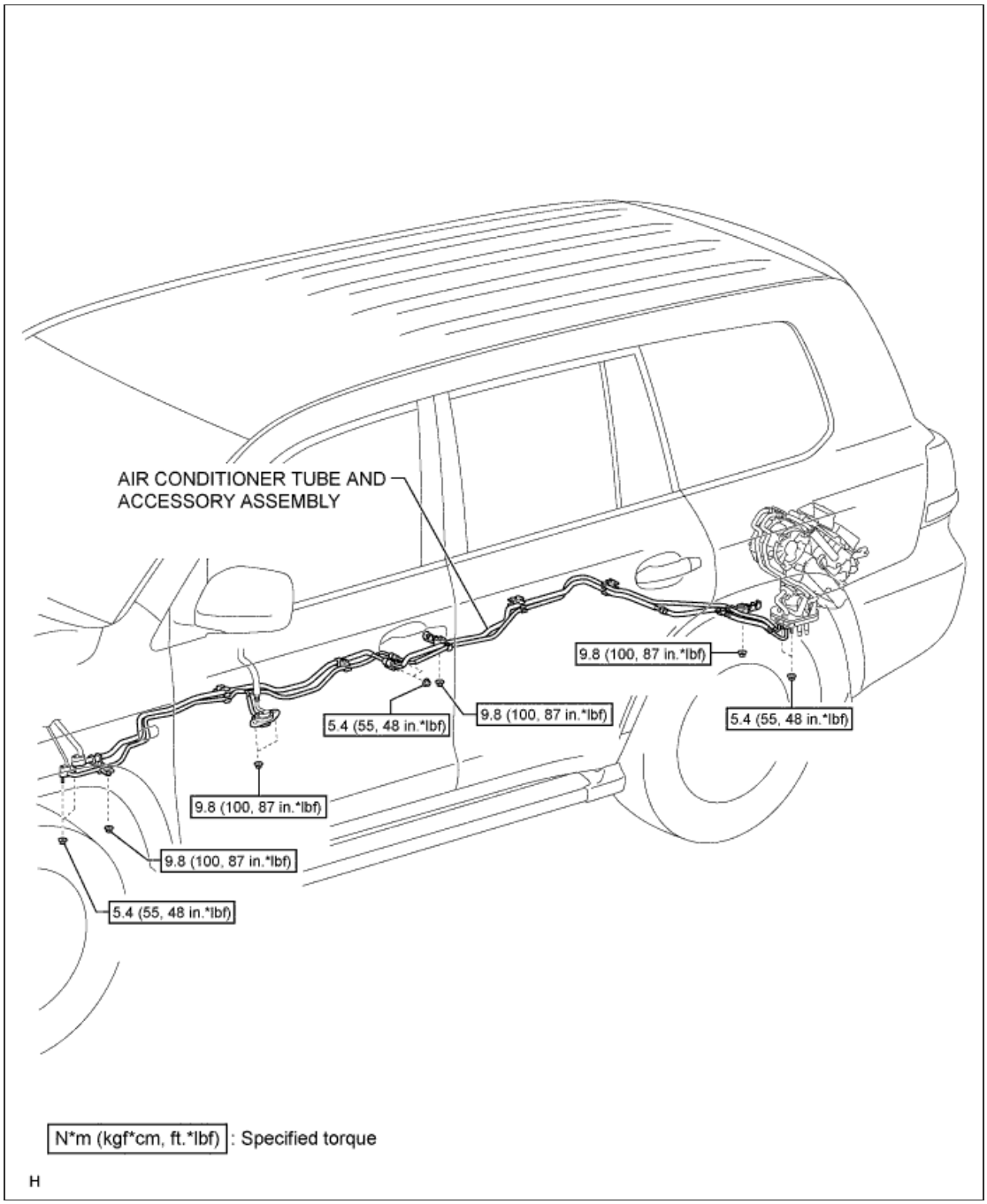



H


for 1UR-FE and RHD:
w/ Cool Box:
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
LIQUID HOSE
5.4 (55, 48 in.*lbf)
AIR CONDITIONING HOSE AND ACCESSORY
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9.8 (100, 87 in.*lbf)
COOLER CONDENSER ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
COOLER REFRIGERANT LIQUID PIPE A
H

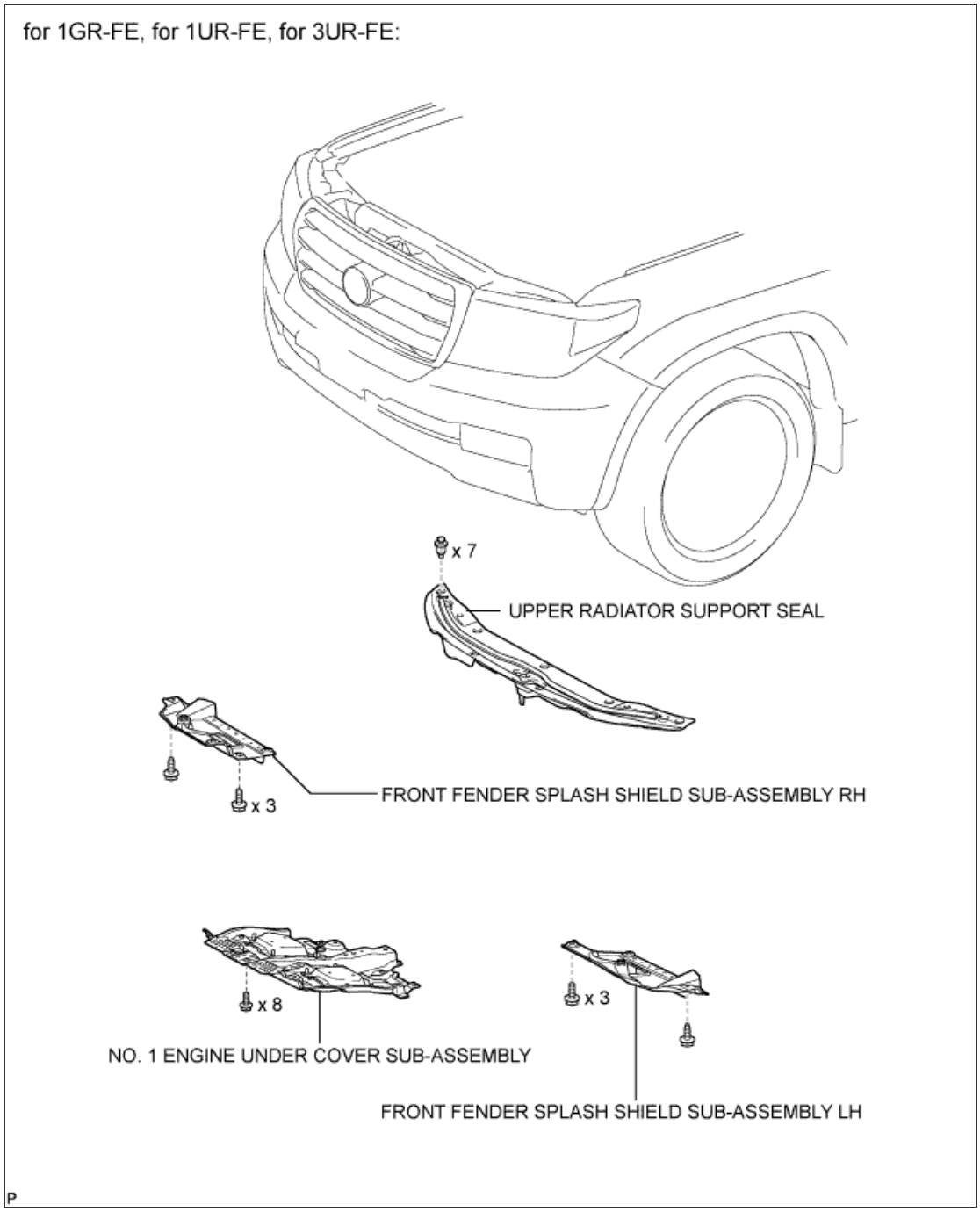

for 3UR-FE and LHD:
w/ Cool Box:
5.4 (55, 48 in.*lbf)
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
LIQUID HOSE
AIR CONDITIONING HOSE AND ACCESSORY
5.4 (55, 48 in.*lbf)
COOLER COMPRESSOR ASSEMBLY
5.4 (55, 48 in.*lbf)
5.4 (55, 48 in.*lbf)
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
NO. 1 COOLER REFRIGERANT DISCHARGE HOSE
COOLER CONDENSER ASSEMBLY
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
COOLER REFRIGERANT LIQUID PIPE A
N*m (kgf*cm, ft.*lbf) : Specified torque
H


for 3UR-FE and RHD:
w/ Cool Box:
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
LIQUID HOSE
5.4 (55, 48 in.*lbf)
AIR CONDITIONING HOSE AND ACCESSORY
COOLER COMPRESSOR ASSEMBLY
5.4 (55, 48 in.*lbf)
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
NO. 1 COOLER REFRIGERANT DISCHARGE HOSE
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
COOLER CONDENSER ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
COOLER REFRIGERANT LIQUID PIPE A
H

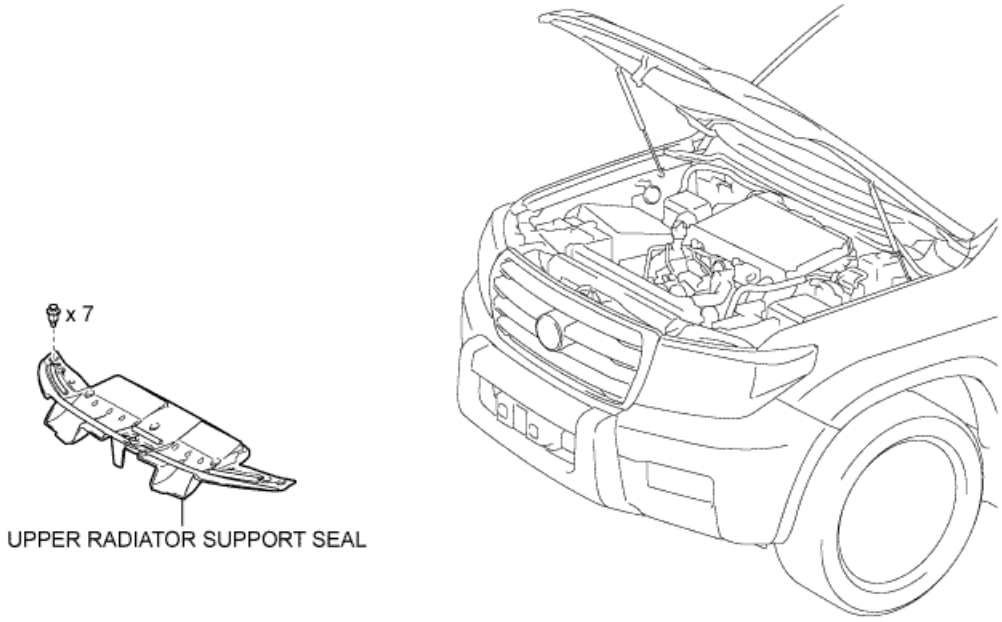

AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
9.8 (100, 87 in.*lbf)
9.8 (100, 87 in.*lbf)
5.4 (55, 48 in.*lbf)
N*m (kgf*cm, ft.*lbf) : Specified torque

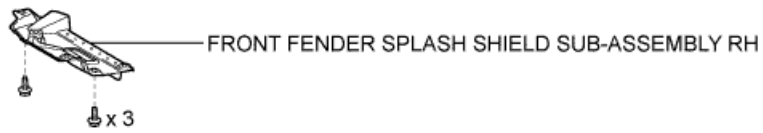
H

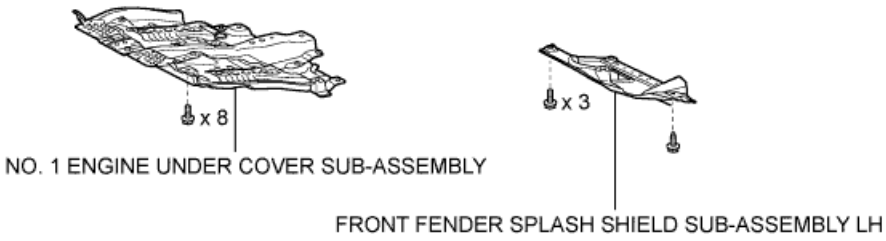
**for Preparation** Click here



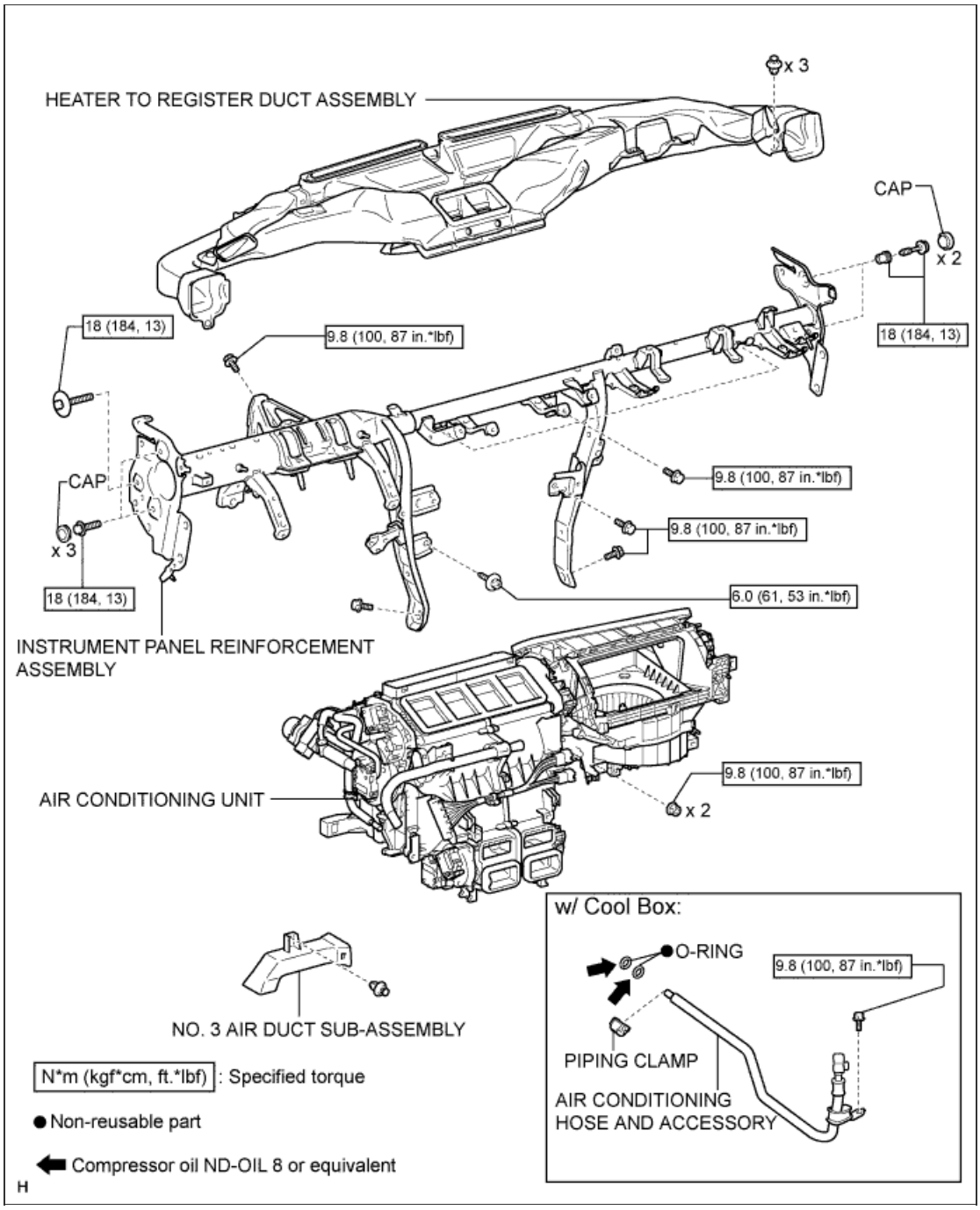
for 1VD-FTV:

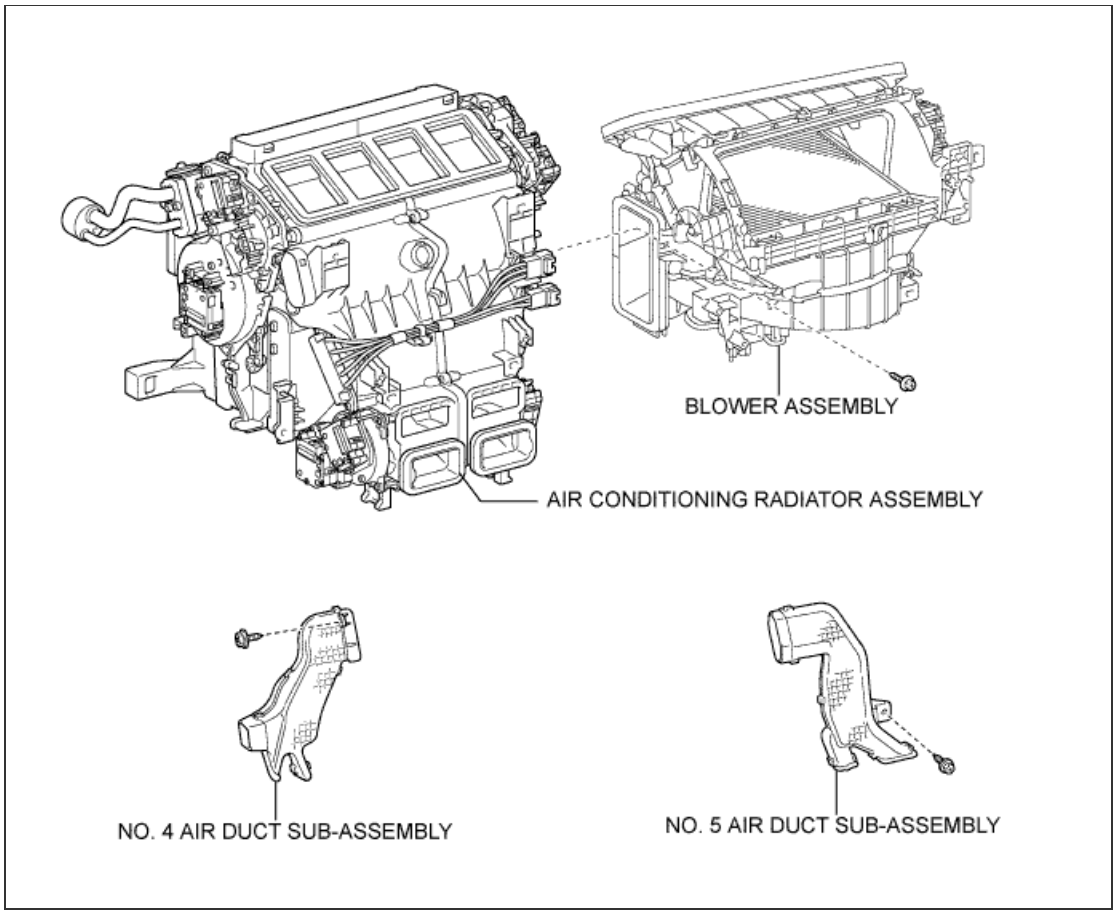

x 7
UPPER RADIATOR SUPPORT SEAL


FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH
x 3

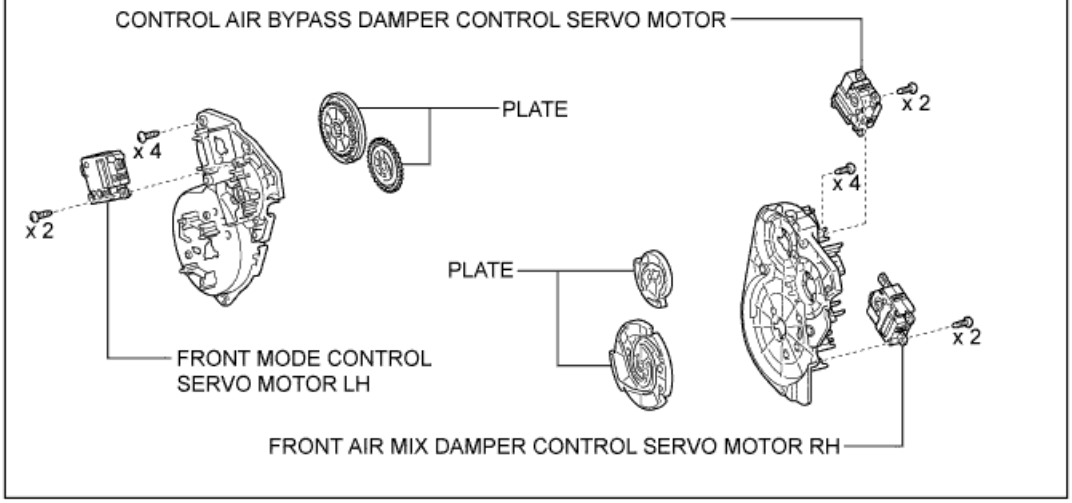

x 8
NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY
x 3
FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

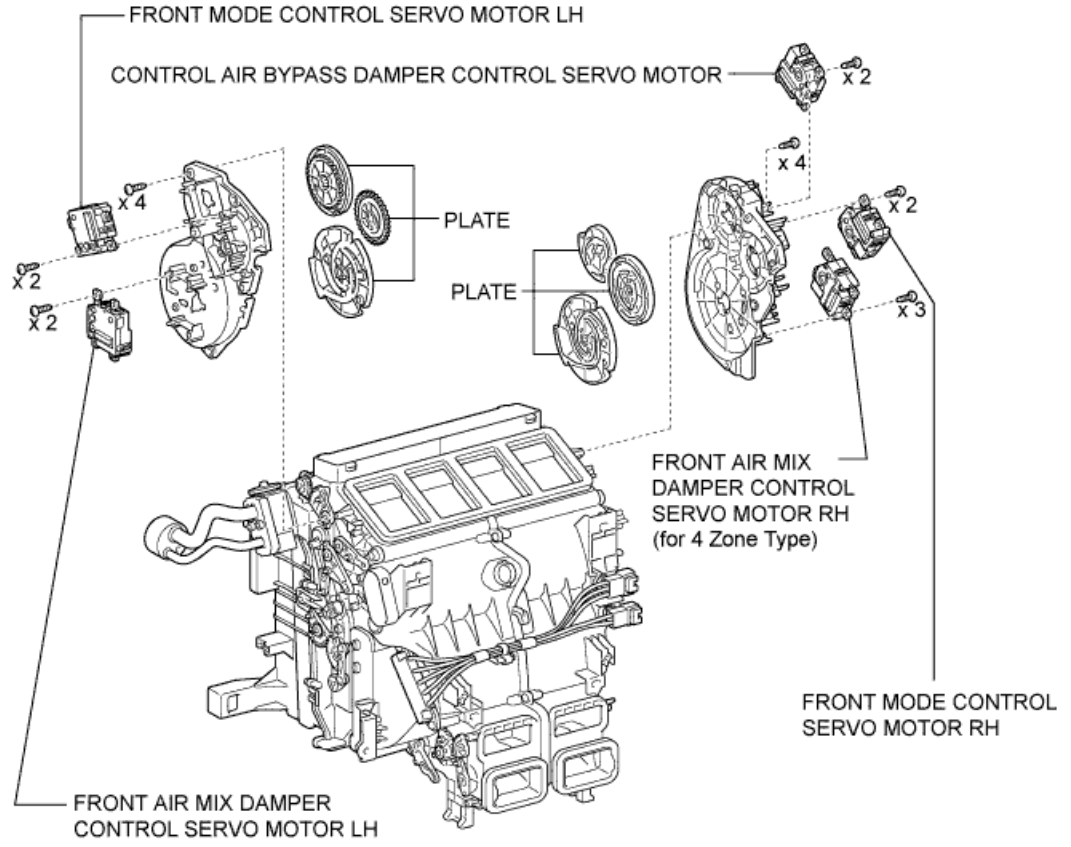
P


HEATER TO REGISTER DUCT ASSEMBLY
x 3
CAP
x 2
18 (184, 13)
9.8 (100, 87 in.*lbf)
18 (184, 13)
CAP
x 3
9.8 (100, 87 in.*lbf)
9.8 (100, 87 in.*lbf)
18 (184, 13)
6.0 (61, 53 in.*lbf)
INSTRUMENT PANEL REINFORCEMENT ASSEMBLY
AIR CONDITIONING UNIT
9.8 (100, 87 in.*lbf)
x 2
w/ Cool Box:
O-RING
9.8 (100, 87 in.*lbf)
PIPING CLAMP
AIR CONDITIONING HOSE AND ACCESSORY
NO. 3 AIR DUCT SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
Compressor oil ND-OIL 8 or equivalent
H

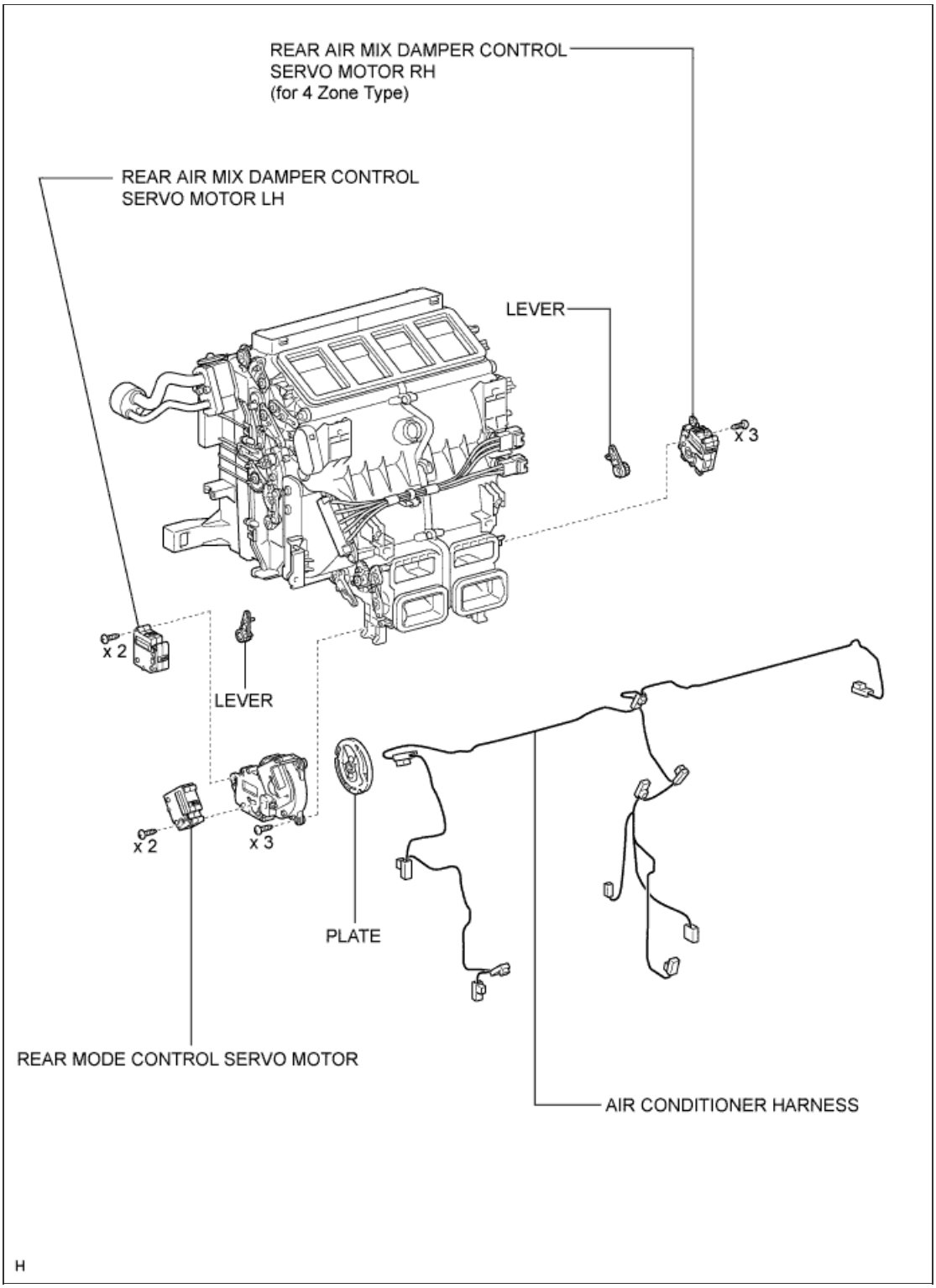

BLOWER ASSEMBLY
AIR CONDITIONING RADIATOR ASSEMBLY
NO. 4 AIR DUCT SUB-ASSEMBLY
NO. 5 AIR DUCT SUB-ASSEMBLY

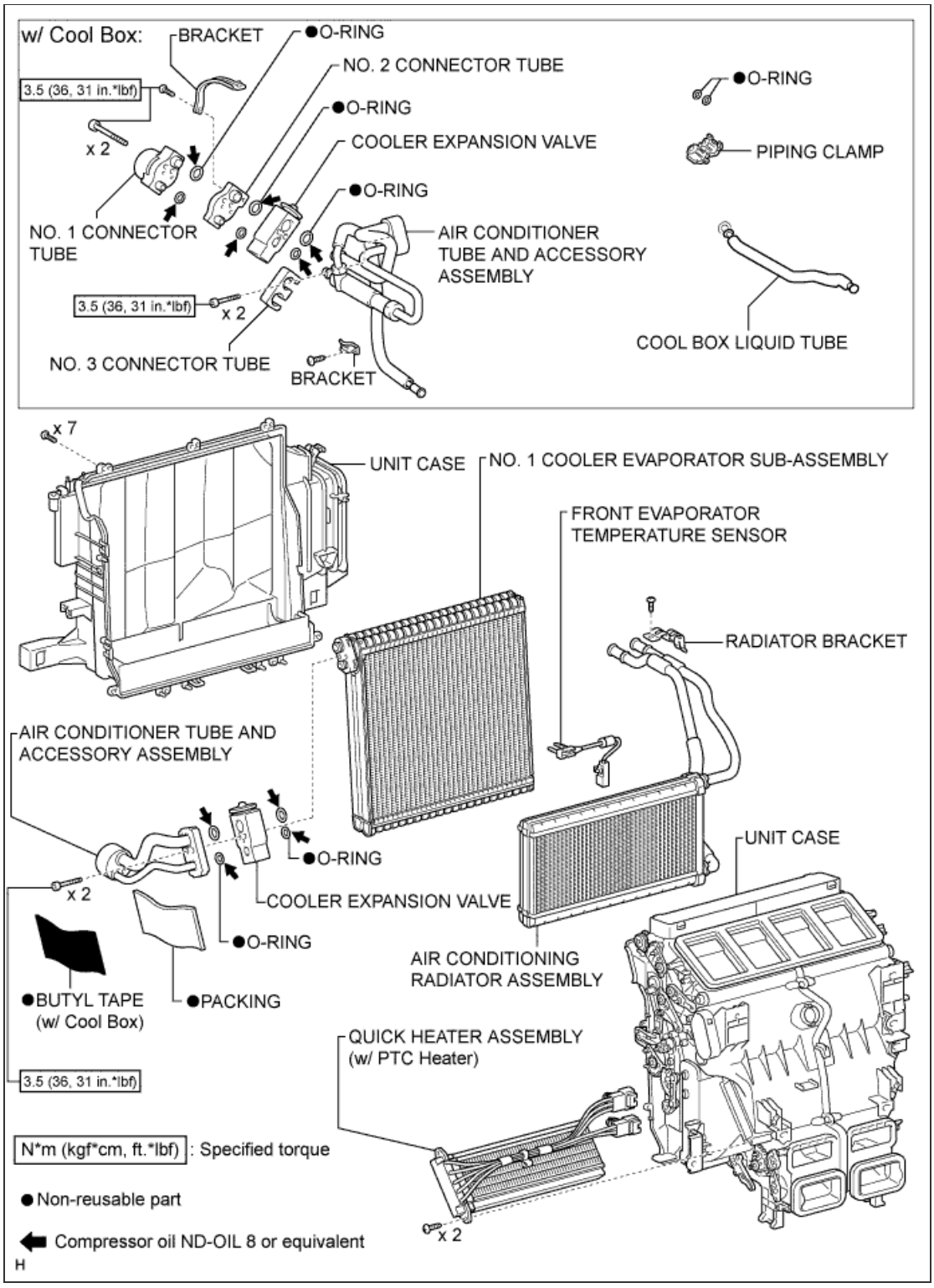
for Manual Air Conditioning System:




H


REAR AIR MIX DAMPER CONTROL
SERVO MOTOR RH
(for 4 Zone Type)
REAR AIR MIX DAMPER CONTROL
SERVO MOTOR LH
LEVER
x 3
x 2
LEVER
x 2
x 3
PLATE
REAR MODE CONTROL SERVO MOTOR
AIR CONDITIONER HARNESS
H


w/ Cool Box:
BRACKET
●O-RING
NO. 2 CONNECTOR TUBE
●O-RING
COOLER EXPANSION VALVE
●O-RING
3.5 (36, 31 in.*lbf)
x 2
NO. 1 CONNECTOR TUBE
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
3.5 (36, 31 in.*lbf)
x 2
NO. 3 CONNECTOR TUBE
BRACKET
●O-RING
PIPING CLAMP
COOL BOX LIQUID TUBE
x 7
UNIT CASE
NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY
FRONT EVAPORATOR TEMPERATURE SENSOR
RADIATOR BRACKET
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
●O-RING
x 2
COOLER EXPANSION VALVE
●O-RING
●BUTYL TAPE (w/ Cool Box)
●PACKING
3.5 (36, 31 in.*lbf)
UNIT CASE
AIR CONDITIONING RADIATOR ASSEMBLY
QUICK HEATER ASSEMBLY (w/ PTC Heater)
x 2
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
Compressor oil ND-OIL 8 or equivalent
H

**for Preparation** Click here

## 1. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 2. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 3. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. for 1GR-FE:
(Click here)

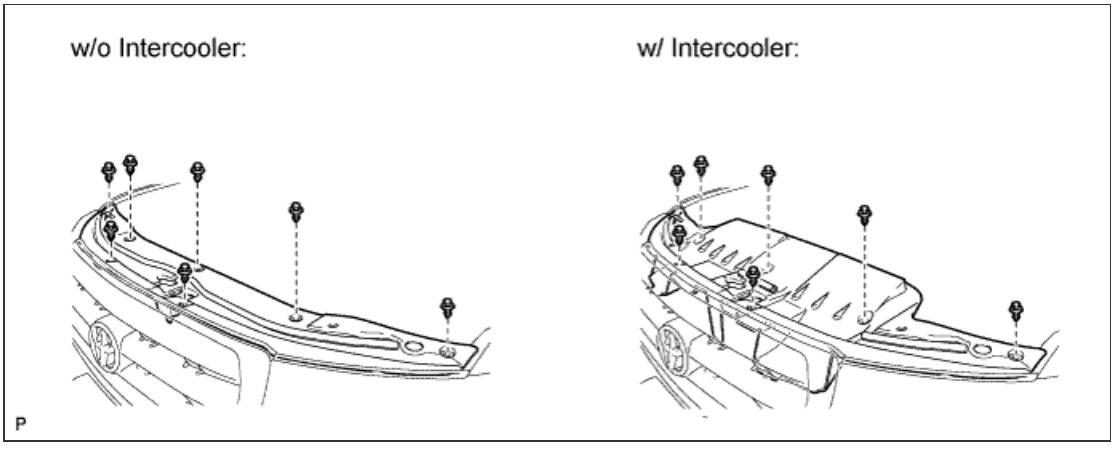
b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 4. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 5. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 6. DRAIN ENGINE COOLANT

a. for 1GR-FE:
(Click here)

b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 7. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 8. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

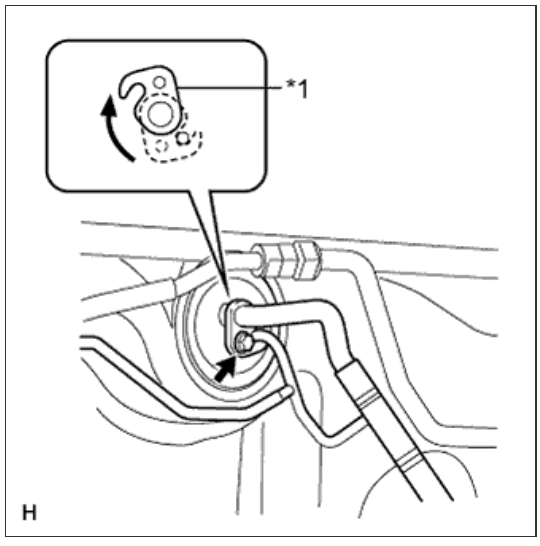
## 9. DISCONNECT AIR CONDITIONING TUBE ASSEMBLY

a. Remove the bolt.

**Text in Illustration**

| | |
|---|---|
| *1 | Plate |

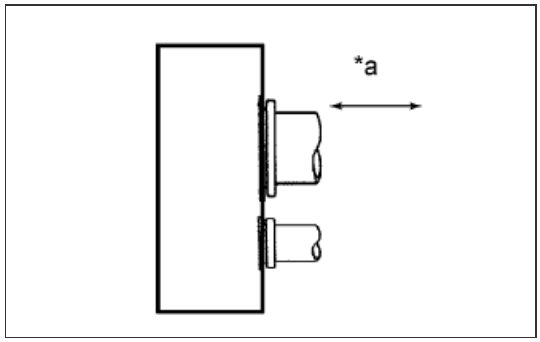
b. Detach the plate as shown in the illustration.



c. Disconnect the air conditioning tube assembly.

**NOTICE:**

- **Do not use a screwdriver or similar tool to disconnect the tube.**
- **Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.**




**Text in Illustration**

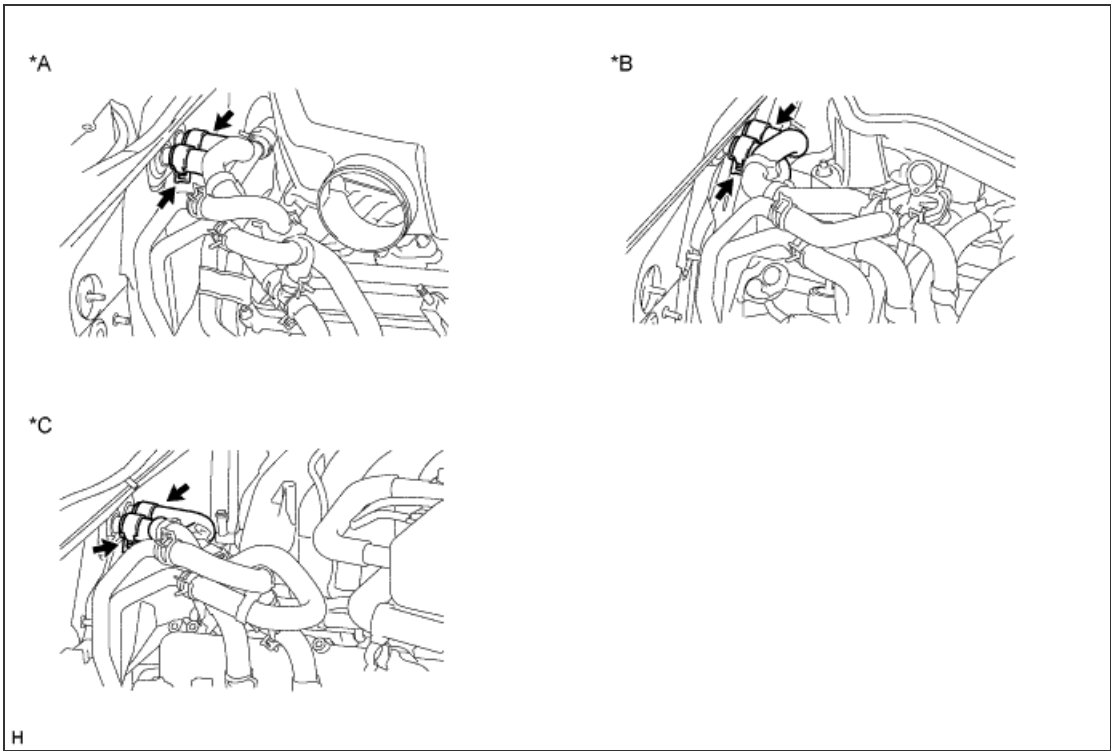
| | |
|---|---|
| *a | Disconnect tube by hand |

d. Remove the 2 O-rings from the air conditioning tube assembly.

## 10. DISCONNECT HEATER WATER INLET HOSE AND HEATER WATER OUTLET HOSE

a. Using pliers, grip the claws of the clips and slide the 2 clips.

b. Disconnect the 2 heater water hoses.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for 1GR-FE | *B | for 1VD-FTE |
| *C | for 1UR-FE, for 3UR-FE | - | - |

## 11. REMOVE FRONT WIPER MOTOR AND BRACKET

(Click here)

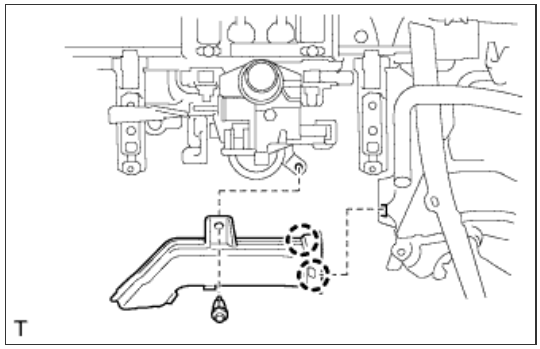
## 12. REMOVE INSTRUMENT PANEL SUB-ASSEMBLY

(Click here)

## 13. REMOVE NO. 3 AIR DUCT SUB-ASSEMBLY

a. Remove the clip.

b. Detach the 2 claws and remove the duct.




## 14. REMOVE STEERING COLUMN ASSEMBLY

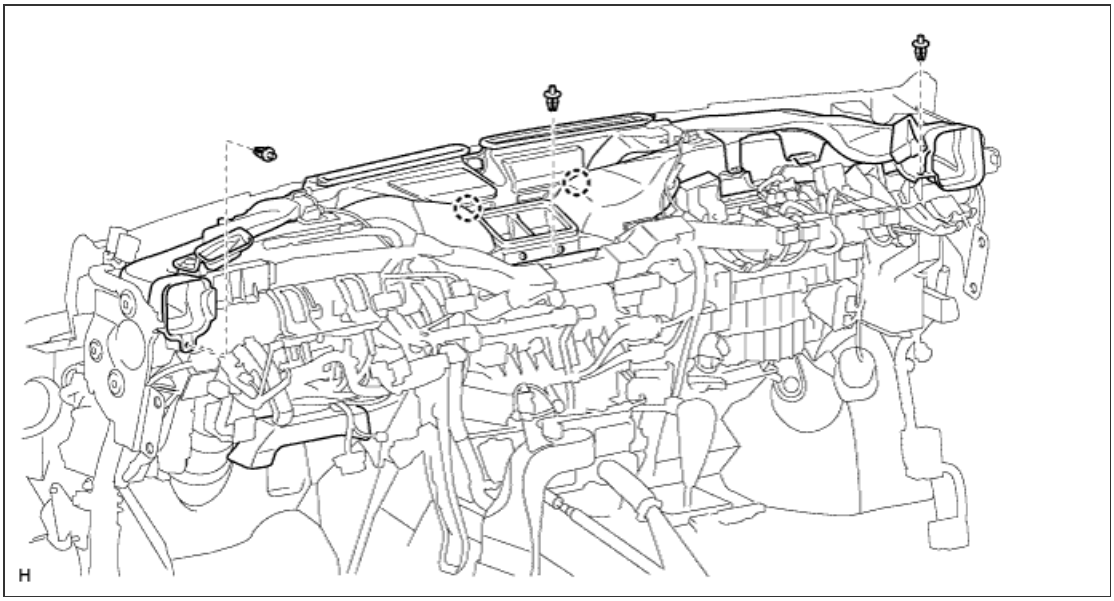
a. for Power Tilt and Power Telescopic Steering Column:
(Click here)

b. for Manual Tilt and Manual Telescopic Steering Column:
(Click here)

## 15. REMOVE HEATER TO REGISTER DUCT ASSEMBLY

a. Remove the 3 clips.

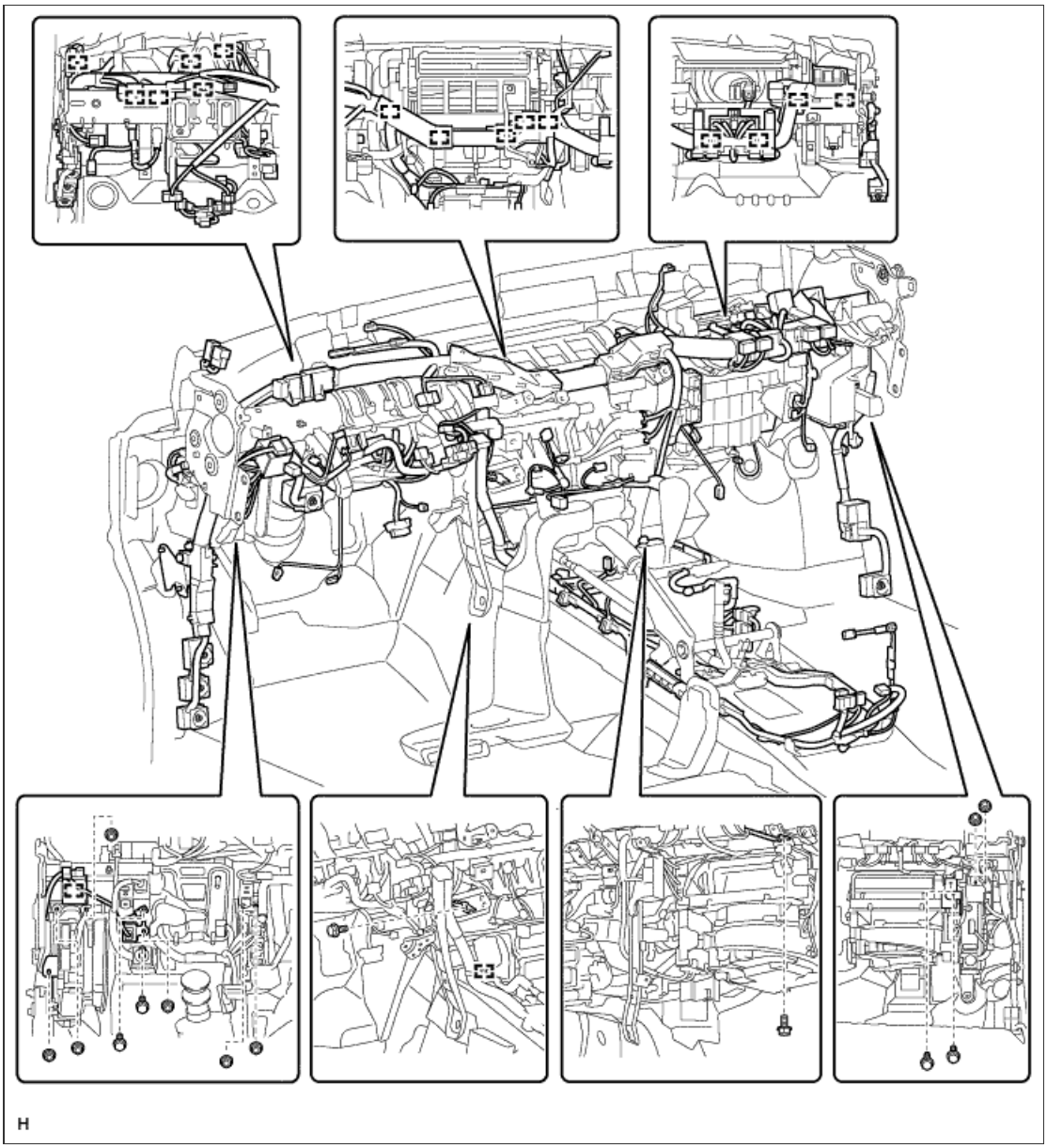
b. Detach the 2 claws and remove the duct.




## 16. REMOVE INSTRUMENT PANEL REINFORCEMENT ASSEMBLY

a. Disconnect the 17 clamps.

b. Remove the 8 nuts, 6 bolts, connectors and wire harness




c. Remove the instrument panel reinforcement.

i. for Driver Side:
Remove the 3 caps and 3 bolts.

ii. for Passenger Side:
Remove the 2 caps.

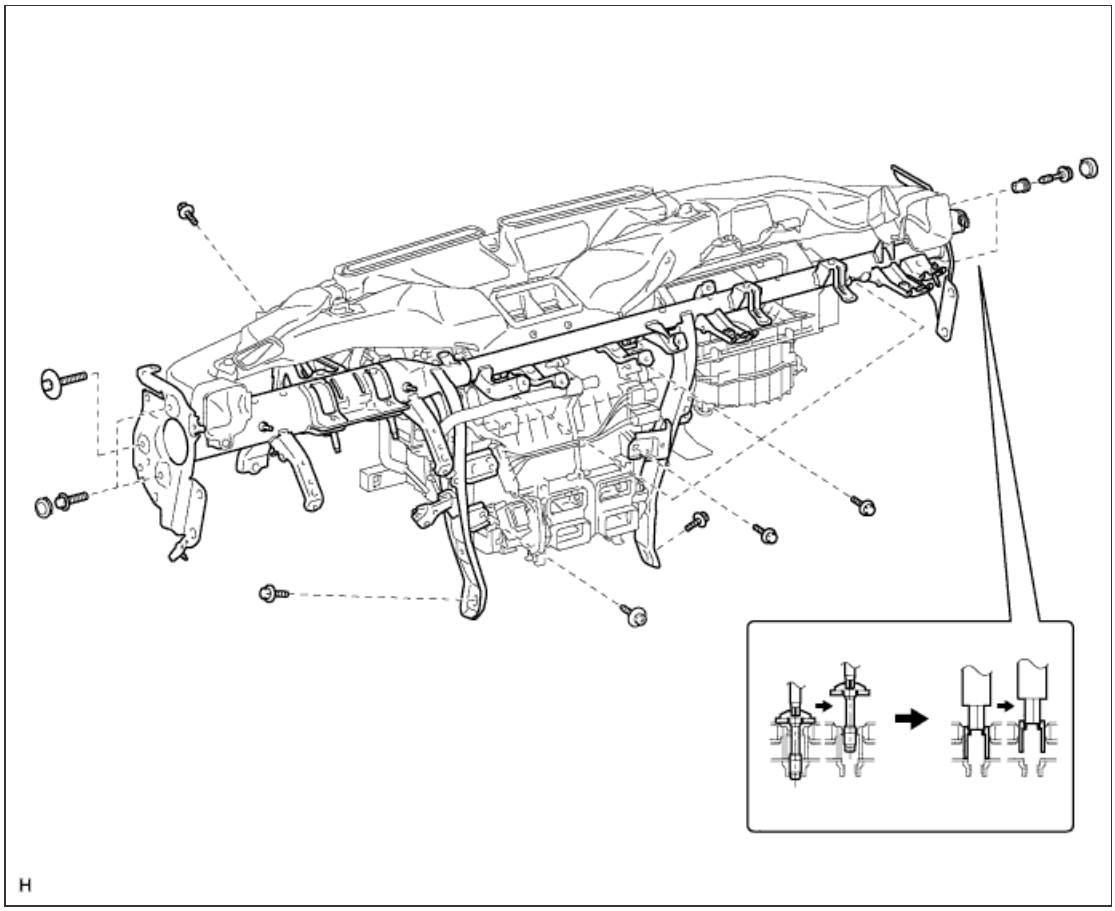
iii. for Passenger Side:
Using a T40 "TORX" socket, remove the 2 "TORX" bolts.

**HINT:**

When removing the bolts, the collars may come off with the bolts.

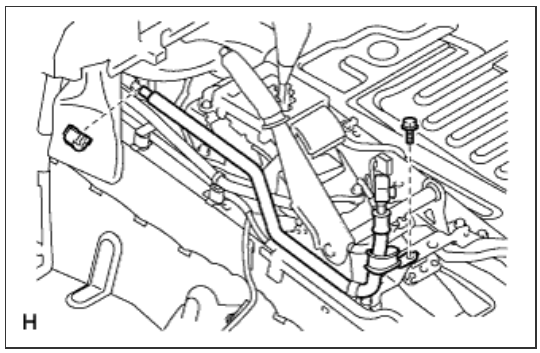
iv. for Passenger Side:
Using a 12 mm hexagon wrench, remove the 2 collars.

v. Remove the 7 bolts, screw and instrument panel reinforcement.




### 17. REMOVE AIR CONDITIONING HOSE AND ACCESSORY (w/ Cool Box)

a. Remove the bolt.



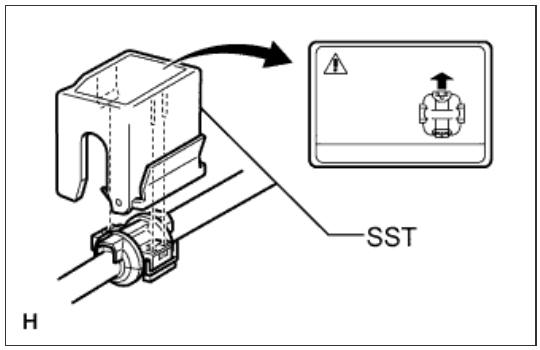

b. Using SST, remove the piping clamp.

*SST*
09870-00025

i. Attach SST to the piping clamp.

**HINT:**

Confirm the direction of the piping clamp claw and SST by referring to the illustration on the caution label.



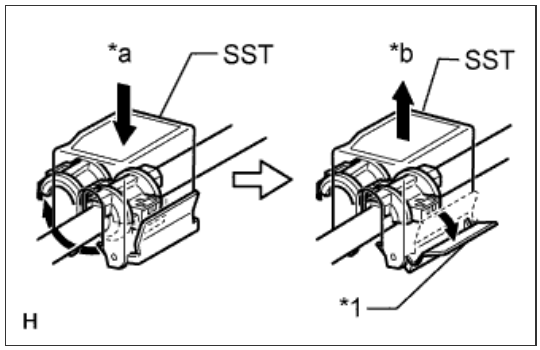

ii. Push down SST and release the clamp lock.

**NOTICE:**

Be careful not to deform the tubes when pushing SST.

iii. Pull SST slightly and push the release lever, then remove the piping clamp with SST.

iv. Remove the piping clamp from SST.




**Text in Illustration**

| | |
|---|---|
| *1 | Release Lever |
| *a | Push |
| *b | Pull |

c. Disconnect the hose and accessory from the liquid tube to remove it.

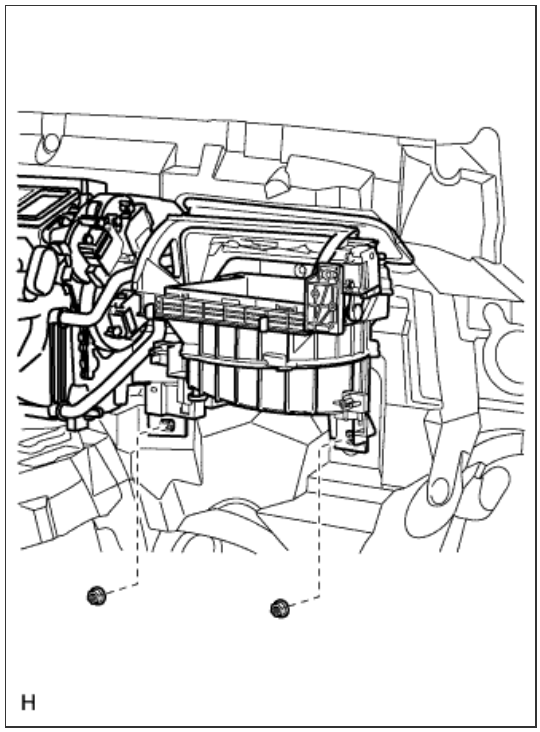
**NOTICE:**

Cap the open fittings immediately to keep moisture or dirt out of the system.

d. Remove the 2 O-rings from the air conditioner hose and accessory.

## 18. REMOVE AIR CONDITIONING UNIT

a. Remove the 2 nuts and air conditioning unit.



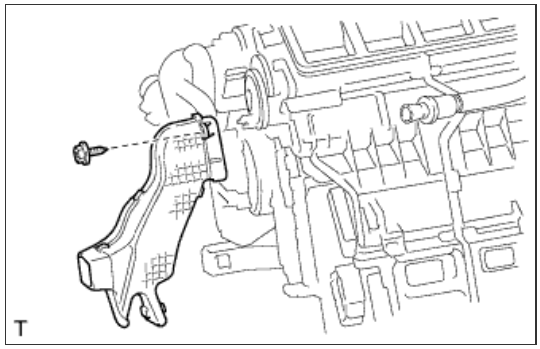
**for Preparation** Click here

## 1. REMOVE BLOWER ASSEMBLY

(Click here)

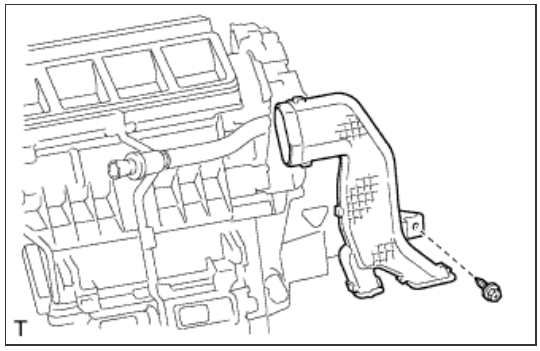
## 2. REMOVE NO. 4 AIR DUCT SUB-ASSEMBLY

a. Remove the screw and duct.



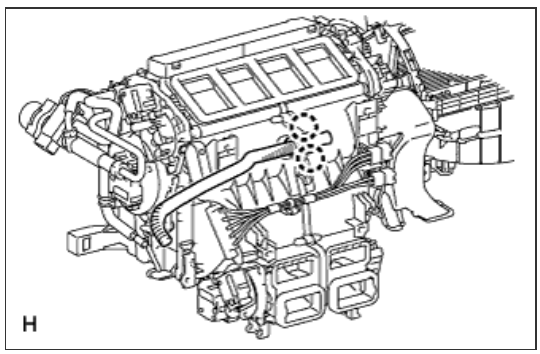

## 3. REMOVE NO. 5 AIR DUCT SUB-ASSEMBLY

a. Remove the screw and duct.



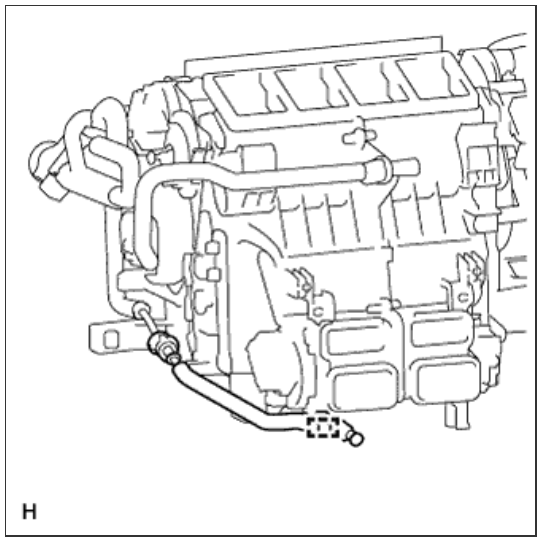

## 4. REMOVE ASPIRATOR (for Automatic Air Conditioning System)

a. Detach the 2 claws and remove the aspirator.




## 5. REMOVE COOL BOX LIQUID TUBE (w/ Cool Box)

a. Detach the clamp.



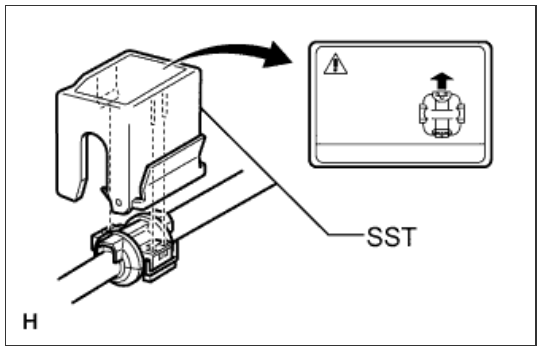

b. Using SST, remove the piping clamp.

*SST*
09870-00025

i. Attach SST to the piping clamp.

**HINT:**

Confirm the direction of the piping clamp claw and SST by referring to the illustration on the caution label.




ii. Push down SST and release the clamp lock.

**NOTICE:**

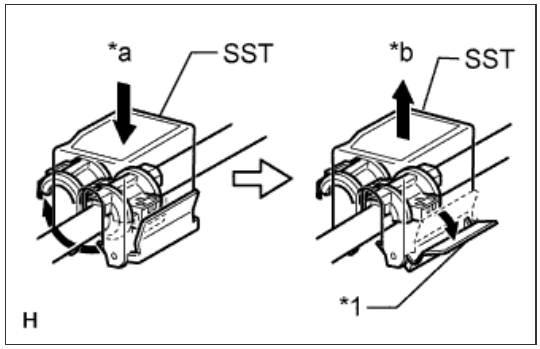
Be careful not to deform the tubes when pushing SST.

iii. Pull SST slightly and push the release lever, then remove the piping clamp with SST.

iv. Remove the piping clamp from SST.

**Text in Illustration**

| | |
|---|---|
| *1 | Release Lever |
| *a | Push |
| *b | Pull |




c. Disconnect the tube.

**NOTICE:**

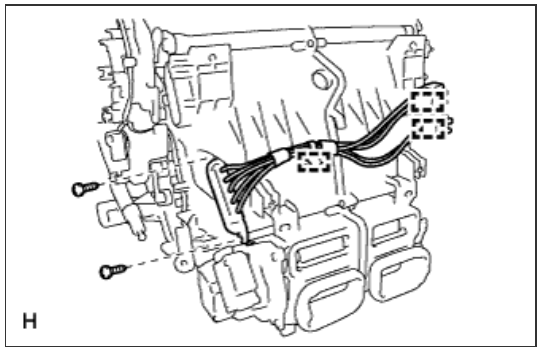
Cap the open fittings immediately to keep moisture or dirt out of the system.

d. Remove the 2 O-rings from the tube.

## 6. REMOVE QUICK HEATER ASSEMBLY (w/ PTC Heater)

a. Remove the 2 screws.

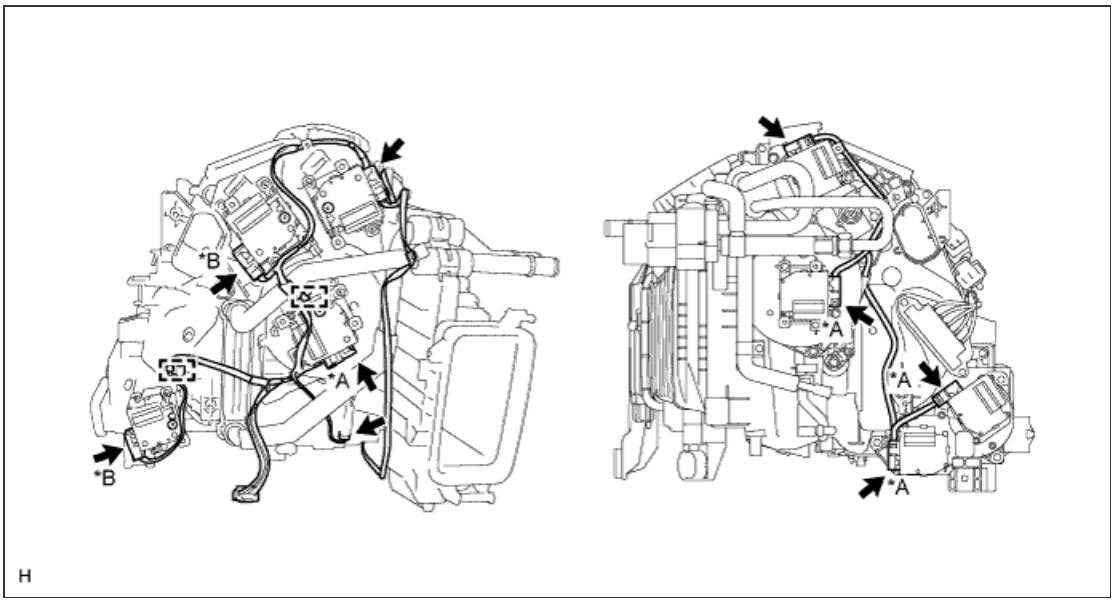
b. Detach the 3 clamps and remove the quick heater assembly (PTC heater assembly).




## 7. REMOVE AIR CONDITIONER HARNESS

a. Disconnect the connectors.

b. Detach the clamps and remove the harness.



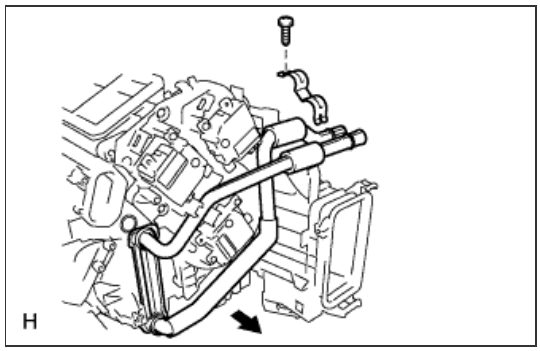

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Automatic Air Conditioning System | *B | for 4 Zone Type |

## 8. REMOVE AIR CONDITIONING RADIATOR ASSEMBLY

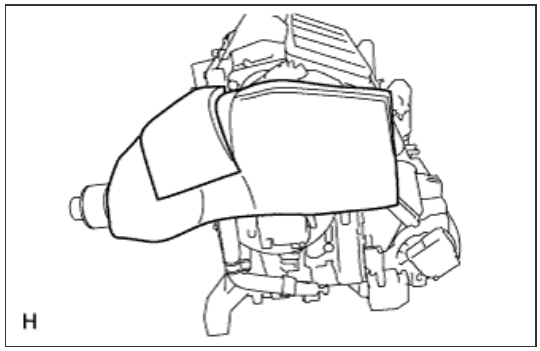
a. Remove the screw and radiator bracket.

b. Remove the radiator.

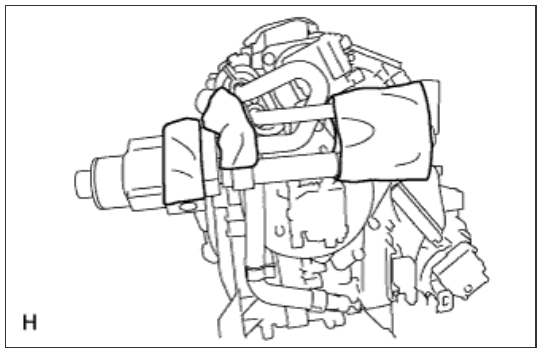


## 9. REMOVE COOLER EXPANSION VALVE (w/ Cool Box)

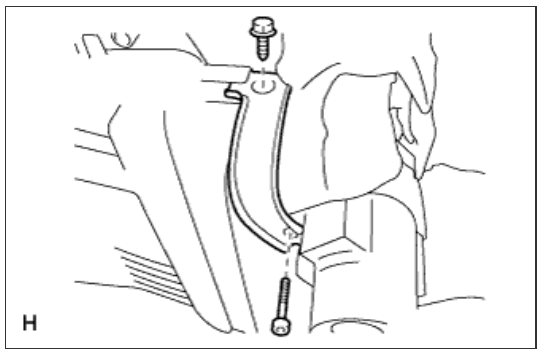
a. Remove the packing.




b. Remove the butyl tape.

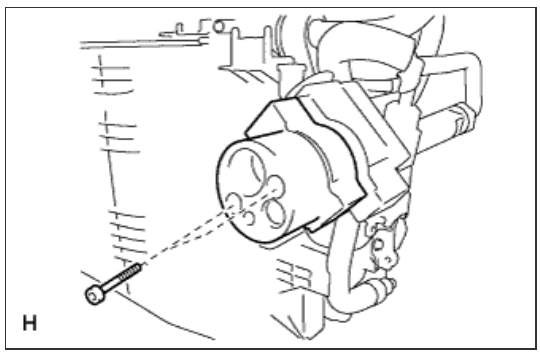



c. Using a 4 mm hexagon wrench, remove the hexagon bolt, screw and bracket.




d. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and No. 1 connector tube.

e. Remove the 2 O-rings from the No. 1 connector tube.




f. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts, No. 2 connector tube, expansion valve and No. 3 connector tube.

g. Remove the 2 O-rings from the No. 2 connector tube.

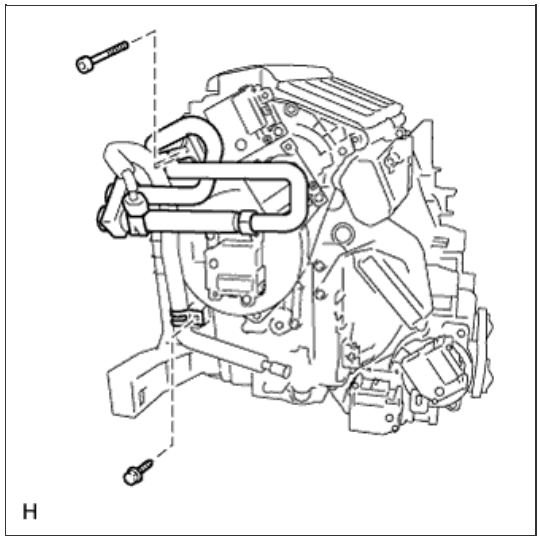



## 10. REMOVE AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY (w/ Cool Box)

a. Remove the screw and bracket.

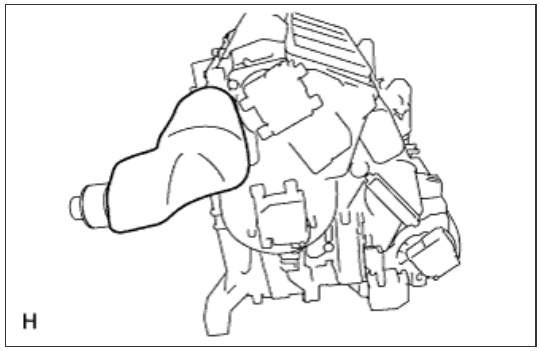
b. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and air conditioner tube and accessory assembly.

c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.




## 11. REMOVE COOLER EXPANSION VALVE (w/o Cool Box)

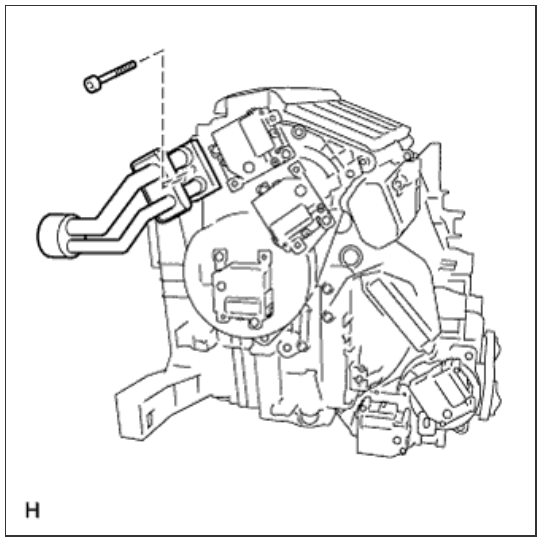
a. Remove the packing.




b. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts, air conditioner tube and accessory assembly and expansion valve.

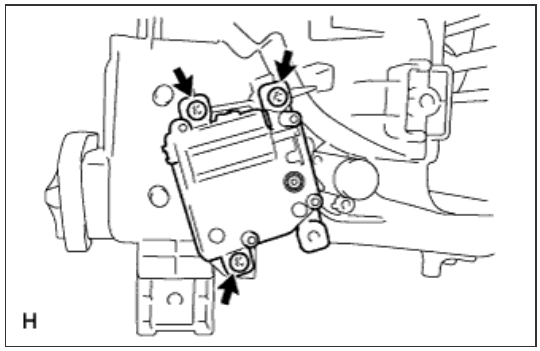
c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.

d. Remove the 2 O-rings from the cooler evaporator.



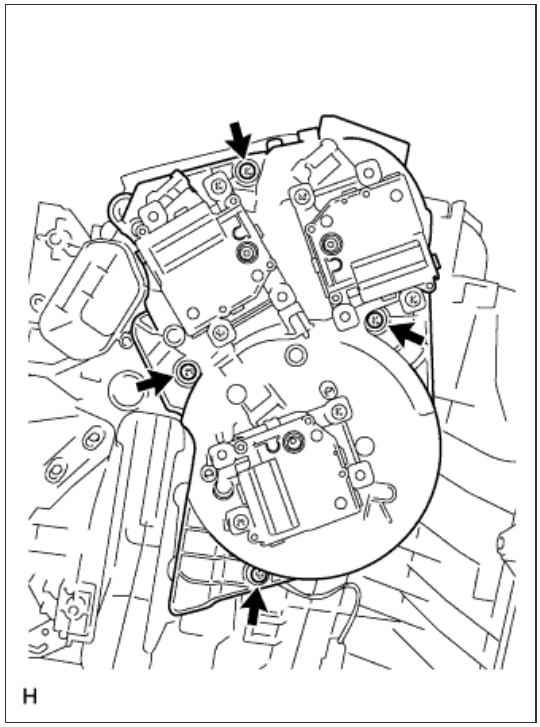

## 12. REMOVE REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH (for 4 Zone Type)

a. Remove the 3 screws and servo motor.




## 13. REMOVE SERVO MOTOR

a. Remove the 4 screws and servo motor unit.



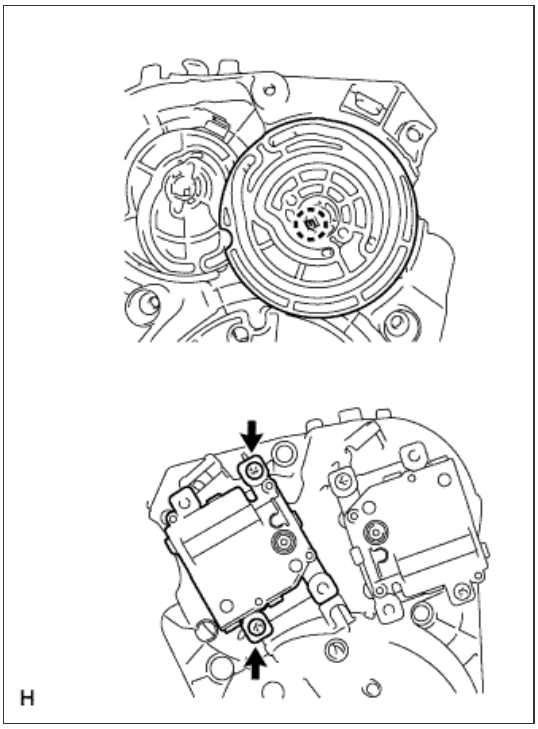

b. for 4 Zone Type:
Remove the front mode control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



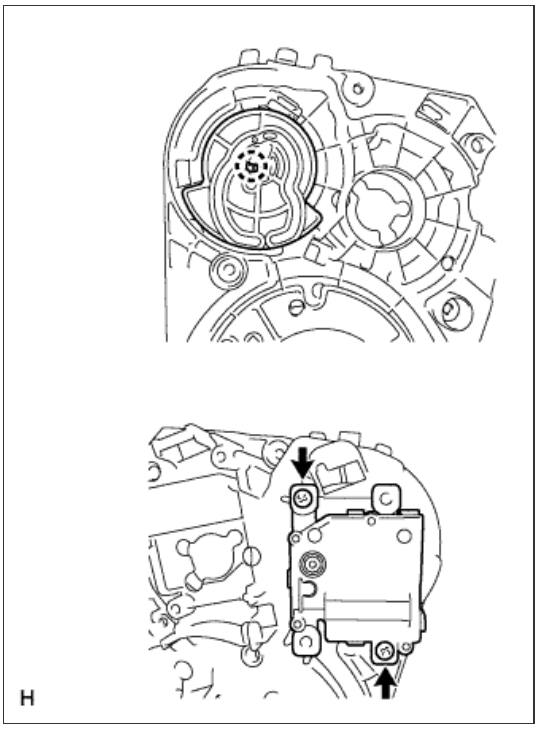

c. Remove the control bypass damper control servo motor.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



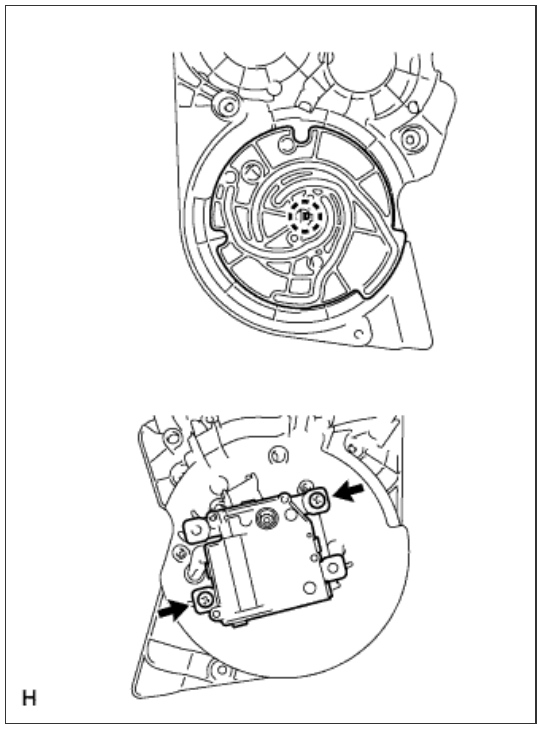

d. for Automatic Air Conditioning System:
Remove the front air mix damper control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

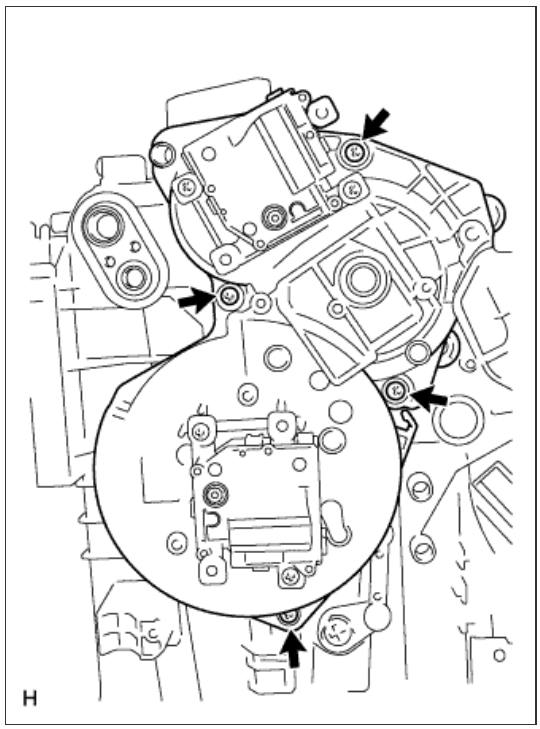
**NOTICE:**

Be careful not to damage the claw of the plate.




## 14. REMOVE SERVO MOTOR

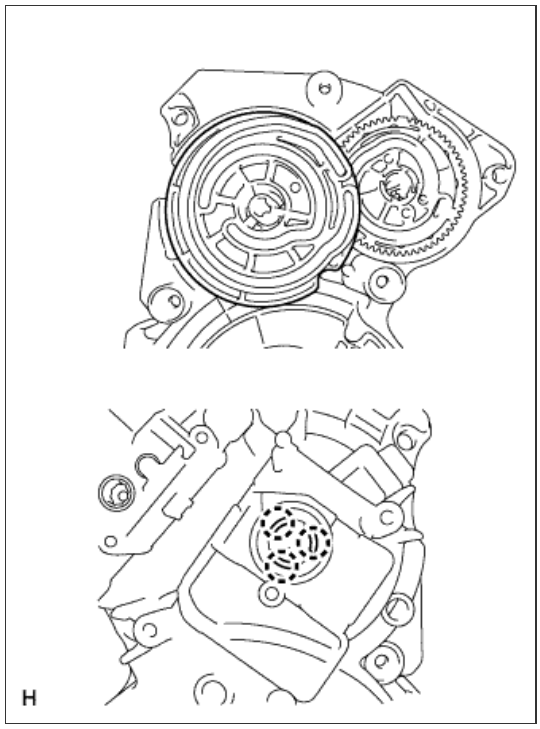
a. Remove the 4 screws and servo motor unit.



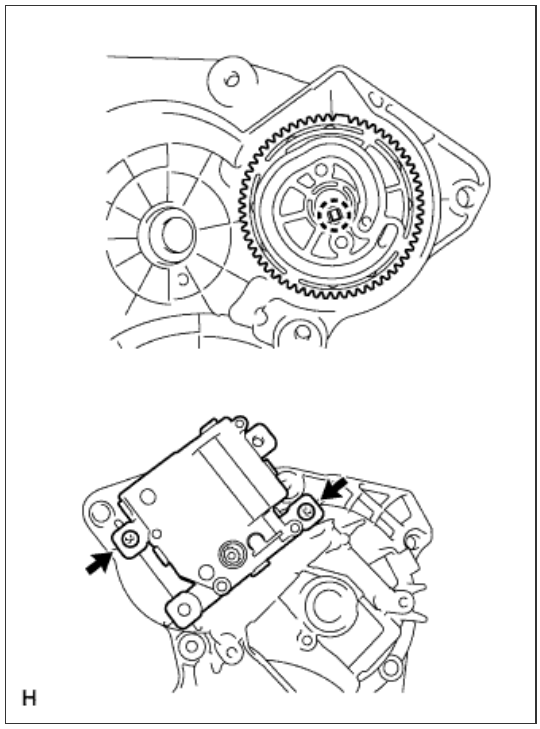

b. Detach the 3 claws and remove the plate.

**NOTICE:**

Be careful not to damage the claw of the plate.




c. Remove the front mode control servo motor LH.




i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.

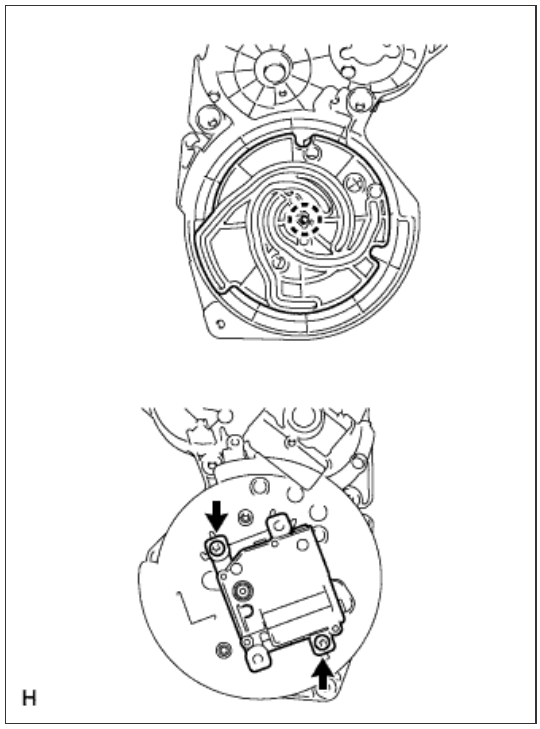
d. for Automatic Air Conditioning System:
Remove the front air mix damper control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

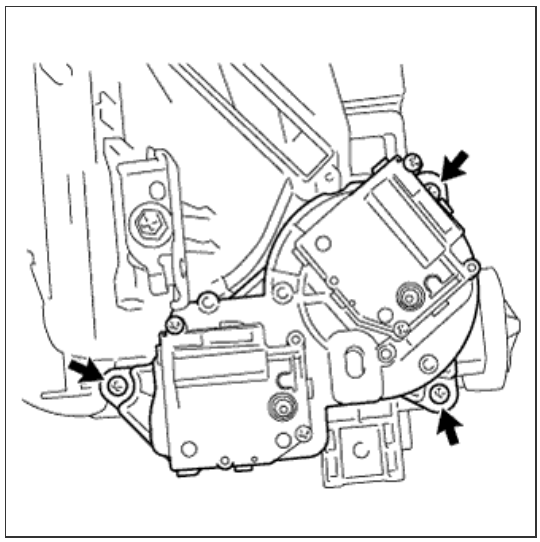
**NOTICE:**

Be careful not to damage the claw of the plate.




## 15. REMOVE SERVO MOTOR (for Automatic Air Conditioning System)

a. Remove the 3 screws and servo motor unit.



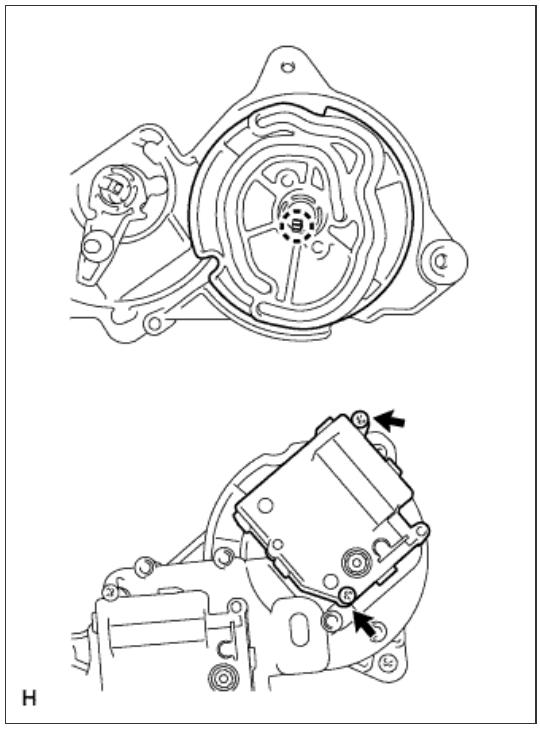
b. Remove the rear mode control servo motor.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



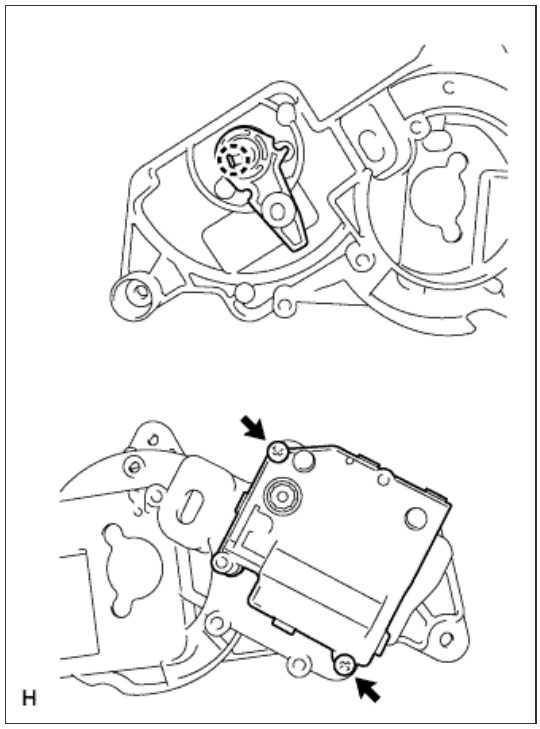

c. Remove the rear air mix damper control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the lever and servo motor.

**NOTICE:**

Be careful not to damage the claw of the lever.

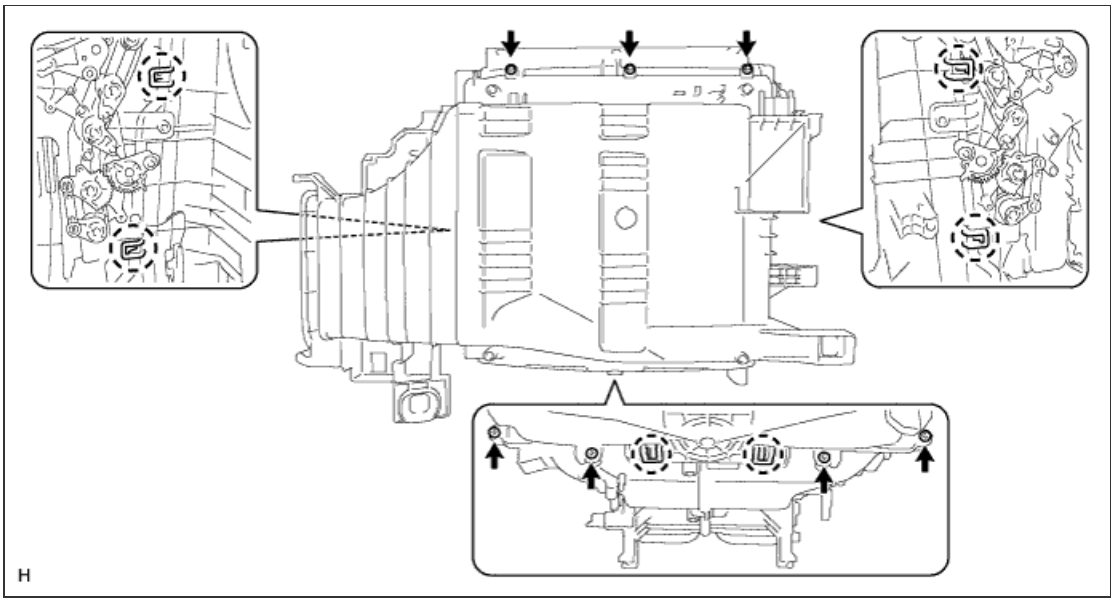



## 16. REMOVE NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

a. Remove the 7 screws.

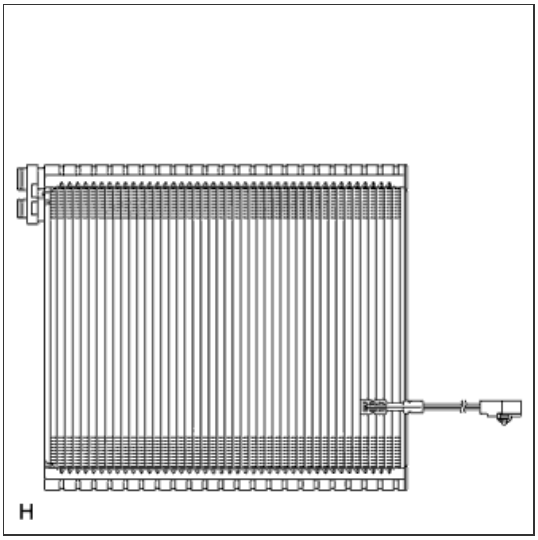
b. Detach the 6 claws and remove the unit case.

c. Remove the evaporator.




## 17. REMOVE FRONT EVAPORATOR TEMPERATURE SENSOR

a. Remove the front evaporator temperature sensor.



**for Preparation** Click here

## 1. INSTALL FRONT EVAPORATOR TEMPERATURE SENSOR

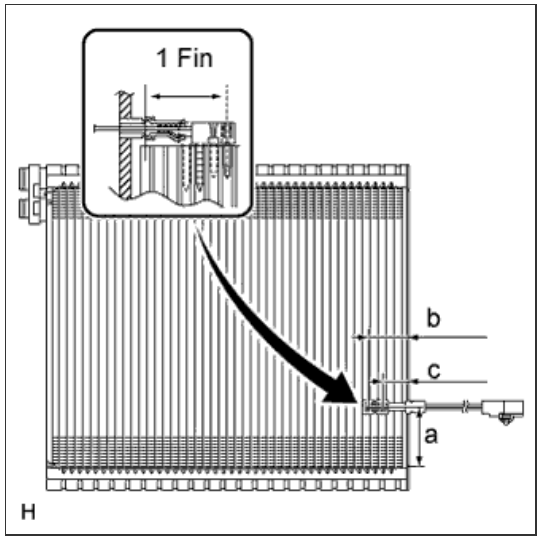
**NOTICE:**

If reusing the evaporator, do not insert the sensor into a location where the sensor was previously inserted.

a. Insert the sensor to a location that is 1 fin to the right or left of its previous location.

**Standard Dimension:**

| Area | Specified Condition |
|---|---|
| a | 50 mm (1.97 in.) |
| b | 34.3 mm (1.35 in.) |
| c | 20.9 mm (1.97 in.) |




## 2. INSTALL NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

a. Install the evaporator.

b. Attach the 6 claws to install the unit case.

c. Install the 7 screws.

## 3. INSTALL SERVO MOTOR (for Automatic Air Conditioning System)

a. Install the rear air mix damper control servo motor LH.

i. Attach the claw to install the lever and servo motor.

ii. Install the 2 screws.

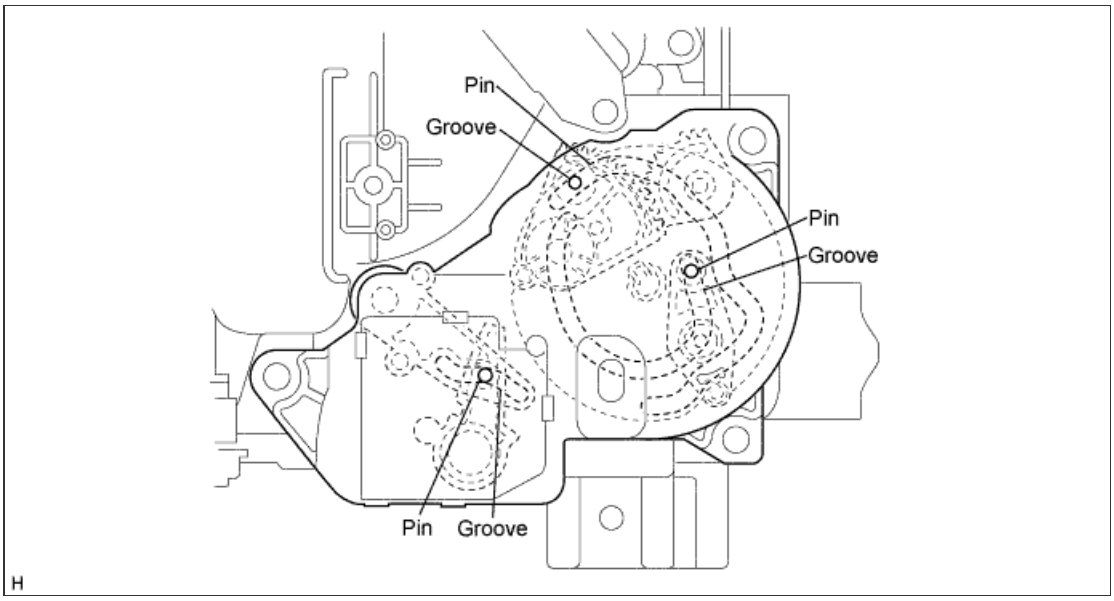
b. Install the rear mode control servo motor.

i. Attach the claw to install the plate and servo motor.

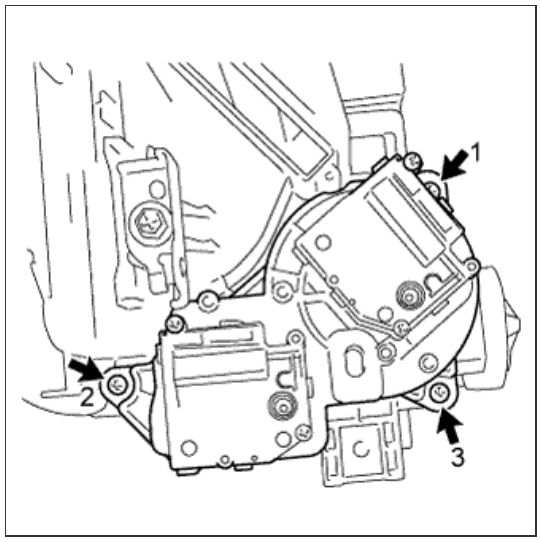
ii. Install the 2 screws.

c. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

d. Check that the pin is in the groove of the link.




e. Install the 3 screws in the order shown in the illustration, and install the servo motor unit.




## 4. INSTALL SERVO MOTOR

a. for Automatic Air Conditioning System:
Install the front air mix damper control servo motor LH.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

b. Install the front mode control servo motor LH.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

c. Attach the 3 claws to install the plate.

d. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

e. Install the 4 screws.

## 5. INSTALL SERVO MOTOR

a. for Automatic Air Conditioning System:
Install the front air mix damper control servo motor RH.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

b. Install the control air bypass damper control servo motor.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

c. for 4 Zone Type:
Install the front mode control servo motor RH.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

d. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

e. Install the 4 screws.

## 6. INSTALL REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH (for 4 Zone Type)

a. Install the servo motor with the 3 screws.

## 7. INSTALL COOLER EXPANSION VALVE (w/o Cool Box)

a. Sufficiently apply compressor oil to 4 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the cooler evaporator.

c. Install the 2 O-rings to the air conditioner tube and accessory assembly.

d. Install the cooler expansion valve and air conditioner tube and accessory assembly to the evaporator.

e. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

f. Install new packing.

## 8. INSTALL AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY (w/ Cool Box)

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the air conditioner tube and accessory assembly.

c. Install the air conditioner tube and accessory assembly to the evaporator.

d. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

e. Install the bracket with the screw.

## 9. INSTALL COOLER EXPANSION VALVE (w/ Cool Box)

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the No. 2 connector tube.

c. Install the No. 2 connector tube, expansion valve and No. 3 connector tube.

d. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

e. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

f. Install the 2 O-rings to the No. 1 connector tube.

g. Install the No. 1 connector tube.

h. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

i. Using a 4 mm hexagon wrench, install the bracket with the hexagon bolt and screw.

j. Install new butyl tape.

k. Install new packing.

## 10. INSTALL AIR CONDITIONING RADIATOR ASSEMBLY

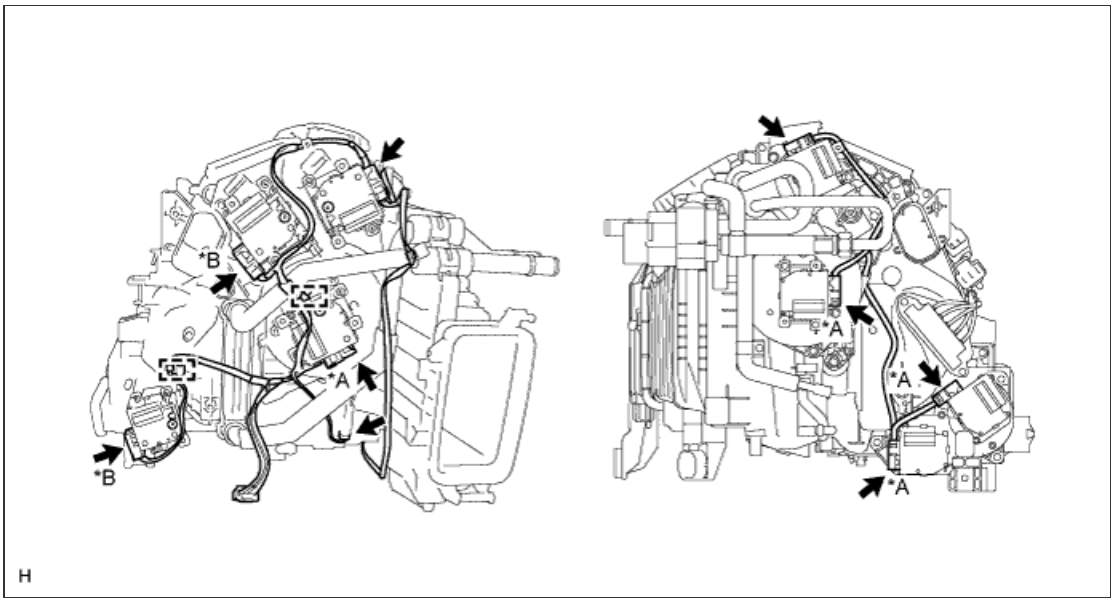
a. Install the radiator.

b. Install the bracket with the screw.

## 11. INSTALL AIR CONDITIONER HARNESS

a. Attach the clamps to install the harness.

b. Connect the connectors.



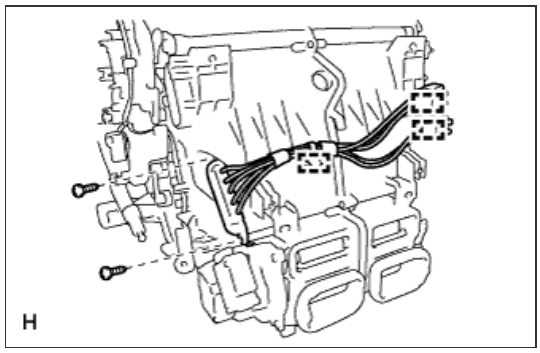

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Automatic Air Conditioning System | *B | for 4 Zone Type |

## 12. INSTALL QUICK HEATER ASSEMBLY (w/ PTC Heater)

a. Attach the clamps to install the quick heater assembly (PTC heater assembly).

b. Install the 2 screws.



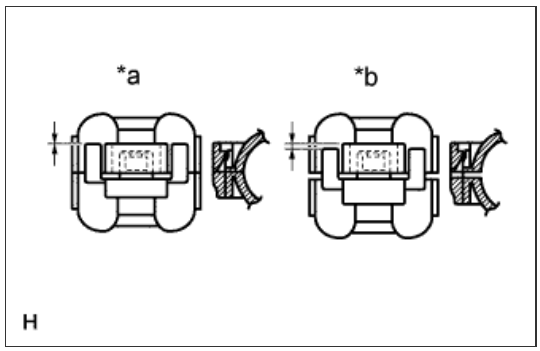

## 13. INSTALL COOL BOX LIQUID TUBE (w/ Cool Box)

a. Lubricate 2 new O-rings with compressor oil and install them to the tube.

**Compressor oil:**
**ND-OIL 8 or equivalent**

**Text in Illustration**

| | |
|---|---|
| *a | Correct |
| *b | Incorrect |




b. Connect the liquid tube with the piping clamp.

**NOTICE:**

After connection, check the claw engagement of the piping clamp.

c. Attach the clamp.

## 14. INSTALL ASPIRATOR (for Automatic Air Conditioning System)

a. Attach the 2 claws to install the aspirator.

## 15. INSTALL NO. 4 AIR DUCT SUB-ASSEMBLY

a. Install the duct with the screw.

## 16. INSTALL NO. 5 AIR DUCT SUB-ASSEMBLY

a. Install the duct with the screw.

## 17. INSTALL BLOWER ASSEMBLY

(Click here)

**for Preparation** Click here

## 1. INSTALL AIR CONDITIONING UNIT ASSEMBLY

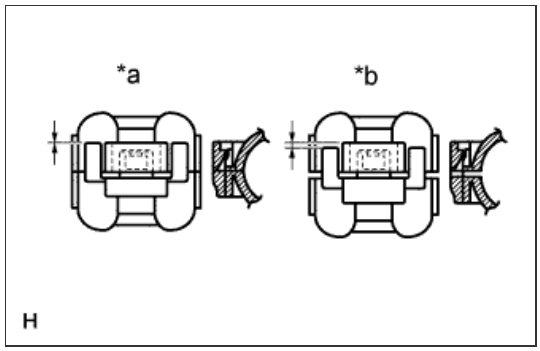
a. Install the air conditioning unit with the 2 nuts.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

## 2. INSTALL AIR CONDITIONING HOSE AND ACCESSORY (w/ Cool Box)

a. Lubricate 2 new O-rings with compressor oil and install them to the air conditioning hose and accessory.

**Compressor oil:**
**ND-OIL 8 or equivalent**




**Text in Illustration**

| | |
|---|---|
| *a | Correct |
| *b | Incorrect |

b. Install the air conditioning hose and accessory with the piping clamp.

**NOTICE:**

After connection, check the claw engagement of the piping clamp.

c. Install the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

## 3. INSTALL INSTRUMENT PANEL REINFORCEMENT ASSEMBLY

a. Install the instrument panel reinforcement.

i. Install the instrument panel reinforcement with the 7 bolts and screw.

**Torque:**
**for bolt:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**
**for screw:**
**6.0 N*m{ 61 kgf*cm , 53 in.*lbf }**

ii. for Passenger Side:
Using a 12 mm hexagon wrench, install the 2 collars.

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

iii. for Passenger Side:
Using a T40 "TORX" socket, install the 2 "TORX" bolts.

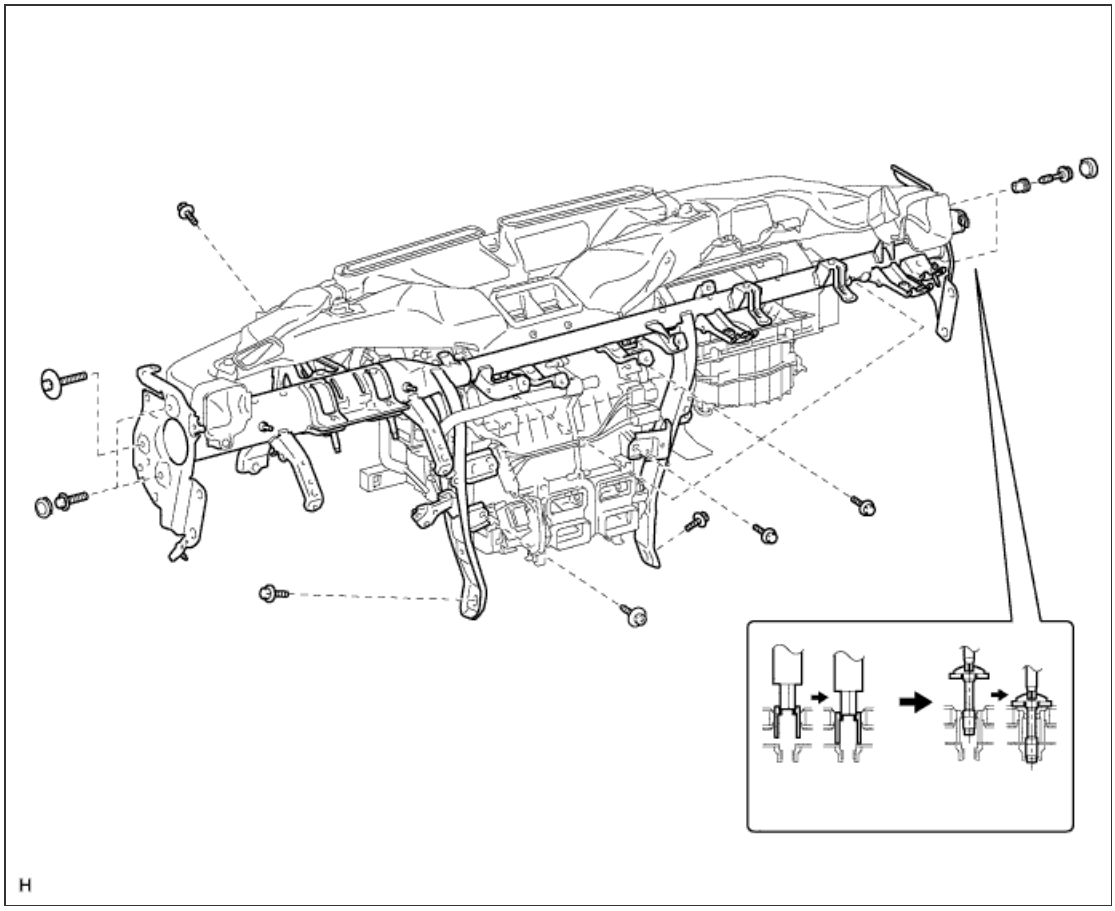
**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

iv. for Passenger Side:
Install the 2 caps.

v. for Driver Side:
Install the 3 bolts.

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

vi. for Driver Side:
Install the 3 caps.




b. Attach the 17 clamps.

c. Install the 8 nuts, 6 bolts, connectors to the wire harness.

## 4. INSTALL HEATER TO REGISTER DUCT ASSEMBLY

a. Attach the 2 claws to install the duct.

b. Install the 3 clips.

## 5. INSTALL STEERING COLUMN ASSEMBLY

a. for Power Tilt and Power Telescopic Steering Column:
(Click here)

b. for Manual Tilt and Manual Telescopic Steering Column:
(Click here)

## 6. INSTALL NO. 3 AIR DUCT SUB-ASSEMBLY

a. Attach the 2 claws to install the duct.

b. Install the clip.

## 7. INSTALL INSTRUMENT PANEL SUB-ASSEMBLY

(Click here)

## 8. INSTALL FRONT WIPER MOTOR AND BRACKET

(Click here)

## 9. CONNECT HEATER WATER INLET HOSE AND HEATER WATER OUTLET HOSE

a. Connect the 2 heater water hoses.

b. Using pliers, grip the claws of the clips and slide the 2 clips.

## 10. CONNECT AIR CONDITIONING TUBE ASSEMBLY

a. Remove the attached vinyl tape from the tubes.

b. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the air conditioning tube assembly.

**Compressor oil:**
**ND-OIL 8 or equivalent**

**Text in Illustration**

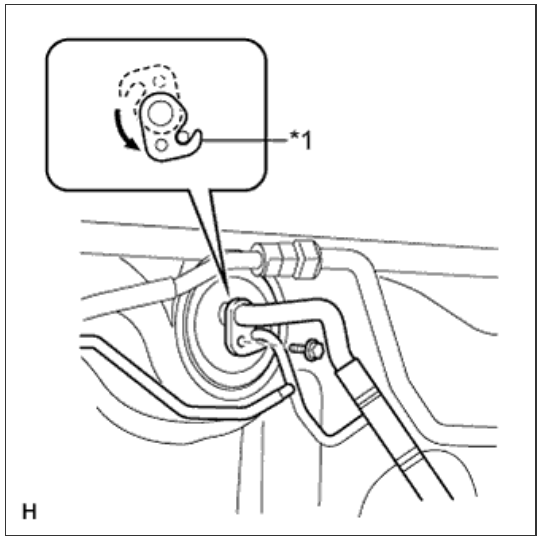
| | |
|---|---|
| *1 | Plate |

c. Install the 2 O-rings to the air conditioning tube assembly.

d. Connect the air conditioning tube assembly.

e. Attach the plate as shown in the illustration and install the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**




## 11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 12. CHECK SRS WARNING LIGHT

(Click here)

## 13. ADD ENGINE COOLANT

a. for 1GR-FE:
(Click here)

b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 14. CHARGE REFRIGERANT

*SST*

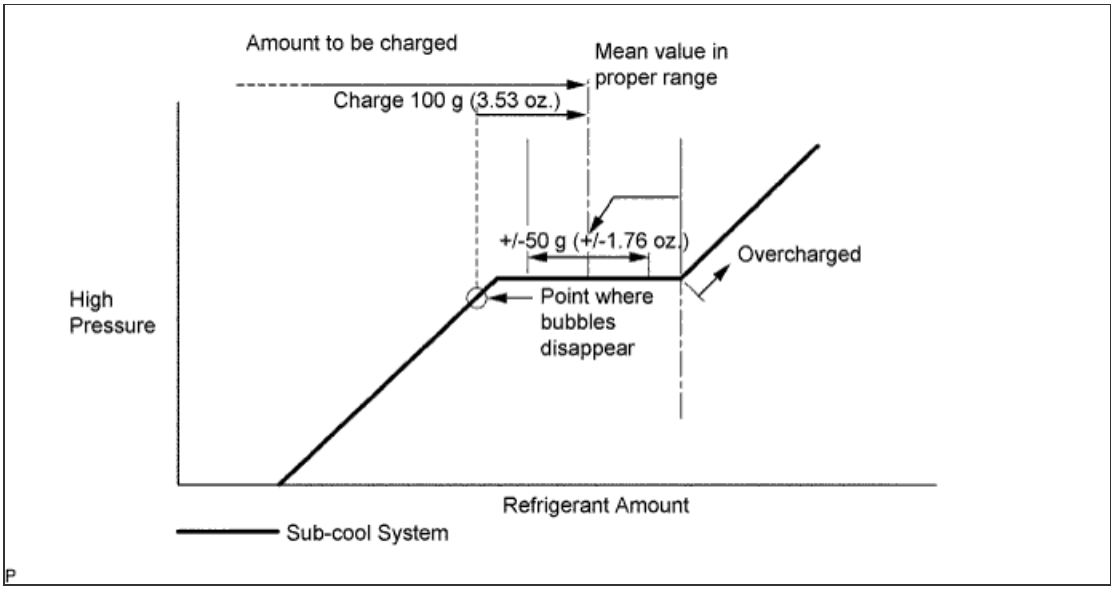
09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 15. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 16. CHECK FOR ENGINE COOLANT LEAK

a. for 1GR-FE:

(Click here)

b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 17. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

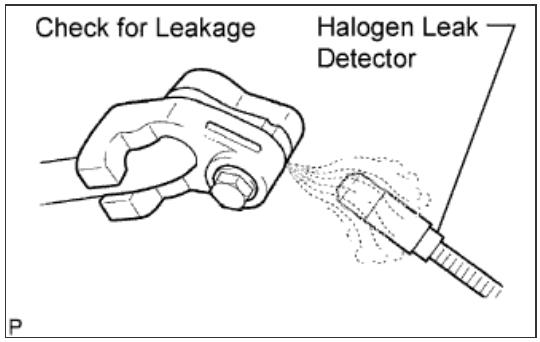
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

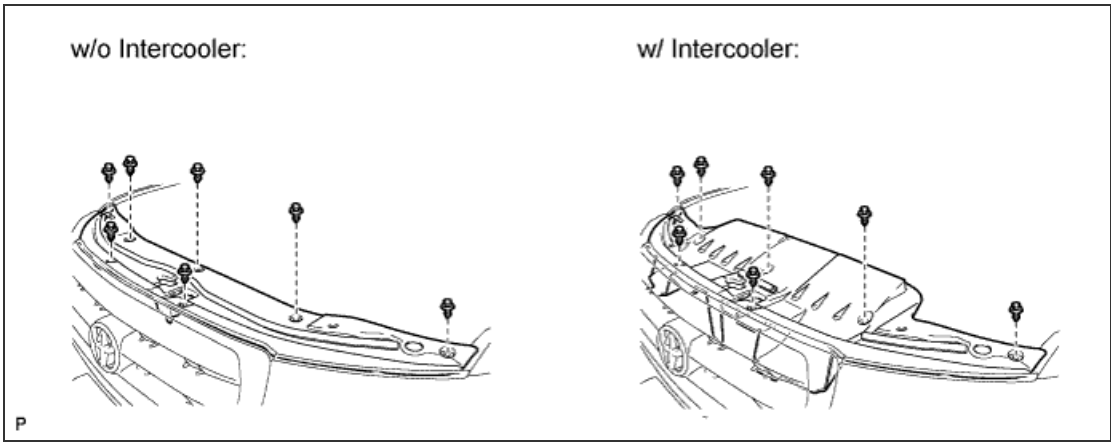
d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.




## 18. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 19. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. for 1GR-FE:
(Click here)

b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 20. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. for Standard:
(Click here)

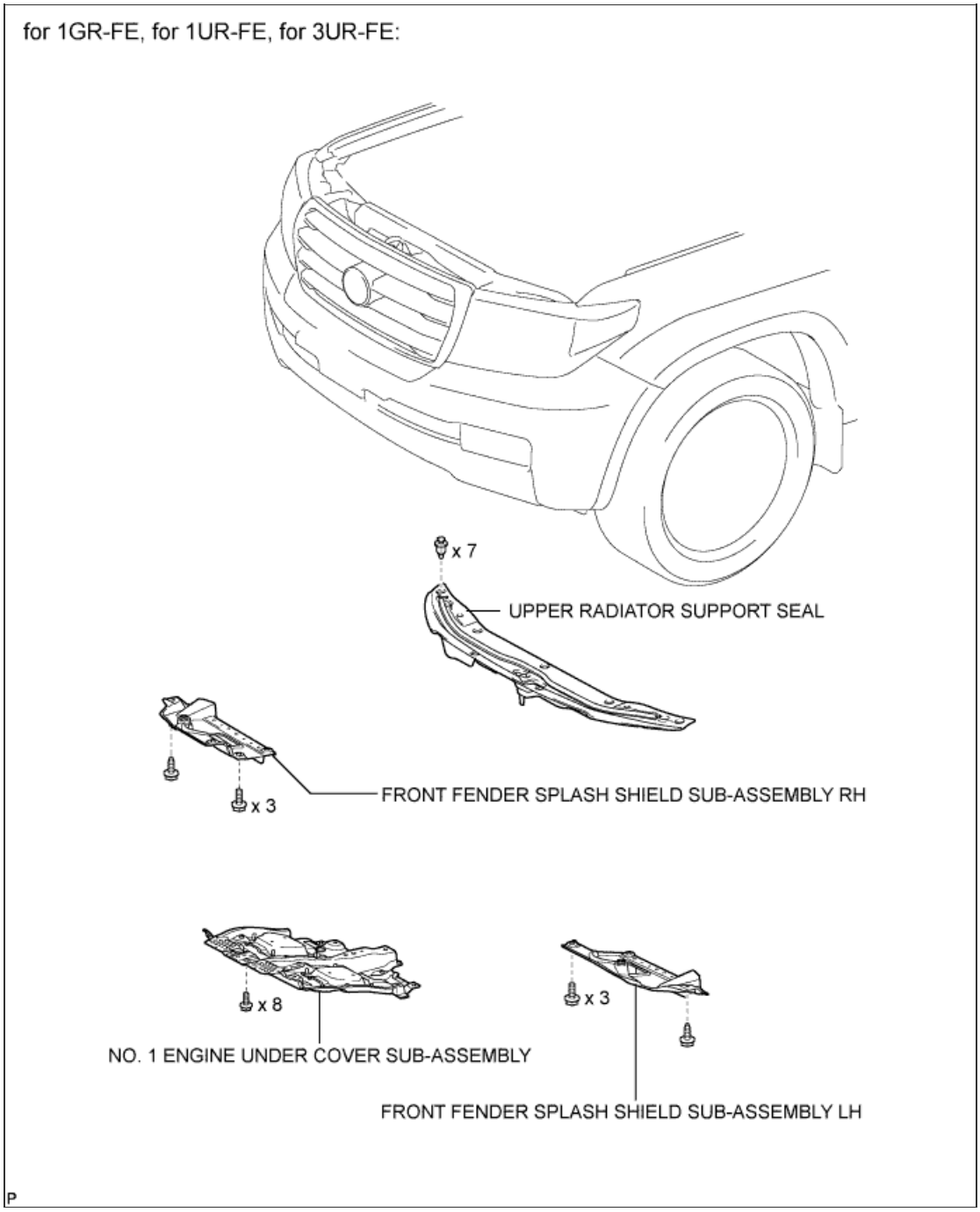
b. w/ Winch:
(Click here)

## 21. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

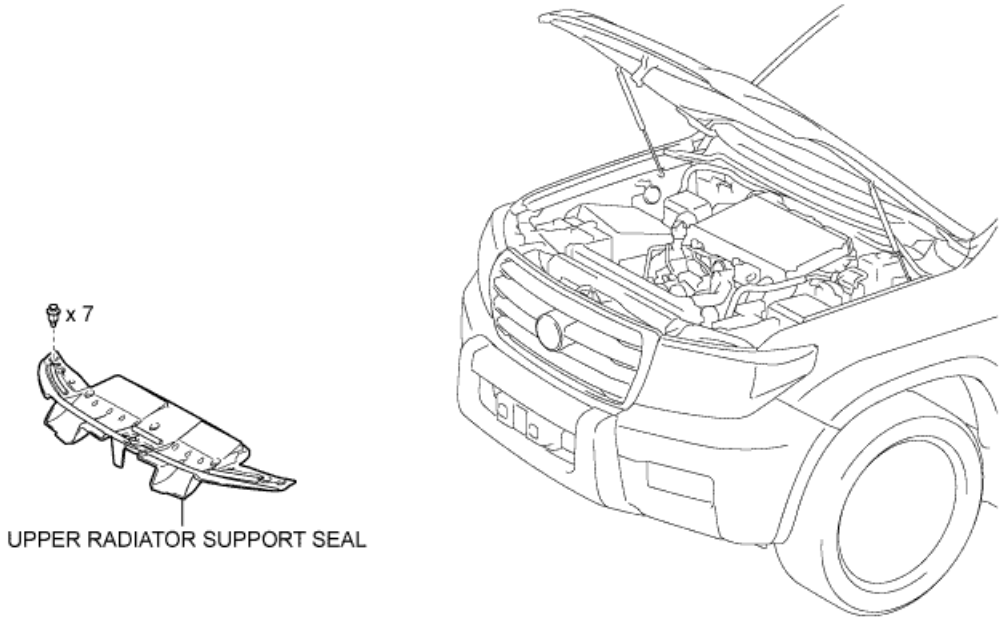
a. for Standard:
(Click here)

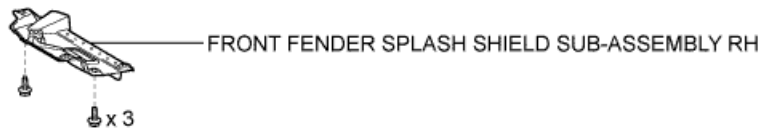
b. w/ Winch:
(Click here)

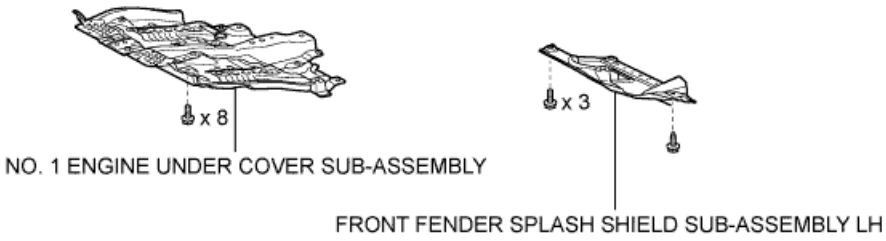
**for Preparation** Click here



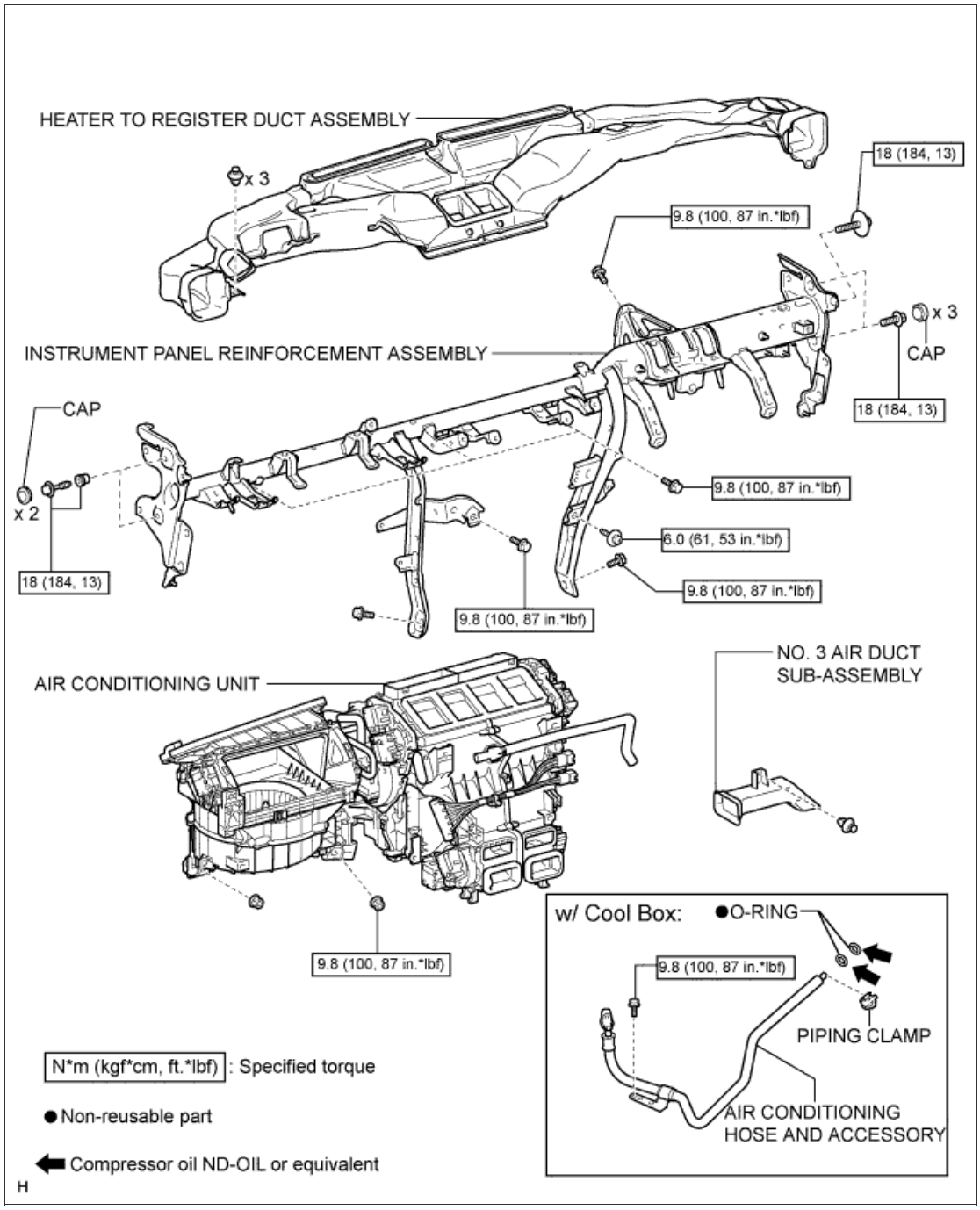
for 1VD-FTV:

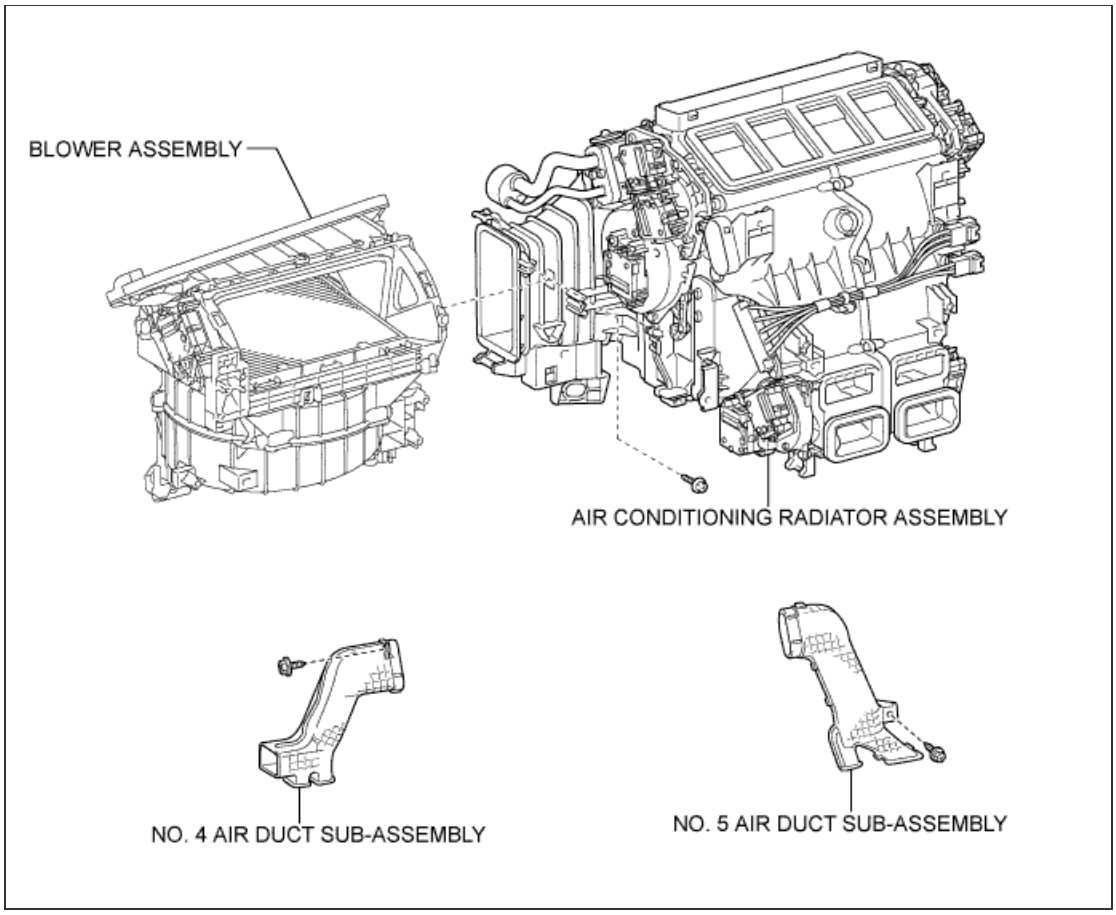

x 7
UPPER RADIATOR SUPPORT SEAL


FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH
x 3

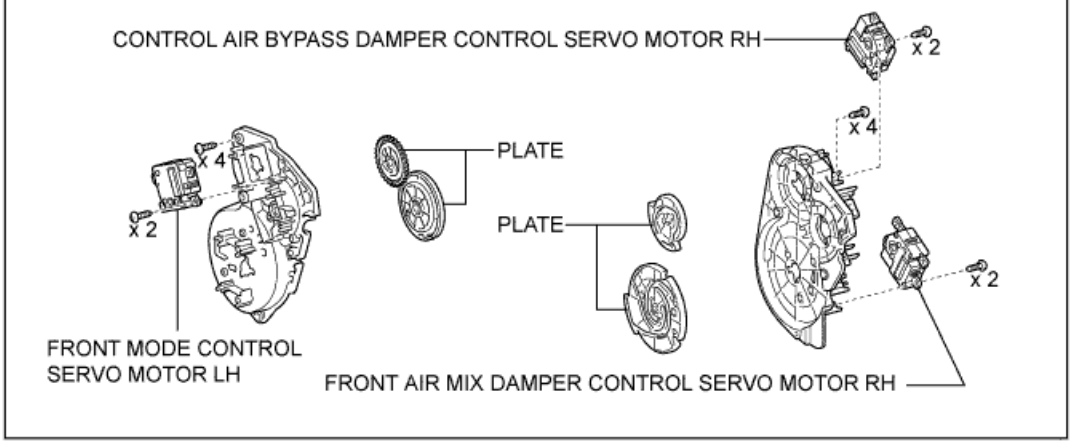

x 8
NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY
x 3
FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

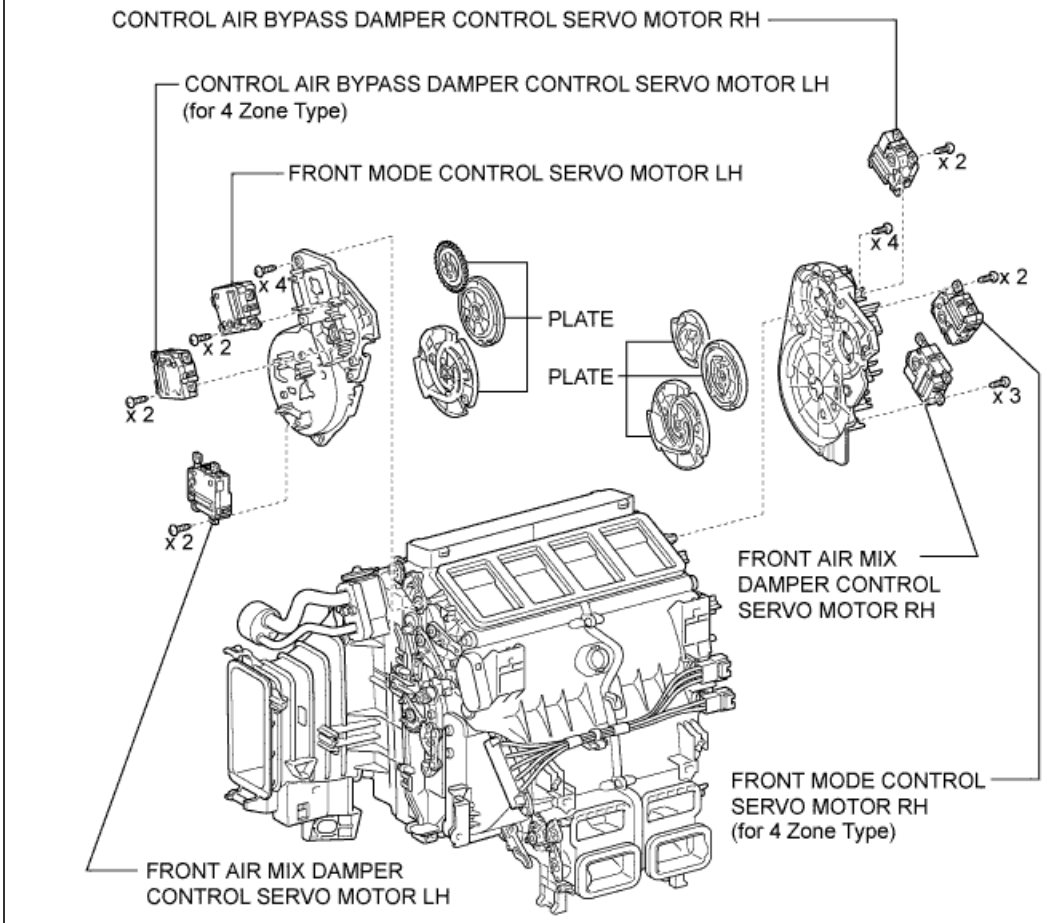
P


HEATER TO REGISTER DUCT ASSEMBLY
x 3
18 (184, 13)
9.8 (100, 87 in.*lbf)
INSTRUMENT PANEL REINFORCEMENT ASSEMBLY
x 3
CAP
18 (184, 13)
CAP
x 2
18 (184, 13)
9.8 (100, 87 in.*lbf)
6.0 (61, 53 in.*lbf)
9.8 (100, 87 in.*lbf)
9.8 (100, 87 in.*lbf)
AIR CONDITIONING UNIT
NO. 3 AIR DUCT
SUB-ASSEMBLY
9.8 (100, 87 in.*lbf)
w/ Cool Box:
O-RING
9.8 (100, 87 in.*lbf)
PIPING CLAMP
AIR CONDITIONING
HOSE AND ACCESSORY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
Compressor oil ND-OIL or equivalent
H

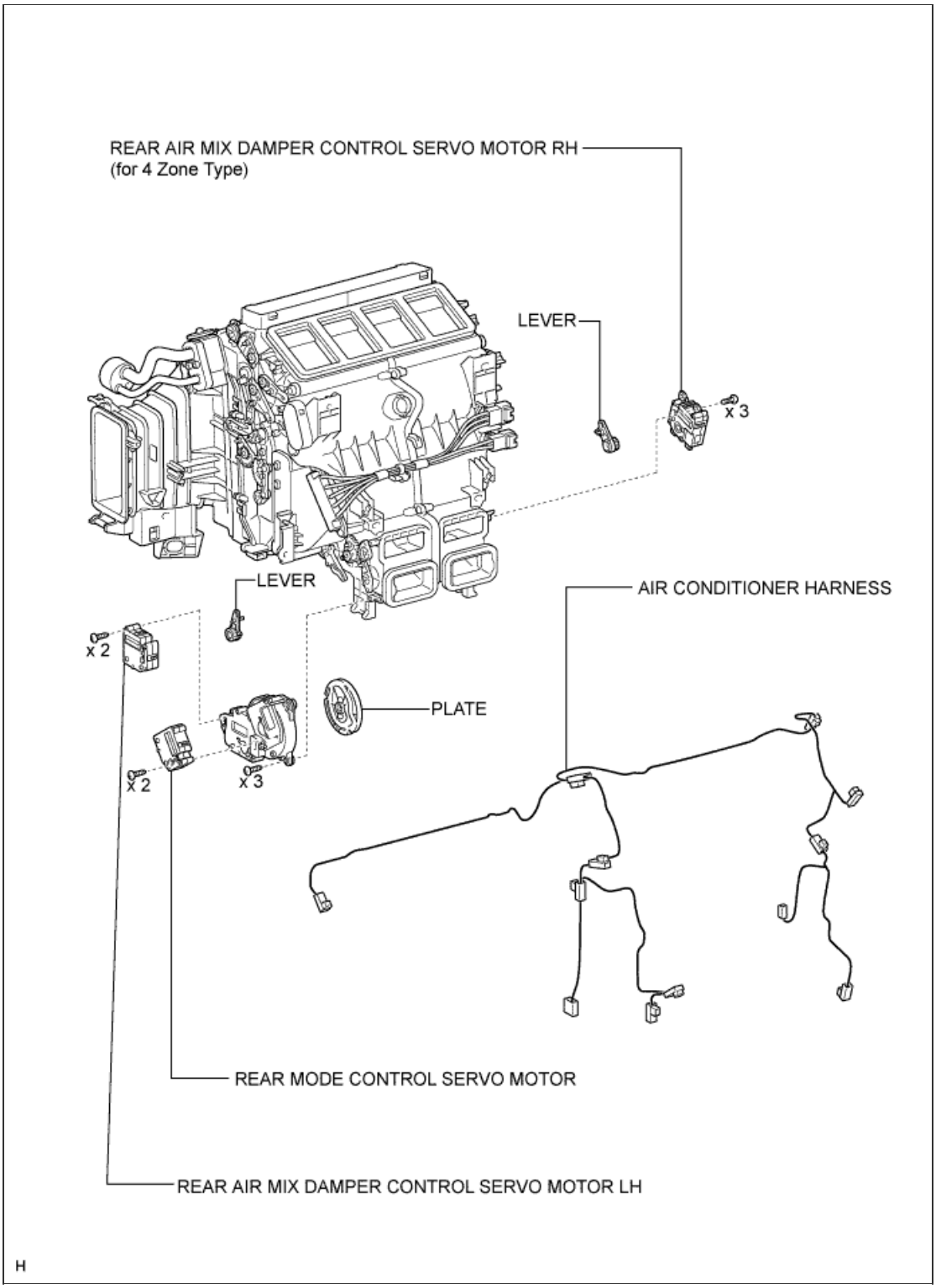

BLOWER ASSEMBLY
AIR CONDITIONING RADIATOR ASSEMBLY
NO. 4 AIR DUCT SUB-ASSEMBLY
NO. 5 AIR DUCT SUB-ASSEMBLY

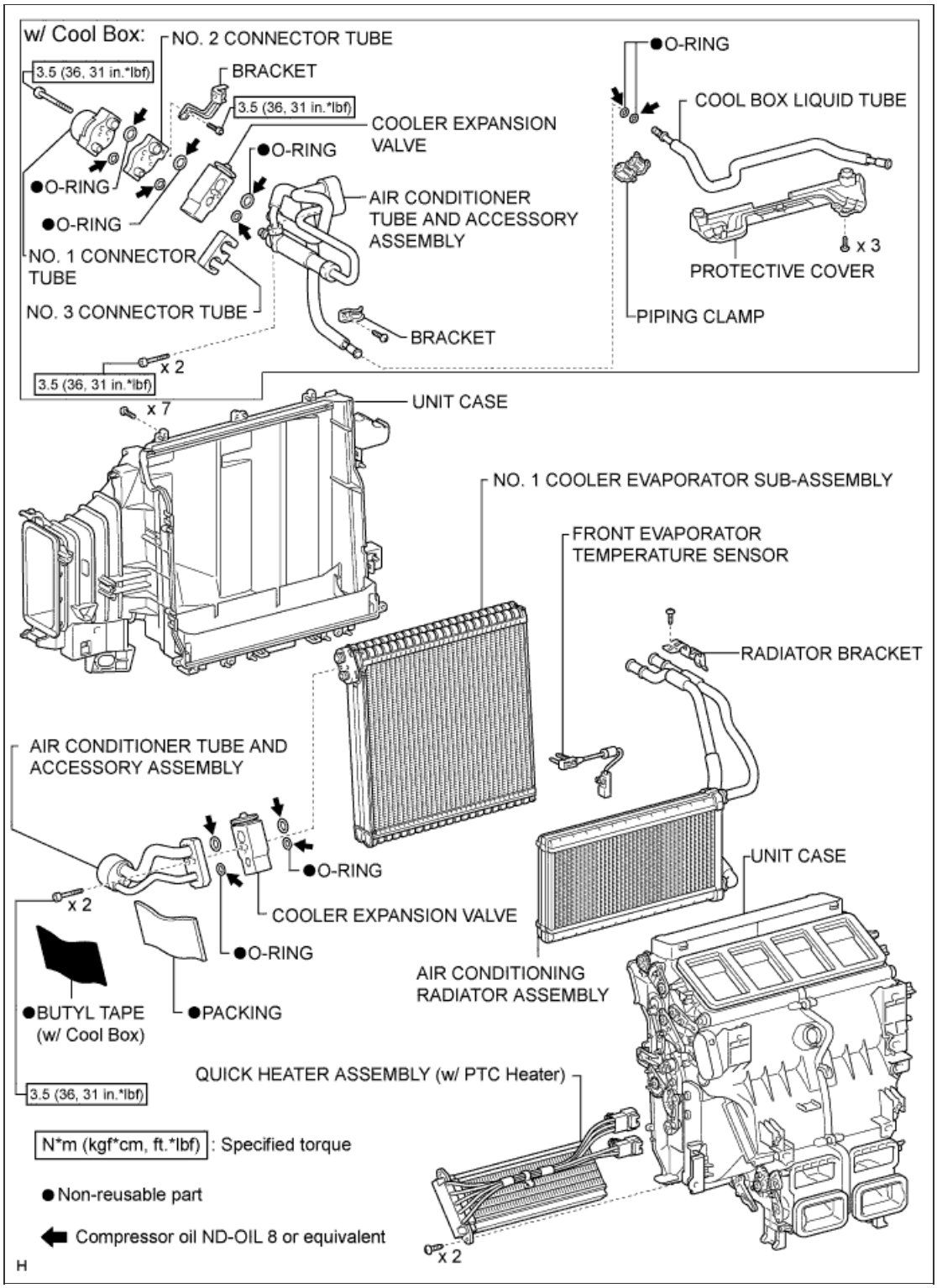
for Manual Air Conditioning System:




H


REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH
(for 4 Zone Type)
LEVER
x 3
LEVER
AIR CONDITIONER HARNESS
x 2
PLATE
x 2
x 3
REAR MODE CONTROL SERVO MOTOR
REAR AIR MIX DAMPER CONTROL SERVO MOTOR LH
H


w/ Cool Box:
NO. 2 CONNECTOR TUBE
3.5 (36, 31 in.*lbf)
BRACKET
3.5 (36, 31 in.*lbf)
COOLER EXPANSION VALVE
●O-RING
●O-RING
●O-RING
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
NO. 1 CONNECTOR TUBE
NO. 3 CONNECTOR TUBE
BRACKET
x 2
3.5 (36, 31 in.*lbf)
●O-RING
COOL BOX LIQUID TUBE
x 3
PROTECTIVE COVER
PIPING CLAMP
x 7
UNIT CASE
NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY
FRONT EVAPORATOR TEMPERATURE SENSOR
RADIATOR BRACKET
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
●O-RING
x 2
COOLER EXPANSION VALVE
●O-RING
●BUTYL TAPE (w/ Cool Box)
●PACKING
3.5 (36, 31 in.*lbf)
UNIT CASE
AIR CONDITIONING RADIATOR ASSEMBLY
QUICK HEATER ASSEMBLY (w/ PTC Heater)
x 2
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
Compressor oil ND-OIL 8 or equivalent
H

**for Preparation** Click here

## 1. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 2. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 3. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. for 1GR-FE:
(Click here)

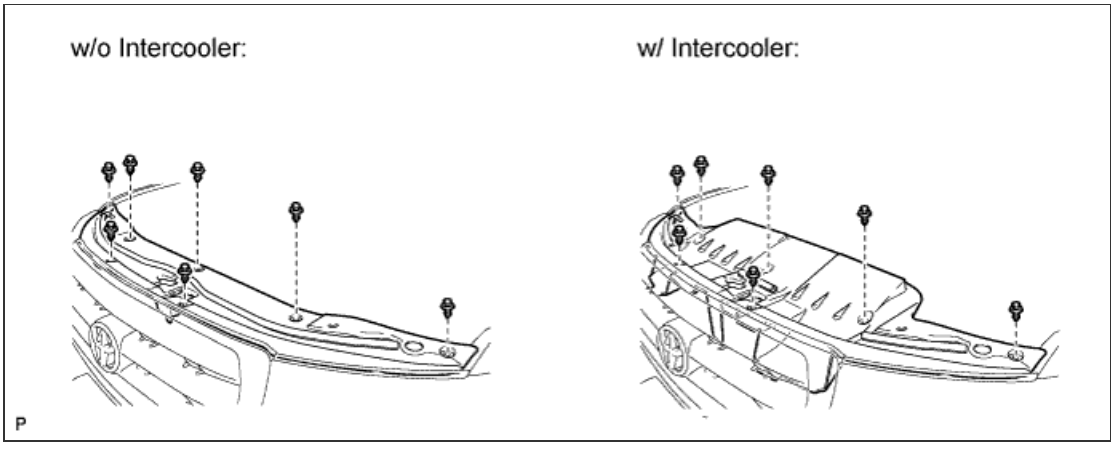
b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here )

## 4. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 5. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 6. DRAIN ENGINE COOLANT

a. for 1GR-FE:
(Click here)

b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 7. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 8. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

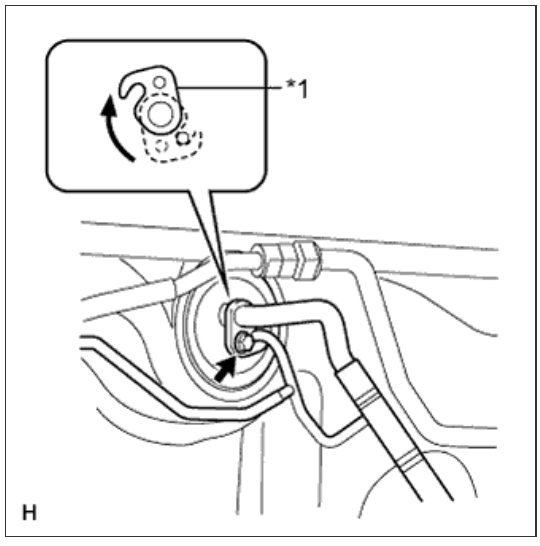
## 9. DISCONNECT AIR CONDITIONING TUBE ASSEMBLY

a. Remove the bolt.

b. Detach the plate as shown in the illustration.

**Text in Illustration**

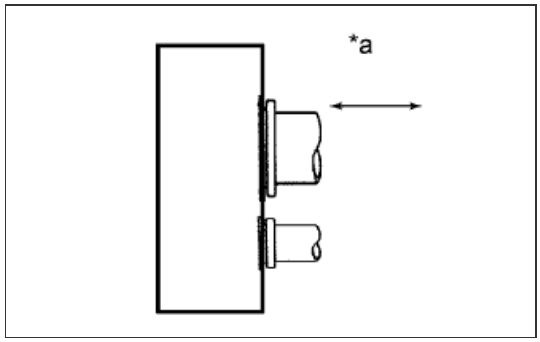
| | |
|---|---|
| *1 | Plate |



c. Disconnect the air conditioning tube assembly.

**NOTICE:**

- **Do not use a screwdriver or similar tool to disconnect the tube.**
- **Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.**




**Text in Illustration**

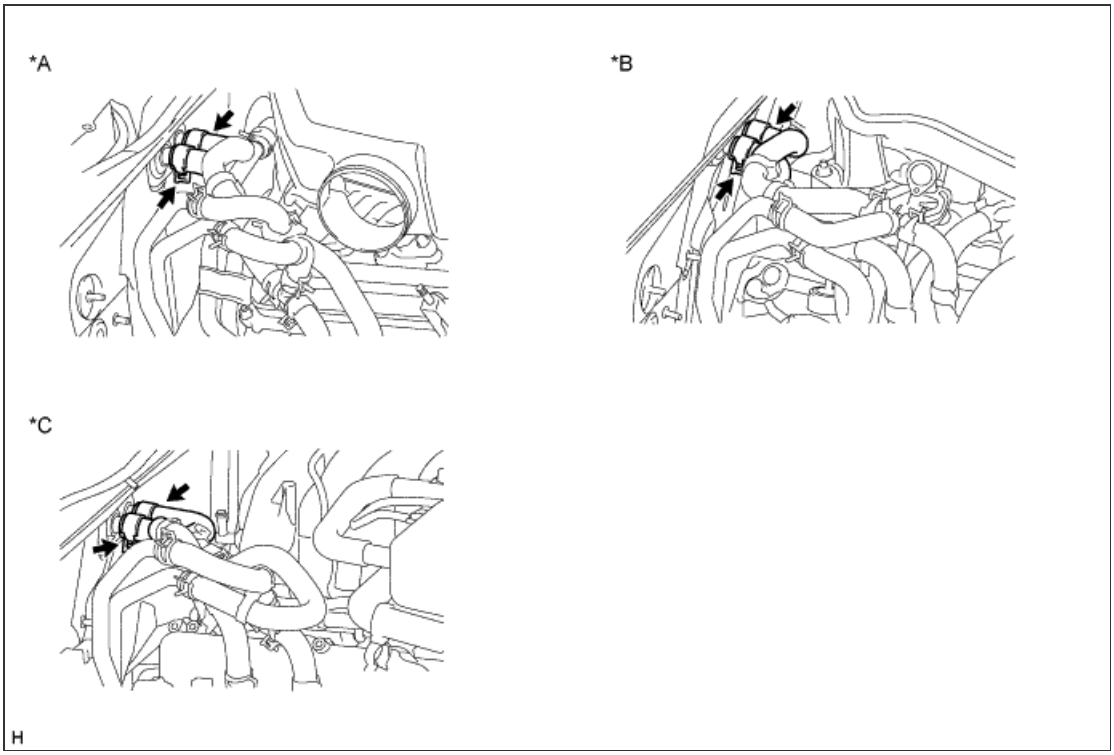
| | |
|---|---|
| *a | Disconnect tube by hand |

d. Remove the 2 O-rings from the air conditioning tube assembly.

## 10. DISCONNECT HEATER WATER INLET HOSE AND HEATER WATER OUTLET HOSE

a. Using pliers, grip the claws of the clips and slide the 2 clips.

b. Disconnect the 2 heater water hoses.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for 1GR-FE | *B | for 1VD-FTE |
| *C | for 1UR-FE, for 3UR-FE | - | - |

## 11. REMOVE FRONT WIPER MOTOR AND BRACKET

(Click here)

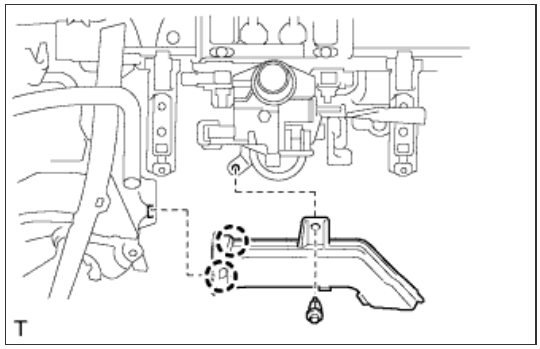
## 12. REMOVE INSTRUMENT PANEL SUB-ASSEMBLY

(Click here)

## 13. REMOVE NO. 3 AIR DUCT SUB-ASSEMBLY

a. Remove the clip.

b. Detach the 2 claws and remove the duct.




## 14. REMOVE STEERING COLUMN ASSEMBLY

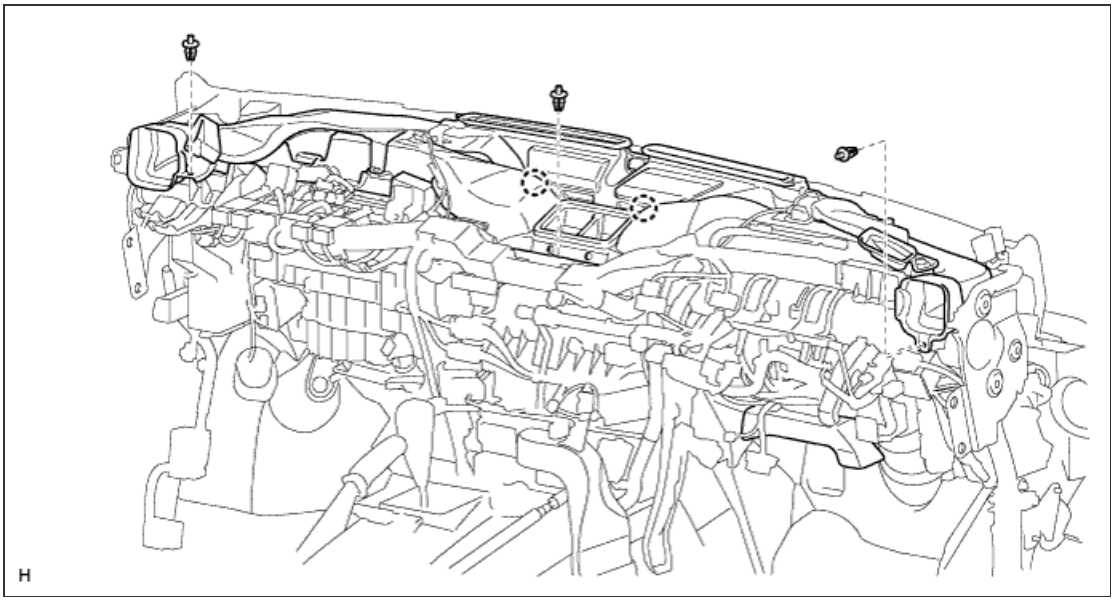
a. for Power Tilt and Power Telescopic Steering Column:
(Click here)

b. for Manual Tilt and Manual Telescopic Steering Column:
(Click here)

## 15. REMOVE HEATER TO REGISTER DUCT ASSEMBLY

a. Remove the 3 clips.

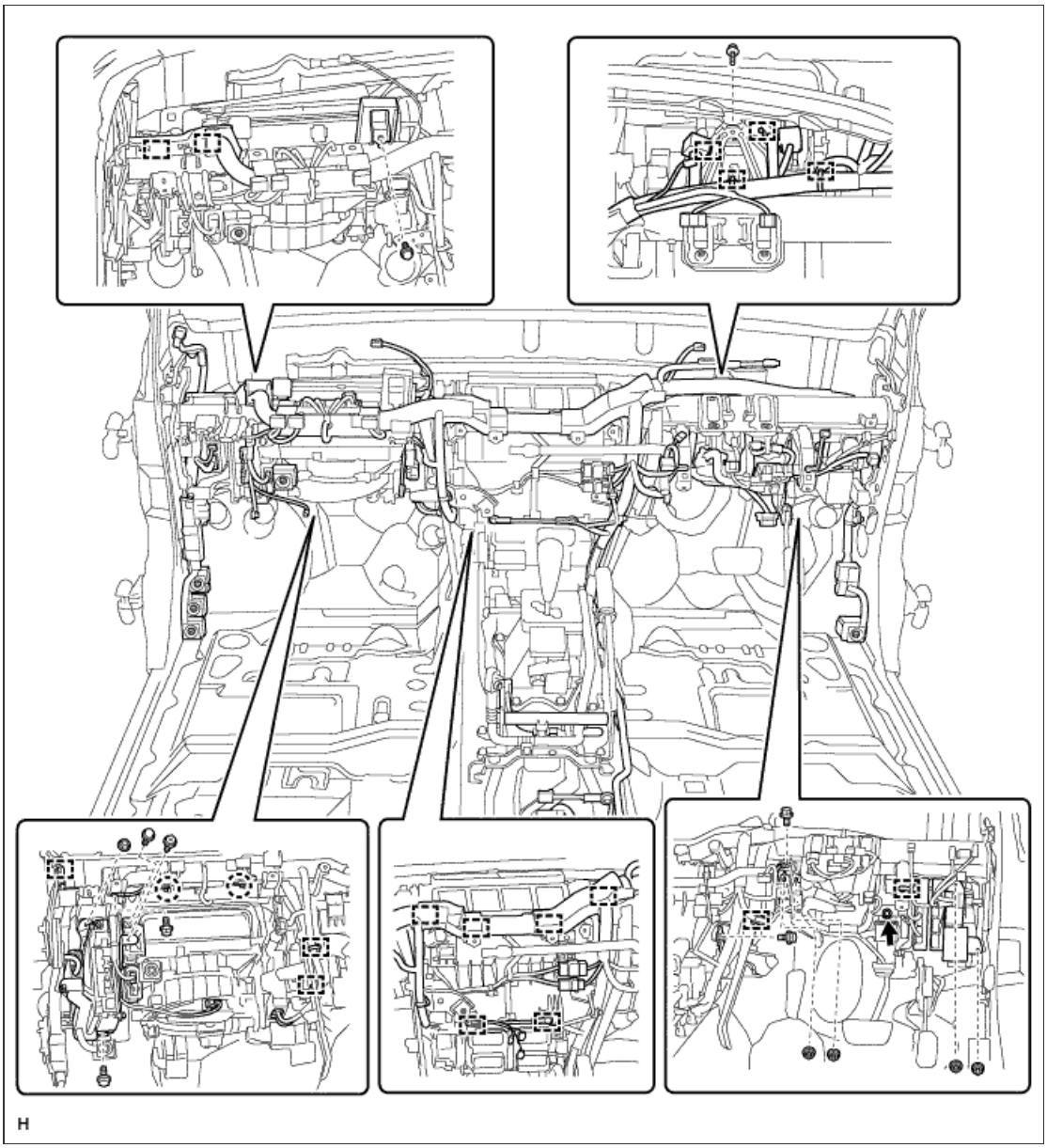
b. Detach the 2 claws and remove the duct.




## 16. REMOVE INSTRUMENT PANEL REINFORCEMENT ASSEMBLY

a. Detach the 17 clamps and 2 claws and remove the 9 bolts and 5 nuts.

b. Disconnect the connectors and wire harness.



H

c. Remove the instrument panel reinforcement.

i. for Driver Side:
Remove the 3 caps and 3 bolts.

ii. for Passenger Side:
Remove the 2 caps.

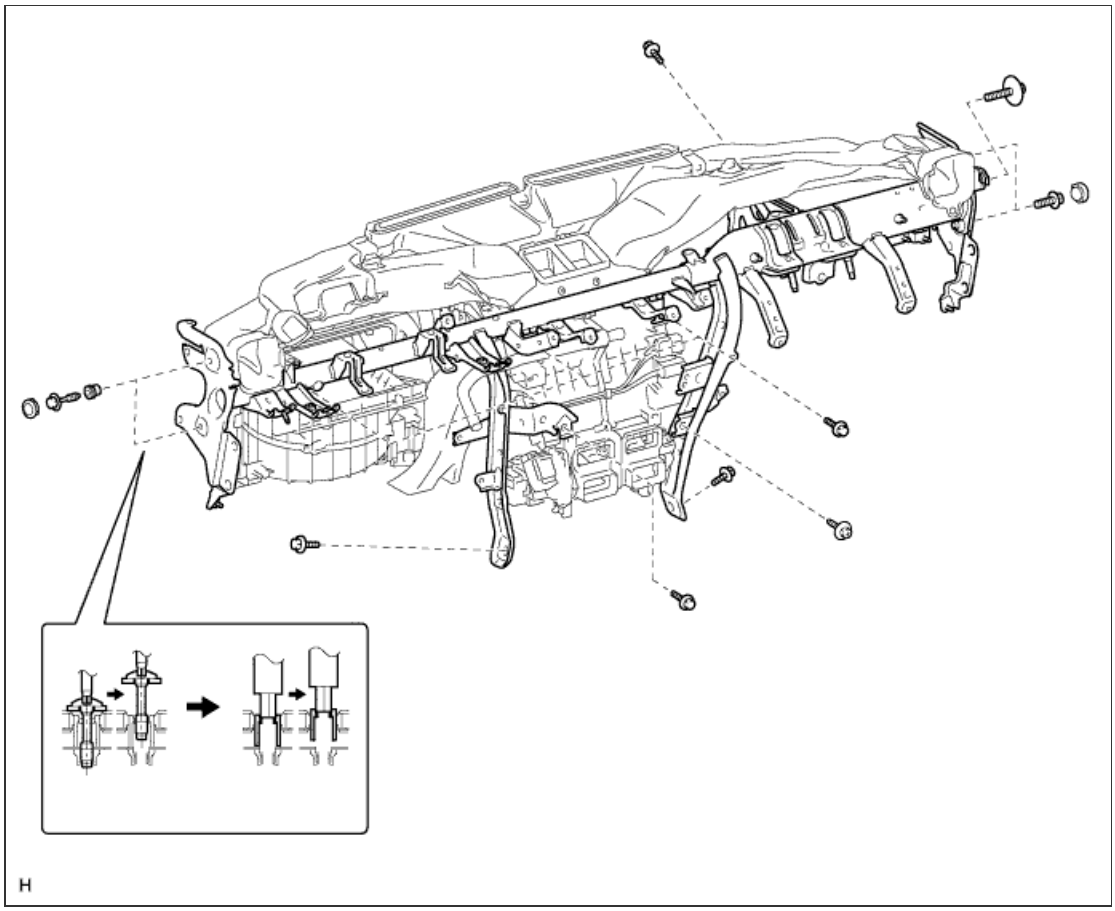
iii. for Passenger Side:
Using a T40 "TORX" socket, remove the 2 "TORX" bolts.

**HINT:**

When removing the bolts, the collars may come off with the bolts.

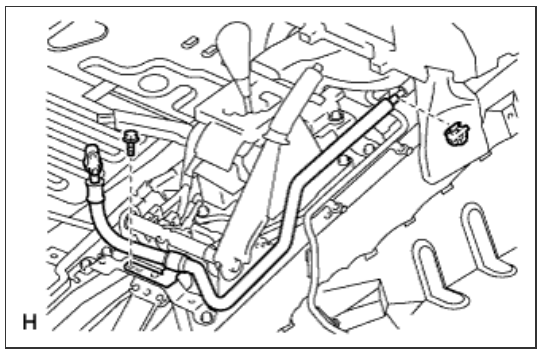
iv. for Passenger Side:
Using a 12 mm hexagon wrench, remove the 2 collars.

v. Remove the 7 bolts, screw and instrument panel reinforcement.




**17. REMOVE AIR CONDITIONING HOSE AND ACCESSORY (w/ Cool Box)**

a. Remove the bolt.



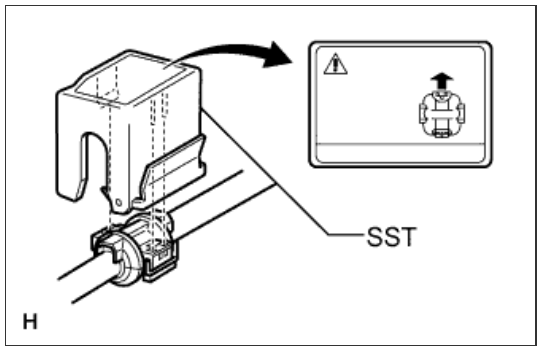

b. Using SST, remove the piping clamp.

*SST*
09870-00025

i. Attach SST to the piping clamp.

**HINT:**

Confirm the direction of the piping clamp claw and SST by referring to the illustration on the caution label.



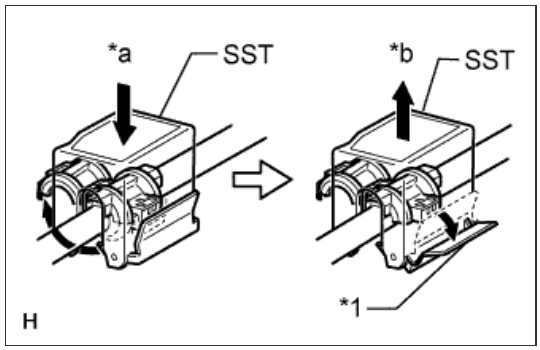

ii. Push down SST and release the clamp lock.

**NOTICE:**

Be careful not to deform the tubes when pushing SST.

**Text in Illustration**

| | |
|---|---|
| *1 | Release Lever |
| *a | Push |
| *b | Pull |




iii. Pull SST slightly and push the release lever, then remove the piping clamp with SST.

iv. Remove the piping clamp from SST.

c. Disconnect the hose and accessory from the liquid tube to remove it.

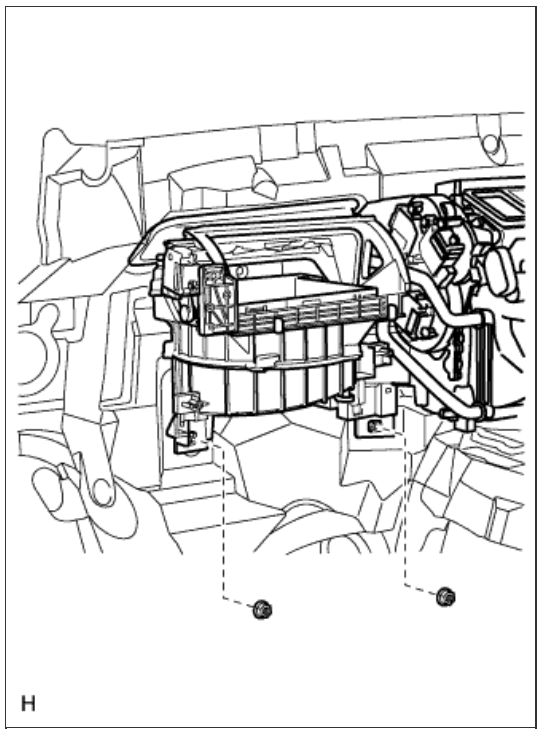
**NOTICE:**

Cap the open fittings immediately to keep moisture or dirt out of the system.

d. Remove the 2 O-rings from the air conditioning hose and accessory.

## 18. REMOVE AIR CONDITIONING UNIT

a. Remove the 2 nuts and air conditioning unit.



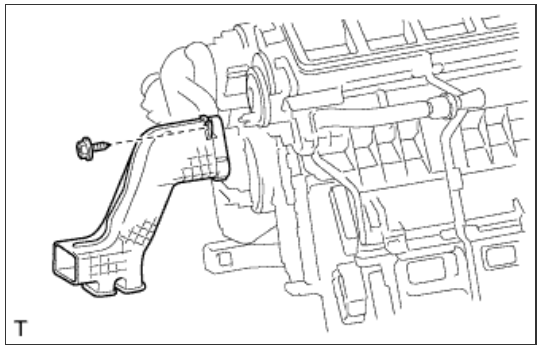
**for Preparation** Click here

## 1. REMOVE BLOWER ASSEMBLY

(Click here)

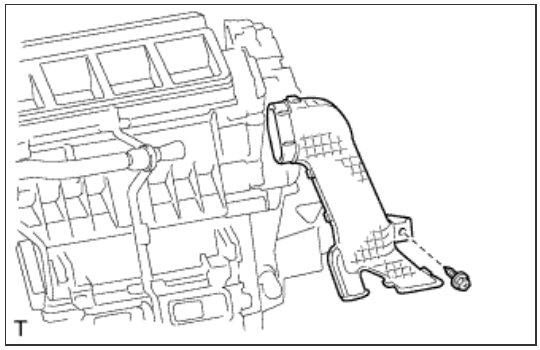
## 2. REMOVE NO. 4 AIR DUCT SUB-ASSEMBLY

a. Remove the screw and duct.



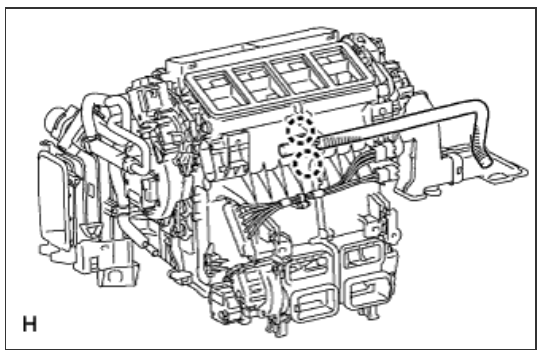

## 3. REMOVE NO. 5 AIR DUCT SUB-ASSEMBLY

a. Remove the screw and duct.




## 4. REMOVE ASPIRATOR (for Automatic Air Conditioning System)

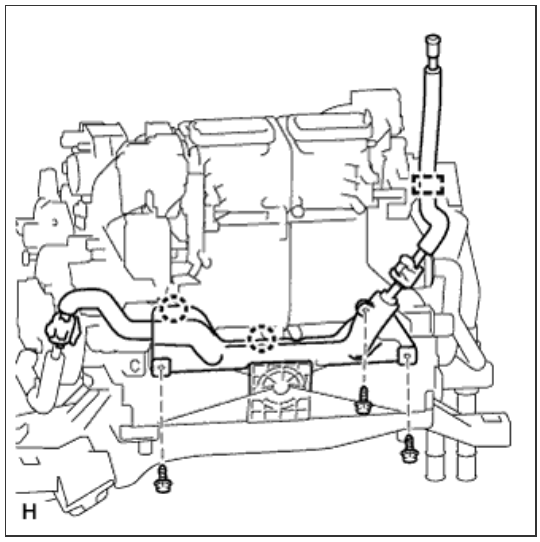
a. Detach the 2 claws and remove the aspirator.




## 5. REMOVE COOL BOX LIQUID TUBE (w/ Cool Box)

a. Remove the 3 screws.

b. Detach the 2 claws and remove the protective cover.



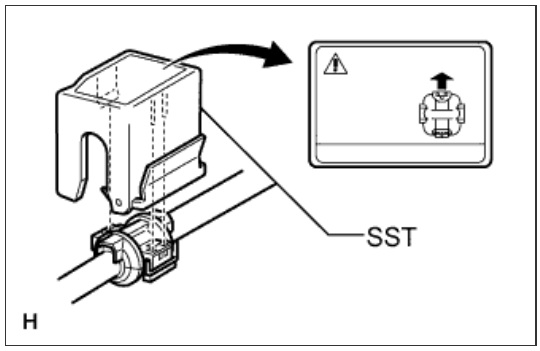

c. Using SST, remove the piping clamp.

*SST*
09870-00025

i. Attach SST to the piping clamp.

**HINT:**

Confirm the direction of the piping clamp claw and SST by referring to the illustration on the caution label.




ii. Push down SST and release the clamp lock.

**NOTICE:**

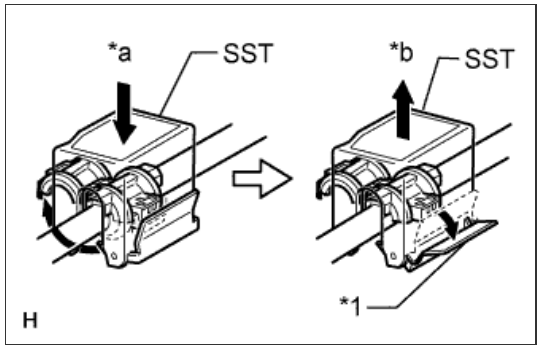
Be careful not to deform the tubes when pushing SST.

iii. Pull SST slightly and push the release lever, then remove the piping clamp with SST.

iv. Remove the piping clamp from SST.

**Text in Illustration**

| | |
|---|---|
| *1 | Release Lever |
| *a | Push |
| *b | Pull |




d. Disconnect the tube.

**NOTICE:**

Cap the open fittings immediately to keep moisture or dirt out of the system.

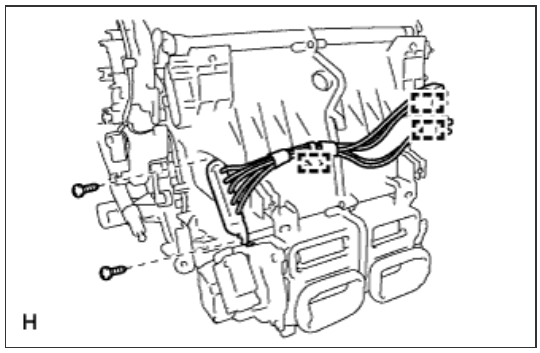
e. Detach the clamp and remove the liquid tube.

f. Remove the 2 O-rings from the liquid tube.

## 6. REMOVE QUICK HEATER ASSEMBLY (w/ PTC Heater)

a. Remove the 2 screws.

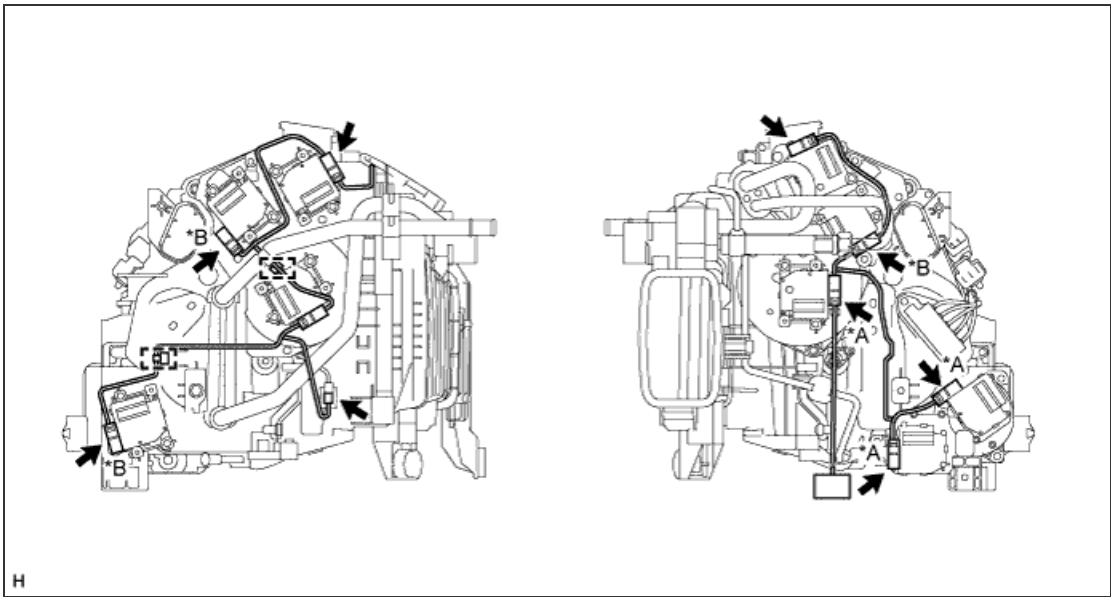
b. Detach the 3 clamps and remove the quick heater assembly (PTC heater assembly).




## 7. REMOVE AIR CONDITIONER HARNESS

a. Disconnect the connectors.

b. Detach the 2 clamps and remove the harness.



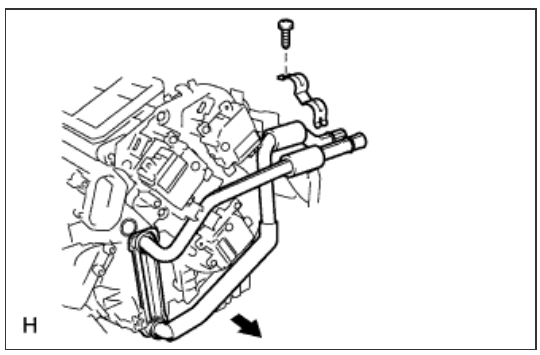

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Automatic Air Conditioning System | *B | for 4 Zone Type |

## 8. REMOVE AIR CONDITIONING RADIATOR ASSEMBLY

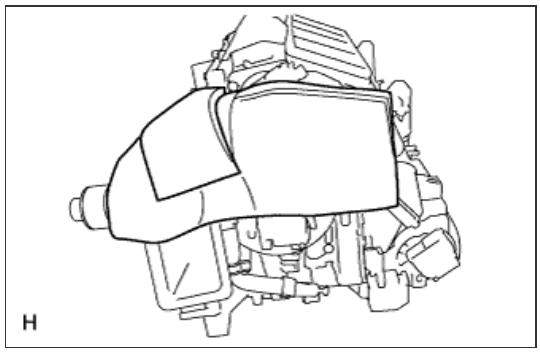
a. Remove the screw and radiator bracket.

b. Remove the radiator.

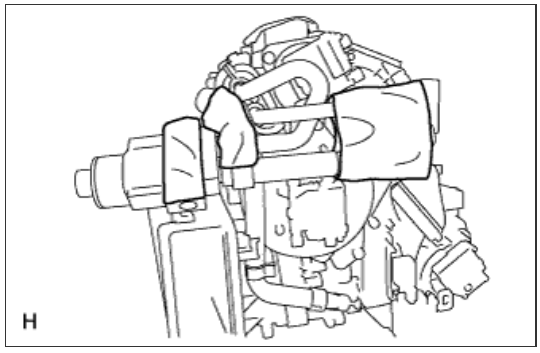


## 9. REMOVE COOLER EXPANSION VALVE (w/ Cool Box)

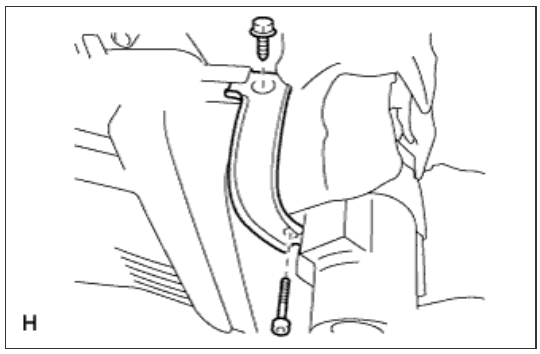
a. Remove the packing.




b. Remove the butyl tape.

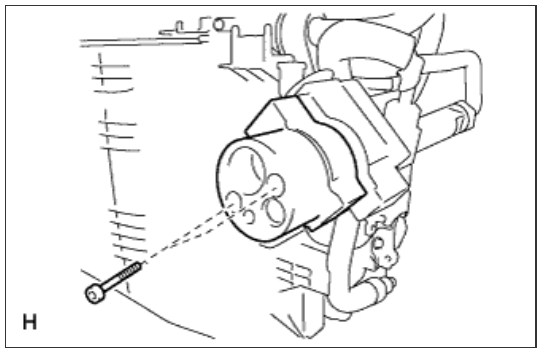



c. Using a 4 mm hexagon wrench, remove the hexagon bolt, screw and bracket.




d. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and No. 1 connector tube.

e. Remove the 2 O-rings from the No. 1 connector tube.




f. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts, No. 2 connector tube, expansion valve and No. 3 connector tube.

g. Remove the 2 O-rings from the No. 2 connector tube.

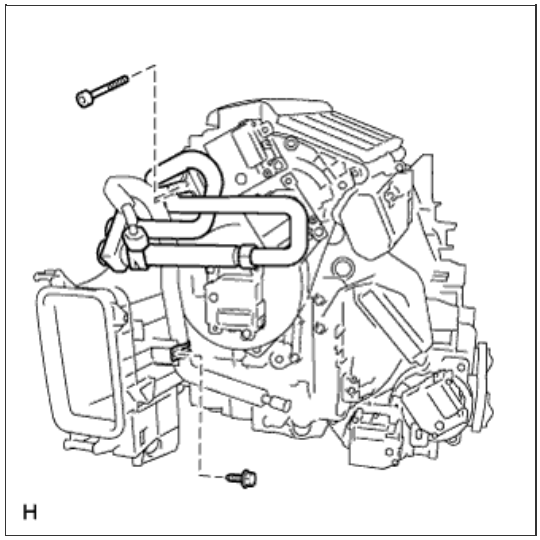



## 10. REMOVE AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY (w/ Cool Box)

a. Remove the screw and bracket.

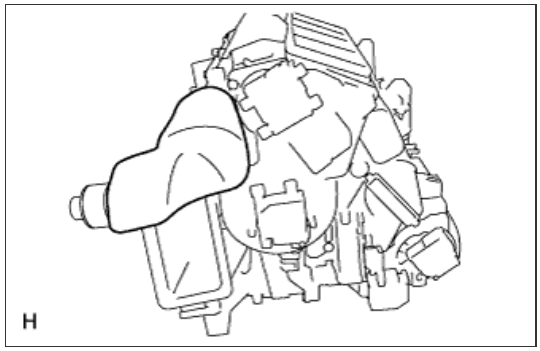
b. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and air conditioner tube and accessory assembly.

c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.




## 11. REMOVE COOLER EXPANSION VALVE (w/o Cool Box)

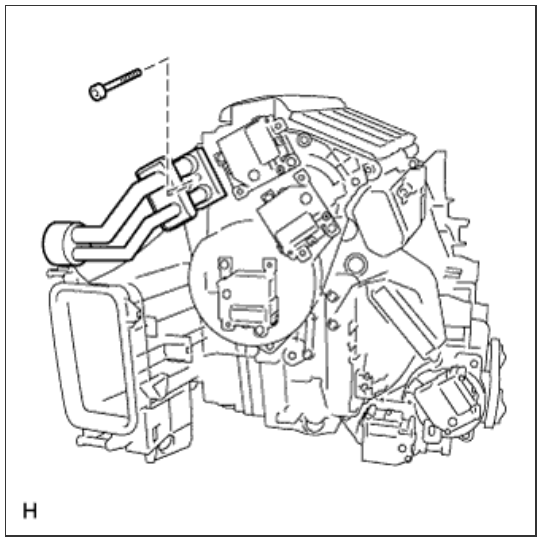
a. Remove the packing.




b. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts, air conditioner tube and accessory assembly and expansion valve.

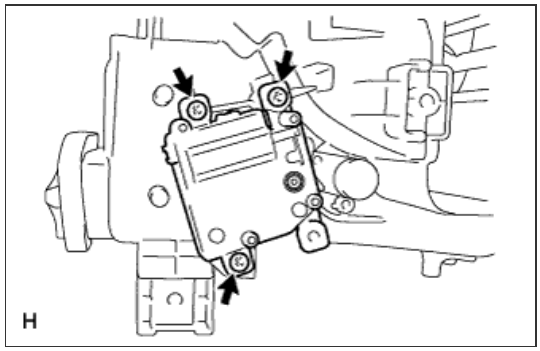
c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.

d. Remove the 2 O-rings from the cooler evaporator.



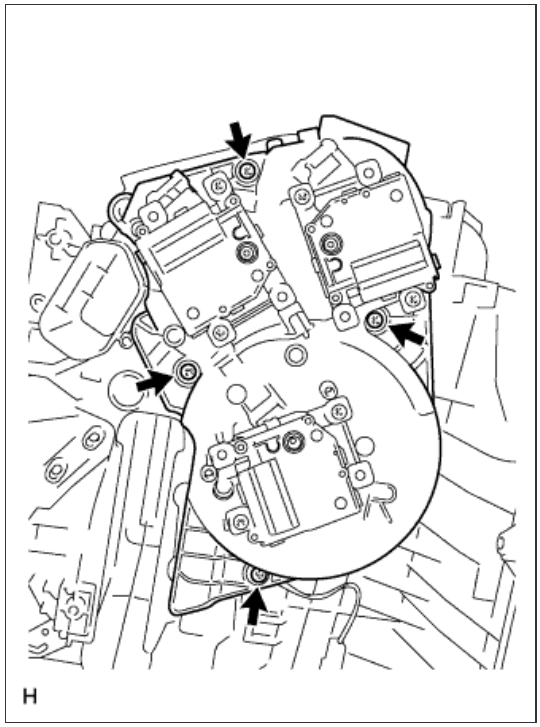

### 12. REMOVE REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH (for 4 Zone Type)

a. Remove the 3 screws and servo motor.




### 13. REMOVE SERVO MOTOR

a. Remove the 4 screws and servo motor unit.



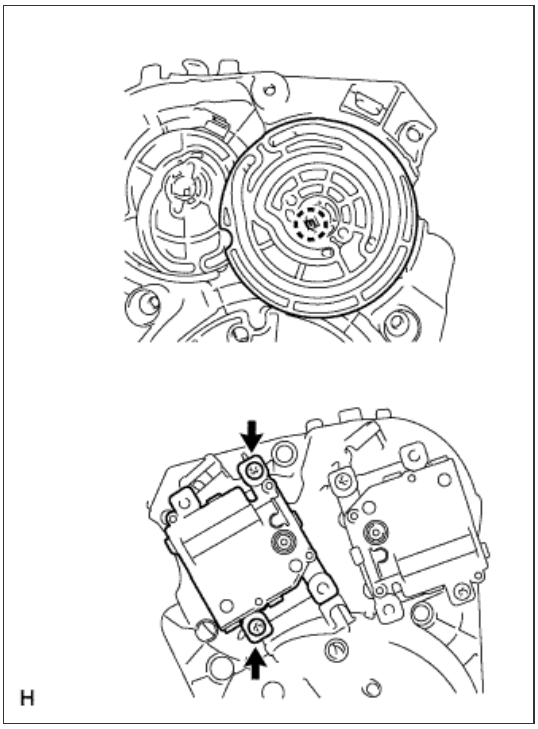

b. for 4 Zone Type:
Remove the front mode control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



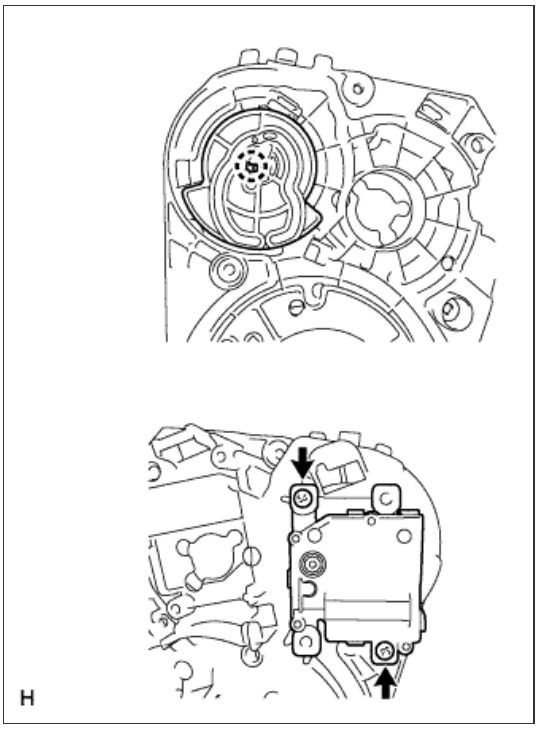

c. Remove the control air bypass damper control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



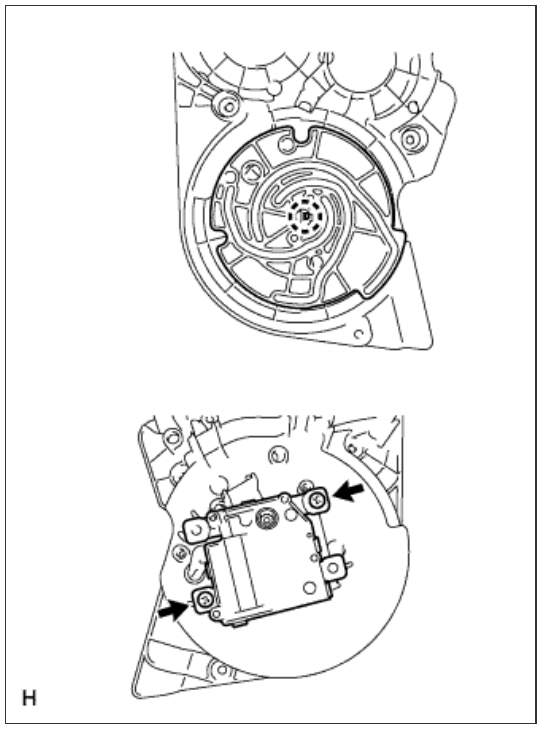

d. Remove the front air mix damper control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

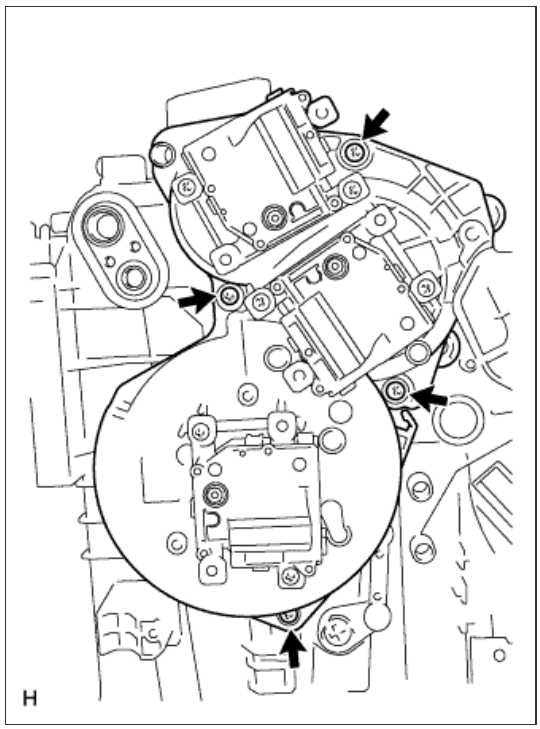
**NOTICE:**

Be careful not to damage the claw of the plate.




## 14. REMOVE SERVO MOTOR

a. Remove the 4 screws and servo motor unit.



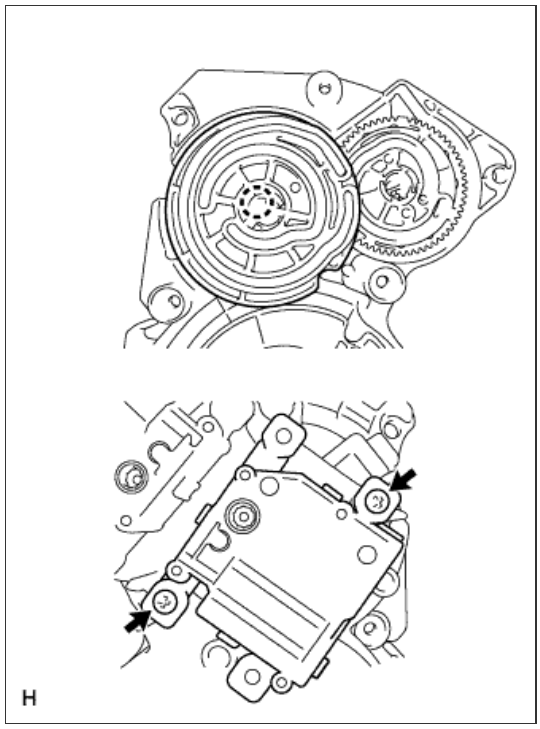

b. for 4 Zone Type:
Remove the control air bypass damper control servo motor LH

i. Remove the 2 screws.

ii. Detach the claw and remove the plate.

**NOTICE:**

Be careful not to damage the claw of the plate.



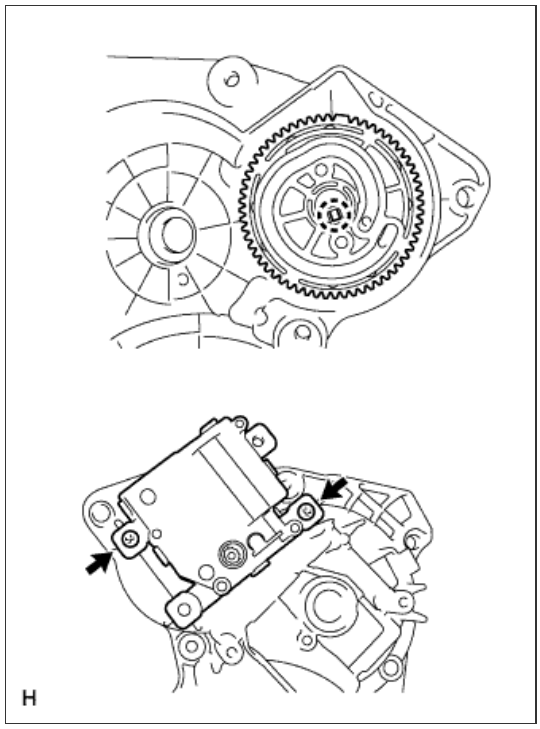

c. Remove the front mode control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



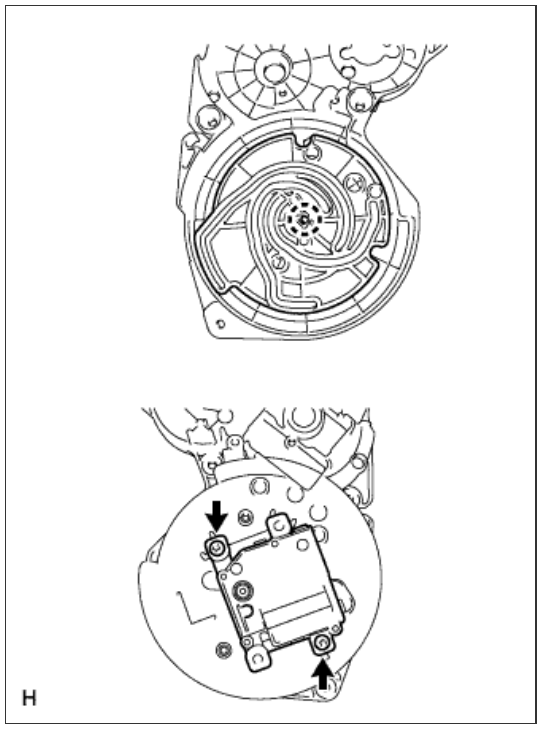

d. Remove the front air mix damper control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

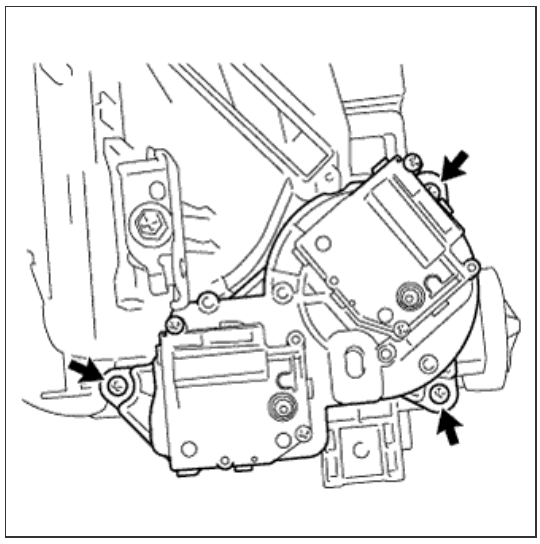
**NOTICE:**

Be careful not to damage the claw of the plate.




## 15. REMOVE SERVO MOTOR

a. Remove the 3 screws and servo motor unit.



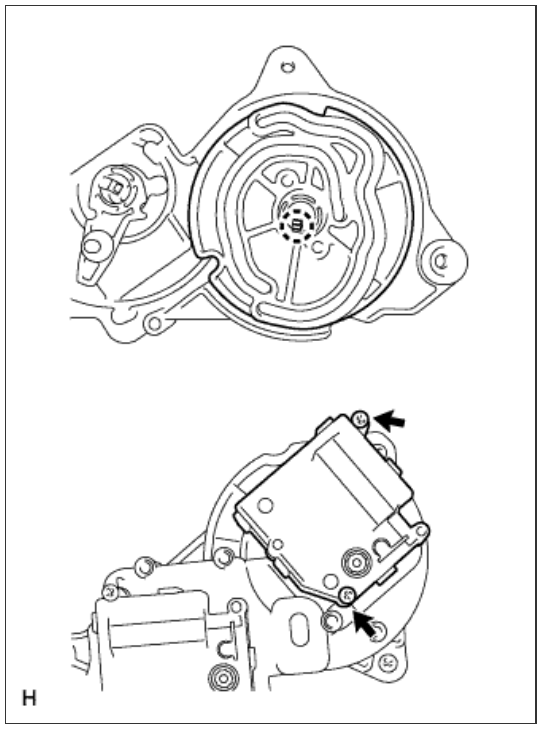
b. Remove the rear mode control servo motor.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



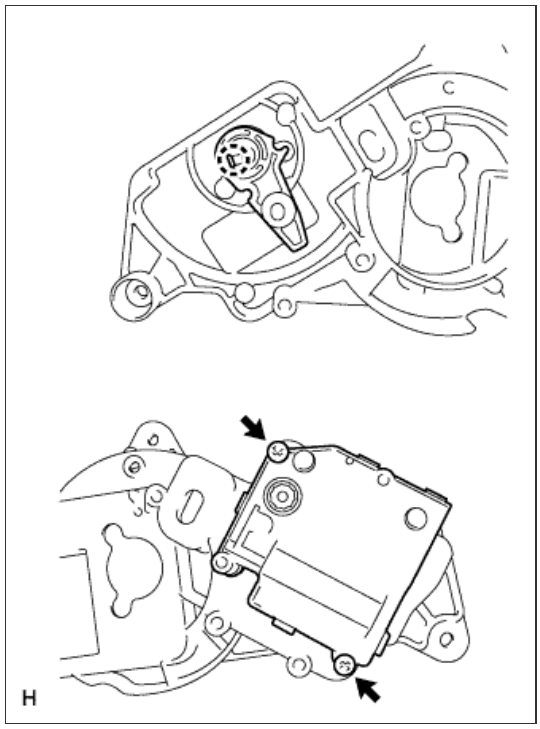

c. Remove the rear air mix damper control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the lever and servo motor.

**NOTICE:**

Be careful not to damage the claw of the lever.

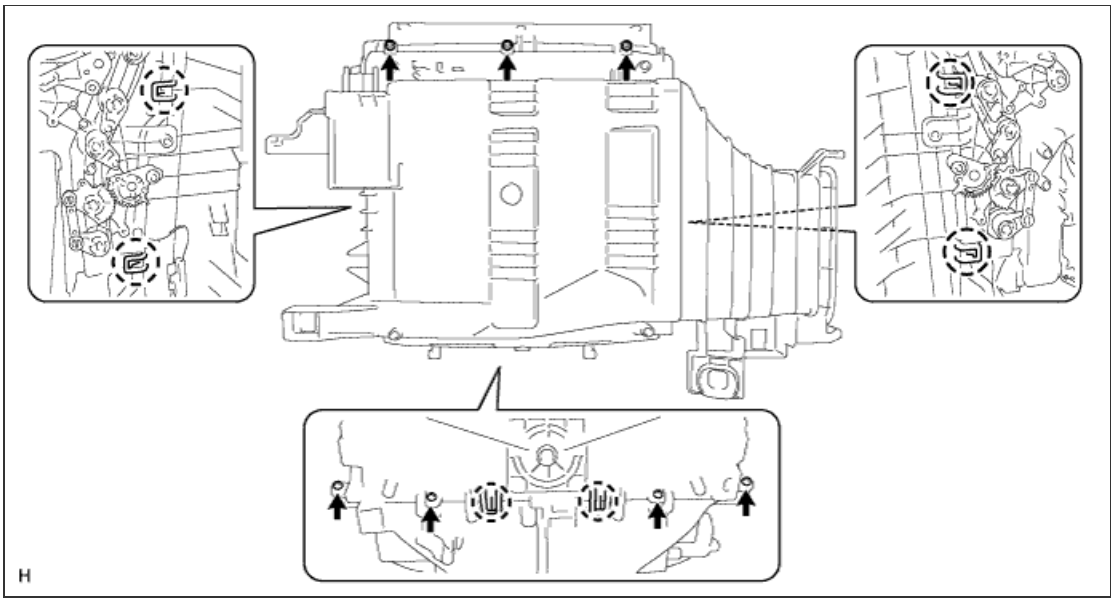



## 16. REMOVE NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

a. Remove the 7 screws.

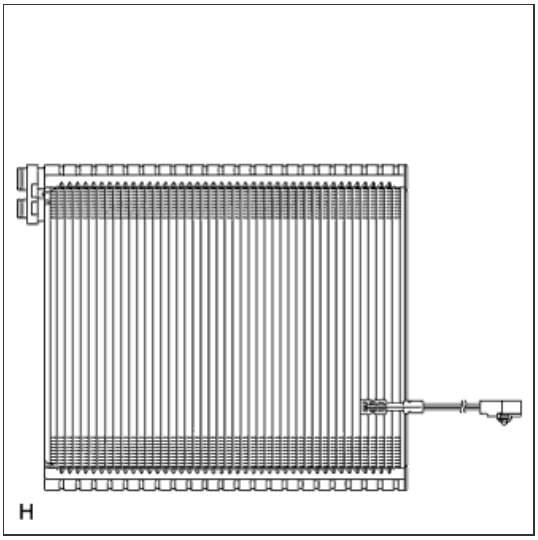
b. Detach the 6 claws and remove the unit case.

c. Remove the evaporator.




## 17. REMOVE FRONT EVAPORATOR TEMPERATURE SENSOR

a. Remove the front evaporator temperature sensor.



**for Preparation** Click here

## 1. INSTALL FRONT EVAPORATOR TEMPERATURE SENSOR

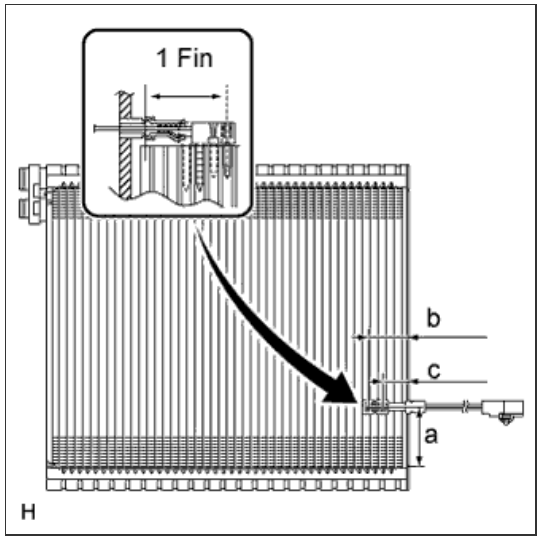
**NOTICE:**

If reusing the evaporator, do not insert the sensor into a location where the sensor was previously inserted.

a. Insert the sensor to a location that is 1 fin to the right or left of its previous location.

**Standard Dimension:**

| Area | Specified Condition |
|---|---|
| a | 50 mm (1.97 in.) |
| b | 34.3 mm (1.35 in.) |
| c | 20.9 mm (1.97 in.) |




## 2. INSTALL NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

a. Install the evaporator.

b. Attach the 6 claws to install the unit case.

c. Install the 7 screws.

## 3. INSTALL SERVO MOTOR

a. for Automatic Air Conditioning System:
Install the rear air mix damper control servo motor LH.

i. Attach the claw to install the lever and servo motor.

ii. Install the 2 screws.

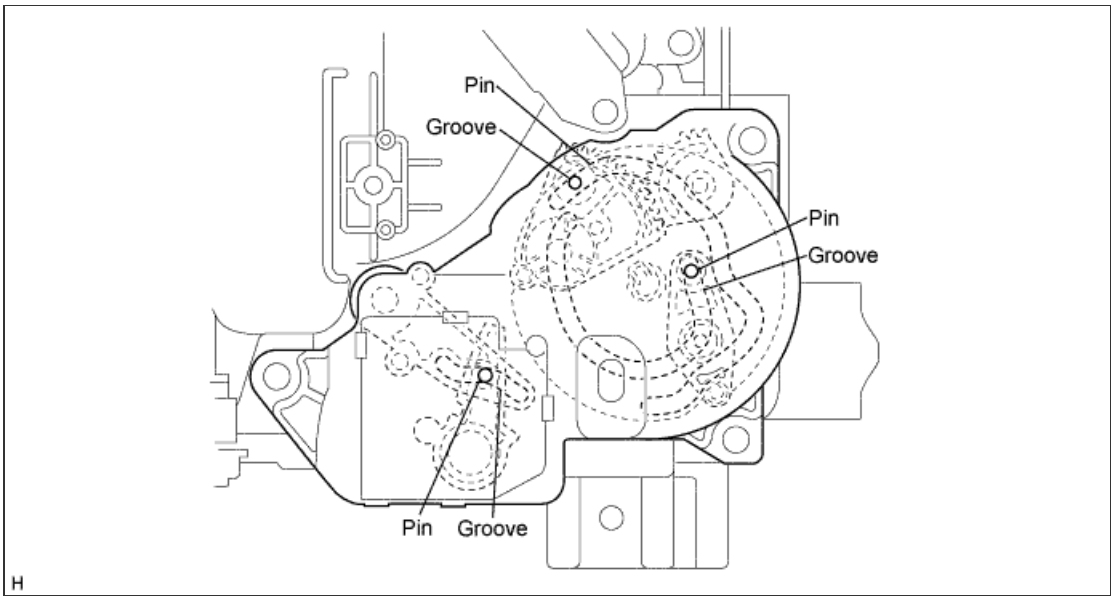
b. for Automatic Air Conditioning System:
Install the rear mode control servo motor.

i. Attach the claw to install the plate and servo motor.

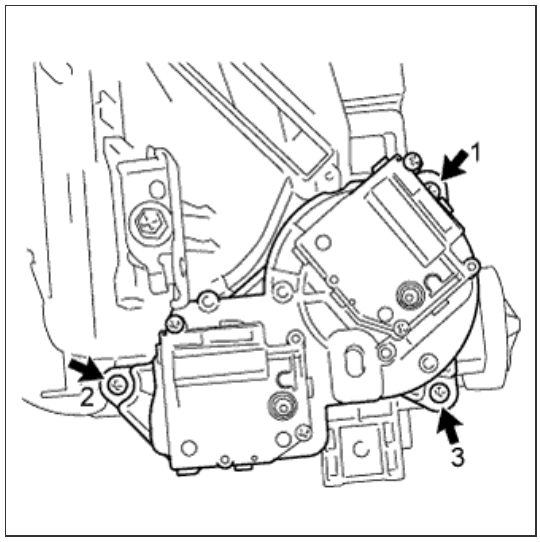
ii. Install the 2 screws.

c. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

d. Check that the pin is in the groove of the link.




e. Install the 3 screws in the order shown in the illustration, and install the servo motor unit.




## 4. INSTALL SERVO MOTOR

a. Install the front air mix damper control servo motor LH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

b. Install the front mode control servo motor LH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

c. for 4 Zone Type:
   Install the control air bypass damper control servo motor LH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

d. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

e. Install the 4 screws.

## 5. INSTALL SERVO MOTOR

a. Install the front air mix damper control servo motor RH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

b. Install the control air bypass damper control servo motor RH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

c. for 4 Zone Type:
   Install the front mode control servo motor RH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

d. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

e. Install the 4 screws.

## 6. INSTALL REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH (for 4 Zone Type)

a. Install the servo motor with the 3 screws.

## 7. INSTALL COOLER EXPANSION VALVE (w/o Cool Box)

a. Sufficiently apply compressor oil to 4 new O-rings and the fitting surface of the hose joint.

   **Compressor oil:**
   **ND-OIL 8 or equivalent**

b. Install 2 O-rings to the cooler evaporator.

c. Install 2 O-rings to the air conditioner tube and accessory assembly.

d. Install the cooler expansion valve and air conditioner tube and accessory assembly to the evaporator.

e. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

   **Torque:**
   **3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

f. Install new packing.

## 8. INSTALL AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY (w/ Cool Box)

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

   **Compressor oil:**
   **ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the air conditioner tube and accessory assembly.

c. Install the air conditioner tube and accessory assembly to the evaporator.

d. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

   **Torque:**
   **3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

e. Install the bracket with the screw.

## 9. INSTALL COOLER EXPANSION VALVE (w/ Cool Box)

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the No. 2 connector tube.

c. Install the No. 2 connector tube, expansion valve and No. 3 connector tube.

d. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

e. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

f. Install the 2 O-rings to the No. 1 connector tube.

g. Install the No. 1 connector tube.

h. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

i. Using a 4 mm hexagon wrench, install the bracket with the hexagon bolt and screw.

j. Install new butyl tape.

k. Install new packing.

## 10. INSTALL AIR CONDITIONING RADIATOR ASSEMBLY

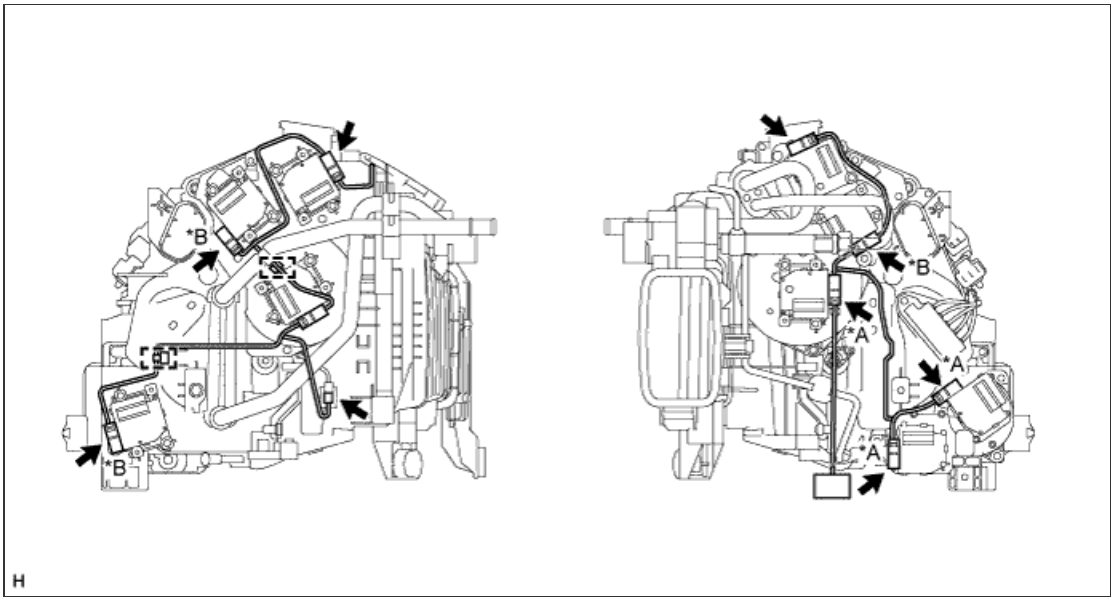
a. Install the radiator.

b. Install the bracket with the screw.

## 11. INSTALL AIR CONDITIONER HARNESS

a. Attach the clamps to install the harness.

b. Connect the connectors.



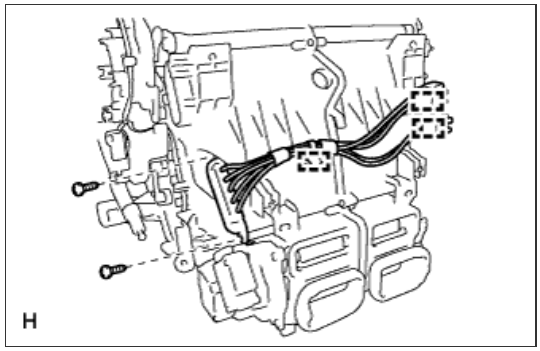
Text in Illustration

| | | | |
|---|---|---|---|
| *A | for Automatic Air Conditioning System | *B | for 4 Zone Type |

## 12. INSTALL QUICK HEATER ASSEMBLY (w/ PTC Heater)

a. Attach the clamps to install the quick heater assembly (PTC heater assembly).

b. Install the 2 screws.



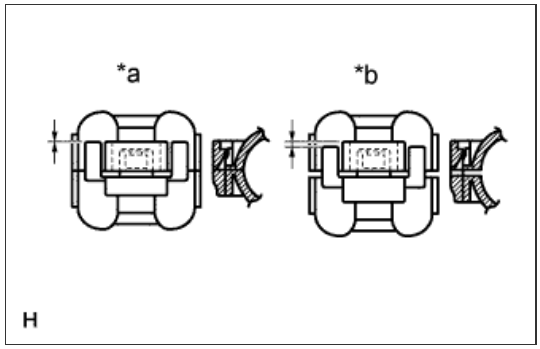

## 13. INSTALL COOL BOX LIQUID TUBE (w/ Cool Box)

a. Lubricate 2 new O-rings with compressor oil and install them to the liquid tube.

**Compressor oil:**
**ND-OIL 8 or equivalent**

Text in Illustration

| | |
|---|---|
| *a | Correct |
| *b | Incorrect |




b. Connect the liquid tube with the piping clamp.

**NOTICE:**

After connection, check the claw engagement of the piping clamp.

c. Attach the clamp.

d. Attach the 2 claws to install the protective cover.

e. Install the 3 screws.

## 14. INSTALL ASPIRATOR

a. Attach the 2 claws to install the aspirator.

## 15. INSTALL NO. 4 AIR DUCT SUB-ASSEMBLY

a. Install the duct with the screw.

## 16. INSTALL NO. 5 AIR DUCT SUB-ASSEMBLY

a. Install the duct with the screw.

## 17. INSTALL BLOWER ASSEMBLY

(Click here)

**for Preparation** Click here

## 1. INSTALL AIR CONDITIONING UNIT ASSEMBLY

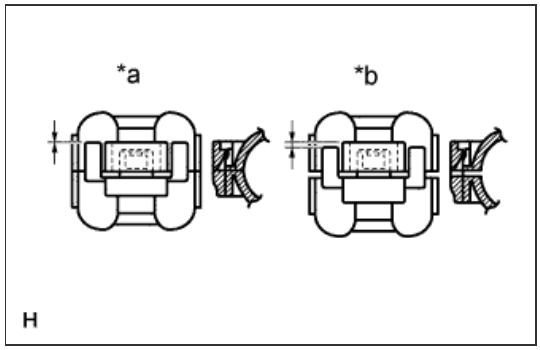
a. Install the air conditioning unit with the 2 nuts.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

## 2. INSTALL AIR CONDITIONING HOSE AND ACCESSORY (w/ Cool Box)

a. Lubricate 2 new O-rings with compressor oil and install them to the air conditioning hose and accessory.

**Compressor oil:**
**ND-OIL 8 or equivalent**




Text in Illustration

| | |
|---|---|
| *a | Correct |
| *b | Incorrect |

b. Install the air conditioning hose and accessory with the piping clamp.

**NOTICE:**

After connection, check the claw engagement of the piping clamp.

c. Install the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

## 3. INSTALL INSTRUMENT PANEL REINFORCEMENT ASSEMBLY

a. Install the instrument panel reinforcement.

i. Install the instrument panel reinforcement with the 7 bolts and screw.

**Torque:**
**for bolt:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**
**for screw:**
**6.0 N*m{ 61 kgf*cm , 53 in.*lbf }**

ii. for Passenger Side:
Using a 12 mm hexagon wrench, install the 2 collars.

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

iii. for Passenger Side:
Using a T40 "TORX" socket, install the 2 "TORX" bolts.

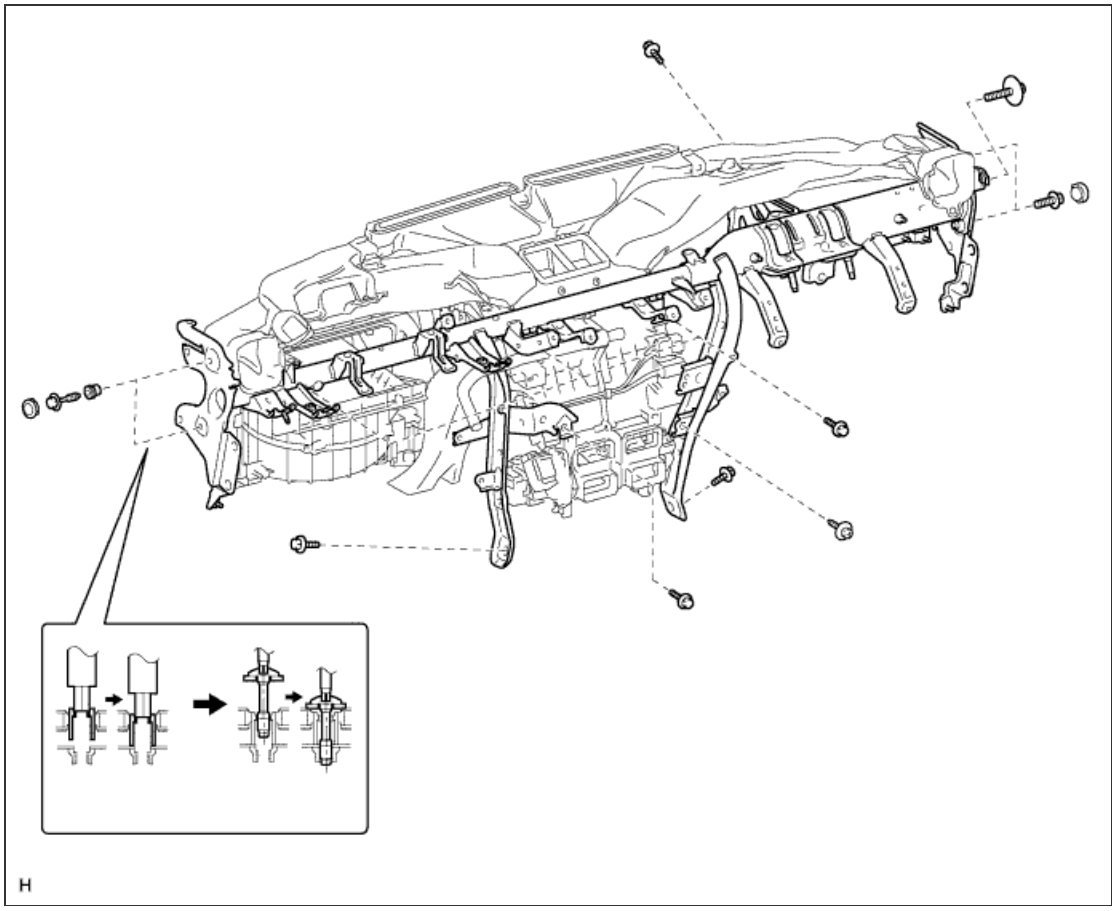
**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

iv. for Passenger Side:
Install the 2 caps.

v. for Driver Side:
Install the 3 bolts.

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

vi. for Driver Side:
Install the 3 caps.




b. Attach the 17 clamps and 2 claws and install the 9 bolts and 5 nuts.

c. Connect the connectors to the wire harness.

## 4. INSTALL HEATER TO REGISTER DUCT ASSEMBLY

a. Attach the 2 claws to install the duct.

b. Install the 3 clips.

## 5. INSTALL STEERING COLUMN ASSEMBLY

a. for Power Tilt and Power Telescopic Steering Column:
(Click here)

b. for Manual Tilt and Manual Telescopic Steering Column:
(Click here)

## 6. INSTALL NO. 3 AIR DUCT SUB-ASSEMBLY

a. Attach the 2 claws to install the duct.

b. Install the clip.

## 7. INSTALL INSTRUMENT PANEL SUB-ASSEMBLY

(Click here)

## 8. INSTALL FRONT WIPER MOTOR AND BRACKET

(Click here)

## 9. CONNECT HEATER WATER INLET HOSE AND HEATER WATER OUTLET HOSE

a. Connect the 2 heater water hoses.

b. Using pliers, grip the claws of the clips and slide the 2 clips.

## 10. CONNECT AIR CONDITIONING TUBE ASSEMBLY

a. Remove the attached vinyl tape from the tubes.

b. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the air conditioning tube assembly.

**Compressor oil:**
**ND-OIL 8 or equivalent**

**Text in Illustration**

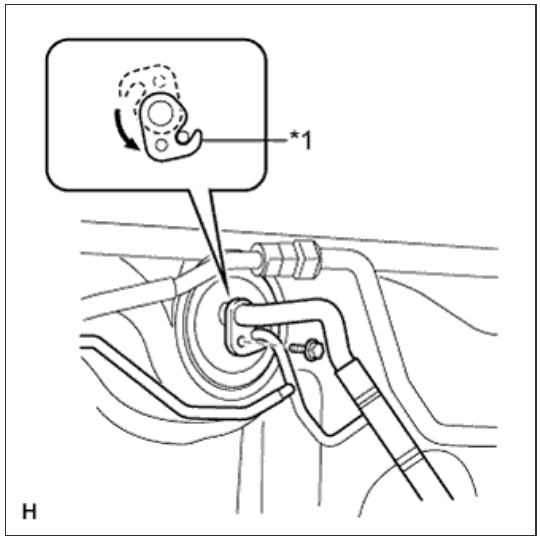
| | |
|---|---|
| *1 | Plate |

c. Install the 2 O-rings to the air conditioning tube assembly.

d. Connect the air conditioning tube assembly.

e. Attach the plate as shown in the illustration and install the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**




## 11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 12. CHECK SRS WARNING LIGHT

(Click here)

## 13. ADD ENGINE COOLANT

a. for 1GR-FE:
(Click here)

b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 14. CHARGE REFRIGERANT

*SST*

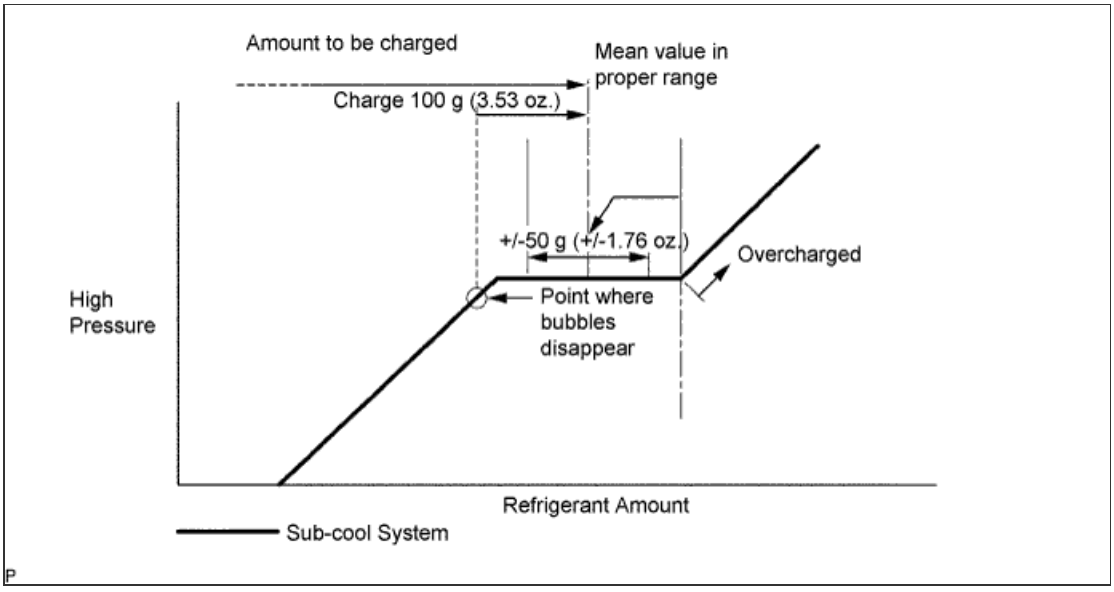
09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 15. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 16. CHECK FOR ENGINE COOLANT LEAK

a. for 1GR-FE:

(Click here)

b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 17. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

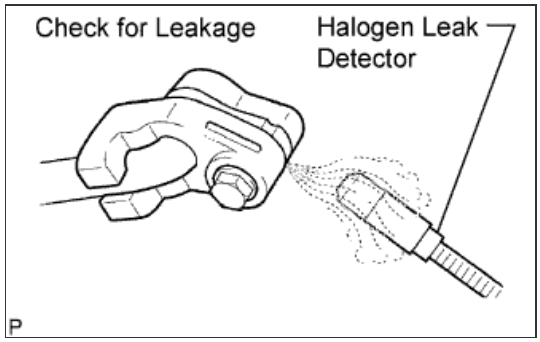
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

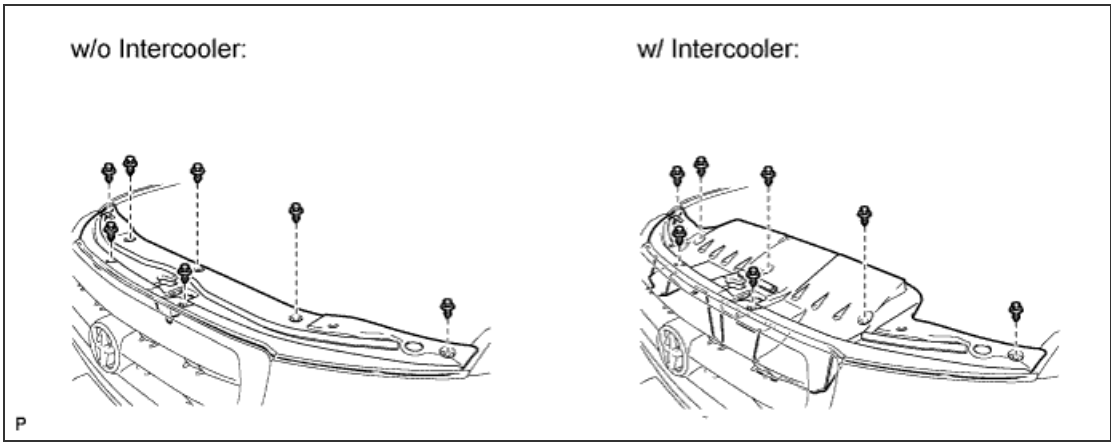
d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.




## 18. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.




## 19. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. for 1GR-FE:
(Click here)

b. for 1UR-FE:
(Click here)

c. for 3UR-FE:
(Click here)

d. for 1VD-FTV:
(Click here)

## 20. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. for Standard:
(Click here)

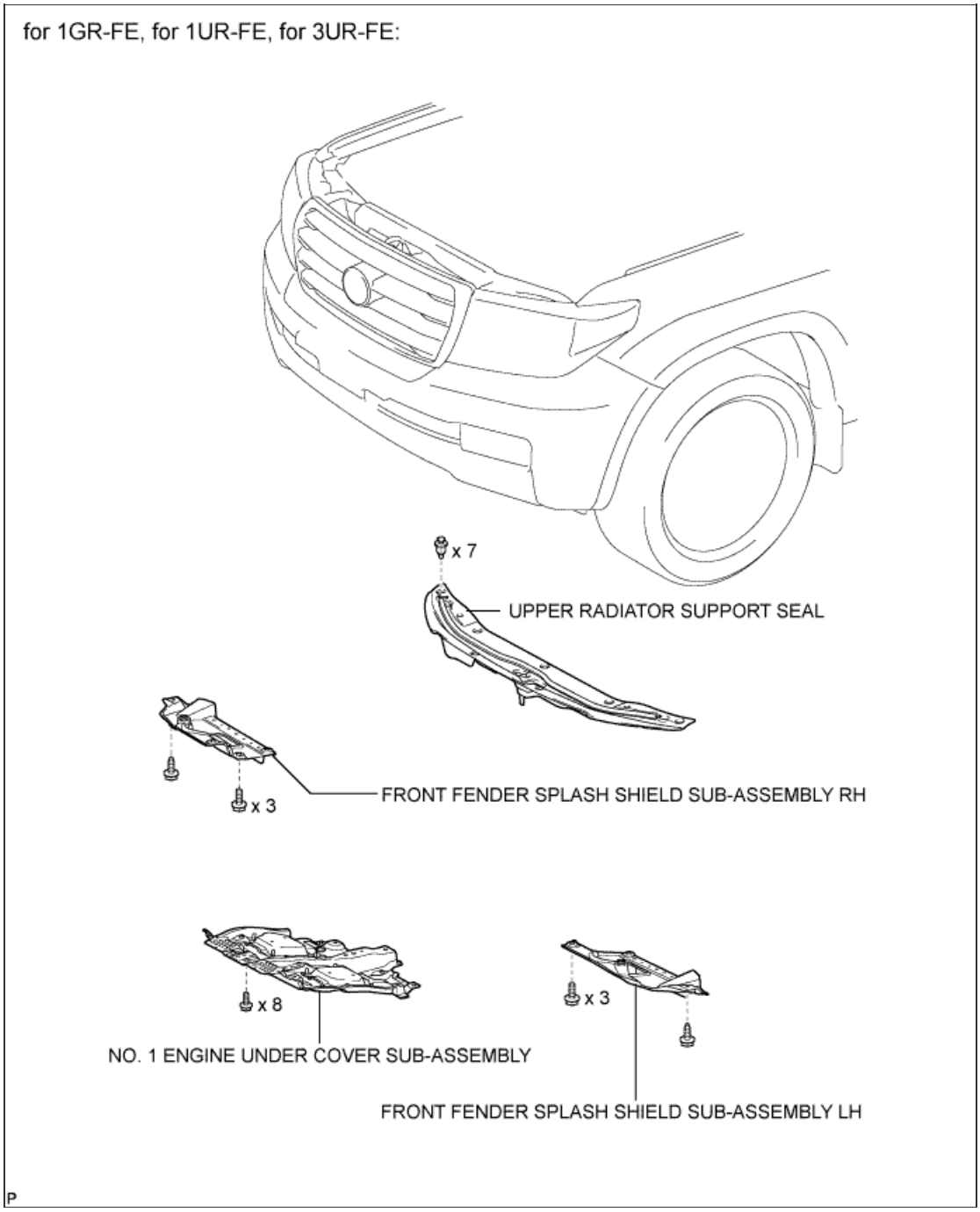
b. w/ Winch:
(Click here)

## 21. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

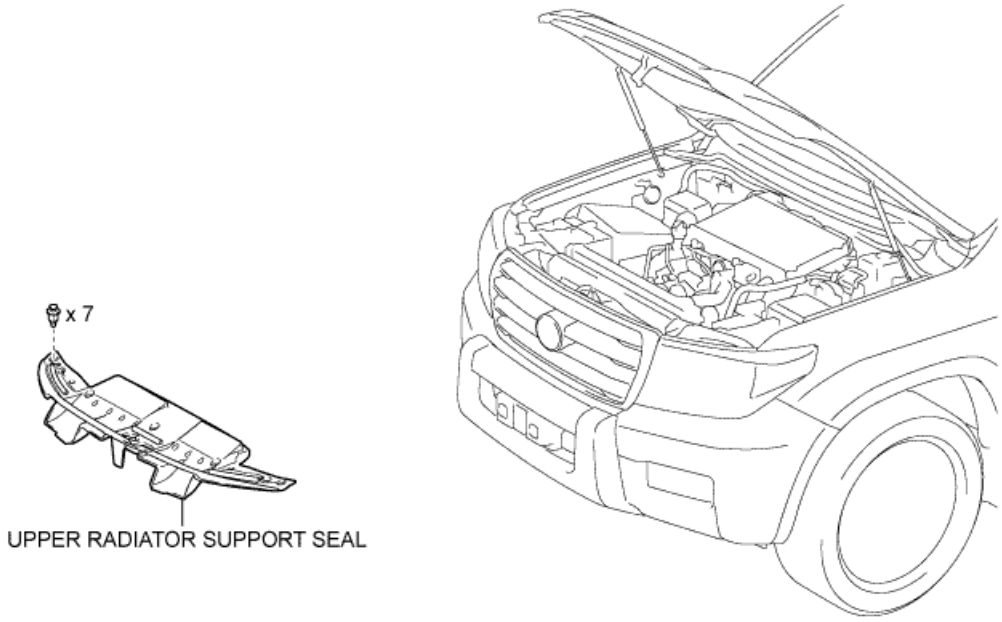
a. for Standard:
(Click here)

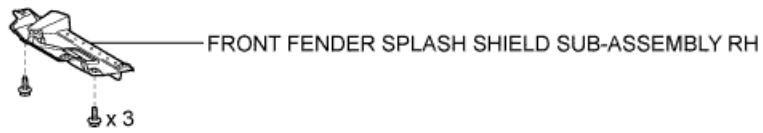
b. w/ Winch:
(Click here)

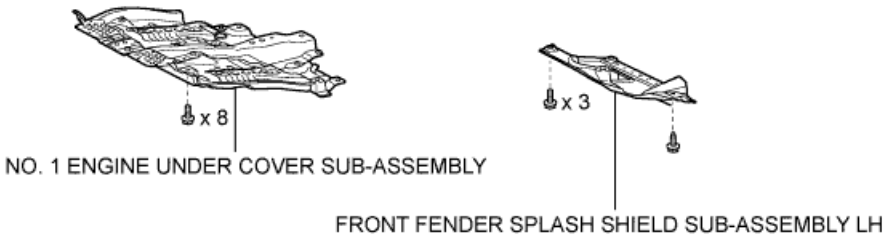
**for Preparation** Click here



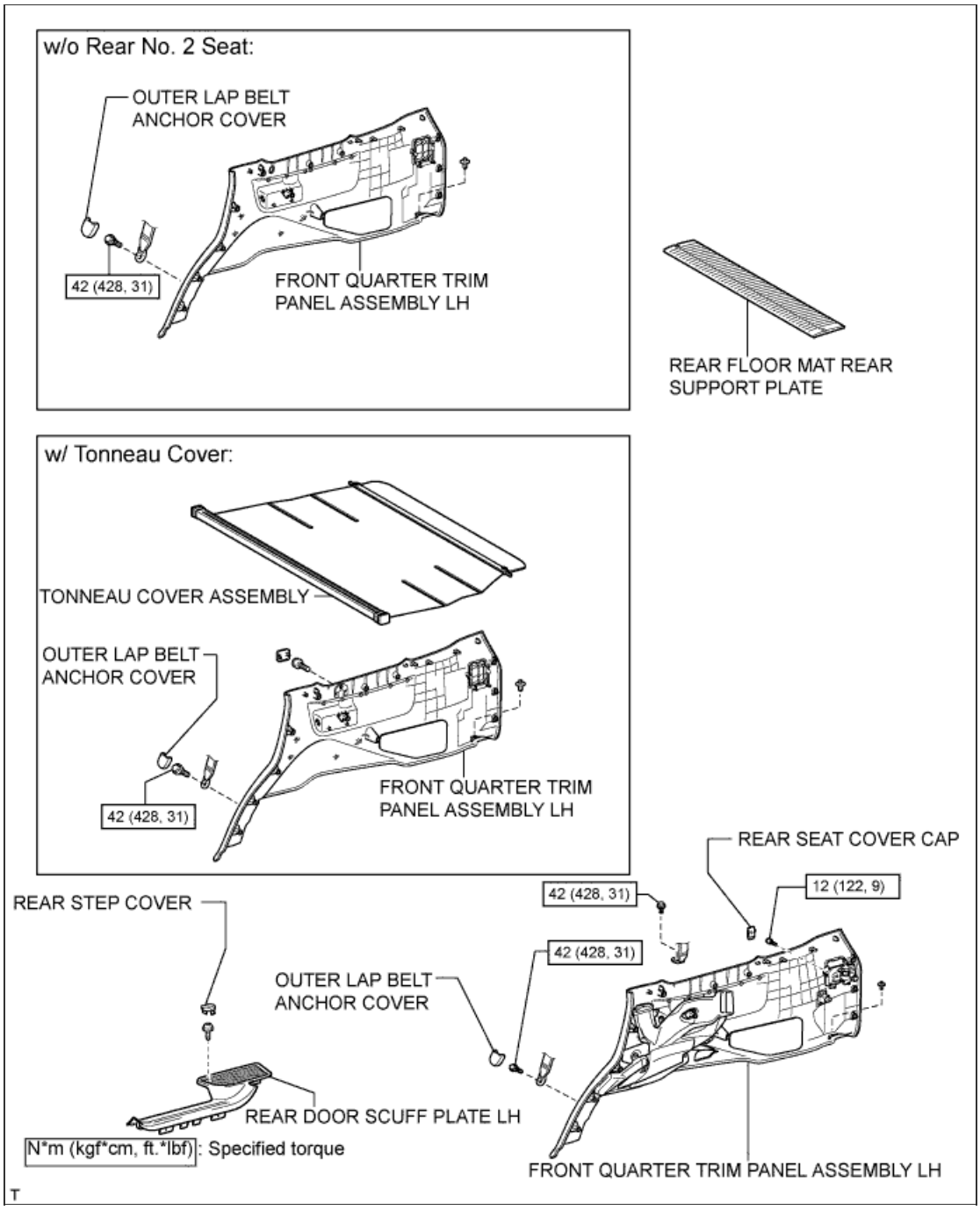
for 1VD-FTV:

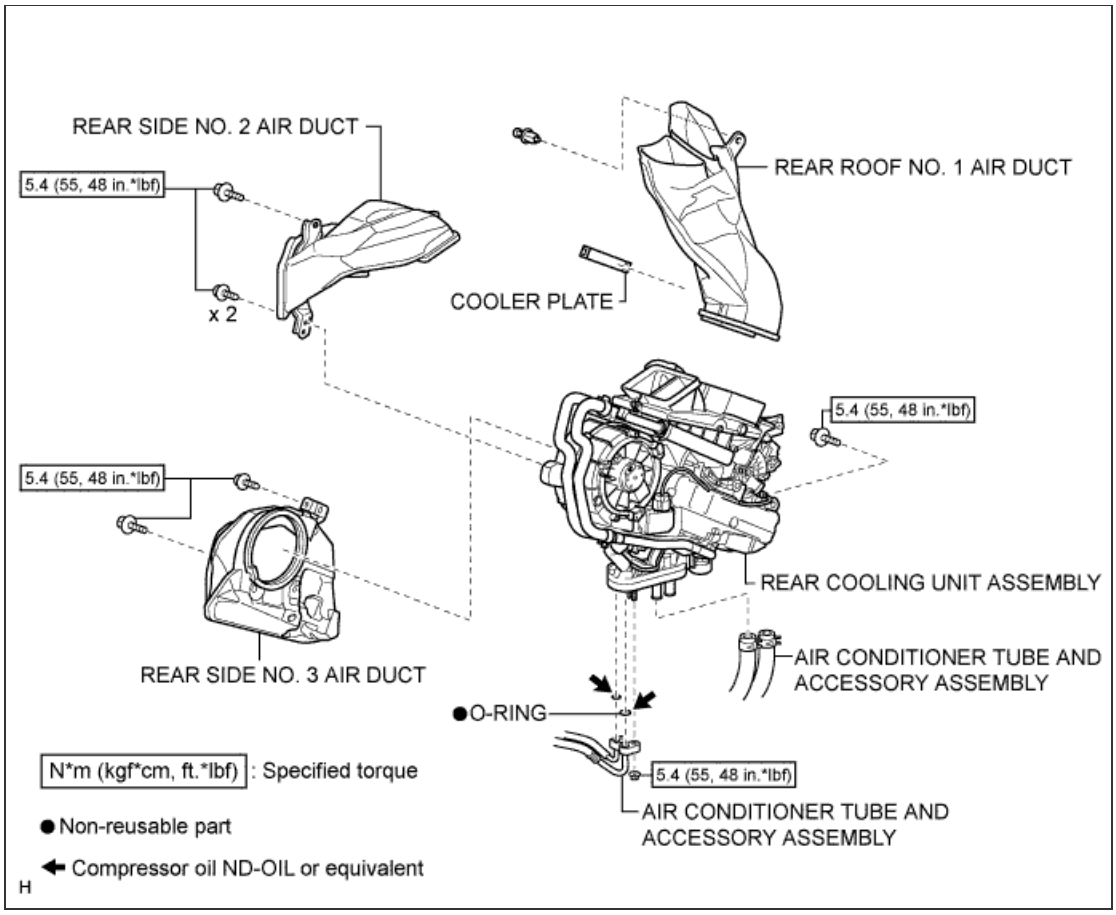

x 7
UPPER RADIATOR SUPPORT SEAL

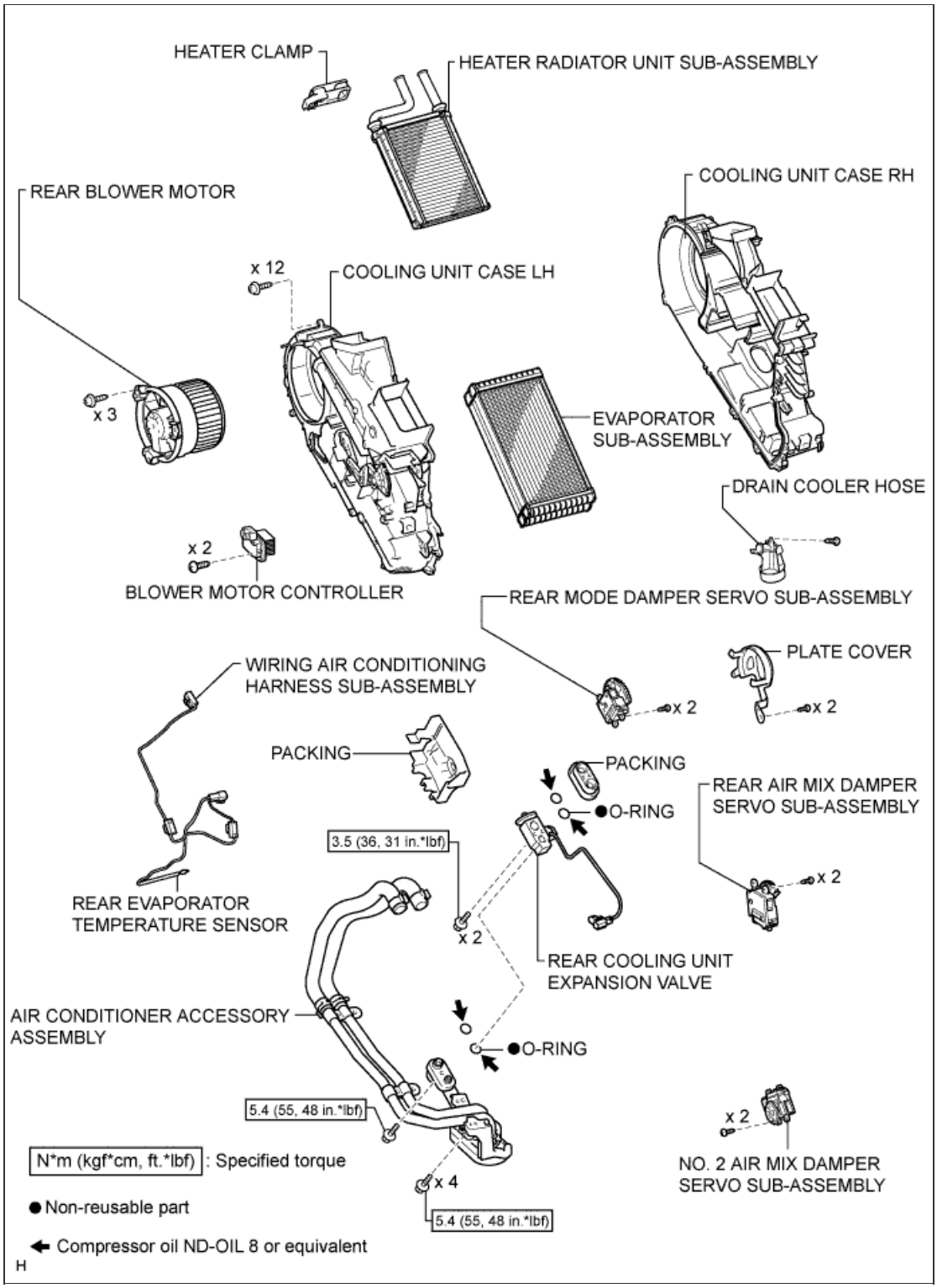

FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH
x 3


x 8
NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY
x 3
FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

P


w/o Rear No. 2 Seat:
OUTER LAP BELT ANCHOR COVER
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY LH
REAR FLOOR MAT REAR SUPPORT PLATE
w/ Tonneau Cover:
TONNEAU COVER ASSEMBLY
OUTER LAP BELT ANCHOR COVER
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY LH
REAR SEAT COVER CAP
12 (122, 9)
42 (428, 31)
42 (428, 31)
REAR STEP COVER
OUTER LAP BELT ANCHOR COVER
REAR DOOR SCUFF PLATE LH
N*m (kgf*cm, ft.*lbf): Specified torque
FRONT QUARTER TRIM PANEL ASSEMBLY LH
T


REAR SIDE NO. 2 AIR DUCT
5.4 (55, 48 in.*lbf)
x 2
REAR ROOF NO. 1 AIR DUCT
COOLER PLATE
5.4 (55, 48 in.*lbf)
5.4 (55, 48 in.*lbf)
REAR COOLING UNIT ASSEMBLY
REAR SIDE NO. 3 AIR DUCT
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
●O-RING
5.4 (55, 48 in.*lbf)
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
Compressor oil ND-OIL or equivalent
H


HEATER CLAMP
HEATER RADIATOR UNIT SUB-ASSEMBLY
REAR BLOWER MOTOR
COOLING UNIT CASE RH
x 12
COOLING UNIT CASE LH
x 3
EVAPORATOR SUB-ASSEMBLY
DRAIN COOLER HOSE
x 2
BLOWER MOTOR CONTROLLER
REAR MODE DAMPER SERVO SUB-ASSEMBLY
PLATE COVER
WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY
x 2
x 2
PACKING
PACKING
O-RING
REAR AIR MIX DAMPER SERVO SUB-ASSEMBLY
3.5 (36, 31 in.*lbf)
x 2
REAR EVAPORATOR TEMPERATURE SENSOR
REAR COOLING UNIT EXPANSION VALVE
AIR CONDITIONER ACCESSORY ASSEMBLY
O-RING
5.4 (55, 48 in.*lbf)
x 2
NO. 2 AIR MIX DAMPER SERVO SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
x 4
Non-reusable part
5.4 (55, 48 in.*lbf)
Compressor oil ND-OIL 8 or equivalent
H

**for Preparation** Click here

## 1. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 2. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 3. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

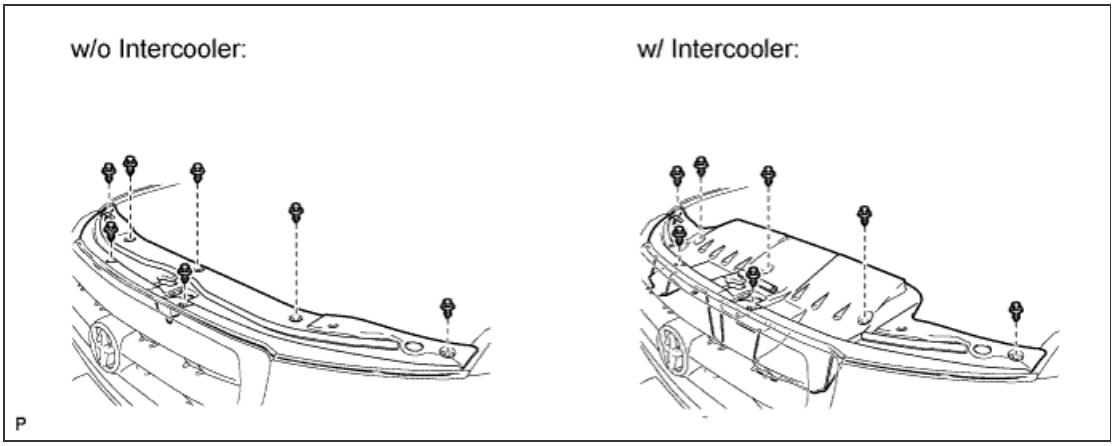
a. for 1UR-FE:
(Click here)

b. for 3UR-FE:
(Click here)

c. for 1VD-FTV:
(Click here)

## 4. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 5. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 6. DRAIN ENGINE COOLANT

a. for 1UR-FE:
(Click here)

b. for 3UR-FE:
(Click here)

c. for 1VD-FTV:
(Click here)

## 7. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 8. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 9. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 10. REMOVE REAR DOOR SCUFF PLATE LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 11. REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

a. Remove the tonneau cover.

## 12. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat)

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 13. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
Remove the front quarter trim panel ( Click here).

b. w/o Sliding Roof:
Remove the front quarter trim panel ( Click here).

## 14. DISCONNECT AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY

a. Using pliers, grip the claws of the clips and slide the 2 clips.

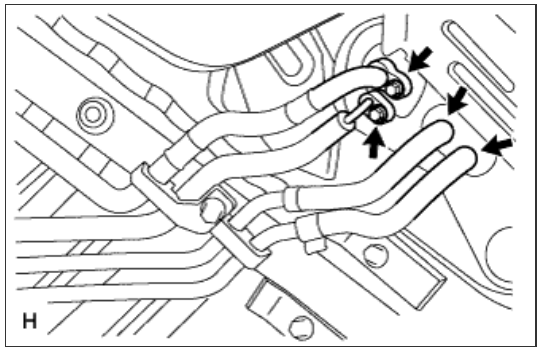
b. Disconnect the heater water inlet hose and heater water outlet hose.

c. Remove the 2 bolts.

d. Disconnect the air conditioner tube and accessory assembly.

**NOTICE:**

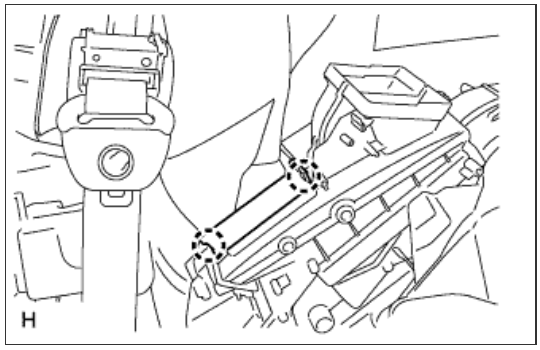
- **Do not use a screwdriver or similar tool to disconnect the tube.**
- **Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.**



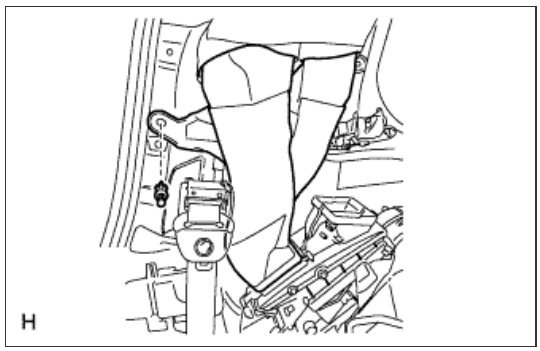

e. Remove the 2 O-rings from the air conditioner tube and accessory assembly.

## 15. REMOVE REAR ROOF NO. 1 AIR DUCT

a. Detach the 2 claws and remove the cooler plate.



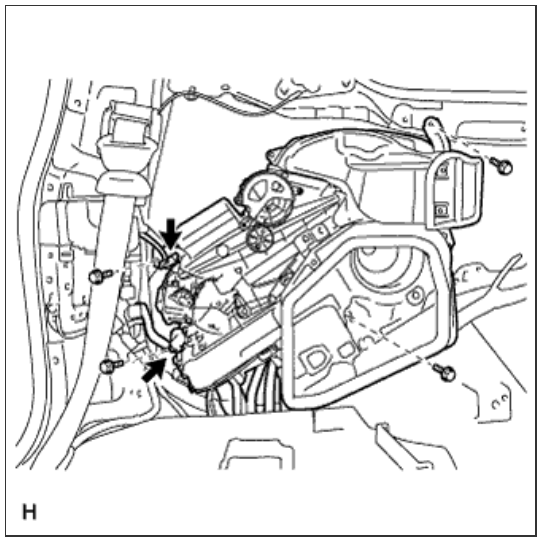

b. Remove the clip and duct.




## 16. REMOVE REAR COOLING UNIT ASSEMBLY

a. Disconnect the 2 connectors.

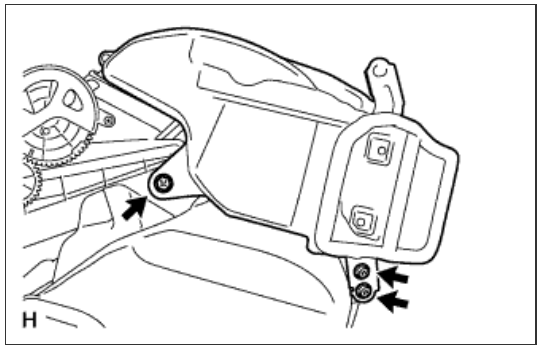
b. Remove the 4 bolts and rear cooling unit.



**for Preparation** Click here

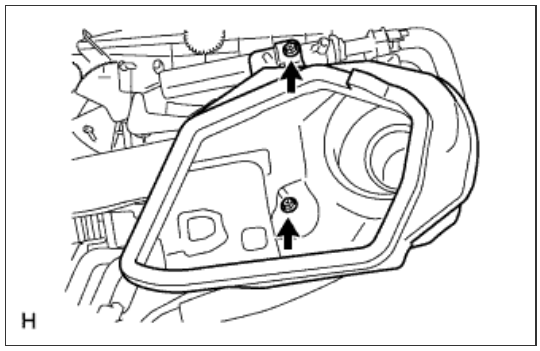
## 1. REMOVE REAR SIDE NO. 2 AIR DUCT

a. Remove the 3 screws and duct.




## 2. REMOVE REAR SIDE NO. 3 AIR DUCT

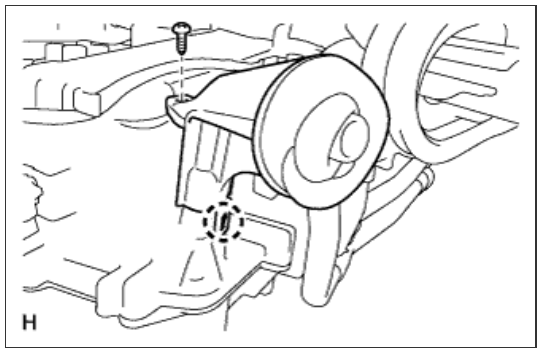
a. Remove the 2 screws and duct.




## 3. REMOVE DRAIN COOLER HOSE

a. Remove the screw.

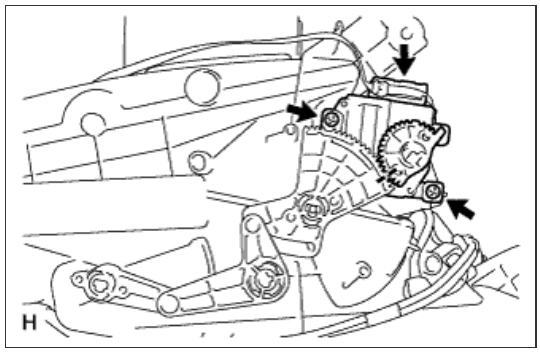
b. Detach the claw and remove the drain hose.




## 4. REMOVE REAR AIR MIX DAMPER SERVO SUB-ASSEMBLY

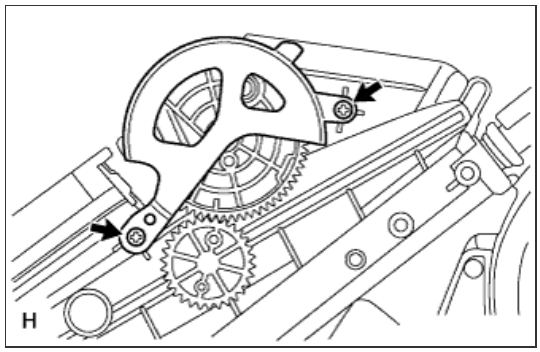
a. Disconnect the connector.

b. Remove the 2 screws and damper servo.



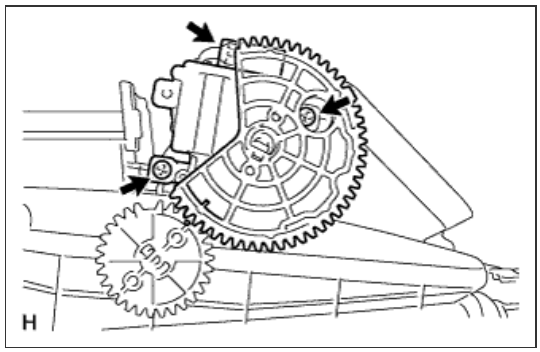

## 5. REMOVE REAR MODE DAMPER SERVO SUB-ASSEMBLY

a. Remove the 2 screws and plate cover.




b. Disconnect the connector.

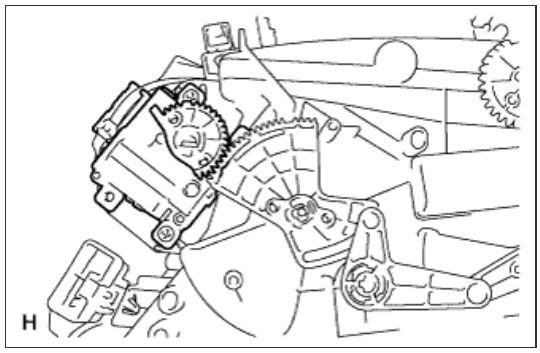
c. Remove the 2 screws and damper servo.




## 6. REMOVE NO. 2 AIR MIX DAMPER SERVO SUB-ASSEMBLY

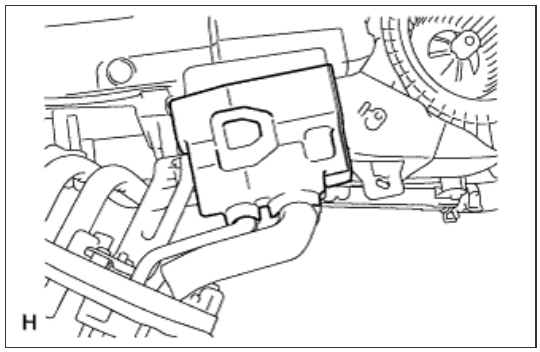
a. Disconnect the connector.

b. Remove the 2 screws and damper servo.




## 7. REMOVE AIR CONDITIONER ACCESSORY ASSEMBLY

a. Remove the packing.

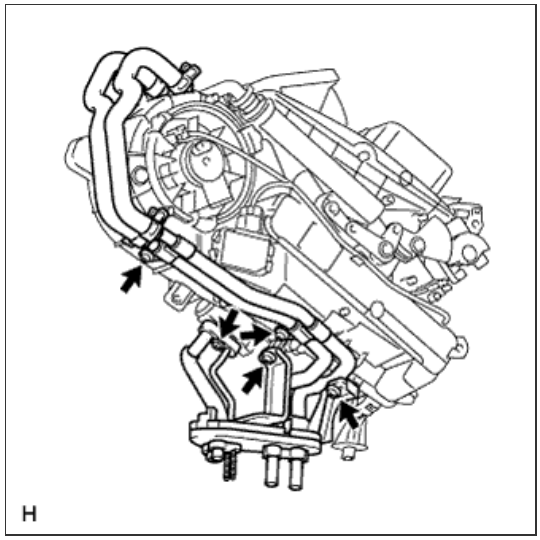



b. Remove the bolt and 4 screws.

c. Using pliers, grip the claws of the clips and slide the 2 clips.

d. Remove the air conditioner accessory assembly.

e. Remove the 2 O-rings from the air conditioner accessory assembly.

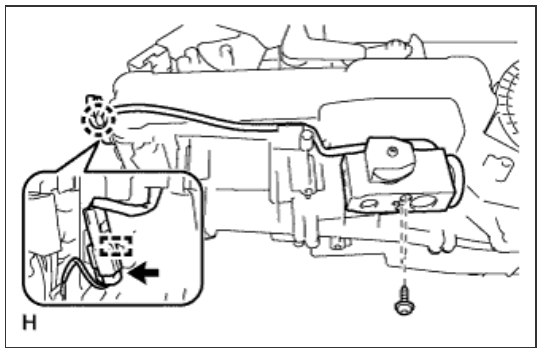



## 8. REMOVE REAR COOLING UNIT EXPANSION VALVE

a. Disconnect the connector.

b. Detach the clamp.

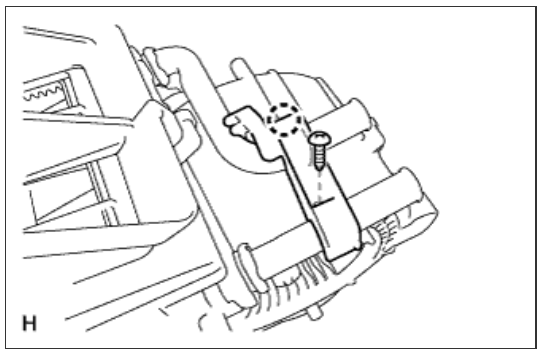
c. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and expansion valve.



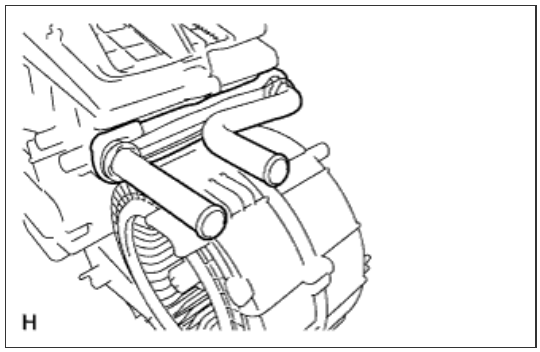

## 9. REMOVE HEATER RADIATOR UNIT SUB-ASSEMBLY

a. Remove the screw and detach the claw.

b. Remove the heater clamp.



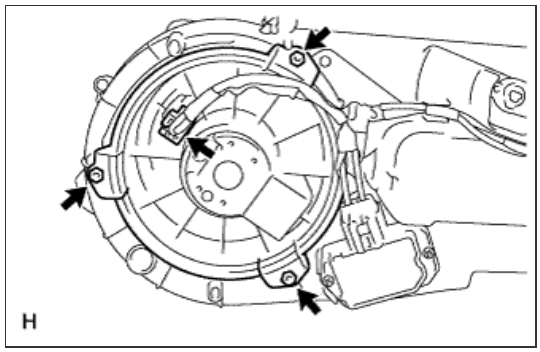

c. Remove the heater radiator.




## 10. REMOVE REAR BLOWER MOTOR

a. Disconnect the connector.

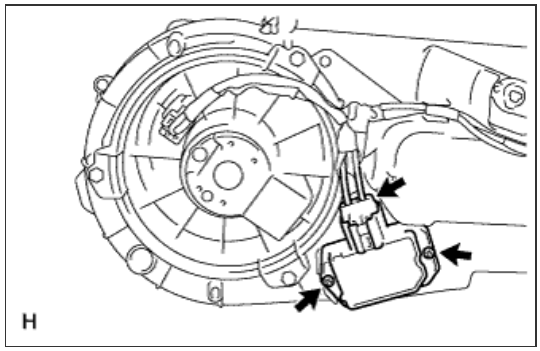
b. Remove the 3 screws and blower motor.




## 11. REMOVE BLOWER MOTOR CONTROLLER

a. Disconnect the connector.

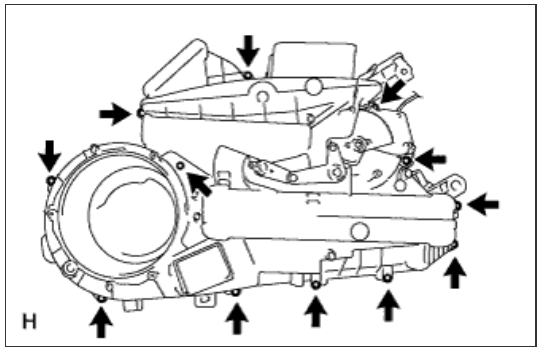
b. Remove the 2 screws and blower motor controler.



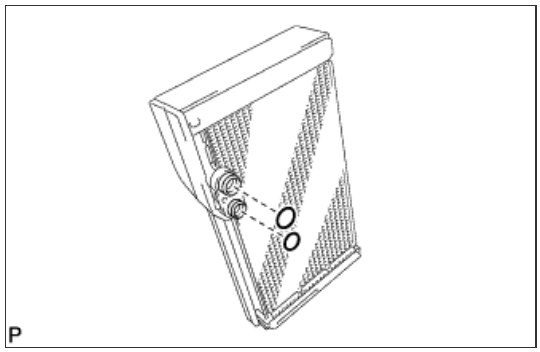

## 12. REMOVE EVAPORATOR SUB-ASSEMBLY

a. Remove the 12 screws and rear cooling unit case LH.

b. Remove the evaporator.

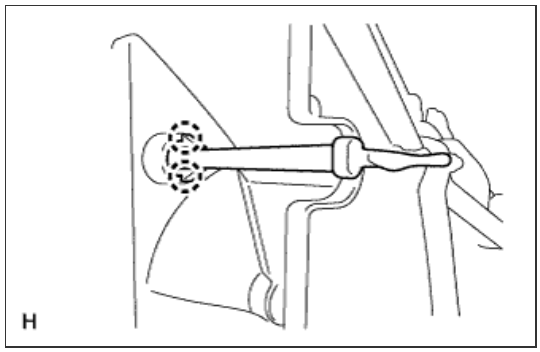



c. Remove the 2 O-rings from the evaporator.




## 13. REMOVE REAR EVAPORATOR TEMPERATURE SENSOR

a. Detach the 2 claws and remove the sensor.



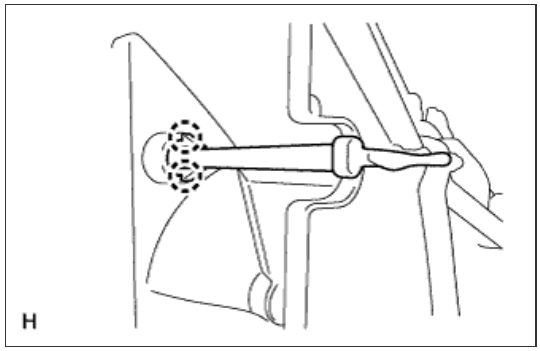

## 14. REMOVE WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY

**for Preparation** Click here

## 1. INSTALL WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY

## 2. INSTALL REAR EVAPORATOR TEMPERATURE SENSOR

a. Attach the 2 claws to install the sensor.



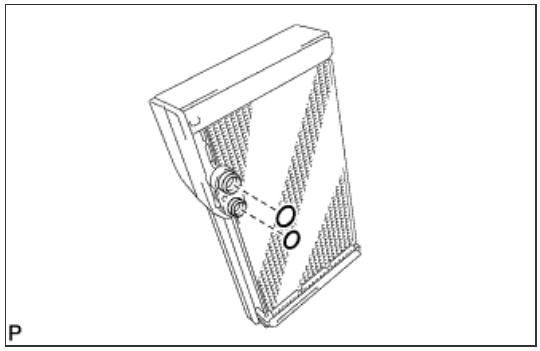

## 3. INSTALL EVAPORATOR SUB-ASSEMBLY

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

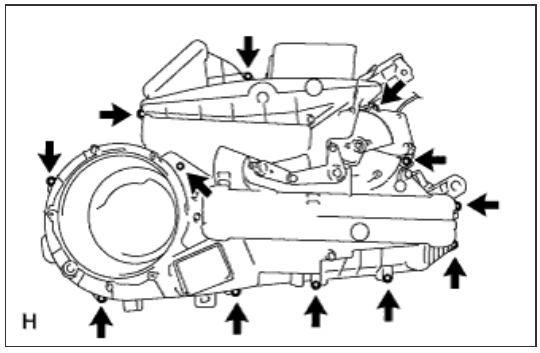
**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the evaporator.

c. Install the evaporator.



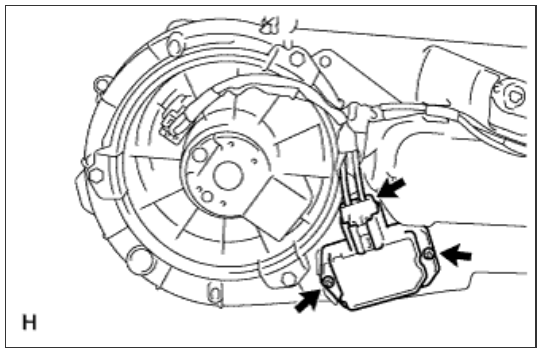

d. Install the rear cooling unit case LH with the 12 screws.




## 4. INSTALL BLOWER MOTOR CONTROLLER

a. Install the blower motor controller with the 2 screws.

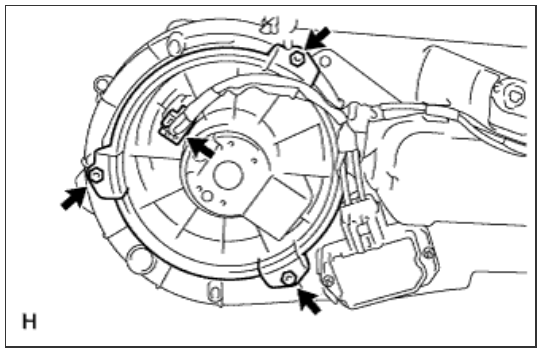
b. Connect the connector.




## 5. INSTALL REAR BLOWER MOTOR

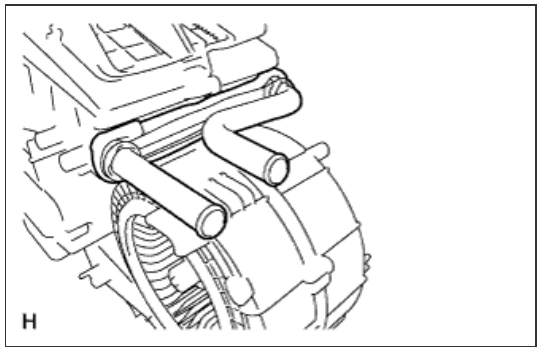
a. Install the blower motor with the 3 screws.

b. Connect the connector.

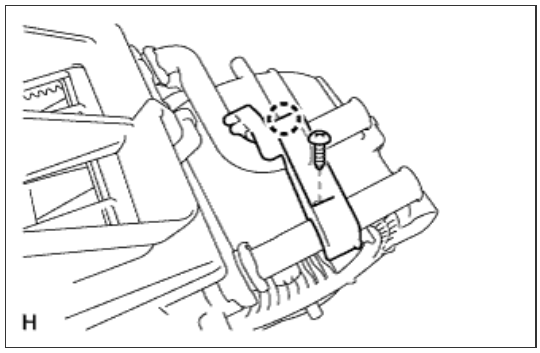



## 6. INSTALL HEATER RADIATOR UNIT SUB-ASSEMBLY

a. Install the radiator unit to the rear cooling unit.




b. Install the heater clamp with the screw and attach the claw.




## 7. INSTALL REAR COOLING UNIT EXPANSION VALVE

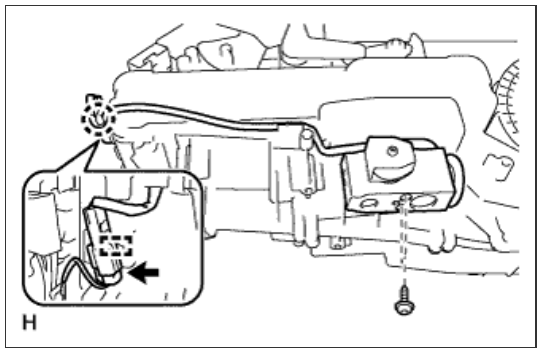
a. Using a 4 mm hexagon wrench, install the expansion valve with the 2 hexagon bolts.

**Torque:**

**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

b. Attach the clamp.

c. Connect the connector.




## 8. INSTALL AIR CONDITIONER ACCESSORY ASSEMBLY

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

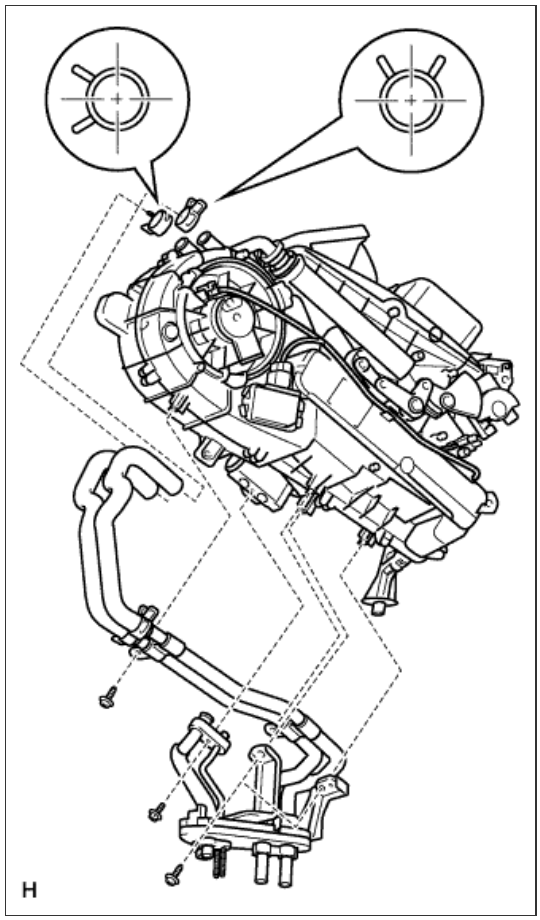
b. Install the 2 O-rings to the air conditioner accessory assembly.

c. Install the air conditioning accessory assembly.

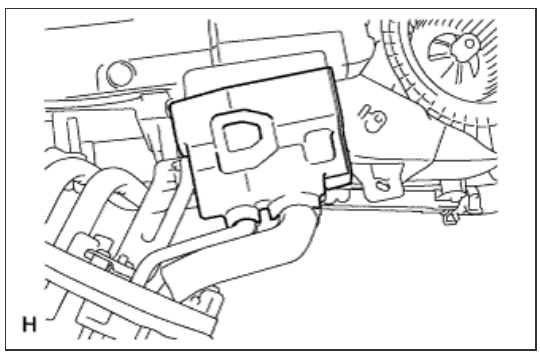
d. Using pliers, grip the claws of the clips and slide the 2 clips.

e. Install the bolt and 4 screws.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**



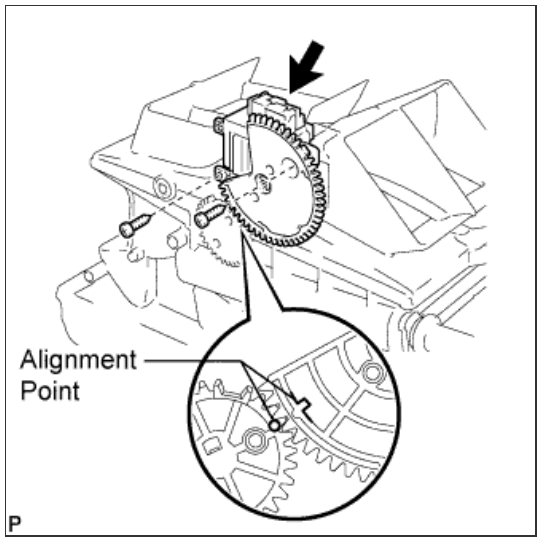

f. Install new packing as shown in the illustration.



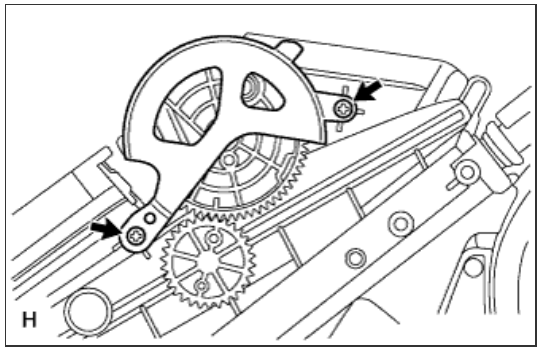

## 9. INSTALL REAR MODE DAMPER SERVO SUB-ASSEMBLY

a. Align the damper servo as shown in the illustration, and install it with the 2 screws.

b. Connect the connector.



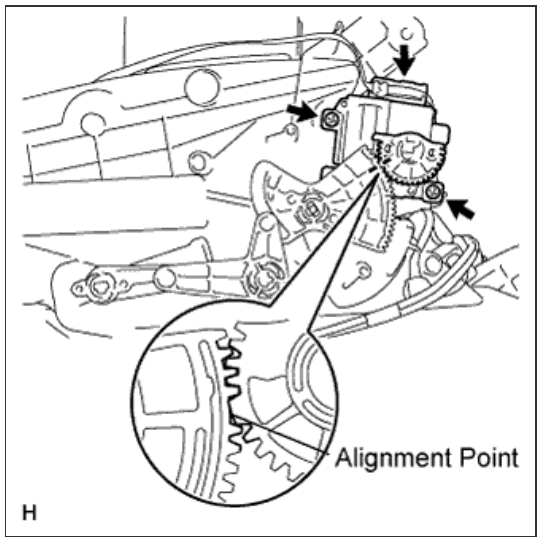

c. Install the plate cover with the 2 screws.




## 10. INSTALL NO. 2 AIR MIX DAMPER SERVO SUB-ASSEMBLY

a. Align the damper servo as shown in the illustration, and install it with the 2 screws.

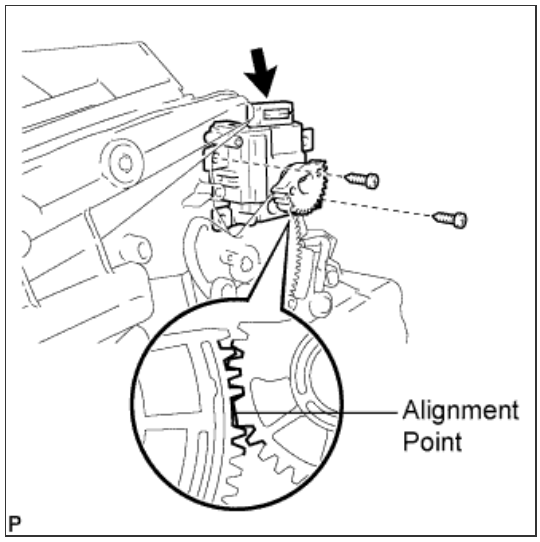
b. Connect the connector.




## 11. INSTALL REAR AIR MIX DAMPER SERVO SUB-ASSEMBLY

a. Align the damper servo as shown in the illustration, and install it with the 2 screws.

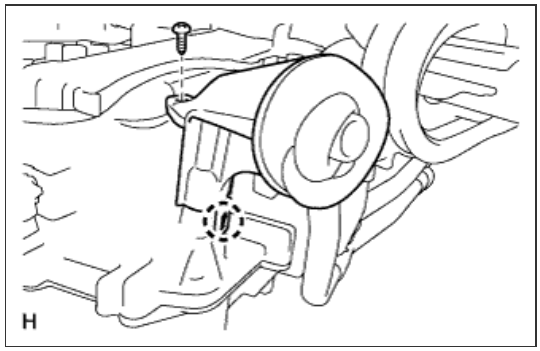
b. Connect the connector.




## 12. INSTALL DRAIN COOLER HOSE

a. Attach the claw to install the drain hose.

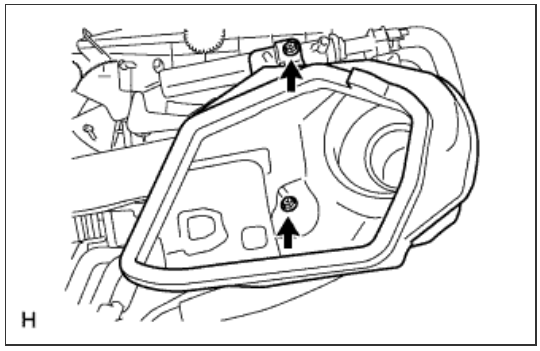
b. Install the screw.




## 13. INSTALL REAR SIDE NO. 3 AIR DUCT

a. Install the duct with the 2 screws.

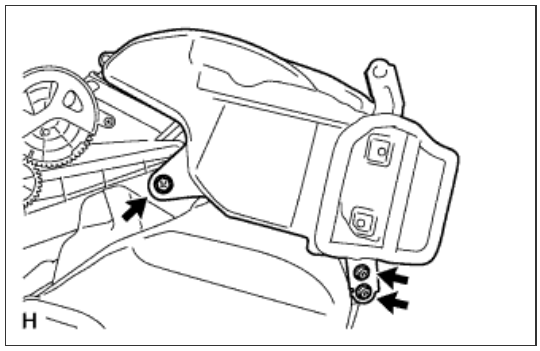
**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**




## 14. INSTALL REAR SIDE NO. 2 AIR DUCT

a. Install the duct with the 3 screws.

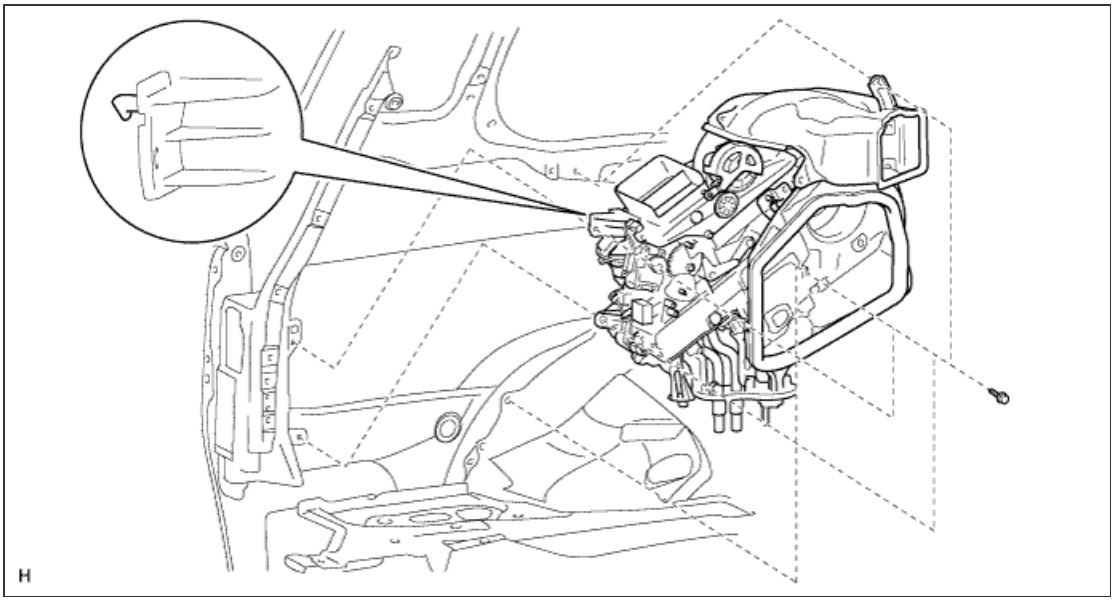
**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**


H

**for Preparation** Click here

## 1. INSTALL REAR COOLING UNIT ASSEMBLY

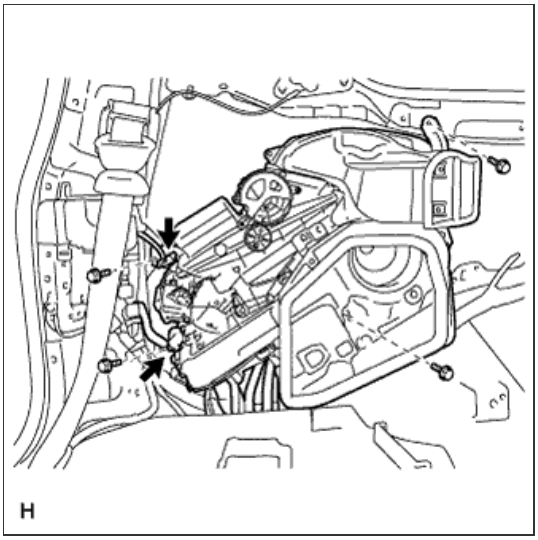
a. Install the rear cooling unit as shown in the illustration.




b. Install the 4 bolts.

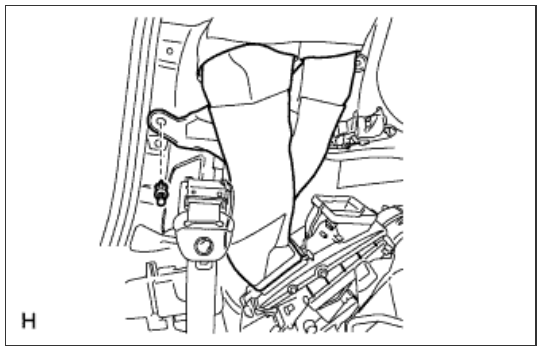
**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**

c. Connect the 2 connectors.

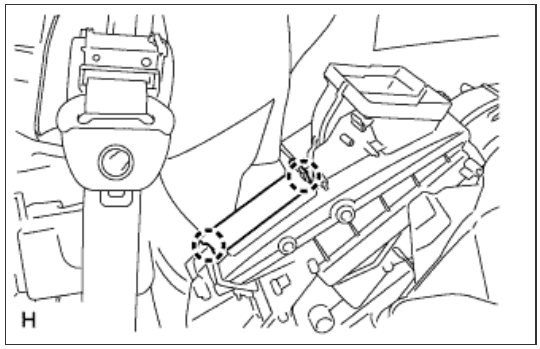



## 2. INSTALL REAR ROOF NO. 1 AIR DUCT

a. Install the duct with the clip.




b. Attach the 2 claws to install the cooler plate.




## 3. CONNECT AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY

a. Remove the attached vinyl tape from the pipe.

b. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the air conditioner tube and accessory assembly.

c. Install 2 O-rings on the air conditioner tube and accessory assembly.

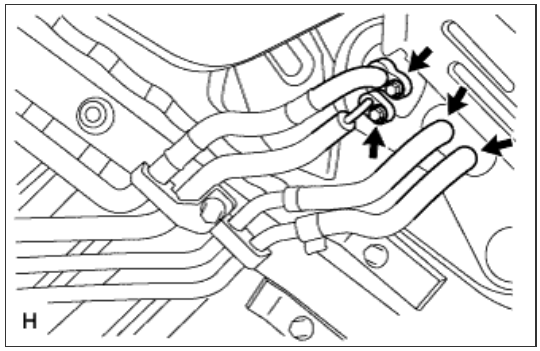
d. Connect the air conditioner tube and accessory assembly.

e. Install the 2 bolts.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**

f. Connect the heater water inlet hose and heater water outlet hose.

g. Using pliers, grip the claws of the clip and slide the 2 clips.




## 4. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 5. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat)

a. w/Sliding Roof:
(Click here).

b. w/o Sliding Roof:
(Click here)

## 6. INSTALL TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

a. Install the tonneau cover assembly.

## 7. INSTALL REAR DOOR SCUFF PLATE LH

a. w/Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 8. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. w/Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 9. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 10. ADD ENGINE COOLANT

a. for 1UR-FE:
(Click here)

b. for 3UR-FE:
(Click here)

c. for 1VD-FTV:
(Click here)

## 11. CHARGE REFRIGERANT

***SST***

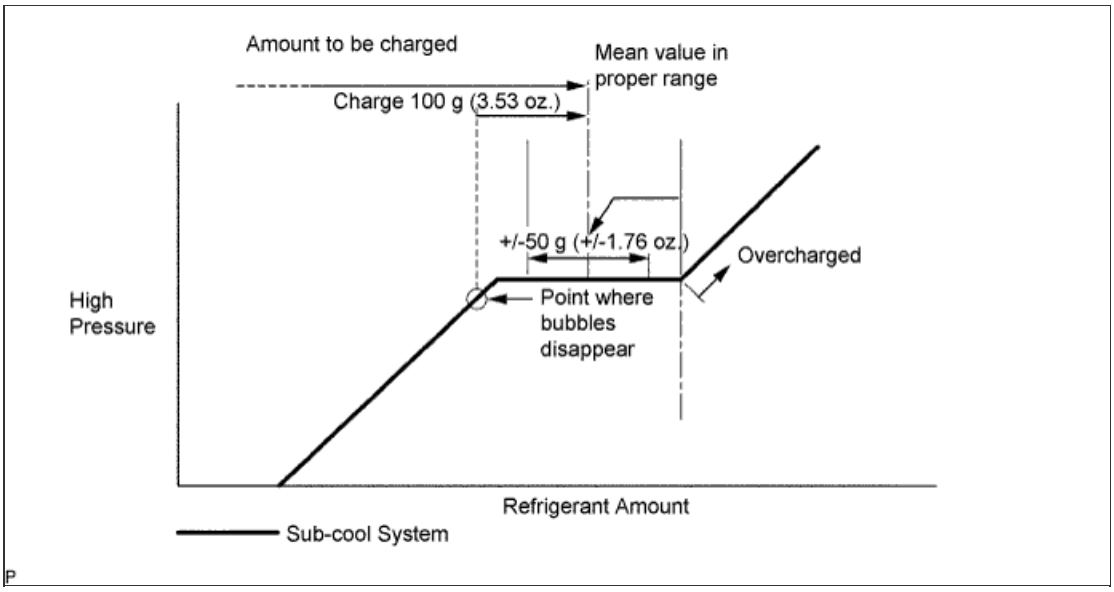
**09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)**

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 12. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 13. CHECK FOR ENGINE COOLANT LEAKS

a. for 1UR-FE:
(Click here)

b. for 3UR-FE:
(Click here)

c. for 1VD-FTV:
(Click here)

## 14. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

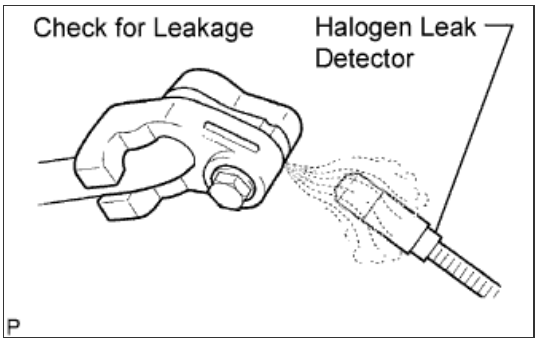
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

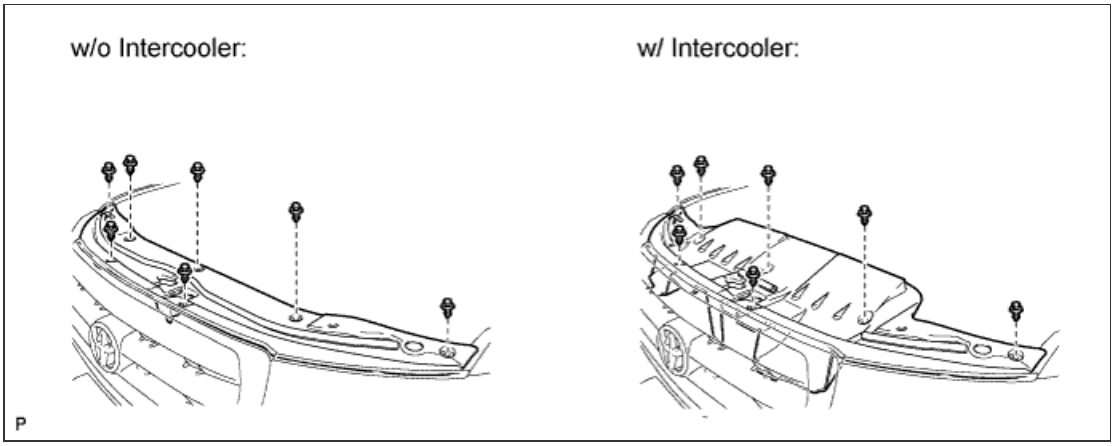



## 15. CHECK SRS WARNING LIGHT

(Click here)

## 16. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.




## 17. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. for 1UR-FE:
(Click here)

b. for 3UR-FE:
(Click here)

c. for 1VD-FTV:
(Click here)

## 18. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. for Standard:
(Click here)

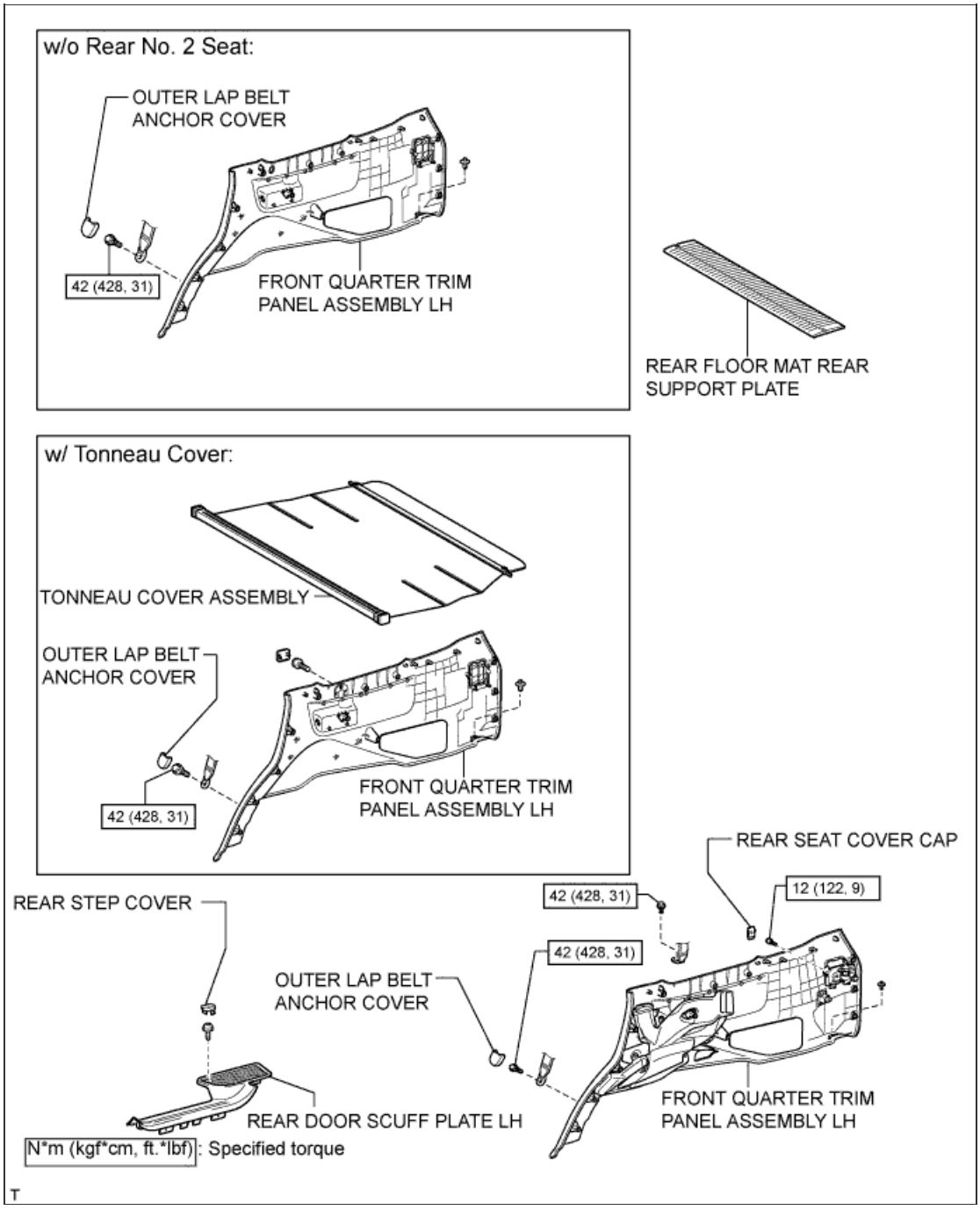
b. w/ Winch:
(Click here)

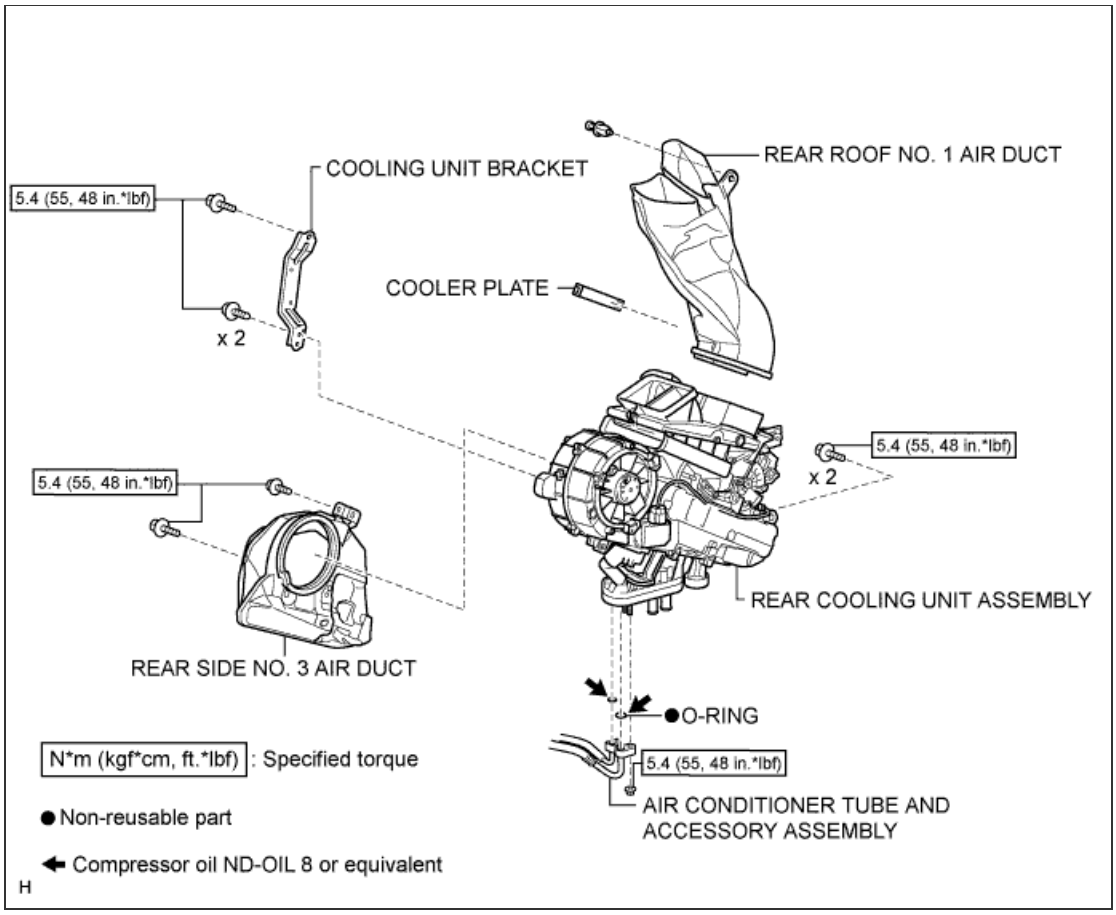
## 19. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

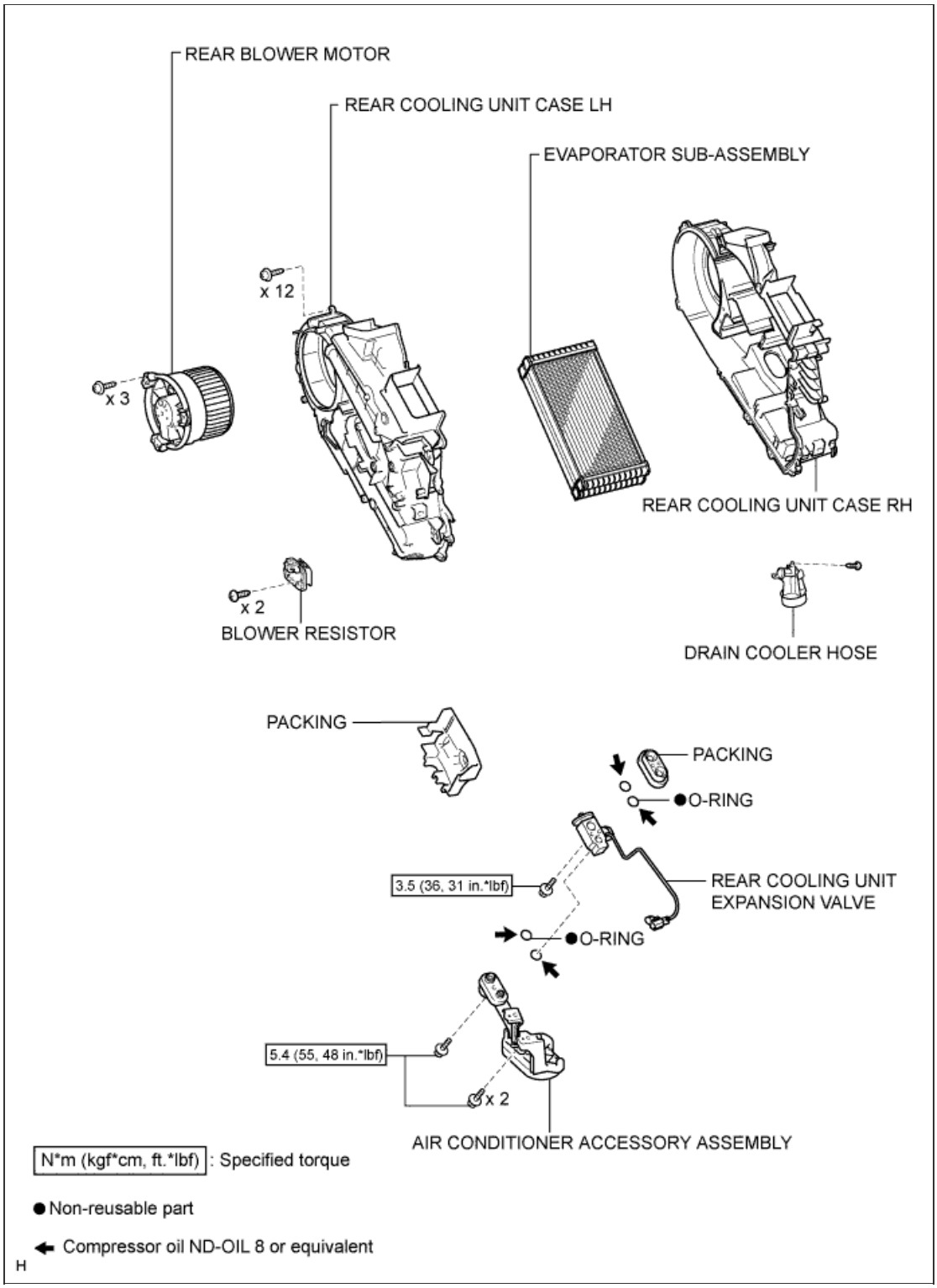
a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

**for Preparation** Click here



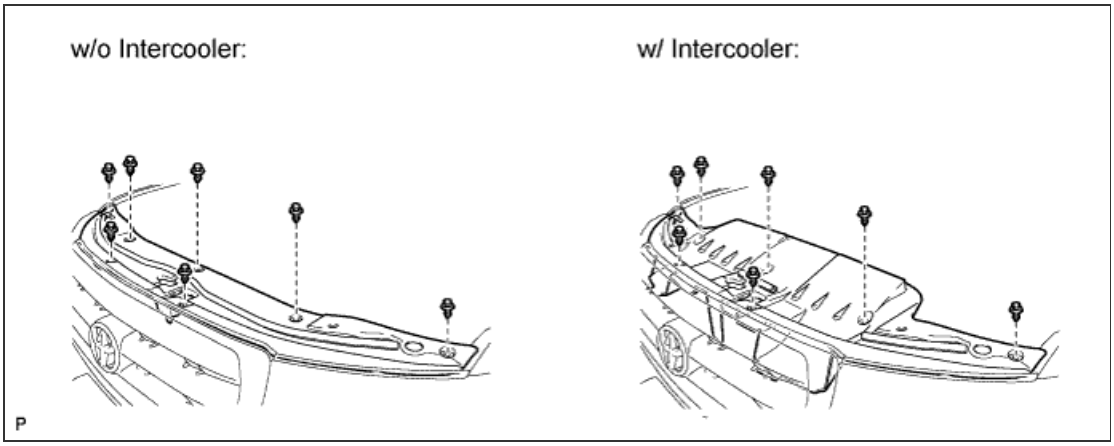

REAR ROOF NO. 1 AIR DUCT
COOLING UNIT BRACKET
5.4 (55, 48 in.*lbf)
COOLER PLATE
x 2
5.4 (55, 48 in.*lbf)
x 2
5.4 (55, 48 in.*lbf)
REAR COOLING UNIT ASSEMBLY
REAR SIDE NO. 3 AIR DUCT
●O-RING
5.4 (55, 48 in.*lbf)
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
Compressor oil ND-OIL 8 or equivalent
H


REAR BLOWER MOTOR
REAR COOLING UNIT CASE LH
EVAPORATOR SUB-ASSEMBLY
x 12
x 3
REAR COOLING UNIT CASE RH
x 2
BLOWER RESISTOR
DRAIN COOLER HOSE
PACKING
PACKING
●O-RING
3.5 (36, 31 in.*lbf)
REAR COOLING UNIT
EXPANSION VALVE
●O-RING
5.4 (55, 48 in.*lbf)
x 2
AIR CONDITIONER ACCESSORY ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
Compressor oil ND-OIL 8 or equivalent
H

**for Preparation** Click here

## 1. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 2. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 3. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 4. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 5. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. w/ Sliding Roof:

(Click here)

b. w/o Sliding Roof:
(Click here)

## 6. REMOVE REAR DOOR SCUFF PLATE LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 7. REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

a. Remove the tonneau cover.

## 8. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat)

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 9. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 10. DISCONNECT AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY

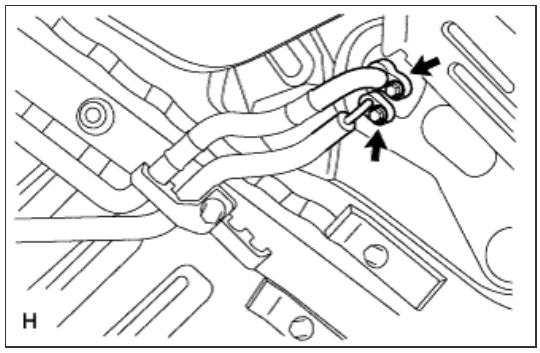
a. Remove the 2 bolts.

b. Disconnect the air conditioner tube and accessory assembly.

**NOTICE:**

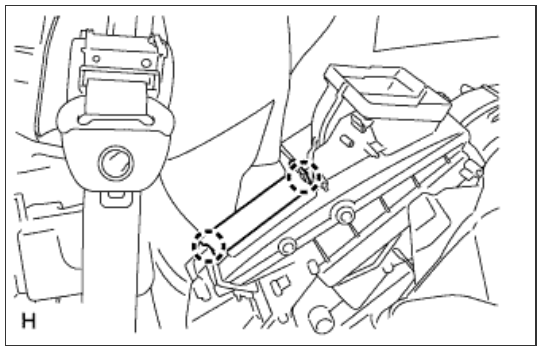
- **Do not use a screwdriver or similar tool to disconnect the tube.**
- **Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.**

c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.

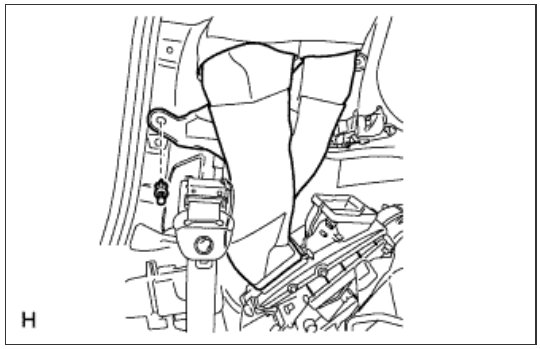



## 11. REMOVE REAR ROOF NO. 1 AIR DUCT

a. Detach the 2 claws and remove the cooler plate.



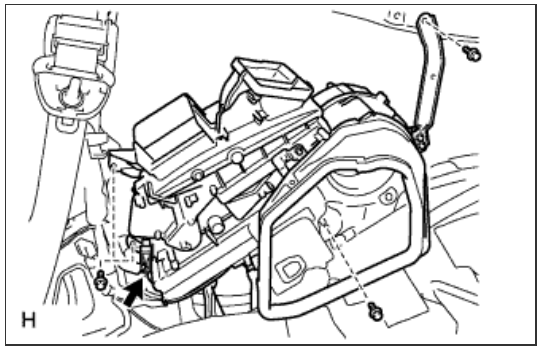

b. Remove the clip and duct.




## 12. REMOVE REAR COOLING UNIT ASSEMBLY

a. Disconnect the connector.

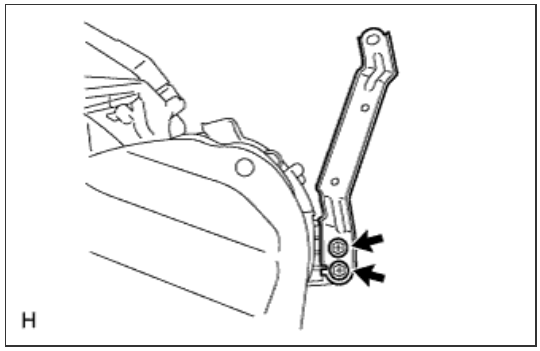
b. Remove the 4 bolts and rear cooling unit.



**for Preparation** Click here

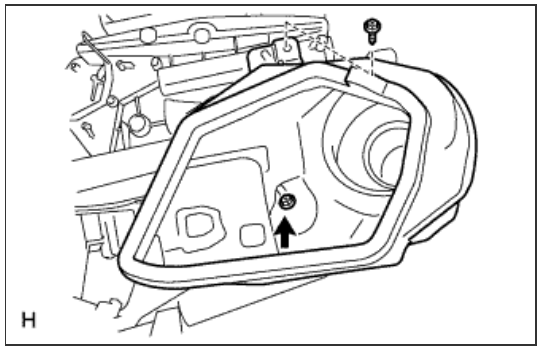
## 1. REMOVE COOLING UNIT BRACKET

a. Remove the 2 screws and bracket.




## 2. REMOVE REAR SIDE NO. 3 AIR DUCT

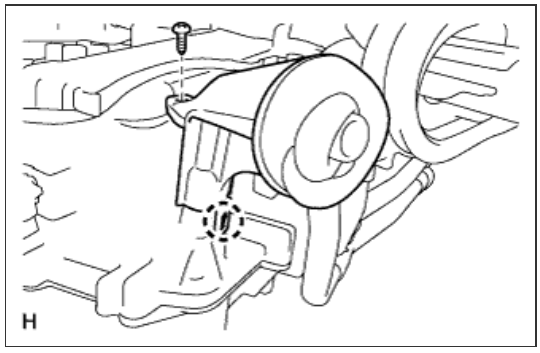
a. Remove the 2 screws and duct.




## 3. REMOVE DRAIN COOLER HOSE

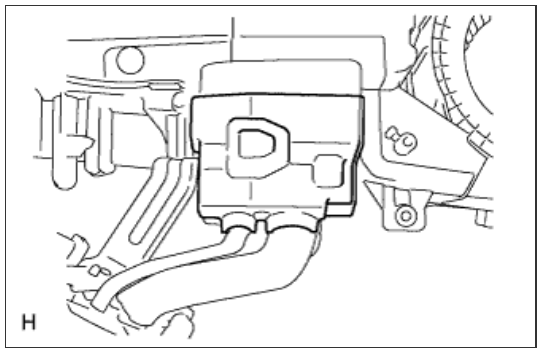
a. Remove the screw.

b. Detach the claw and remove the drain hose.




## 4. REMOVE AIR CONDITIONER ACCESSORY ASSEMBLY

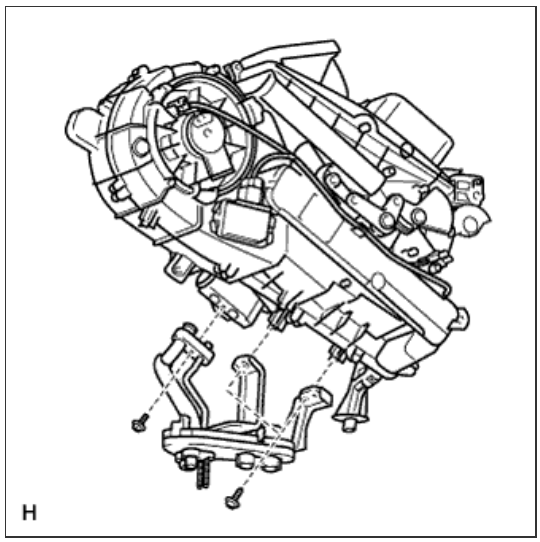
a. Remove the packing.




b. Remove the bolt and 2 screws.

c. Remove the air conditioner accessory assembly.

d. Remove the 2 O-rings from the air conditioner accessory assembly.

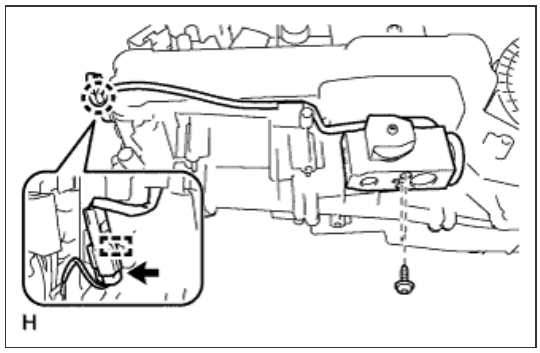



## 5. REMOVE REAR COOLING UNIT EXPANSION VALVE

a. Disconnect the connector.

b. Detach the clamp.

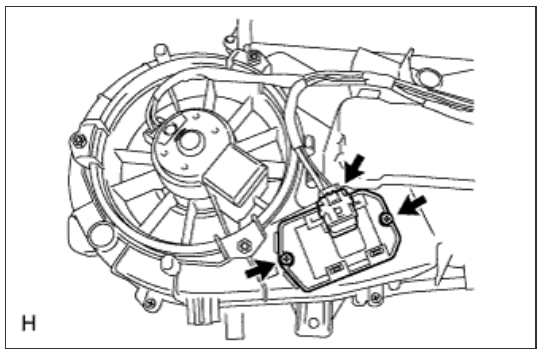
c. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and expansion valve.




## 6. REMOVE BLOWER RESISTOR

a. Disconnect the connector.

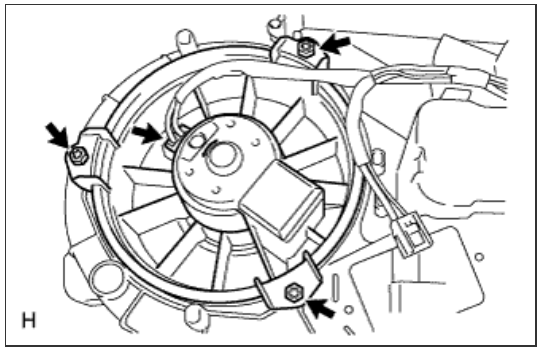
b. Remove the 2 screws and blower resistor.




## 7. REMOVE REAR BLOWER MOTOR

a. Disconnect the connector.

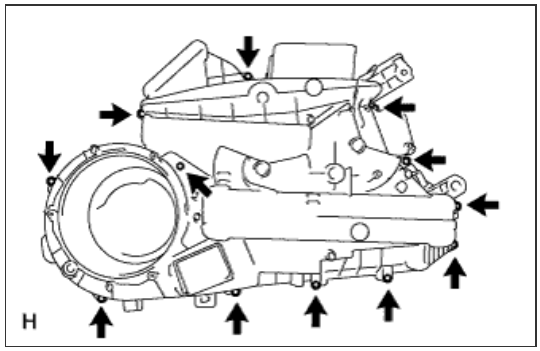
b. Remove the 3 screws and blower motor.



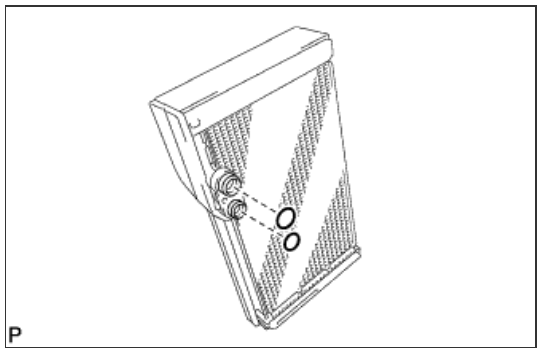

## 8. REMOVE EVAPORATOR SUB-ASSEMBLY

a. Remove the 12 screws and rear cooling unit case LH.

b. Remove the evaporator.




c. Remove the 2 O-rings from the evaporator.




## 9. REMOVE WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY

**for Preparation** Click here

## 1. INSTALL WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY

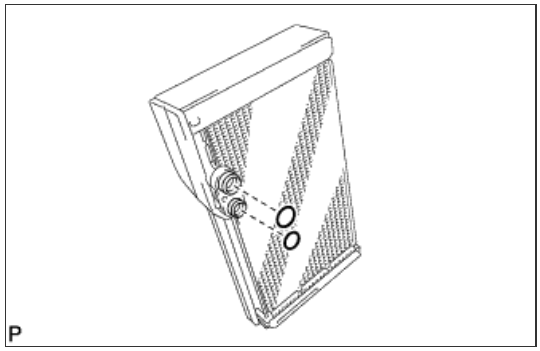
## 2. INSTALL EVAPORATOR SUB-ASSEMBLY

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

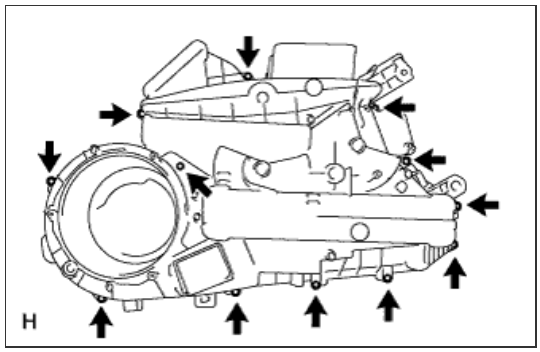
**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the evaporator.

c. Install the evaporator.



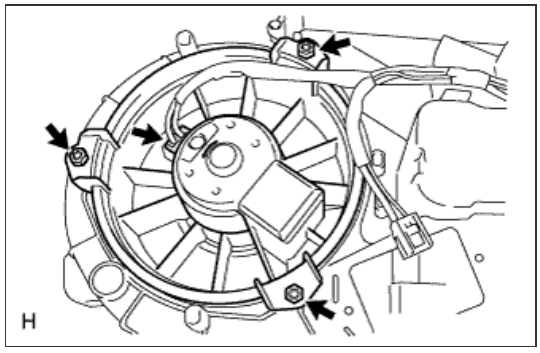

d. Install the rear cooling unit case LH with the 12 screws.




## 3. INSTALL REAR BLOWER MOTOR

a. Install the blower motor with the 3 screws.

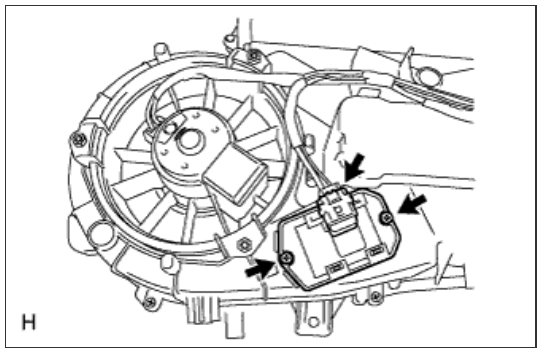
b. Connect the connector.




## 4. INSTALL BLOWER RESISTOR

a. Install the blower resistor with the 2 screws.

b. Connect the connector.



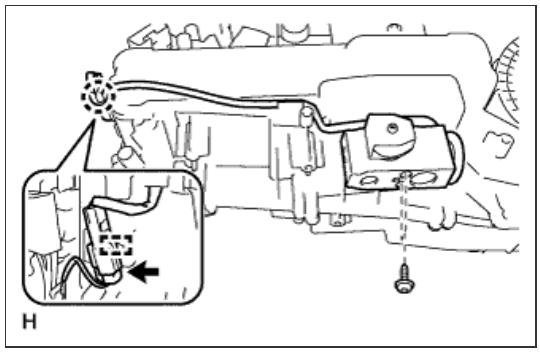

## 5. INSTALL REAR COOLING UNIT EXPANSION VALVE

a. Using a 4 mm hexagon wrench, install the expansion valve with the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

b. Attach the clamp.

c. Connect the connector.




## 6. INSTALL AIR CONDITIONER ACCESSORY ASSEMBLY

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

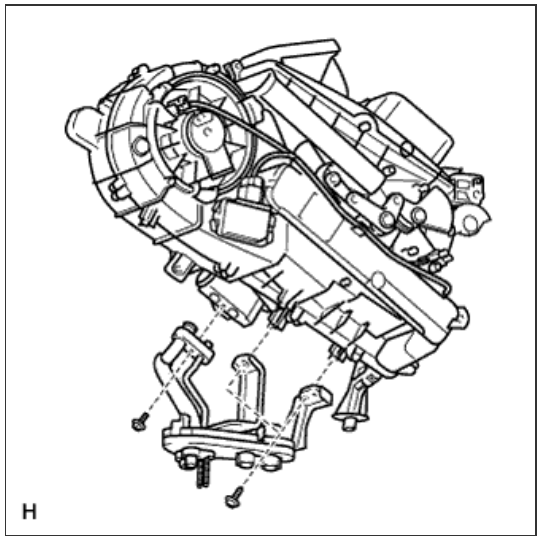
**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the air conditioner accessory assembly.

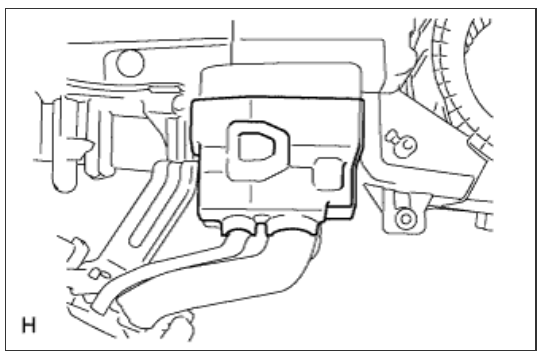
c. Install the air conditioner accessory assembly.

d. Install the bolt and 2 screws.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**



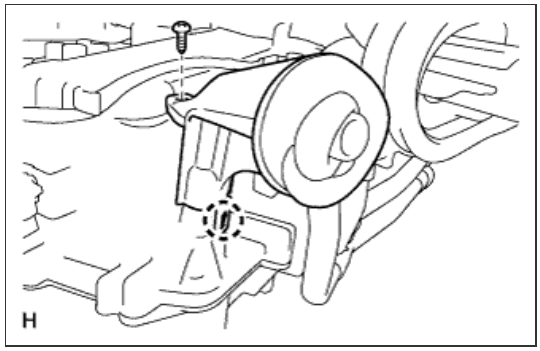

e. Install new packing as shown in the illustration.




## 7. INSTALL DRAIN COOLER HOSE

a. Attach the claw to install the drain hose.

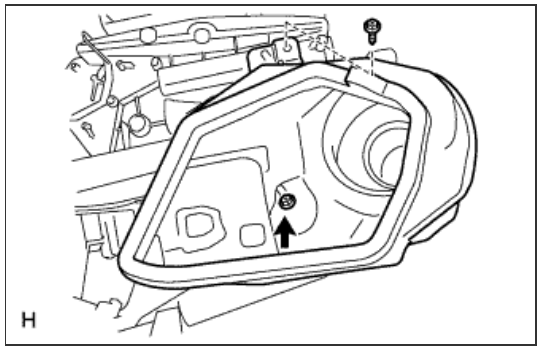
b. Install the screw.




## 8. INSTALL REAR SIDE NO. 3 AIR DUCT

a. Install the duct with the 2 screws.

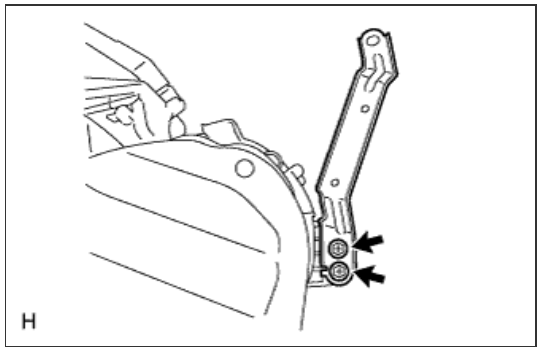
**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**




## 9. INSTALL COOLING UNIT BRACKET

a. Install the bracket with the 2 screws.

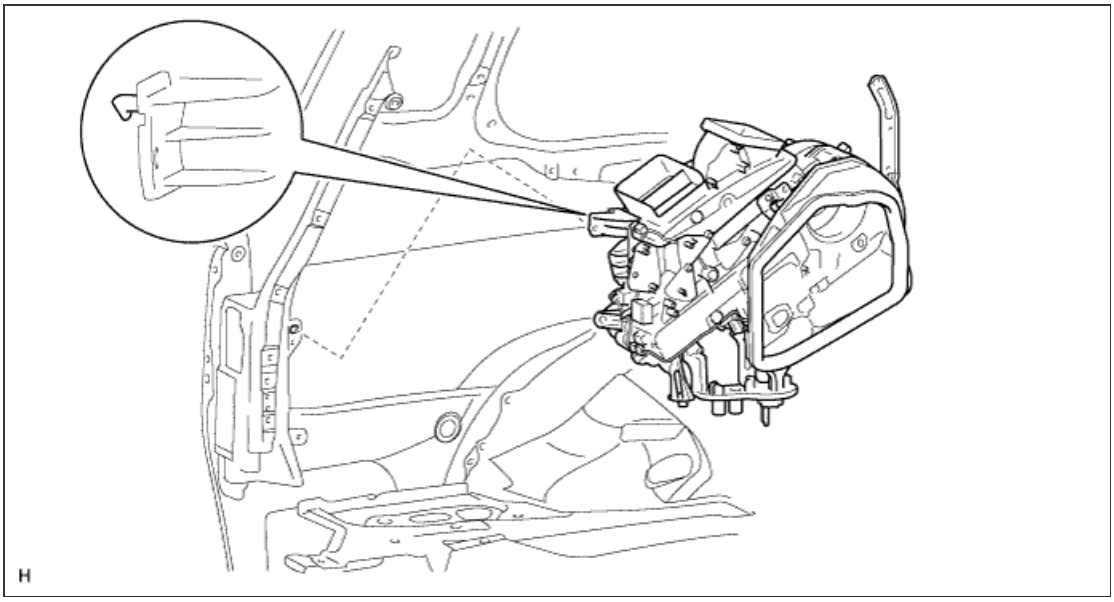
**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**



**for Preparation** Click here

## 1. INSTALL REAR COOLING UNIT ASSEMBLY

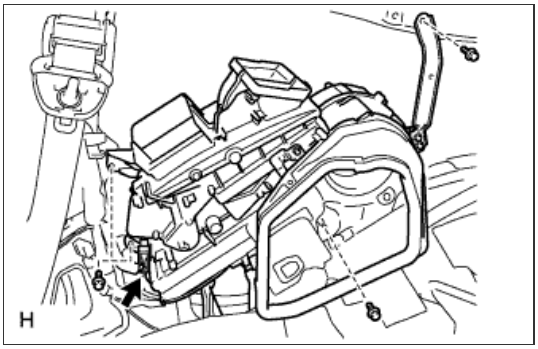
a. Install the rear cooling unit as shown in the illustration.




b. Install the 4 bolts.

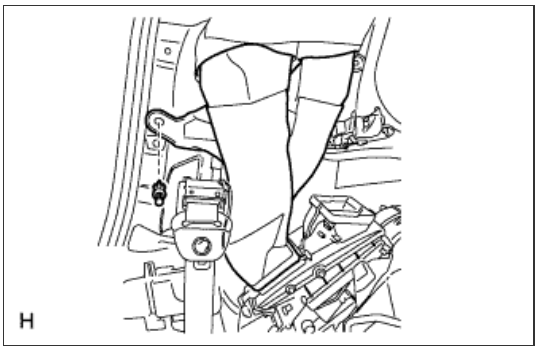
**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**

c. Connect the connector.

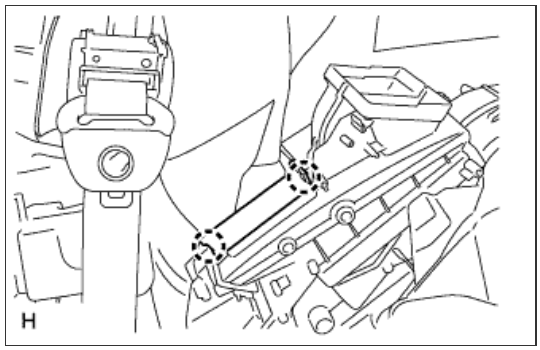



## 2. INSTALL REAR ROOF NO. 1 AIR DUCT

a. Install the duct with the clip.



b. Attach the 2 claws to install the cooler plate.




## 3. CONNECT AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY

a. Remove the attached vinyl tape from the pipe.

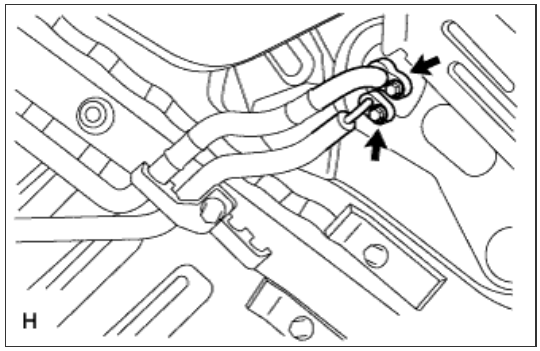
b. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the air conditioner tube and accessory assembly.

c. Install the 2 O-rings to the air conditioner tube and accessory assembly.

d. Connect the air conditioner tube and accessory assembly.

e. Install the 2 bolts.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**




## 4. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 5. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat)

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 6. INSTALL TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

a. Install the tonneau cover assembly.

## 7. INSTALL REAR DOOR SCUFF PLATE LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 8. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

## 9. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 10. CHARGE REFRIGERANT

***SST***

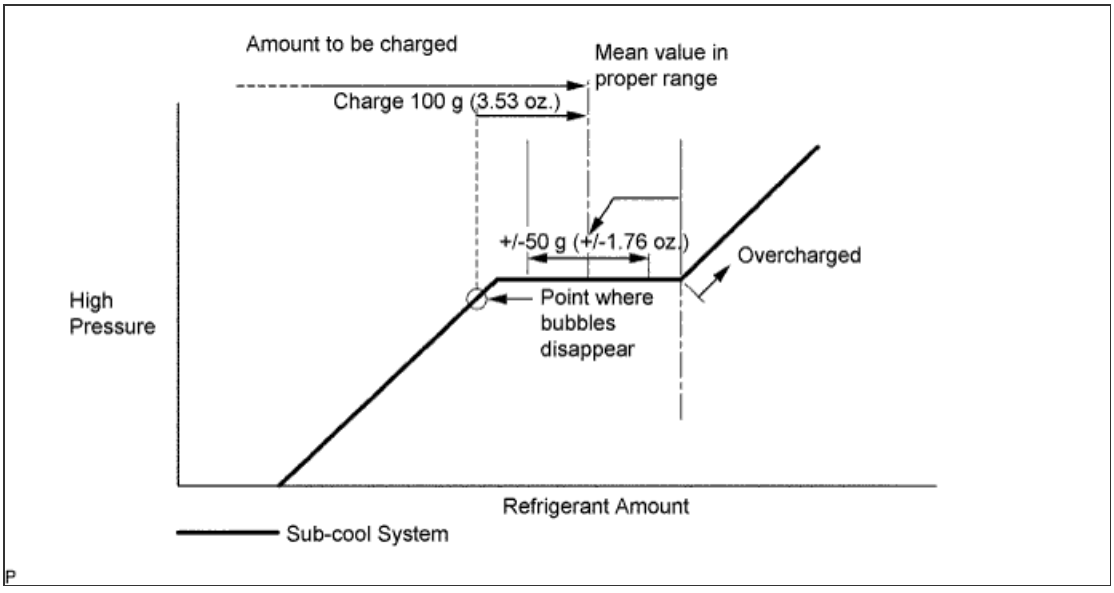
**09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)**

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 11. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 12. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

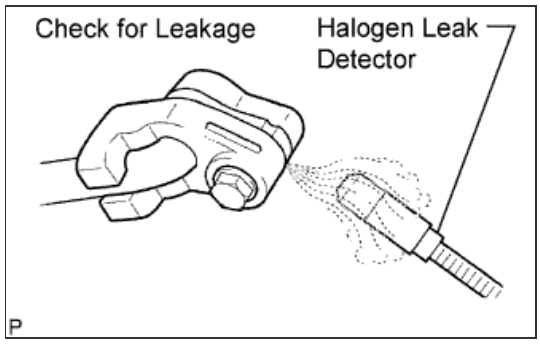
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

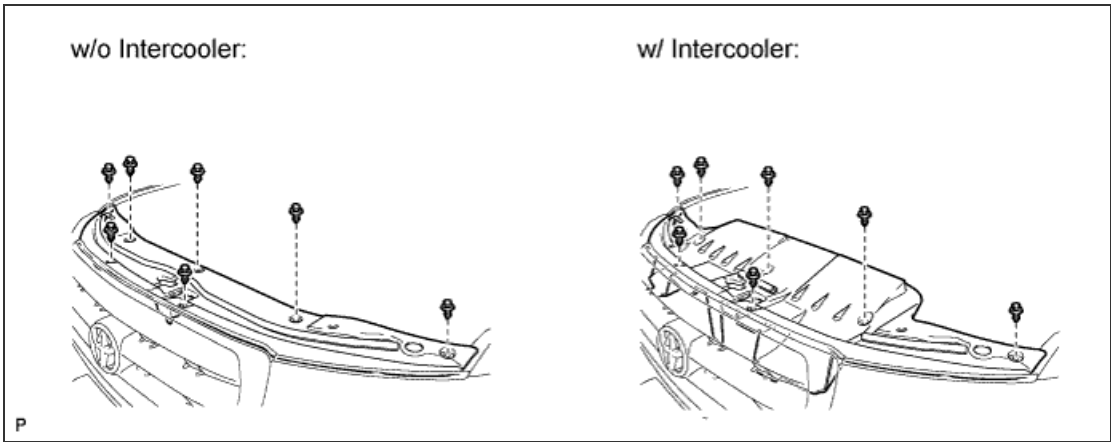



## 13. CHECK SRS WARNING LIGHT

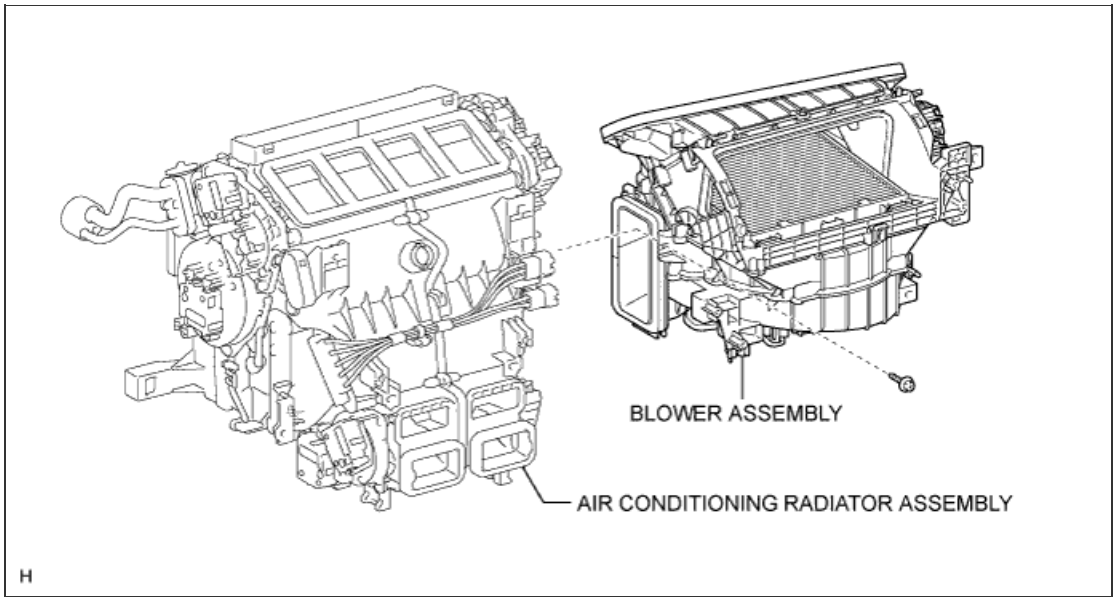
(Click here)

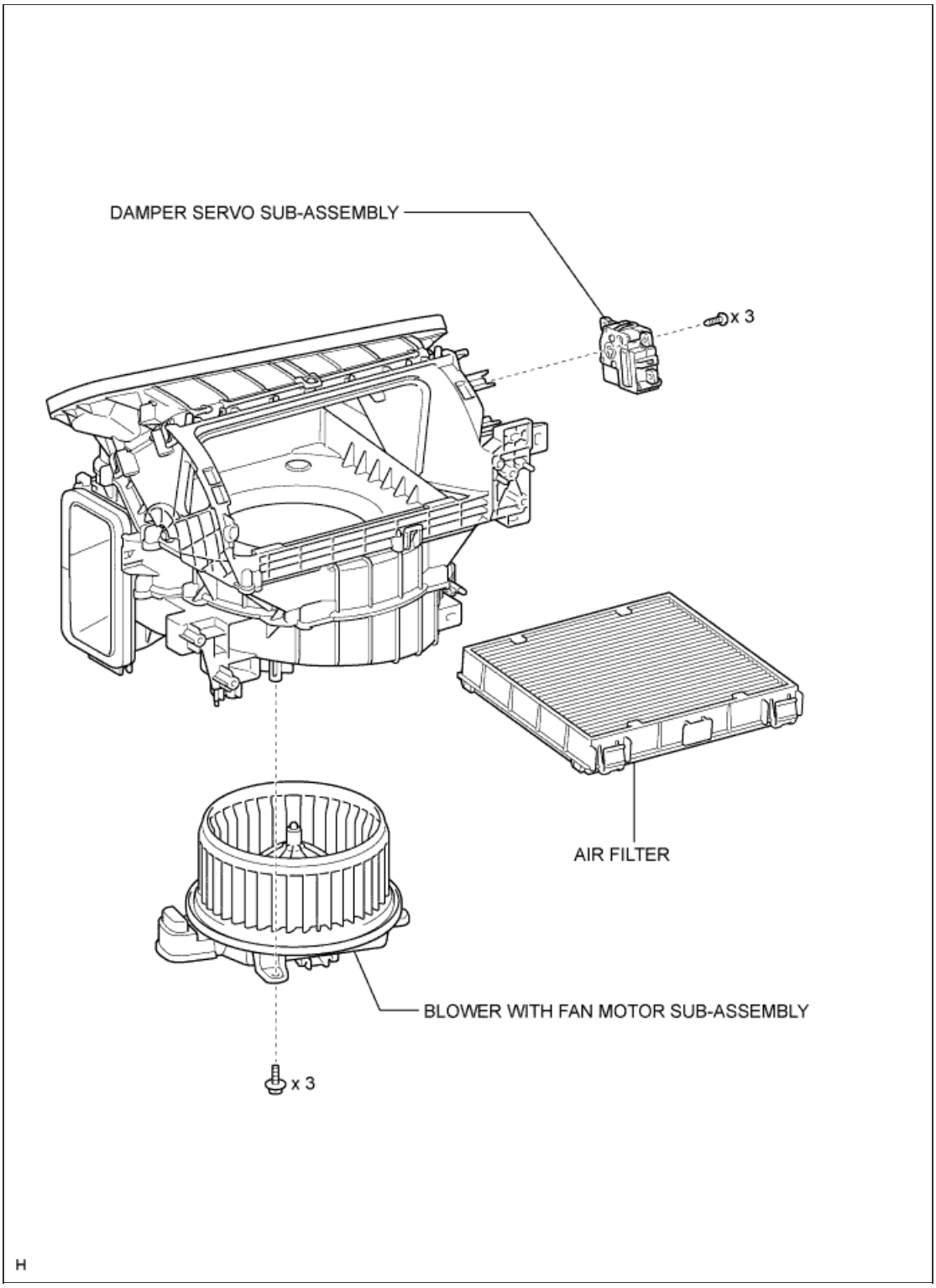
## 14. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.



**for Preparation** [Click here]




DAMPER SERVO SUB-ASSEMBLY
x 3
AIR FILTER
BLOWER WITH FAN MOTOR SUB-ASSEMBLY
x 3
H

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. REMOVE AIR CONDITIONING UNIT

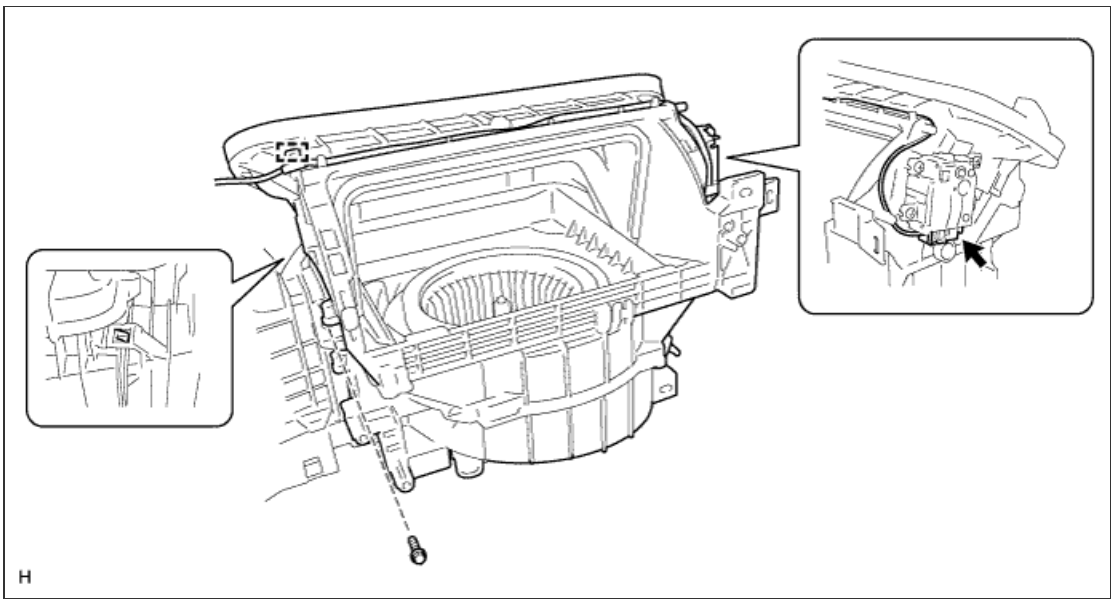
a. Remove the air conditioning unit (Click here).

## 2. REMOVE BLOWER ASSEMBLY

a. Remove the screw.

b. Disconnect the connector and clamp.

c. Detach the claw and remove the blower unit.



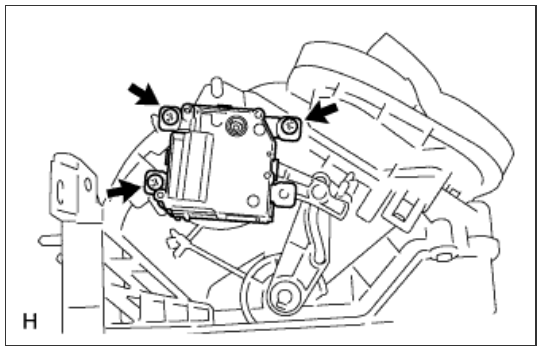
**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

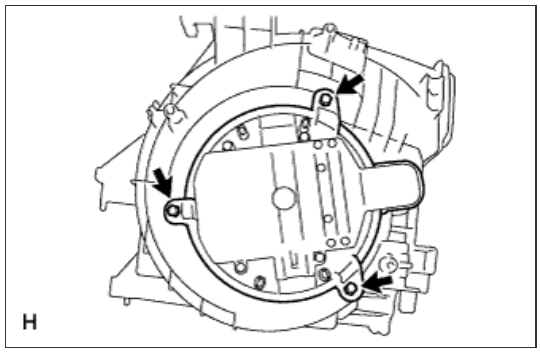
## 1. REMOVE DAMPER SERVO SUB-ASSEMBLY

a. Remove the 3 screws and damper servo.



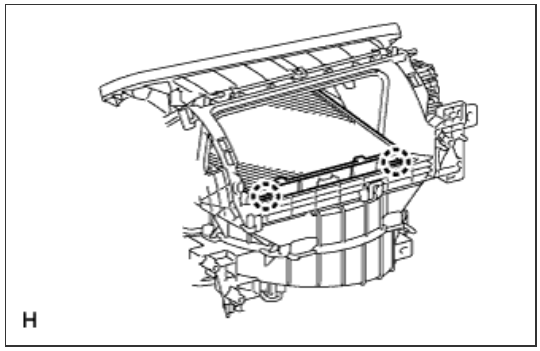

## 2. REMOVE BLOWER WITH FAN MOTOR SUB-ASSEMBLY

a. Remove the 3 screws and motor.




## 3. REMOVE AIR FILTER

a. Detach the 2 claws and remove the filter.



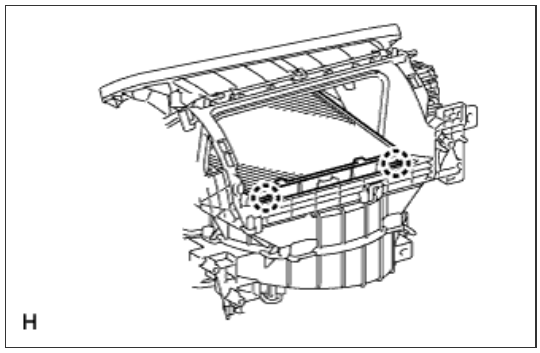
**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

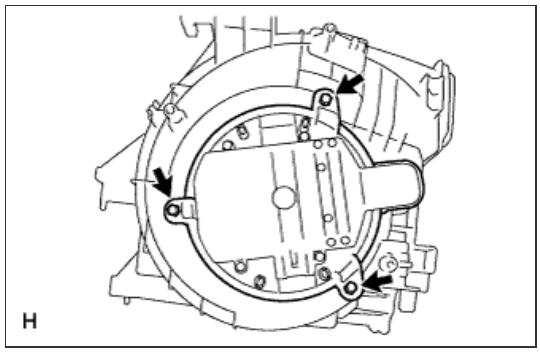
## 1. INSTALL AIR FILTER

a. Attach the 2 claws to install the filter.



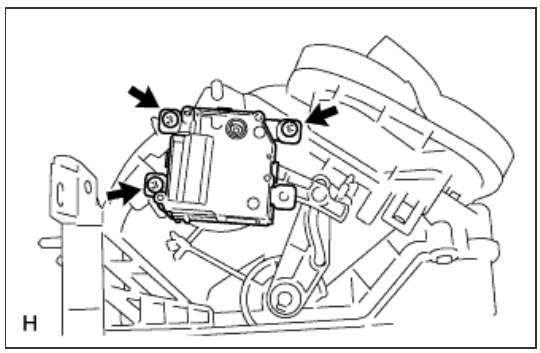

## 2. INSTALL BLOWER WITH FAN MOTOR SUB-ASSEMBLY

a. Install the motor with the 3 screws.




## 3. INSTALL DAMPER SERVO SUB-ASSEMBLY

a. Install the damper servo with the 3 screws.

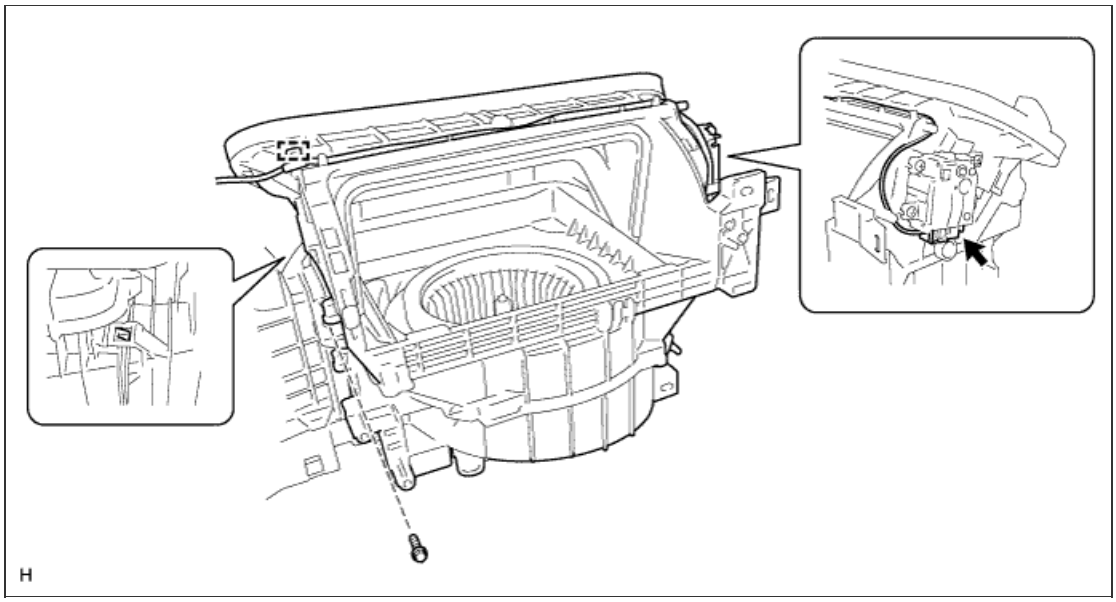


**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. INSTALL BLOWER ASSEMBLY




a. Attach the claw to install the blower unit.

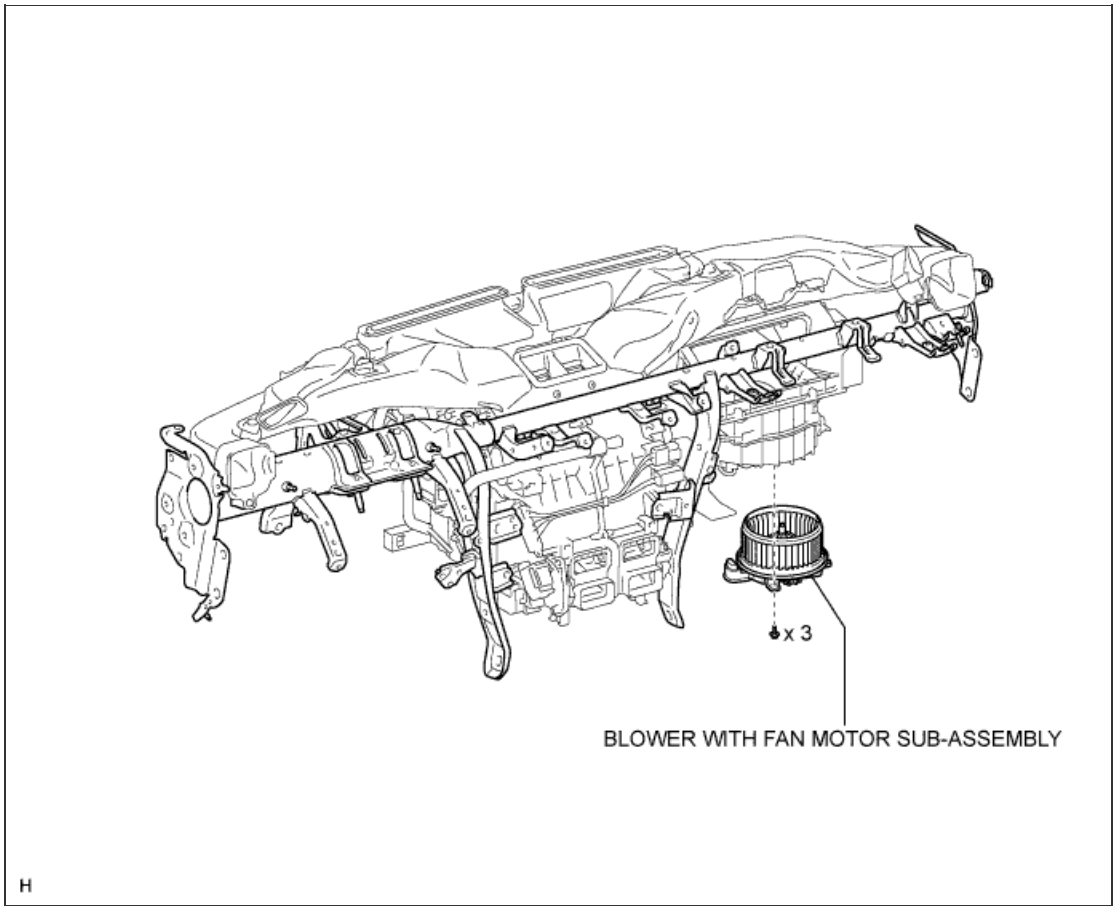
b. Connect the connector and clamp.

c. Install the screw.

## 2. INSTALL AIR CONDITIONING UNIT

a. Install the air conditioning unit (Click here).

**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

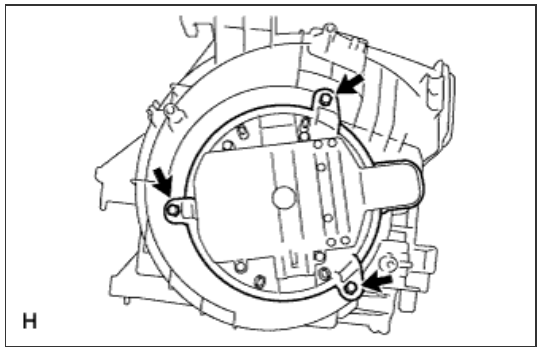
## 1. REMOVE INSTRUMENT PANEL SAFETY PAD ASSEMBLY

(Click here)

## 2. REMOVE BLOWER WITH FAN MOTOR SUB-ASSEMBLY

a. Disconnect the connector.

b. Remove the 3 screws and motor.



**for Preparation** Click here

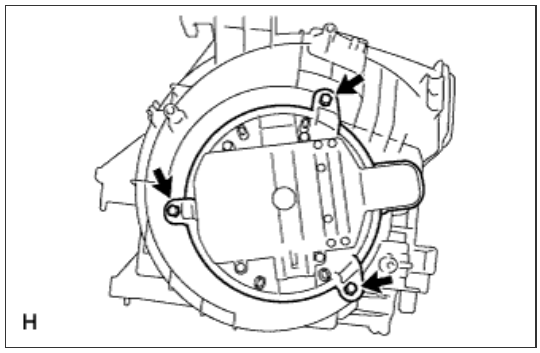
**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. INSTALL BLOWER WITH FAN MOTOR SUB-ASSEMBLY

a. Install the motor with the 3 screws.

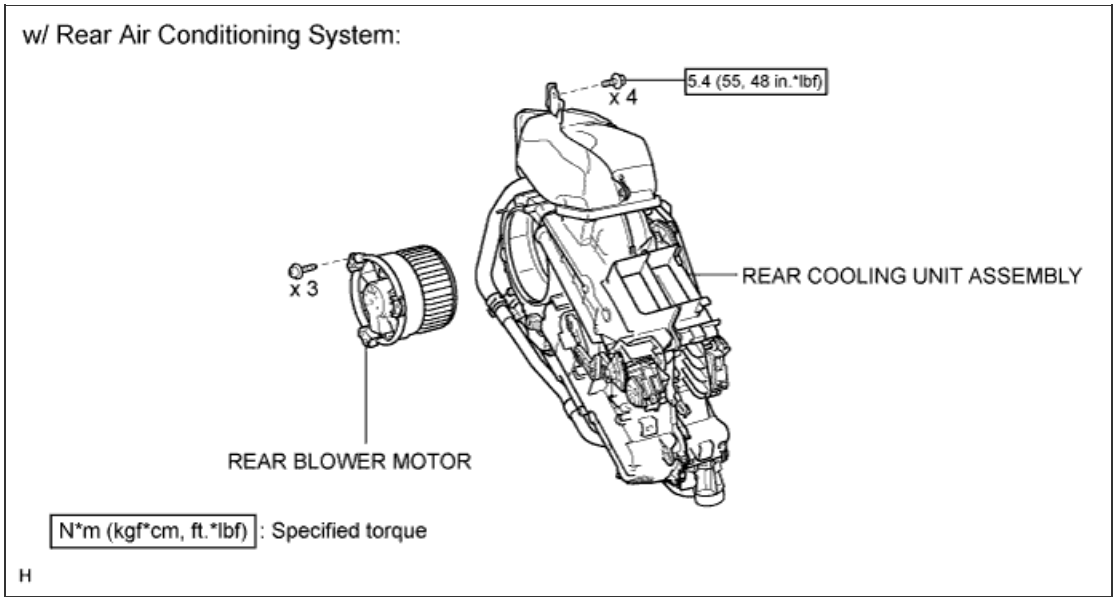
b. Connect the connector.



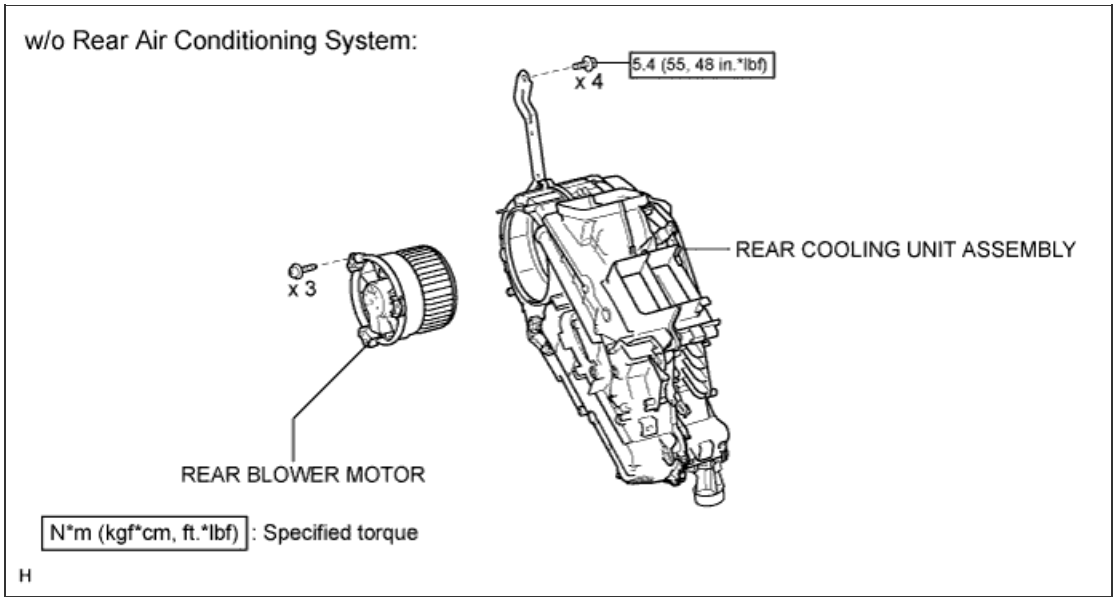

## 2. INSTALL INSTRUMENT PANEL SAFETY PAD ASSEMBLY

(Click here)

**for Preparation** Click here





**for Preparation** Click here

## 1. REMOVE REAR COOLING UNIT ASSEMBLY

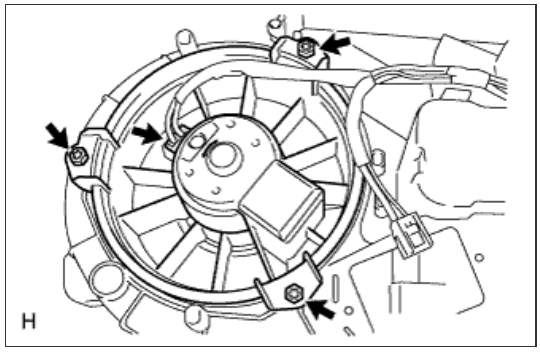
a. w/ Heater:
(Click here)

b. w/o Heater:
(Click here)

## 2. REMOVE REAR BLOWER MOTOR

a. Disconnect the connector.

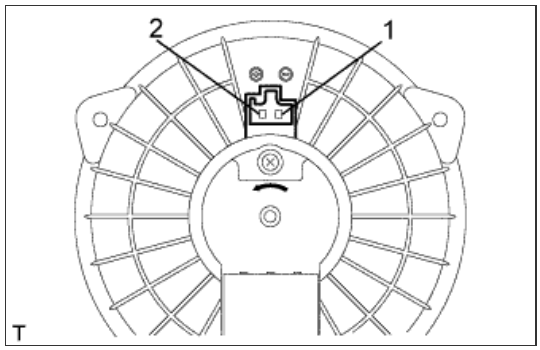
b. Remove the 3 screws and motor.



**for Preparation** Click here

## 1. INSPECT REAR BLOWER MOTOR

a. Apply battery voltage and check operation of the blower motor, as shown in the illustration.




**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal2<br>Battery negative (-) → Terminal1 | Motor operates smoothly |

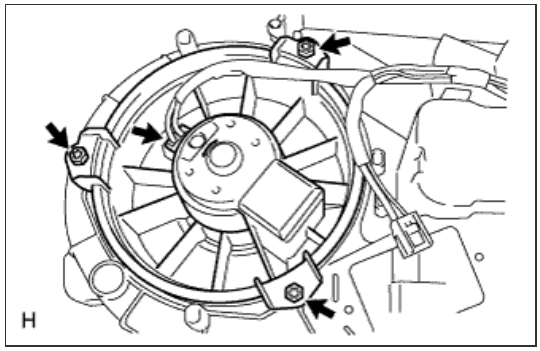
If the result is not as specified, replace the rear blower motor.

**for Preparation** Click here

## 1. INSTALL REAR BLOWER MOTOR

a. Install the motor with the 3 screws.

b. Connect the connector.

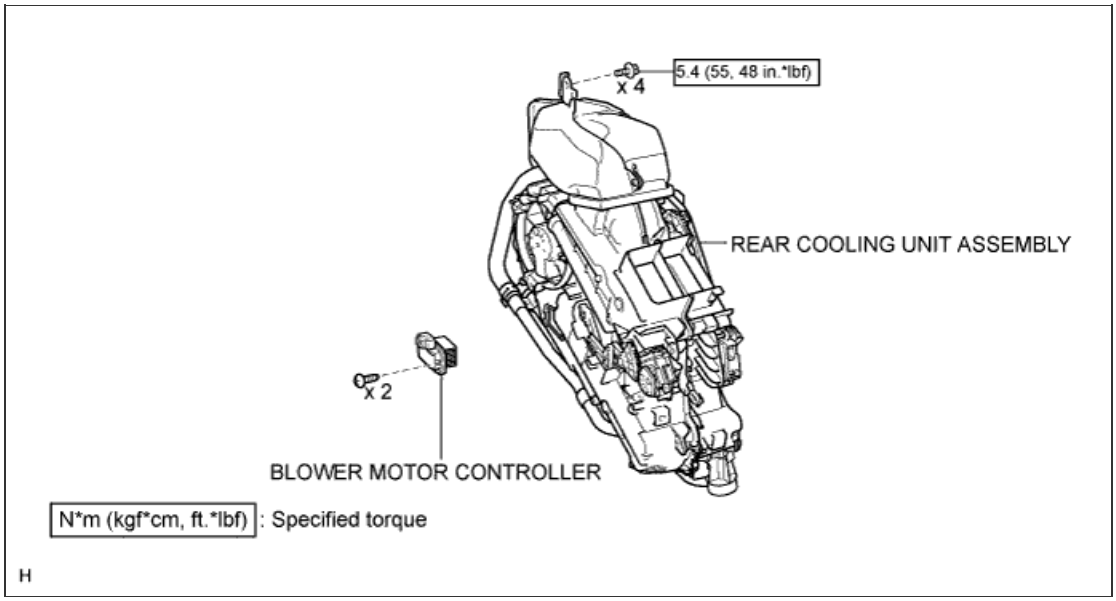



## 2. INSTALL REAR COOLING UNIT ASSEMBLY

a. w/ Heater:
(Click here)

b. w/o Heater:
(Click here)

**for Preparation** [Click here]



**for Preparation** Click here

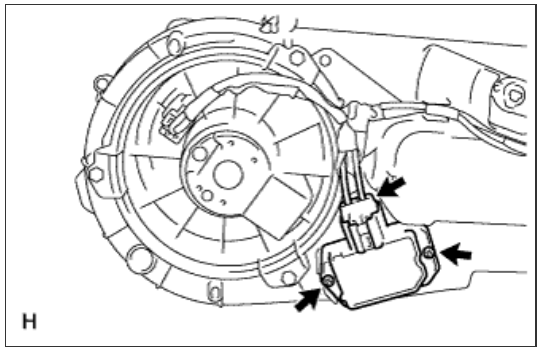
## 1. REMOVE REAR COOLING UNIT ASSEMBLY

(Click here)

## 2. REMOVE BLOWER MOTOR CONTROLLER

a. Disconnect the connector.

b. Remove the 2 screws and blower motor controller.

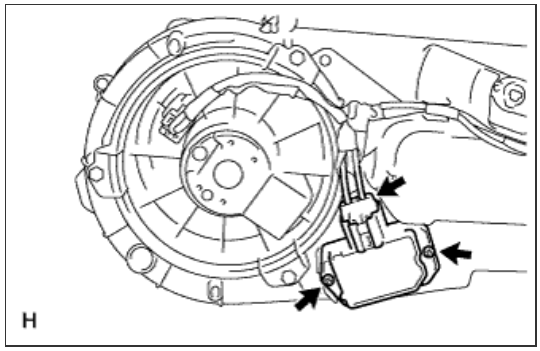


**for Preparation** Click here

## 1. INSTALL BLOWER MOTOR CONTROLLER

a. Install the blower motor controller with the 2 screws.

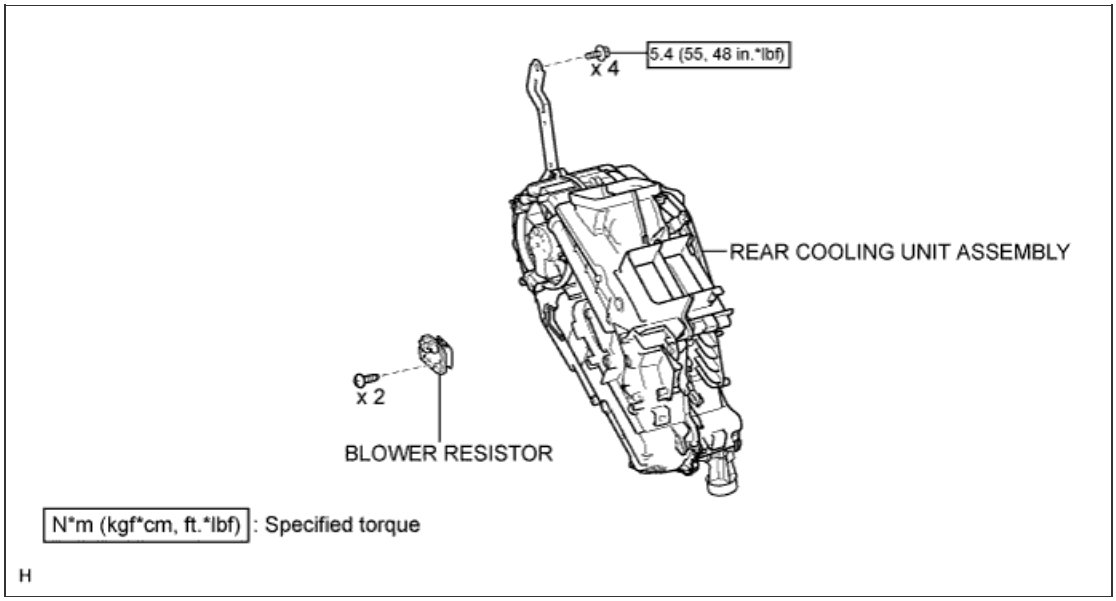
b. Connect the connector.




## 2. INSTALL REAR COOLING UNIT ASSEMBLY

(Click here)

**for Preparation** Click here



**for Preparation** Click here

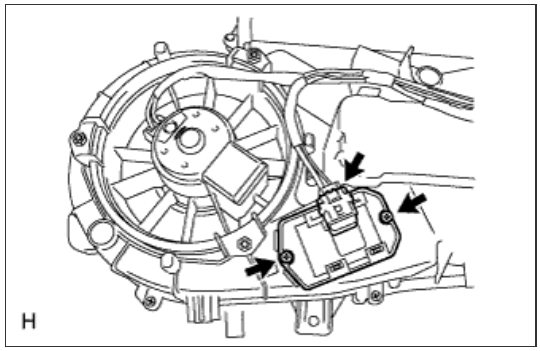
## 1. REMOVE REAR COOLING UNIT ASSEMBLY

(Click here)

## 2. REMOVE BLOWER RESISTOR

a. Disconnect the connector.

b. Remove the 2 screws and blower resistor.



**for Preparation** Click here

## 1. INSPECT BLOWER RESISTOR

a. Measure resistance between terminals 1 and 4.

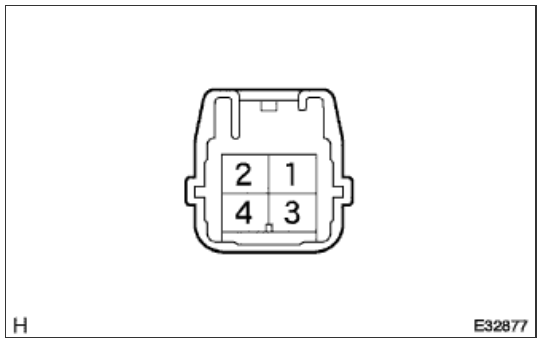
**Standard Resistance:**
**2.0 to 2.4 kΩ**

If resistance is not as specified, replace the blower resistor.

b. Inspect blower resistor.

i. Connect the positive (+) lead to terminal 4 through a 12 V to 3.4 W test bulb and negative (-) lead to terminal 2.

ii. Check the test bulb lights up when another positive (+) lead is connected to terminal 2 through a 12 V to 3.4 W test bulb.
If operation is not as specified, replace the blower resistor.

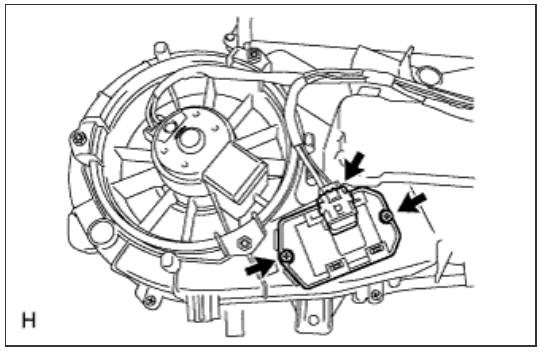


**for Preparation** Click here

## 1. INSTALL BLOWER RESISTOR

a. Install the blower resistor with the 2 screws.

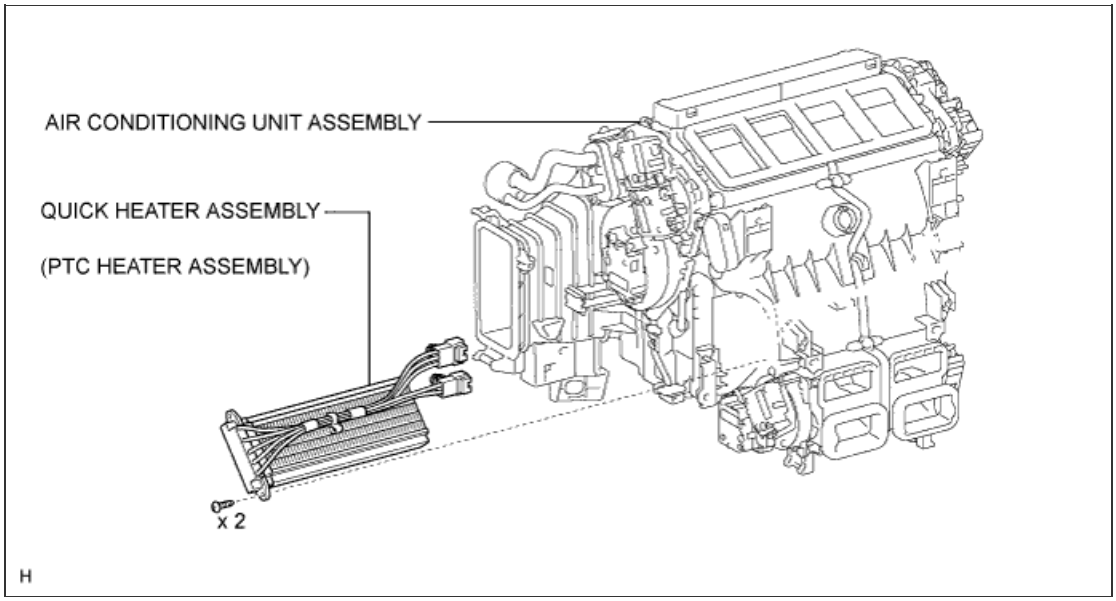
b. Connect the connector.




## 2. INSTALL REAR COOLING UNIT ASSEMBLY

(Click here)

**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

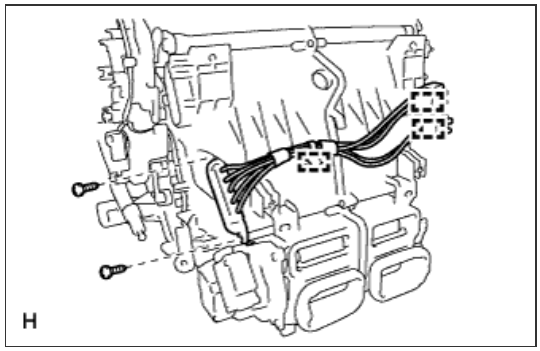
## 1. REMOVE AIR CONDITIONING UNIT ASSEMBLY

(Click here)

## 2. REMOVE QUICK HEATER ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 clamps and remove the quick heater assembly (PTC heater assembly).



**for Preparation** Click here

## 1. INSPECT QUICK HEATER ASSEMBLY

a. Measure the resistance according to the value(s) in the table below.

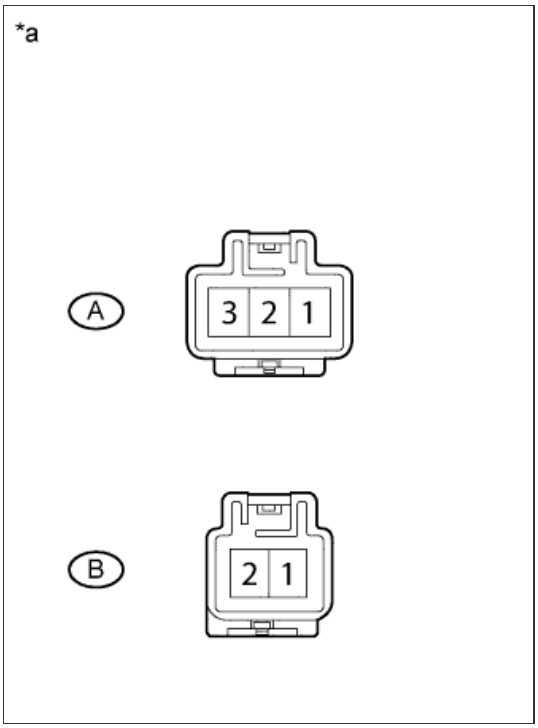
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A1 - B1 | 23 to 25°C (73 to 77°F) | 0.5 to 2.5 Ω |
| A2 - B1 | 23 to 25°C (73 to 77°F) | 0.5 to 2.5 Ω |
| A2 - B2 | 23 to 25°C (73 to 77°F) | 0.5 to 2.5 Ω |
| A3 - B2 | 23 to 25°C (73 to 77°F) | 0.5 to 2.5 Ω |

If the result is not as specified, replace the quick heater assembly (PTC heater assembly).

**Text in Illustration**

| | |
|---|---|
| *a | Component without harness connected (Quick Heater Assembly (PTC Heater Assembly) |



**for Preparation** Click here

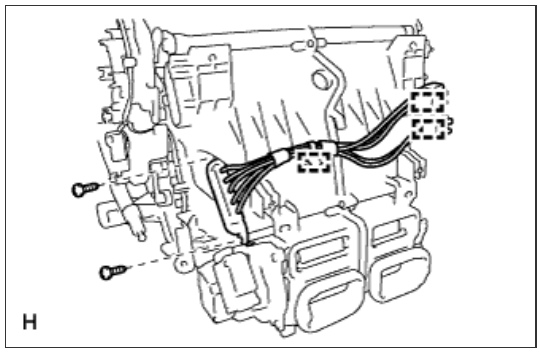
**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. INSTALL QUICK HEATER ASSEMBLY

a. Attach the clamps to install the quick heater assembly (PTC heater assembly).

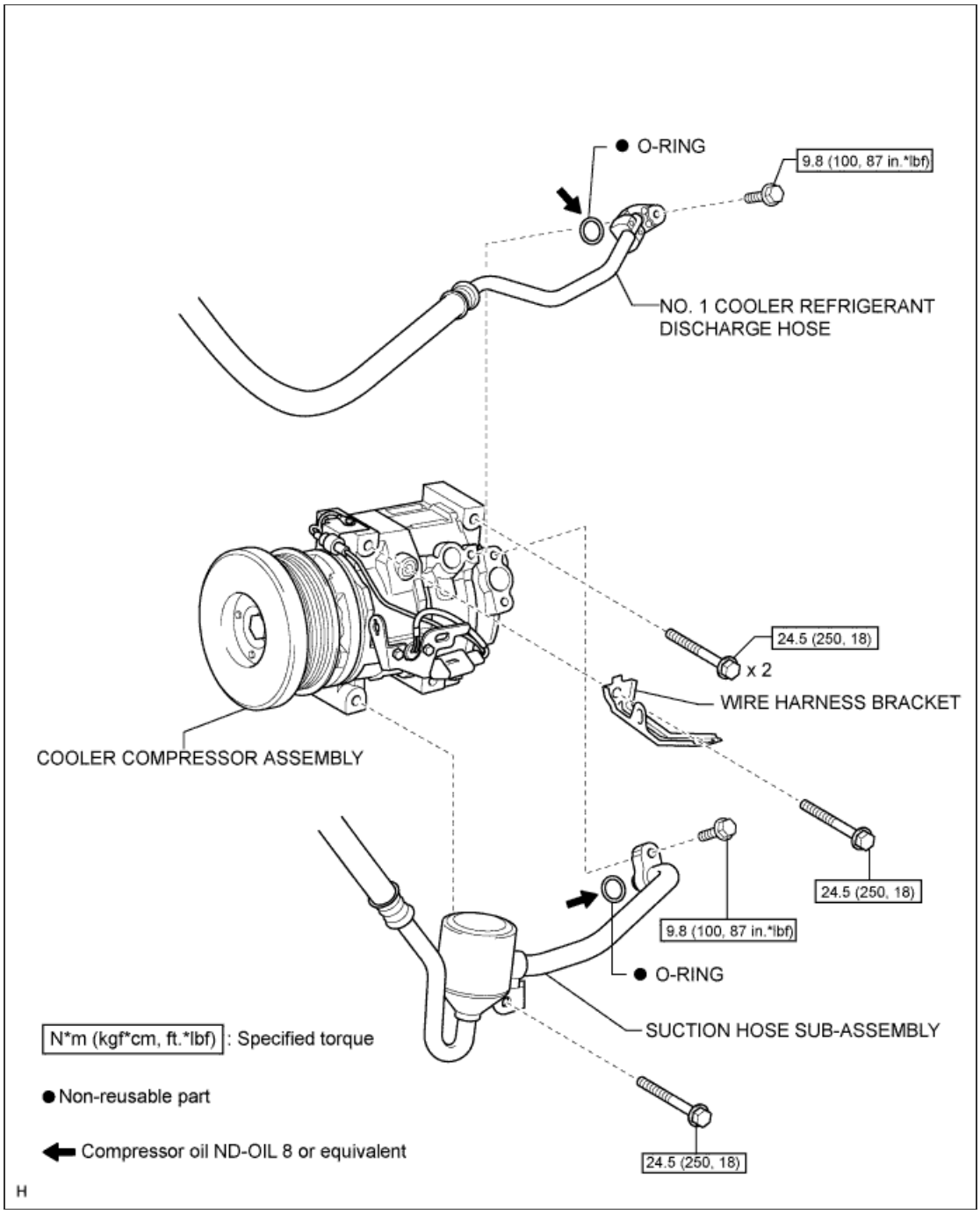
b. Install the 2 screws.

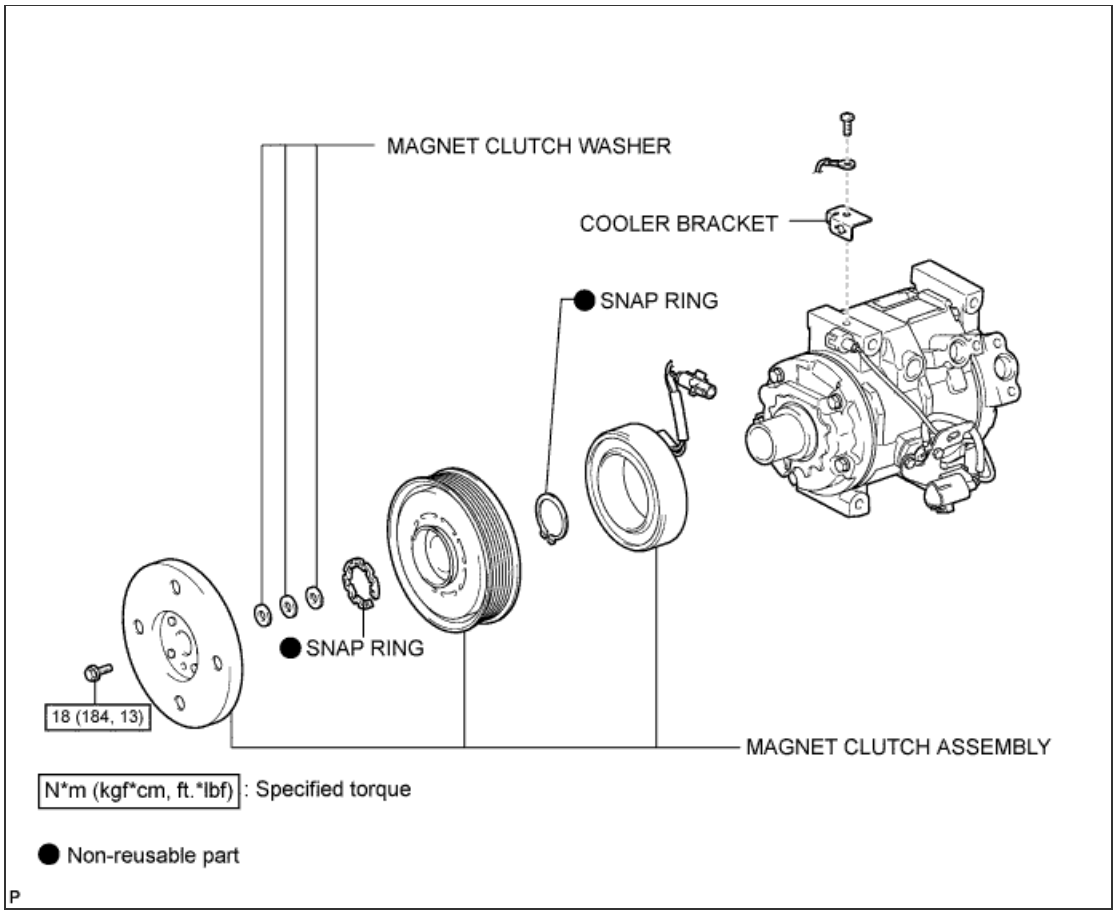



## 2. INSTALL AIR CONDITIONING UNIT ASSEMBLY

(Click here)

**for Preparation** Click here

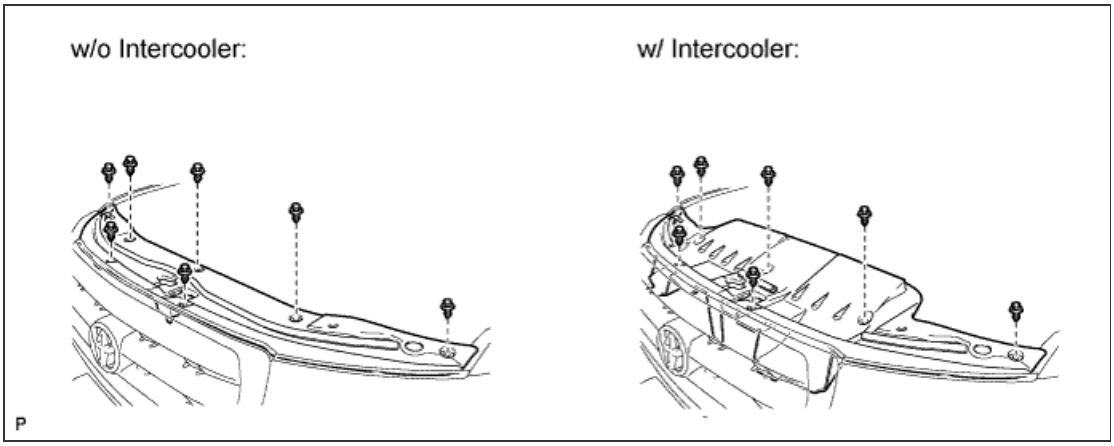



MAGNET CLUTCH WASHER
COOLER BRACKET
SNAP RING
SNAP RING
18 (184, 13)
MAGNET CLUTCH ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
P

**for Preparation** Click here

## 1. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 2. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

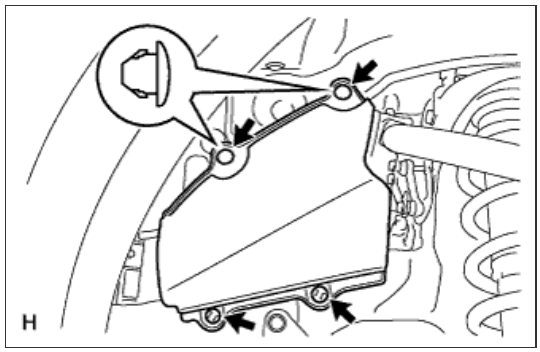
c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 3. REMOVE FRONT FENDER APRON SEAL LH

a. Remove the 4 clips and seal.




## 4. REMOVE FAN & GENERATOR V BELT

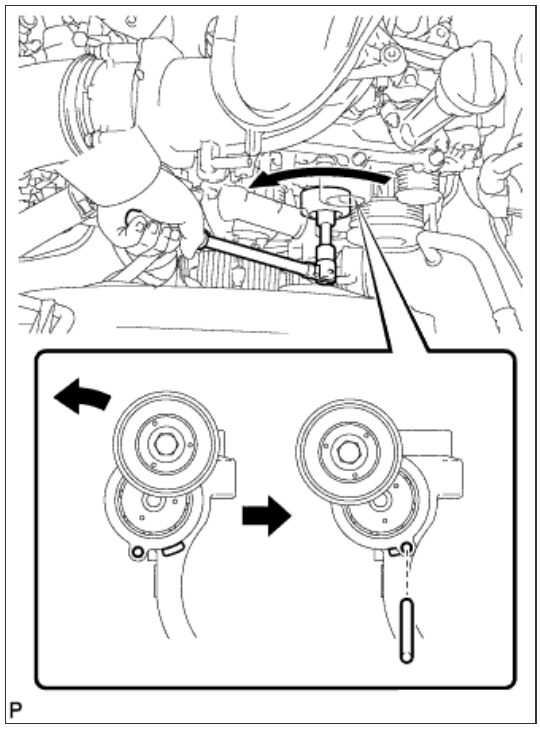
a. While turning the belt tensioner counterclockwise, align the service hole for the

belt tensioner and the belt tensioner fixing position, and then insert a bar with a diameter of 6 mm (0.236 in.) into the service hole to fix the belt tensioner in place.

**HINT:**

The pulley bolt for the belt tensioner has a left-hand thread.

b. Remove the V belt.



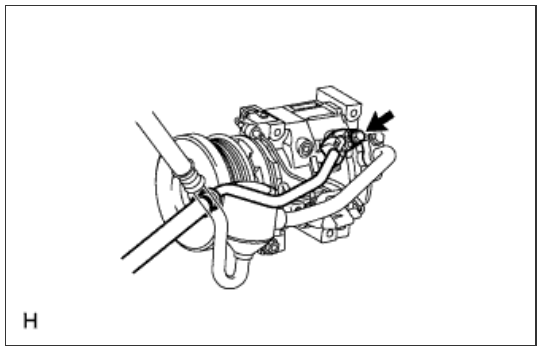

## 5. DISCONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the bolt and disconnect the discharge hose from the cooler compressor.

b. Remove the O-ring from the discharge hose.

**NOTICE:**

Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.



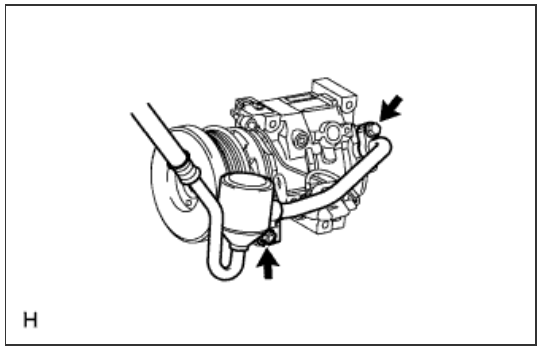

## 6. DISCONNECT SUCTION HOSE SUB-ASSEMBLY

a. Remove the 2 bolts and disconnect the suction hose from the cooler compressor.

b. Remove the O-ring from the suction hose.

**NOTICE:**

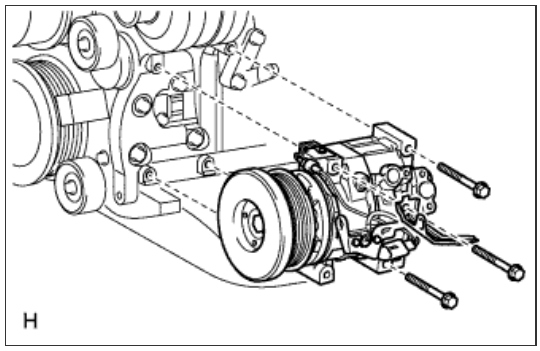
Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.




## 7. REMOVE COOLER COMPRESSOR ASSEMBLY

a. Disconnect the connector.

b. Remove the 3 bolts and cooler compressor.

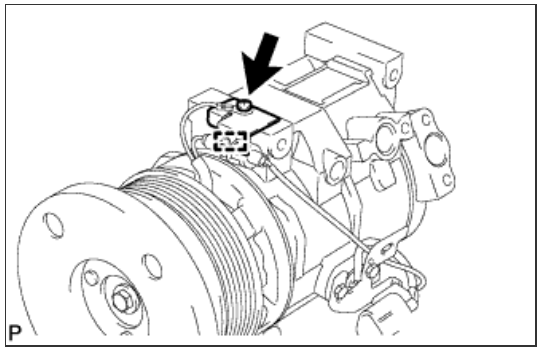

H

**for Preparation** Click here

## 1. REMOVE COOLER BRACKET

a. Detach the clamp.

b. Remove the screw and the cooler bracket.




## 2. REMOVE MAGNET CLUTCH ASSEMBLY

a. Clamp the cooler compressor in a vise.

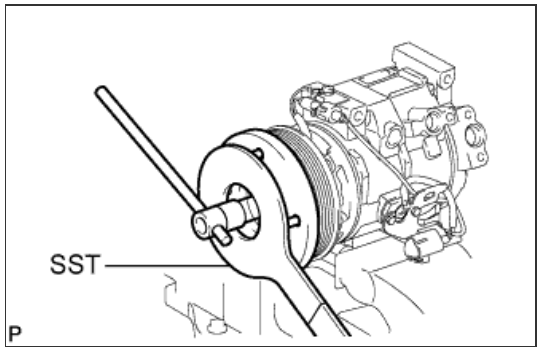
b. Using SST, hold the magnet clutch hub.

*SST*
09985-00270

c. Remove the bolt, magnet clutch hub and magnet clutch washer(s).

**HINT:**

There is no set number of magnet clutch washers since they are used for adjusting.

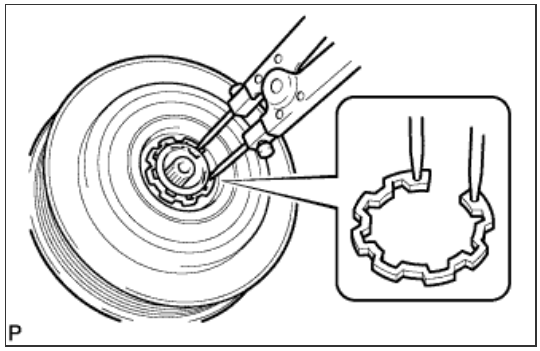



d. Using a snap ring expander, remove the snap ring and the magnet clutch rotor.

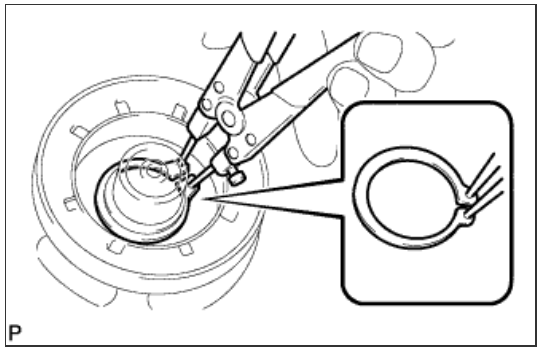
**NOTICE:**

Do not damage the seal cover of the bearing when removing the snap ring.

e. Disconnect the connector.




f. Using a snap ring expander, remove the snap ring and magnet clutch stator.



**for Preparation** Click here

## 1. INSPECT MAGNET CLUTCH ASSEMBLY

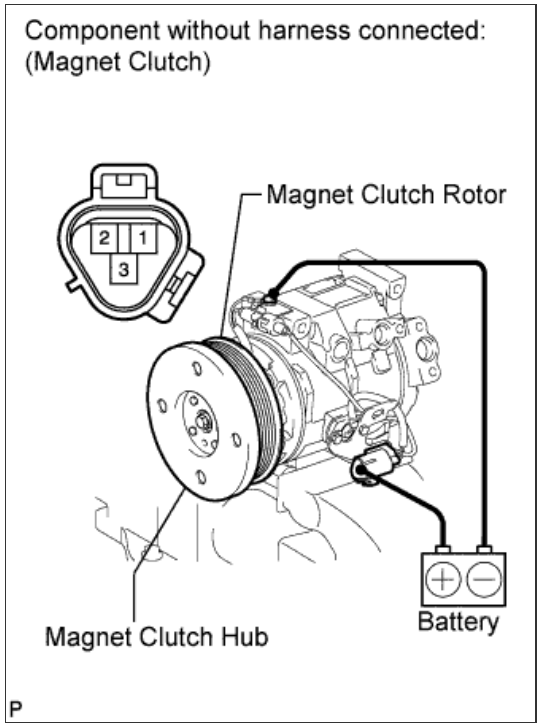
a. Check the magnet clutch operation.

i. Confirm that the magnet clutch hub and magnet clutch rotor lock when the battery positive lead is connected to terminal 3 of the magnet clutch, and the negative lead is connected to the ground wire.
If the operation is not as specified, replace the magnet clutch assembly.

b. Measure the resistance.

c. Measure the resistance between terminals 1 and 2.

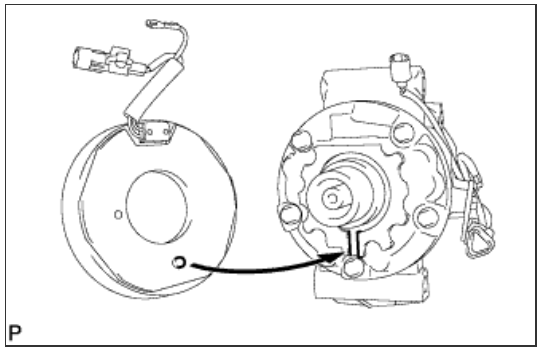
**Standard resistance:**
**65 to 125 Ω at 20°C (68°F)**
**If the resistance is not as specified, replace the cooler compressor assembly.**



**for Preparation** Click here

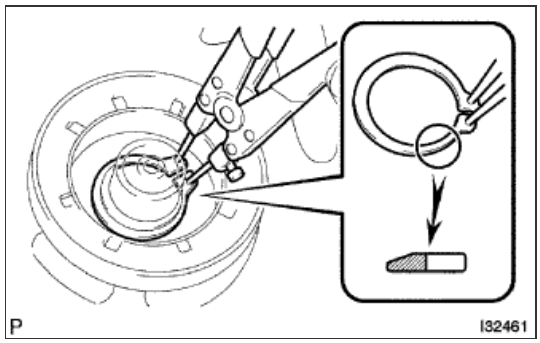
## 1. INSTALL MAGNET CLUTCH ASSEMBLY

a. Install the magnet clutch stator with the parts shown in the illustration matched.




b. Using a snap ring expander, install a new snap ring with the chamfered side facing up.

c. Connect the connector.




d. Using a snap ring expander, install the magnet clutch rotor and a new snap ring with the chamfered side facing up.

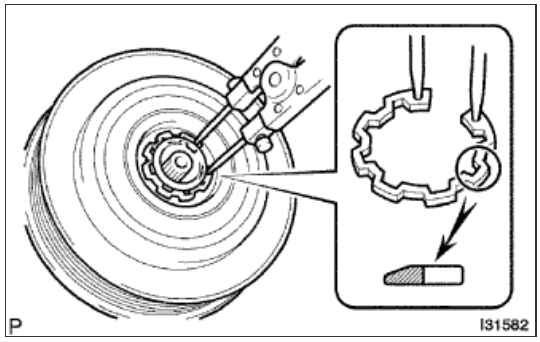
**NOTICE:**

Do not damage the seal cover of the bearing when installing the snap ring.

e. Install the compressor washer(s) and magnet clutch hub.

**NOTICE:**

Do not change the combination of the compressor washer(s) used before disassembly.



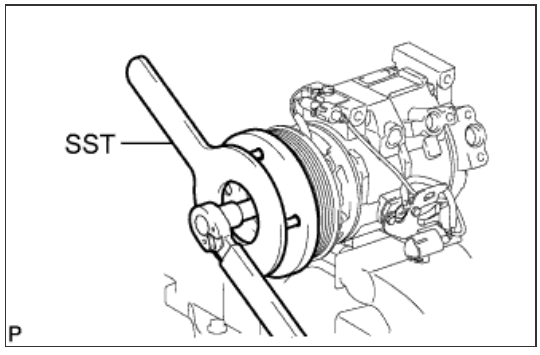

f. Using SST, hold the magnet clutch hub and install the bolt.

*SST*
09985-00270

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

**NOTICE:**

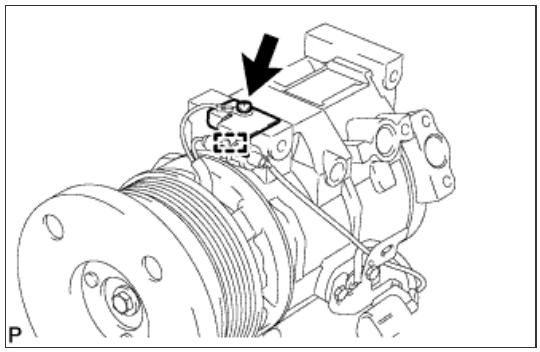
Make sure that there is no foreign matter or oil on the compressor shaft, bolt, and clutch hub.




## 2. INSTALL COOLER BRACKET

a. Install the cooler bracket with the screw.

b. Attach the clamp.




## 3. INSPECT MAGNET CLUTCH CLEARANCE

a. Clamp the cooler compressor in a vise.

b. Set the dial indicator to the magnet clutch hub.

c. Connect the battery positive lead to terminal 3 of the magnet clutch connector and the negative lead to the ground wire. Turn the magnet clutch on and off and measure the clearance.

**Standard clearance:**
**0.35 to 0.60 mm (0.014 to 0.024 in.)**

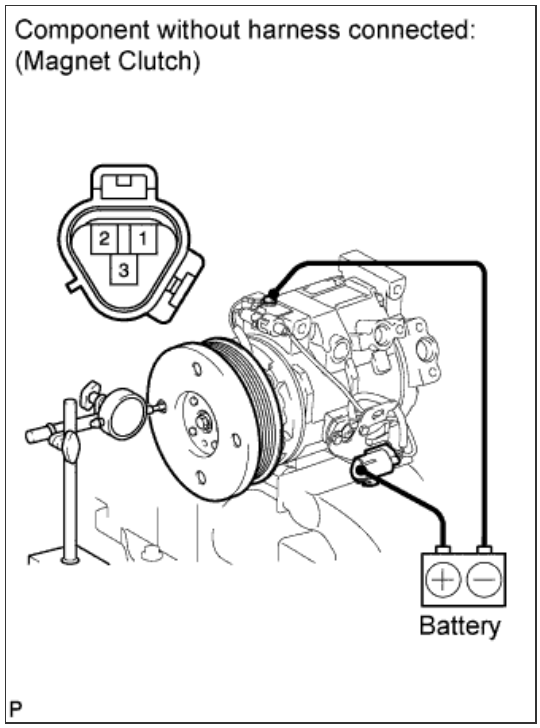
If the measured value is not within the standard clearance, remove the magnet clutch hub and adjust the clearance using compressor washers to obtain the standard clearance.

**Compressor washer thickness:**
**0.1 mm (0.004 in.)**
**0.3 mm (0.012 in.)**
**0.5 mm (0.020 in.)**

**NOTICE:**

Adjustment should be performed with 3 or fewer magnet clutch washers.

d. Remove the cooler compressor from the vise.



**for Preparation** Click here

## 1. ADJUST COMPRESSOR OIL

a. When replacing the compressor and magnetic clutch with a new one, gradually discharge the refrigerant gas from the service valve, and drain the following amount of oil from the new compressor and magnetic clutch before installation.

**Standard:**
**GRJ200L-GNANKV, GNMNKV, GPANKV, GPMNKV:**
**(Oil capacity inside the new compressor and magnetic clutch: 140 + 15 cc (4.7 + 0.51 fl.oz.)) - (Remaining oil amount in the removed compressor and magnetic clutch) = (Oil amount to be removed from the new compressor when replacing)**
**Except GRJ200L-GNANKV, GNMNKV, GPANKV, GPMNKV:**
**(Oil capacity inside the new compressor and magnetic clutch: 135 + 15 cc (4.6 + 0.51 fl.oz.)) - (Remaining oil amount in the removed compressor and magnetic clutch) = (Oil amount to be removed from the new compressor when replacing)**

**NOTICE:**

- **When checking the compressor oil level, follow the A/C system precautions.**
- **If a new compressor and magnetic clutch is installed without removing some oil remaining in the pipes of the vehicle, the oil amount will be too large. This prevents heat exchange in the refrigerant cycle and causes refrigerant failure.**
- **If the volume of oil remaining in the removed compressor and magnetic clutch is too small, check for oil leakage.**
- **Be sure to use ND-OIL 8 or equivalent for compressor oil.**

## 2. INSTALL COOLER COMPRESSOR ASSEMBLY

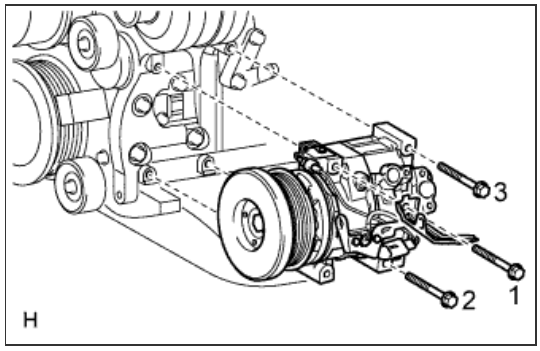
a. Install the cooler compressor with the 3 bolts.

**Torque:**
**24.5 N*m{ 250 kgf*cm , 18 ft.*lbf }**

**HINT:**

Tighten the bolts in the order shown in the illustration.

b. Connect the connector.




## 3. CONNECT SUCTION HOSE SUB-ASSEMBLY

a. Remove the attached vinyl tape from the hose.

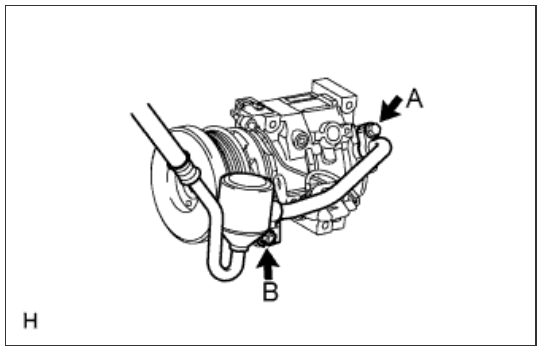
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler compressor.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install the O-ring to the suction hose.

d. Connect the suction hose to the cooler compressor with the 2 bolts.

**Torque:**
**for bolt A:**
**9.8 N*m{ 100 kgf*cm , 87 ft.*lbf }**
**for bolt B:**
**24.5 N*m{ 250 kgf*cm , 18 ft.*lbf }**




## 4. CONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the attached vinyl tape from the hose.

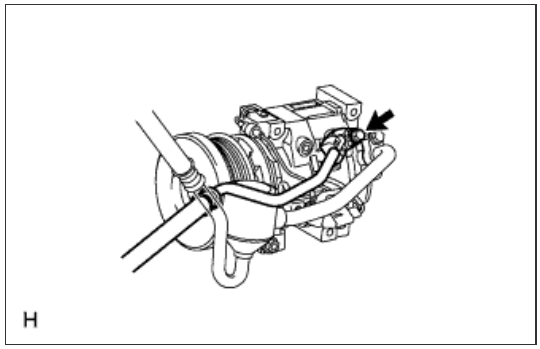
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler compressor.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install the O-ring to the cooler refrigerant discharge hose.

d. Connect the cooler refrigerant discharge hose to the cooler compressor with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

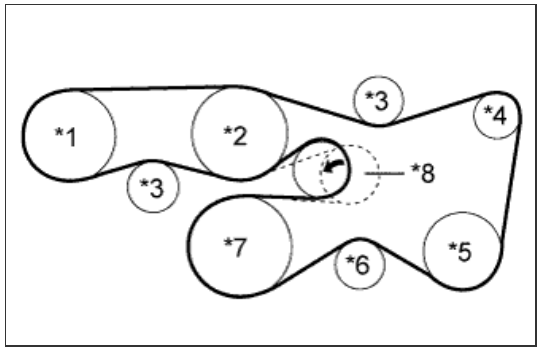



## 5. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

**Text in Illustration**

| | |
|---|---|
| *1 | Vane Pump |
| *2 | Water Pump |
| *3 | No. 2 Idler |
| *4 | Generator |
| *5 | Cooler Compressor or Idler Pulley |
| *6 | No. 1 Idler |
| *7 | Crankshaft |
| *8 | V-ribbed Belt Tensioner |




b. While turning the belt tensioner counterclockwise, remove the pin.

**NOTICE:**

Make sure that the V belt is properly installed to each pulley.

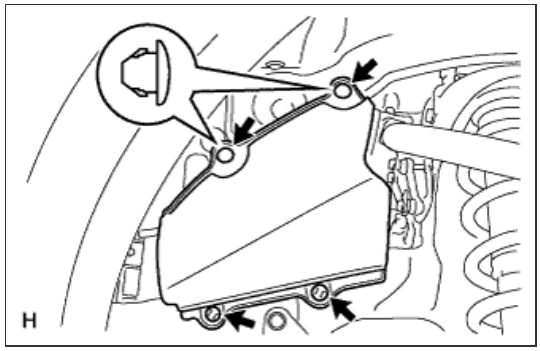
c. Check that the belt fits properly in the ribbed grooves.

**HINT:**

Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.

## 6. INSTALL FRONT FENDER APRON SEAL LH

a. Install the seal with the 4 clips.




## 7. CHARGE REFRIGERANT

***SST***

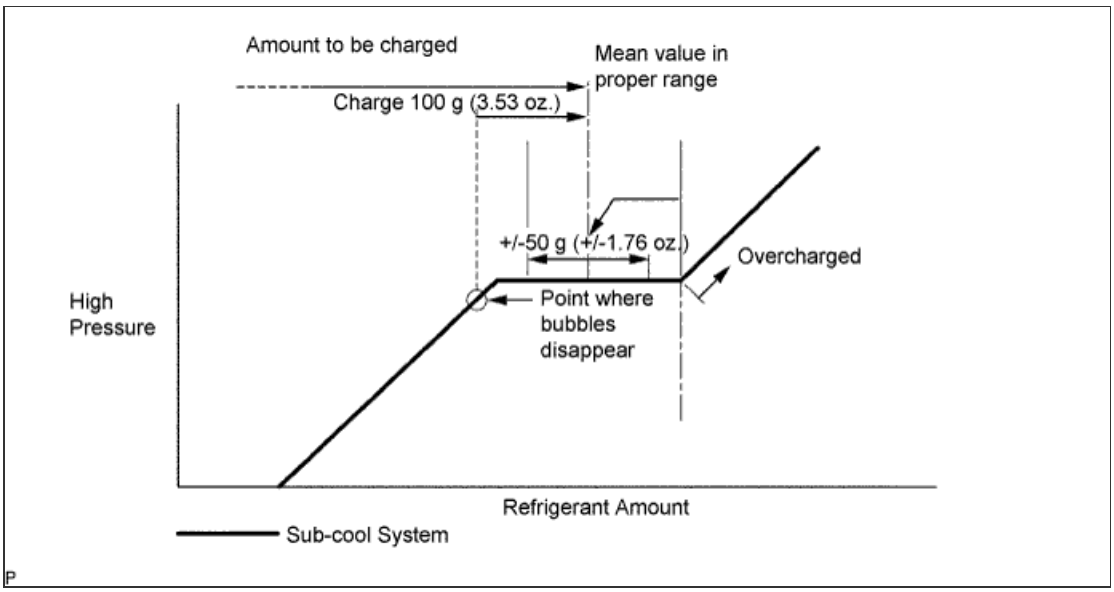
**09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)**

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 8. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 9. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

b. Perform the operation under these conditions:

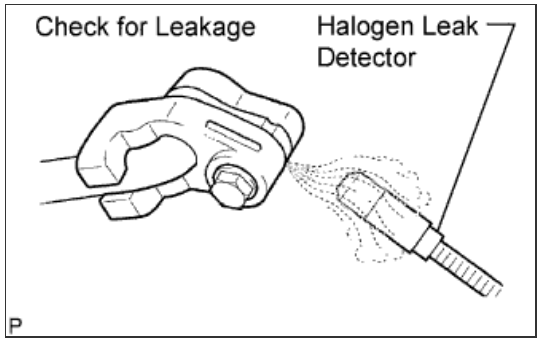
- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.

- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

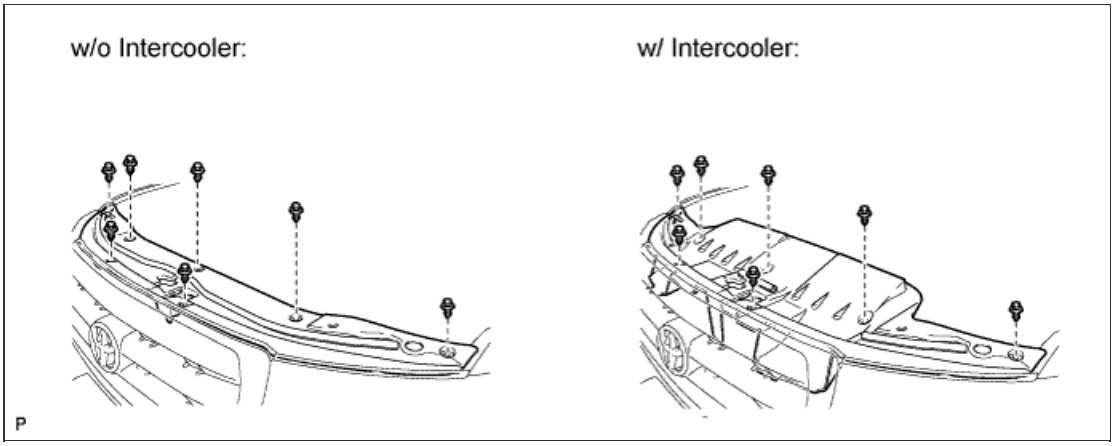
d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

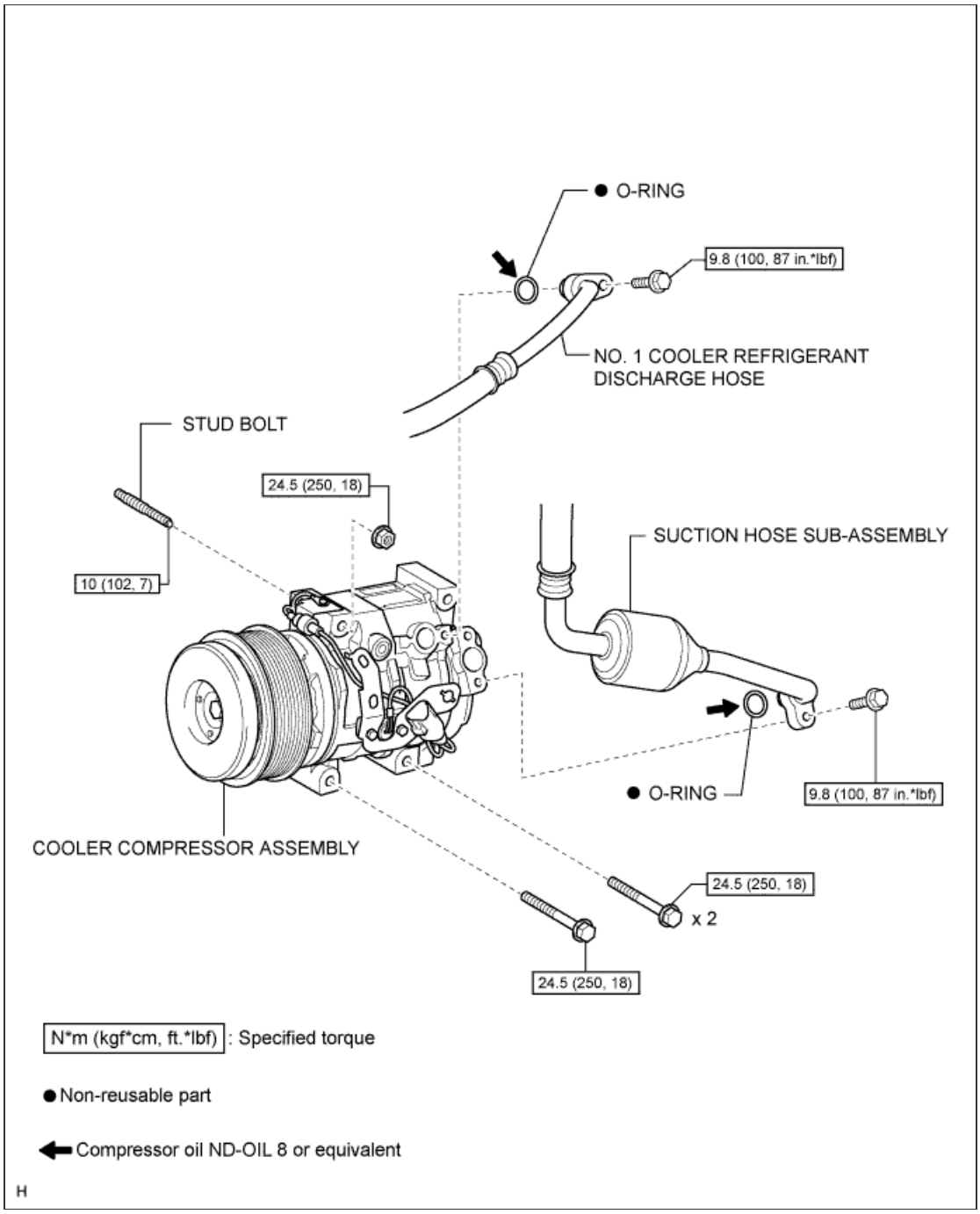


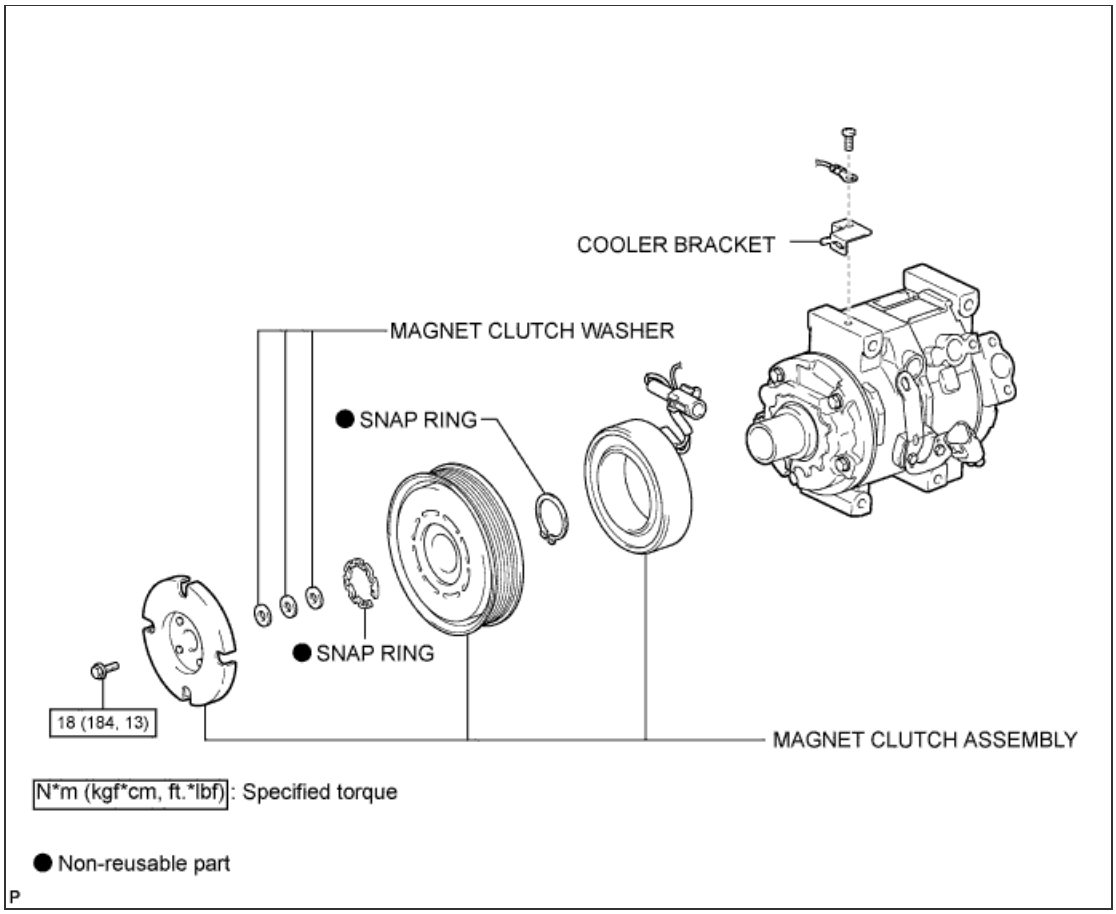

## 10. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.



**for Preparation** Click here

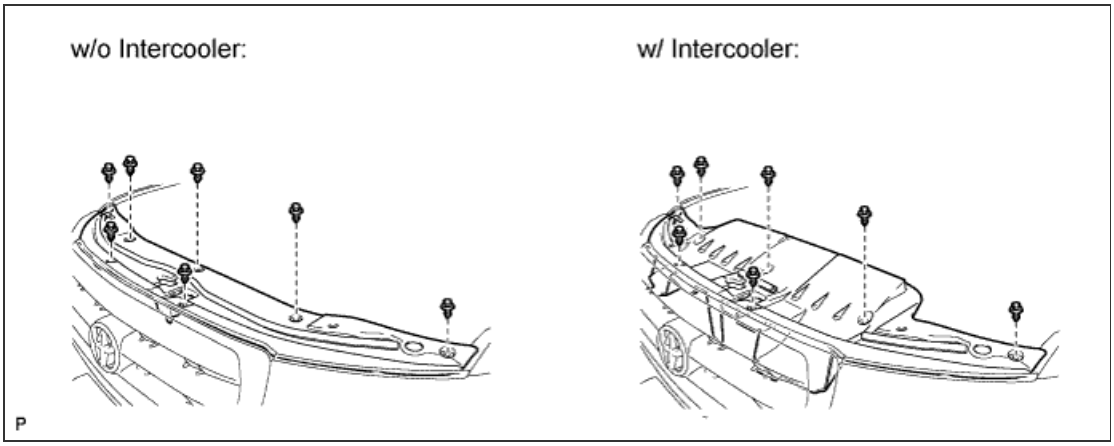



COOLER BRACKET
MAGNET CLUTCH WASHER
● SNAP RING
● SNAP RING
18 (184, 13)
MAGNET CLUTCH ASSEMBLY
N*m (kgf*cm, ft.*lbf): Specified torque
● Non-reusable part
P

**for Preparation** Click here

## 1. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 2. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

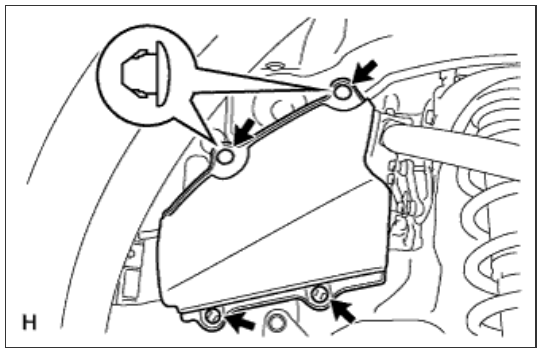
c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 3. REMOVE FRONT FENDER APRON SEAL LH

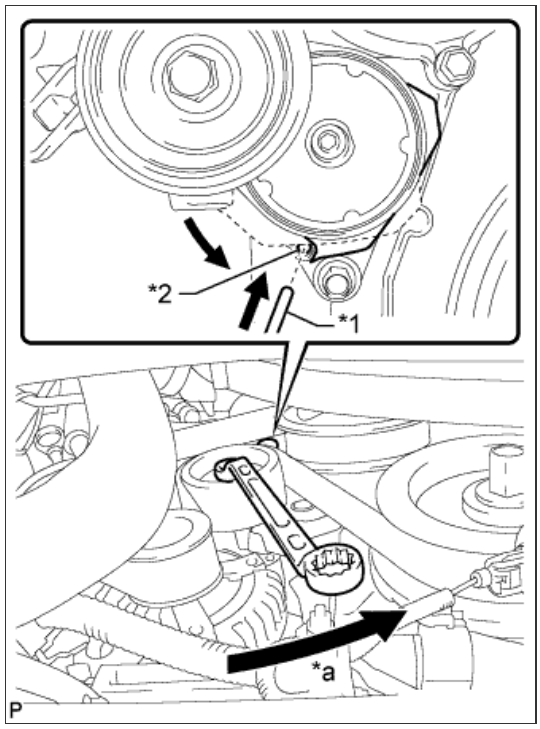
a. Remove the 4 clips and seal.




## 4. REMOVE FAN & GENERATOR V BELT

a. While turning the belt tensioner counterclockwise, align the service hole for the

belt tensioner and the belt tensioner fixing position, and then insert a bar with a diameter of 5 mm (0.197 in.) into the service hole to fix the belt tensioner in place.




**Text in Illustration**

| | |
|---|---|
| *1 | Bar |
| *2 | Service Hole |
| *a | Turn |

**HINT:**

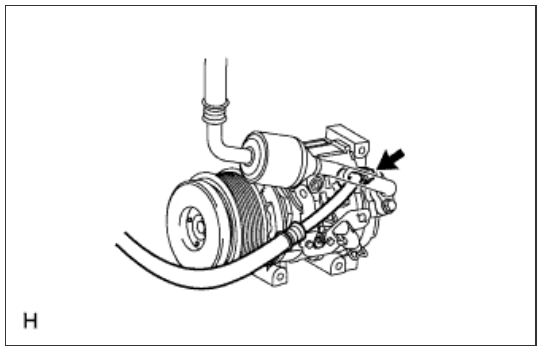
The pulley bolt for the belt tensioner has a left-hand thread.

b. Remove the fan and generator V belt.

## 5. DISCONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the bolt and disconnect the discharge hose from the cooler compressor.

b. Remove the O-ring from the discharge hose.



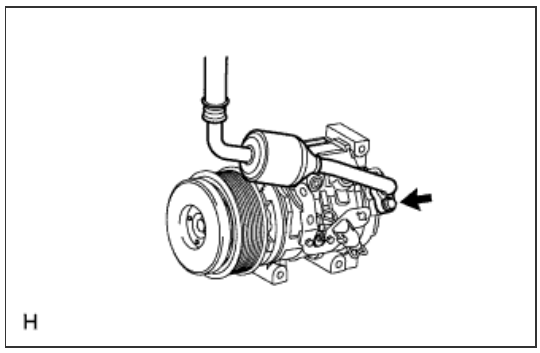

**NOTICE:**

Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.

## 6. DISCONNECT SUCTION HOSE SUB-ASSEMBLY

a. Remove the bolt and disconnect the suction hose from the cooler compressor.

b. Remove the O-ring from the suction hose.




**NOTICE:**

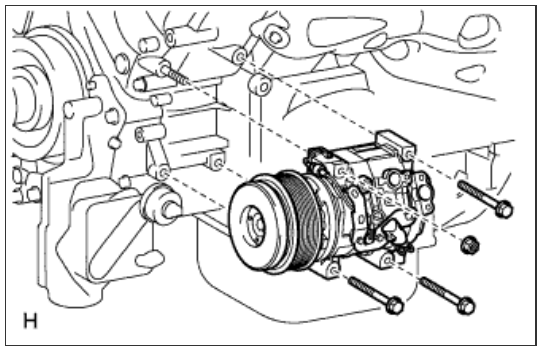
Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.

## 7. REMOVE COOLER COMPRESSOR ASSEMBLY

a. Disconnect the connector.

b. Remove the 3 bolts and nut.

c. Remove the stud bolt and cooler compressor.



**for Preparation** Click here

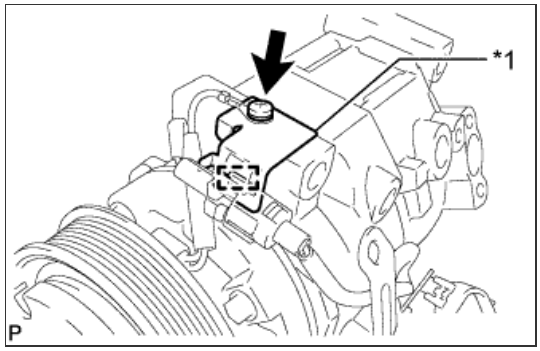
## 1. REMOVE COOLER BRACKET

a. Detach the clamp.

b. Remove the screw and the cooler bracket.

**Text in Illustration**

| | |
|---|---|
| *1 | Cooler Bracket |




## 2. REMOVE MAGNET CLUTCH ASSEMBLY

a. Clamp the cooler compressor in a vise.

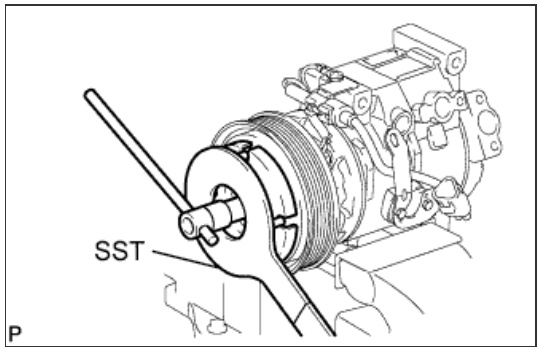
b. Using SST, hold the magnet clutch hub.

*SST*
09985-00270

c. Remove the bolt, magnet clutch hub and magnet clutch washer(s).

**HINT:**

There is no set number of magnet clutch washers since they are used for adjusting.

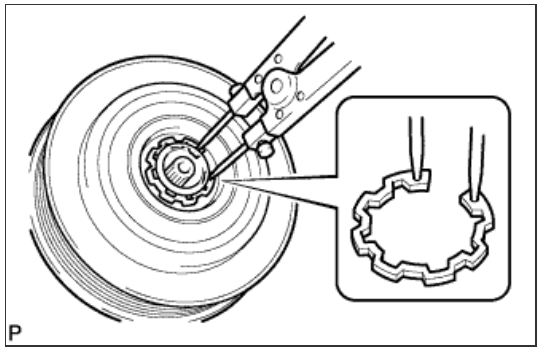



d. Using a snap ring expander, remove the snap ring and the magnet clutch rotor.

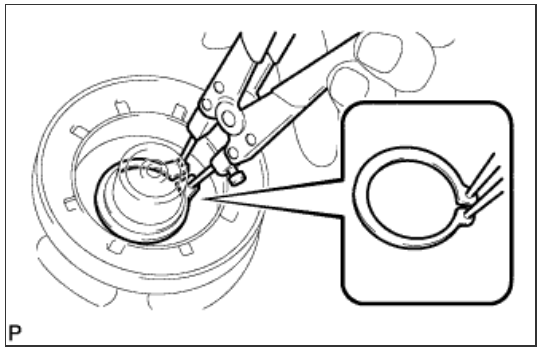
**NOTICE:**

Do not damage the seal cover of the bearing when removing the snap ring.

e. Disconnect the connector.




f. Using a snap ring expander, remove the snap ring and magnet clutch stator.



**for Preparation** Click here

## 1. INSPECT MAGNET CLUTCH ASSEMBLY

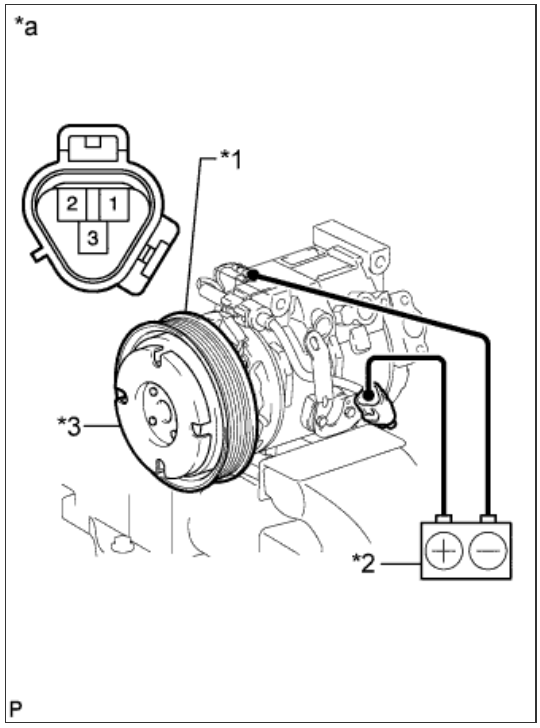
a. Check the magnet clutch operation.

i. Confirm that the magnet clutch hub and magnet clutch rotor lock when the battery positive lead is connected to terminal 3 of the magnet clutch, and the negative lead is connected to the ground wire.
If the operation is not as specified, replace the magnet clutch assembly.

b. Measure the resistance.

c. Measure the resistance between terminals 1 and 2.

**Standard resistance:**
**65 to 125 Ω at 20°C (68°F)**




**Text in Illustration**

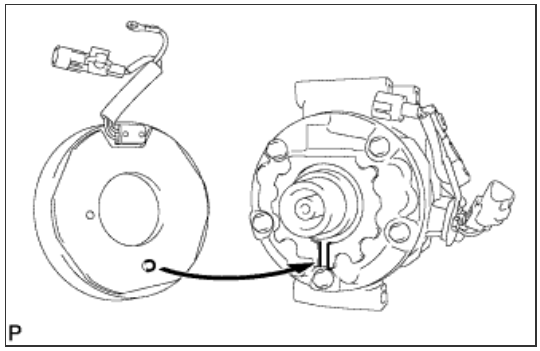
| | |
|---|---|
| *1 | Magnet Clutch Rotor |
| *2 | Battery |
| *3 | Magnet Clutch Hub |
| *a | Component without harness connected (Magnet Clutch) |

If the resistance is not as specified, replace the cooler compressor assembly.

**for Preparation** Click here

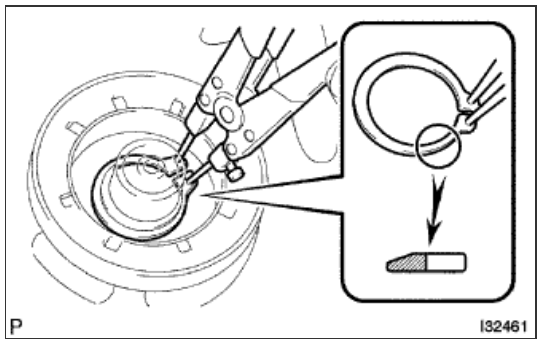
## 1. INSTALL MAGNET CLUTCH ASSEMBLY

a. Install the magnet clutch stator with the parts shown in the illustration matched.




b. Using a snap ring expander, install a new snap ring with the chamfered side facing up.

c. Connect the connector.




d. Using a snap ring expander, install the magnet clutch rotor and a new snap ring with the chamfered side facing up.

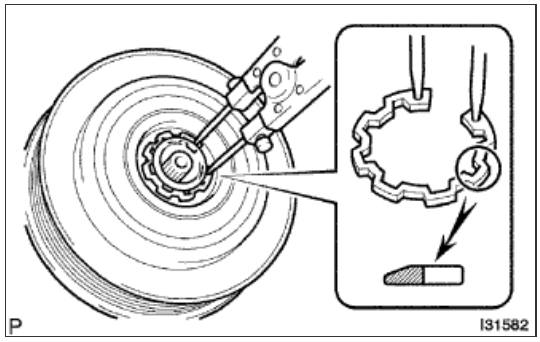
**NOTICE:**

Do not damage the seal cover of the bearing when installing the snap ring.

e. Install the compressor washer(s) and magnet clutch hub.

**NOTICE:**

Do not change the combination of the compressor washer(s) used before disassembly.



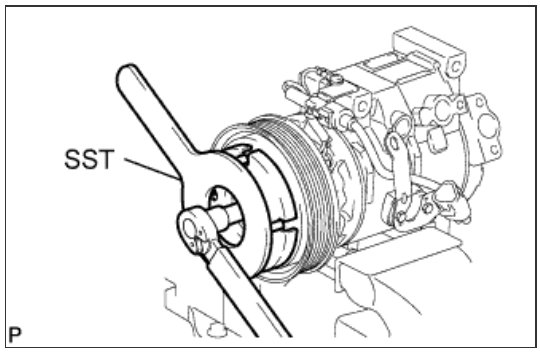

f. Using SST, hold the magnet clutch hub and install the bolt.

*SST*
09985-00270

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

**NOTICE:**

Make sure that there is no foreign matter or oil on the compressor shaft, bolt, and clutch hub.



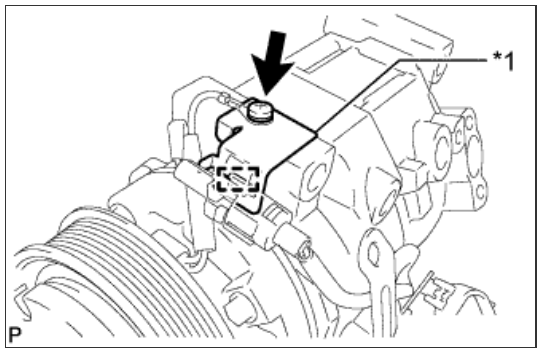

## 2. INSTALL COOLER BRACKET

a. Install the cooler bracket with the screw.

b. Attach the clamp.

**Text in Illustration**

| | |
|---|---|
| *1 | Cooler Bracket |




## 3. INSPECT MAGNET CLUTCH CLEARANCE

a. Clamp the cooler compressor in a vise.

b. Set the dial indicator to the magnet clutch hub.

c. Connect the battery positive lead to terminal 3 of the magnet clutch connector and the negative lead to the ground wire. Turn the magnet clutch on and off and measure the clearance.

**Standard clearance:**
**0.35 to 0.60 mm (0.014 to 0.024 in.)**

If the measured value is not within the standard clearance, remove the magnet clutch hub and adjust the clearance using compressor washers to obtain the standard clearance.

**Compressor washer thickness:**
**0.1 mm (0.004 in.)**
**0.3 mm (0.012 in.)**
**0.5 mm (0.020 in.)**

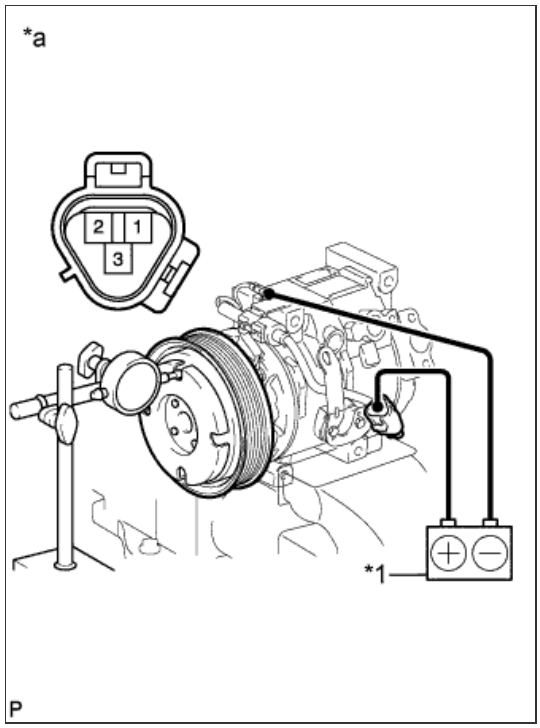
**NOTICE:**

Adjustment should be performed with 3 or fewer magnet clutch washers.

d. Remove the cooler compressor from the vise.

**Text in Illustration**

| | |
|---|---|
| *1 | Battery |
| *a | Component without harness connected (Magnet Clutch Assembly) |



**for Preparation** Click here

## 1. ADJUST COMPRESSOR OIL

a. When replacing the compressor and magnetic clutch with a new one, gradually discharge the refrigerant gas from the service valve, and drain the following amount of oil from the new compressor and magnetic clutch before installation.

**Standard:**
**(Oil capacity inside the new compressor and magnetic clutch: 135 + 15 cc (4.6 + 0.51 fl.oz.)) - (Remaining oil amount in the removed compressor and magnetic clutch) = (Oil amount to be removed from the new compressor when replacing)**

**NOTICE:**

- **When checking the compressor oil level, follow the A/C system precautions.**
- **If a new compressor and magnetic clutch is installed without removing some oil remaining in the pipes of the vehicle, the oil amount will be too large. This prevents heat exchange in the refrigerant cycle and causes refrigerant failure.**
- **If the volume of oil remaining in the removed compressor and magnetic clutch is too small, check for oil leakage.**
- **Be sure to use ND-OIL 8 or equivalent compressor oil.**

## 2. INSTALL COOLER COMPRESSOR ASSEMBLY

a. Install the cooler compressor and stud bolt.

**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**

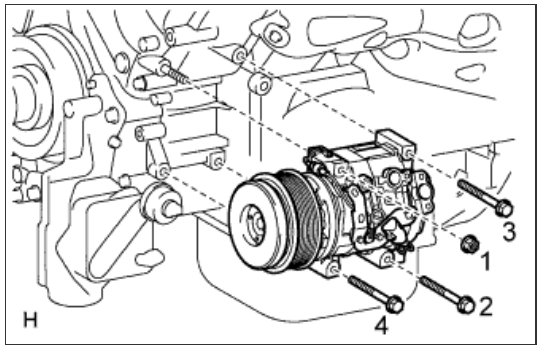
b. Install the 3 bolts and nut.

**Torque:**
**24.5 N*m{ 250 kgf*cm , 18 ft.*lbf }**

**HINT:**

Tighten the bolts and nut in the order shown in the illustration.

c. Connect the connector.




## 3. CONNECT SUCTION HOSE SUB-ASSEMBLY

a. Remove the attached vinyl tape from the suction hose.

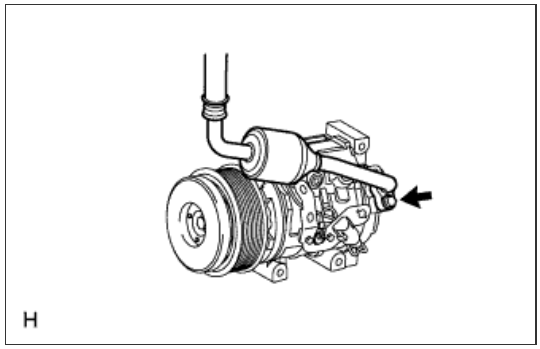
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler compressor.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install the O-ring to the suction hose.

d. Connect the suction hose to the cooler compressor with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**




## 4. CONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the attached vinyl tape from the cooler refrigerant discharge hose.

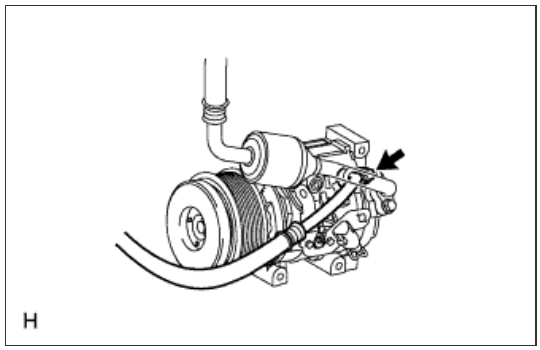
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler compressor.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install the O-ring to the discharge hose.

d. Connect the discharge hose to the cooler compressor with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

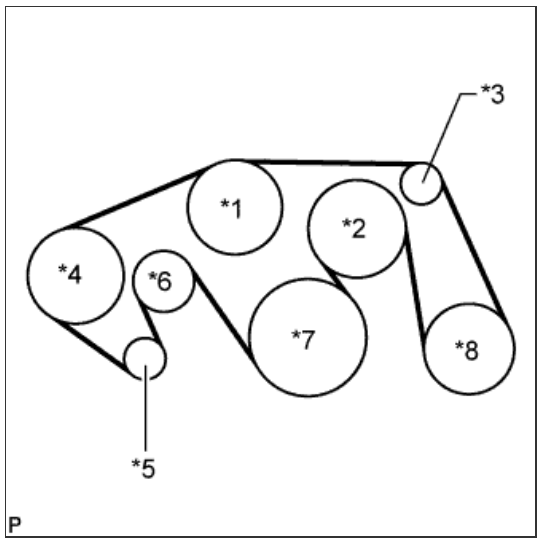



## 5. INSTALL FAN & GENERATOR V BELT

a. Set the fan and generator V belt onto every part.

**Text in Illustration**

| | |
|---|---|
| *1 | Water Pump Pulley |
| *2 | Fan Pulley |
| *3 | No. 1 Idler Pulley |
| *4 | Vane Pump Pulley |
| *5 | Generator Pulley |
| *6 | V-ribbed Belt Tensioner |
| *7 | Crankshaft Pulley |
| *8 | Cooler Compressor Pulley |




b. While turning the belt tensioner counterclockwise, remove the pin.

**NOTICE:**

Make sure that the fan and generator V belt is properly set on each pulley.

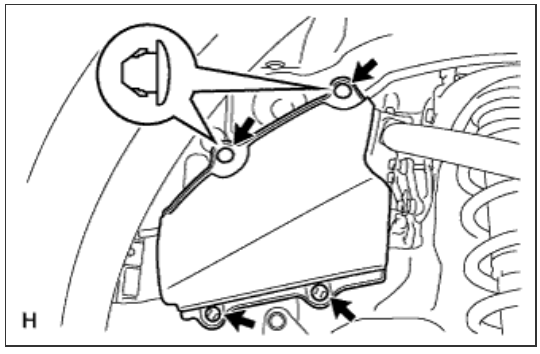
c. Check that the belt fits properly in the ribbed grooves.

**HINT:**

Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.

## 6. INSTALL FRONT FENDER APRON SEAL LH

a. Install the seal with the 4 clips.




## 7. CHARGE REFRIGERANT

***SST***
**09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)**

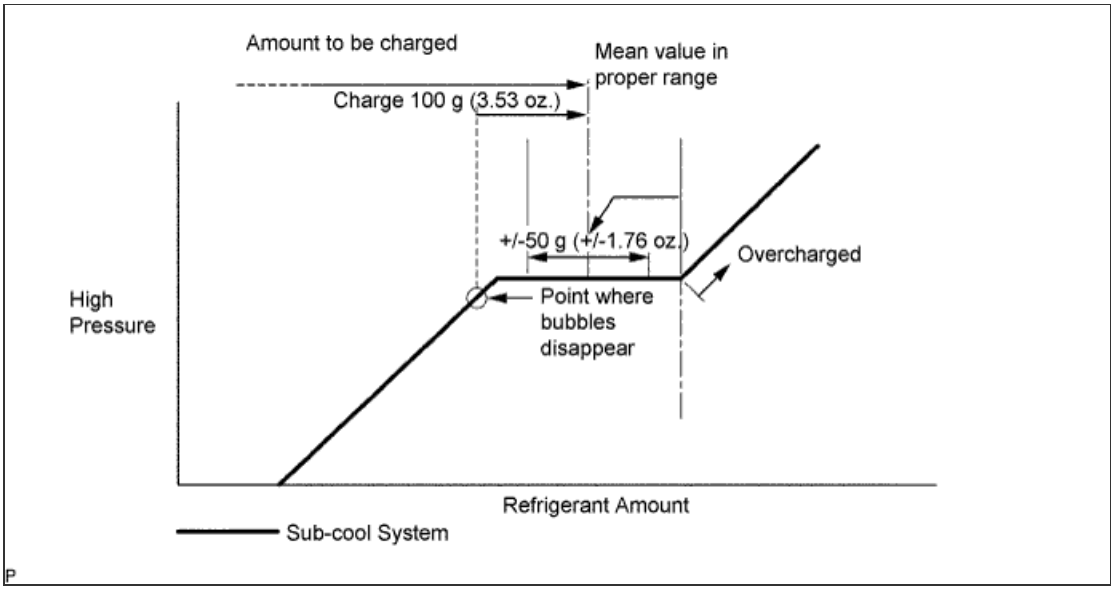
a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a)

b. Charge refrigerant HFO 1234yf (R1234yf).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 8. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 9. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

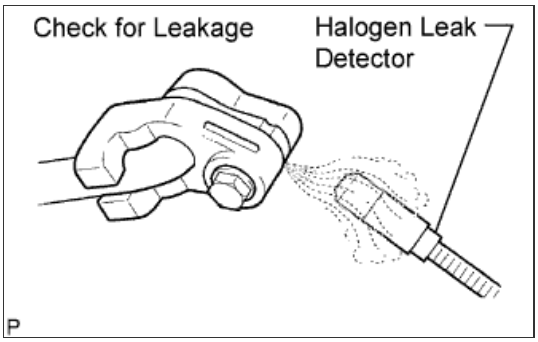
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

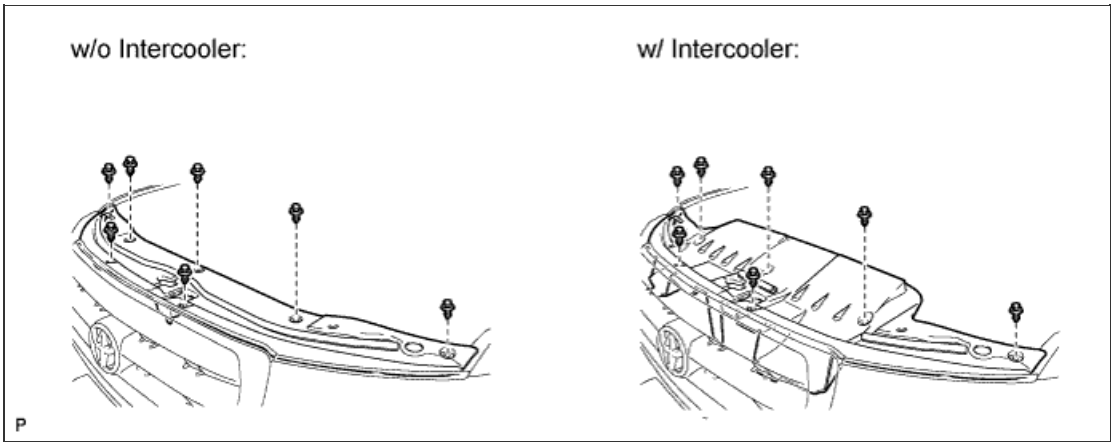
d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

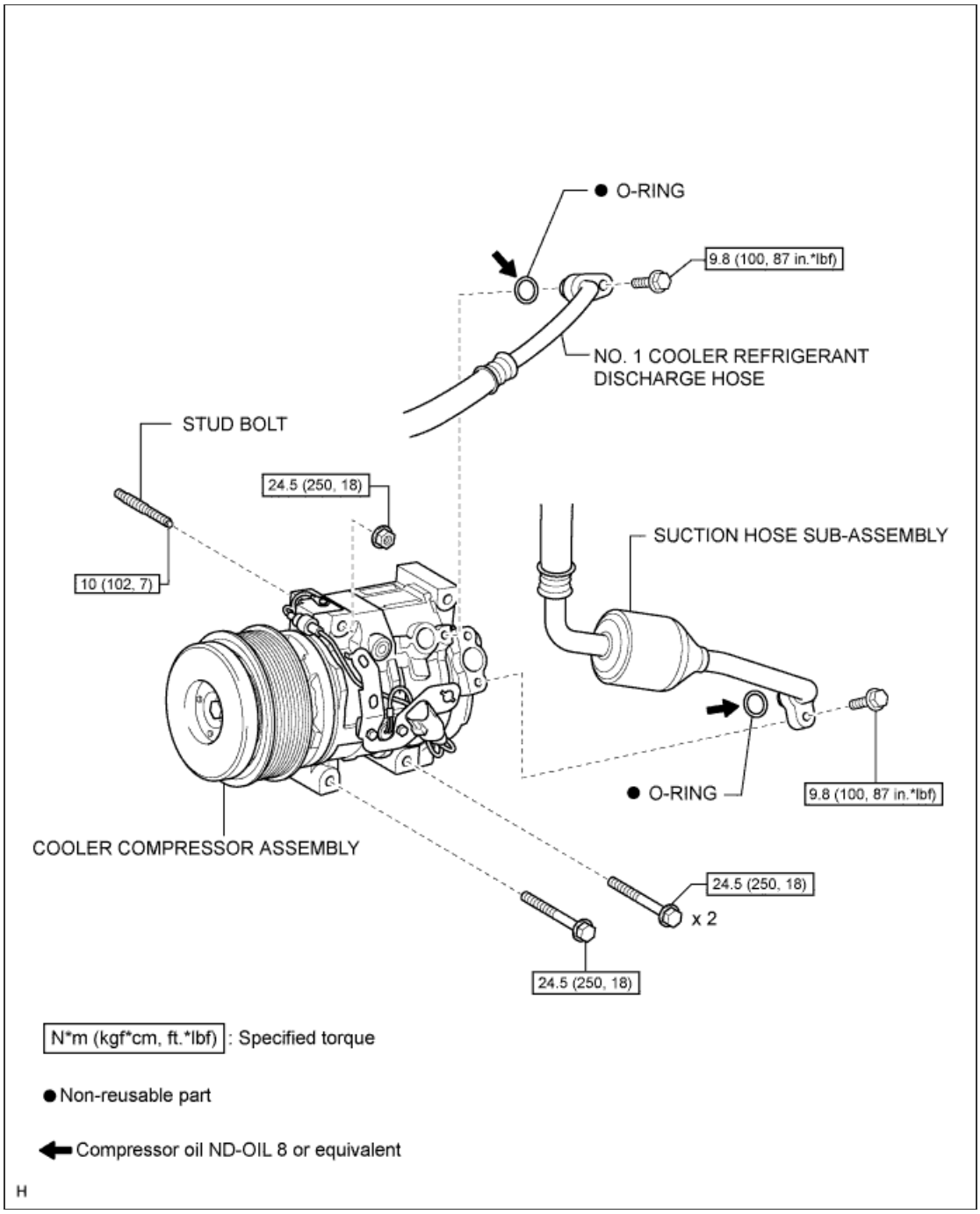


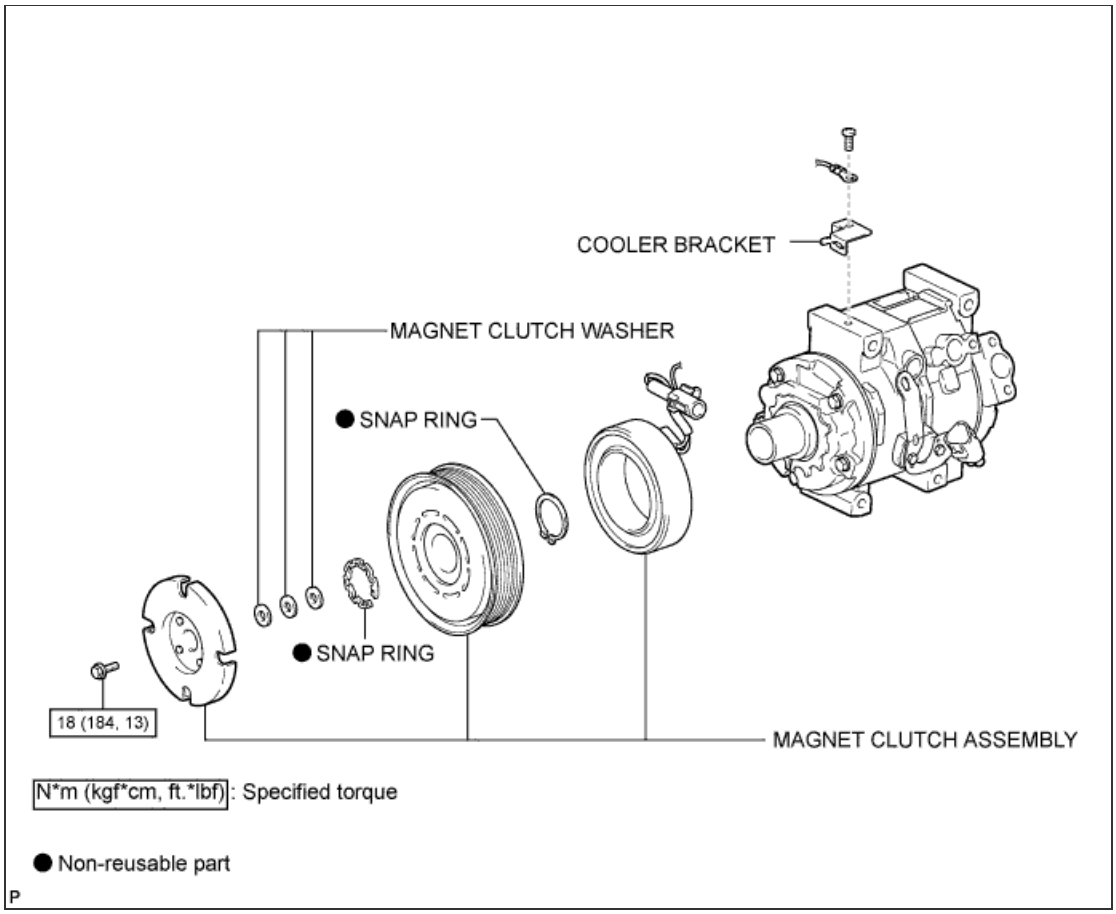

## 10. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.



**for Preparation** Click here

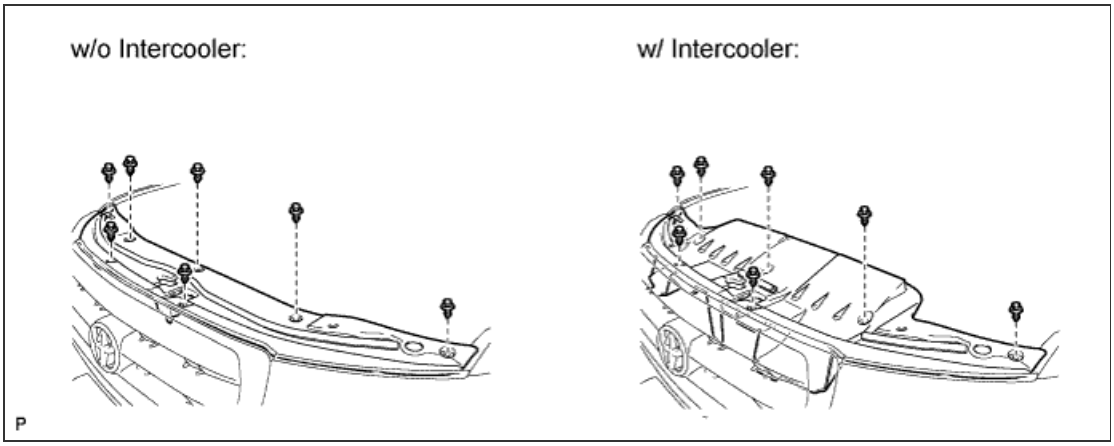



COOLER BRACKET
MAGNET CLUTCH WASHER
● SNAP RING
● SNAP RING
18 (184, 13)
MAGNET CLUTCH ASSEMBLY
N*m (kgf*cm, ft.*lbf): Specified torque
● Non-reusable part
P

**for Preparation** Click here

## 1. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 2. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

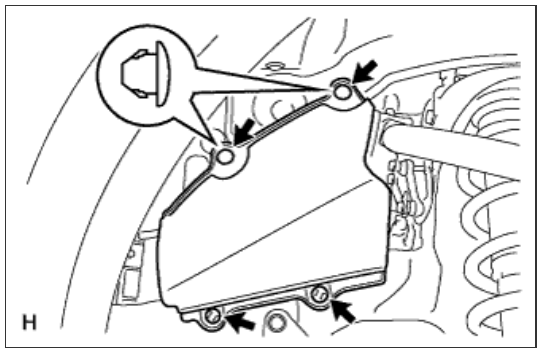
c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 3. REMOVE FRONT FENDER APRON SEAL LH

a. Remove the 4 clips and seal.




## 4. REMOVE FAN & GENERATOR V BELT

a. While turning the belt tensioner counterclockwise, align the service hole for the

belt tensioner and the belt tensioner fixing position, and then insert a bar of 5 mm (0.197 in.) into the service hole to fix the belt tensioner in place.

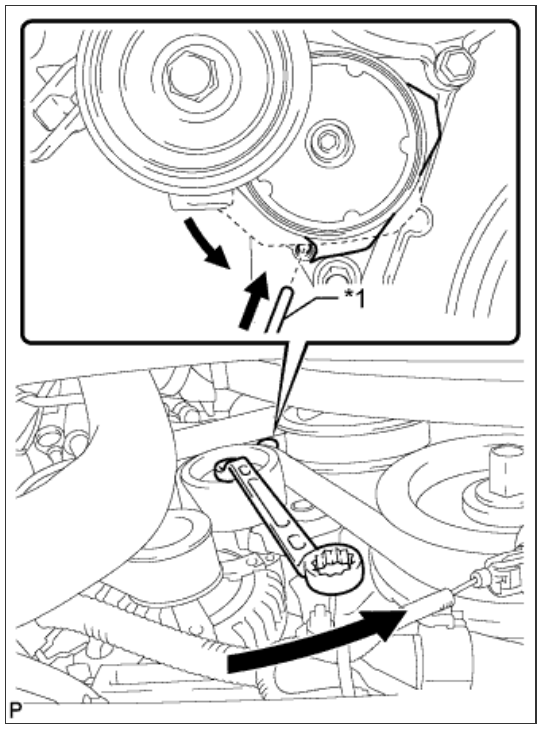
**Text in Illustration**

| | |
|---|---|
| *1 | Bar |

**HINT:**

The pulley bolt for the belt tensioner has a left-hand thread.

b. Remove the V belt.



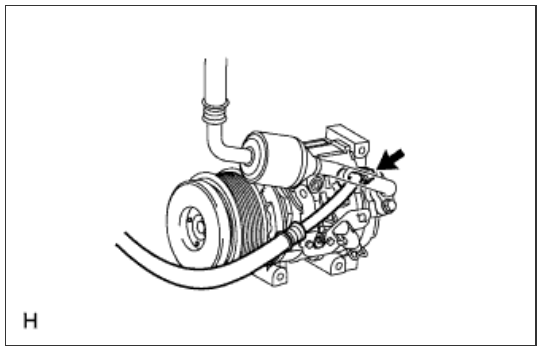

## 5. DISCONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the bolt and disconnect the discharge hose from the cooler compressor.

b. Remove the O-ring from the discharge hose.

**NOTICE:**

Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.



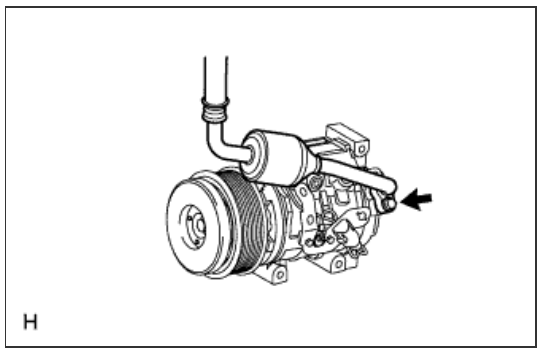

## 6. DISCONNECT SUCTION HOSE SUB-ASSEMBLY

a. Remove the bolt and disconnect the suction hose from the cooler compressor.

b. Remove the O-ring from the suction hose.

**NOTICE:**

Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.

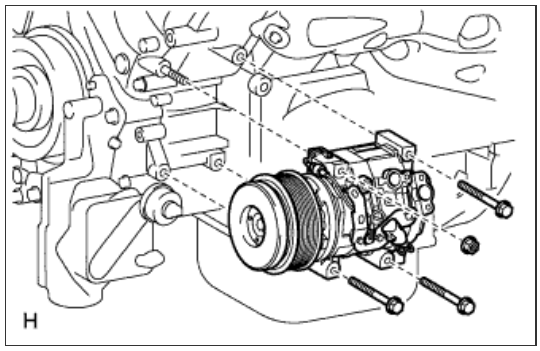



## 7. REMOVE COOLER COMPRESSOR ASSEMBLY

a. Disconnect the connector.

b. Remove the 3 bolts and nut.

c. Remove the stud bolt and cooler compressor.



**for Preparation** Click here

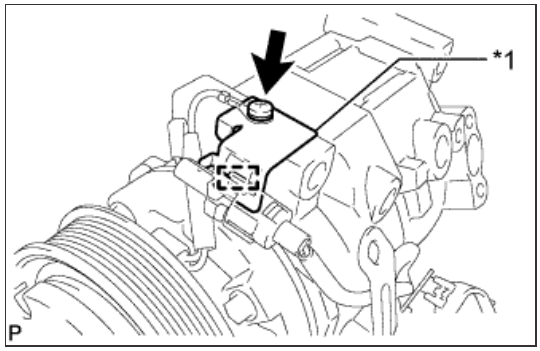
## 1. REMOVE COOLER BRACKET

a. Detach the clamp.

b. Remove the screw and the cooler bracket.

**Text in Illustration**

| | |
|---|---|
| *1 | Cooler Bracket |




## 2. REMOVE MAGNET CLUTCH ASSEMBLY

a. Clamp the cooler compressor in a vise.

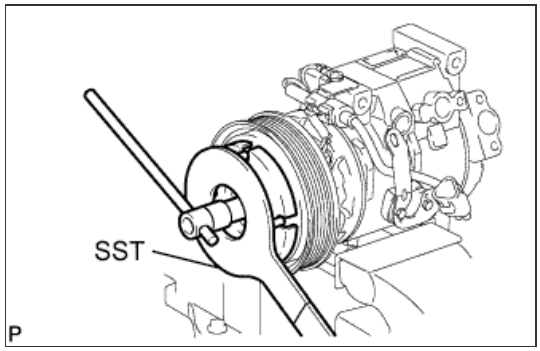
b. Using SST, hold the magnet clutch hub.

*SST*
09985-00270

c. Remove the bolt, magnet clutch hub and magnet clutch washer(s).

**HINT:**

There is no set number of magnet clutch washers since they are used for adjusting.

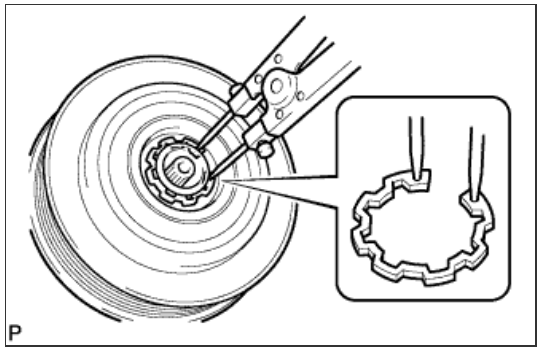



d. Using a snap ring expander, remove the snap ring and the magnet clutch rotor.

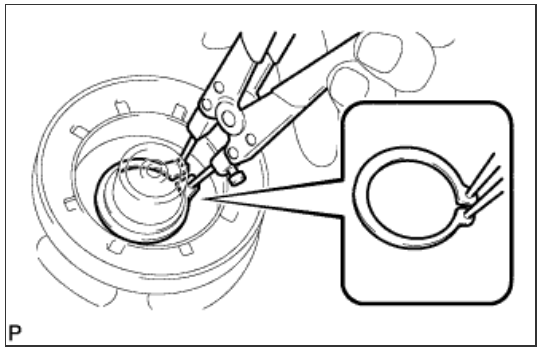
**NOTICE:**

Do not damage the seal cover of the bearing when removing the snap ring.

e. Disconnect the connector.




f. Using a snap ring expander, remove the snap ring and magnet clutch stator.



**for Preparation** [Click here]

## 1. INSPECT MAGNET CLUTCH ASSEMBLY

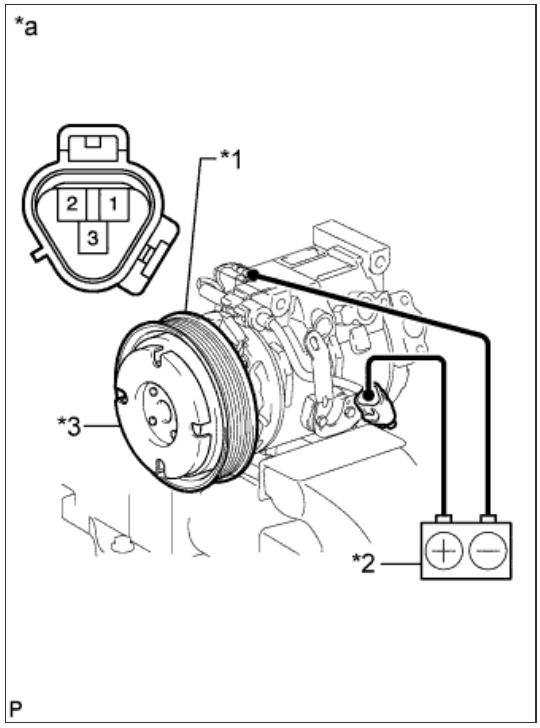
a. Check the magnet clutch operation.

i. Confirm that the magnet clutch hub and magnet clutch rotor lock when the battery positive lead is connected to terminal 3 of the magnet clutch, and the negative lead is connected to the ground wire.
If the operation is not as specified, replace the magnet clutch assembly.

b. Measure the resistance.

c. Measure the resistance between terminals 1 and 2.

**Standard resistance:**
**65 to 125 Ω at 20°C (68°F)**




**Text in Illustration**

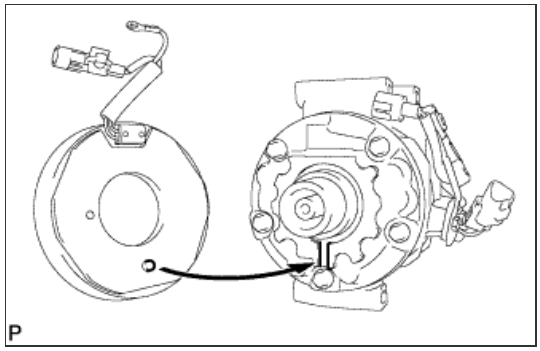
| | |
|---|---|
| *1 | Magnet Clutch Rotor |
| *2 | Battery |
| *3 | Magnet Clutch Hub |
| *a | Component without harness connected (Magnet Clutch) |

If the resistance is not as specified, replace the cooler compressor assembly.

**for Preparation** Click here

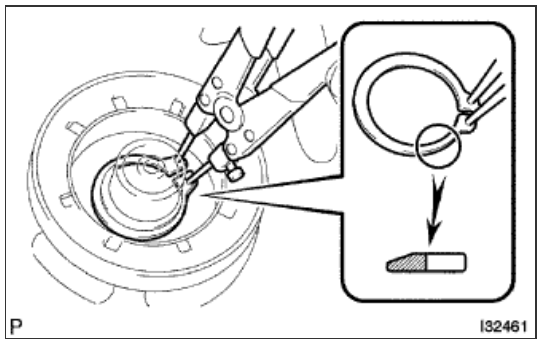
## 1. INSTALL MAGNET CLUTCH ASSEMBLY

a. Install the magnet clutch stator with the parts shown in the illustration matched.




b. Using a snap ring expander, install a new snap ring with the chamfered side facing up.

c. Connect the connector.




d. Using a snap ring expander, install the magnet clutch rotor and a new snap ring with the chamfered side facing up.

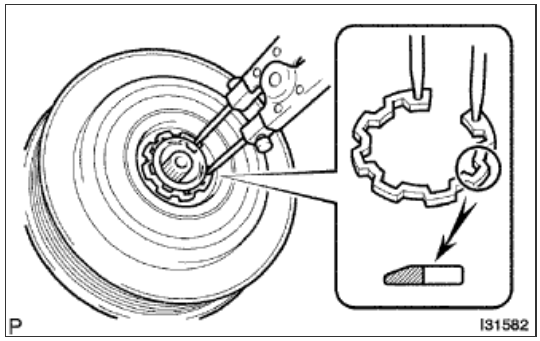
**NOTICE:**

Do not damage the seal cover of the bearing when installing the snap ring.

e. Install the compressor washer(s) and magnet clutch hub.

**NOTICE:**

Do not change the combination of the compressor washer(s) used before disassembly.



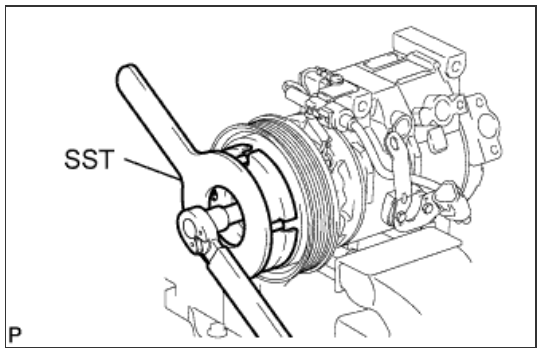

f. Using SST, hold the magnet clutch hub and install the bolt.

*SST*
09985-00270

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

**NOTICE:**

Make sure that there is no foreign matter or oil on the compressor shaft, bolt, and clutch hub.



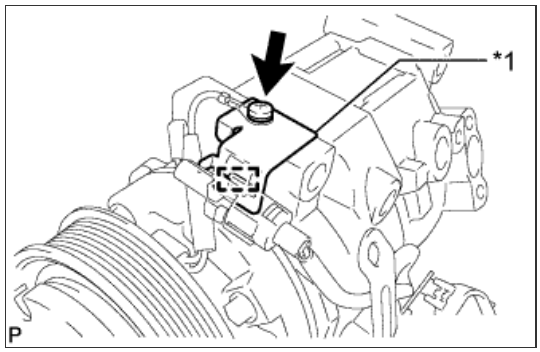

## 2. INSTALL COOLER BRACKET

a. Install the cooler bracket with the screw.

b. Attach the clamp.

**Text in Illustration**

| | |
|---|---|
| *1 | Cooler Bracket |




## 3. INSPECT MAGNET CLUTCH CLEARANCE

a. Clamp the cooler compressor in a vise.

b. Set the dial indicator to the magnet clutch hub.

c. Connect the battery positive lead to terminal 3 of the magnet clutch connector and the negative lead to the ground wire. Turn the magnet clutch on and off and measure the clearance.

**Standard clearance:**
**0.35 to 0.60 mm (0.014 to 0.024 in.)**

If the measured value is not within the standard clearance, remove the magnet clutch hub and adjust the clearance using compressor washers to obtain the standard clearance.

**Compressor washer thickness:**
**0.1 mm (0.004 in.)**
**0.3 mm (0.012 in.)**
**0.5 mm (0.020 in.)**

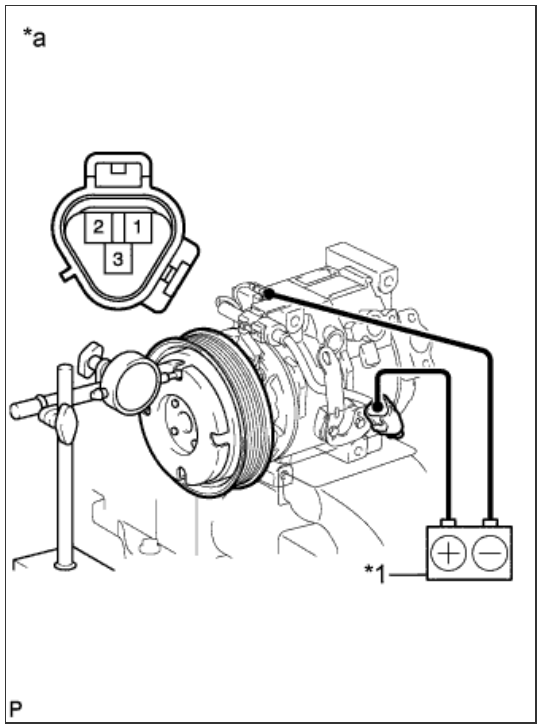
**NOTICE:**

Adjustment should be performed with 3 or fewer magnet clutch washers.

d. Remove the cooler compressor from the vise.

**Text in Illustration**

| | |
|---|---|
| *1 | Battery |
| *a | Component without harness connected (Magnet Clutch Assembly) |



**for Preparation** Click here

## 1. ADJUST COMPRESSOR OIL

a. When replacing the compressor and magnetic clutch with a new one, gradually discharge the refrigerant gas from the service valve, and drain the following amount of oil from the new compressor and magnetic clutch before installation.

**Standard:**
**(Oil capacity inside the new compressor and magnetic clutch: 135 + 15 cc (4.6 + 0.51 fl.oz.)) - (Remaining oil amount in the removed compressor and magnetic clutch) = (Oil amount to be removed from the new compressor when replacing)**

**NOTICE:**

- **When checking the compressor oil level, follow the A/C system precautions.**
- **If a new compressor and magnetic clutch is installed without removing some oil remaining in the pipes of the vehicle, the oil amount will be too large. This prevents heat exchange in the refrigerant cycle and causes refrigerant failure.**
- **If the volume of oil remaining in the removed compressor and magnetic clutch is too small, check for oil leakage.**
- **Be sure to use ND-OIL 8 or equivalent compressor oil.**

## 2. INSTALL COOLER COMPRESSOR ASSEMBLY

a. Install the cooler compressor and stud bolt.

**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**

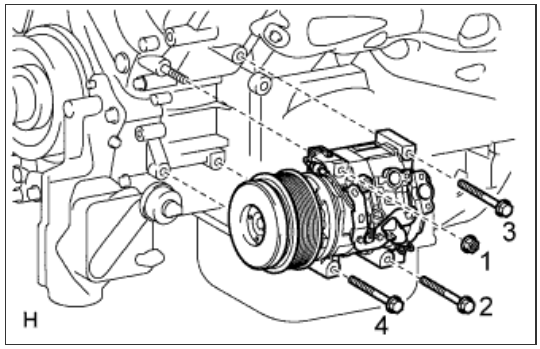
b. Install the 3 bolts and nut.

**Torque:**
**24.5 N*m{ 250 kgf*cm , 18 ft.*lbf }**

**HINT:**

Tighten the bolts and nut in the order shown in the illustration.

c. Connect the connector.




## 3. CONNECT SUCTION HOSE SUB-ASSEMBLY

a. Remove the attached vinyl tape from the suction hose.

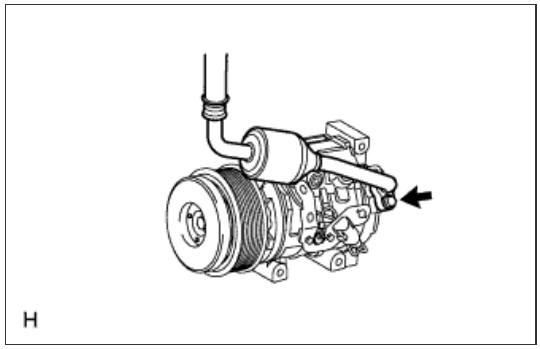
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler compressor.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install the O-ring to the suction hose.

d. Connect the suction hose to the cooler compressor with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**




## 4. CONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the attached vinyl tape from the cooler refrigerant discharge hose.

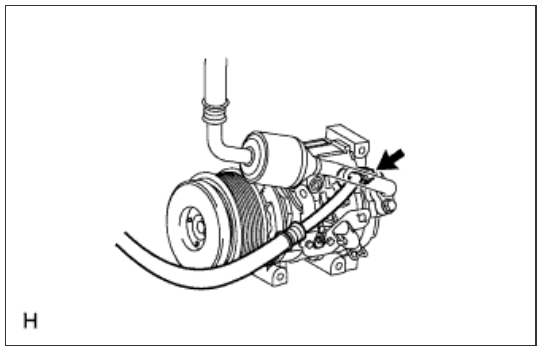
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler compressor.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install the O-ring to the discharge hose.

d. Connect the discharge hose to the cooler compressor with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**




## 5. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

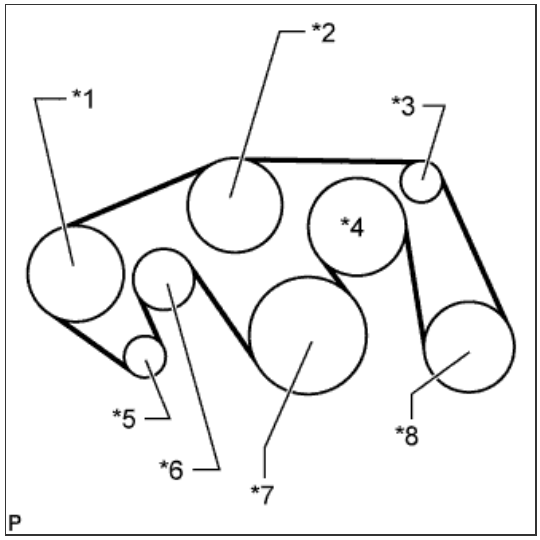
b. While turning the belt tensioner counterclockwise, remove the bar.

**Text in Illustration**

| | |
|---|---|
| *1 | Vane Pump |
| *2 | Water Pump |
| *3 | No. 1 Idler |
| *4 | Fan |
| *5 | Generator |
| *6 | Belt Tensioner |
| *7 | Crankshaft |
| *8 | Cooler Compressor |

**NOTICE:**

Make sure that the V belt is properly set to each pulley.



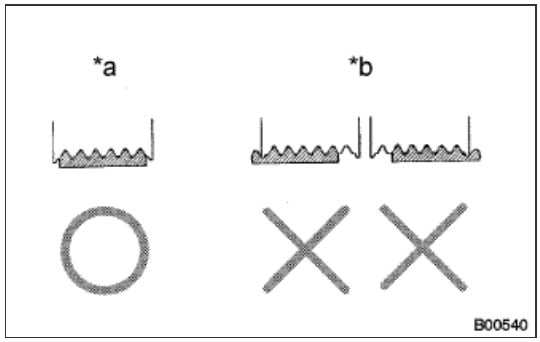

c. After installing the belt, check that it fits properly in the ribbed grooves.

**Text in Illustration**

| | |
|---|---|
| *a | CORRECT |
| *b | INCORRECT |

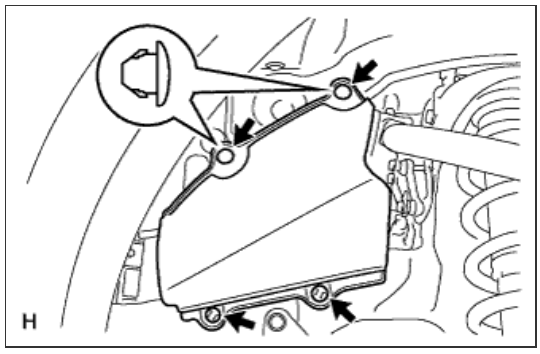
**HINT:**

Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.




## 6. INSTALL FRONT FENDER APRON SEAL LH

a. Install the seal with the 4 clips.




## 7. CHARGE REFRIGERANT

SST

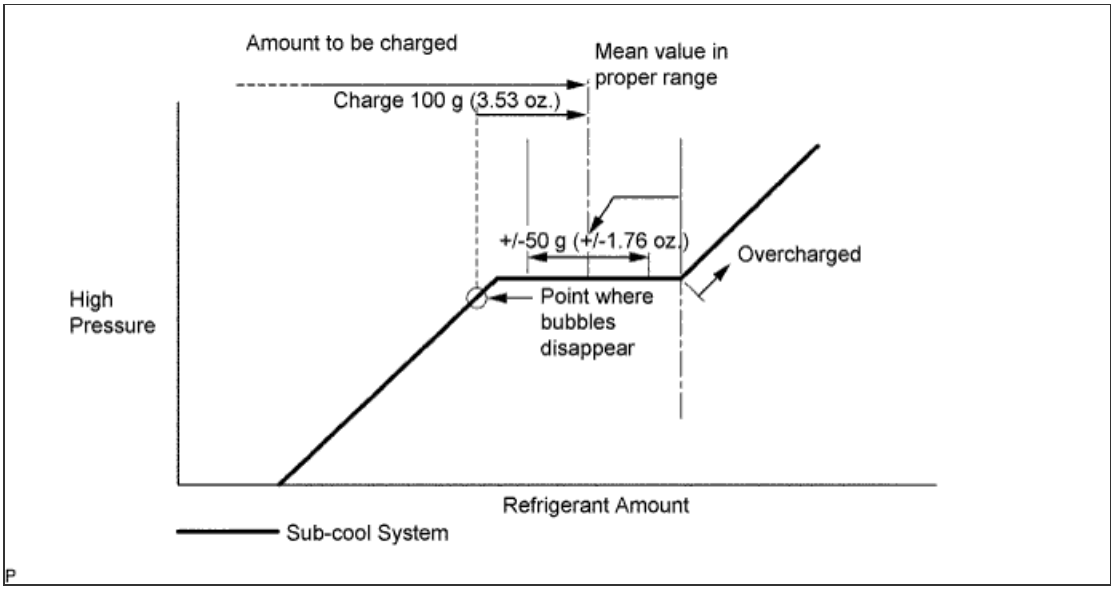
09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 8. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 9. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

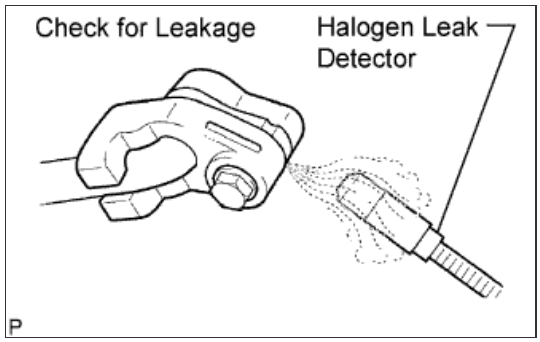
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

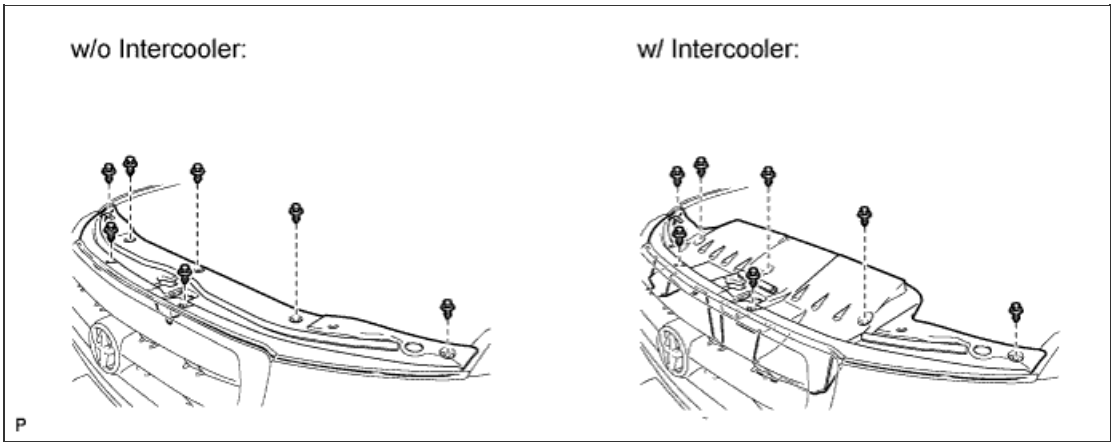
d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

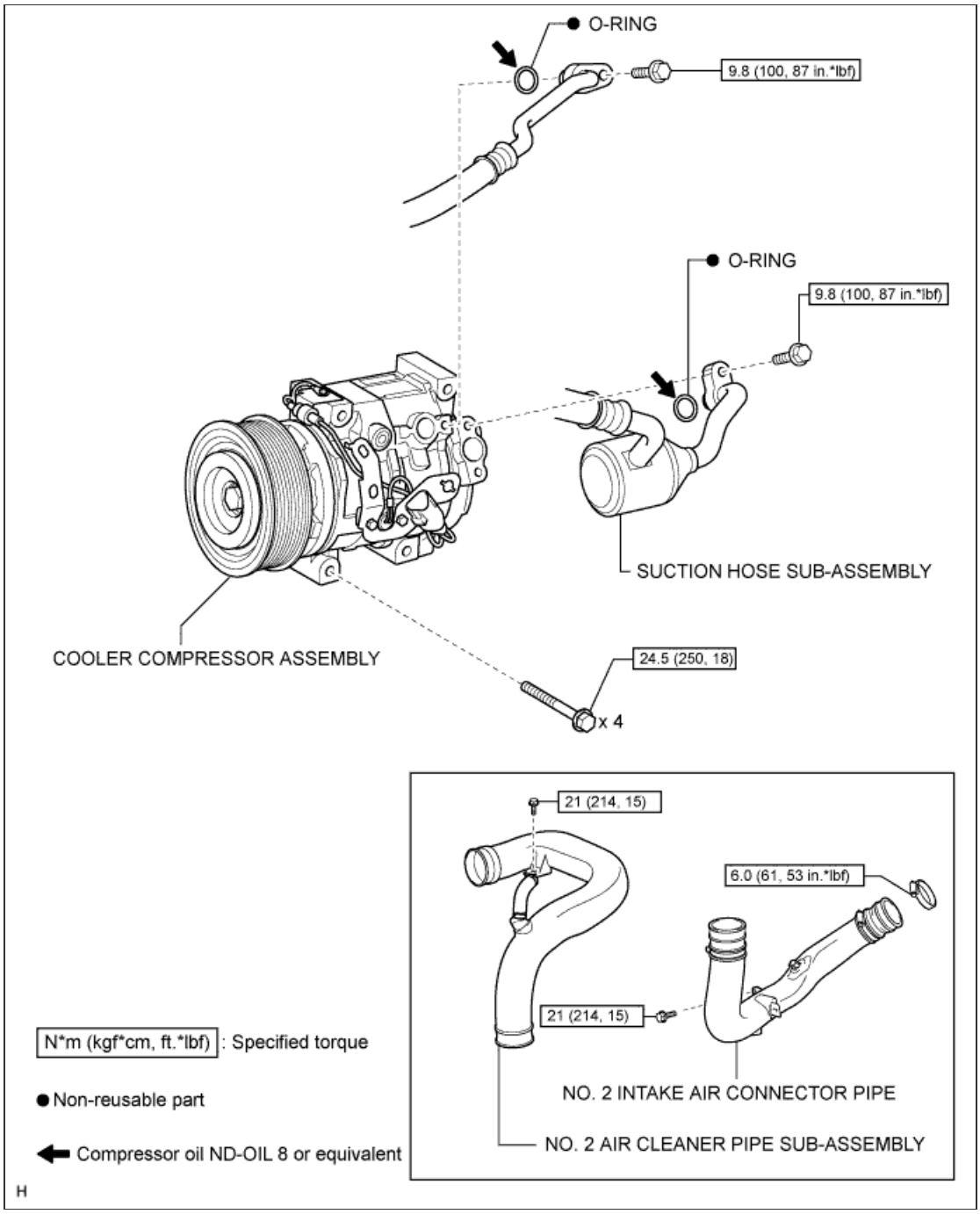


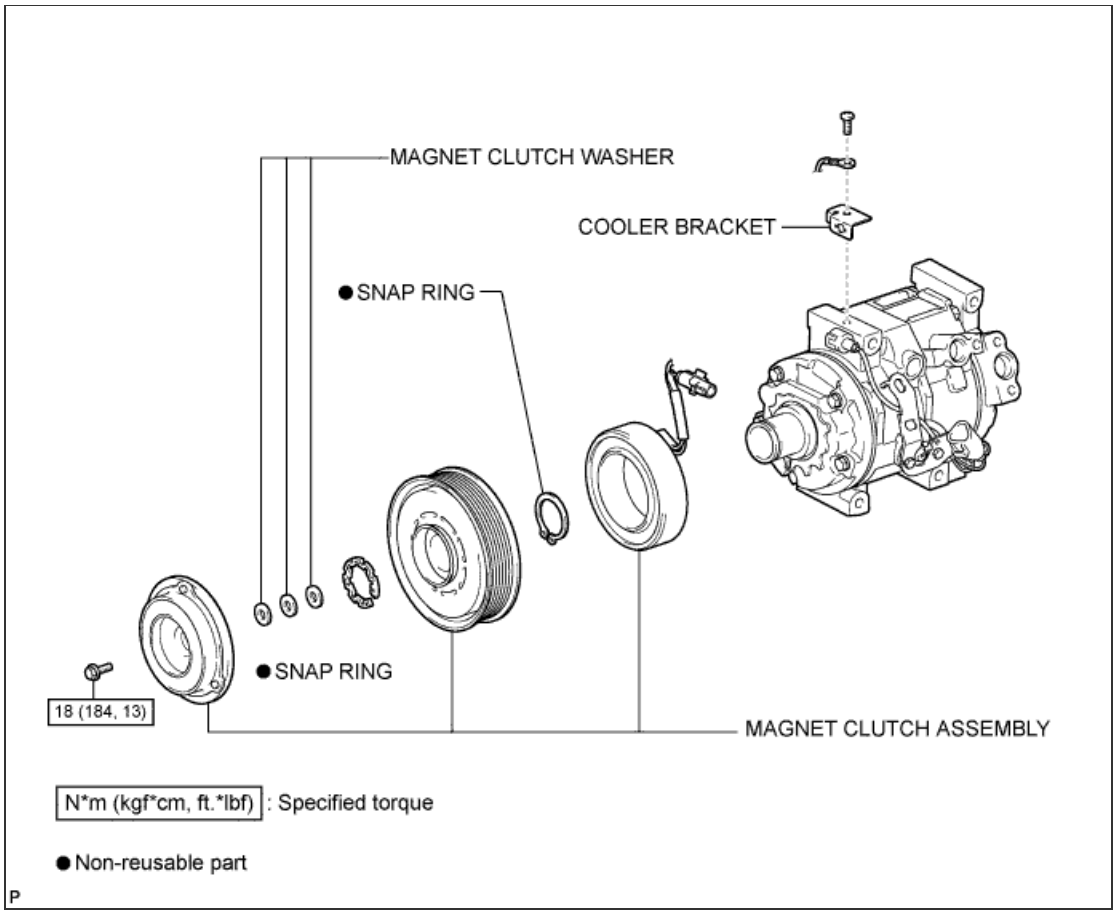

## 10. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.



**for Preparation** Click here




MAGNET CLUTCH WASHER
COOLER BRACKET
● SNAP RING
● SNAP RING
18 (184, 13)
MAGNET CLUTCH ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
P

**for Preparation** Click here

## 1. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 2. REMOVE RADIATOR ASSEMBLY

(Click here)

## 3. REMOVE INTERCOOLER ASSEMBLY

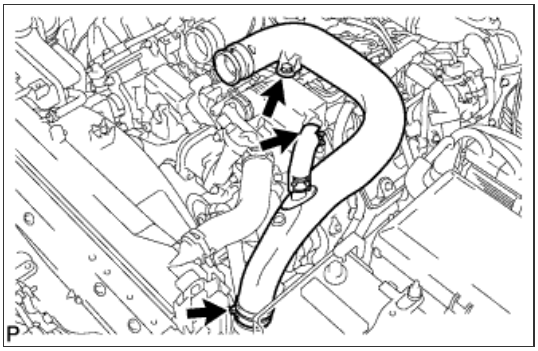
(Click here)

## 4. REMOVE NO. 2 AIR CLEANER PIPE SUB-ASSEMBLY

a. Disconnect the ventilation hose from the oil separator.

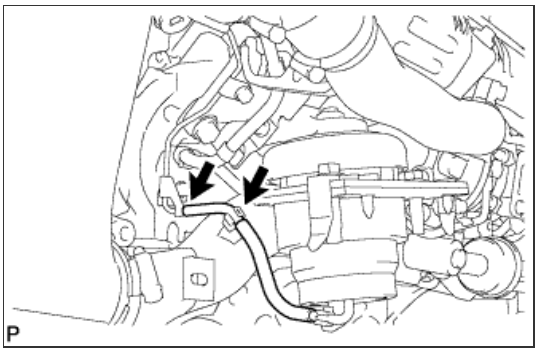
b. Loosen the hose clamp.

c. Remove the bolt and No. 2 air cleaner pipe.

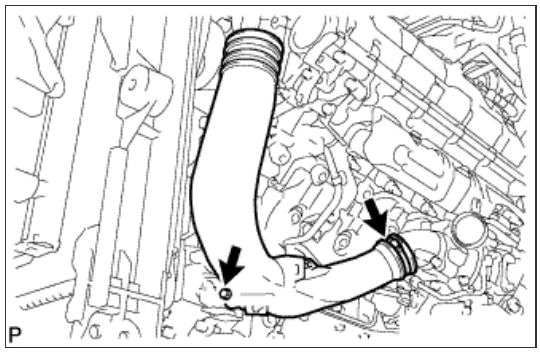



## 5. REMOVE NO. 2 INTAKE AIR CONNECTOR PIPE

a. w/ Intercooler:
Disconnect the vacuum hose.




b. Loosen the hose clamp, and remove the bolt and No. 2 intake air connector pipe.



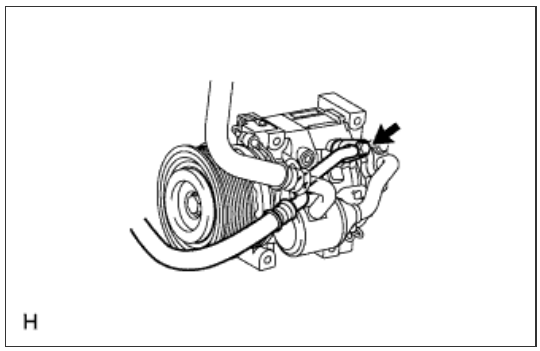

## 6. DISCONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the bolt and disconnect the discharge hose from the cooler compressor.

b. Remove the O-ring from the discharge hose.

**NOTICE:**

Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.



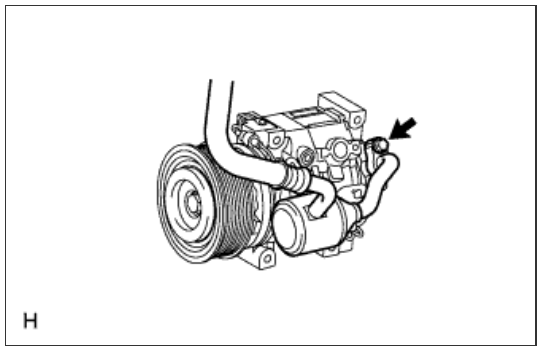

## 7. DISCONNECT SUCTION HOSE SUB-ASSEMBLY

a. Remove the bolt and disconnect the suction hose from the cooler compressor.

b. Remove the O-ring from the suction hose.

**NOTICE:**

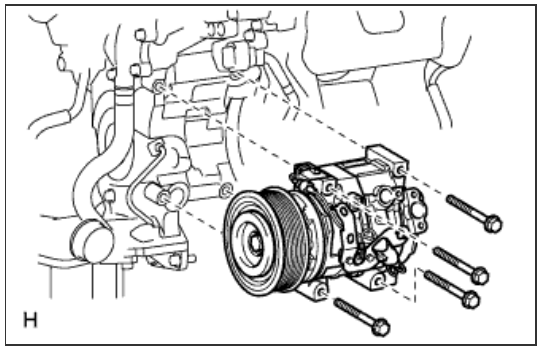
Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.



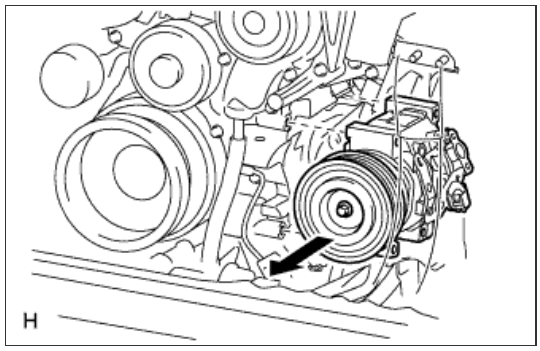

## 8. REMOVE COOLER COMPRESSOR ASSEMBLY

a. Disconnect the connector.

b. Remove the 4 bolts.




c. Remove the cooler compressor as shown in the illustration.

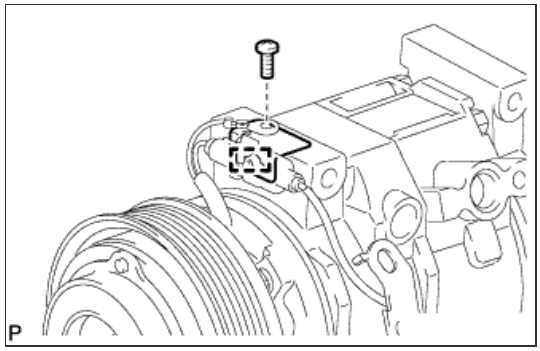

H

**for Preparation** Click here

## 1. REMOVE COOLER BRACKET

a. Detach the clamp.

b. Remove the screw and the cooler bracket.




## 2. REMOVE MAGNET CLUTCH ASSEMBLY

*SST*
09985-00260

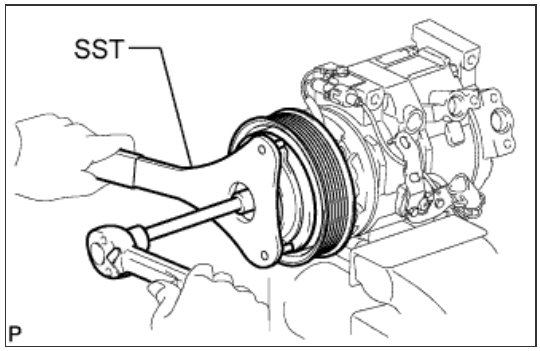
a. Clamp the cooler compressor in a vise.

b. Using SST, hold the magnet clutch hub.

c. Remove the bolt, magnet clutch hub and magnet clutch washer(s).

**HINT:**

There is no set number of magnet clutch washers since they are used for adjusting.

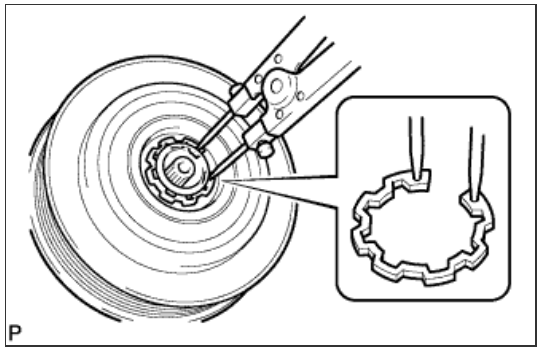



d. Using a snap ring expander, remove the snap ring and the magnet clutch rotor.

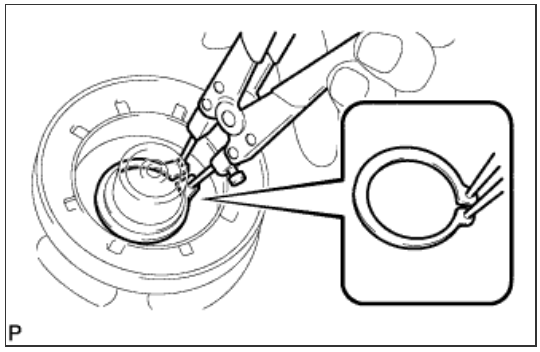
**NOTICE:**

Do not damage the seal cover of the bearing when removing the snap ring.

e. Disconnect the connector.




f. Using a snap ring expander, remove the snap ring and magnet clutch stator.



**for Preparation** Click here

## 1. INSPECT MAGNET CLUTCH ASSEMBLY

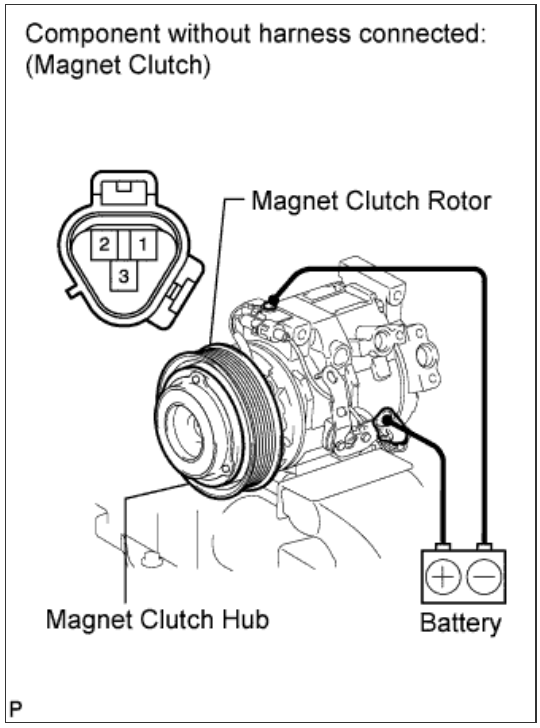
a. Check the magnet clutch operation.

i. Confirm that the magnet clutch hub and magnet clutch rotor lock when the battery positive lead is connected to terminal 3 of the magnet clutch, and the negative lead is connected to the ground wire.
If the operation is not as specified, replace the magnet clutch assembly.

b. Measure the resistance.

c. Measure the resistance between terminals 1 and 2.

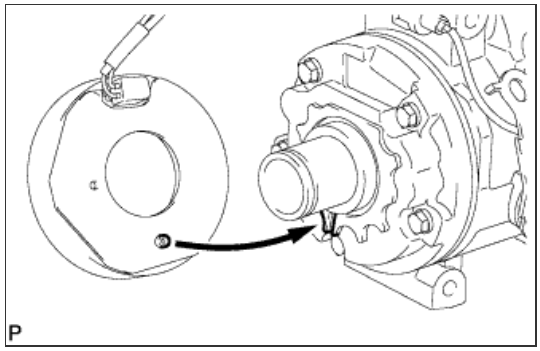
**Standard resistance:**
**65 to 125 Ω at 20°C (68°F)**
**If the resistance is not as specified, replace the cooler compressor assembly.**



**for Preparation** Click here

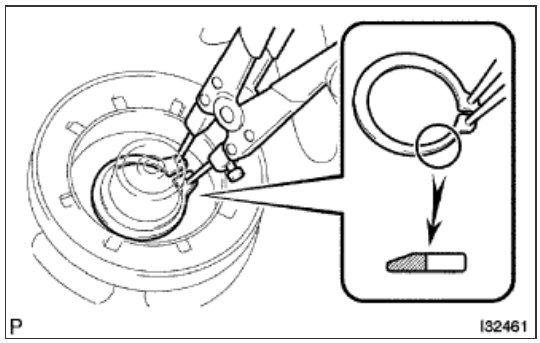
## 1. INSTALL MAGNET CLUTCH ASSEMBLY

a. Install the magnet clutch stator with the parts shown in the illustration matched.




b. Using a snap ring expander, install a new snap ring with the chamfered side facing up.

c. Connect the connector.




d. Using a snap ring expander, install the magnet clutch rotor and a new snap ring with the chamfered side facing up.

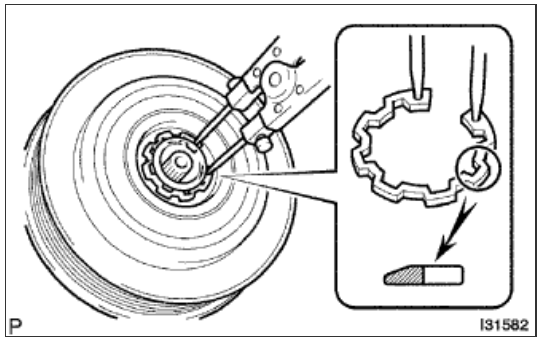
**NOTICE:**

Do not damage the seal cover of the bearing when installing the snap ring.

e. Install the compressor washer(s) and magnet clutch hub.

**NOTICE:**

Do not change the combination of the compressor washer(s) used before disassembly.



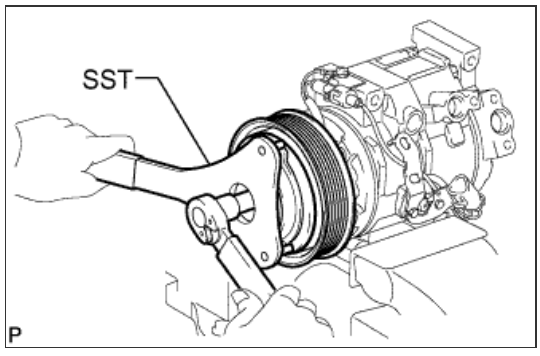

f. Using SST, hold the magnet clutch hub and install the bolt.

*SST*
09985-00260

**Torque:**
**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

**NOTICE:**

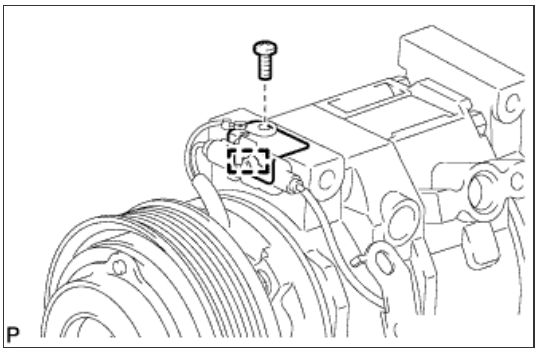
Make sure that there is no foreign matter or oil on the compressor shaft, bolt, and clutch hub.




## 2. INSTALL COOLER BRACKET

a. Install the cooler bracket with the screw.

b. Attach the clamp.




## 3. INSPECT MAGNET CLUTCH CLEARANCE

a. Clamp the cooler compressor in a vise.

b. Set the dial indicator to the magnet clutch hub.

c. Connect the battery positive lead to terminal 3 of the magnet clutch connector and the negative lead to the ground wire. Turn the magnet clutch on and off and measure the clearance.

**Standard clearance:**
**0.35 to 0.60 mm (0.014 to 0.024 in.)**

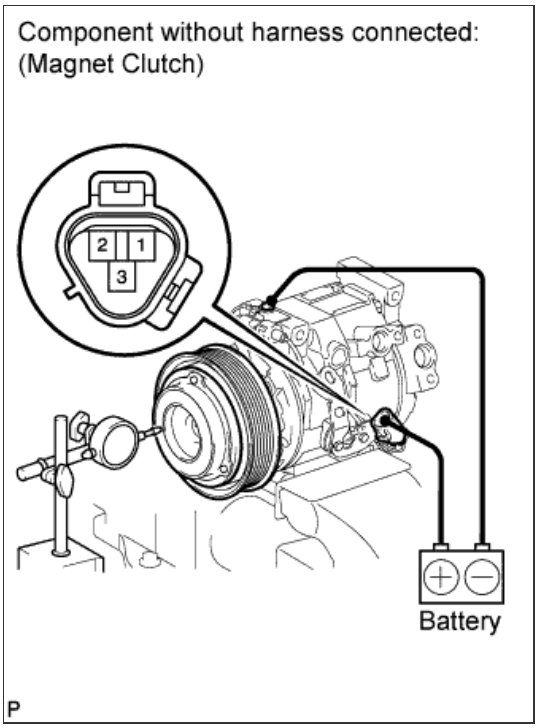
If the measured value is not within the standard clearance, remove the magnet clutch hub and adjust the clearance using compressor washers to obtain the standard clearance.

**Compressor washer thickness:**
**0.1 mm (0.004 in.)**
**0.3 mm (0.012 in.)**
**0.5 mm (0.020 in.)**

**NOTICE:**

Adjustment should be performed with 3 or fewer magnet clutch washers.

d. Remove the cooler compressor from the vise.



**for Preparation** Click here

## 1. ADJUST COMPRESSOR OIL

a. When replacing the compressor and magnetic clutch with a new one, gradually discharge the refrigerant gas from the service valve, and drain the following amount of oil from the new compressor and magnetic clutch before installation.

**Standard:**
**VDJ200L-GNMNZV, GNTNZV, GPMNZV:**
**(Oil capacity inside the new compressor and magnetic clutch: 140 + 15 cc (4.7 + 0.51 fl.oz.)) - (Remaining oil amount in the removed compressor and magnetic clutch) = (Oil amount to be removed from the new compressor when replacing)**
**Except VDJ200L-GNMNZV, GNTNZV, GPMNZV:**
**(Oil capacity inside the new compressor and magnetic clutch: 135 + 15 cc (4.6 + 0.51 fl.oz.)) - (Remaining oil amount in the removed compressor and magnetic clutch) = (Oil amount to be removed from the new compressor when replacing)**

**NOTICE:**

- **When checking the compressor oil level, follow the A/C system precautions.**
- **If a new compressor and magnetic clutch is installed without removing some oil remaining in the pipes of the vehicle, the oil amount will be too large. This prevents heat exchange in the refrigerant cycle and causes refrigerant failure.**
- **If the volume of oil remaining in the removed compressor and magnetic clutch is too small, check for oil leakage.**
- **Be sure to use ND-OIL 8 or equivalent for compressor oil.**

## 2. INSTALL COOLER COMPRESSOR ASSEMBLY

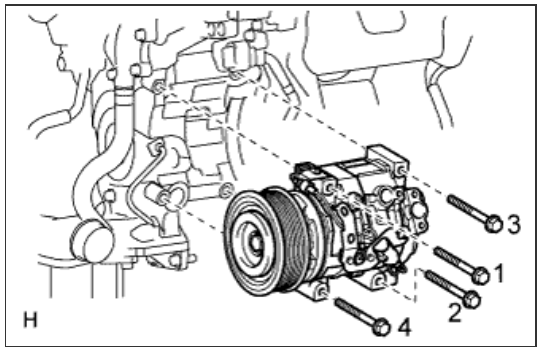
a. Install the cooler compressor with the 4 bolts.

**Torque:**
**24.5 N*m{ 250 kgf*cm , 18 ft.*lbf }**

**HINT:**

Tighten the bolts in the order shown in the illustration.

b. Connect the connector.




## 3. CONNECT SUCTION HOSE SUB-ASSEMBLY

a. Remove the attached vinyl tape from the cooler refrigerant suction hose.

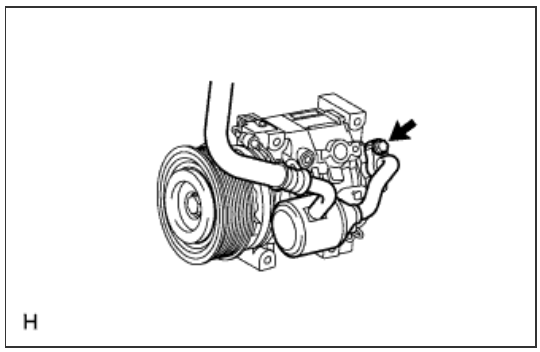
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler compressor.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install the O-ring to the suction hose.

d. Connect the suction hose to the cooler compressor with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**




## 4. CONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the attached vinyl tape from the discharge hose.

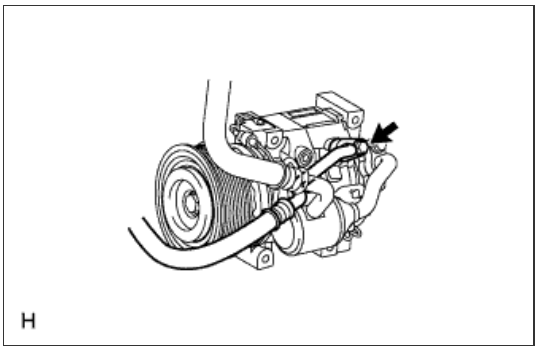
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler compressor.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install the O-ring to the discharge hose.

d. Connect the discharge hose to the cooler compressor with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**




## 5. INSTALL NO. 2 INTAKE AIR CONNECTOR PIPE

a. Install the No. 2 intake air connector pipe to the No. 2 inlet compressor elbow.

**Text in Illustration**

| | |
|---|---|
| *1 | Hose Stopper |
| *a | No Gap |

**NOTICE:**

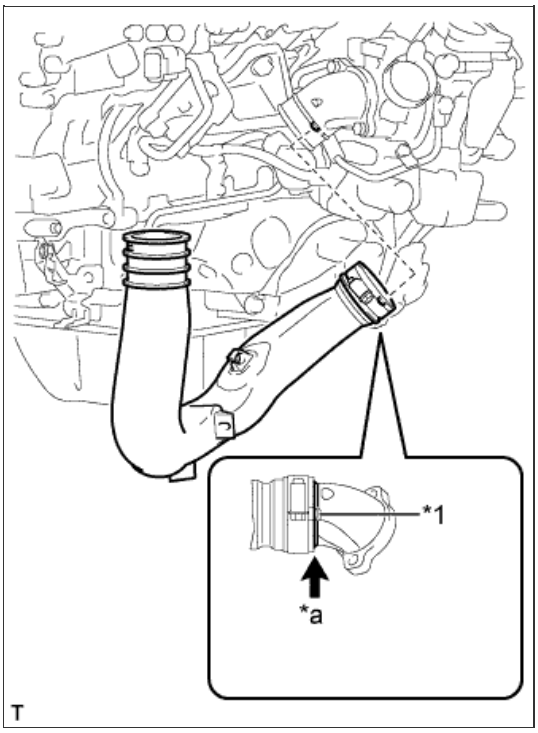
Make sure there is no gap between the air pipe and hose stopper on the elbow side.

b. Install the bolt of the No. 2 intake air connector pipe.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**

**NOTICE:**

Do not excessively pull the air pipe towards the front of the engine.




c. Tighten the hose clamp on the elbow side.

**Torque:**
**6.0 N*m{ 61 kgf*cm , 53 in.*lbf }**

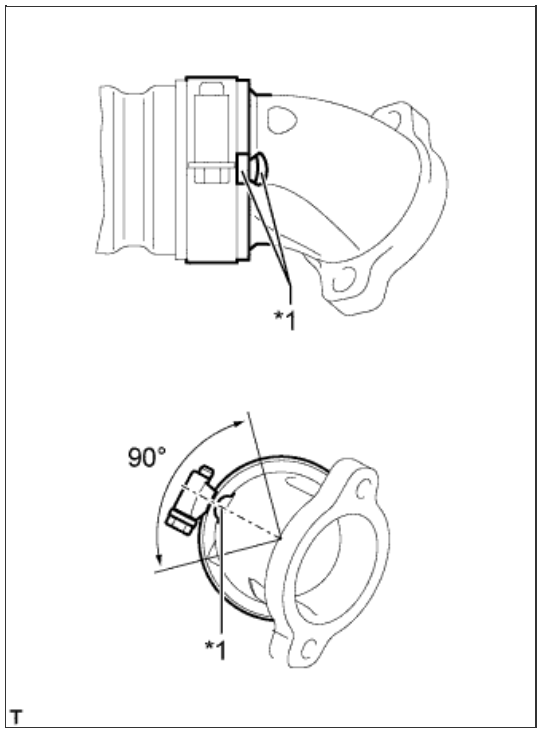
**HINT:**

- **Align the 2 protrusions of the air pipe and elbow.**
- **Install the air pipe so that the protrusion on the pipe side is within the range of the protrusion on the elbow side.**
- **After tightening, a gap between the air pipe and hose stopper on the elbow side is acceptable.**
- **Make sure the direction of the hose clamp is as shown in the illustration.**

**Text in Illustration**

| | |
|---|---|
| *1 | Protrusion |

d. w/ Intercooler:
Connect the vacuum hose.




## 6. INSTALL NO. 2 AIR CLEANER PIPE SUB-ASSEMBLY

a. Connect the No. 2 air cleaner pipe to the No. 2 intake air connector pipe.

b. Connect the ventilation hose to the oil separator.

c. Install the pipe with the bolt.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**

d. Tighten the hose clamp.

**Torque:**
**6.3 N*m{ 64 kgf*cm , 56 in.*lbf }**

## 7. INSTALL INTERCOOLER ASSEMBLY

(Click here)

## 8. INSTALL RADIATOR ASSEMBLY

(Click here).

## 9. CHARGE REFRIGERANT

***SST***
**09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)**

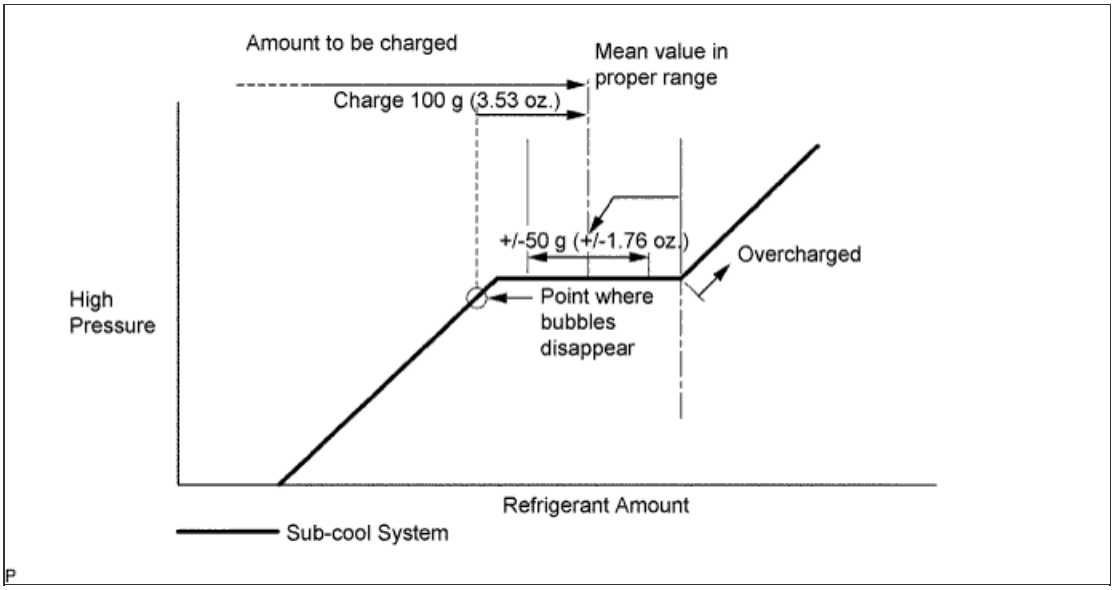
a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | | |

| | | | |
|---|---|---|---|
| 16 mm (0.630 in.) | w/o Rear Cooler | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| | | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 10. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 11. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

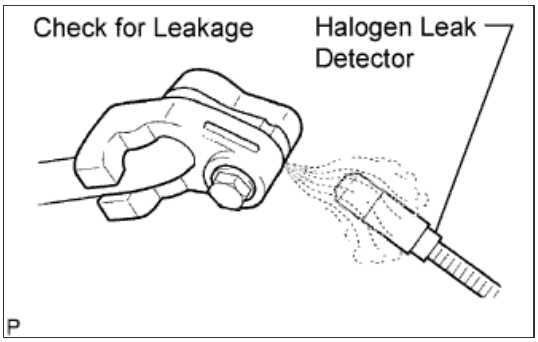
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

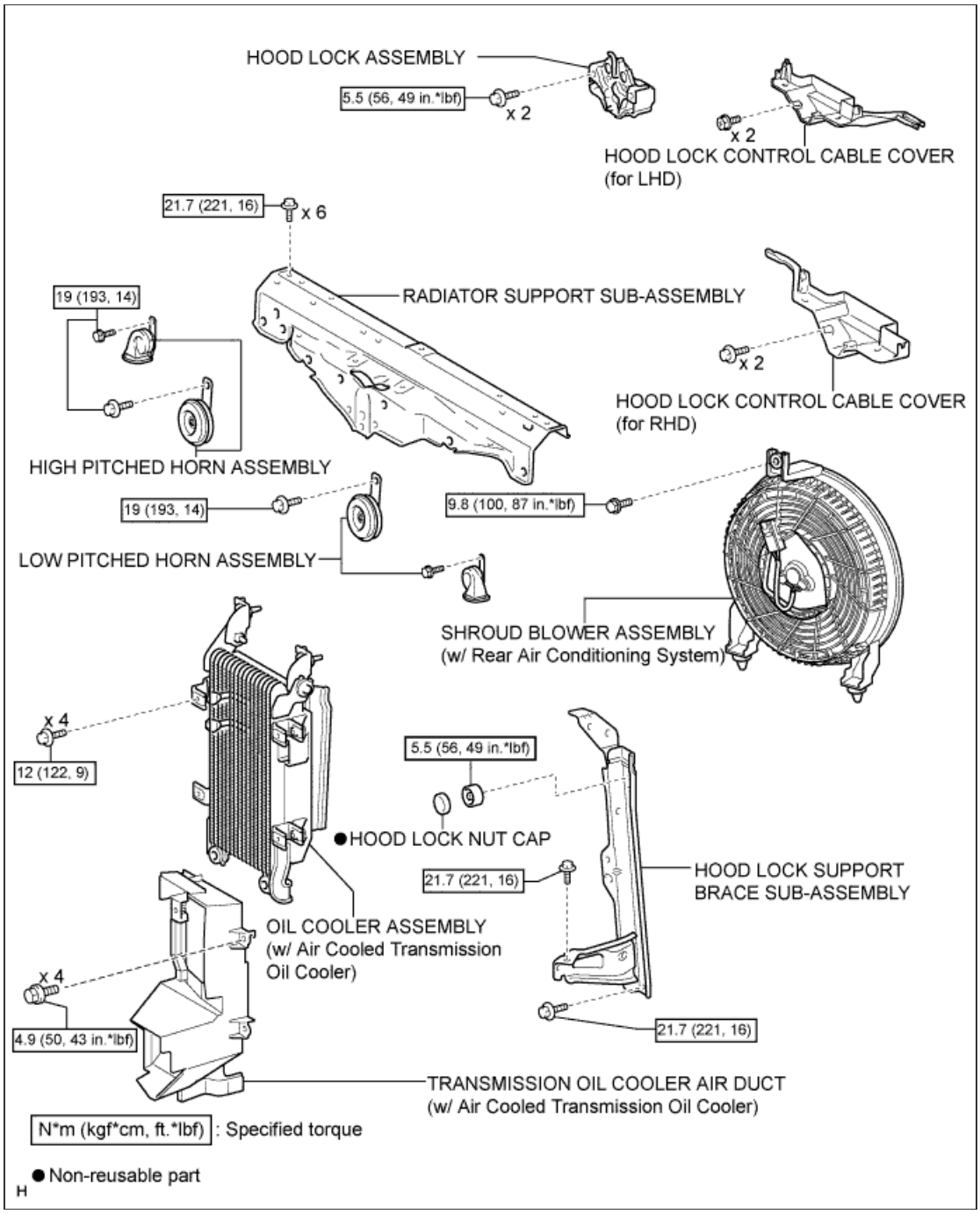
c. Using a halogen leak detector, check the refrigerant line for leakage.

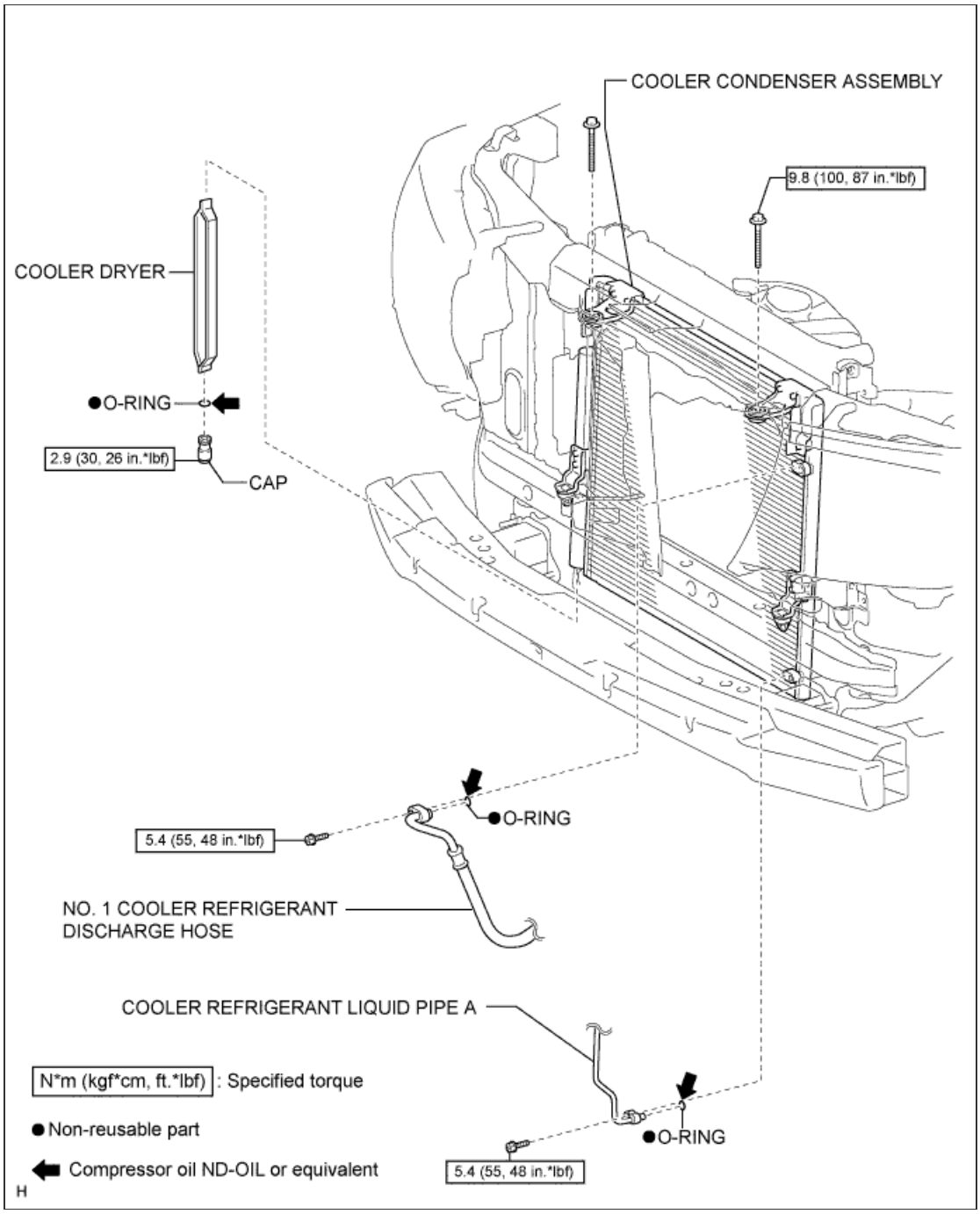
d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.


Check for Leakage
Halogen Leak Detector
P

**for Preparation** Click here




COOLER CONDENSER ASSEMBLY
9.8 (100, 87 in.*lbf)
COOLER DRYER
●O-RING
2.9 (30, 26 in.*lbf)
CAP
●O-RING
5.4 (55, 48 in.*lbf)
NO. 1 COOLER REFRIGERANT DISCHARGE HOSE
COOLER REFRIGERANT LIQUID PIPE A
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
Compressor oil ND-OIL or equivalent
●O-RING
5.4 (55, 48 in.*lbf)
H

**for Preparation** Click here

## 1. INSPECT COOLER CONDENSER ASSEMBLY

a. If the fins of the cooler condenser are dirty, clean them with water. Dry the fins with compressed air.

**NOTICE:**

Do not damage the fins of the condenser.

b. If a fin of the cooler condenser is bent, straighten it using a screwdriver or pliers.

## 2. CHECK CONDENSER FOR LEAKAGE OF REFRIGERANT

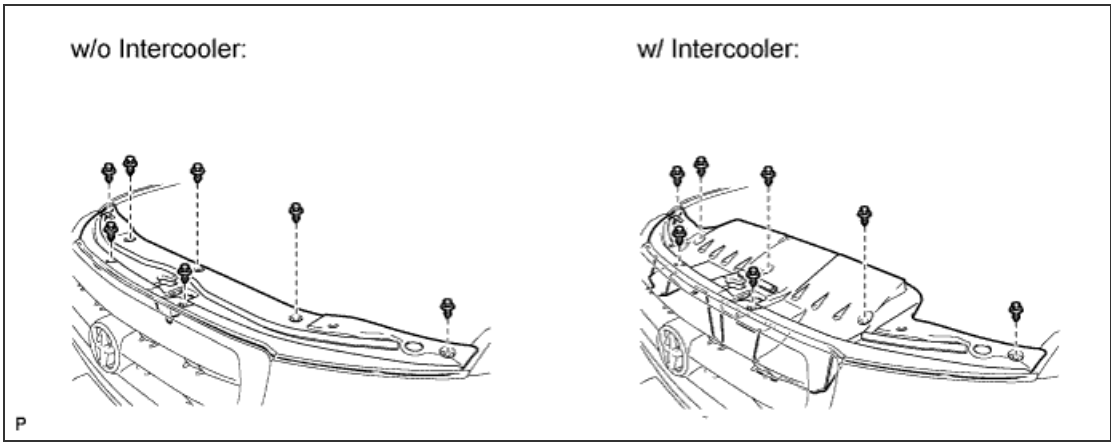
a. Using a halogen leak detector, check the pipe joints for gas leakage.

b. If gas leakage is detected in a joint, check the torque of the joint.

**for Preparation** Click here

## 1. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 7 clips and radiator support seal.




## 2. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 3. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 4. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 5. REMOVE FRONT BUMPER COVER

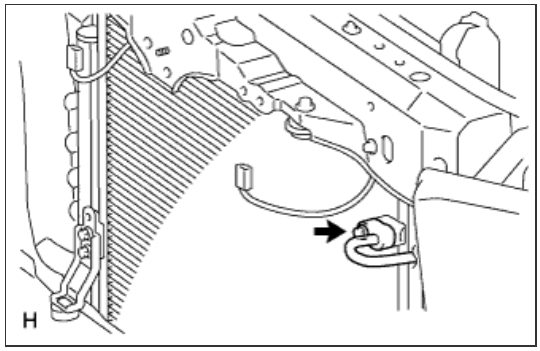
a. for Standard:
(Click here)

b. w/ Winch:

(Click here)

## 6. DISCONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the bolt and disconnect the discharge hose from the cooler condenser.




**NOTICE:**

- **When removing the bolt, do not allow any tools to contact the pipe.**
- **When removing the bolt, hold a part of the pipe near the connector.**

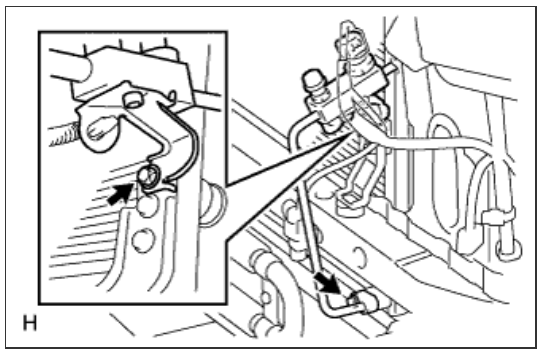
b. Remove O-ring from the discharge hose.

**NOTICE:**

Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.

## 7. DISCONNECT COOLER REFRIGERANT LIQUID PIPE A

a. Remove the 2 bolts and disconnect the liquid pipe A from the cooler condenser.




**NOTICE:**

- **When removing the bolt, do not allow any tools to contact the pipe.**
- **When removing the bolt, hold a part of the pipe near the connector.**

b. Remove O-ring from the liquid pipe A.

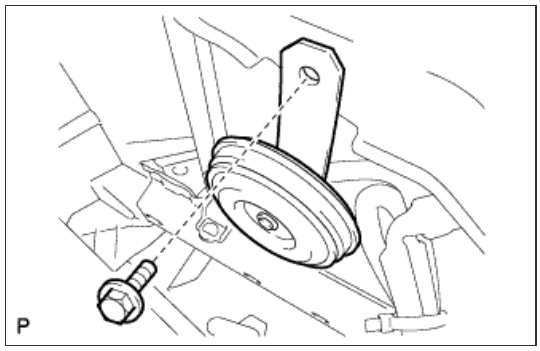
**NOTICE:**

Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.

## 8. REMOVE HIGH PITCHED HORN ASSEMBLY

a. Remove the bolt and horn.

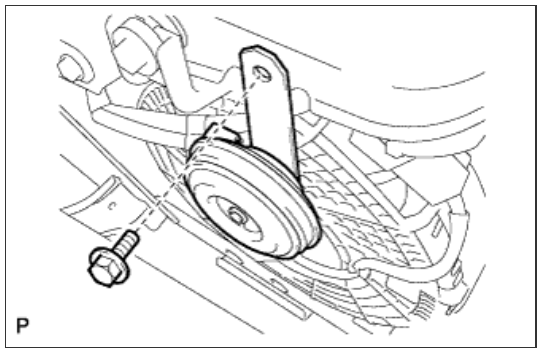
b. Disconnect the horn connector.




## 9. REMOVE LOW PITCHED HORN ASSEMBLY

a. Remove the bolt and horn.

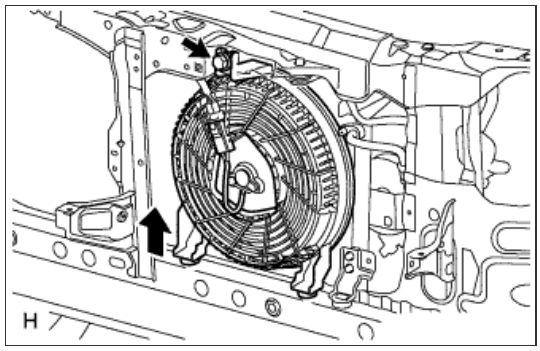
b. Disconnect the horn connector.




## 10. REMOVE SHROUD BLOWER ASSEMBLY (w/ Rear Air Conditioning System)

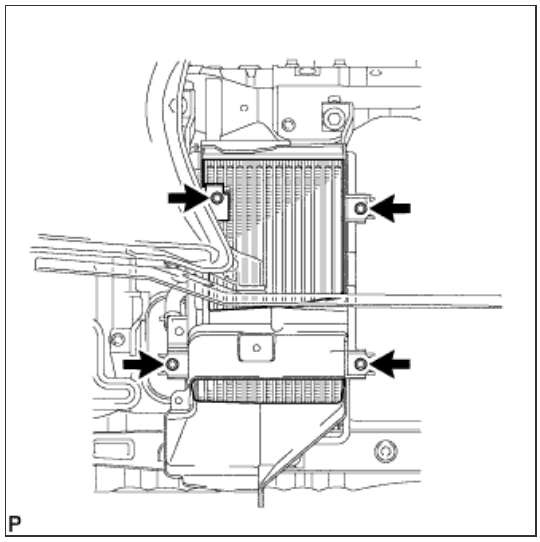
a. Disconnect the connector.

b. Remove the bolt and shroud blower as shown in the illustration.



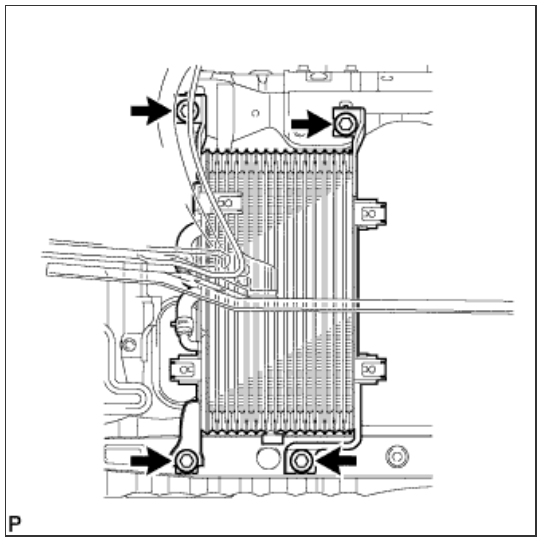

## 11. REMOVE TRANSMISSION OIL COOLER AIR DUCT (w/ Air Cooled Transmission Oil Cooler)

a. Remove the 4 bolts and transmission oil cooler air duct.




## 12. REMOVE OIL COOLER ASSEMBLY (w/ Air Cooled Transmission Oil Cooler)

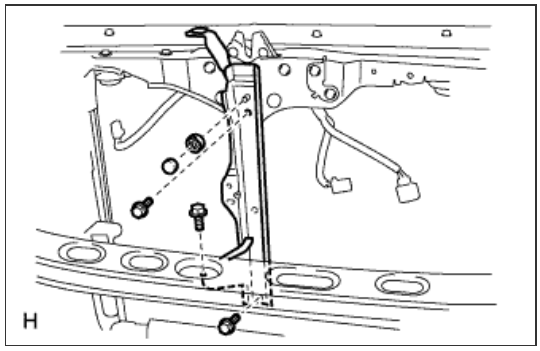
a. Remove the 4 bolts and oil cooler.




### 13. REMOVE HOOD LOCK SUPPORT BRACE SUB-ASSEMBLY

a. Remove the hood lock nut cap.

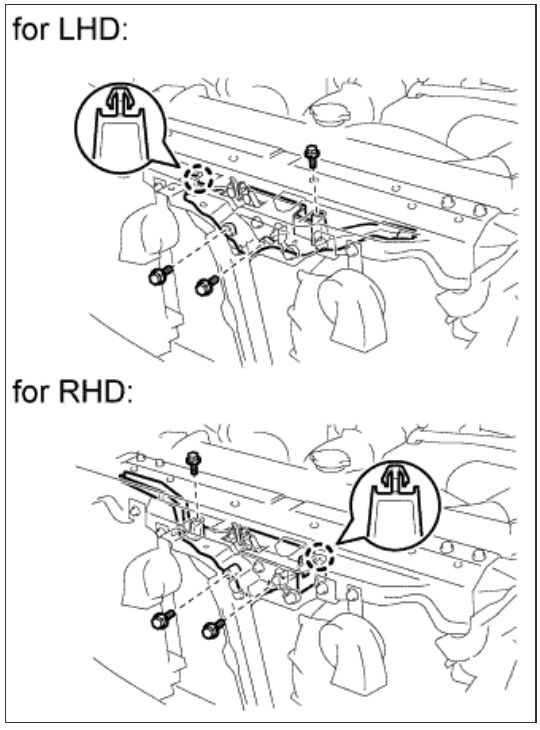
b. Remove the 3 bolts, nut and brace.




### 14. REMOVE HOOD LOCK CONTROL CABLE COVER

a. Remove the 3 screws.

b. Detach the claw and remove the cable cover.

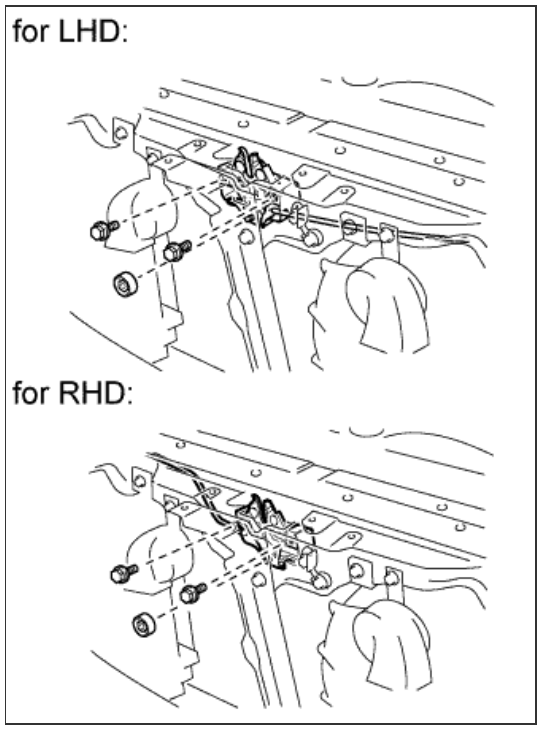



### 15. REMOVE HOOD LOCK ASSEMBLY

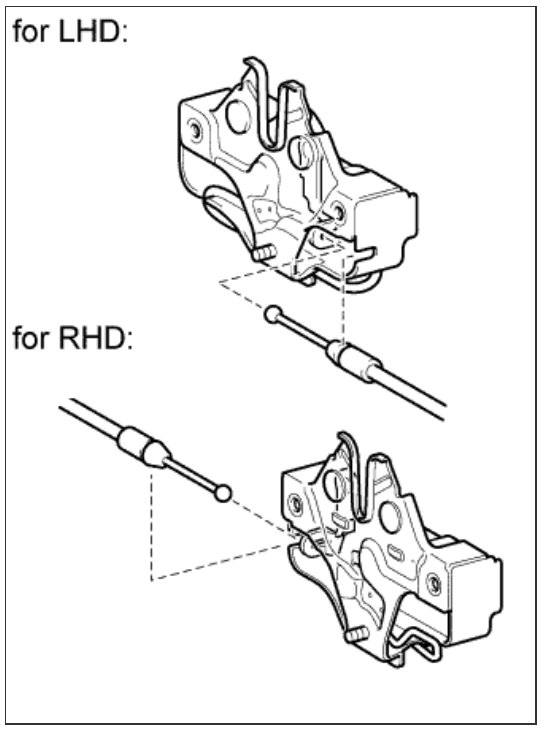
a. Remove the 2 bolts and nut.

b. Remove the hood lock.

c. Disconnect the connector.

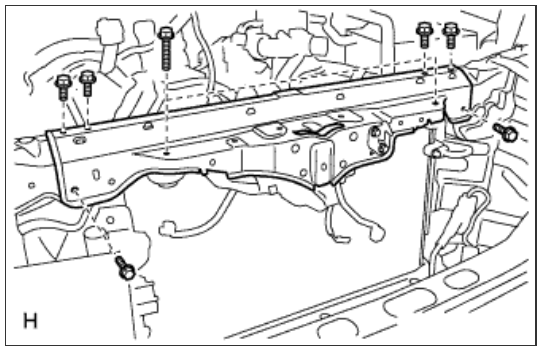



d. Disconnect the hood lock control cable.



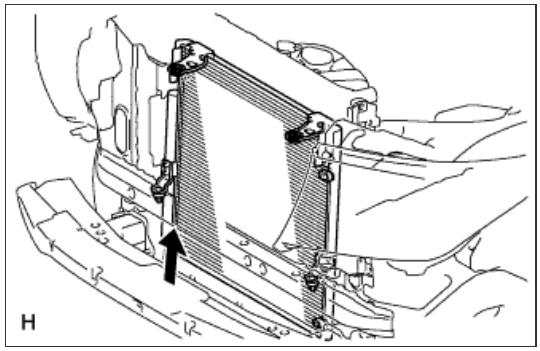

## 16. REMOVE RADIATOR SUPPORT SUB-ASSEMBLY

a. Remove the 8 bolts and radiator support.



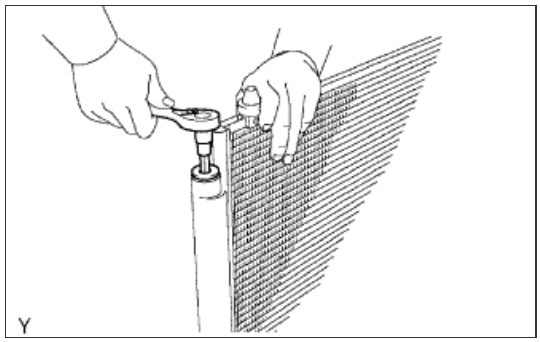

## 17. REMOVE COOLER CONDENSER ASSEMBLY

a. Remove the cooler condenser as shown in the illustration.

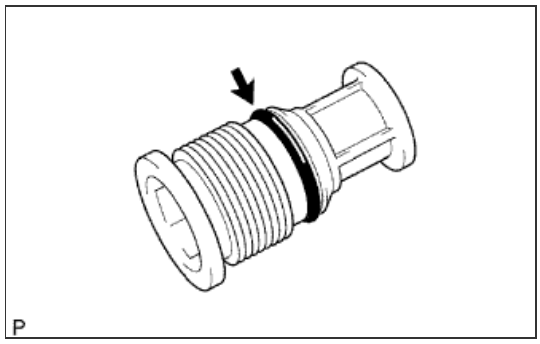



## 18. REMOVE COOLER DRYER

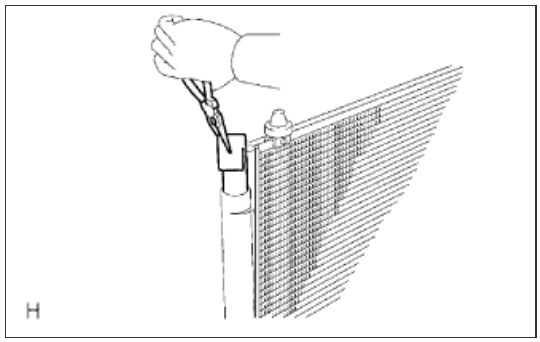
a. Using a 14 mm socket hexagon wrench, remove the cap from the modulator.




b. Remove O-ring from the cap.



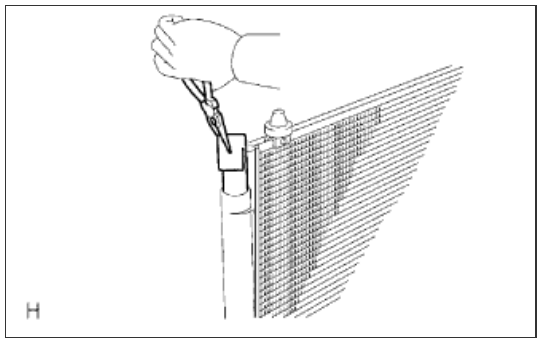

c. Using pliers, remove the cooler dryer.



**for Preparation** [Click here]

## 1. INSTALL COOLER DRYER

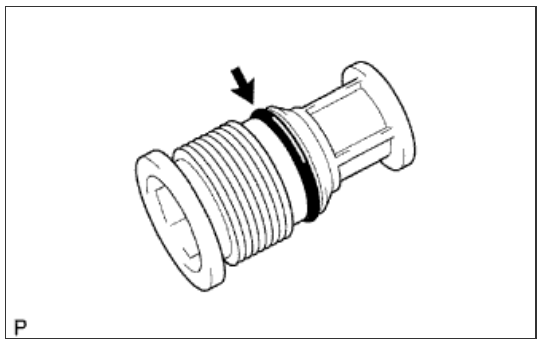
a. Using pliers, install the cooler dryer.




b. Apply a sufficient amount of compressor oil to the contact surfaces of a new O-ring and the cap.

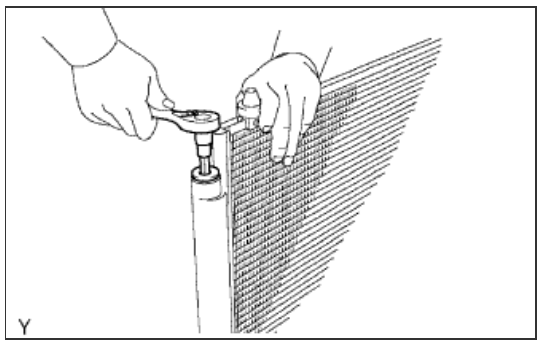
**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install O-ring to the cap.



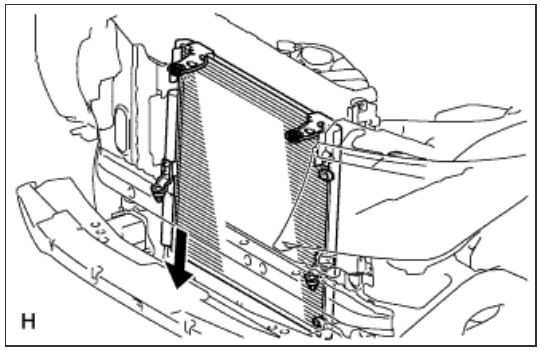

d. Using a 14 mm socket hexagon wrench, install the cap to the modulator.

**Torque:**
**2.9 N*m{ 30 kgf*cm , 26 in.*lbf }**




## 2. INSTALL COOLER CONDENSER ASSEMBLY

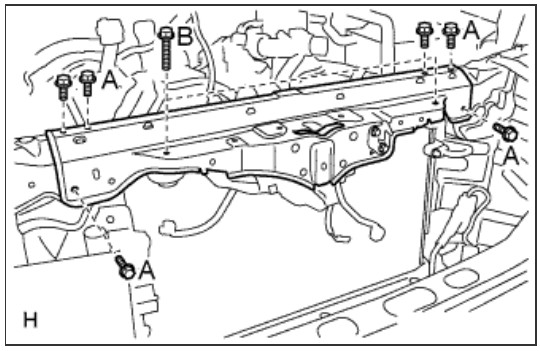
a. Install the cooler condenser as shown in the illustration.



### 3. INSTALL RADIATOR SUPPORT SUB-ASSEMBLY

a. Install the radiator support with the 8 bolts.

**Torque:**
**21.7 N*m{ 221 kgf*cm , 16 ft.*lbf } for bolt A**
**9.8 N*m{ 100 kgf*cm , 7 ft.*lbf } for bolt B**




### 4. INSTALL HOOD LOCK ASSEMBLY

a. Apply MP grease to the sliding areas of the lock.

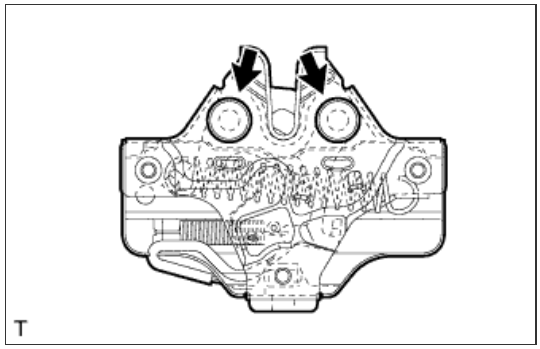
b. Connect the hood lock control cable.

c. Install the hood lock.

d. Install the 2 bolts and nut.

**Torque:**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf }**

e. Connect the connector.




### 5. INSTALL HOOD LOCK CONTROL CABLE COVER

a. Attach the claw to install the cable cover.

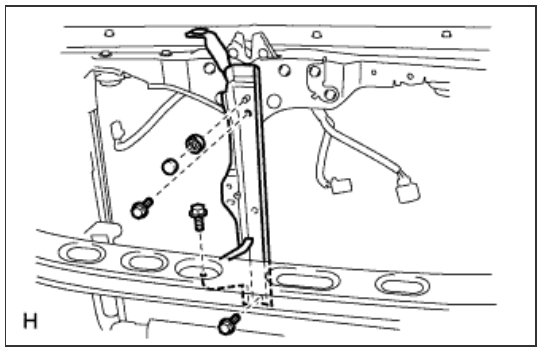
b. Install the 3 screws.

### 6. INSTALL HOOD LOCK SUPPORT BRACE SUB-ASSEMBLY

a. Install the brace with the 3 bolts and nut.

**Torque:**
**21.7 N*m{ 221 kgf*cm , 16 ft.*lbf } for bolt**
**5.5 N*m{ 56 kgf*cm , 49 in.*lbf } for nut**

b. Install the hood lock nut cap.




### 7. INSTALL OIL COOLER ASSEMBLY (w/ Air Cooled Transmission Oil Cooler)

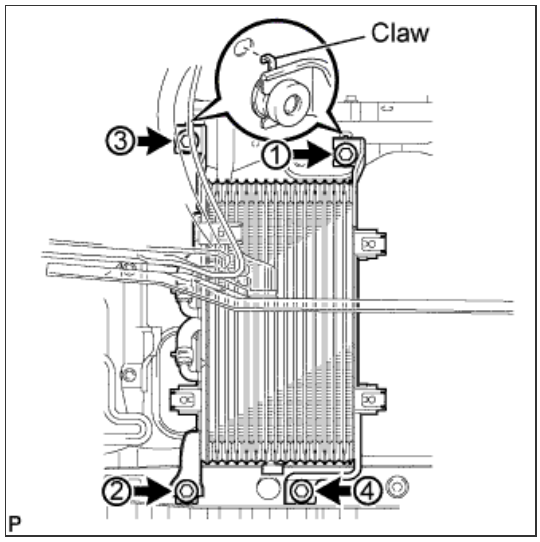
a. Temporarily install the oil cooler to the radiator support.

**NOTICE:**

Securely attach the 2 claws of the oil cooler into the hole of the radiator support.

b. Install the 4 bolts in the sequence shown in the illustration.

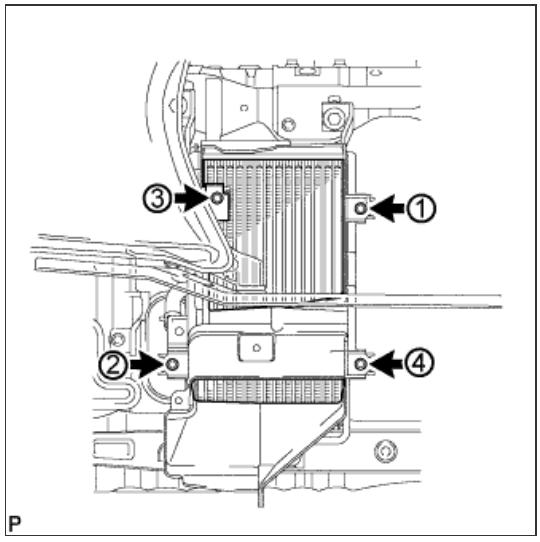
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




## 8. INSTALL TRANSMISSION OIL COOLER AIR DUCT (w/ Air Cooled Transmission Oil Cooler)

a. Install the oil cooler air duct with the 4 bolts in the sequence shown in the illustration.

**Torque:**
**4.9 N*m{ 50 kgf*cm , 43 in.*lbf }**

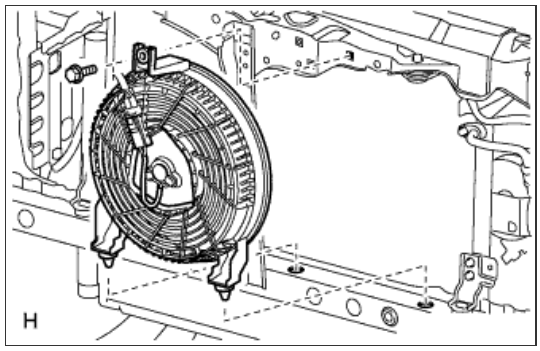



## 9. INSTALL SHROUD BLOWER ASSEMBLY (w/ Rear Air Conditioning System)

a. Install the shroud blower with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 7 ft.*lbf }**

b. Connect the connector.



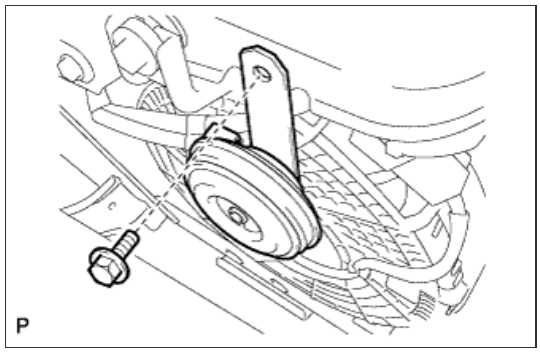

## 10. INSTALL LOW PITCHED HORN ASSEMBLY

a. Connect the horn connector.

b. Install the horn with the bolt.

**Torque:**

**19 N*m{ 194 kgf*cm , 14 ft.*lbf }**

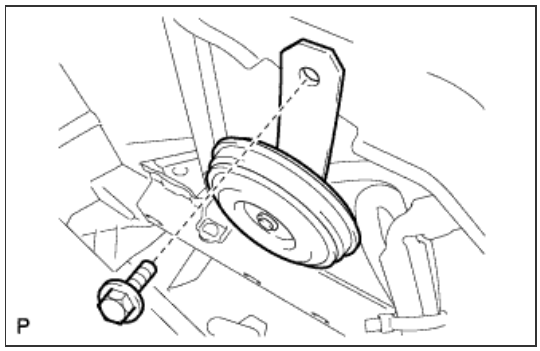



## 11. INSTALL HIGH PITCHED HORN ASSEMBLY

a. Connect the horn connector.

b. Install the horn with the bolt.

**Torque:**
**19 N*m{ 194 kgf*cm , 14 ft.*lbf }**




## 12. CONNECT COOLER REFRIGERANT LIQUID PIPE A

a. Remove the attached vinyl tape from the hose and the connecting part of the cooler condenser.

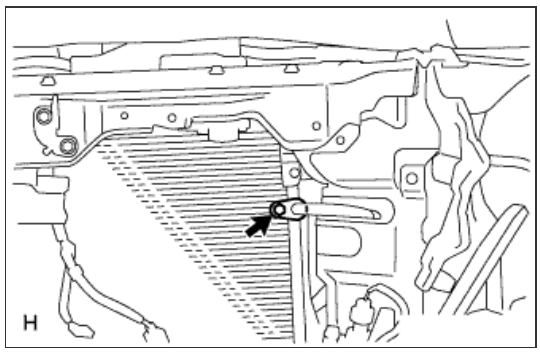
b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the pipe joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

c. Install O-ring on the liquid pipe A.

d. Connect the liquid pipe A to the cooler condenser with the bolt.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**




**NOTICE:**

- **When tightening the bolt, do not allow any tools to contact the pipe.**
- **When tightening the bolt, hold a part of the pipe near the connector.**

## 13. CONNECT NO. 1 COOLER REFRIGERANT DISCHARGE HOSE

a. Remove the attached vinyl tape from the pipe and the connecting part of the cooler condenser.

b. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

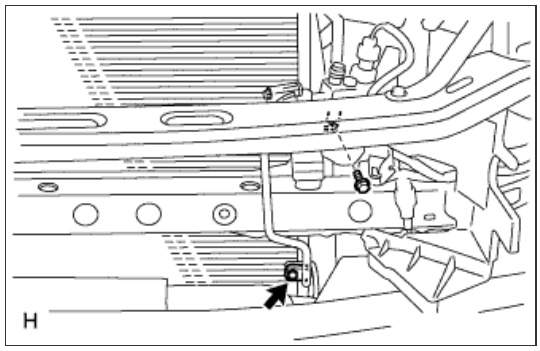
c. Install O-ring on the discharge hose.

d. Connect the discharge hose to the cooler condenser with the 2 bolts.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**

**NOTICE:**

- **When tightening the bolts, do not allow any tools to contact the pipe.**
- **When tightening the bolts, hold a part of the pipe near the connector.**




## 14. INSTALL FRONT BUMPER COVER

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 15. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 16. CHARGE REFRIGERANT

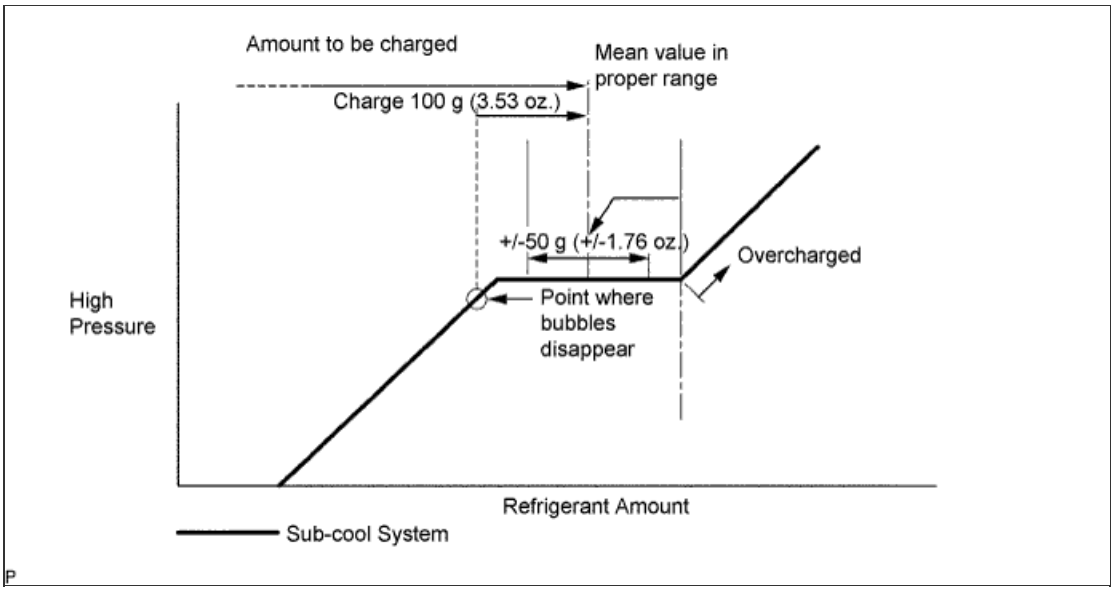
***SST***
**09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)**

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 17. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 18. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

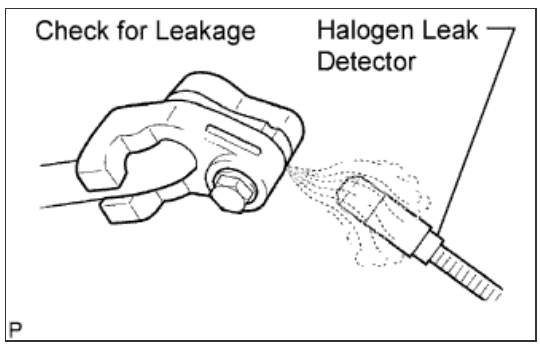
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

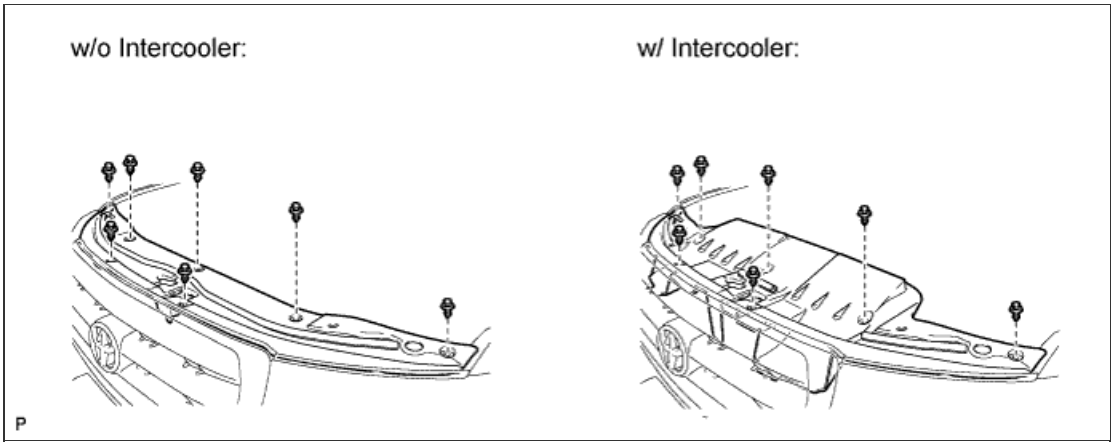



## 19. CHECK SRS WARNING LIGHT

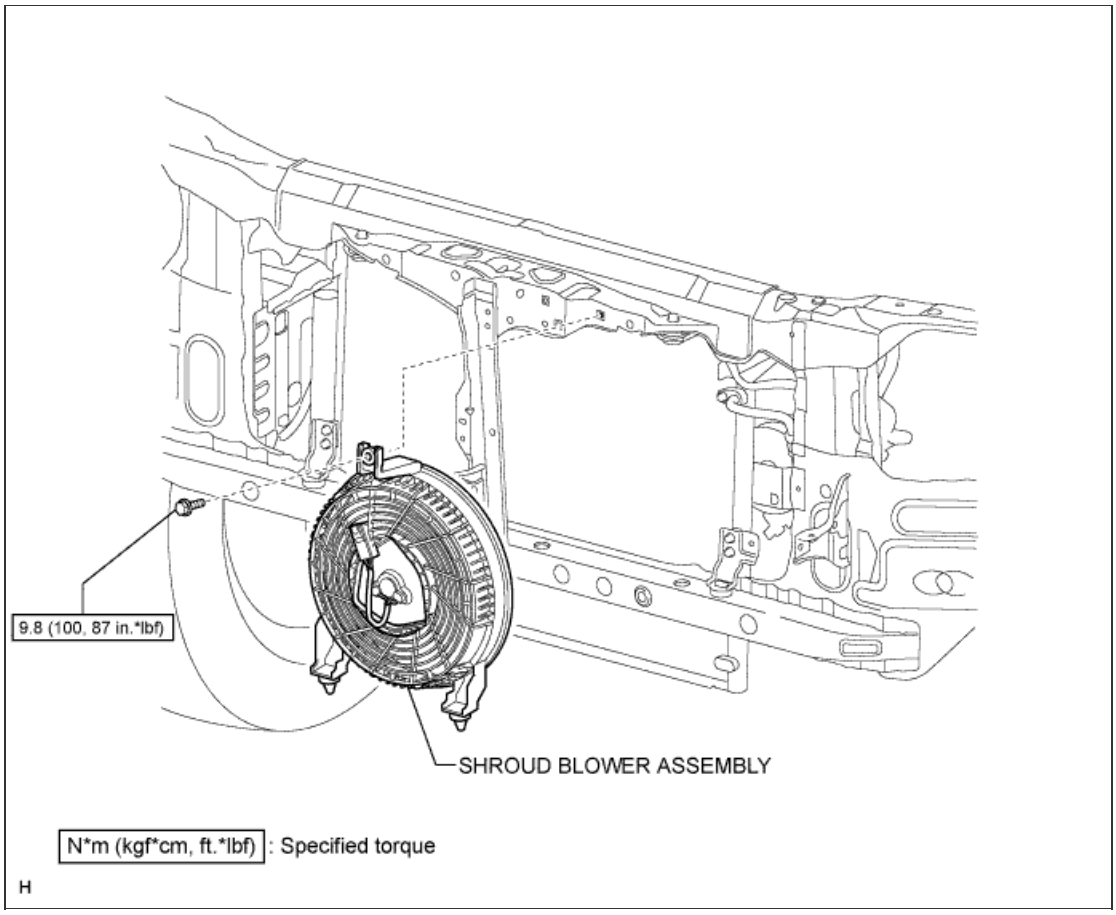
(Click here)

## 20. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.



**for Preparation** Click here



# CONDENSER FAN > REMOVAL

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE FRONT BUMPER COVER

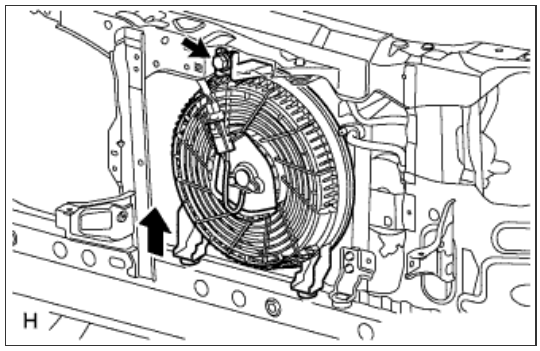
a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 4. REMOVE SHROUD BLOWER ASSEMBLY

a. Disconnect the connector.

b. Remove the bolt and shroud blower as shown in the illustration.



**for Preparation** Click here

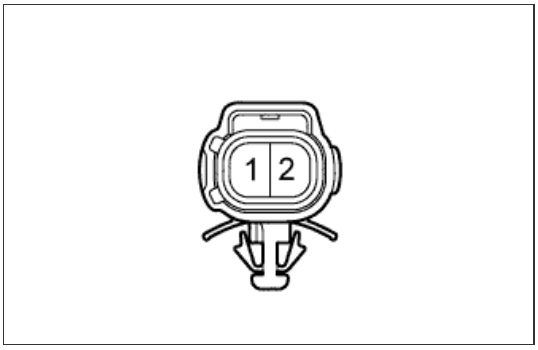
## 1. INSPECT SHROUD BLOWER ASSEMBLY

a. Apply battery voltage and check operation of the horn, as shown in the table.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 1<br>Battery negative (-) → Terminal 2 | Motor operates smoothly |

If the result is not as specified, replace the shroud blower assembly.



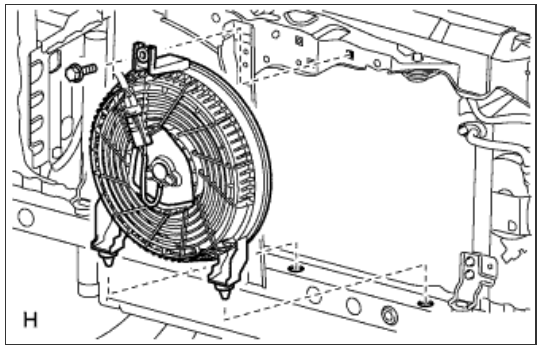
**for Preparation** Click here

## 1. INSTALL SHROUD BLOWER ASSEMBLY

a. Install the shroud blower with the bolt.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 7 ft.*lbf }**

b. Connect the connector.




## 2. INSTALL FRONT BUMPER COVER

a. for Standard:
(Click here)

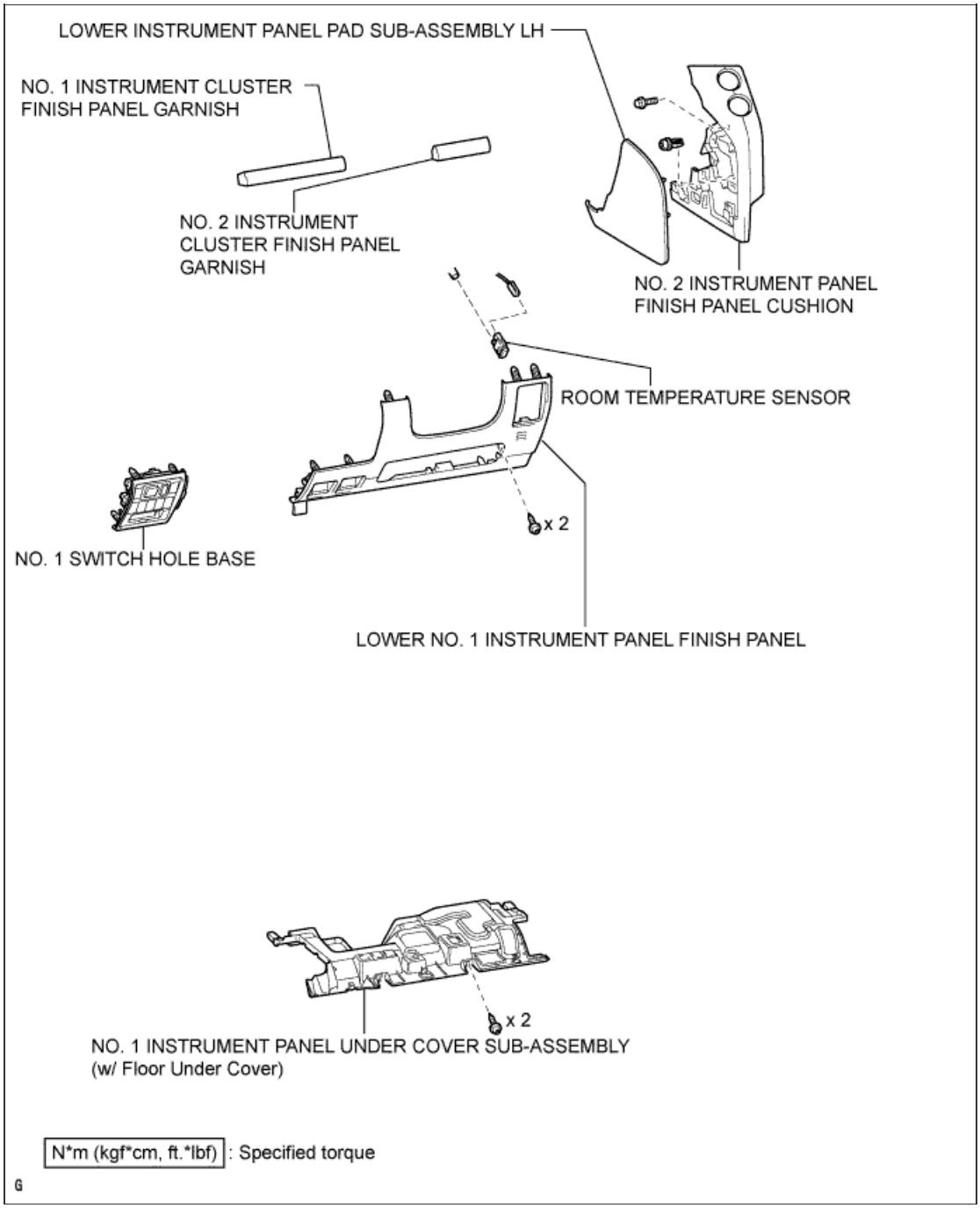
b. w/ Winch:
(Click here)

## 3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

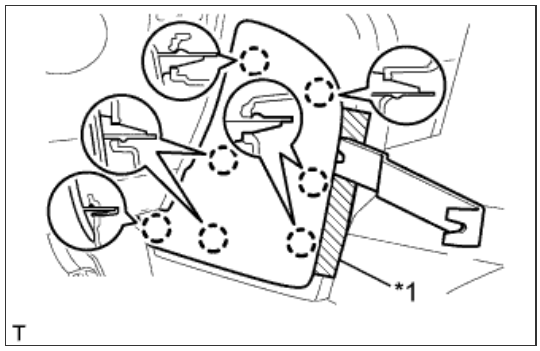
## 1. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 2 instrument panel finish panel cushion.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 2 instrument panel finish panel cushion.

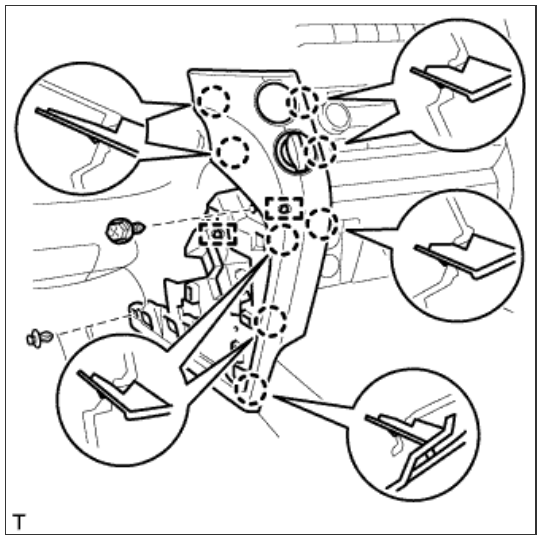



## 2. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.



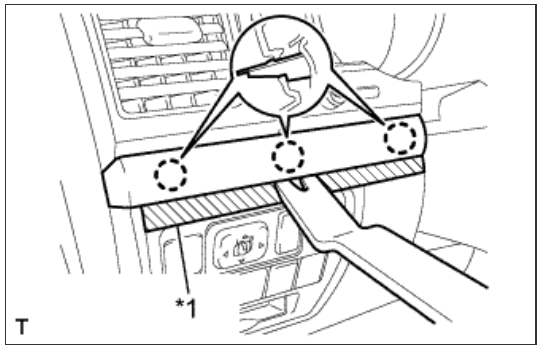

## 3. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

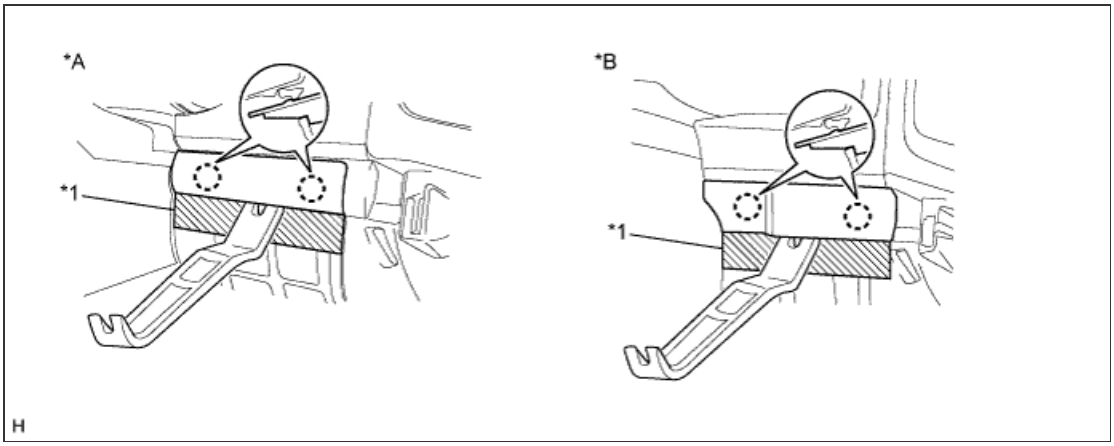
b. Using a moulding remover, detach the 3 claws and remove the No. 1 instrument cluster finish panel garnish.



## 4. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 2 claws and remove the No. 2 instrument cluster finish panel garnish.




**Text in Illustration**

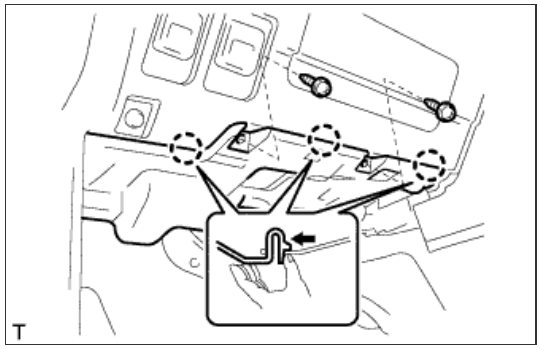
| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |
| *1 | Protective Tape | - | - |

## 5. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Remove the 2 screws.

b. Detach the 3 claws.

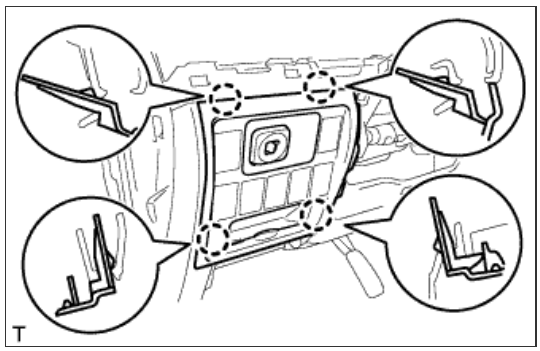
c. Disconnect the connectors and remove the No. 1 instrument panel under cover.




## 6. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 4 claws.

b. Disconnect the connectors and remove the No. 1 switch hole cover.




## 7. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

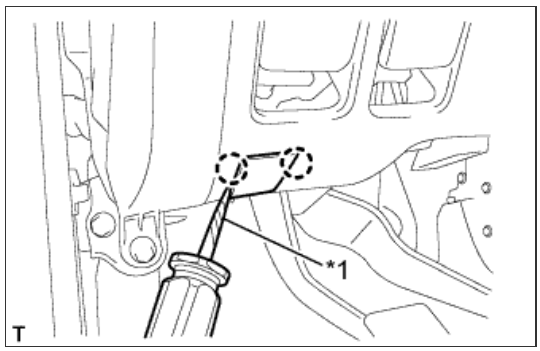
a. Using a screwdriver, detach the 2 claws and open the hole cover.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

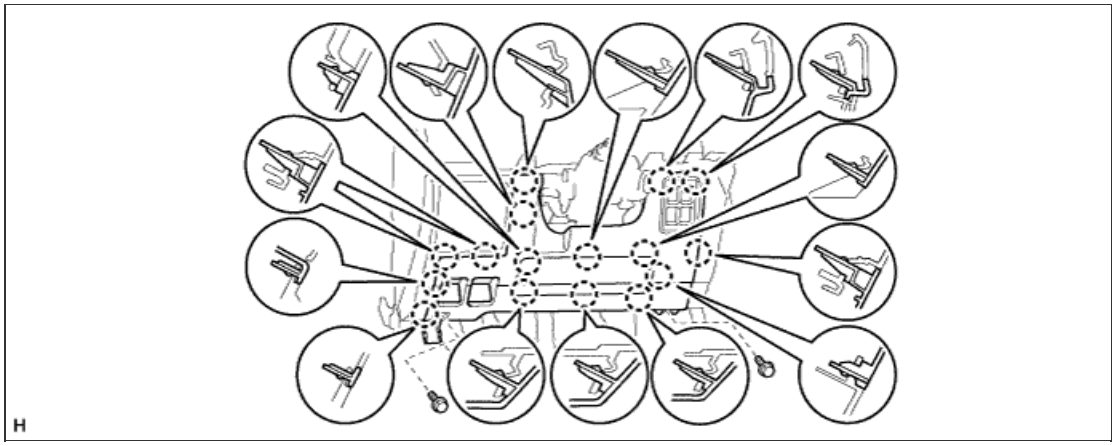
| | |
|---|---|
| *1 | Protective Tape |




b. w/ Driver Side Knee Airbag:

i. Remove the 2 bolts.

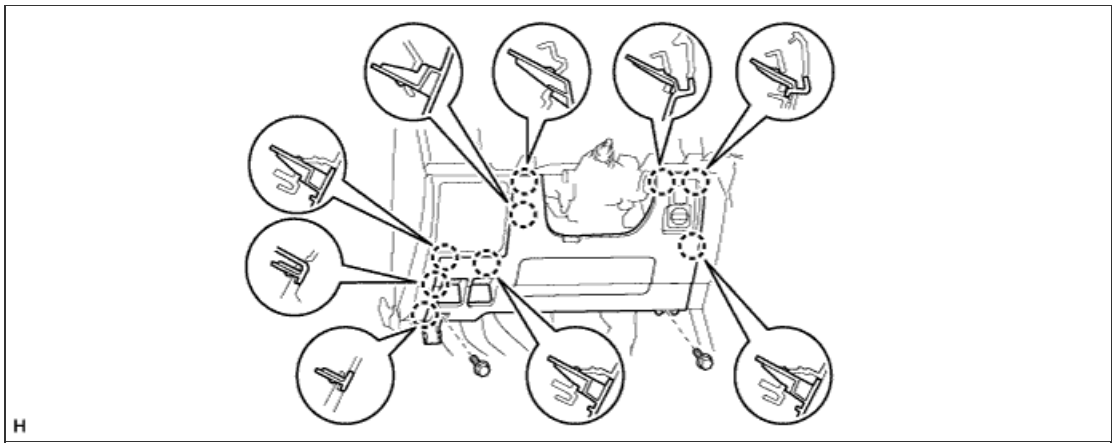
ii. Detach the 16 claws.




c. w/o Driver Side Knee Airbag:

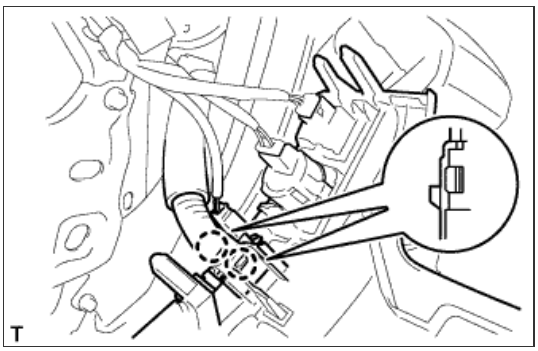
i. Remove the 2 bolts.

ii. Detach the 9 claws.



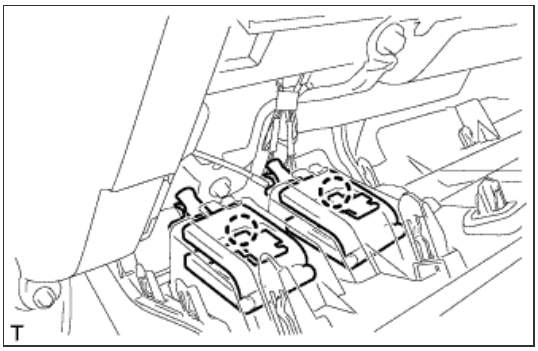

d. for Automatic Air Conditioning System:

i. Detach the 2 claws and remove the room temperature sensor.




e. Detach the 2 claws and disconnect the 2 control cables.

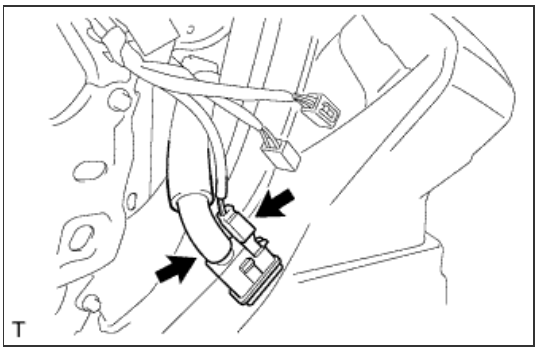
f. Disconnect the connectors and remove the lower No. 1 instrument panel finish panel.




## 8. REMOVE ROOM TEMPERATURE SENSOR

a. Disconnect the connector.

b. Disconnect the hose and remove the sensor.



**for Preparation** Click here

## 1. INSPECT ROOM TEMPERATURE SENSOR

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | 10°C (50°F) | 3.00 to 3.73 kΩ |
| 1 - 2 | 15°C (59°F) | 2.45 to 2.88 kΩ |
| 1 - 2 | 20°C (68°F) | 1.95 to 2.30 kΩ |
| 1 - 2 | 25°C (77°F) | 1.60 to 1.80 kΩ |
| 1 - 2 | 30°C (86°F) | 1.28 to 1.47 kΩ |
| 1 - 2 | 35°C (95°F) | 1.00 to 1.22 kΩ |
| 1 - 2 | 40°C (104°F) | 0.80 to 1.00 kΩ |
| 1 - 2 | 45°C (113°F) | 0.65 to 0.85 kΩ |
| 1 - 2 | 50°C (122°F) | 0.50 to 0.70 kΩ |
| 1 - 2 | 55°C (131°F) | 0.44 to 0.60 kΩ |
| 1 - 2 | 60°C (140°F) | 0.36 to 0.50 kΩ |

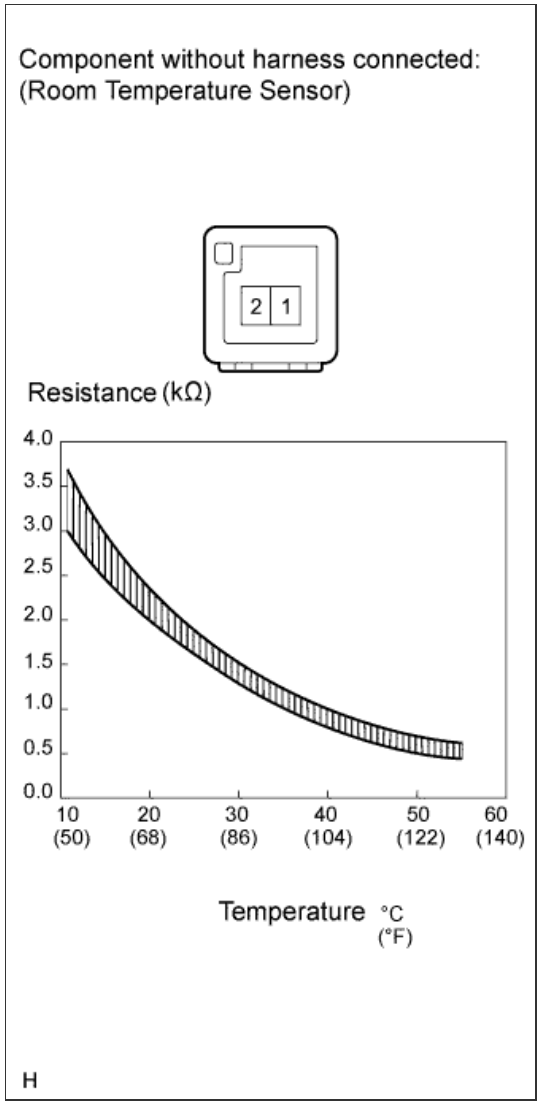
If the result is not as specified, replace the room temperature sensor.

**NOTICE:**

- **Touching the sensor even slightly may change the resistance value. Hold the connector of the sensor.**
- **When measuring the resistance, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (See the graph).



**for Preparation** Click here

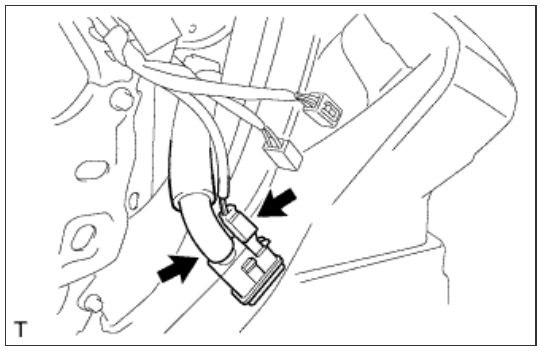
**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. INSTALL ROOM TEMPERATURE SENSOR

a. Connect the hose to install the sensor.

b. Connect the connector.

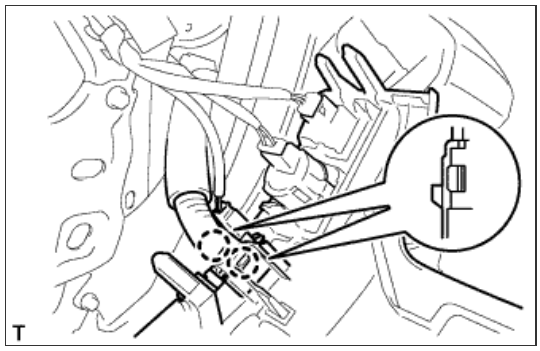



## 2. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

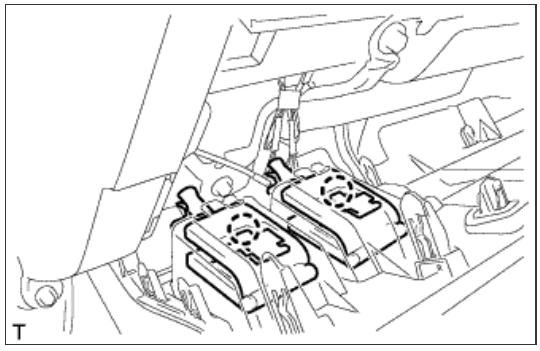
a. Connect the connectors.

b. for Automatic Air Conditioning System:

i. Attach the 2 claws to install the room temperature sensor.



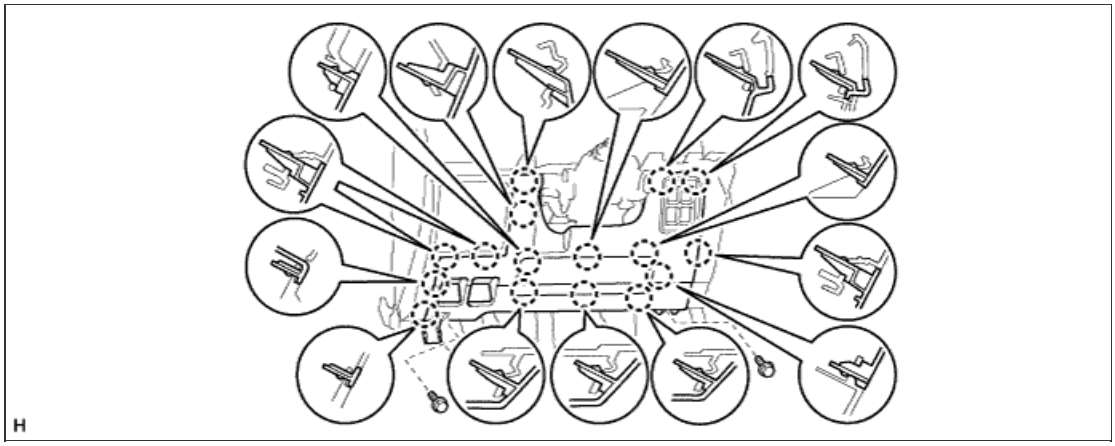

c. Attach the 2 claws to connect the 2 control cables.




d. w/ Driver Side Knee Airbag:

i. Attach the 16 claws to install the lower No. 1 instrument panel finish panel.

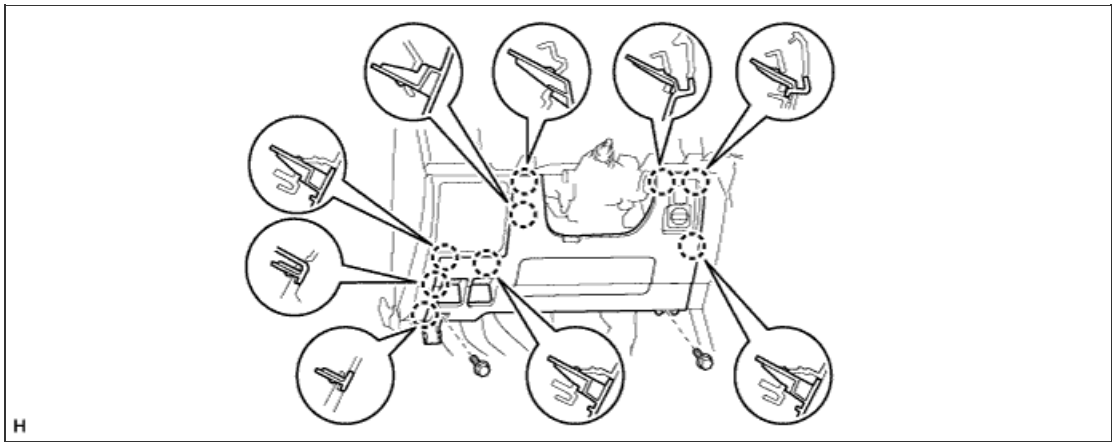
ii. Install the 2 bolts.



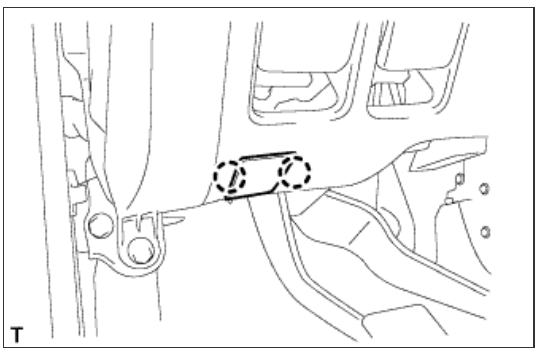

e. w/o Driver Side Knee Airbag:

i. Attach the 9 claws to install the lower No. 1 instrument panel finish panel.

ii. Install the 2 bolts.



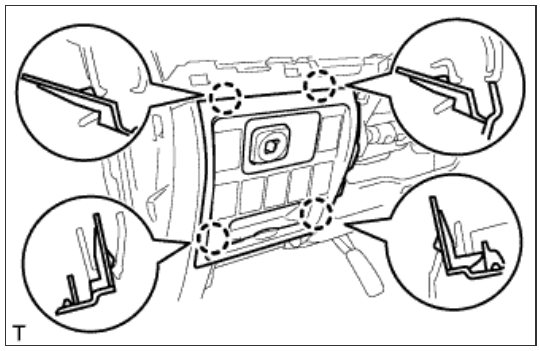

f. Attach the 2 claws to close the hole cover.




### 3. INSTALL NO. 1 SWITCH HOLE BASE

a. Connect the connectors.

b. Attach the 4 claws to install the No. 1 switch hole base.

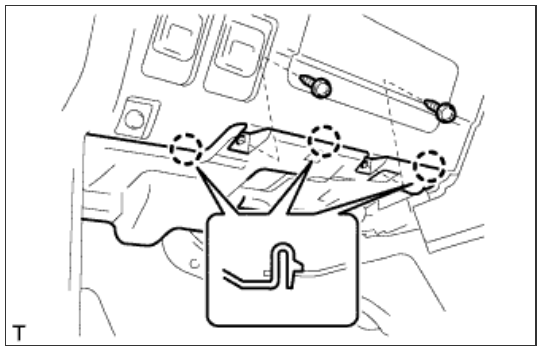



## 4. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Connect the connectors.

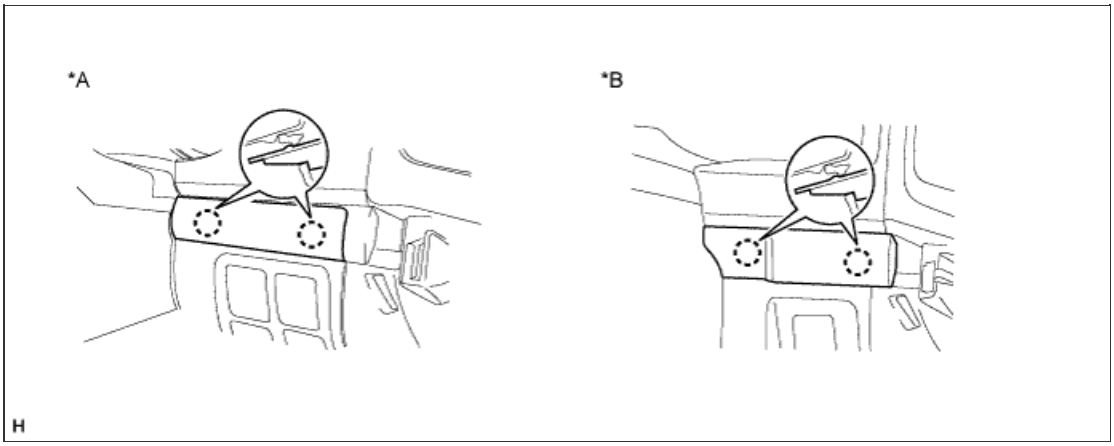
b. Attach the 3 claws to install the No. 1 instrument panel under cover.

c. Install the 2 screws.




## 5. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 2 claws to install the No. 2 instrument cluster finish panel garnish.

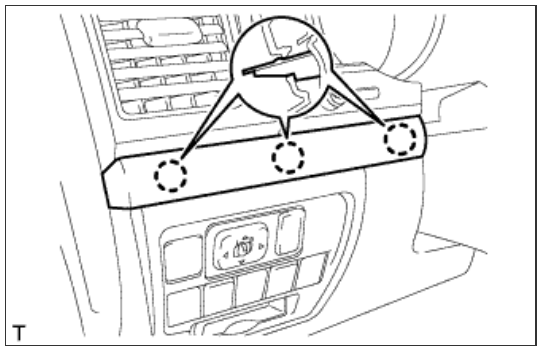



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |

## 6. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 3 claws to install the No. 1 instrument cluster finish panel garnish.

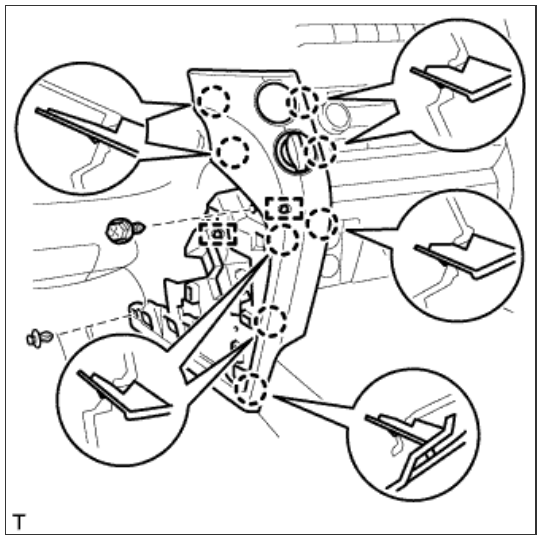



## 7. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

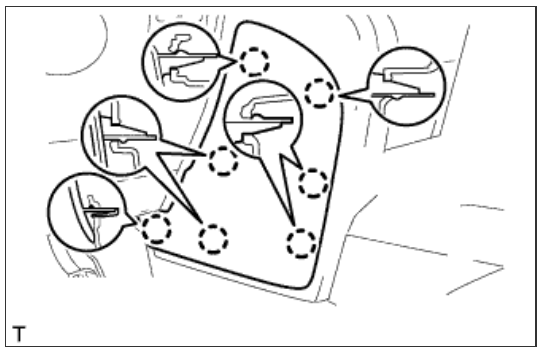
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.

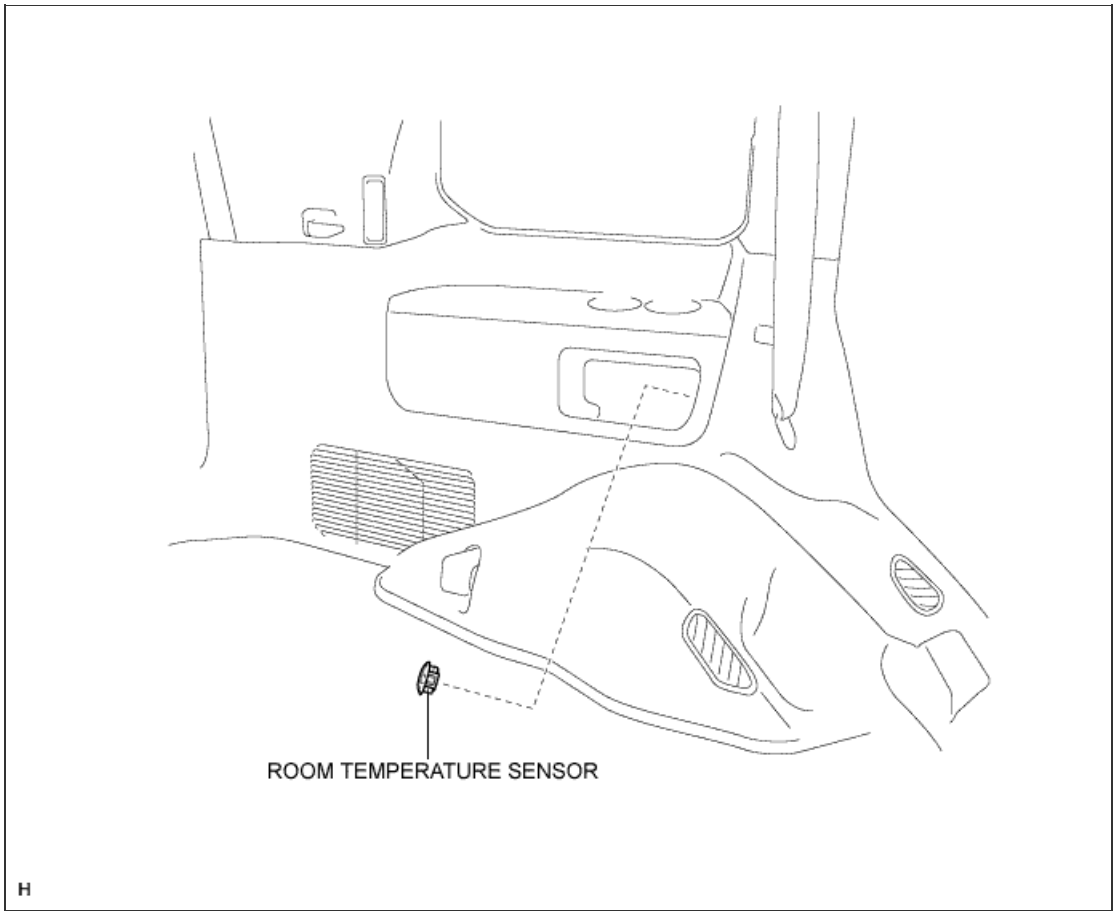



## 8. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 2 instrument panel finish panel cushion.



**for Preparation** Click here



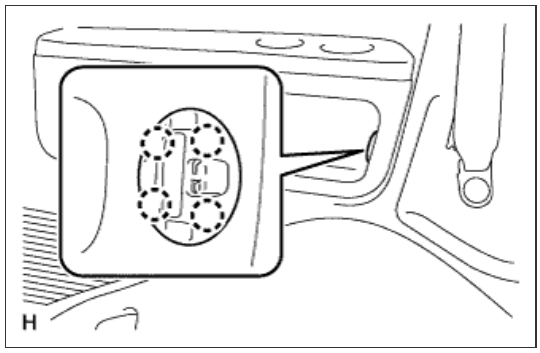
**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

## 1. REMOVE ROOM TEMPERATURE SENSOR

a. Using a screwdriver, detach the 4 claws and remove the sensor, and then disconnect the connector.



**for Preparation** Click here

## 1. INSPECT ROOM TEMPERATURE SENSOR

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | 10°C (50°F) | 3.00 to 3.73 kΩ |
| 1 - 2 | 15°C (59°F) | 2.45 to 2.88 kΩ |
| 1 - 2 | 20°C (68°F) | 1.95 to 2.30 kΩ |
| 1 - 2 | 25°C (77°F) | 1.60 to 1.80 kΩ |
| 1 - 2 | 30°C (86°F) | 1.28 to 1.47 kΩ |
| 1 - 2 | 35°C (95°F) | 1.00 to 1.22 kΩ |
| 1 - 2 | 40°C (104°F) | 0.80 to 1.00 kΩ |
| 1 - 2 | 45°C (113°F) | 0.65 to 0.85 kΩ |
| 1 - 2 | 50°C (122°F) | 0.50 to 0.70 kΩ |
| 1 - 2 | 55°C (131°F) | 0.44 to 0.60 kΩ |
| 1 - 2 | 60°C (140°F) | 0.36 to 0.50 kΩ |

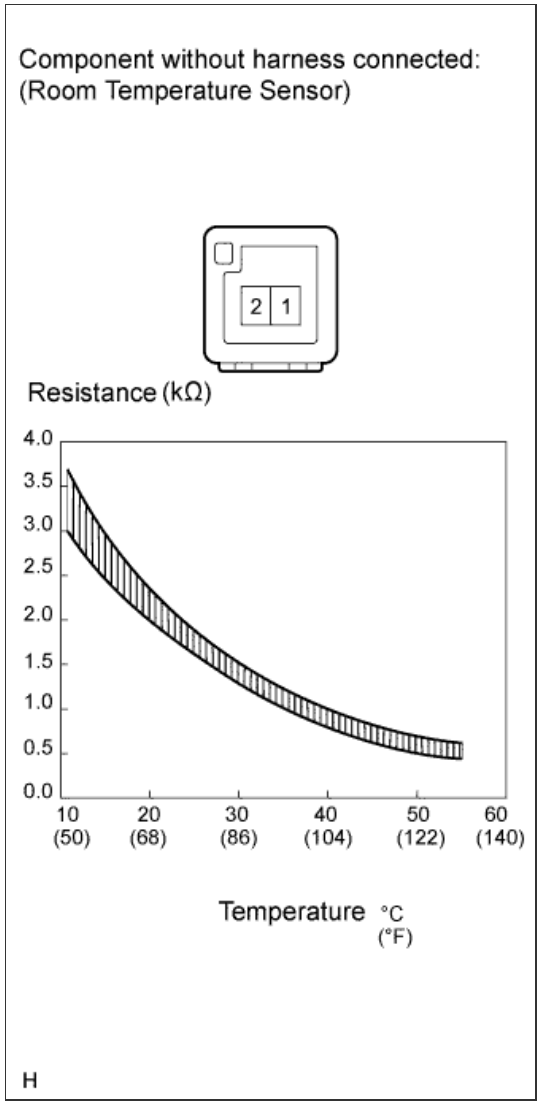
If the result is not as specified, replace the room temperature sensor.

**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (See the graph).



**for Preparation** Click here

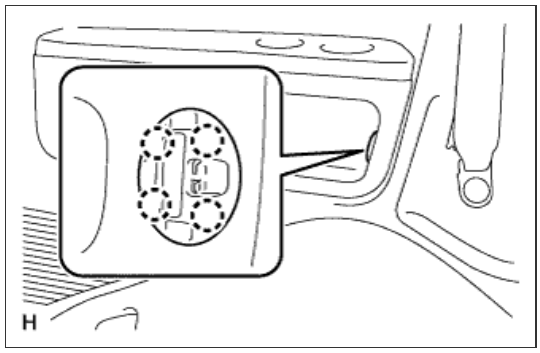
**HINT:**

- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

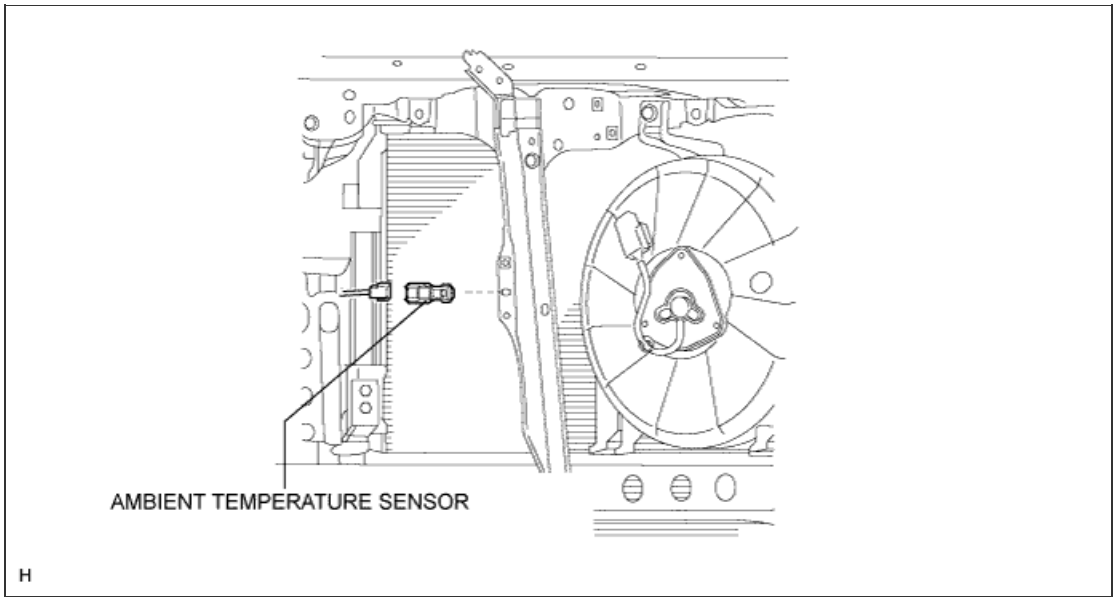
## 1. INSTALL ROOM TEMPERATURE SENSOR

a. Connect the connector.

b. Attach the 4 claws to install the sensor.



**for Preparation** [Click here]



**for Preparation** Click here

## 1. REMOVE FRONT BUMPER COVER

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

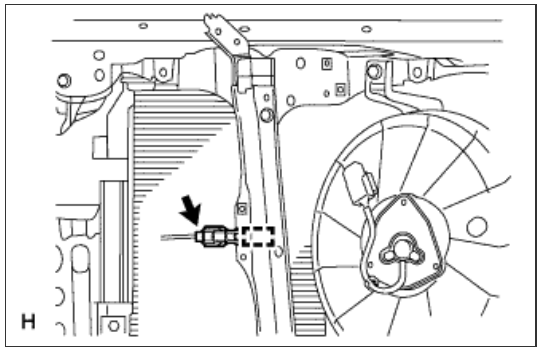
## 2. REMOVE AMBIENT TEMPERATURE SENSOR

a. Disconnect the connector.

b. Using a screwdriver, detach the clamp and remove the sensor.

**HINT:**

Tape the screwdriver tip before use.



**for Preparation** Click here

## 1. INSPECT AMBIENT TEMPERATURE SENSOR

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | 10°C (50°F) | 3.00 to 3.73 kΩ |
| | 15°C (59°F) | 2.45 to 2.88 kΩ |
| | 20°C (68°F) | 1.95 to 2.30 kΩ |
| | 25°C (77°F) | 1.60 to 1.80 kΩ |
| | 30°C (86°F) | 1.28 to 1.47 kΩ |
| | 35°C (95°F) | 1.00 to 1.22 kΩ |
| | 40°C (104°F) | 0.80 to 1.00 kΩ |
| | 45°C (113°F) | 0.65 to 0.85 kΩ |
| | 50°C (122°F) | 0.50 to 0.70 kΩ |
| | 55°C (131°F) | 0.44 to 0.60 kΩ |
| | 60°C (140°F) | 0.36 to 0.50 kΩ |

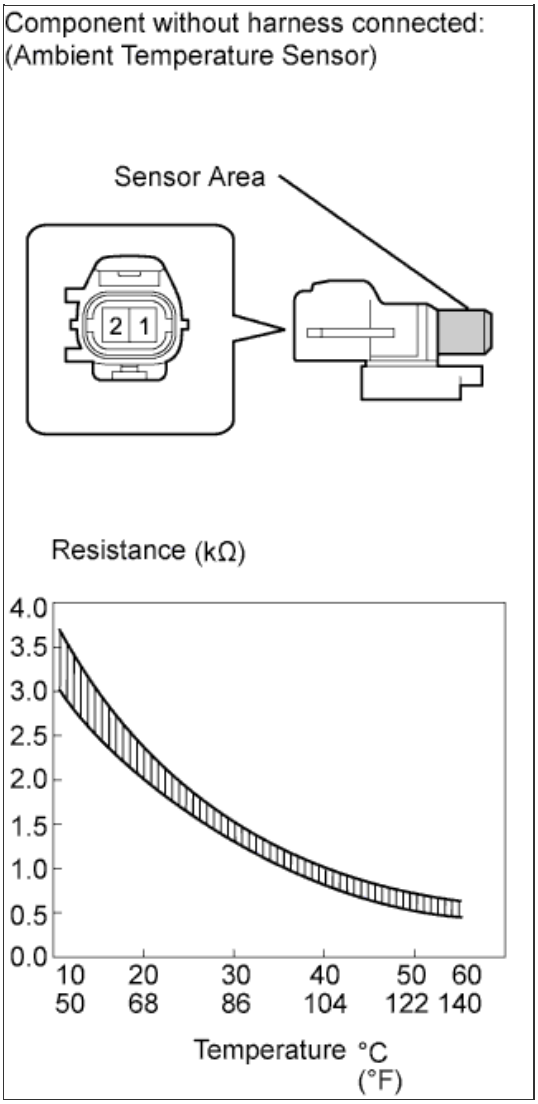
If the result is not as specified, replace the ambient temperature sensor.

**NOTICE:**

- **Touching the sensor even slightly may change the resistance value. Hold the connector of the sensor.**
- **When measuring the resistance, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (See the graph).

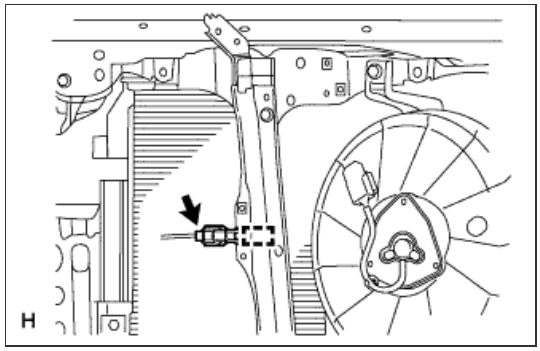


**for Preparation** Click here

## 1. INSTALL AMBIENT TEMPERATURE SENSOR

a. Attach the clamp to install the sensor.

b. Connect the connector.

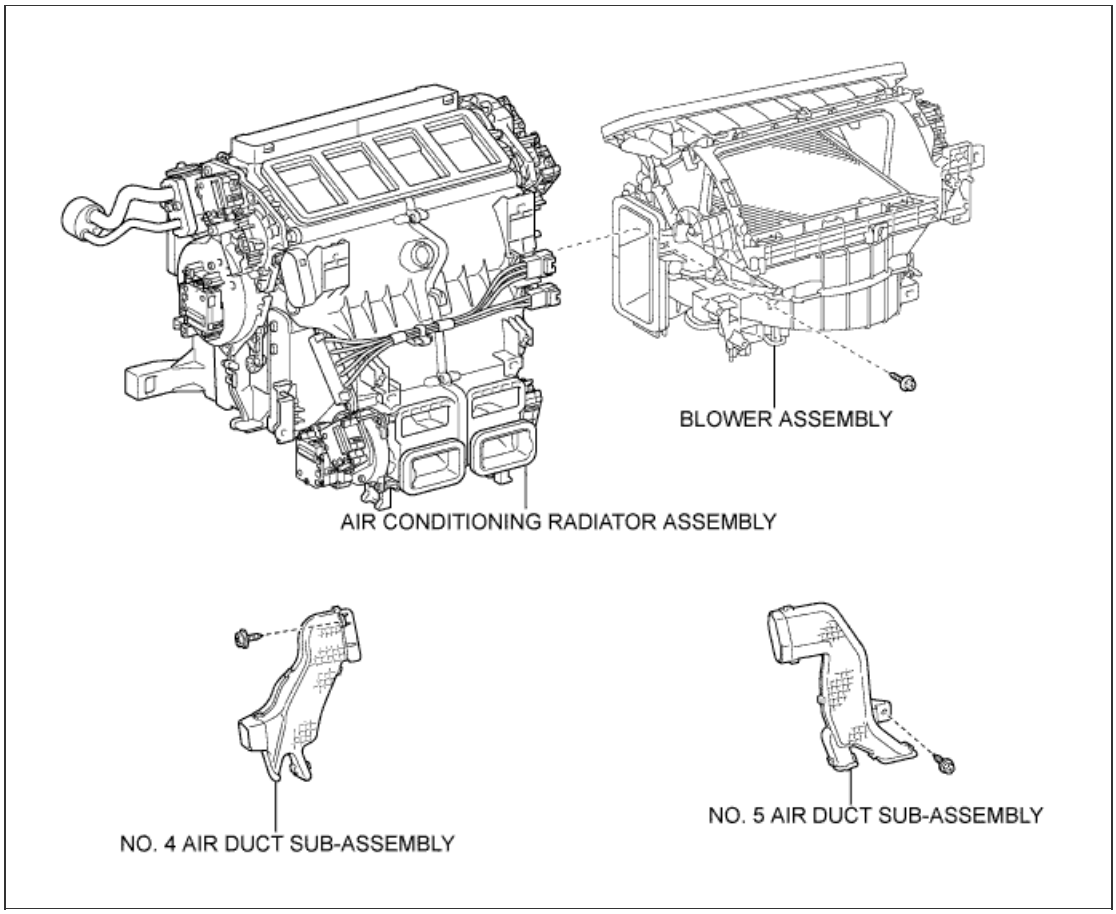



## 2. INSTALL FRONT BUMPER COVER

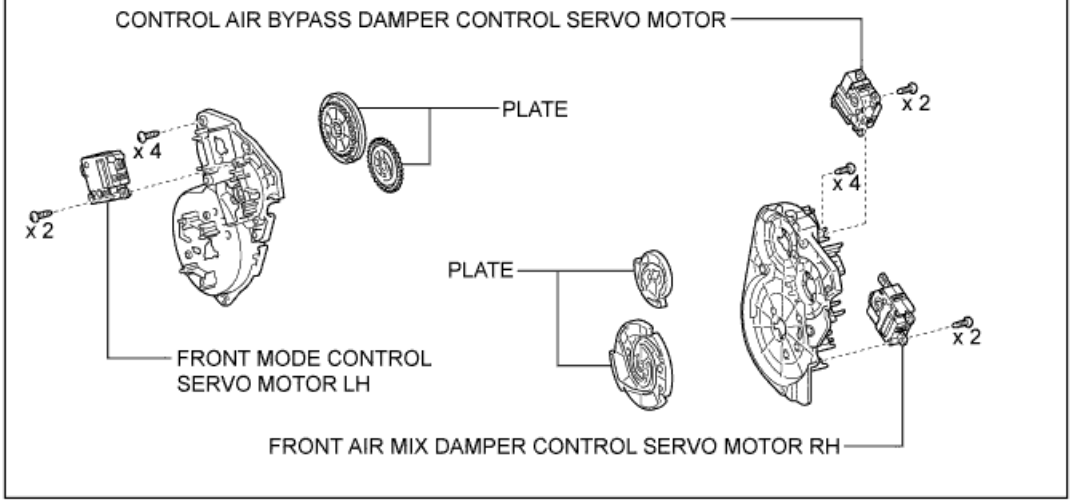
a. for Standard:
(Click here)

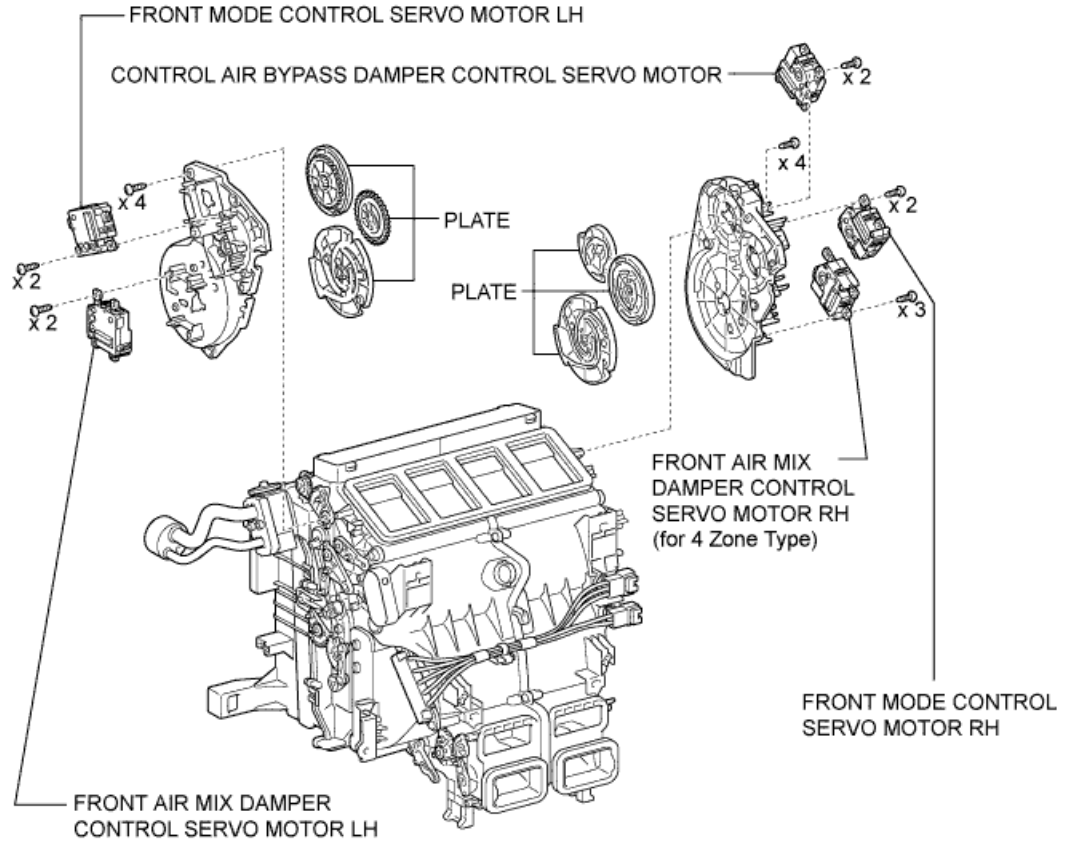
b. w/ Winch:
(Click here)

**for Preparation** Click here

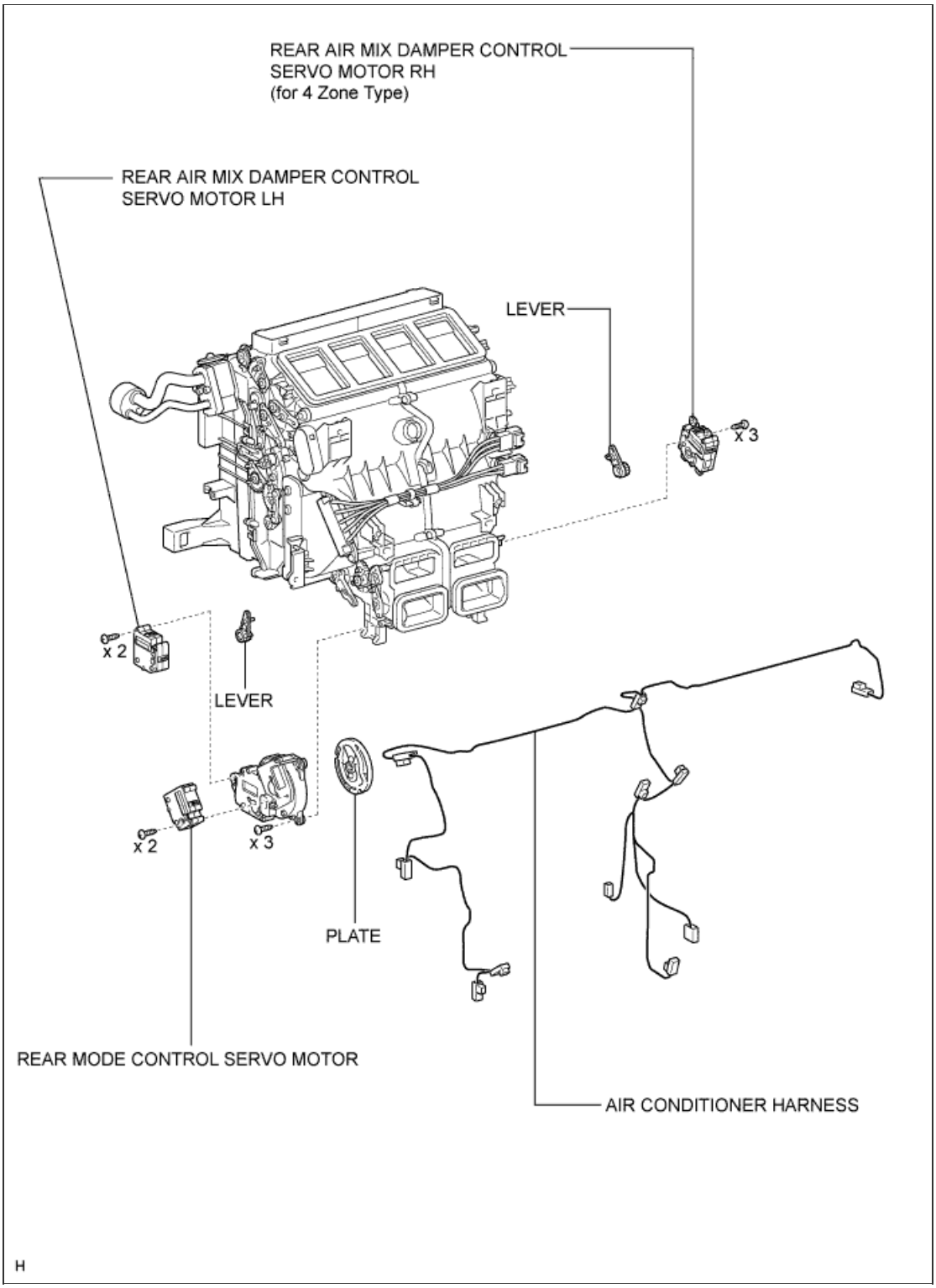


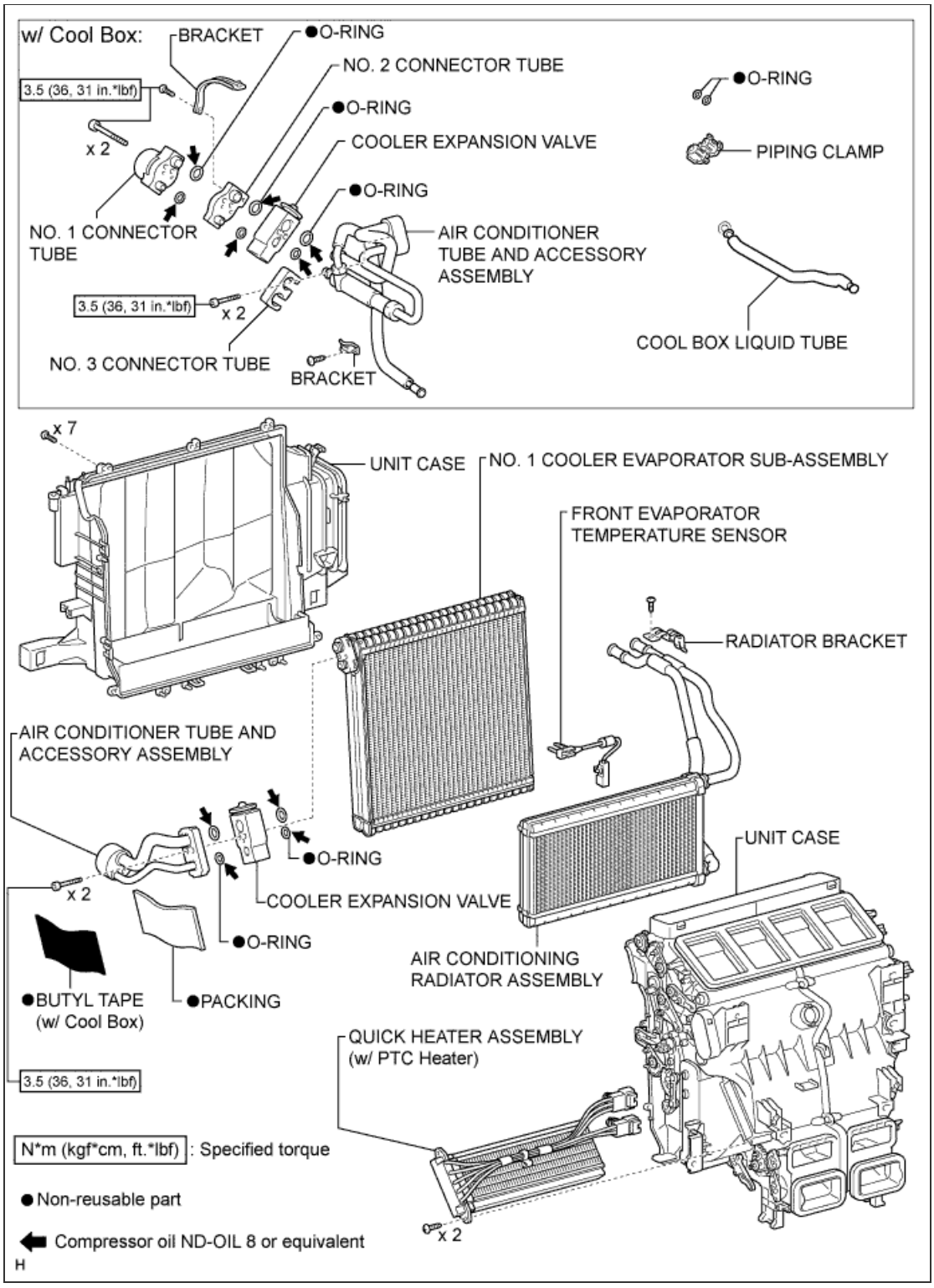
for Manual Air Conditioning System:




H


REAR AIR MIX DAMPER CONTROL
SERVO MOTOR RH
(for 4 Zone Type)
REAR AIR MIX DAMPER CONTROL
SERVO MOTOR LH
LEVER
x 3
x 2
LEVER
x 2
x 3
PLATE
REAR MODE CONTROL SERVO MOTOR
AIR CONDITIONER HARNESS
H


w/ Cool Box:
BRACKET
O-RING
NO. 2 CONNECTOR TUBE
O-RING
COOLER EXPANSION VALVE
O-RING
3.5 (36, 31 in.*lbf)
x 2
NO. 1 CONNECTOR TUBE
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
3.5 (36, 31 in.*lbf)
x 2
NO. 3 CONNECTOR TUBE
BRACKET
O-RING
PIPING CLAMP
COOL BOX LIQUID TUBE
x 7
UNIT CASE
NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY
FRONT EVAPORATOR TEMPERATURE SENSOR
RADIATOR BRACKET
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
O-RING
x 2
COOLER EXPANSION VALVE
O-RING
BUTYL TAPE (w/ Cool Box)
PACKING
3.5 (36, 31 in.*lbf)
UNIT CASE
AIR CONDITIONING RADIATOR ASSEMBLY
QUICK HEATER ASSEMBLY (w/ PTC Heater)
x 2
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
Compressor oil ND-OIL 8 or equivalent
H

# FRONT EVAPORATOR TEMPERATURE SENSOR (for LHD) > REMOVAL

**for Preparation** Click here

## 1. REMOVE AIR CONDITIONING UNIT

(Click here)

# FRONT EVAPORATOR TEMPERATURE SENSOR (for LHD) > DISASSEMBLY

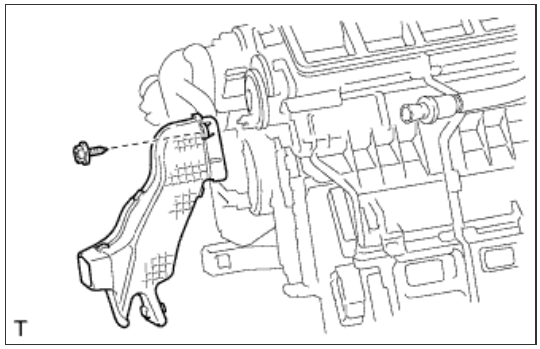
**for Preparation** Click here

## 1. REMOVE BLOWER ASSEMBLY

(Click here)

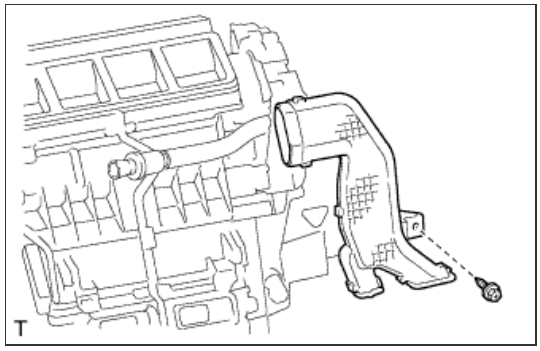
## 2. REMOVE NO. 4 AIR DUCT SUB-ASSEMBLY

a. Remove the screw and duct.



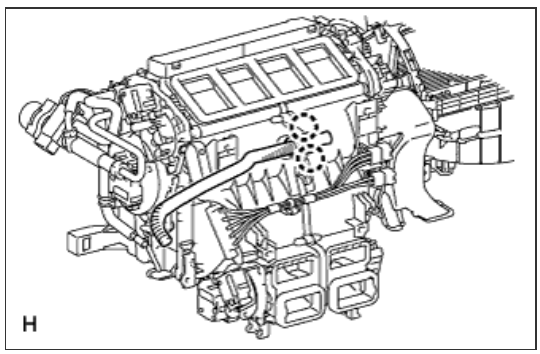

## 3. REMOVE NO. 5 AIR DUCT SUB-ASSEMBLY

a. Remove the screw and duct.



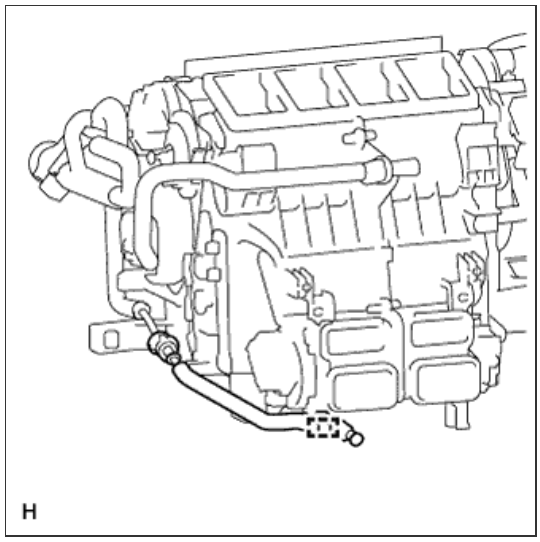

## 4. REMOVE ASPIRATOR (for Automatic Air Conditioning System)

a. Detach the 2 claws and remove the aspirator.




## 5. REMOVE COOL BOX LIQUID TUBE (w/ Cool Box)

a. Detach the clamp.



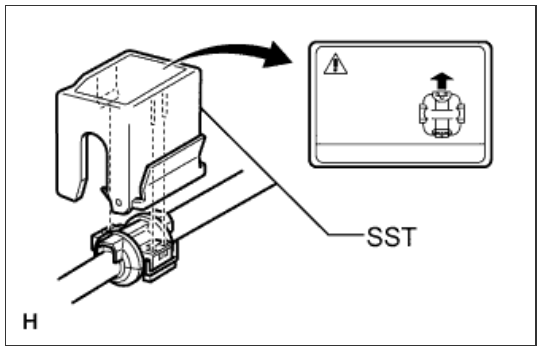

b. Using SST, remove the piping clamp.

*SST*
09870-00025

i. Attach SST to the piping clamp.

**HINT:**

Confirm the direction of the piping clamp claw and SST by referring to the illustration on the caution label.




ii. Push down SST and release the clamp lock.

**NOTICE:**

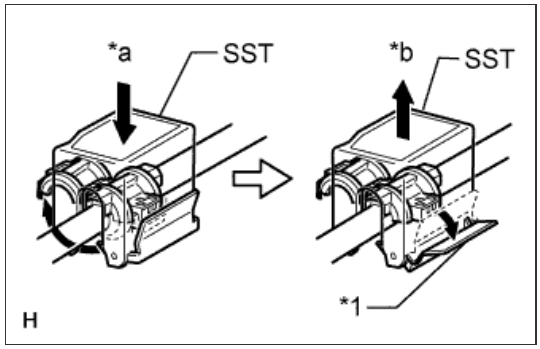
Be careful not to deform the tubes when pushing SST.

iii. Pull SST slightly and push the release lever, then remove the piping clamp with SST.

iv. Remove the piping clamp from SST.

**Text in Illustration**

| | |
|---|---|
| *1 | Release Lever |
| *a | Push |
| *b | Pull |




c. Disconnect the tube.

**NOTICE:**

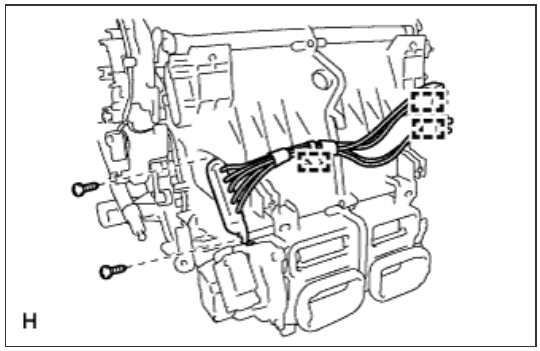
Cap the open fittings immediately to keep moisture or dirt out of the system.

d. Remove the 2 O-rings from the tube.

## 6. REMOVE QUICK HEATER ASSEMBLY (w/ PTC Heater)

a. Remove the 2 screws.

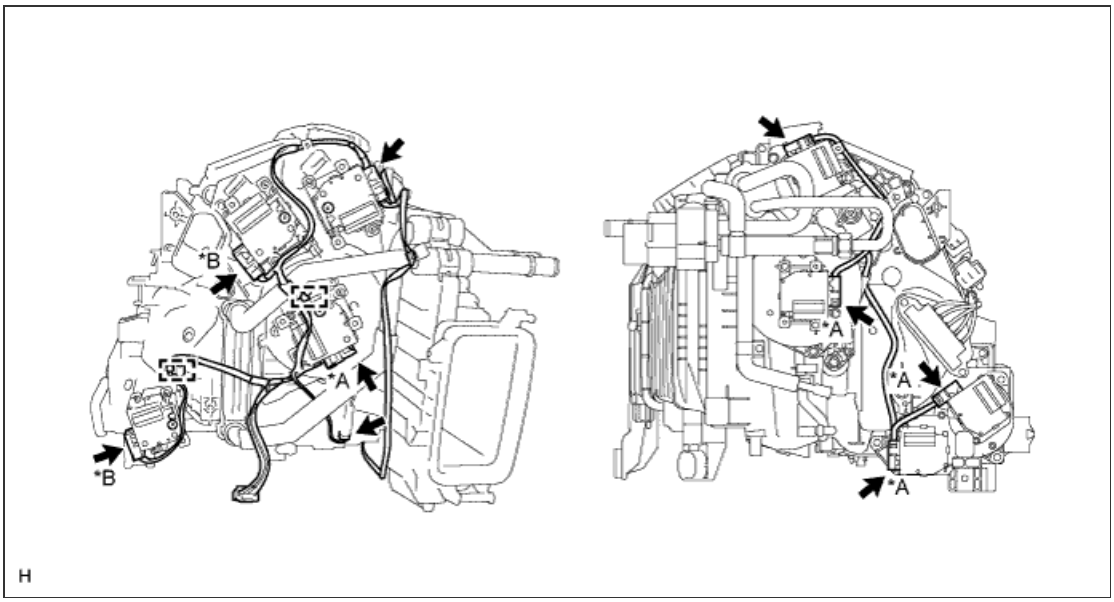
b. Detach the 3 clamps and remove the quick heater assembly (PTC heater assembly).




## 7. REMOVE AIR CONDITIONER HARNESS

a. Disconnect the connectors.

b. Detach the clamps and remove the harness.



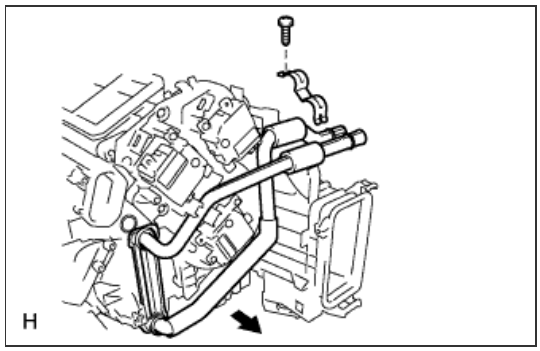

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Automatic Air Conditioning System | *B | for 4 Zone Type |

## 8. REMOVE AIR CONDITIONING RADIATOR ASSEMBLY

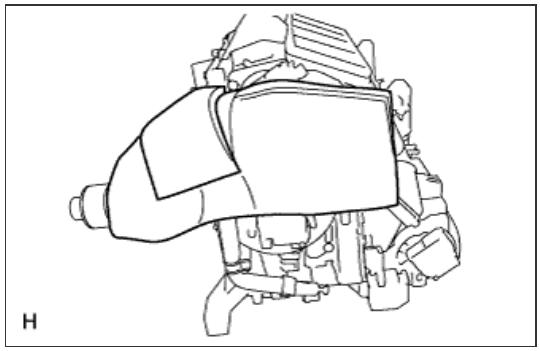
a. Remove the screw and radiator bracket.

b. Remove the radiator.

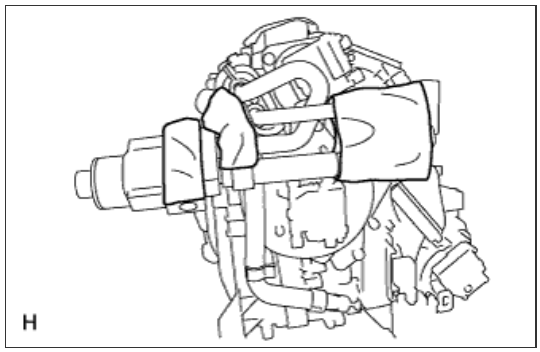


## 9. REMOVE COOLER EXPANSION VALVE (w/ Cool Box)

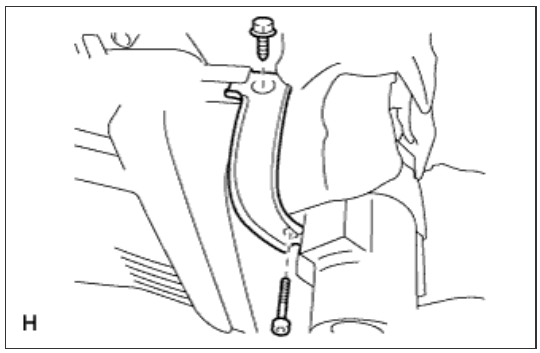
a. Remove the packing.




b. Remove the butyl tape.

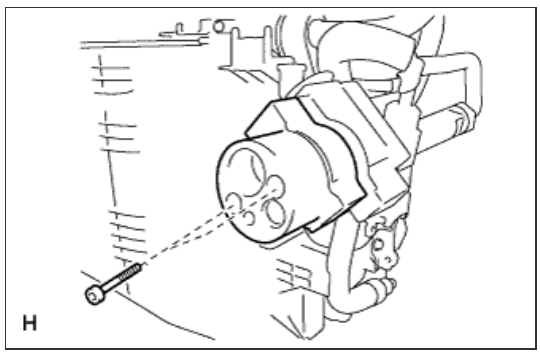



c. Using a 4 mm hexagon wrench, remove the hexagon bolt, screw and bracket.




d. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and No. 1 connector tube.

e. Remove the 2 O-rings from the No. 1 connector tube.




f. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts, No. 2 connector tube, expansion valve and No. 3 connector tube.

g. Remove the 2 O-rings from the No. 2 connector tube.

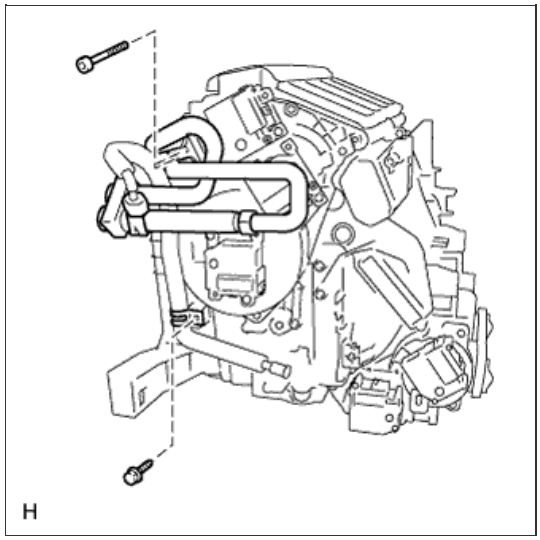



## 10. REMOVE AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY (w/ Cool Box)

a. Remove the screw and bracket.

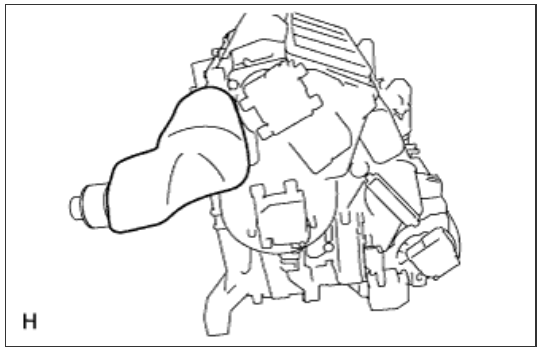
b. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and air conditioner tube and accessory assembly.

c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.




## 11. REMOVE COOLER EXPANSION VALVE (w/o Cool Box)

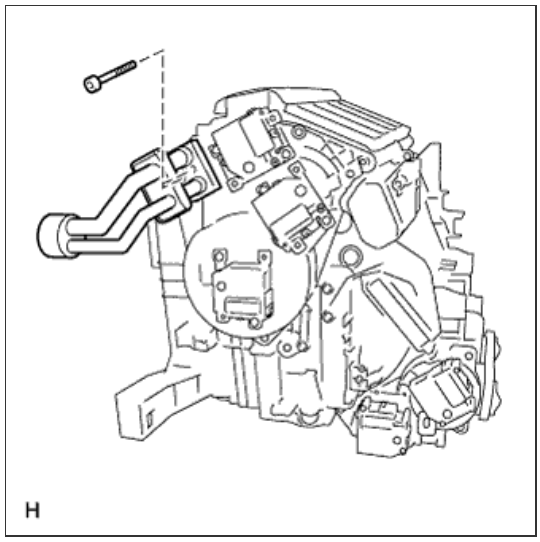
a. Remove the packing.




b. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts, air conditioner tube and accessory assembly and expansion valve.

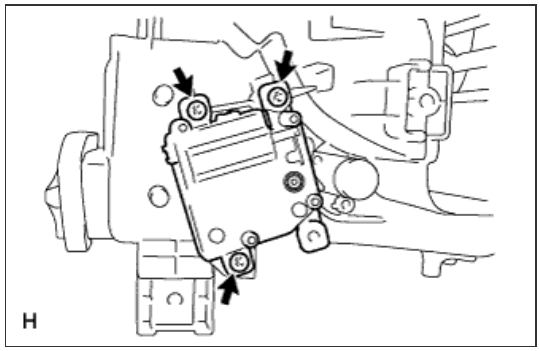
c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.

d. Remove the 2 O-rings from the cooler evaporator.



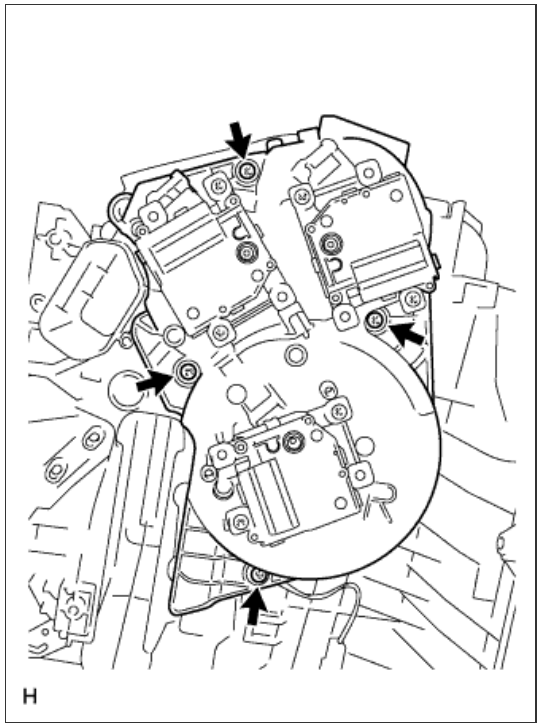

## 12. REMOVE REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH (for 4 Zone Type)

a. Remove the 3 screws and servo motor.




## 13. REMOVE SERVO MOTOR

a. Remove the 4 screws and servo motor unit.



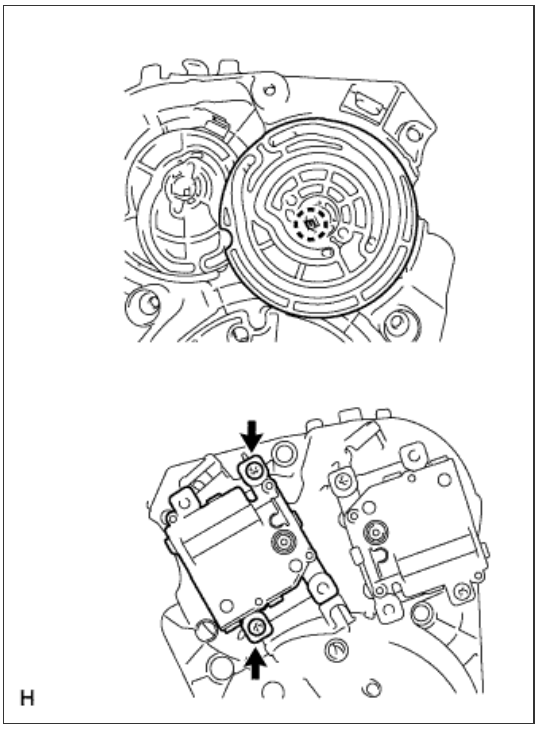

b. for 4 Zone Type:
Remove the front mode control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



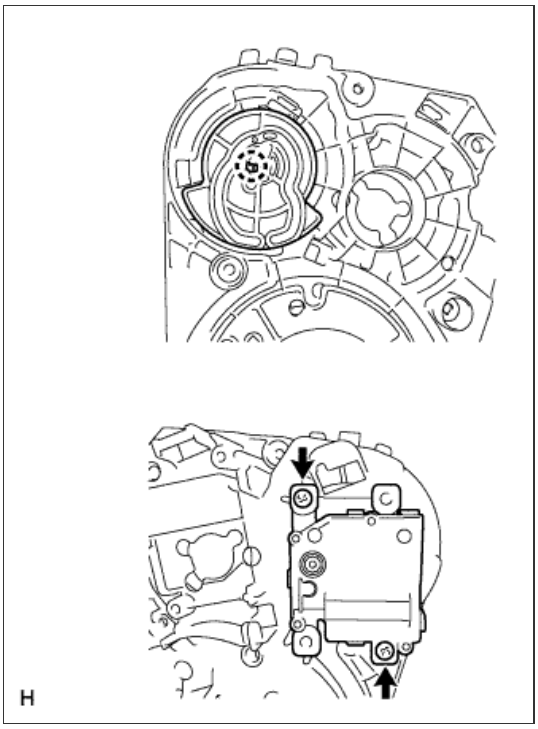

c. Remove the control bypass damper control servo motor.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



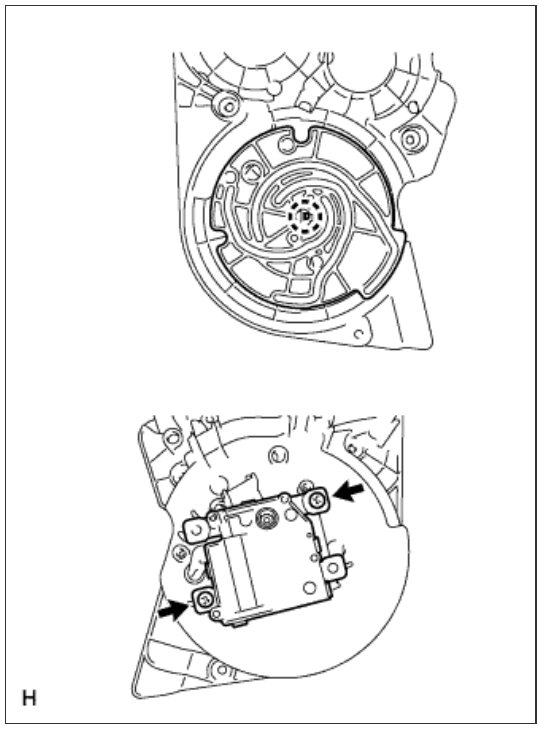

d. for Automatic Air Conditioning System:
Remove the front air mix damper control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

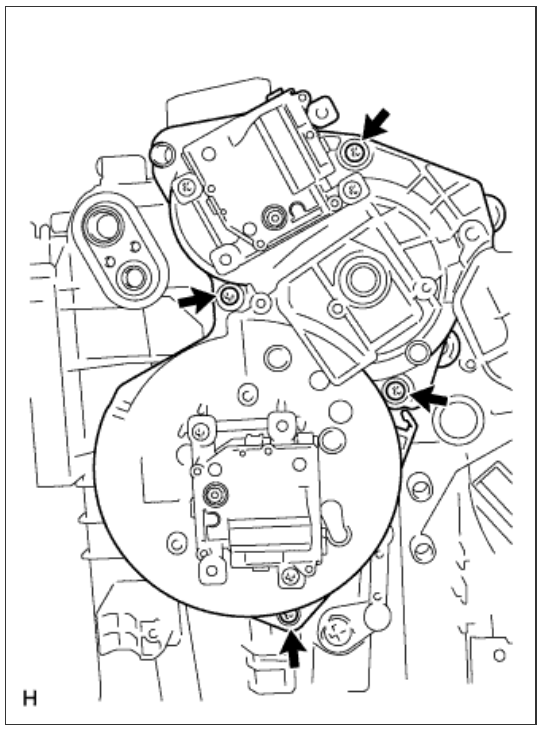
**NOTICE:**

Be careful not to damage the claw of the plate.




## 14. REMOVE SERVO MOTOR

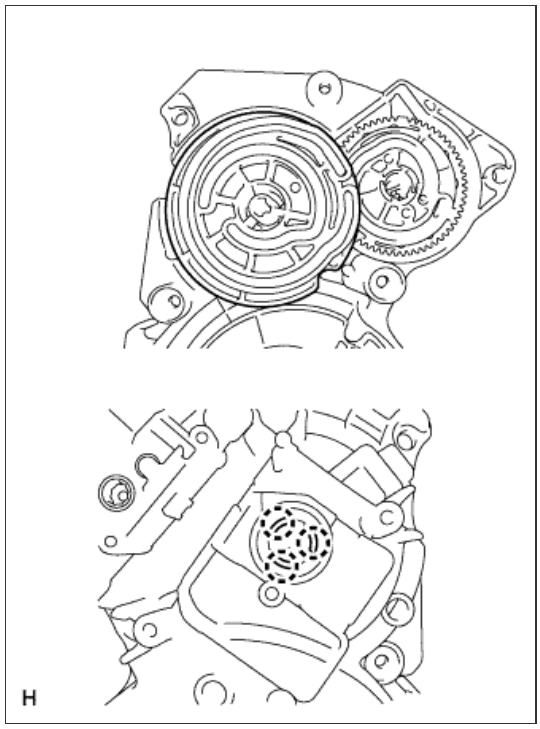
a. Remove the 4 screws and servo motor unit.



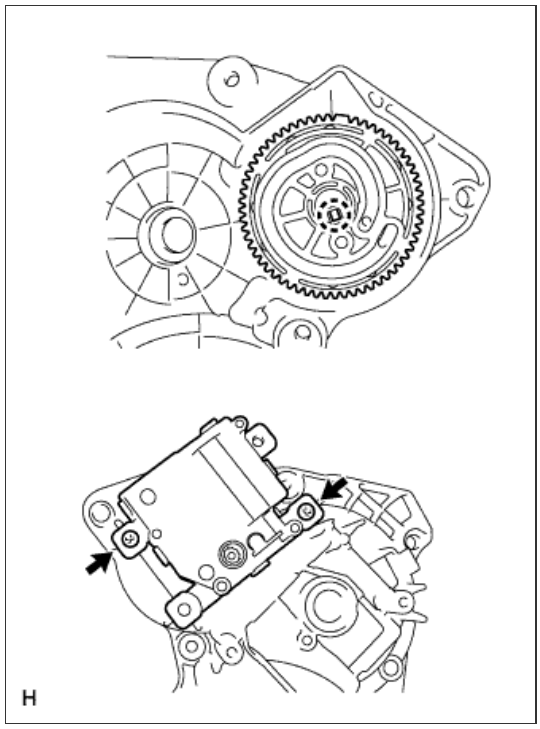

b. Detach the 3 claws and remove the plate.

**NOTICE:**

Be careful not to damage the claw of the plate.




c. Remove the front mode control servo motor LH.




i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.

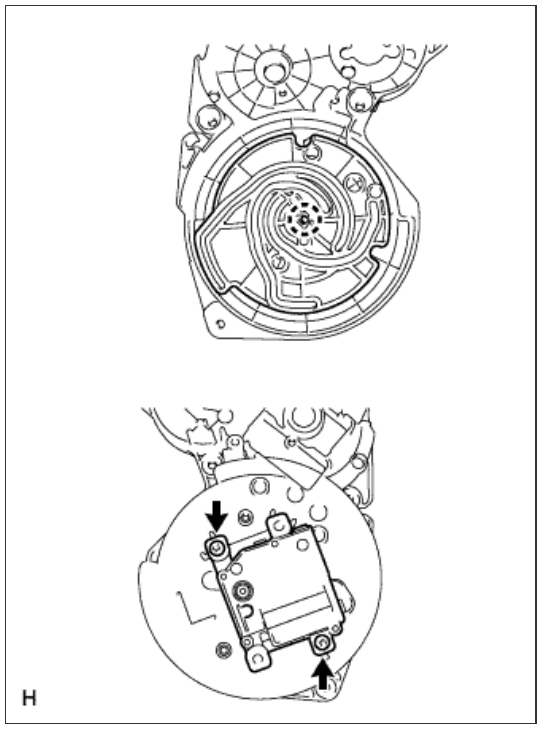
d. for Automatic Air Conditioning System:
Remove the front air mix damper control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

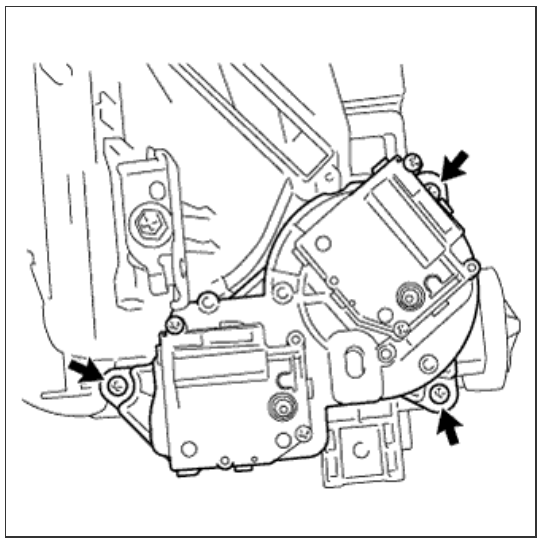
**NOTICE:**

Be careful not to damage the claw of the plate.




## 15. REMOVE SERVO MOTOR (for Automatic Air Conditioning System)

a. Remove the 3 screws and servo motor unit.



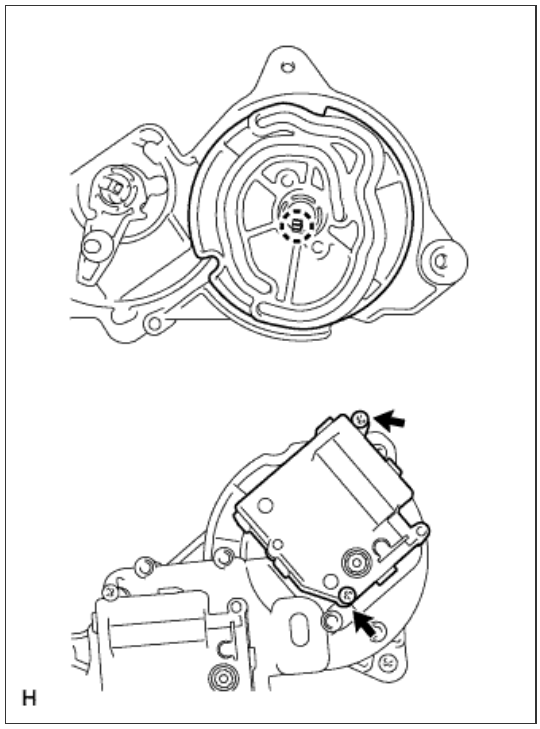
b. Remove the rear mode control servo motor.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



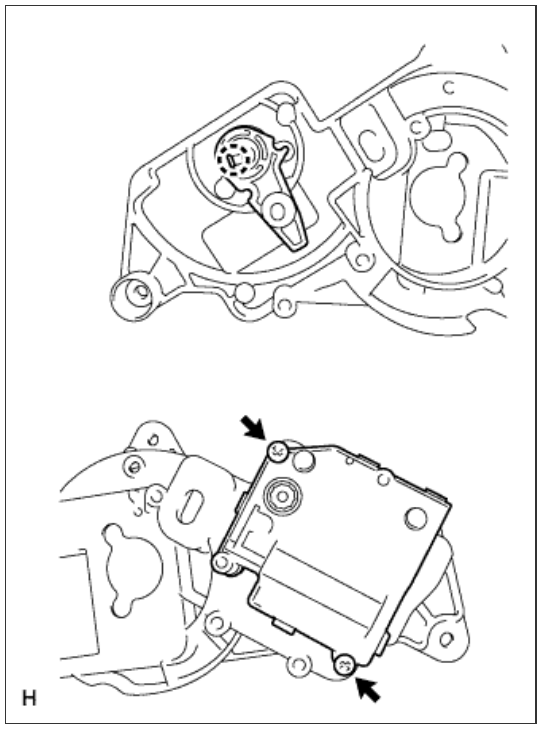

c. Remove the rear air mix damper control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the lever and servo motor.

**NOTICE:**

Be careful not to damage the claw of the lever.

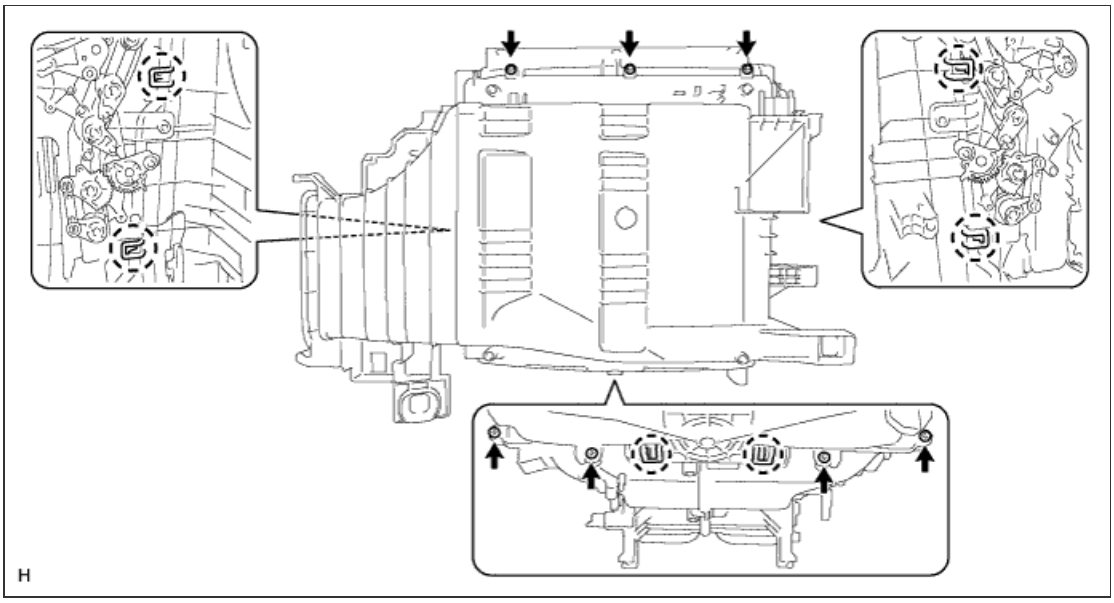



## 16. REMOVE NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

a. Remove the 7 screws.

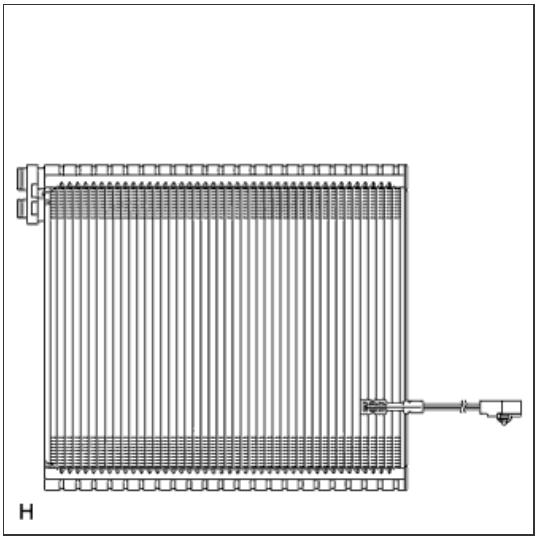
b. Detach the 6 claws and remove the unit case.

c. Remove the evaporator.




## 17. REMOVE FRONT EVAPORATOR TEMPERATURE SENSOR

a. Remove the front evaporator temperature sensor.



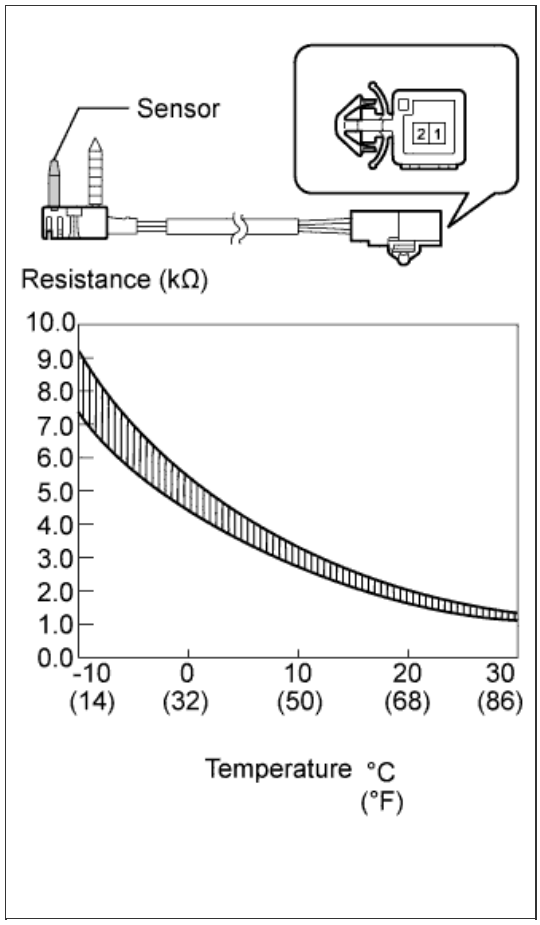
**for Preparation** Click here

## 1. INSPECT FRONT EVAPORATOR TEMPERATURE SENSOR

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | -10°C (14°F) | 7.30 to 9.10 kΩ |
| 1 - 2 | -5°C (23°F) | 5.65 to 6.95 kΩ |
| 1 - 2 | 0°C (32°F) | 4.40 to 5.35 kΩ |
| 1 - 2 | 5°C (41°F) | 3.40 to 4.15 kΩ |
| 1 - 2 | 10°C (50°F) | 2.70 to 3.25 kΩ |
| 1 - 2 | 15°C (59°F) | 2.14 to 2.58 kΩ |
| 1 - 2 | 20°C (68°F) | 1.71 to 2.05 kΩ |
| 1 - 2 | 25°C (77°F) | 1.38 to 1.64 kΩ |
| 1 - 2 | 30°C (86°F) | 1.11 to 1.32 kΩ |




If the result is not as specified, replace the front evaporator temperature sensor.

**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be almost the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

**for Preparation** Click here

## 1. INSTALL FRONT EVAPORATOR TEMPERATURE SENSOR

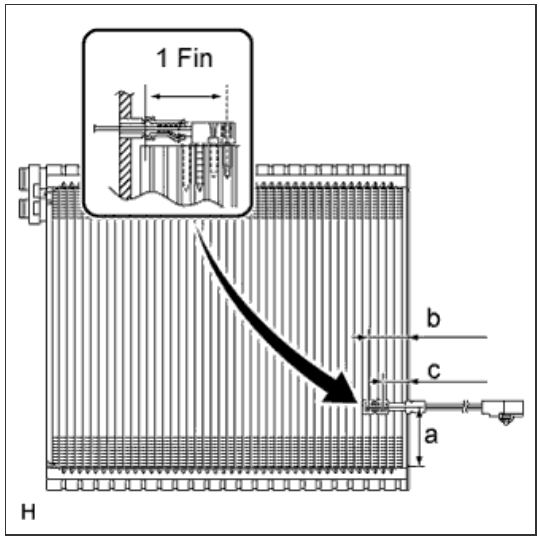
**NOTICE:**

If reusing the evaporator, do not insert the sensor into a location where the sensor was previously inserted.

a. Insert the sensor to a location that is 1 fin to the right or left of its previous location.

**Standard Dimension:**

| Area | Specified Condition |
|---|---|
| a | 50 mm (1.97 in.) |
| b | 34.3 mm (1.35 in.) |
| c | 20.9 mm (1.97 in.) |




## 2. INSTALL NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

a. Install the evaporator.

b. Attach the 6 claws to install the unit case.

c. Install the 7 screws.

## 3. INSTALL SERVO MOTOR (for Automatic Air Conditioning System)

a. Install the rear air mix damper control servo motor LH.

i. Attach the claw to install the lever and servo motor.

ii. Install the 2 screws.

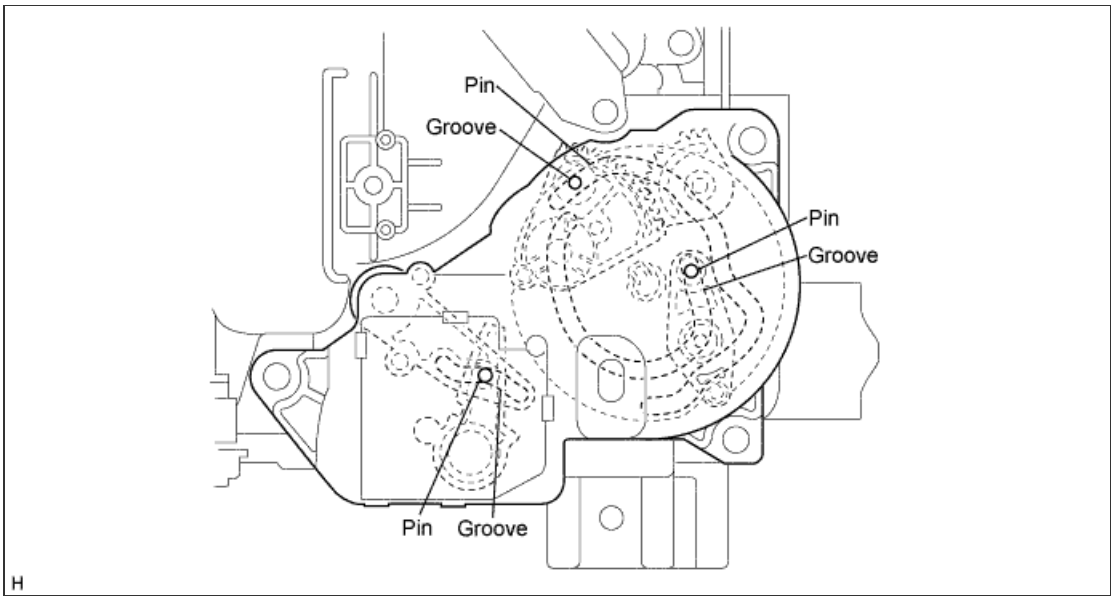
b. Install the rear mode control servo motor.

i. Attach the claw to install the plate and servo motor.

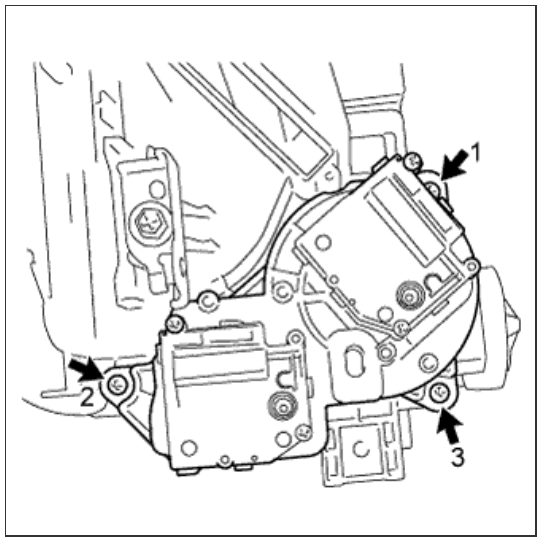
ii. Install the 2 screws.

c. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

d. Check that the pin is in the groove of the link.




e. Install the 3 screws in the order shown in the illustration, and install the servo motor unit.




## 4. INSTALL SERVO MOTOR

a. for Automatic Air Conditioning System:
Install the front air mix damper control servo motor LH.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

b. Install the front mode control servo motor LH.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

c. Attach the 3 claws to install the plate.

d. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

e. Install the 4 screws.

## 5. INSTALL SERVO MOTOR

a. for Automatic Air Conditioning System:
Install the front air mix damper control servo motor RH.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

b. Install the control air bypass damper control servo motor.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

c. for 4 Zone Type:
Install the front mode control servo motor RH.

i. Attach the claw to install the plate and servo motor.

ii. Install the 2 screws.

d. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

e. Install the 4 screws.

## 6. INSTALL REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH (for 4 Zone Type)

a. Install the servo motor with the 3 screws.

## 7. INSTALL COOLER EXPANSION VALVE (w/o Cool Box)

a. Sufficiently apply compressor oil to 4 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the cooler evaporator.

c. Install the 2 O-rings to the air conditioner tube and accessory assembly.

d. Install the cooler expansion valve and air conditioner tube and accessory assembly to the evaporator.

e. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

f. Install new packing.

## 8. INSTALL AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY (w/ Cool Box)

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the air conditioner tube and accessory assembly.

c. Install the air conditioner tube and accessory assembly to the evaporator.

d. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

e. Install the bracket with the screw.

## 9. INSTALL COOLER EXPANSION VALVE (w/ Cool Box)

a. Sufficiently apply compressor oil to 4 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the cooler evaporator.

c. Install the 2 O-rings to the air conditioner tube and accessory assembly.

d. Install the cooler expansion valve and air conditioner tube and accessory assembly to the evaporator.

e. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

f. Install new packing.

## 10. INSTALL AIR CONDITIONING RADIATOR ASSEMBLY

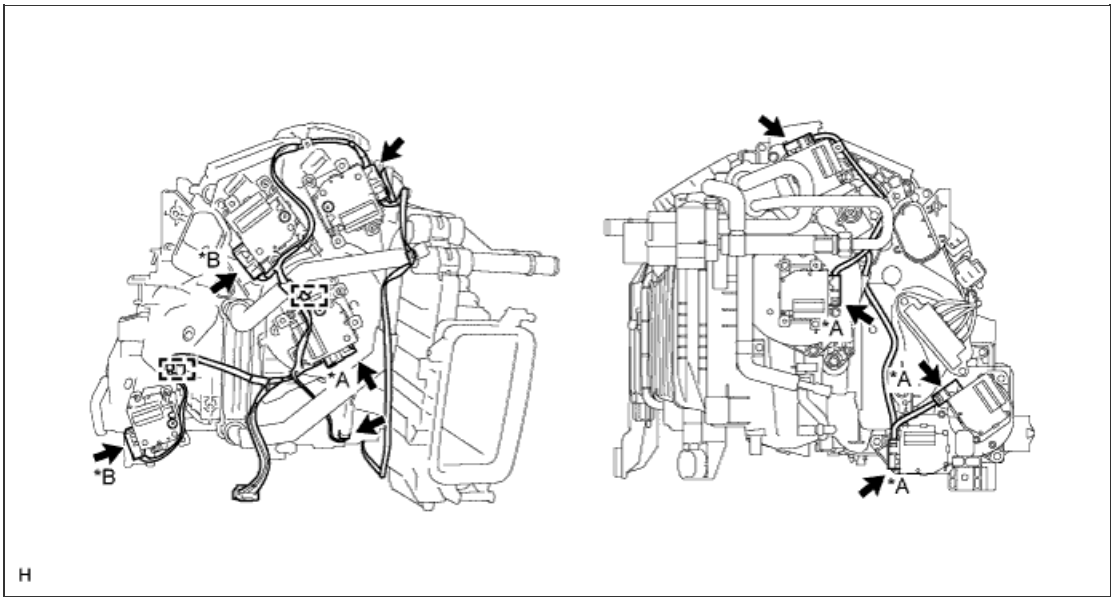
a. Install the radiator.

b. Install the bracket with the screw.

## 11. INSTALL AIR CONDITIONER HARNESS

a. Attach the clamps to install the harness.

b. Connect the connectors.



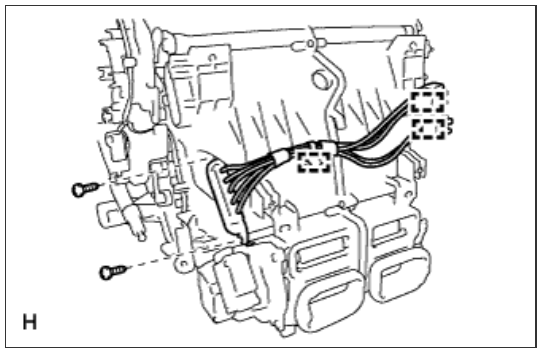

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Automatic Air Conditioning System | *B | for 4 Zone Type |

## 12. INSTALL QUICK HEATER ASSEMBLY (w/ PTC Heater)

a. Attach the clamps to install the quick heater assembly (PTC heater assembly).

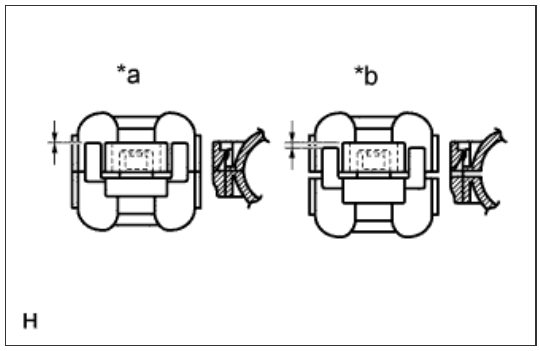
b. Install the 2 screws.




## 13. INSTALL COOL BOX LIQUID TUBE (w/ Cool Box)

a. Lubricate 2 new O-rings with compressor oil and install them to the tube.

**Compressor oil:**
**ND-OIL 8 or equivalent**




**Text in Illustration**

| | |
|---|---|
| *a | Correct |
| *b | Incorrect |

b. Connect the liquid tube with the piping clamp.

**NOTICE:**

After connection, check the claw engagement of the piping clamp.

c. Attach the clamp.

## 14. INSTALL ASPIRATOR

a. Attach the 2 claws to install the aspirator.

## 15. INSTALL NO. 4 AIR DUCT SUB-ASSEMBLY

a. Install the duct with the screw.

## 16. INSTALL NO. 5 AIR DUCT SUB-ASSEMBLY

a. Install the duct with the screw.

## 17. INSTALL BLOWER ASSEMBLY

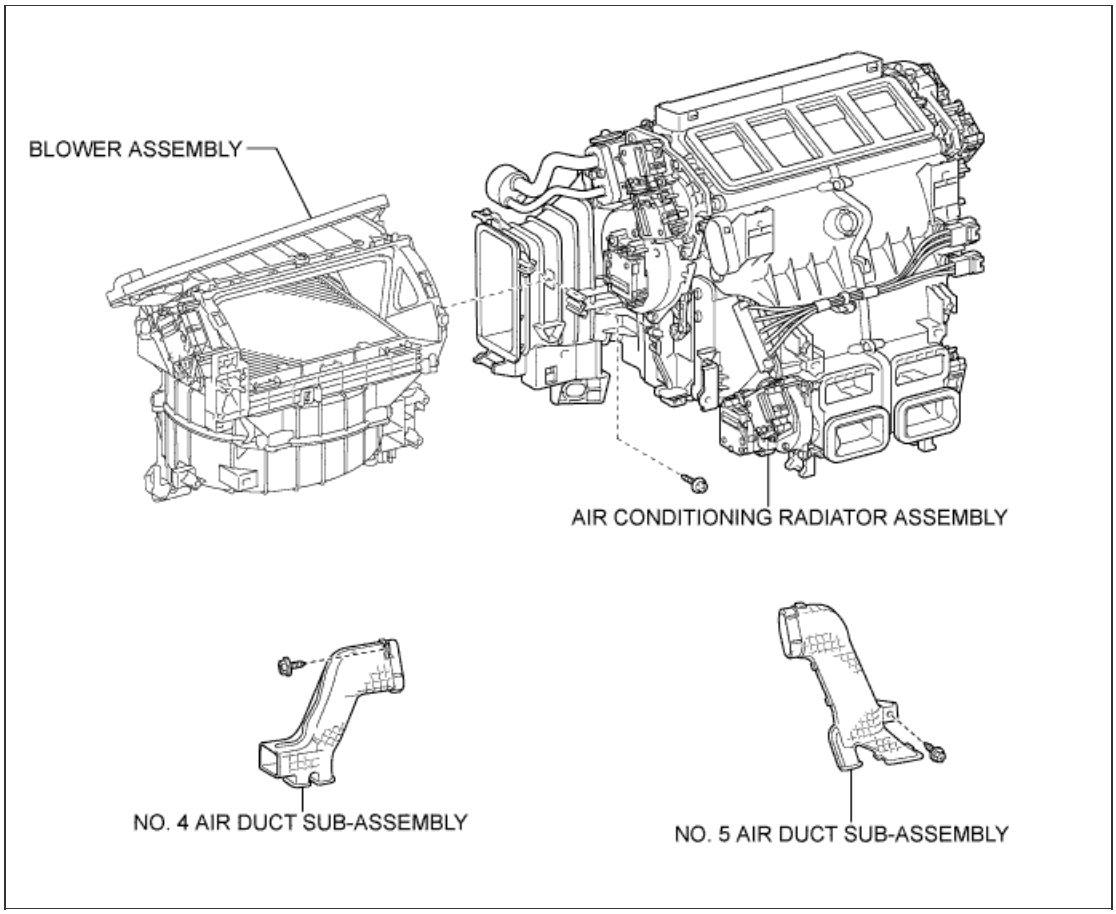
(Click here)

**for Preparation** Click here

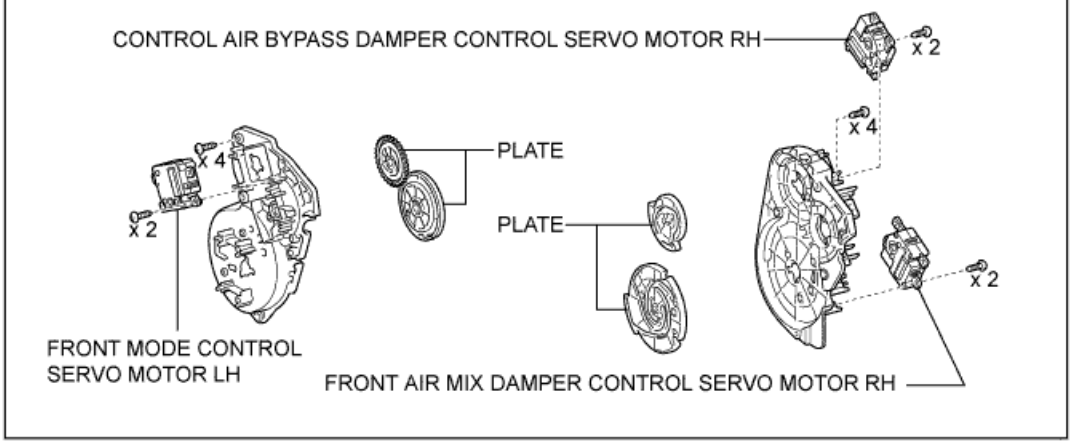
## 1. INSTALL AIR CONDITIONING UNIT

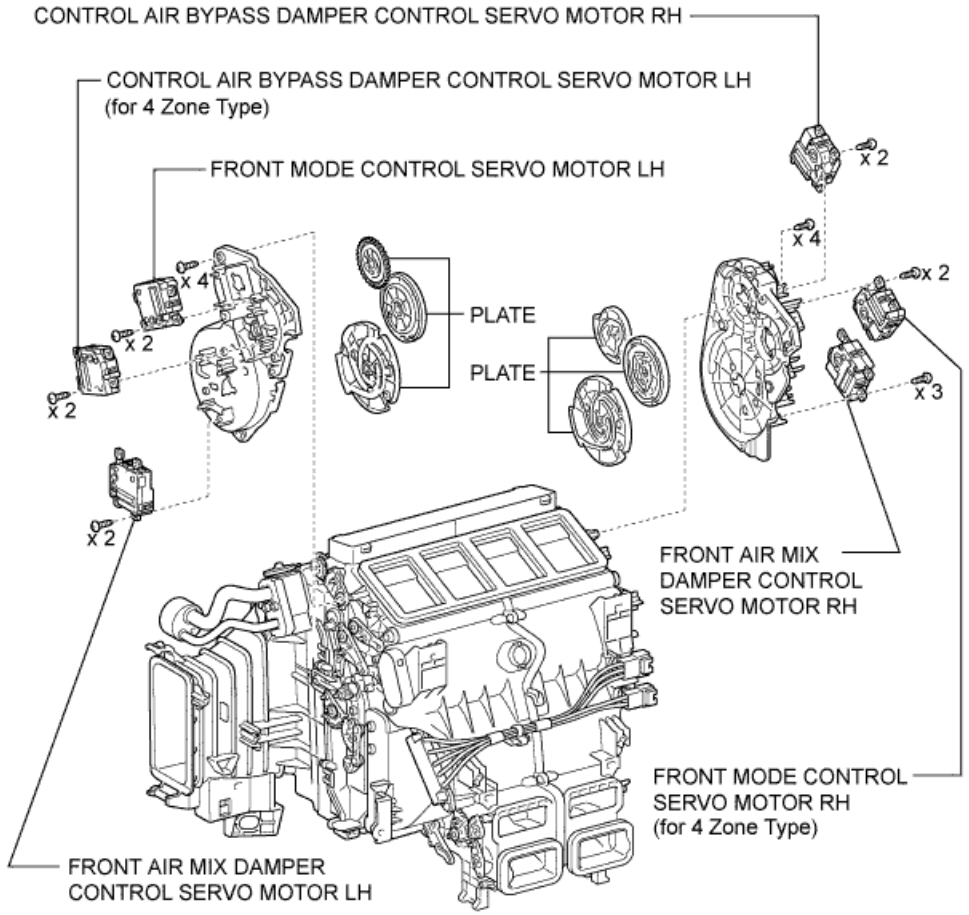
(Click here)

**for Preparation** Click here

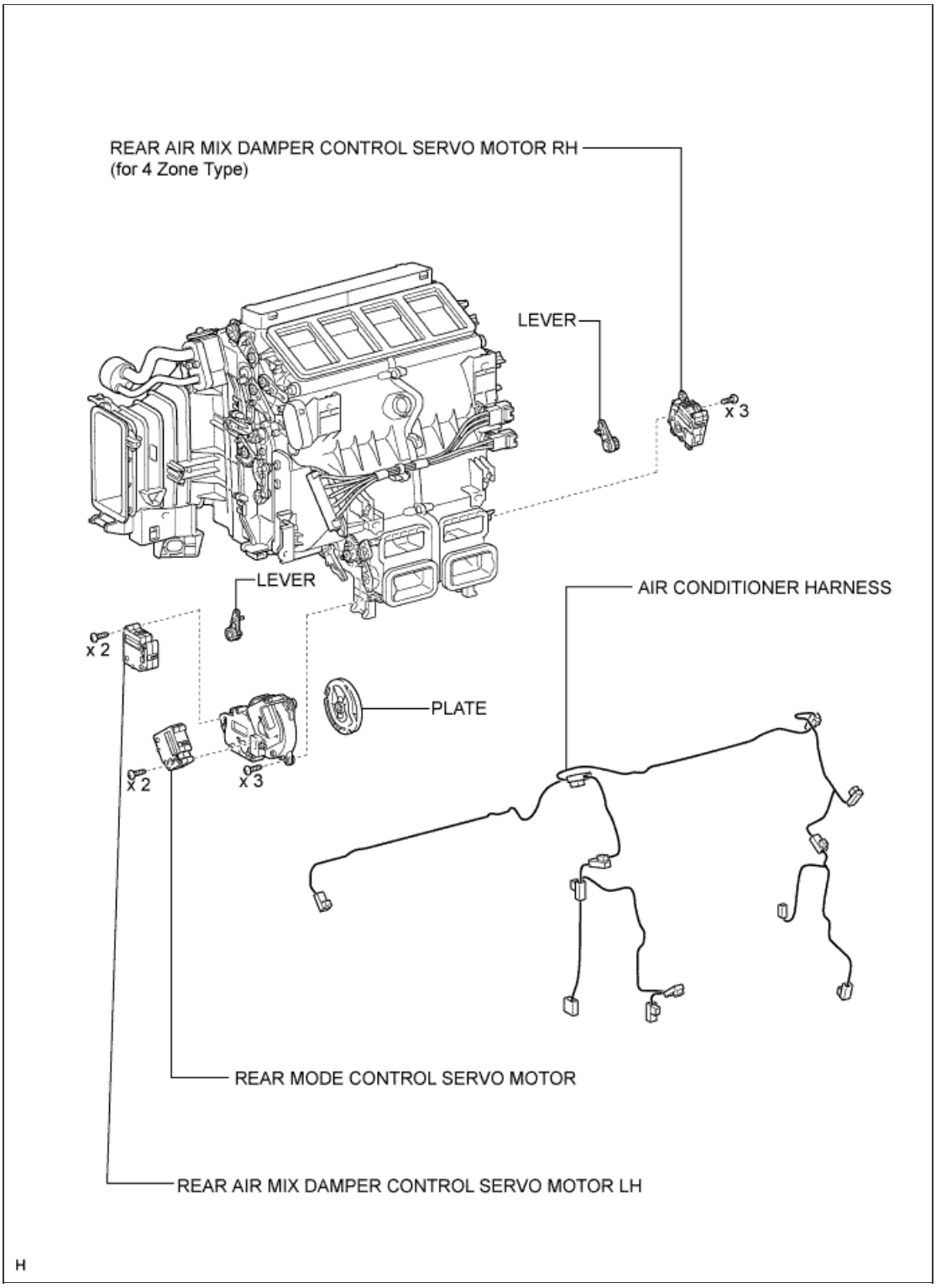


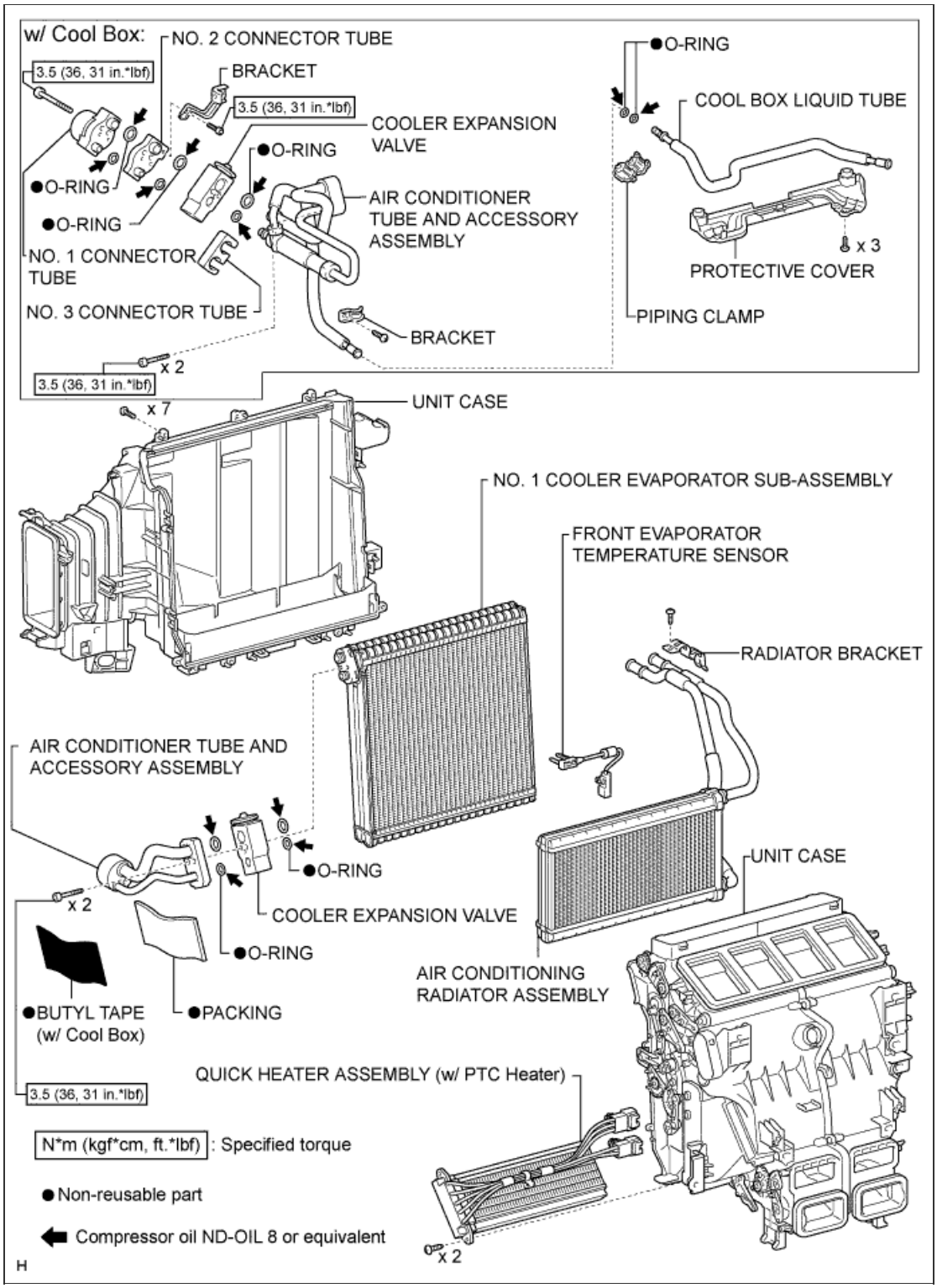
for Manual Air Conditioning System:




H


REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH
(for 4 Zone Type)
LEVER
x 3
LEVER
AIR CONDITIONER HARNESS
x 2
PLATE
x 2
x 3
REAR MODE CONTROL SERVO MOTOR
REAR AIR MIX DAMPER CONTROL SERVO MOTOR LH
H


w/ Cool Box:
NO. 2 CONNECTOR TUBE
3.5 (36, 31 in.*lbf)
BRACKET
3.5 (36, 31 in.*lbf)
COOLER EXPANSION VALVE
●O-RING
●O-RING
●O-RING
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
NO. 1 CONNECTOR TUBE
NO. 3 CONNECTOR TUBE
BRACKET
x 2
3.5 (36, 31 in.*lbf)
●O-RING
COOL BOX LIQUID TUBE
x 3
PROTECTIVE COVER
PIPING CLAMP
x 7
UNIT CASE
NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY
FRONT EVAPORATOR TEMPERATURE SENSOR
RADIATOR BRACKET
AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY
●O-RING
x 2
COOLER EXPANSION VALVE
●O-RING
●BUTYL TAPE (w/ Cool Box)
●PACKING
3.5 (36, 31 in.*lbf)
UNIT CASE
AIR CONDITIONING RADIATOR ASSEMBLY
QUICK HEATER ASSEMBLY (w/ PTC Heater)
x 2
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
Compressor oil ND-OIL 8 or equivalent
H

# FRONT EVAPORATOR TEMPERATURE SENSOR (for RHD) > REMOVAL

**for Preparation** Click here

## 1. REMOVE AIR CONDITIONING UNIT

(Click here)

# FRONT EVAPORATOR TEMPERATURE SENSOR (for RHD) > DISASSEMBLY

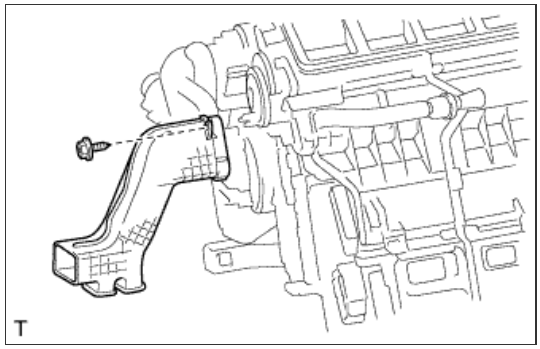
**for Preparation** Click here

## 1. REMOVE BLOWER ASSEMBLY

(Click here)

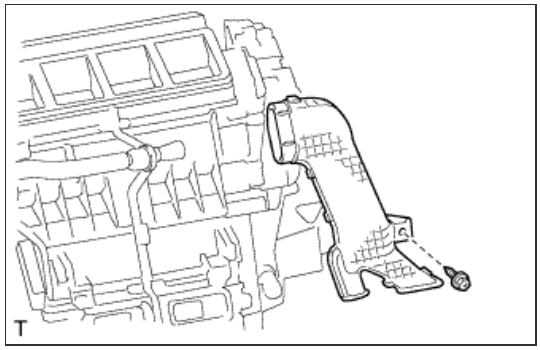
## 2. REMOVE NO. 4 AIR DUCT SUB-ASSEMBLY

a. Remove the screw and duct.



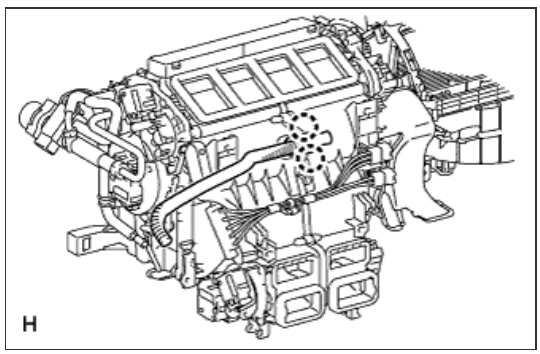

## 3. REMOVE NO. 5 AIR DUCT SUB-ASSEMBLY

a. Remove the screw and duct.




## 4. REMOVE ASPIRATOR (for Automatic Air Conditioning System)

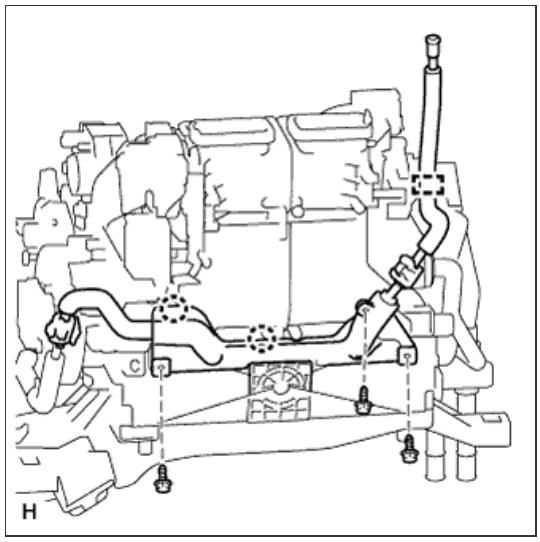
a. Detach the 2 claws and remove the aspirator.




## 5. REMOVE COOL BOX LIQUID TUBE (w/ Cool Box)

a. Remove the 3 screws.

b. Detach the 2 claws and remove the protective cover.



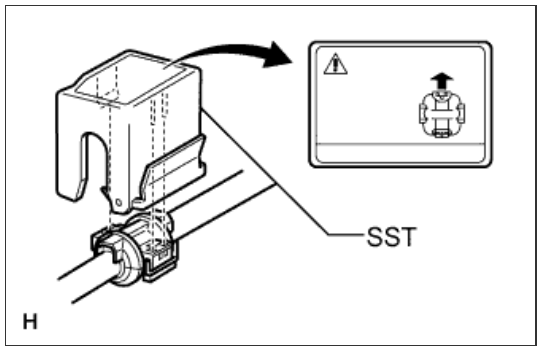

c. Using SST, remove the piping clamp.

*SST*
09870-00025

i. Attach SST to the piping clamp.

**HINT:**

Confirm the direction of the piping clamp claw and SST by referring to the illustration on the caution label.




ii. Push down SST and release the clamp lock.

**NOTICE:**

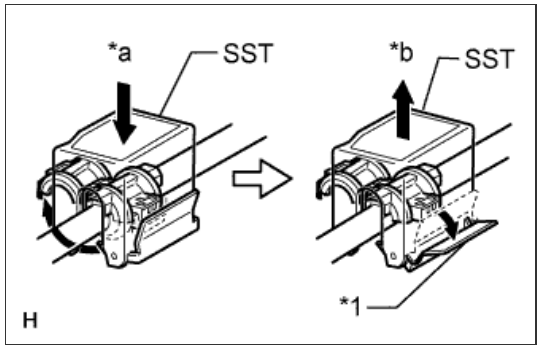
Be careful not to deform the tubes when pushing SST.

iii. Pull SST slightly and push the release lever, then remove the piping clamp with SST.

iv. Remove the piping clamp from SST.

**Text in Illustration**

| | |
|---|---|
| *1 | Release Lever |
| *a | Push |
| *b | Pull |




d. Disconnect the tube.

**NOTICE:**

Cap the open fittings immediately to keep moisture or dirt out of the system.

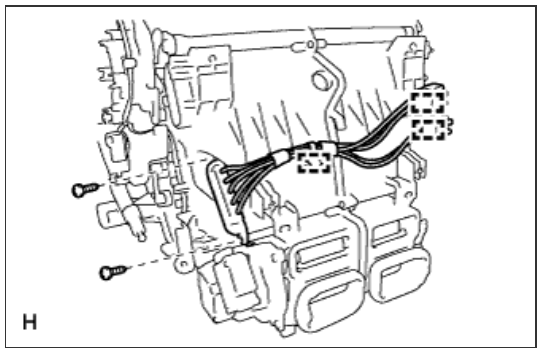
e. Detach the clamp and remove the liquid tube.

f. Remove the 2 O-rings from the liquid tube.

## 6. REMOVE QUICK HEATER ASSEMBLY (w/ PTC Heater)

a. Remove the 2 screws.

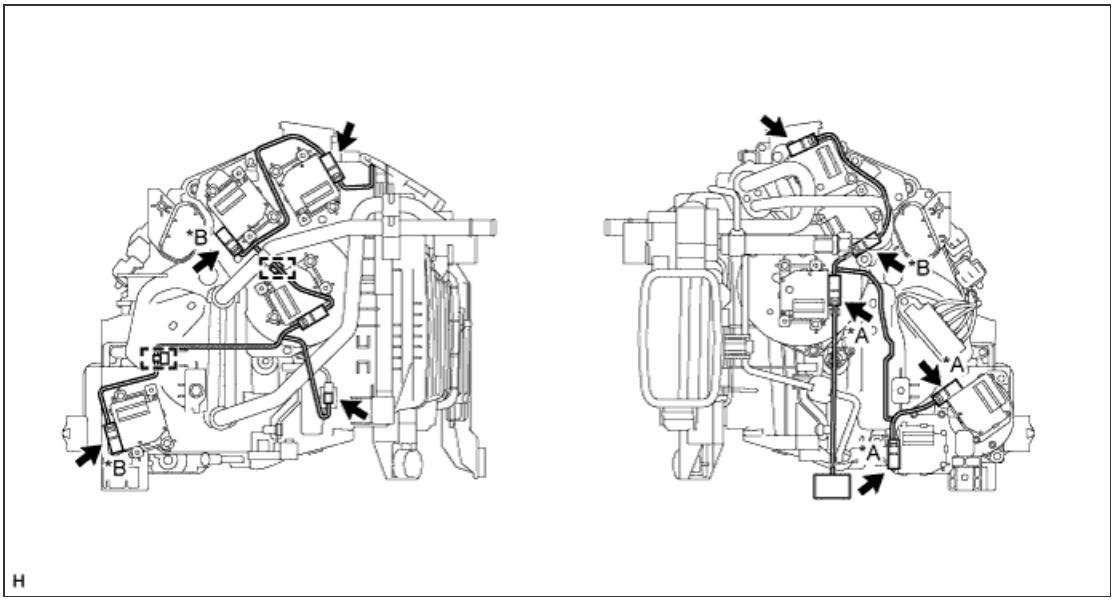
b. Detach the 3 clamps and remove the quick heater assembly (PTC heater assembly).




## 7. REMOVE AIR CONDITIONER HARNESS

a. Disconnect the connectors.

b. Detach the 2 clamps and remove the harness.



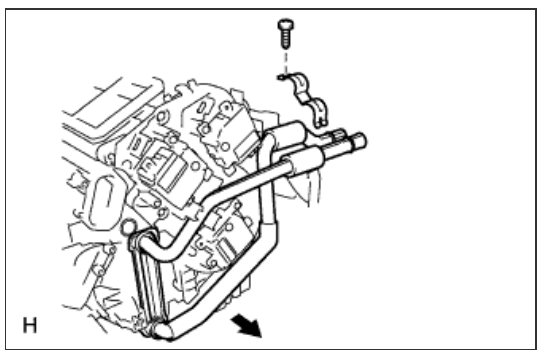

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Automatic Air Conditioning System | *B | for 4 Zone Type |

## 8. REMOVE AIR CONDITIONING RADIATOR ASSEMBLY

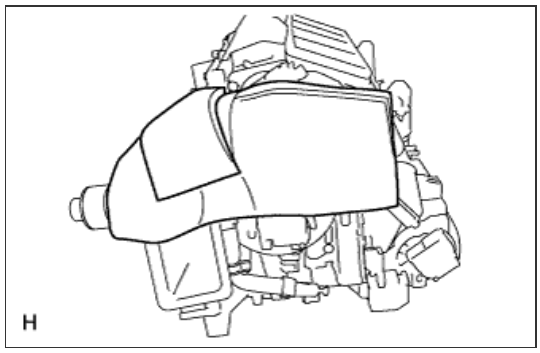
a. Remove the screw and radiator bracket.

b. Remove the radiator.

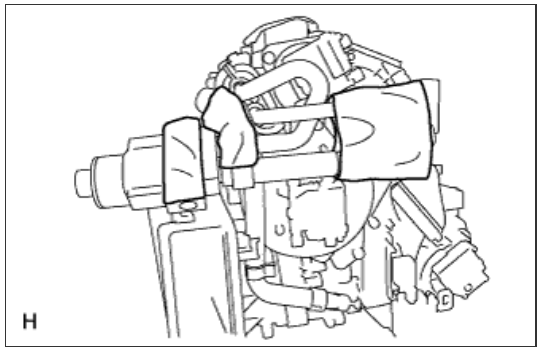


## 9. REMOVE COOLER EXPANSION VALVE (w/ Cool Box)

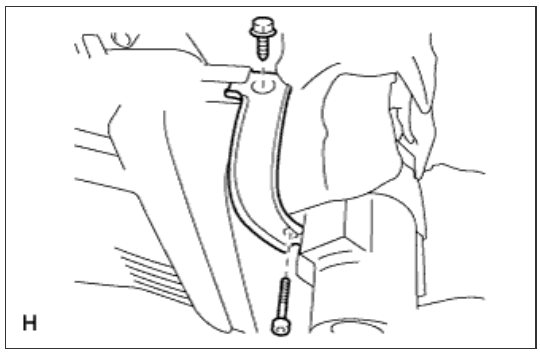
a. Remove the packing.




b. Remove the butyl tape.

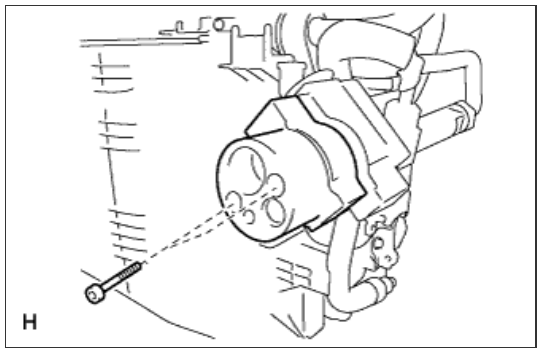



c. Using a 4 mm hexagon wrench, remove the hexagon bolt, screw and bracket.




d. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and No. 1 connector tube.

e. Remove the 2 O-rings from the No. 1 connector tube.




f. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts, No. 2 connector tube, expansion valve and No. 3 connector tube.

g. Remove the 2 O-rings from the No. 2 connector tube.

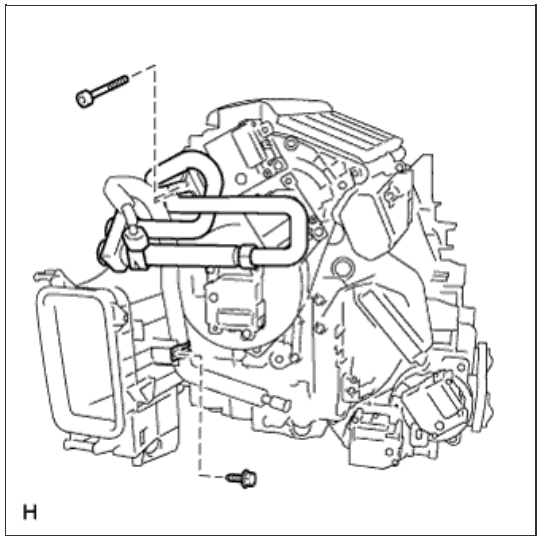



## 10. REMOVE AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY (w/ Cool Box)

a. Remove the screw and bracket.

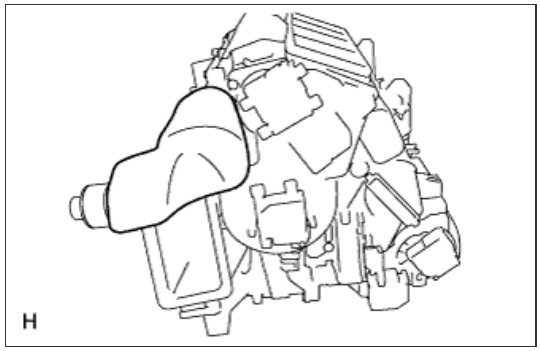
b. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and air conditioner tube and accessory assembly.

c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.




## 11. REMOVE COOLER EXPANSION VALVE (w/o Cool Box)

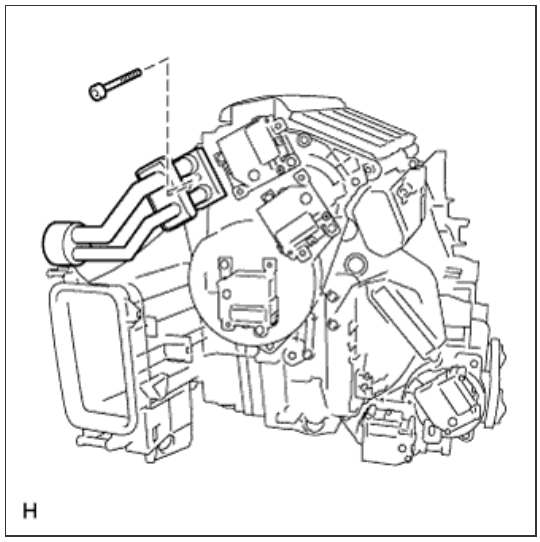
a. Remove the packing.




b. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts, air conditioner tube and accessory assembly and expansion valve.

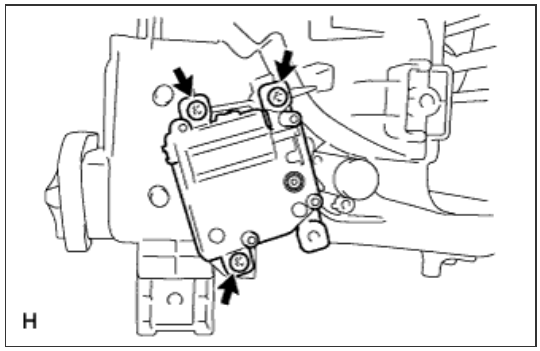
c. Remove the 2 O-rings from the air conditioner tube and accessory assembly.

d. Remove the 2 O-rings from the cooler evaporator.



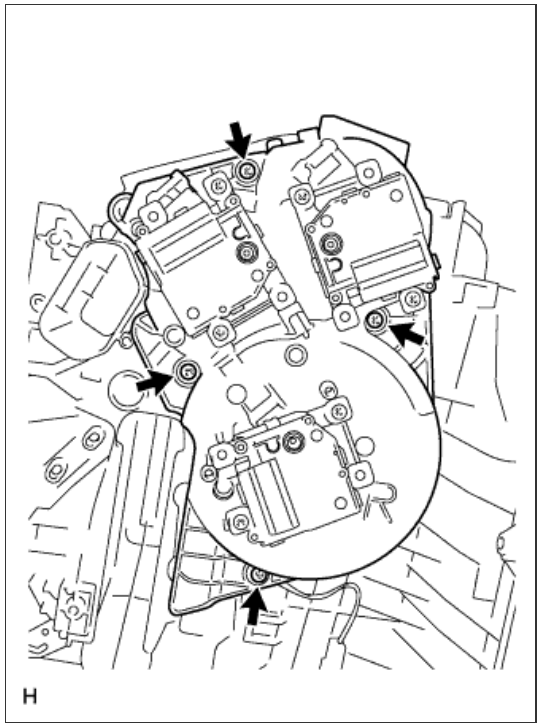

### 12. REMOVE REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH (for 4 Zone Type)

a. Remove the 3 screws and servo motor.




### 13. REMOVE SERVO MOTOR

a. Remove the 4 screws and servo motor unit.



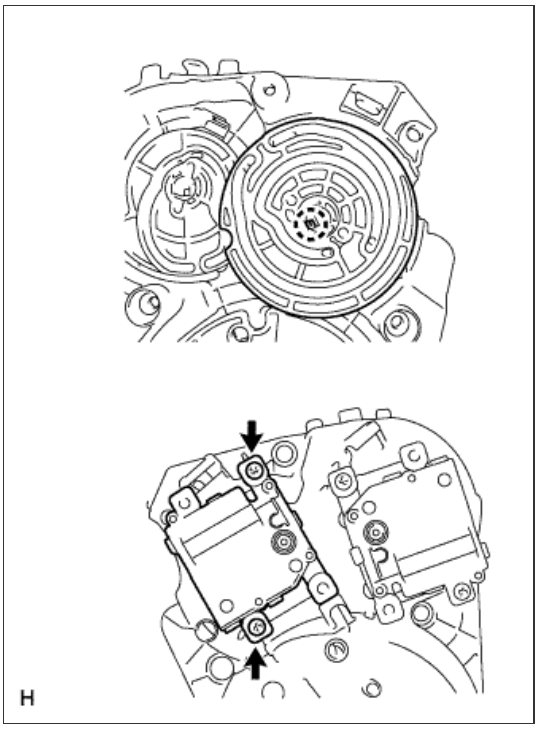

b. for 4 Zone Type:
Remove the front mode control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



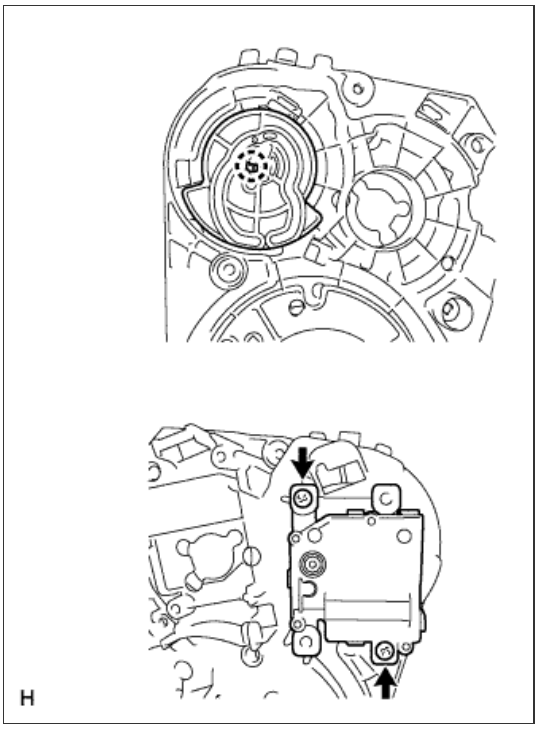

c. Remove the control air bypass damper control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



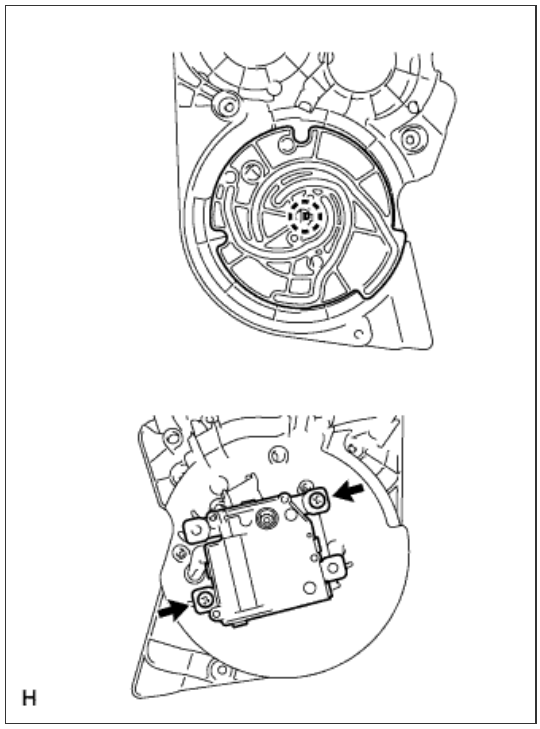

d. Remove the front air mix damper control servo motor RH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

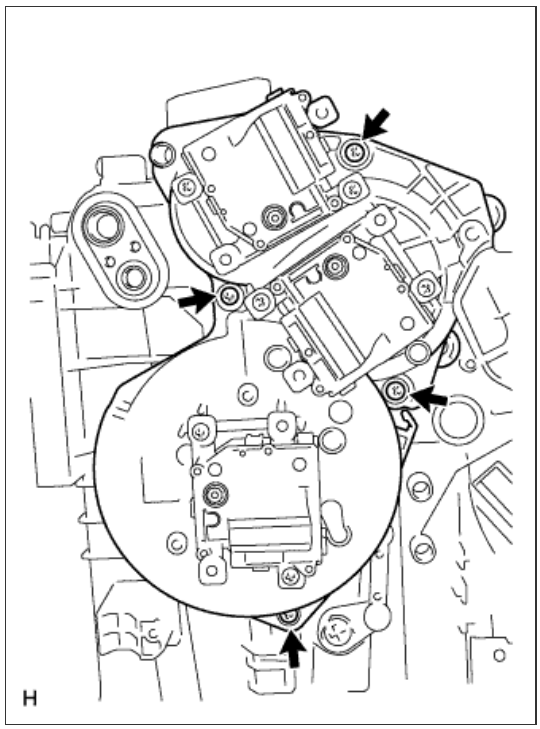
**NOTICE:**

Be careful not to damage the claw of the plate.




## 14. REMOVE SERVO MOTOR

a. Remove the 4 screws and servo motor unit.



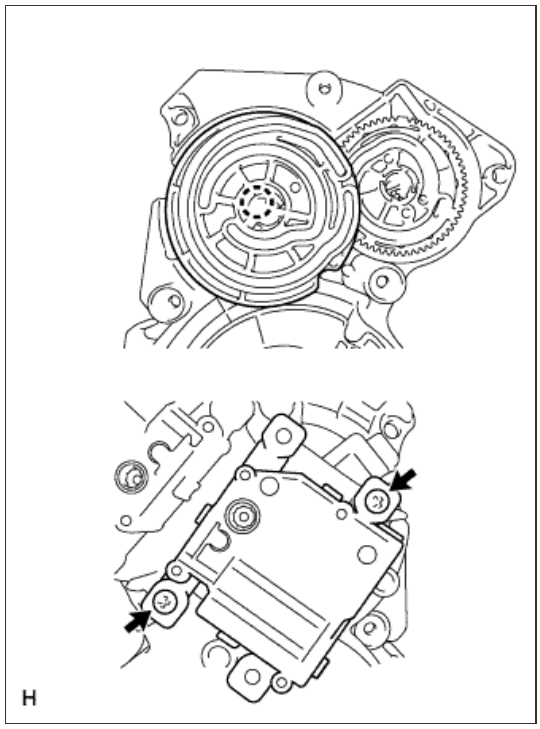

b. for 4 Zone Type:
Remove the control air bypass damper control servo motor LH

i. Remove the 2 screws.

ii. Detach the claw and remove the plate.

**NOTICE:**

Be careful not to damage the claw of the plate.



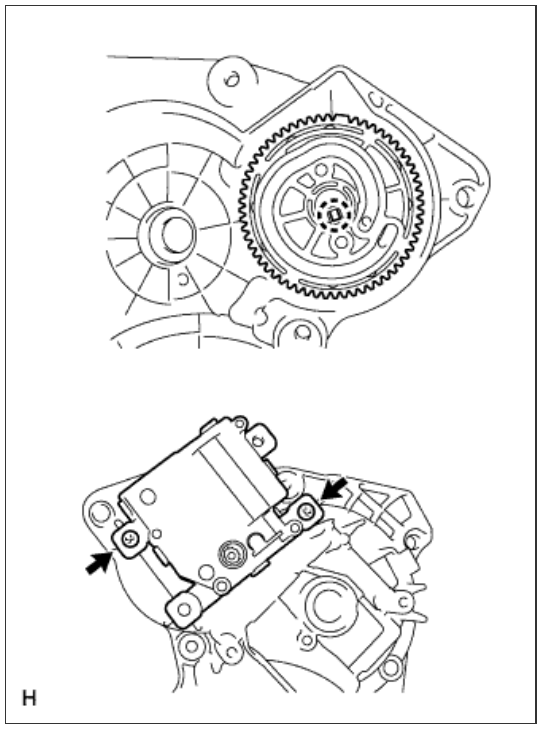

c. Remove the front mode control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



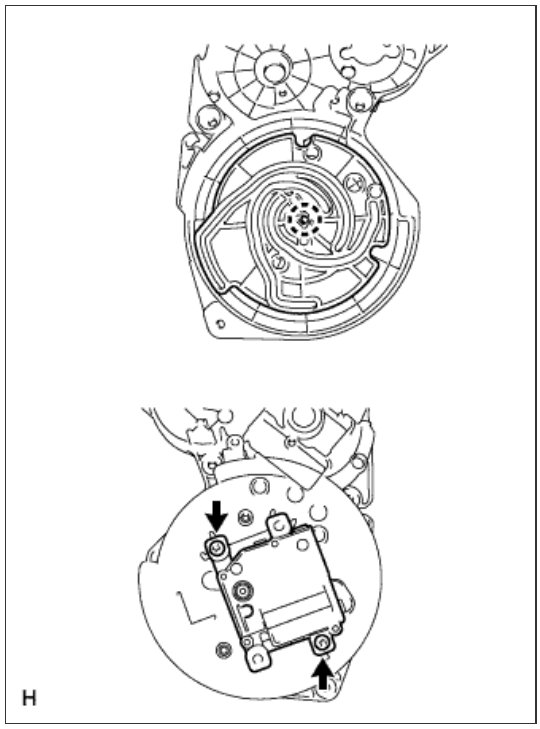

d. Remove the front air mix damper control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

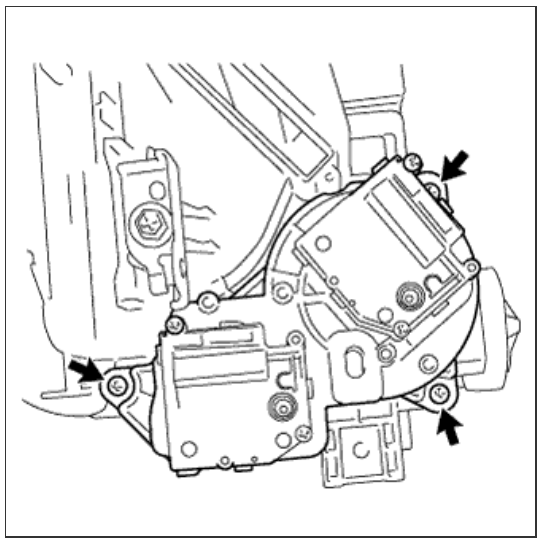
**NOTICE:**

Be careful not to damage the claw of the plate.




## 15. REMOVE SERVO MOTOR

a. Remove the 3 screws and servo motor unit.



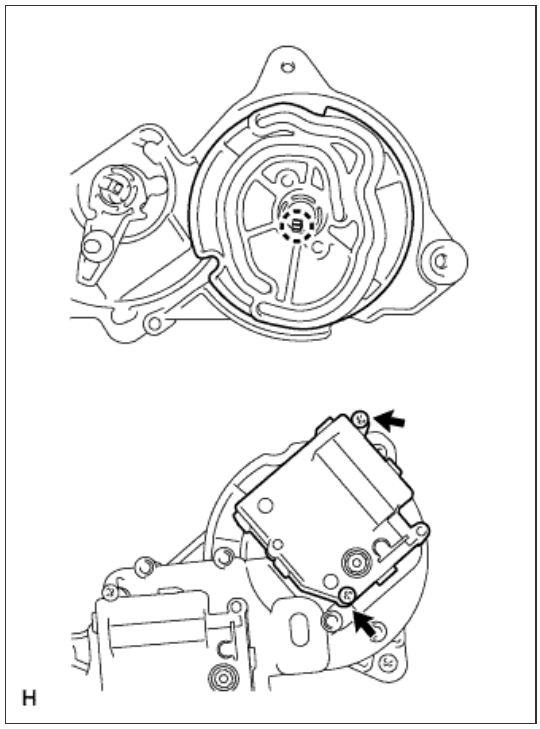
b. Remove the rear mode control servo motor.

i. Remove the 2 screws.

ii. Detach the claw and remove the plate and servo motor.

**NOTICE:**

Be careful not to damage the claw of the plate.



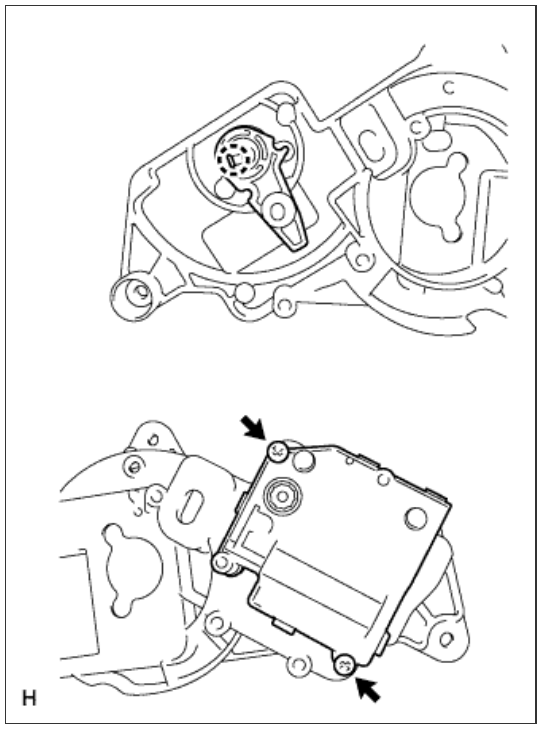

c. Remove the rear air mix damper control servo motor LH.

i. Remove the 2 screws.

ii. Detach the claw and remove the lever and servo motor.

**NOTICE:**

Be careful not to damage the claw of the lever.

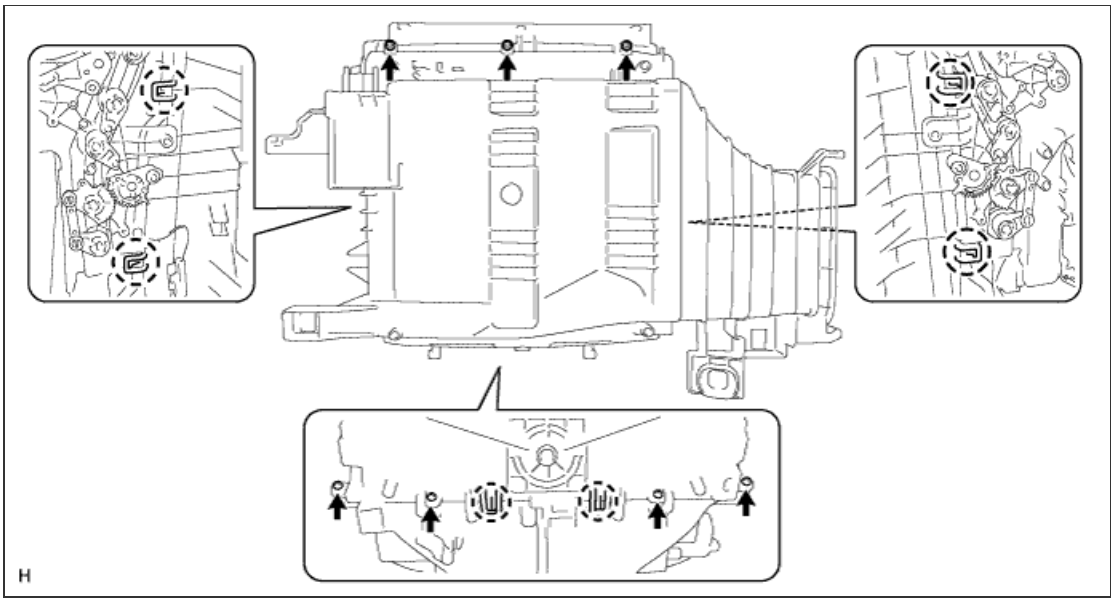



## 16. REMOVE NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

a. Remove the 7 screws.

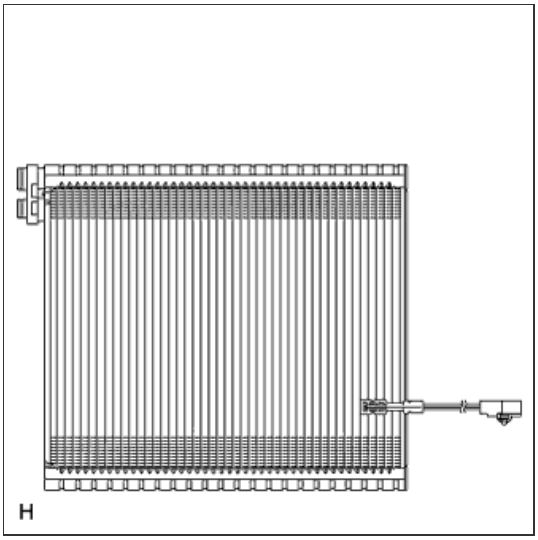
b. Detach the 6 claws and remove the unit case.

c. Remove the evaporator.




## 17. REMOVE FRONT EVAPORATOR TEMPERATURE SENSOR

a. Remove the front evaporator temperature sensor.



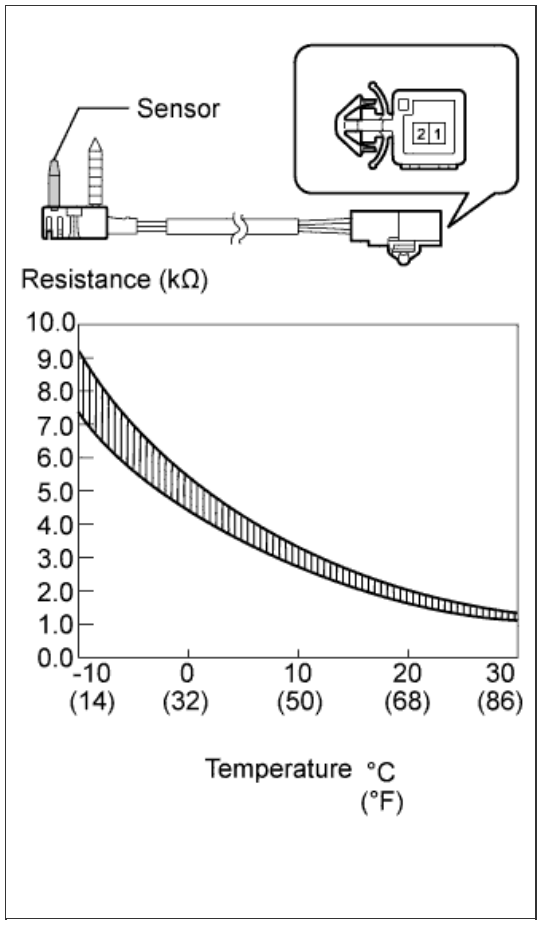
**for Preparation** Click here

## 1. INSPECT FRONT EVAPORATOR TEMPERATURE SENSOR

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | -10°C (14°F) | 7.30 to 9.10 kΩ |
| 1 - 2 | -5°C (23°F) | 5.65 to 6.95 kΩ |
| 1 - 2 | 0°C (32°F) | 4.40 to 5.35 kΩ |
| 1 - 2 | 5°C (41°F) | 3.40 to 4.15 kΩ |
| 1 - 2 | 10°C (50°F) | 2.70 to 3.25 kΩ |
| 1 - 2 | 15°C (59°F) | 2.14 to 2.58 kΩ |
| 1 - 2 | 20°C (68°F) | 1.71 to 2.05 kΩ |
| 1 - 2 | 25°C (77°F) | 1.38 to 1.64 kΩ |
| 1 - 2 | 30°C (86°F) | 1.11 to 1.32 kΩ |




If the result is not as specified, replace the front evaporator temperature sensor.

**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be almost the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

**for Preparation** Click here

## 1. INSTALL FRONT EVAPORATOR TEMPERATURE SENSOR

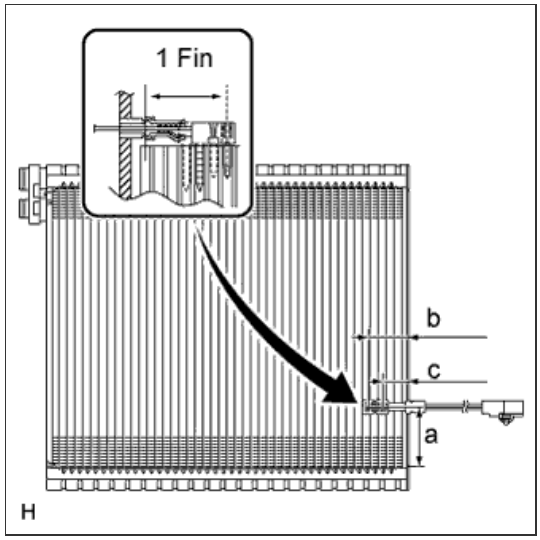
**NOTICE:**

If reusing the evaporator, do not insert the sensor into a location where the sensor was previously inserted.

a. Insert the sensor to a location that is 1 fin to the right or left of its previous location.

**Standard Dimension:**

| Area | Specified Condition |
|---|---|
| a | 50 mm (1.97 in.) |
| b | 34.3 mm (1.35 in.) |
| c | 20.9 mm (1.97 in.) |




## 2. INSTALL NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

a. Install the evaporator.

b. Attach the 6 claws to install the unit case.

c. Install the 7 screws.

## 3. INSTALL SERVO MOTOR

a. for Automatic Air Conditioning System:
Install the rear air mix damper control servo motor LH.

i. Attach the claw to install the lever and servo motor.

ii. Install the 2 screws.

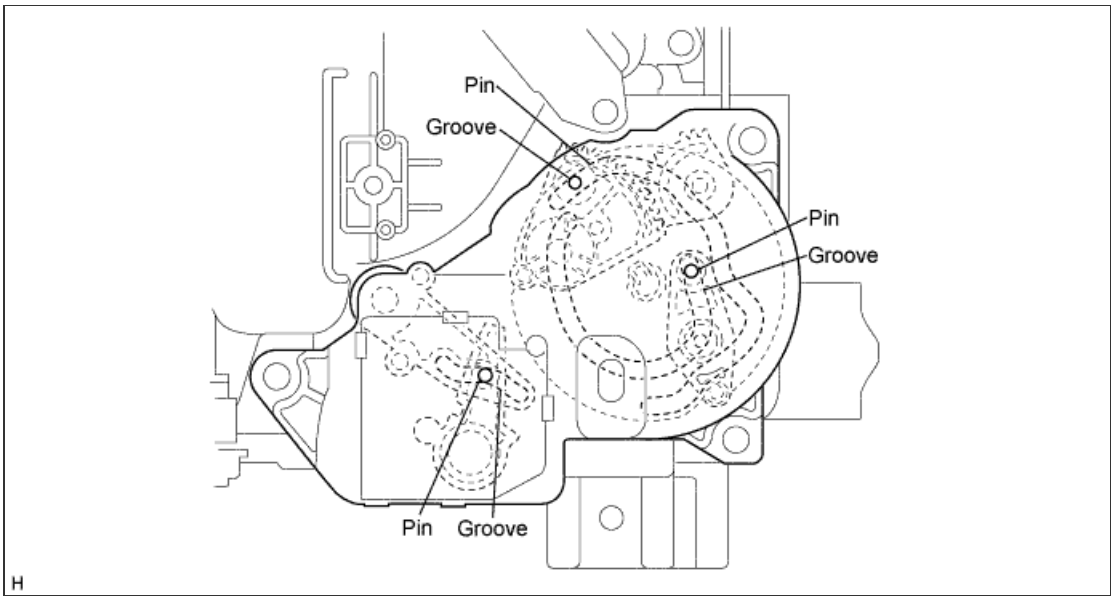
b. for Automatic Air Conditioning System:
Install the rear mode control servo motor.

i. Attach the claw to install the plate and servo motor.

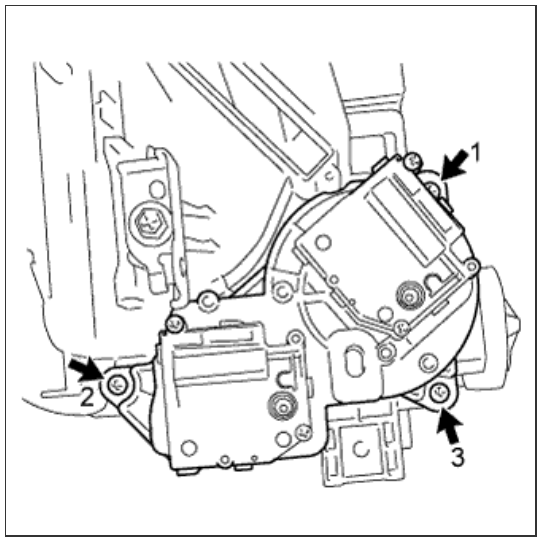
ii. Install the 2 screws.

c. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

d. Check that the pin is in the groove of the link.




e. Install the 3 screws in the order shown in the illustration, and install the servo motor unit.




## 4. INSTALL SERVO MOTOR

a. Install the front air mix damper control servo motor LH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

b. Install the front mode control servo motor LH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

c. for 4 Zone Type:
   Install the control air bypass damper control servo motor LH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

d. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

e. Install the 4 screws.

## 5. INSTALL SERVO MOTOR

a. Install the front air mix damper control servo motor RH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

b. Install the control air bypass damper control servo motor RH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

c. for 4 Zone Type:
   Install the front mode control servo motor RH.

   i. Attach the claw to install the plate and servo motor.

   ii. Install the 2 screws.

d. Set the damper servo so that the cutout part engages with the tooth of the gear, and attach the claw to install the servo motor unit.

e. Install the 4 screws.

## 6. INSTALL REAR AIR MIX DAMPER CONTROL SERVO MOTOR RH (for 4 Zone Type)

a. Install the servo motor with the 3 screws.

## 7. INSTALL COOLER EXPANSION VALVE (w/o Cool Box)

a. Sufficiently apply compressor oil to 4 new O-rings and the fitting surface of the hose joint.

   **Compressor oil:**
   **ND-OIL 8 or equivalent**

b. Install 2 O-rings to the cooler evaporator.

c. Install 2 O-rings to the air conditioner tube and accessory assembly.

d. Install the cooler expansion valve and air conditioner tube and accessory assembly to the evaporator.

e. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

   **Torque:**
   **3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

f. Install new packing.

## 8. INSTALL AIR CONDITIONER TUBE AND ACCESSORY ASSEMBLY (w/ Cool Box)

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

   **Compressor oil:**
   **ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the air conditioner tube and accessory assembly.

c. Install the air conditioner tube and accessory assembly to the evaporator.

d. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

   **Torque:**
   **3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

e. Install the bracket with the screw.

## 9. INSTALL COOLER EXPANSION VALVE (w/ Cool Box)

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the No. 2 connector tube.

c. Install the No. 2 connector tube, expansion valve and No. 3 connector tube.

d. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

e. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

f. Install the 2 O-rings to the No. 1 connector tube.

g. Install the No. 1 connector tube.

h. Using a 4 mm hexagon wrench, install the 2 hexagon bolts.

**Torque:**
**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

i. Using a 4 mm hexagon wrench, install the bracket with the hexagon bolt and screw.

j. Install new butyl tape.

k. Install new packing.

## 10. INSTALL AIR CONDITIONING RADIATOR ASSEMBLY

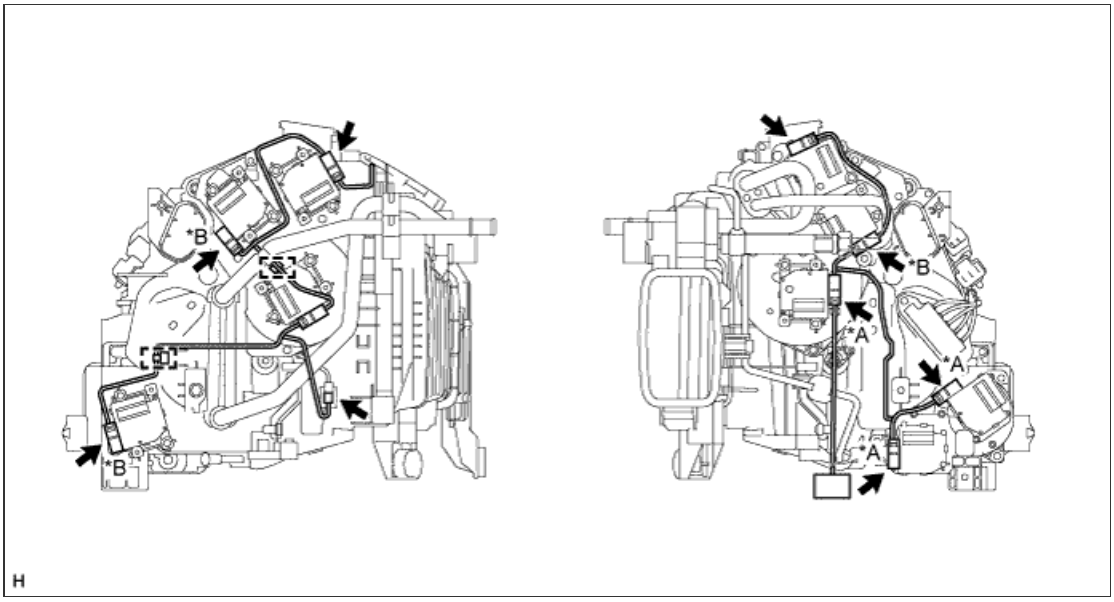
a. Install the radiator.

b. Install the bracket with the screw.

## 11. INSTALL AIR CONDITIONER HARNESS

a. Attach the clamps to install the harness.

b. Connect the connectors.



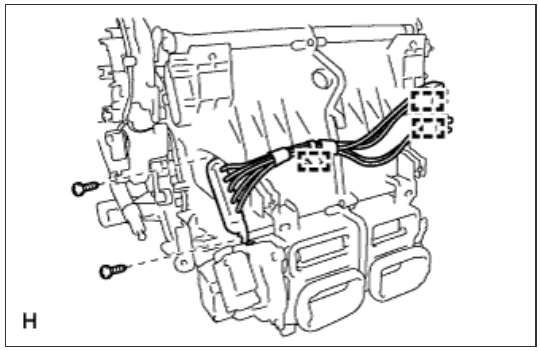
Text in Illustration

| | | | |
|---|---|---|---|
| *A | for Automatic Air Conditioning System | *B | for 4 Zone Type |

## 12. INSTALL QUICK HEATER ASSEMBLY (w/ PTC Heater)

a. Attach the clamps to install the quick heater assembly (PTC heater assembly).

b. Install the 2 screws.



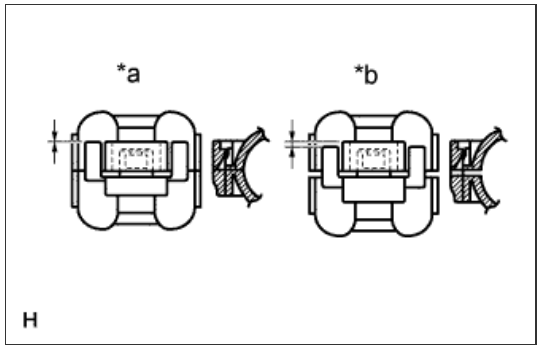

## 13. INSTALL COOL BOX LIQUID TUBE (w/ Cool Box)

a. Lubricate 2 new O-rings with compressor oil and install them to the liquid tube.

**Compressor oil:**
**ND-OIL 8 or equivalent**

Text in Illustration

| | |
|---|---|
| *a | Correct |
| *b | Incorrect |




b. Connect the liquid tube with the piping clamp.

**NOTICE:**

After connection, check the claw engagement of the piping clamp.

c. Attach the clamp.

d. Attach the 2 claws to install the protective cover.

e. Install the 3 screws.

## 14. INSTALL ASPIRATOR (for Automatic Air Conditioning System)

a. Attach the 2 claws to install the aspirator.

## 15. INSTALL NO. 4 AIR DUCT SUB-ASSEMBLY

a. Install the duct with the screw.

## 16. INSTALL NO. 5 AIR DUCT SUB-ASSEMBLY

a. Install the duct with the screw.

## 17. INSTALL BLOWER ASSEMBLY

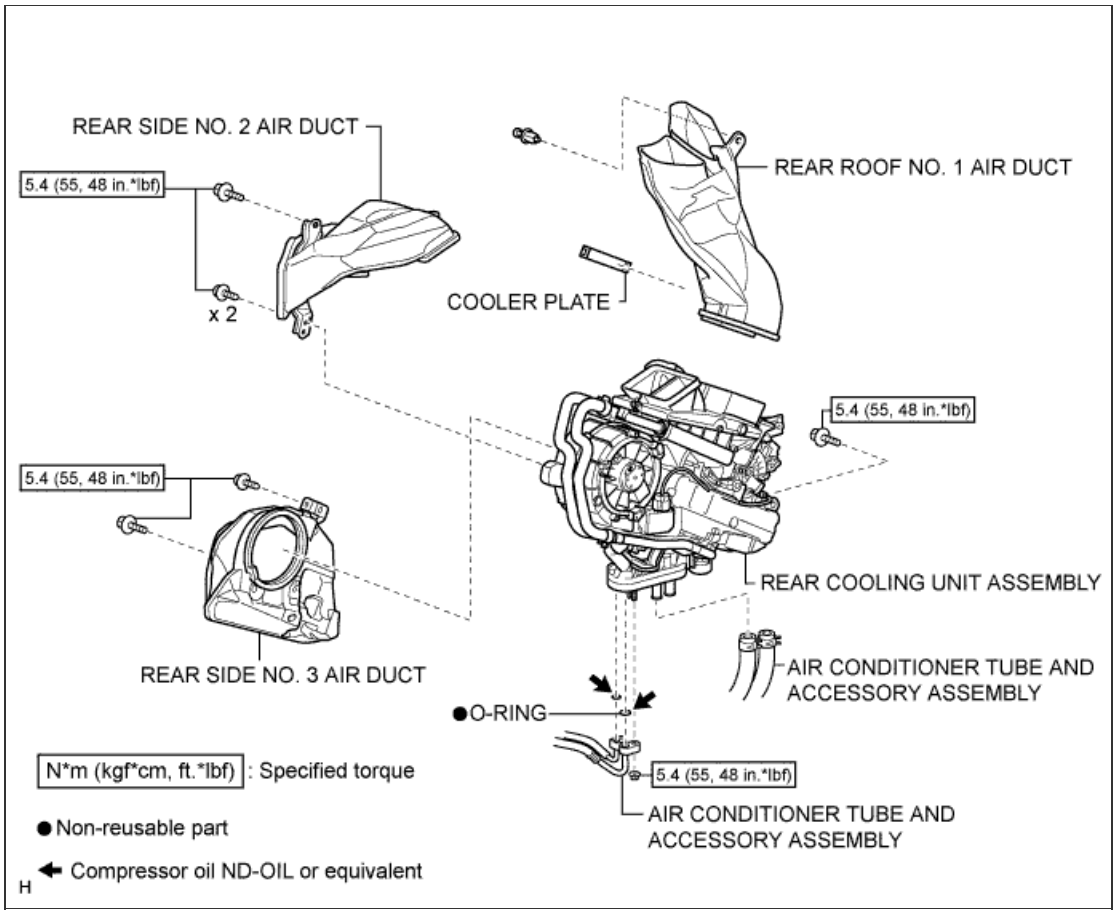
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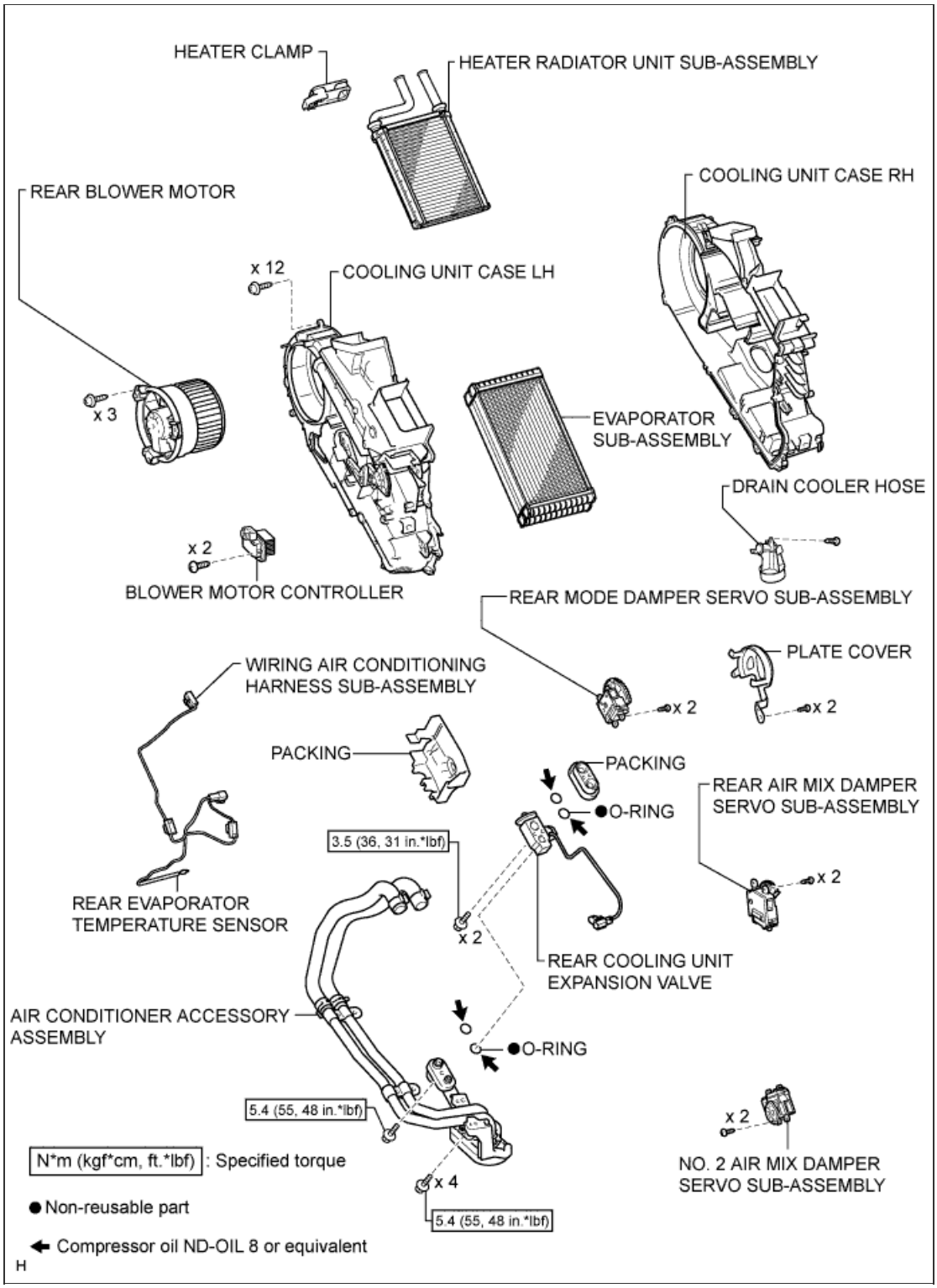
**for Preparation** Click here

## 1. INSTALL AIR CONDITIONING UNIT

(Click here)

**for Preparation** Click here




HEATER CLAMP
HEATER RADIATOR UNIT SUB-ASSEMBLY
REAR BLOWER MOTOR
COOLING UNIT CASE RH
x 12
COOLING UNIT CASE LH
x 3
EVAPORATOR SUB-ASSEMBLY
DRAIN COOLER HOSE
x 2
BLOWER MOTOR CONTROLLER
REAR MODE DAMPER SERVO SUB-ASSEMBLY
PLATE COVER
WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY
x 2
x 2
PACKING
PACKING
O-RING
REAR AIR MIX DAMPER SERVO SUB-ASSEMBLY
3.5 (36, 31 in.*lbf)
x 2
REAR EVAPORATOR TEMPERATURE SENSOR
REAR COOLING UNIT EXPANSION VALVE
AIR CONDITIONER ACCESSORY ASSEMBLY
O-RING
5.4 (55, 48 in.*lbf)
x 2
NO. 2 AIR MIX DAMPER SERVO SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
x 4
Non-reusable part
5.4 (55, 48 in.*lbf)
Compressor oil ND-OIL 8 or equivalent
H

# REAR EVAPORATOR TEMPERATURE SENSOR (w/ Heater) > REMOVAL

**for Preparation** Click here

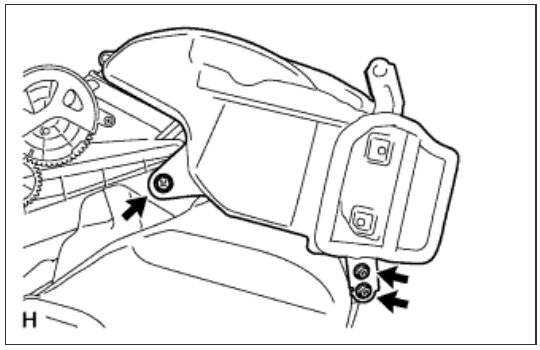
## 1. REMOVE REAR COOLING UNIT ASSEMBLY

(Click here)

**for Preparation** Click here

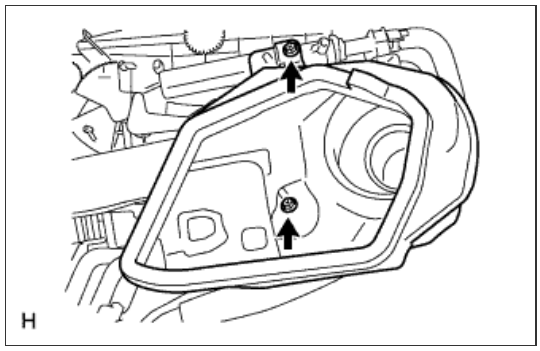
## 1. REMOVE REAR SIDE NO. 2 AIR DUCT

a. Remove the 3 screws and duct.




## 2. REMOVE REAR SIDE NO. 3 AIR DUCT

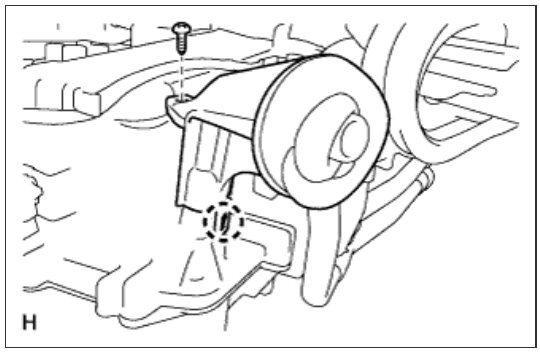
a. Remove the 2 screws and duct.




## 3. REMOVE DRAIN COOLER HOSE

a. Remove the screw.

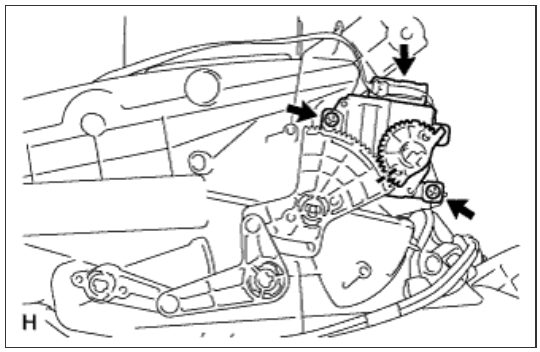
b. Detach the claw and remove the drain hose.




## 4. REMOVE REAR AIR MIX DAMPER SERVO SUB-ASSEMBLY

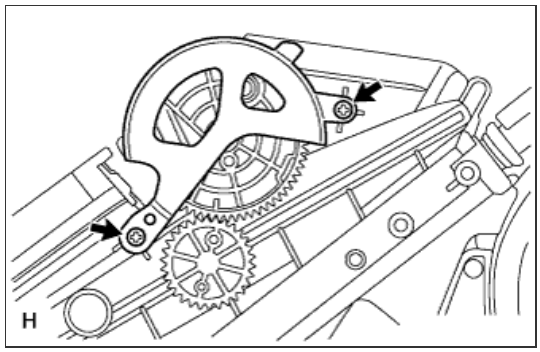
a. Disconnect the connector.

b. Remove the 2 screws and damper servo.



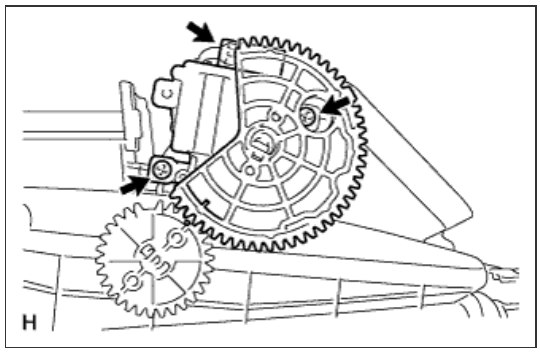

## 5. REMOVE REAR MODE DAMPER SERVO SUB-ASSEMBLY

a. Remove the 2 screws and plate cover.




b. Disconnect the connector.

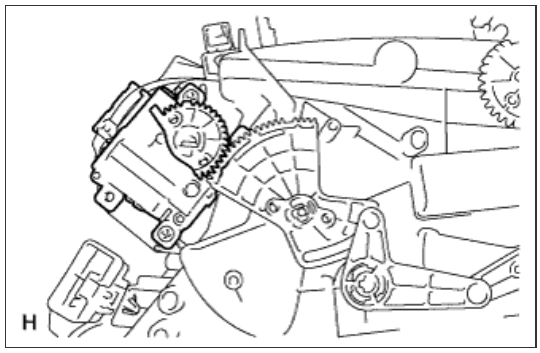
c. Remove the 2 screws and damper servo.




## 6. REMOVE NO. 2 AIR MIX DAMPER SERVO SUB-ASSEMBLY

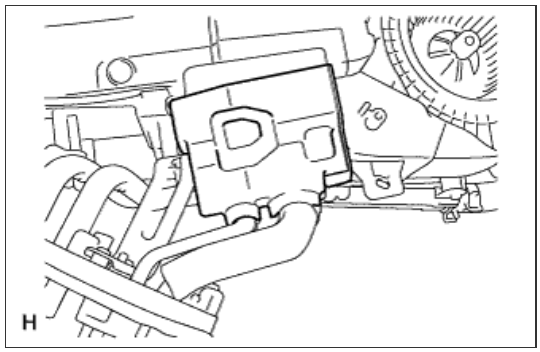
a. Disconnect the connector.

b. Remove the 2 screws and damper servo.




## 7. REMOVE AIR CONDITIONER ACCESSORY ASSEMBLY

a. Remove the packing.

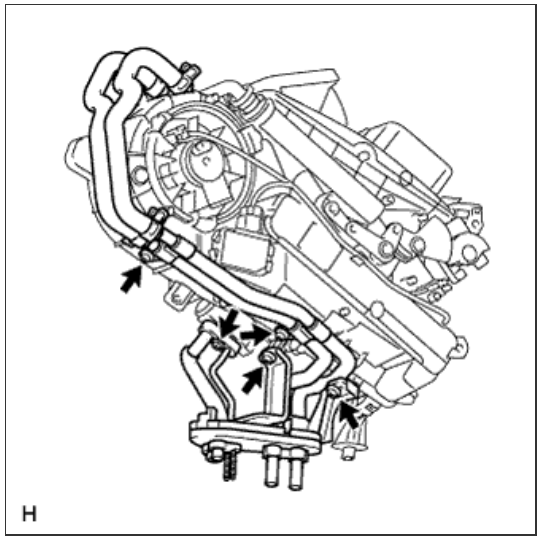



b. Remove the bolt and 4 screws.

c. Using pliers, grip the claws of the clips and slide the 2 clips.

d. Remove the air conditioner accessory assembly.

e. Remove the 2 O-rings from the air conditioner accessory assembly.

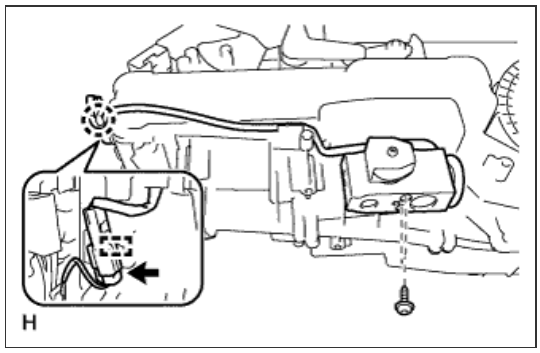



## 8. REMOVE REAR COOLING UNIT EXPANSION VALVE

a. Disconnect the connector.

b. Detach the clamp.

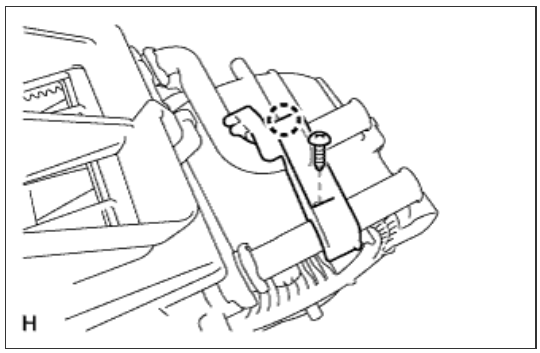
c. Using a 4 mm hexagon wrench, remove the 2 hexagon bolts and expansion valve.



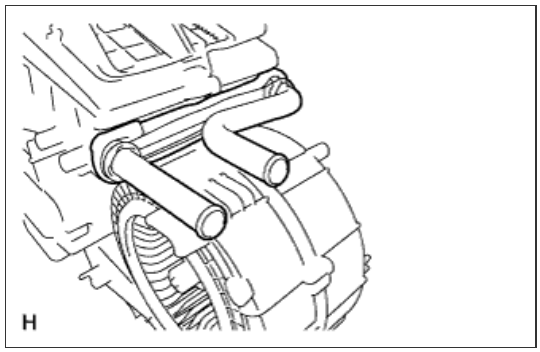

## 9. REMOVE HEATER RADIATOR UNIT SUB-ASSEMBLY

a. Remove the screw and detach the claw.

b. Remove the heater clamp.



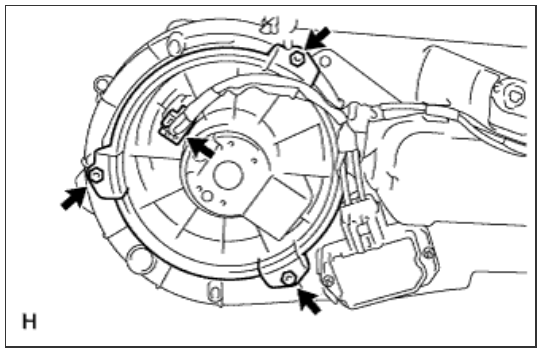

c. Remove the heater radiator.




## 10. REMOVE REAR BLOWER MOTOR

a. Disconnect the connector.

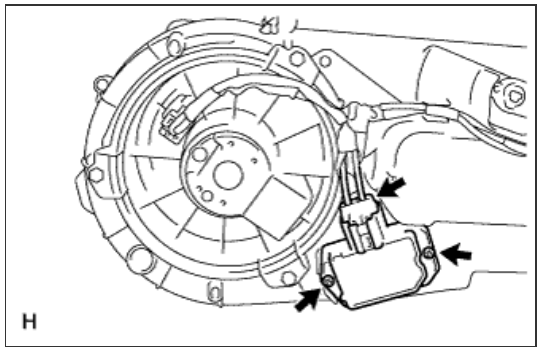
b. Remove the 3 screws and blower motor.




## 11. REMOVE BLOWER MOTOR CONTROLLER

a. Disconnect the connector.

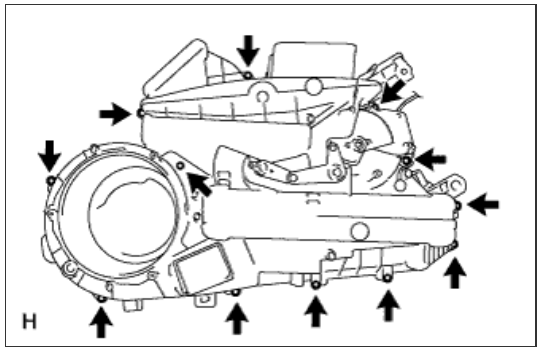
b. Remove the 2 screws and blower motor controller.



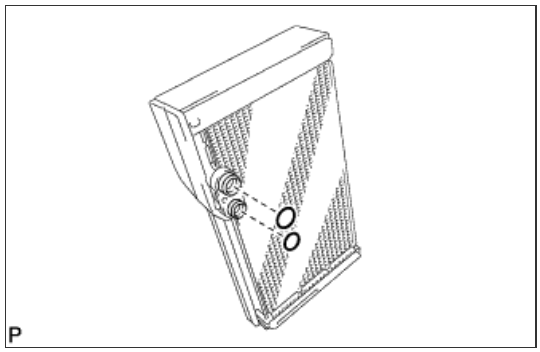

## 12. REMOVE EVAPORATOR SUB-ASSEMBLY

a. Remove the 12 screws and rear cooling unit case LH.

b. Remove the evaporator.

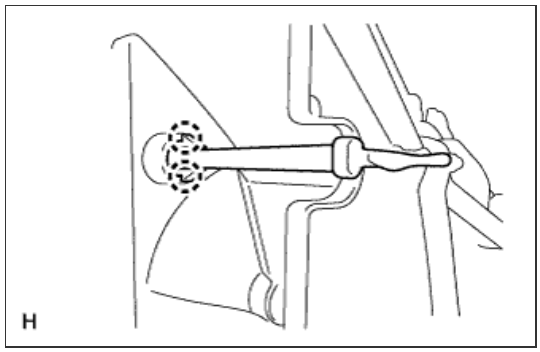



c. Remove the 2 O-rings from the evaporator.




## 13. REMOVE REAR EVAPORATOR TEMPERATURE SENSOR

a. Detach the 2 claws and remove the sensor.




## 14. REMOVE WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY

**for Preparation** Click here

## 1. INSPECT REAR EVAPORATOR TEMPERATURE SENSOR

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 8 - 7 | -10°C (14°F) | 7.30 to 9.10 kΩ |
| 8 - 7 | -5°C (23°F) | 5.65 to 6.95 kΩ |
| 8 - 7 | 0°C (32°F) | 4.40 to 5.35 kΩ |
| 8 - 7 | 5°C (41°F) | 3.40 to 4.15 kΩ |
| 8 - 7 | 10°C (50°F) | 2.70 to 3.25 kΩ |
| 8 - 7 | 15°C (59°F) | 2.14 to 2.58 kΩ |
| 8 - 7 | 20°C (68°F) | 1.71 to 2.05 kΩ |
| 8 - 7 | 25°C (77°F) | 1.38 to 1.64 kΩ |
| 8 - 7 | 30°C (86°F) | 1.11 to 1.32 kΩ |

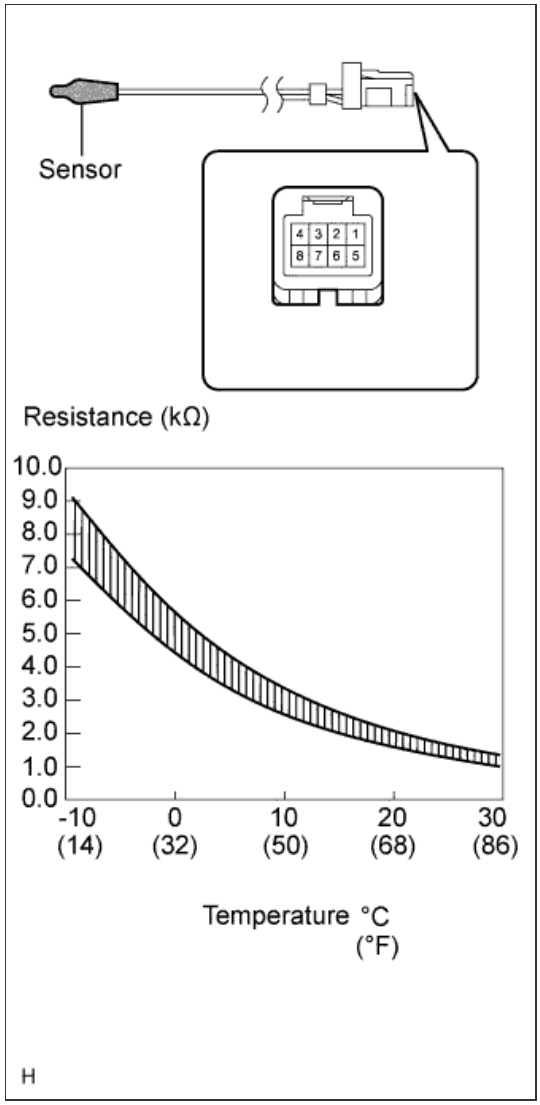
If the result is not as specified, replace the rear evaporator temperature sensor.

**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring the sensor temperature must be the same as the ambient temperature.**

**HINT:**

As the temperature increases, the resistance decreases (see the graph).

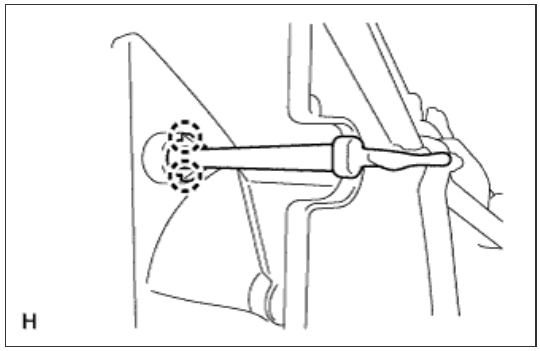


**for Preparation** Click here

## 1. INSTALL WIRING AIR CONDITIONING HARNESS SUB-ASSEMBLY

## 2. INSTALL REAR EVAPORATOR TEMPERATURE SENSOR

a. Attach the 2 claws to install the sensor.



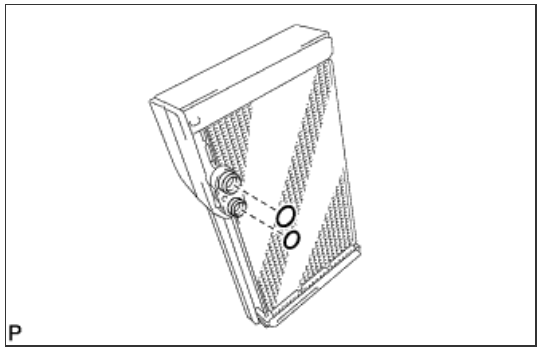

## 3. INSTALL EVAPORATOR SUB-ASSEMBLY

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

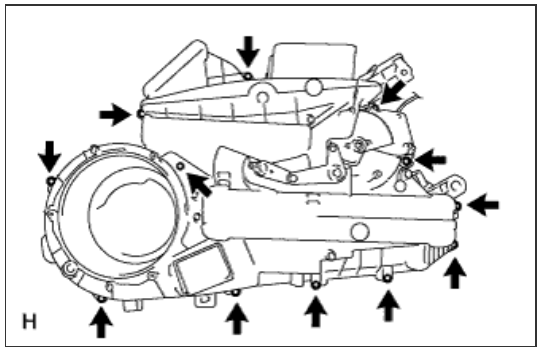
**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the 2 O-rings to the evaporator.

c. Install the evaporator.



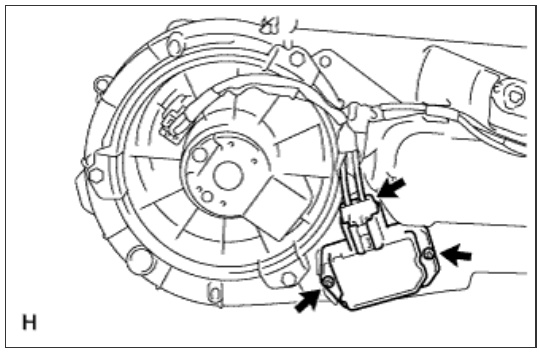

d. Install the rear cooling unit case LH with the 12 screws.




## 4. INSTALL BLOWER MOTOR CONTROLLER

a. Install the blower motor controller with the 2 screws.

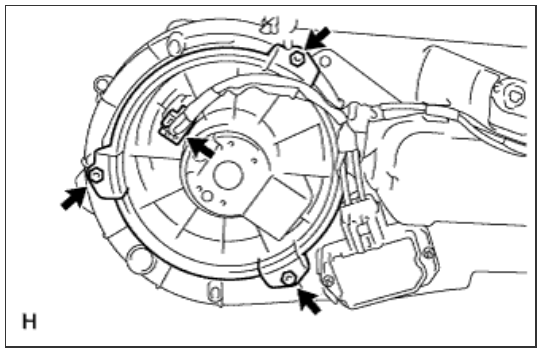
b. Connect the connector.




## 5. INSTALL REAR BLOWER MOTOR

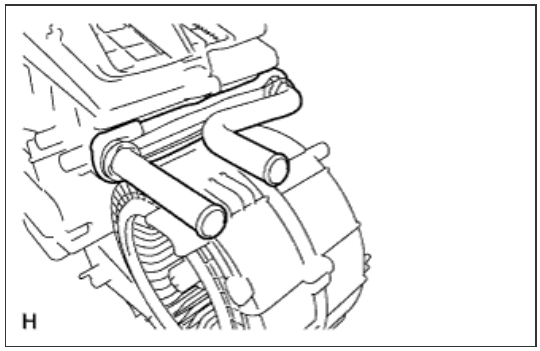
a. Install the blower motor with the 3 screws.

b. Connect the connector.

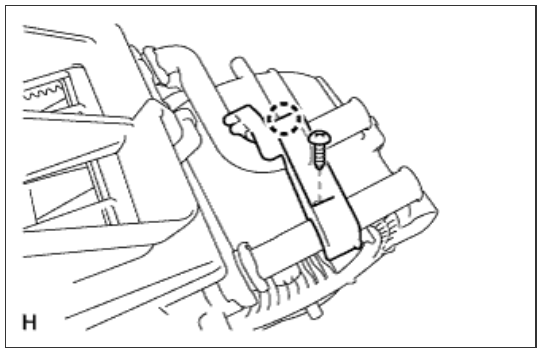



## 6. INSTALL HEATER RADIATOR UNIT SUB-ASSEMBLY

a. Install the radiator unit to the rear cooling unit.




b. Install the heater clamp with the screw and attach the claw.




## 7. INSTALL REAR COOLING UNIT EXPANSION VALVE

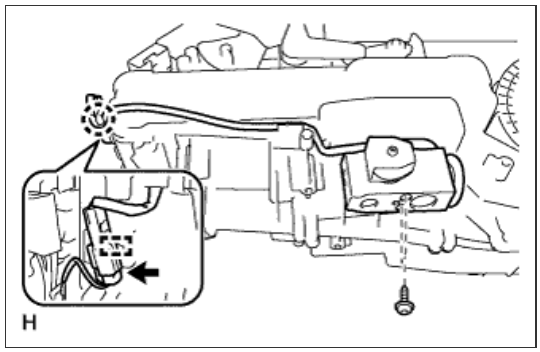
a. Using a 4 mm hexagon wrench, install the expansion valve with the 2 hexagon bolts.

**Torque:**

**3.5 N*m{ 36 kgf*cm , 31 in.*lbf }**

b. Attach the clamp.

c. Connect the connector.




## 8. INSTALL AIR CONDITIONER ACCESSORY ASSEMBLY

a. Sufficiently apply compressor oil to 2 new O-rings and the fitting surface of the hose joint.

**Compressor oil:**
**ND-OIL 8 or equivalent**

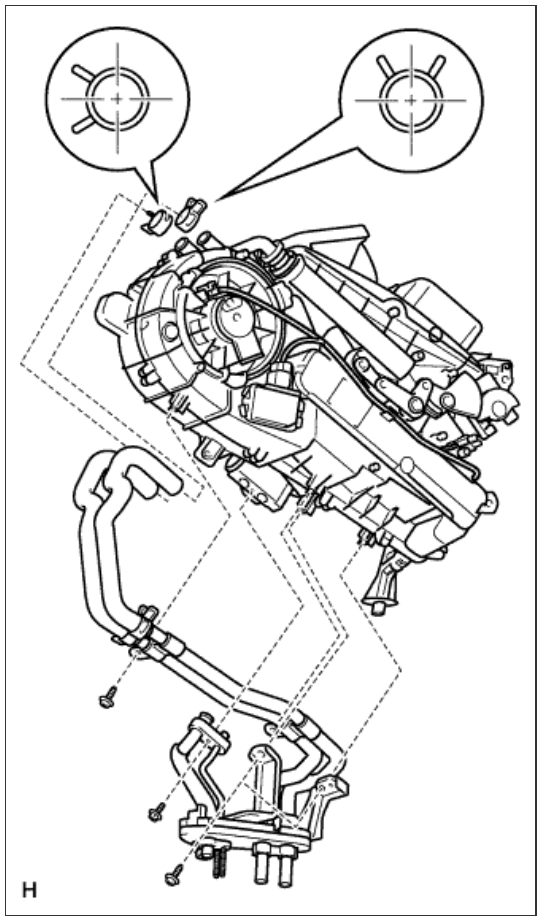
b. Install the 2 O-rings to the air conditioner accessory assembly.

c. Install the air conditioner accessory assembly.

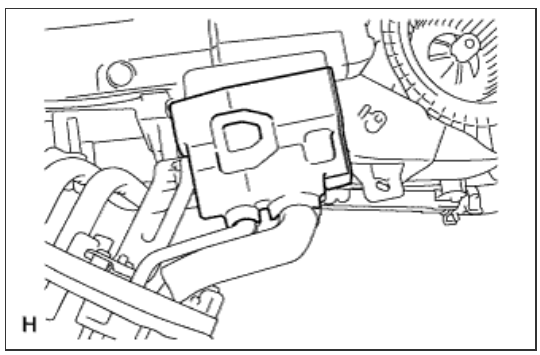
d. Using pliers, grip the claws of the clips and slide the 2 clips.

e. Install the bolt and 4 screws.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**



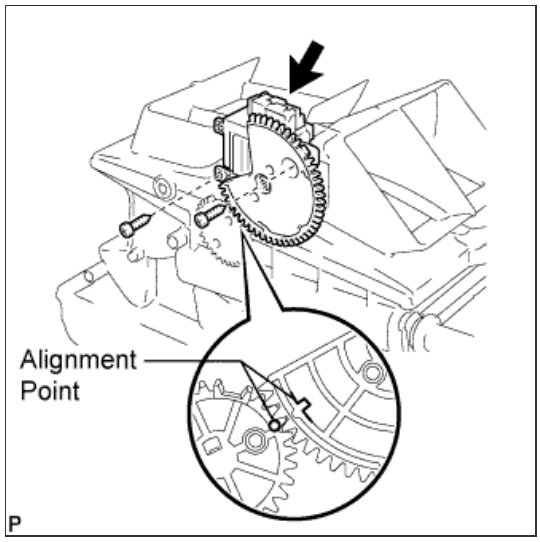

f. Install new packing as shown in the illustration.



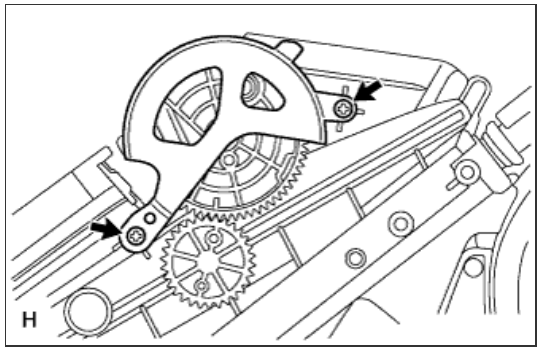

## 9. INSTALL REAR MODE DAMPER SERVO SUB-ASSEMBLY

a. Align the damper servo as shown in the illustration, and install it with the 2 screws.

b. Connect the connector.



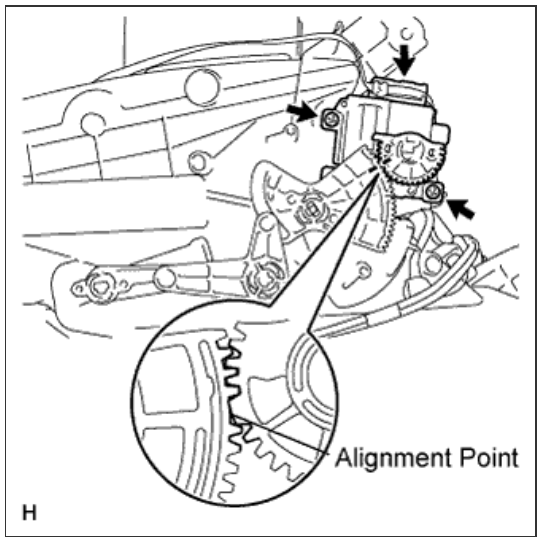

c. Install the plate cover with the 2 screws.




## 10. INSTALL NO. 2 AIR MIX DAMPER SERVO SUB-ASSEMBLY

a. Align the damper servo as shown in the illustration, and install it with the 2 screws.

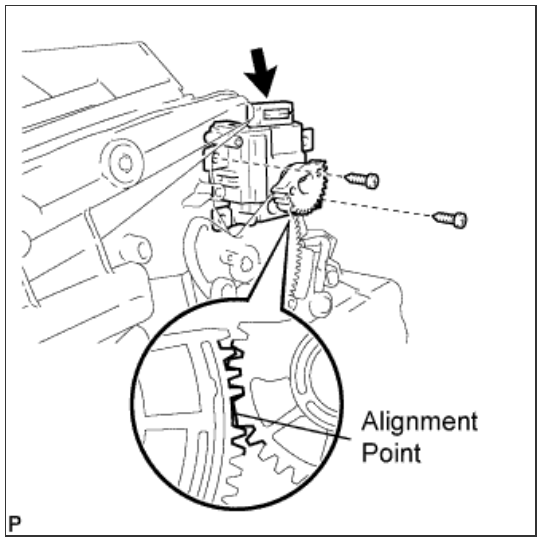
b. Connect the connector.




## 11. INSTALL REAR AIR MIX DAMPER SERVO SUB-ASSEMBLY

a. Align the damper servo as shown in the illustration, and install it with the 2 screws.

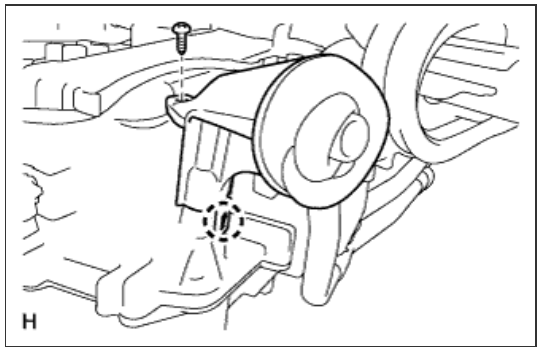
b. Connect the connector.




## 12. INSTALL DRAIN COOLER HOSE

a. Attach the claw to install the drain hose.

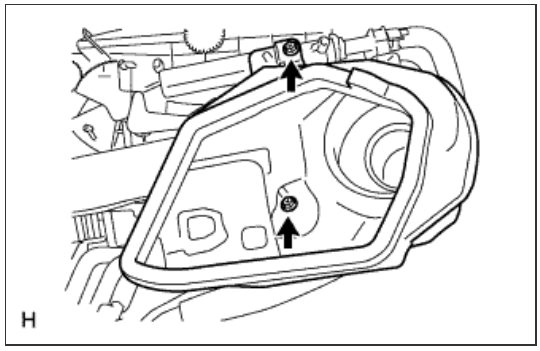
b. Install the screw.




## 13. INSTALL REAR SIDE NO. 3 AIR DUCT

a. Install the duct with the 2 screws.

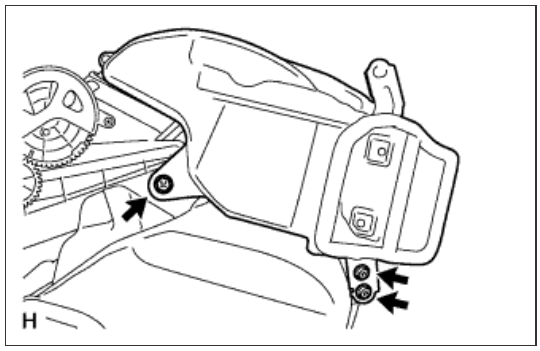
**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**




## 14. INSTALL REAR SIDE NO. 2 AIR DUCT

a. Install the duct with the 3 screws.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**

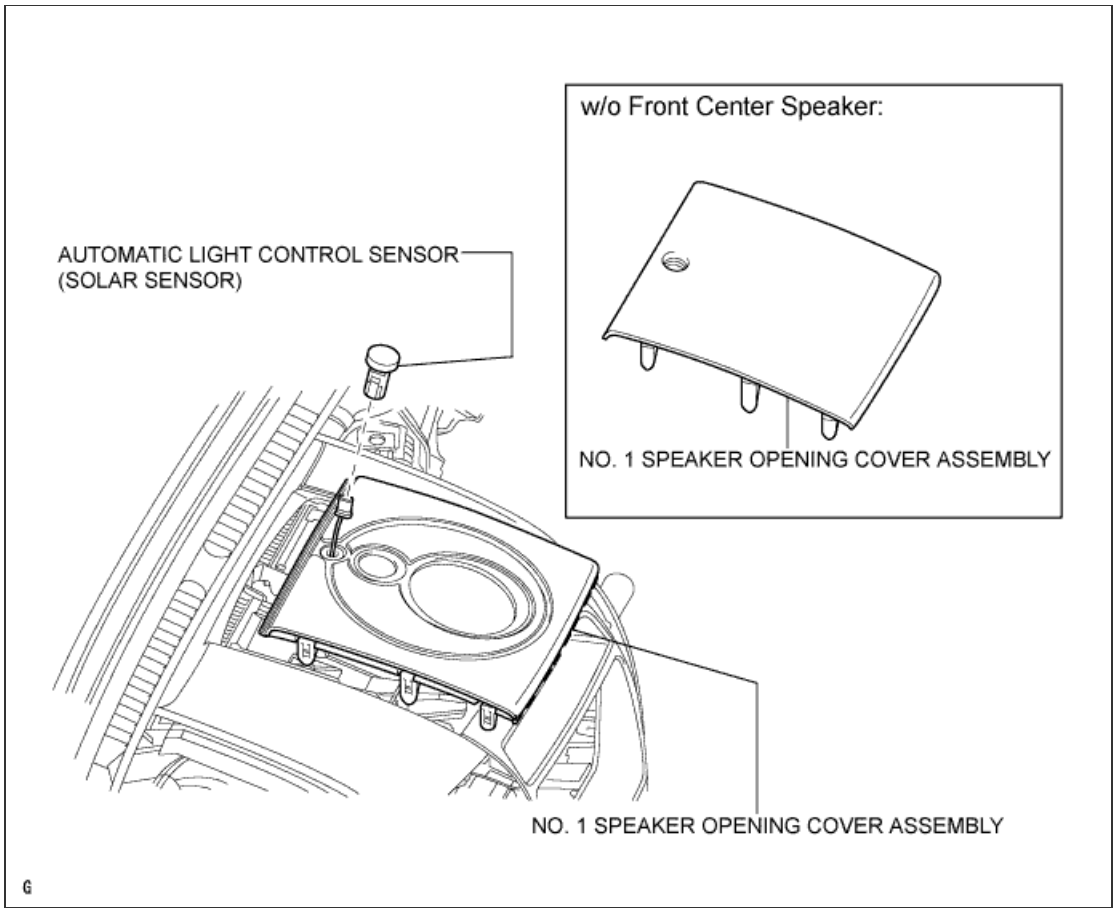

H

**for Preparation** Click here

### 1. INSTALL REAR COOLING UNIT ASSEMBLY

(Click here)

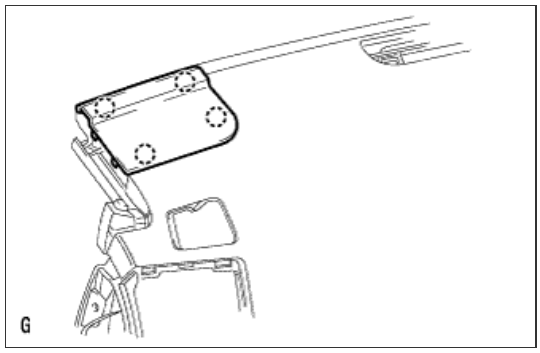
**for Preparation** Click here



**for Preparation** Click here

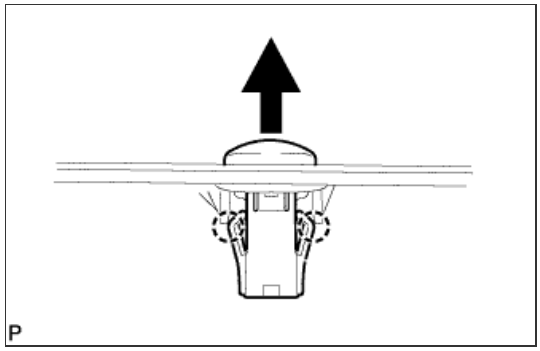
## 1. REMOVE NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Detach the 4 claws and remove the speaker panel.




## 2. REMOVE AUTOMATIC LIGHT CONTROL SENSOR (SOLAR SENSOR)

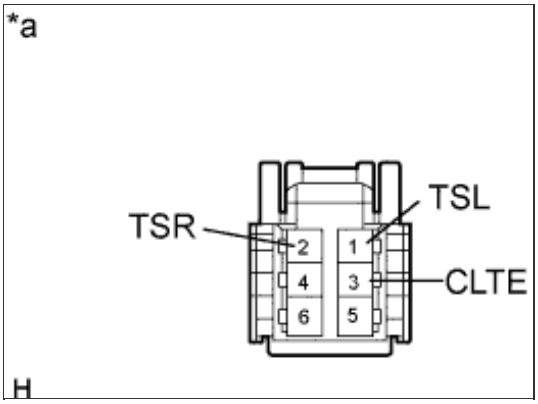
a. Detach the 2 claws and remove the sensor.



**for Preparation** Click here

## 1. INSPECT AUTOMATIC LIGHT CONTROL SENSOR (SOLAR SENSOR)

a. Connect the battery positive (+) lead to terminal 6 and the negative (-) lead to terminal 3, then measure the according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 (TSL) - 3 (CLTE) | Sensor subject to electric light | 0.5 V to 3.0 V |
| 1 (TSL) - 3 (CLTE) | Sensor covered with a cloth | 0.5 V or less |
| 2 (TSR) - 3 (CLTE) | Sensor subject to electric light | 0.5 V to 3.0 V |
| 2 (TSR) - 3 (CLTE) | Sensor covered with a cloth | 0.8 V or less |

If the result is not as specified, replace the automatic light control sensor (solar sensor).

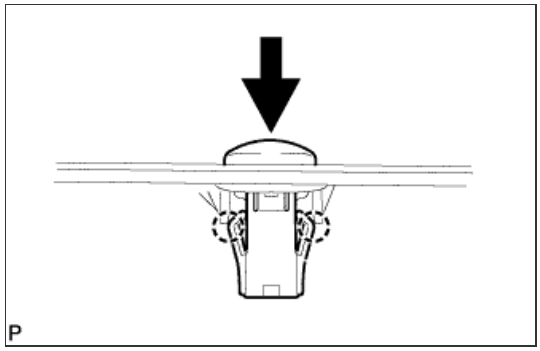
**HINT:**

- **As the inspection light is moved away from the sensor, the voltage increases.**
- **Use an incandescent lamp for inspection. Bring it within 30 cm (11.8 in.) of the A/C solar sensor.**

**for Preparation** Click here

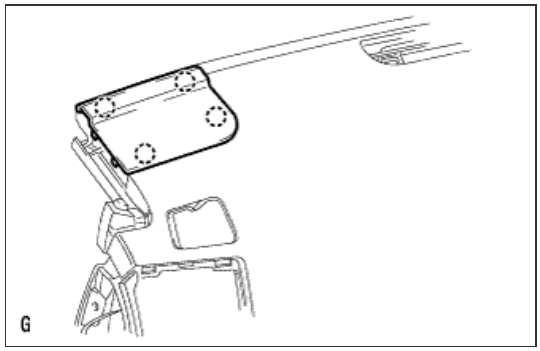
## 1. INSTALL AUTOMATIC LIGHT CONTROL SENSOR (SOLAR SENSOR)

a. Attach the 2 claws to install the sensor.

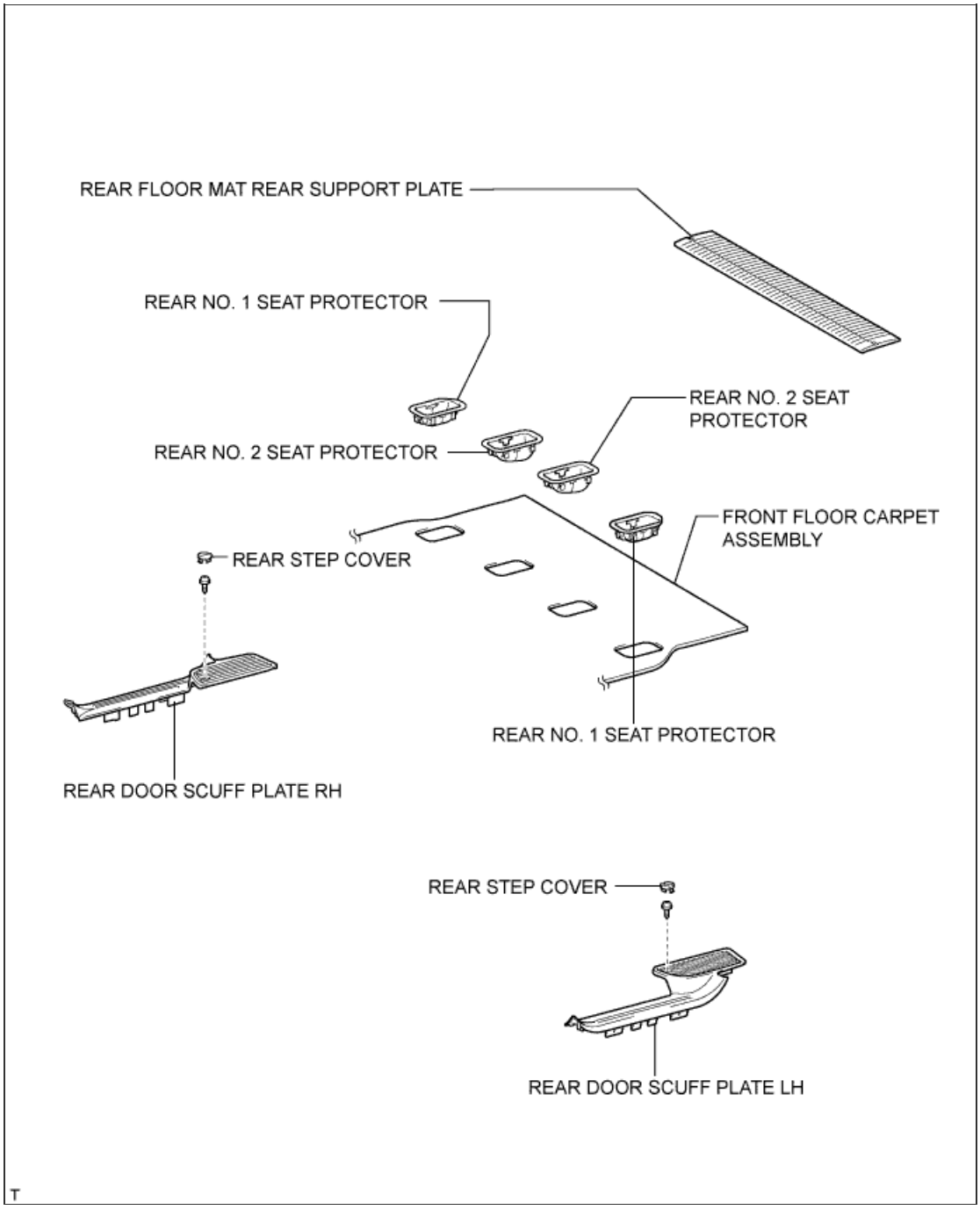


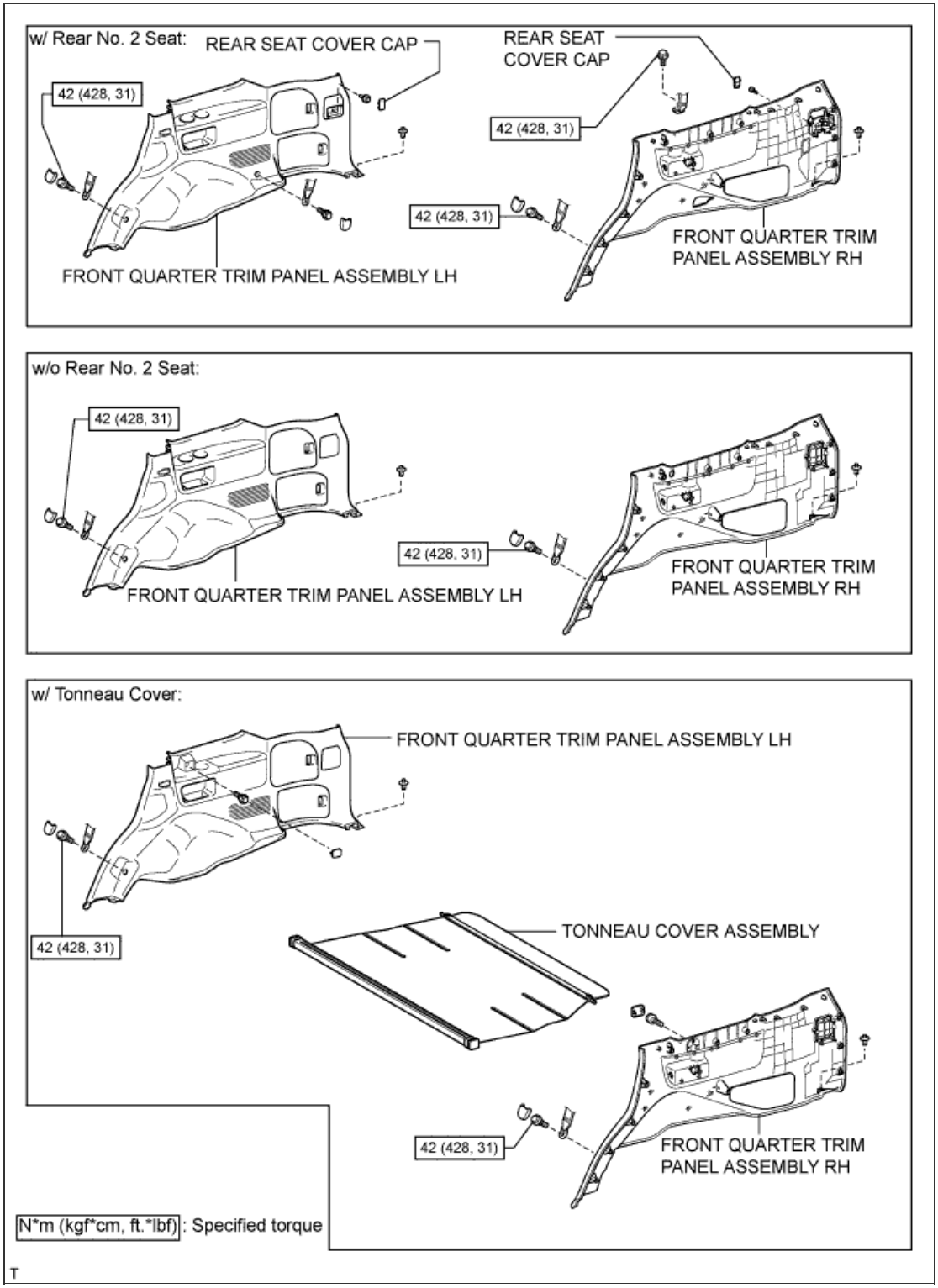

## 2. INSTALL NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Attach the 4 claws to install the panel.

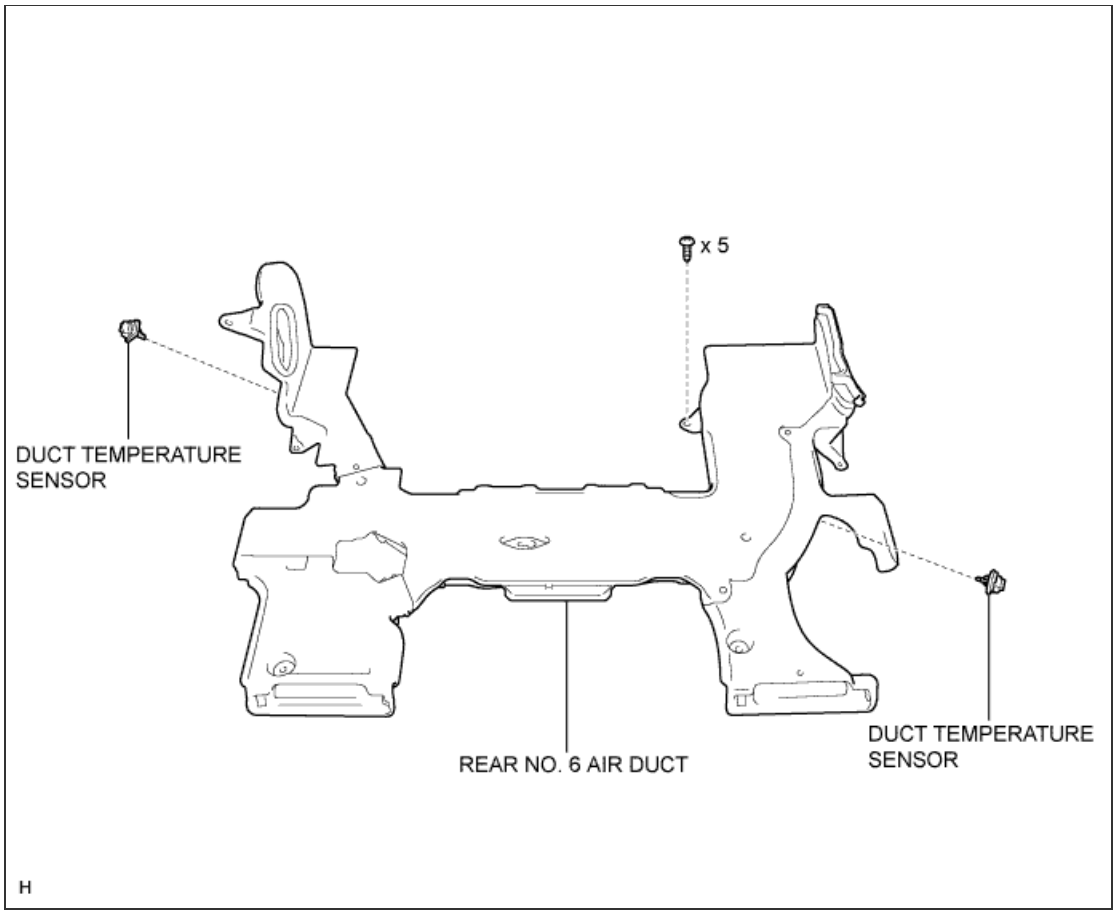


**for Preparation** Click here




w/ Rear No. 2 Seat:
REAR SEAT COVER CAP
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY LH
REAR SEAT COVER CAP
42 (428, 31)
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY RH
w/o Rear No. 2 Seat:
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY LH
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY RH
w/ Tonneau Cover:
FRONT QUARTER TRIM PANEL ASSEMBLY LH
42 (428, 31)
TONNEAU COVER ASSEMBLY
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY RH
N*m (kgf*cm, ft.*lbf): Specified torque

T


x 5
DUCT TEMPERATURE SENSOR
REAR NO. 6 AIR DUCT
DUCT TEMPERATURE SENSOR
H

# DUCT TEMPERATURE SENSOR (w/ Heater) > REMOVAL

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE REAR NO. 1 SEAT ASSEMBLY LH

a. for 60/40 Split Seat Type 40 Side:
(Click here)

b. for 60/40 Split Seat Type 60 Side:
(Click here)

## 4. REMOVE REAR NO. 1 SEAT ASSEMBLY RH

a. for 60/40 Split Seat Type 40 Side:
(Click here)

b. for 60/40 Split Seat Type 60 Side:
(Click here)

## 5. REMOVE REAR NO. 2 SEAT ASSEMBLY LH

a. for Face to Face Seat Type:
(Click here)

b. except Face to Face Seat Type:
(Click here)

## 6. REMOVE REAR NO. 2 SEAT ASSEMBLY RH

a. for Face to Face Seat Type:
(Click here)

b. except Face to Face Seat Type:
(Click here)

## 7. REMOVE REAR DOOR SCUFF PLATE LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 8. REMOVE REAR DOOR SCUFF PLATE RH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 9. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 10. REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

a. Remove the tonneau cover.

### 11. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat)

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 12. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 13. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat)

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

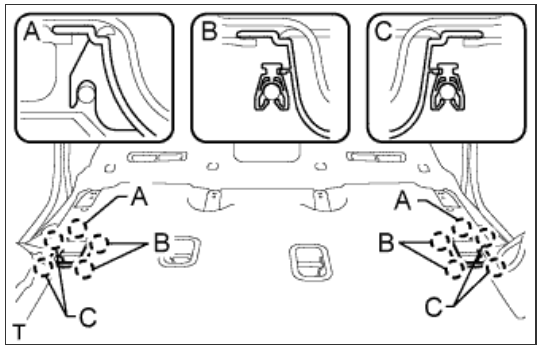
### 14. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

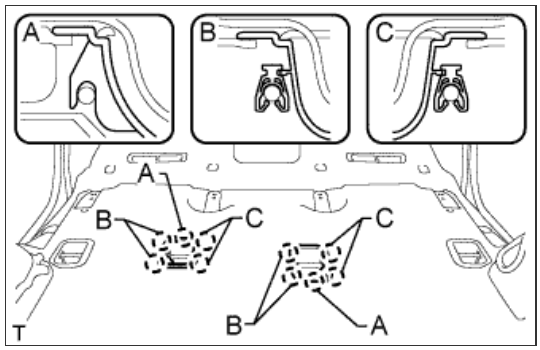
### 15. REMOVE REAR NO. 1 SEAT PROTECTOR

a. Detach the 10 claws and remove the 2 seat protectors.




## 16. REMOVE REAR NO. 2 SEAT PROTECTOR

a. Detach the 10 claws and remove the 2 seat protectors.

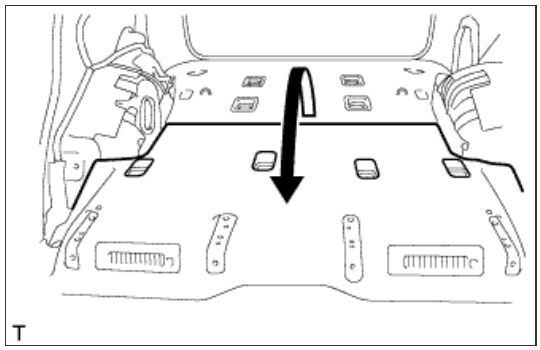



## 17. REMOVE FRONT FLOOR CARPET ASSEMBLY

a. Fold back the floor carpet.

**HINT:**

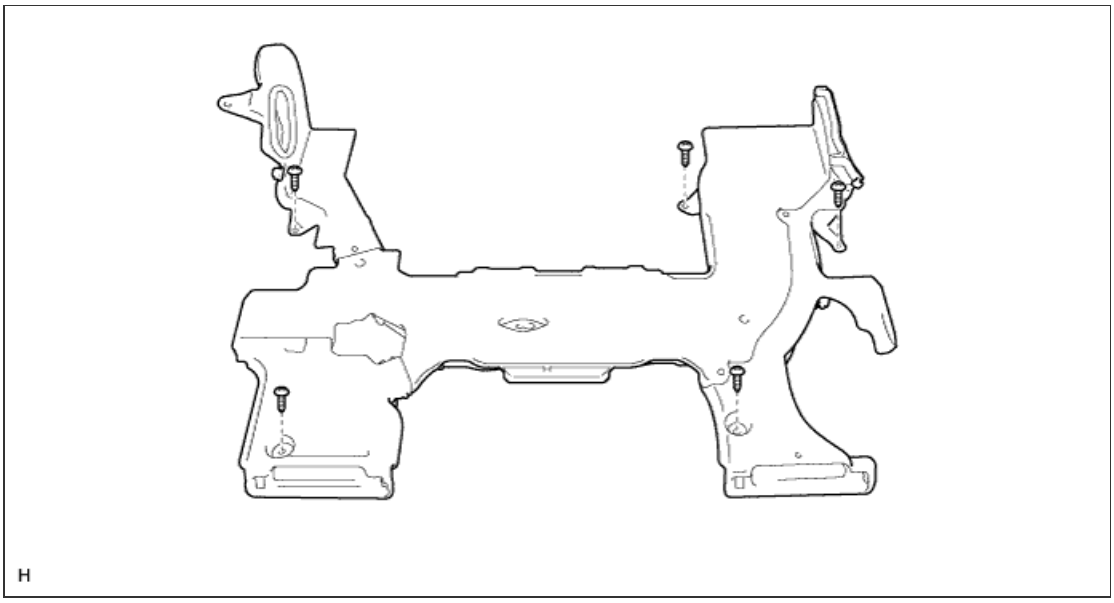
Fold back the carpet until it is possible to remove the rear No. 6 air duct.




## 18. REMOVE REAR NO. 6 AIR DUCT

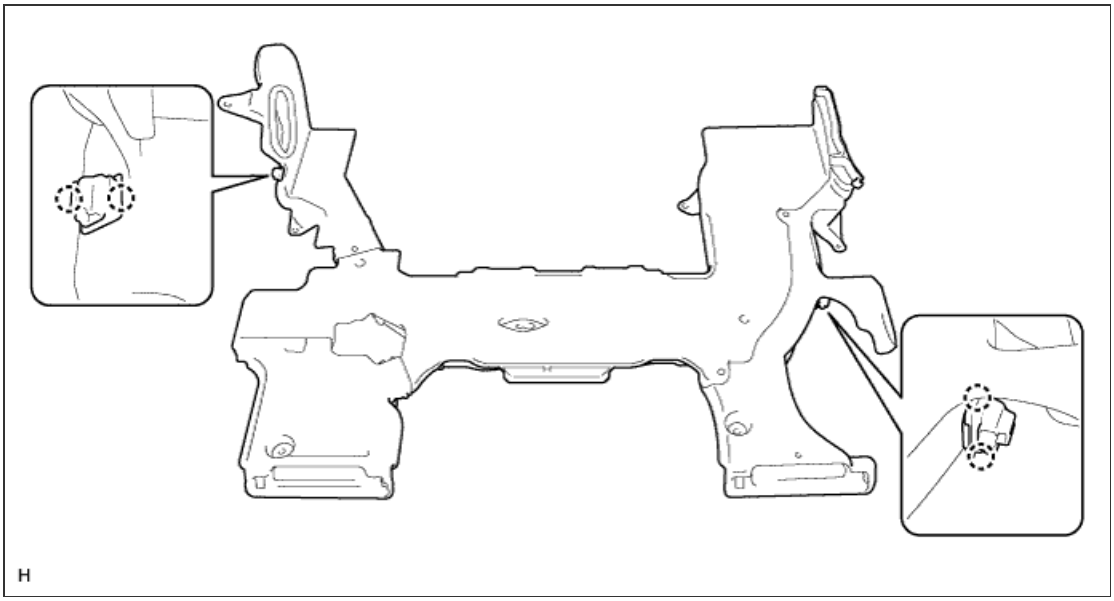
a. Disconnect the 2 connectors.

b. Remove the 5 screws and duct.




**19. REMOVE DUCT TEMPERATURE SENSOR**

a. Detach the 4 claws and remove the 2 sensors.



**for Preparation** Click here

## 1. INSPECT DUCT TEMPERATURE SENSOR

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | at 10°C (50°F) | 9.4 to 10.5 kΩ |
| 1 - 2 | at 15°C (59°F) | 7.5 to 8.3 kΩ |
| 1 - 2 | at 20°C (68°F) | 6.0 to 6.5 kΩ |
| 1 - 2 | at 25°C (77°F) | 4.8 to 5.2 kΩ |
| 1 - 2 | at 30°C (86°F) | 3.8 to 4.2 kΩ |
| 1 - 2 | at 35°C (95°F) | 3.1 to 3.4 kΩ |
| 1 - 2 | at 40°C (104°F) | 2.5 to 2.8 kΩ |
| 1 - 2 | at 45°C (113°F) | 2.0 to 2.3 kΩ |
| 1 - 2 | at 50°C (122°F) | 1.6 to 2.0 kΩ |
| 1 - 2 | at 55°C (131°F) | 1.3 to 1.6 kΩ |
| 1 - 2 | at 60°C (140°F) | 1.1 to 1.4 kΩ |

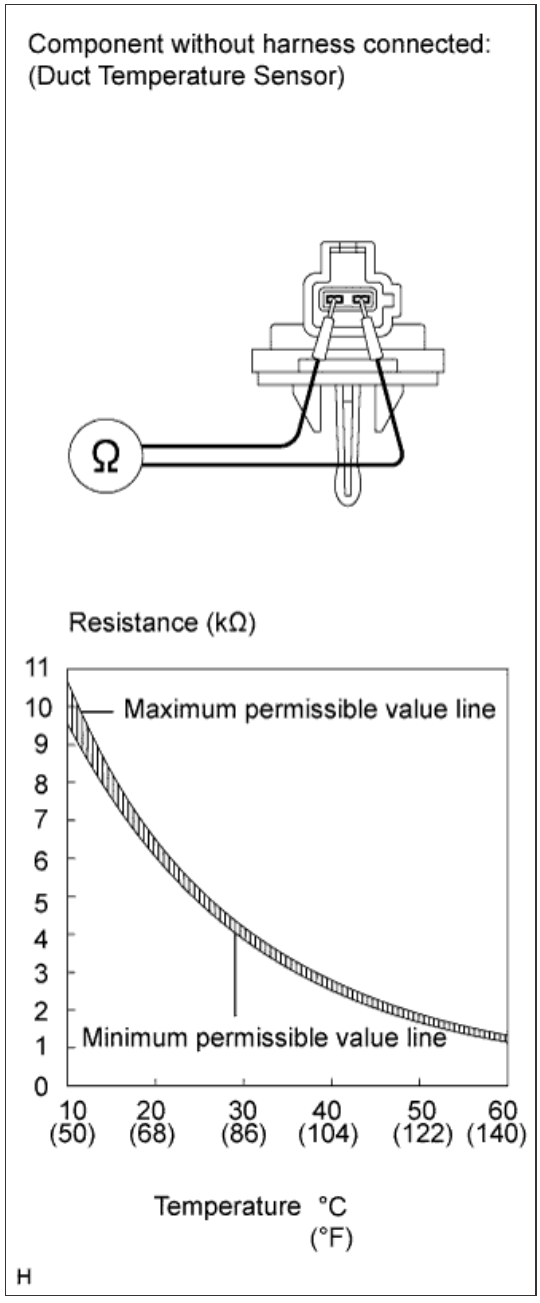
If the result is not as specified, replace the duct temperature sensor.

**NOTICE:**

- **Touching the sensor even slightly may change the resistance value. Hold the connector of the sensor.**
- **When measuring the resistance, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

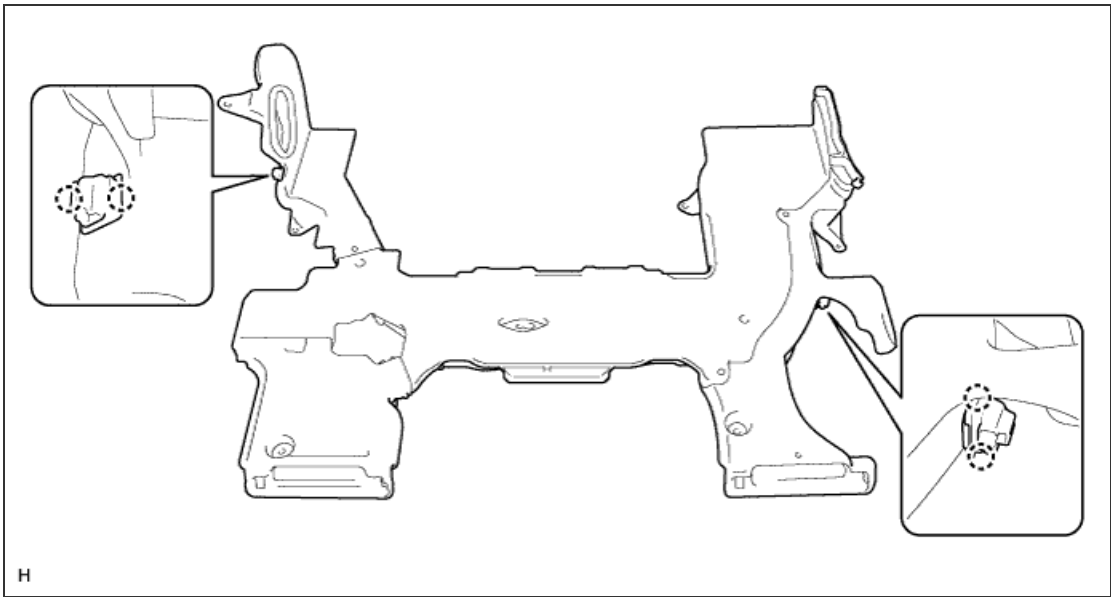
As the temperature increases, the resistance decreases (See the graph).



**for Preparation** Click here

## 1. INSTALL DUCT TEMPERATURE SENSOR

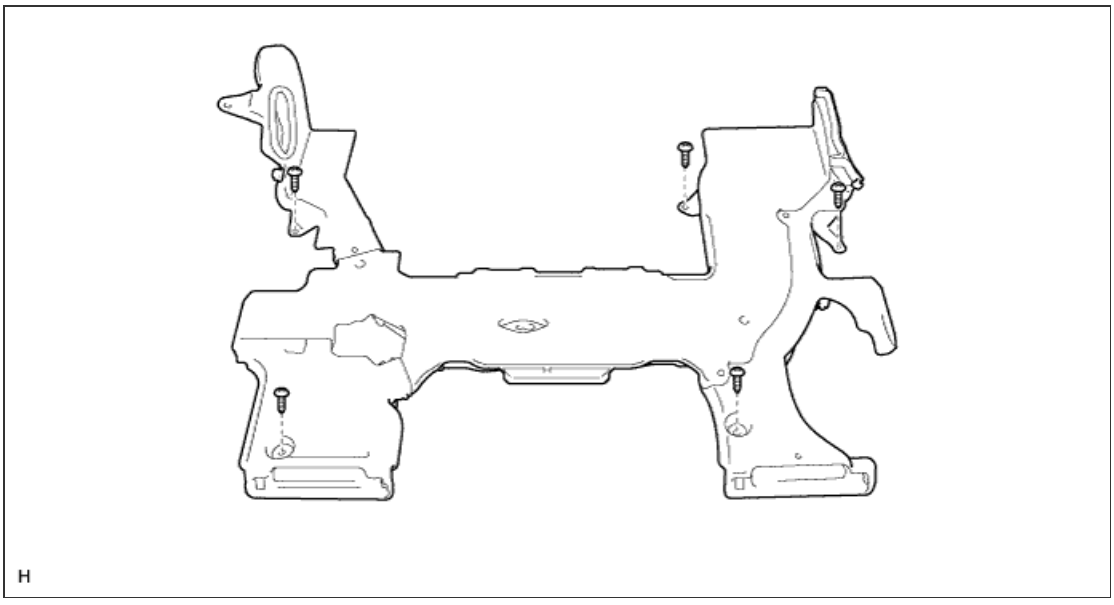
a. Attach the 4 claws to install the 2 sensors.




## 2. INSTALL REAR NO. 6 AIR DUCT

a. Install the duct with the 5 screws.

b. Connect the 2 connectors.

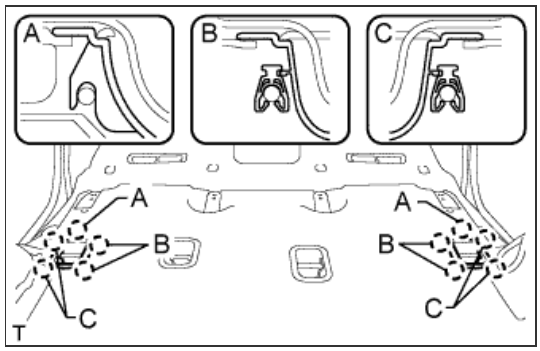


### 3. INSTALL FRONT FLOOR CARPET ASSEMBLY

a. Install the floor carpet.

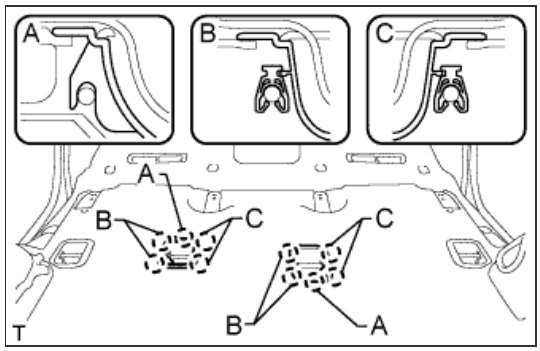
### 4. INSTALL REAR NO. 1 SEAT PROTECTOR

a. Attach the 10 claws to install the 2 seat protectors.




### 5. INSTALL REAR NO. 2 SEAT PROTECTOR

a. Attach the 10 claws to install the 2 seat protectors.




### 6. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat)

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 7. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 8. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat)

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 9. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 10. INSTALL TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

a. Install the tonneau cover assembly.

### 11. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 12. INSTALL REAR DOOR SCUFF PLATE LH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 13. INSTALL REAR DOOR SCUFF PLATE RH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 14. INSTALL REAR NO. 2 SEAT ASSEMBLY LH

a. for Face to Face Seat Type:
(Click here)

b. except Face to Face Seat Type:
(Click here)

### 15. INSTALL REAR NO. 2 SEAT ASSEMBLY RH

a. for Face to Face Seat Type:
(Click here)

b. except Face to Face Seat Type:
(Click here)

### 16. INSTALL REAR NO. 1 SEAT ASSEMBLY LH

a. for 60/40 Split Seat Type 40 Side:
(Click here)

b. for 60/40 Split Seat Type 60 Side:
(Click here)

## 17. INSTALL REAR NO. 1 SEAT ASSEMBLY RH

a. for 60/40 Split Seat Type 40 Side:
(Click here)

b. for 60/40 Split Seat Type 60 Side:
(Click here)

## 18. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

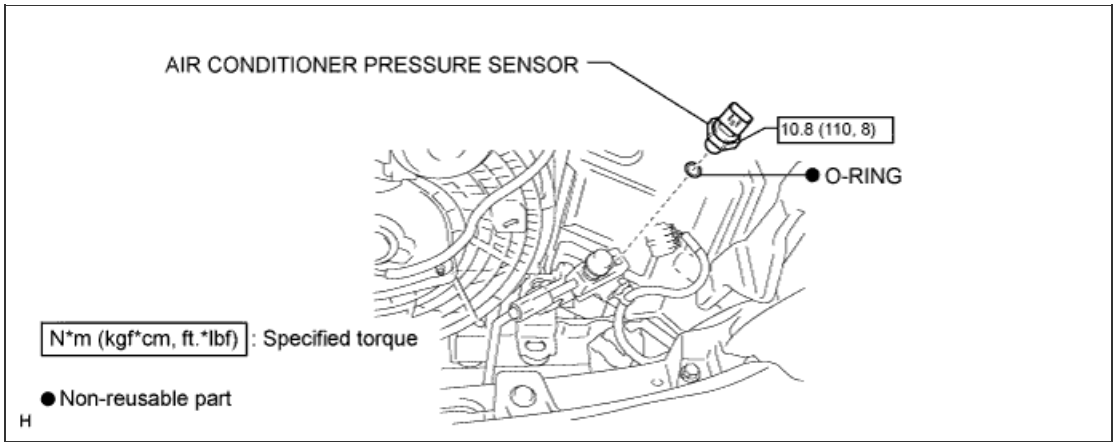
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 19. CHECK SRS WARNING LIGHT

(Click here)

**for Preparation** [Click here]



**for Preparation** Click here

## 1. REMOVE FRONT BUMPER COVER

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 2. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 3. REMOVE AIR CONDITIONER PRESSURE SENSOR

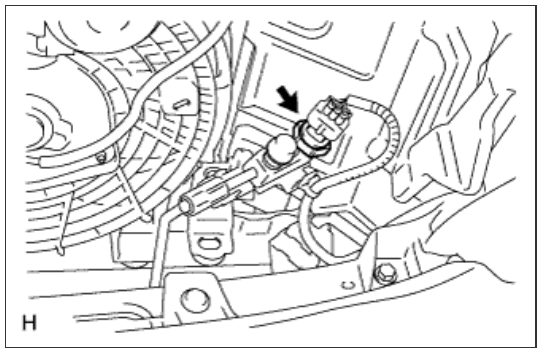
a. Disconnect the connector.

b. Remove the pressure sensor.

c. Remove O-ring from the pressure sensor.

**NOTICE:**

Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering them.



**for Preparation** Click here

## 1. INSTALL AIR CONDITIONER PRESSURE SENSOR

a. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the pressure sensor.

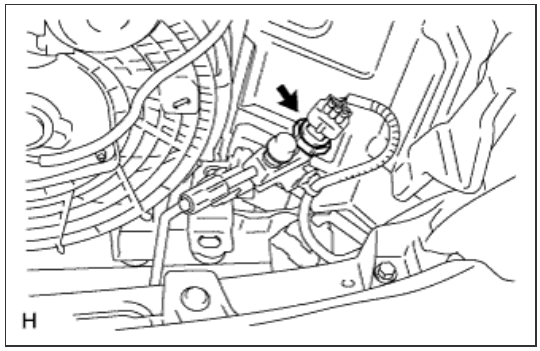
**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install O-ring on the pressure switch.

c. Install the pressure sensor.

**Torque:**
**10.8 N*m{ 110 kgf*cm , 8 ft.*lbf }**

d. Connect the connector.




## 2. CHARGE REFRIGERANT

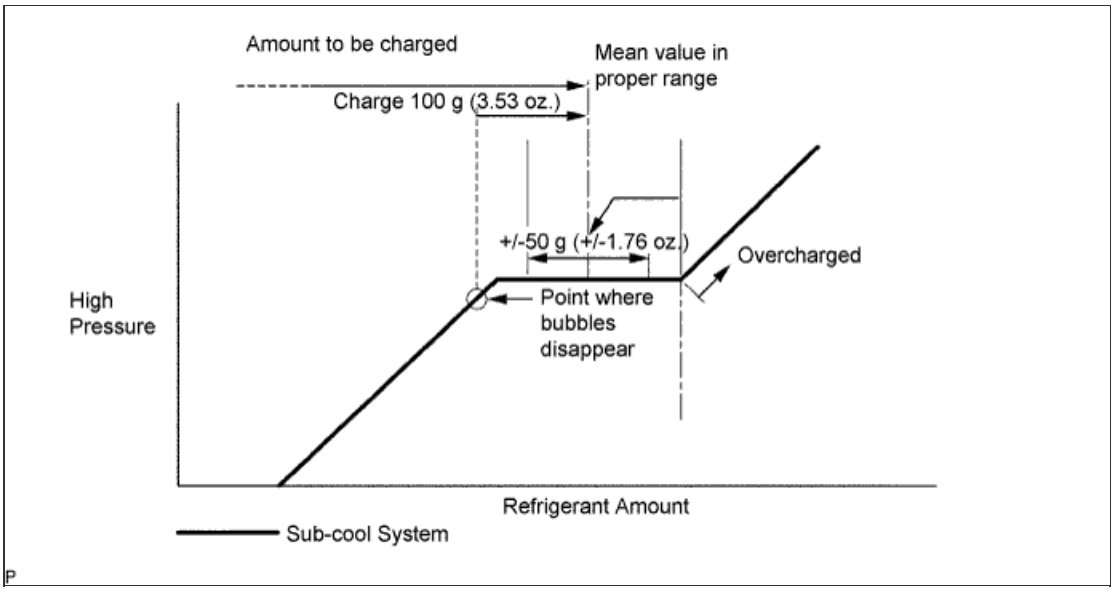
*SST*
09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 3. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 4. CHECK REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

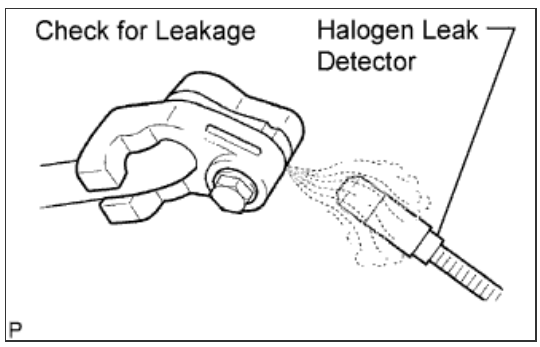
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

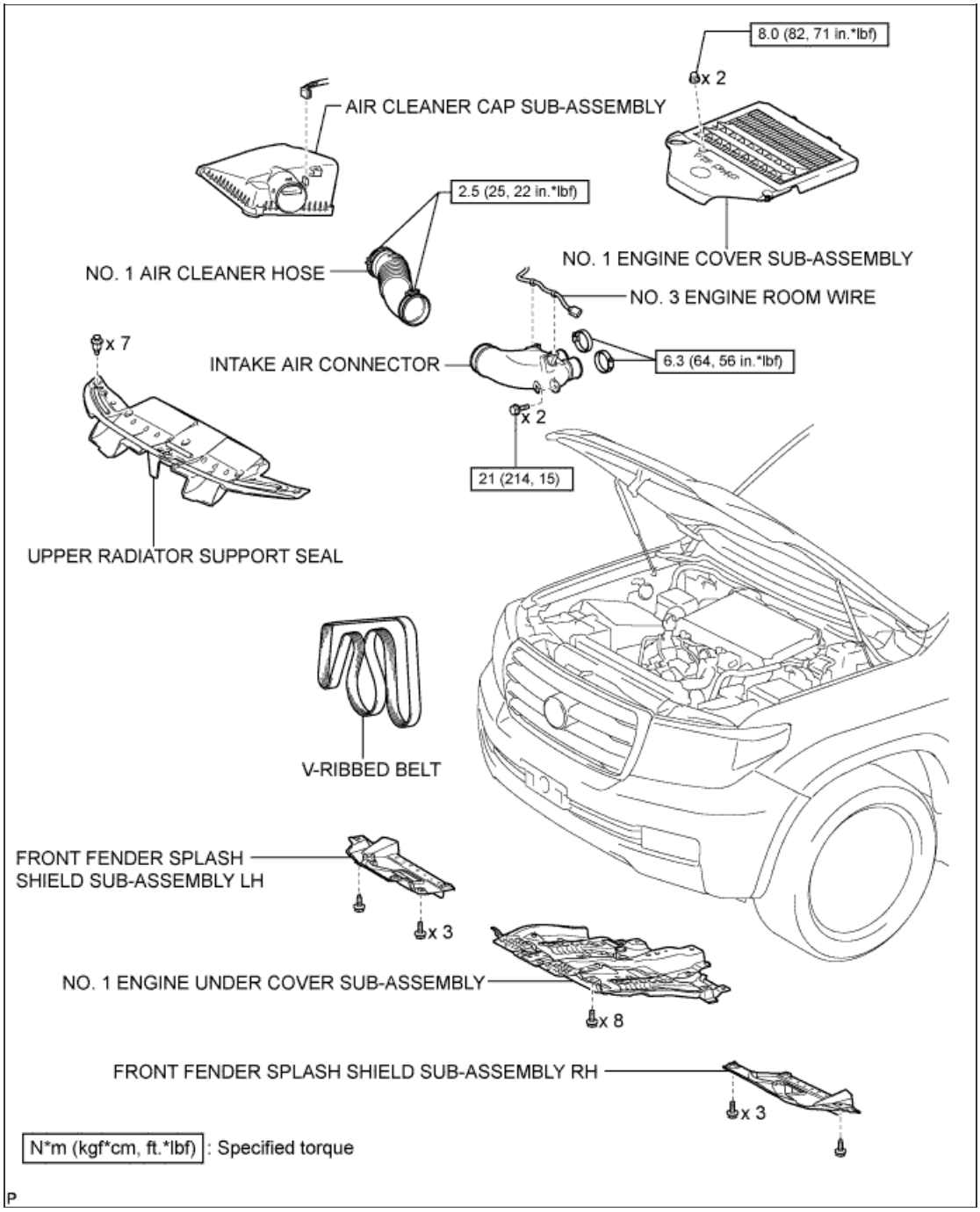


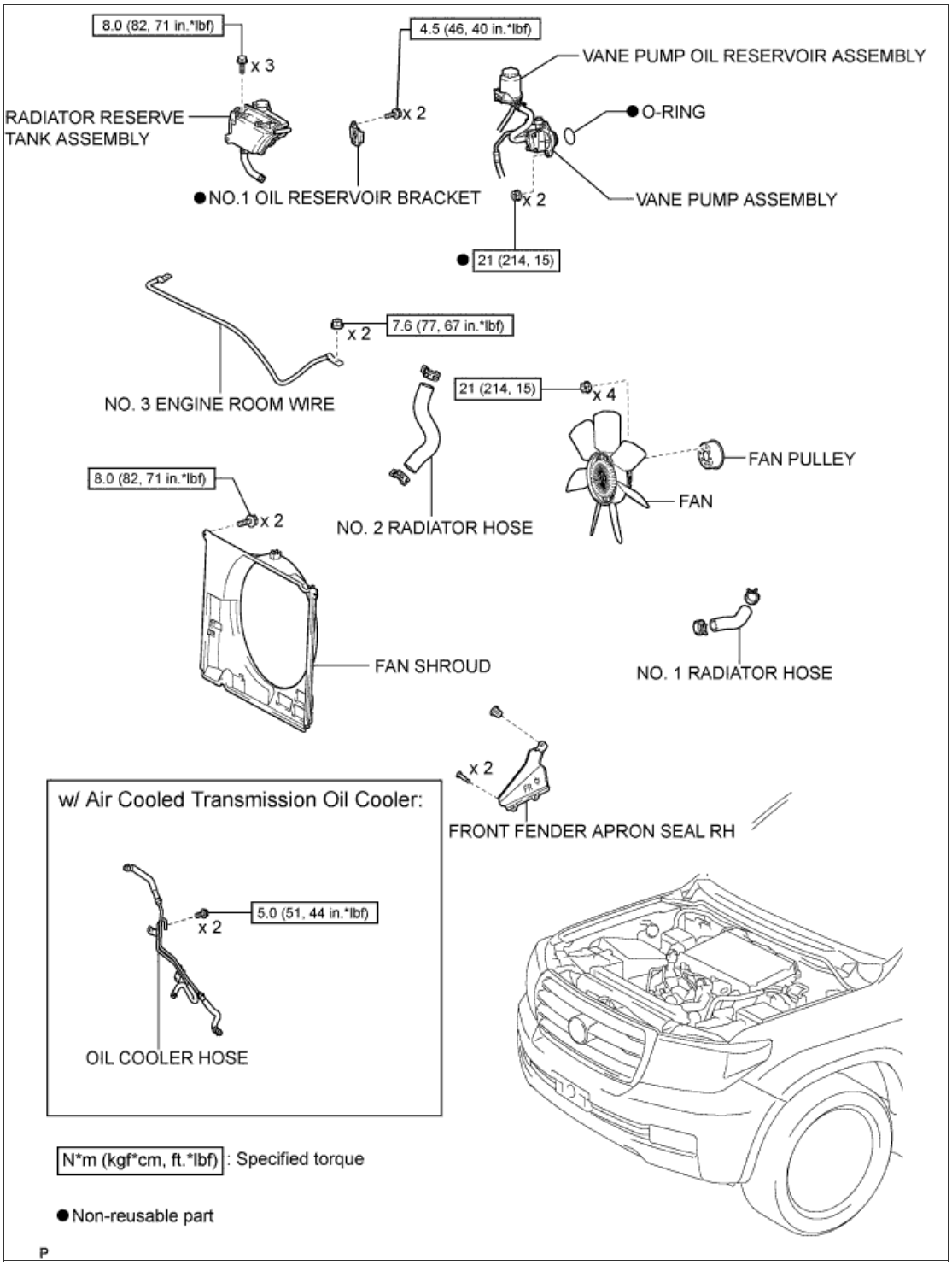

## 5. INSTALL FRONT BUMPER COVER

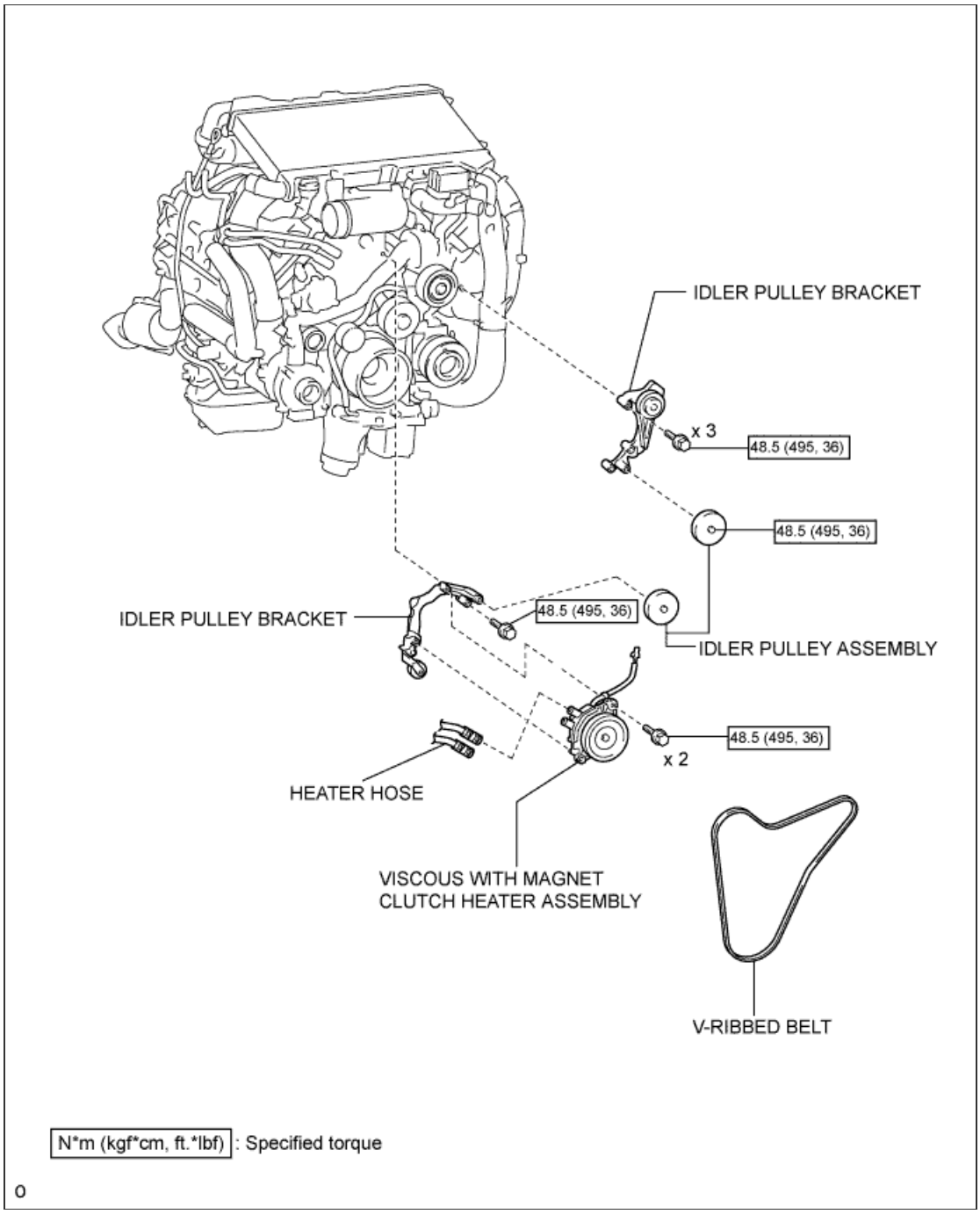
a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

**for Preparation** Click here




8.0 (82, 71 in.*lbf)
x 3
RADIATOR RESERVE TANK ASSEMBLY
4.5 (46, 40 in.*lbf)
x 2
VANE PUMP OIL RESERVOIR ASSEMBLY
O-RING
VANE PUMP ASSEMBLY
x 2
NO.1 OIL RESERVOIR BRACKET
21 (214, 15)
x 2
7.6 (77, 67 in.*lbf)
NO. 3 ENGINE ROOM WIRE
21 (214, 15)
x 4
FAN PULLEY
FAN
NO. 2 RADIATOR HOSE
8.0 (82, 71 in.*lbf)
x 2
FAN SHROUD
NO. 1 RADIATOR HOSE
x 2
FRONT FENDER APRON SEAL RH
w/ Air Cooled Transmission Oil Cooler:
5.0 (51, 44 in.*lbf)
x 2
OIL COOLER HOSE
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
P


IDLER PULLEY BRACKET
x 3
48.5 (495, 36)
48.5 (495, 36)
IDLER PULLEY BRACKET
48.5 (495, 36)
IDLER PULLEY ASSEMBLY
48.5 (495, 36)
x 2
HEATER HOSE
VISCOUS WITH MAGNET
CLUTCH HEATER ASSEMBLY
V-RIBBED BELT
N*m (kgf*cm, ft.*lbf) : Specified torque
o

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

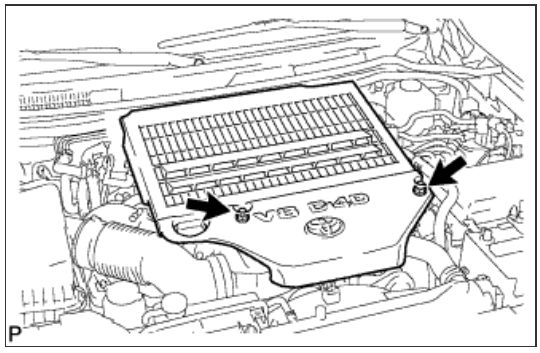
## 4. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

a. for Standard:
(Click here)

b. w/ Winch:
(Click here)

## 5. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. Remove the 2 nuts and No. 1 engine cover.



## 6. DRAIN ENGINE COOLANT

**CAUTION:**

Do not remove the radiator reservoir cap while the engine and radiator are still hot. Pressurized, hot engine coolant and steam may be released and cause serious burns.

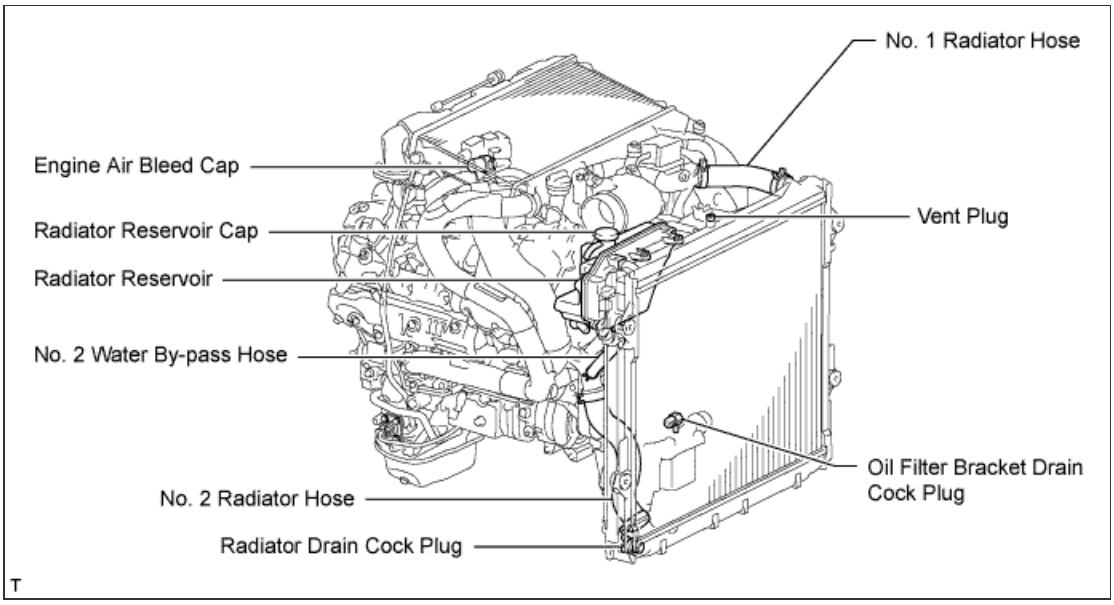
**HINT:**

Collect the coolant in a container and dispose of it according to the regulations in your area.

a. Loosen the radiator drain cock plug.

b. Remove the radiator reservoir cap to drain the coolant in the radiator.

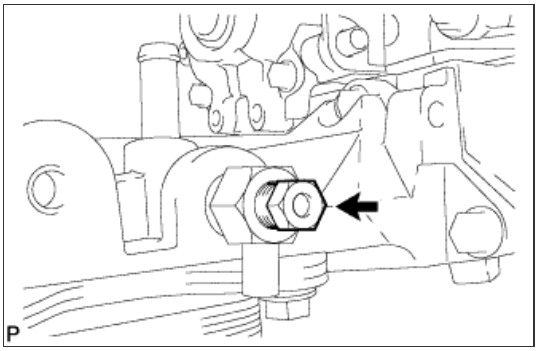
c. Loosen the oil filter bracket drain cock plug to drain the coolant in the engine.




d. Tighten the radiator drain cock plug by hand.

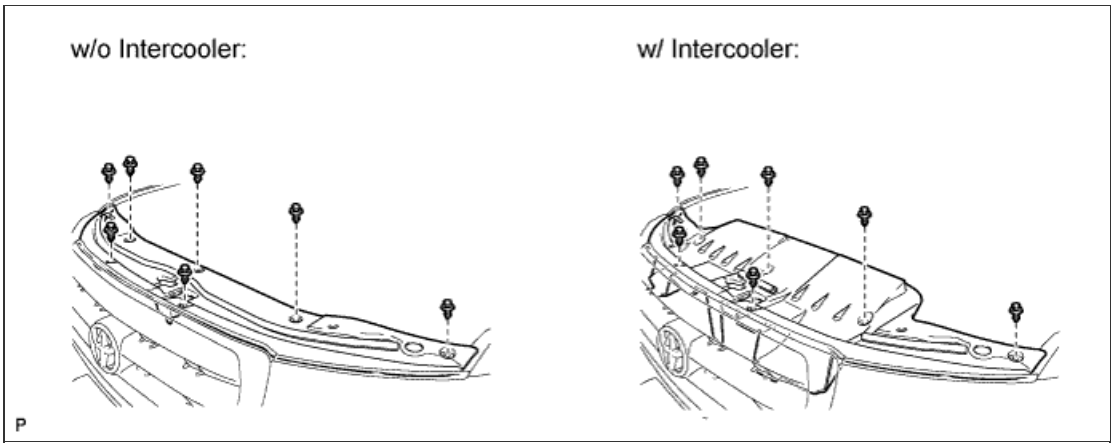
e. Tighten the oil filter bracket drain cock plug.

**Torque:**
**13 N*m{ 133 kgf*cm , 10 ft.*lbf }**




## 7. REMOVE UPPER RADIATOR SUPPORT SEAL

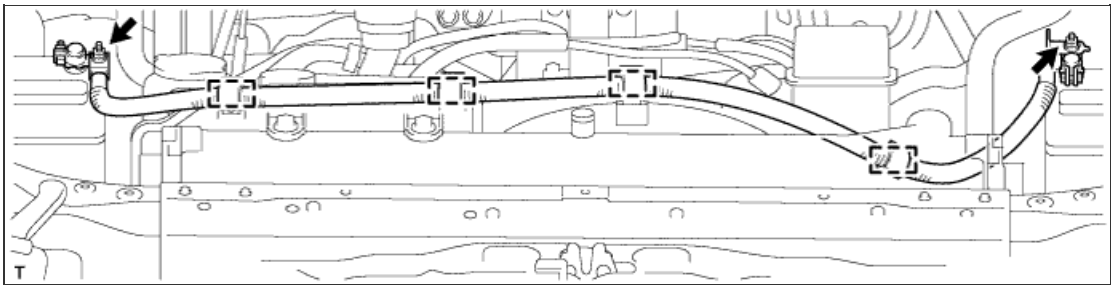
a. Remove the 7 clips and radiator support seal.




## 8. REMOVE NO. 3 ENGINE ROOM WIRE

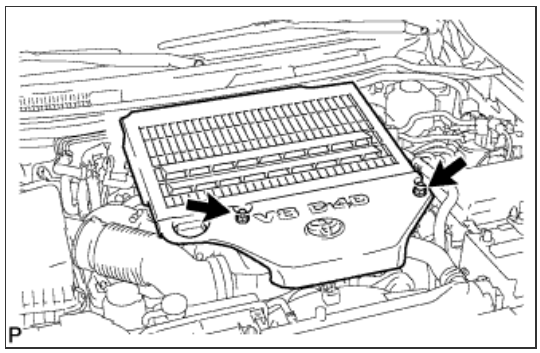
a. Disconnect the 4 wire harness clamps.

b. Remove the 2 nuts and No. 3 engine room wire.




## 9. REMOVE NO. 1 ENGINE COVER SUB-ASSEMBLY

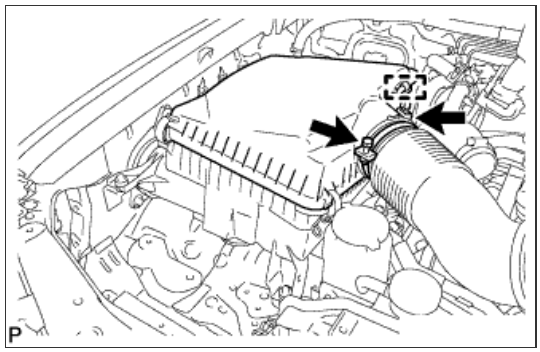
a. Remove the 2 nuts and No. 1 engine cover.




## 10. REMOVE AIR CLEANER CAP SUB-ASSEMBLY

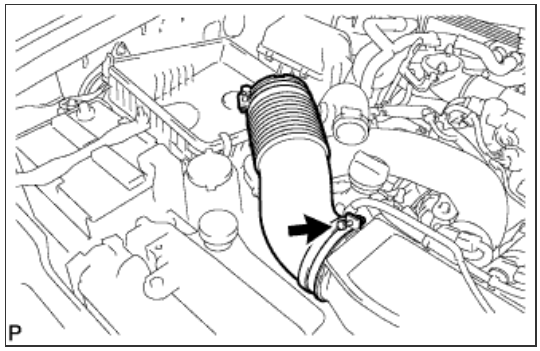
a. Loosen the hose clamp and disconnect the connector.

b. Using a clip remover, detach the 3 clamps and remove the air cleaner cap.



## 11. REMOVE NO. 1 AIR CLEANER HOSE

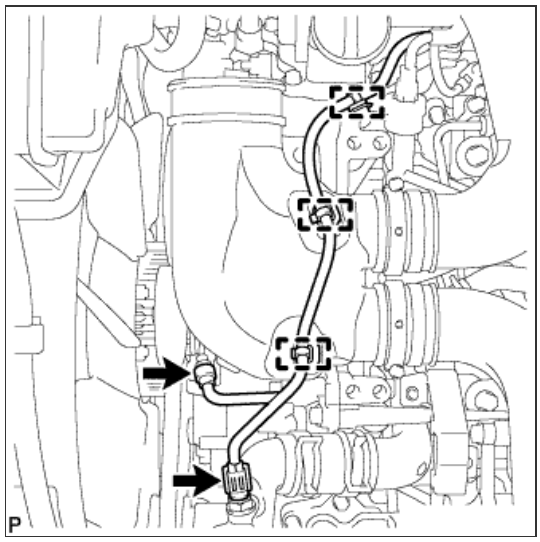
a. Loosen the hose clamp and remove the No. 1 air cleaner hose.



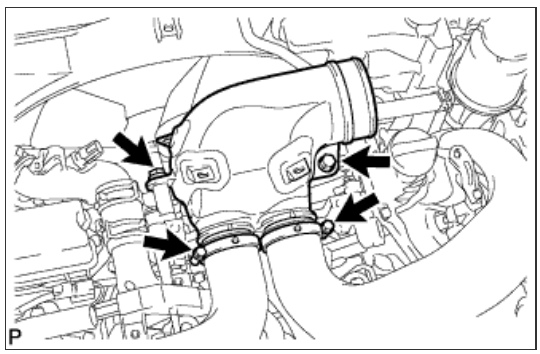
## 12. REMOVE INTAKE AIR CONNECTOR

a. Disconnect the 2 connectors from the viscous heater and water temperature sensor.

b. Using a clip remover, detach the 3 wire harness clamps.



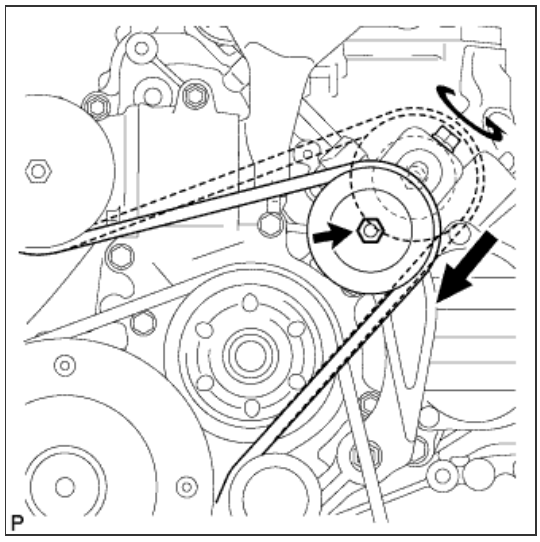
c. Loosen the 2 hose clamps and remove the 2 bolts and intake air connector.



## 13. REMOVE V-RIBBED BELT

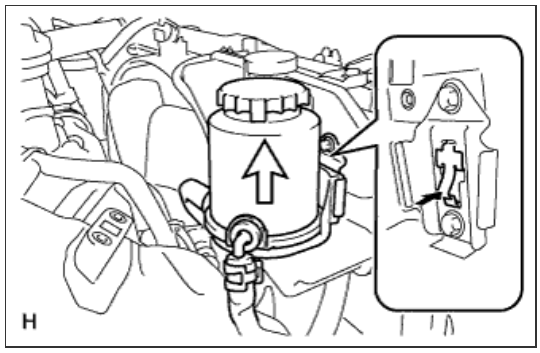
a. Loosen the lock nut and turn the bolt counterclockwise.

b. Remove the V-ribbed belt.




## 14. REMOVE VANE PUMP OIL RESERVOIR ASSEMBLY

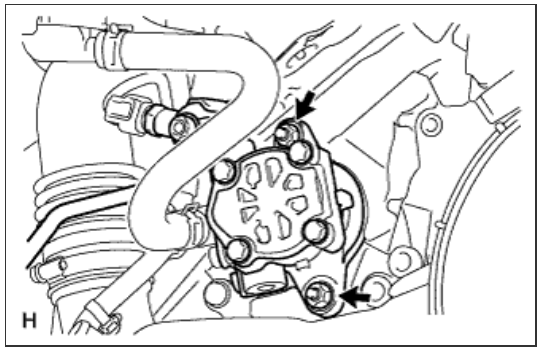
a. Insert a screwdriver between the reservoir and oil reservoir bracket, push the claw, and then disconnect the reservoir by pulling it upwards.




## 15. REMOVE VANE PUMP ASSEMBLY

a. Remove the 2 nuts and vane pump.

b. Remove the O-ring from the vane pump.

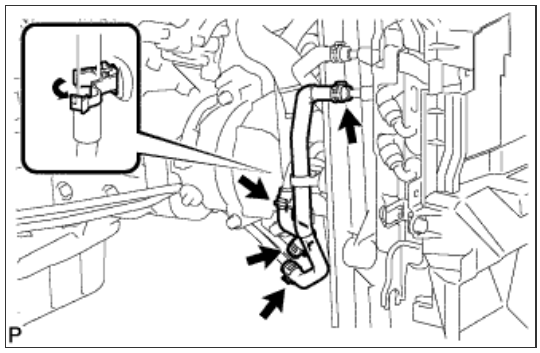



## 16. REMOVE NO. 1 RADIATOR HOSE

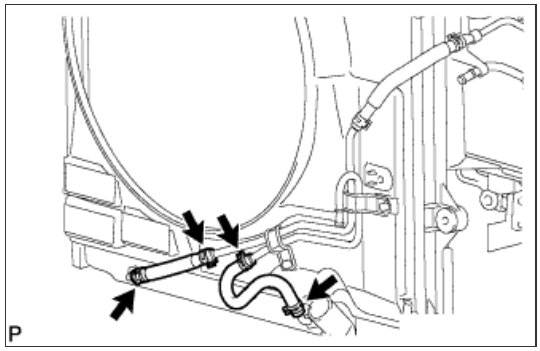
## 17. REMOVE NO. 2 RADIATOR HOSE

## 18. REMOVE OIL COOLER HOSE (w/ Air Cooled Transmission Oil Cooler)

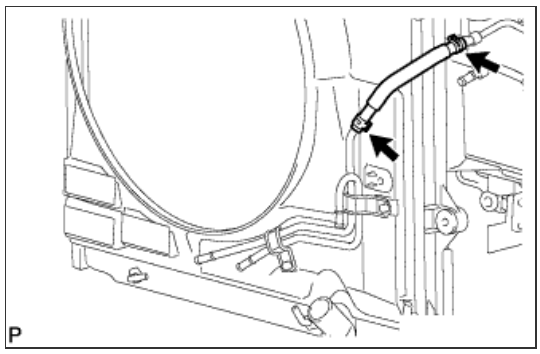
a. Disconnect the inlet and outlet No. 1 oil cooler hose.



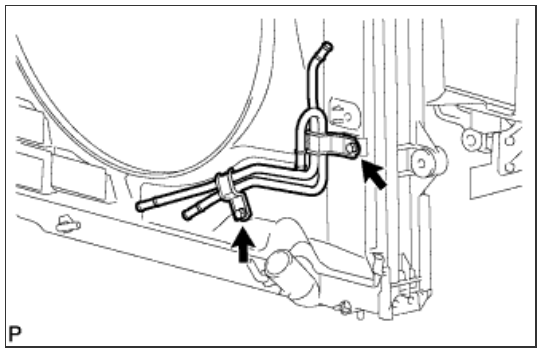

b. Disconnect the inlet No. 2 and No. 3 oil cooler hoses.




c. Disconnect the inlet No. 4 oil cooler hose.

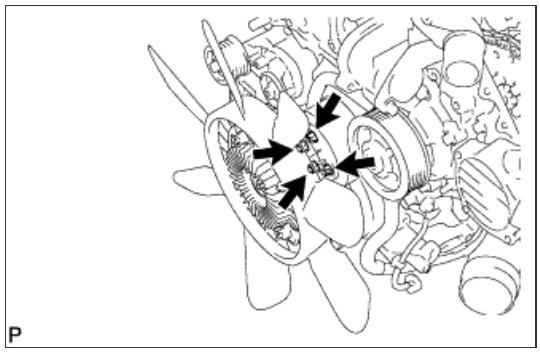



d. Remove the 2 bolts and transmission oil cooler tube.

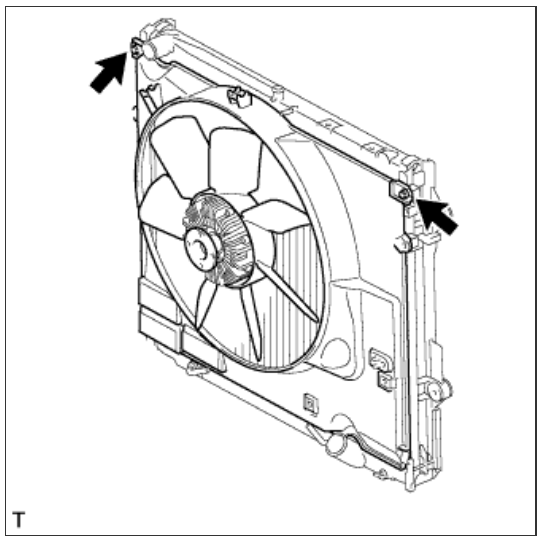



## 19. REMOVE FAN SHROUD WITH FAN

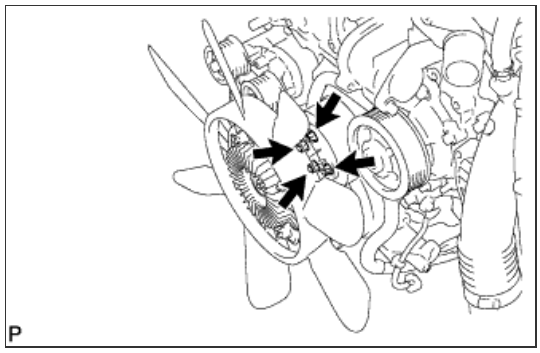
a. Loosen the 4 nuts holding the fluid coupling fan.




b. Remove the 2 bolts holding the fan shroud.



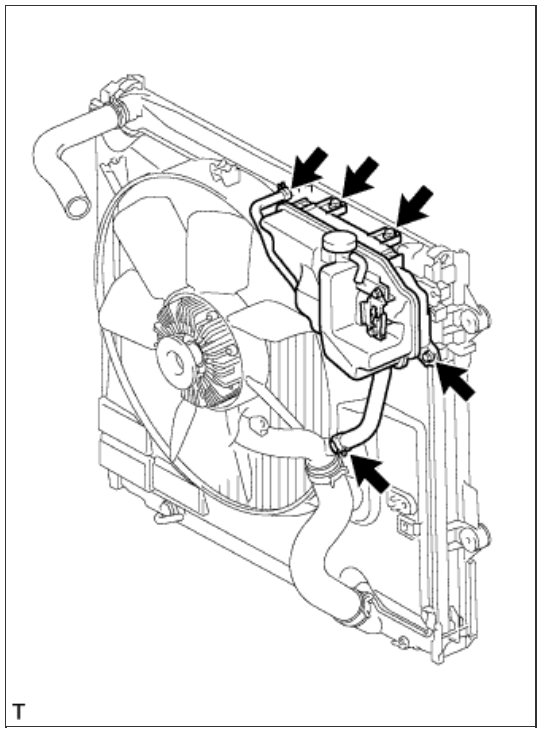

c. Remove the 4 nuts of the fluid coupling fan, and then remove the shroud together with the fluid coupling fan.




## 20. REMOVE RADIATOR RESERVE TANK ASSEMBLY

a. Disconnect the 2 hoses.

b. Remove the 3 bolts and radiator reservoir.

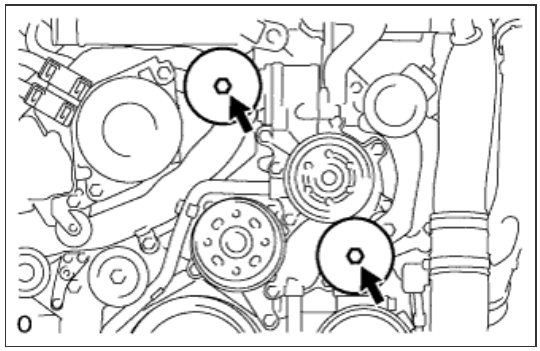



## 21. REMOVE RADIATOR ASSEMBLY

a. Remove the radiator assembly (Click here).

## 22. REMOVE IDLER PULLEY ASSEMBLY

a. Remove the 2 bolts and 2 idler pulleys.



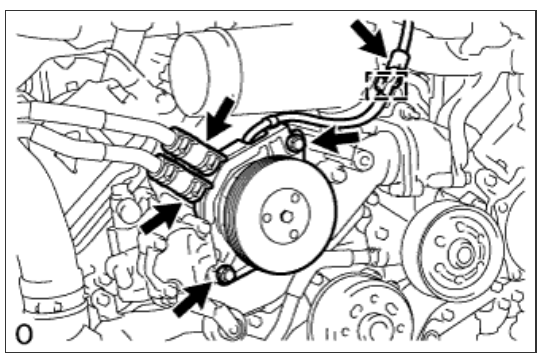

## 23. REMOVE VISCOUS WITH MAGNET CLUTCH HEATER ASSEMBLY

a. Disconnect the connector and detach the clamp.

b. Using pliers, grip the claws of the clips and slide the 2 clips.

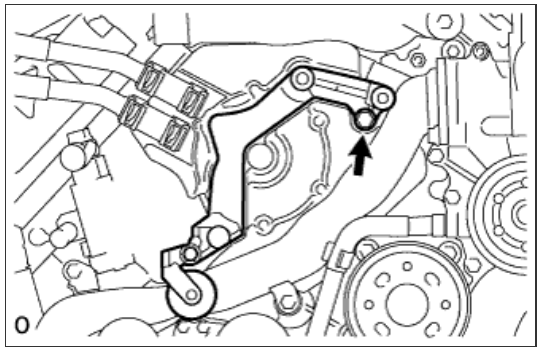
c. Disconnect the 2 heater hoses.

d. Remove the 2 bolts and heater assembly.



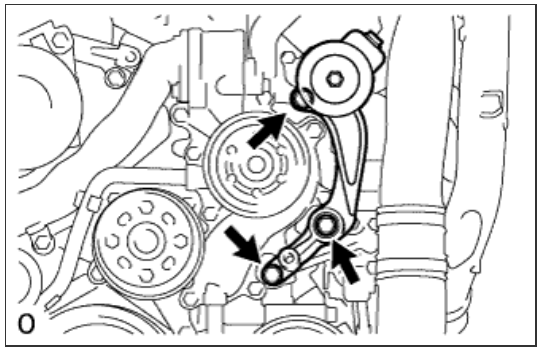

## 24. REMOVE IDLER PULLEY BRACKET

a. Remove the bolt and bracket.



**25. REMOVE IDLER PULLEY BRACKET (for Belt Tension Side)**

a. Remove the 3 bolts and bracket.

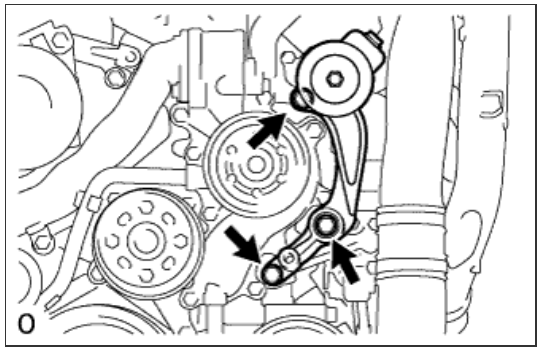


**for Preparation** Click here

## 1. INSTALL IDLER PULLEY BRACKET (w/ Belt Tension Side)

a. Install the bracket with the 3 bolts.

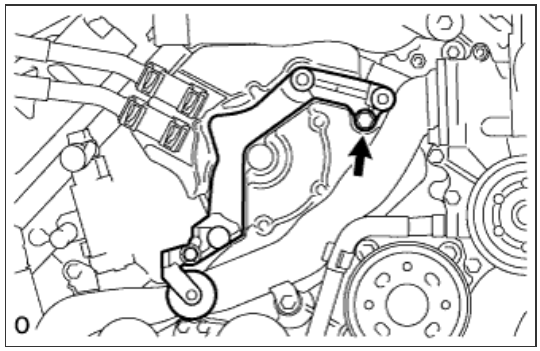
**Torque:**
**48.5 N*m{ 495 kgf*cm , 36 ft.*lbf }**



## 2. INSTALL IDLER PULLEY BRACKET

a. Install the bracket with the bolt.

**Torque:**
**48.5 N*m{ 495 kgf*cm , 36 ft.*lbf }**



## 3. INSTALL VISCOUS WITH MAGNET CLUTCH HEATER ASSEMBLY

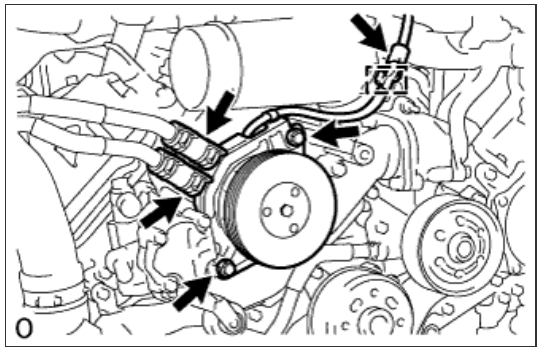
a. Install the heater assembly with the 2 bolts.

**Torque:**
**48.5 N*m{ 495 kgf*cm , 36 ft.*lbf }**

b. Connect the 2 heater hoses.

c. Using pliers, grip the claws of the clips and slide the 2 clips.

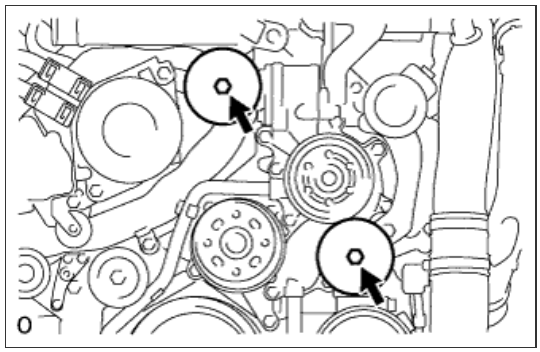
d. Connect the connector and attach the clamp.



## 4. INSTALL IDLER PULLEY ASSEMBLY

a. Install the 2 idler pulleys with the 2 bolts.

**Torque:**
**48.5 N*m{ 495 kgf*cm , 36 ft.*lbf }**




## 5. INSTALL RADIATOR ASSEMBLY

a. Install the radiator assembly (Click here).

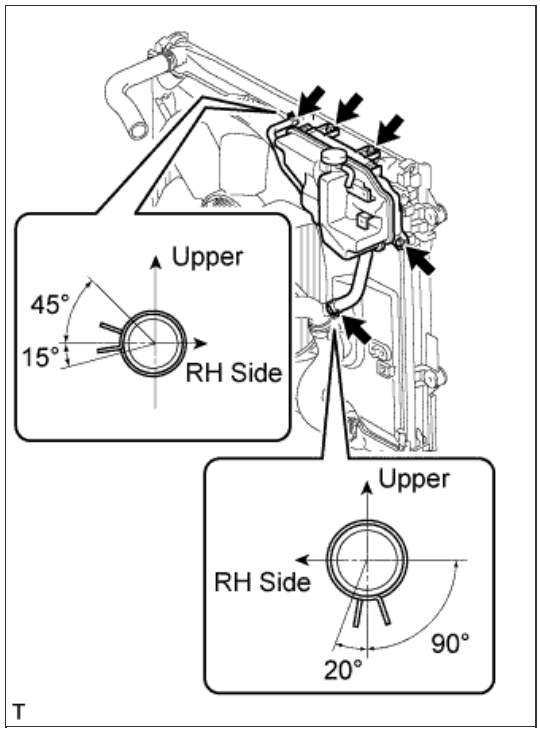
## 6. INSTALL RADIATOR RESERVE TANK ASSEMBLY

a. Install the radiator reservoir with the 3 bolts.

b. Connect the 2 hoses to the upper radiator tank and water inlet.

**HINT:**

Make sure the directions of the hose clamps are as shown in the illustration.




## 7. INSTALL FAN SHROUD WITH FAN

a. Install the shroud together with the fluid coupling fan between the radiator and engine components.

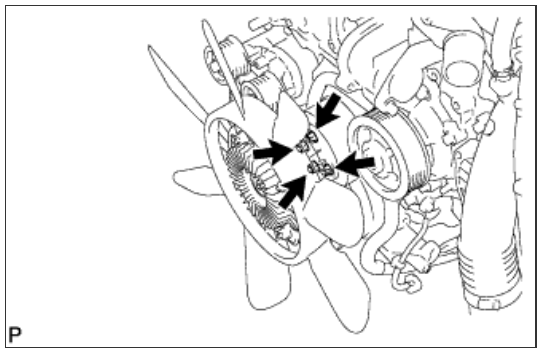
**NOTICE:**

Be careful not to damage the radiator core.

b. Temporarily install the fluid coupling fan to the fan bracket with the 4 nuts.

**HINT:**

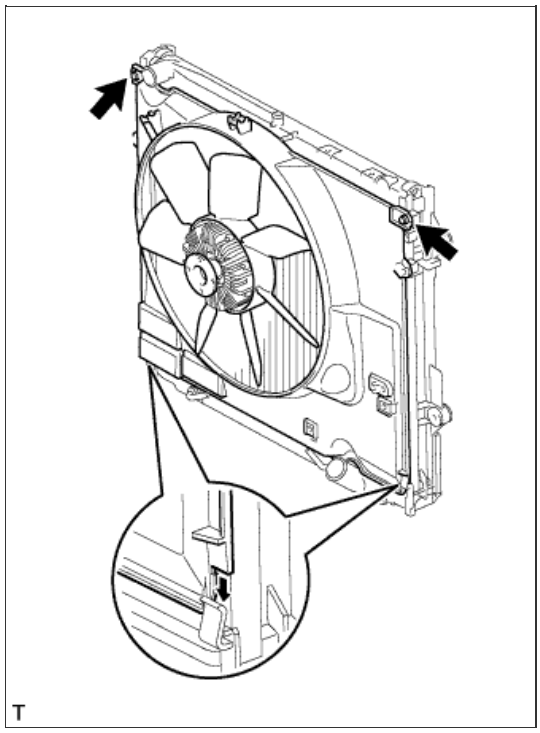
Tighten the nuts as much as possible by hand.




c. Attach the shroud claws to the radiator.

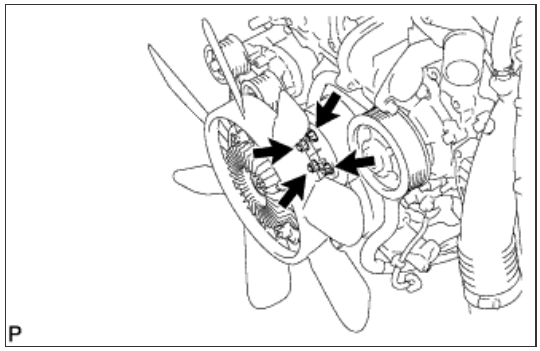
d. Install the shroud with the 2 bolts.

**Torque:**
**8.0 N*m{ 82 kgf*cm , 71 in.*lbf }**




e. Tighten the 4 nuts of the fluid coupling fan.

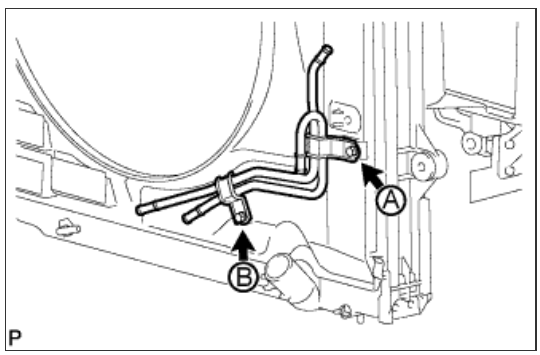
**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**




## 8. INSTALL OIL COOLER HOSE (w/ Air Cooled Transmission Oil Cooler)

a. Temporarily install the oil cooler tube to the fan shroud with the bolt labeled A. Install the bolt labeled B. Then tighten the bolt labeled A to the specified torque.

**Torque:**
**5.0 N*m{ 51 kgf*cm , 44 in.*lbf }**



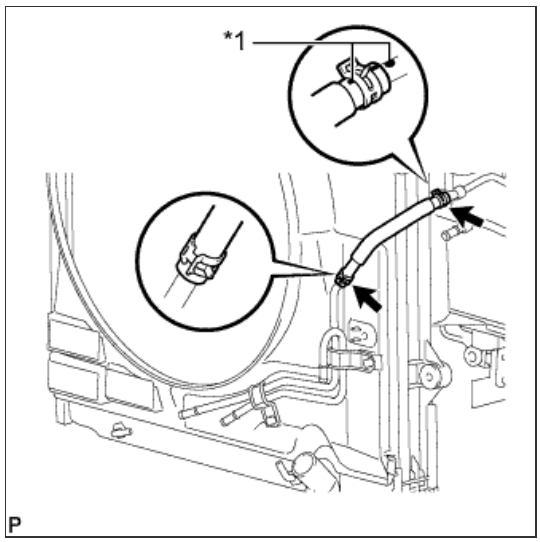
b. Connect the inlet No. 4 oil cooler hose as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Paint Mark |

**NOTICE:**

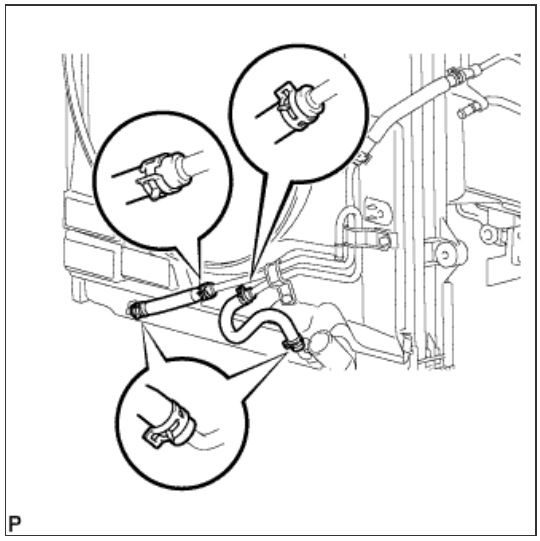
Make sure the pinching portion of each clip is facing the direction shown in the illustration.




c. Connect the inlet No. 2 and No. 3 oil cooler hoses as shown in the illustration.

**NOTICE:**

Make sure the pinching portion of each clip is facing the direction shown in the illustration.




d. Connect the inlet and outlet No. 1 oil cooler hoses as shown in the illustration.

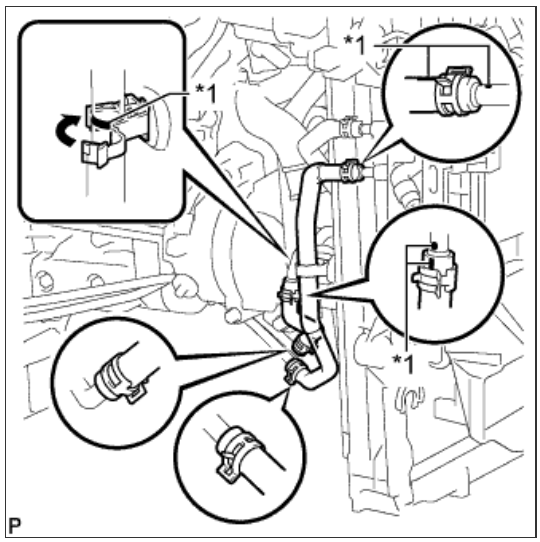
**Text in Illustration**

| | |
|---|---|
| *1 | Paint Mark |

**NOTICE:**

Make sure the pinching portion of each clip is facing the direction shown in the illustration.

e. Pass the hose through the flexible hose clamp and close the clamp shown in the illustration.




## 9. INSTALL NO. 2 RADIATOR HOSE

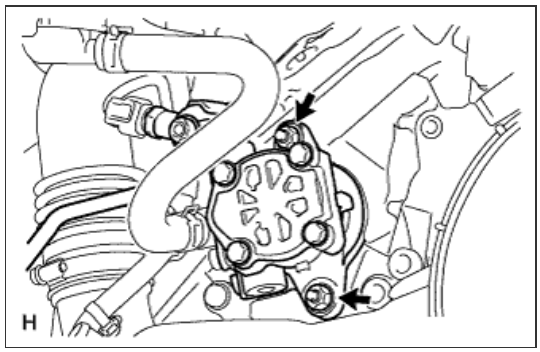
## 10. INSTALL NO. 1 RADIATOR HOSE

## 11. INSTALL VANE PUMP ASSEMBLY

a. Apply a light coat of engine oil to a new O-ring, and install it to the vane pump.

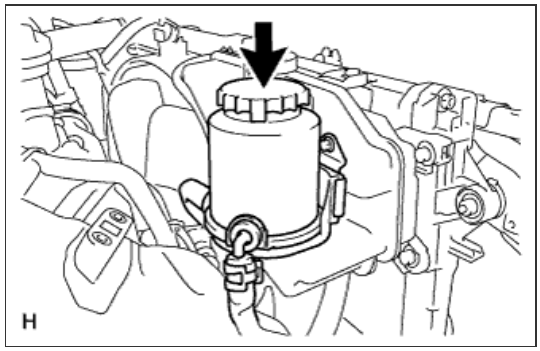
b. Install the vane pump with 2 new nuts.

**Torque:**
**29 N*m{ 296 kgf*cm , 21 ft.*lbf }**



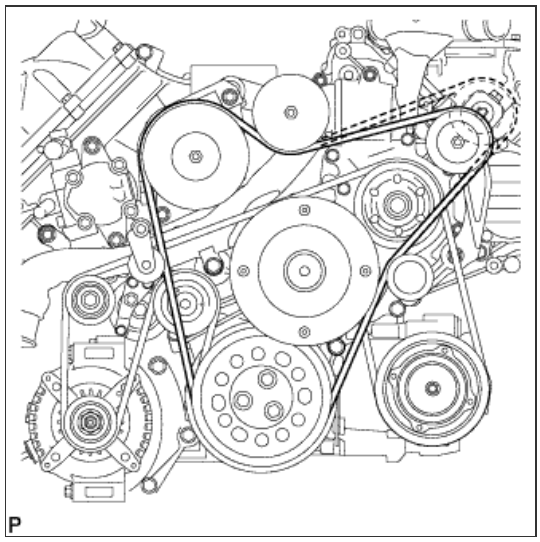

## 12. INSTALL VANE PUMP OIL RESERVOIR ASSEMBLY

a. Install the vane pump oil reservoir to the bracket.

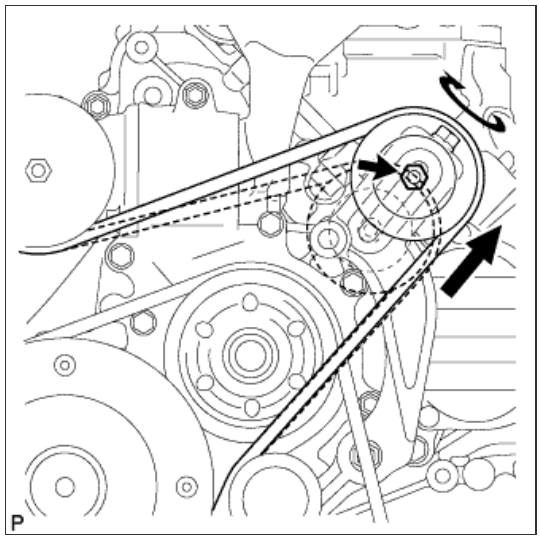



## 13. INSTALL V-RIBBED BELT

a. Install the V-ribbed belt as shown in the illustration.



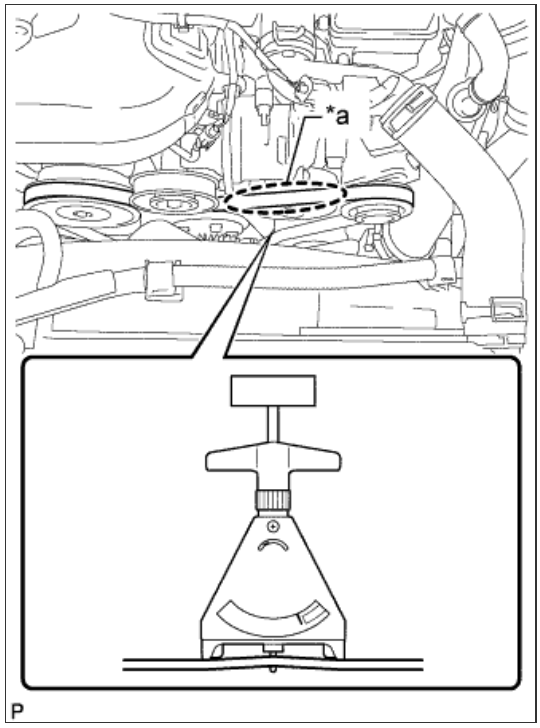

b. Temporarily install the lock nut, and turn the bolt clockwise.




c. Using a belt tension gauge, inspect the belt tension.

**Standard Belt Tension:**

| Item | Condition | Specified Condition |
|---|---|---|
| New belt | 5 to 35°C (41 to 95°F) | 550 to 800 N (56 to 82 kgf, 123.6 to 179.8 lbf) |
| Used belt | 5 to 35°C (41 to 95°F) | 300 to 500 N (31 to 51 kgf, 67.4 to 112.4 lbf) |




**Text in Illustration**

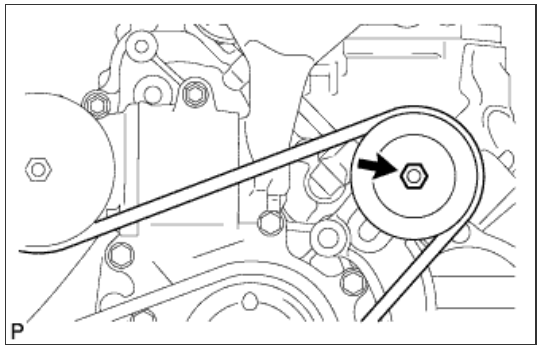
| | |
|---|---|
| *a | Measuring Point |

**HINT:**

- **When measuring the tension of a new belt, measure the tension immediately after installing it to the engine but before starting the engine.**
- **A "new belt" is a belt which has been used for less than 5 minutes on a running engine.**
- **A "used belt" is a belt which has been used on a running engine for 5 minutes or more.**
- **After installing a new belt, run the engine for approximately 5 minutes and then recheck the tension.**

d. Tighten the nut.

**Torque:**
**40 N*m{ 408 kgf*cm , 30 ft.*lbf }**

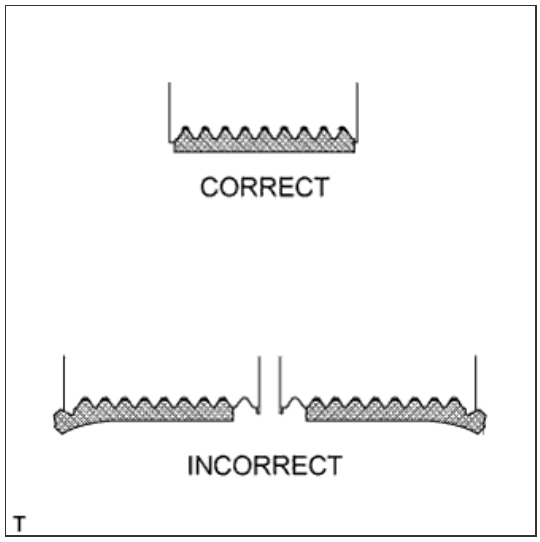



e. Check that the belt fits properly in the ribbed grooves.

**HINT:**

Check with your hand to confirm that the belt has not slipped out of the groove on the bottom of the pulley.

If it has slipped out, replace the V-ribbed belt. Install a new V-ribbed belt.




## 14. INSTALL INTAKE AIR CONNECTOR

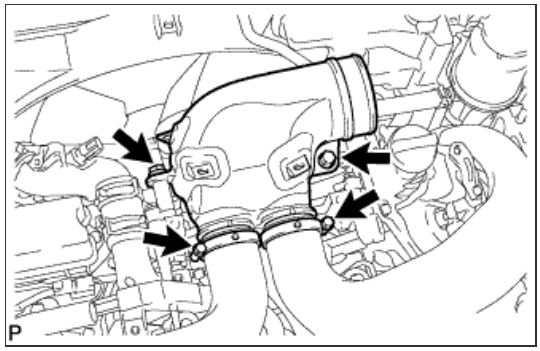
a. Connect the intake air connector to the No. 1 and No. 2 air cleaner pipes.

b. Install the connector with the 2 bolts.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**

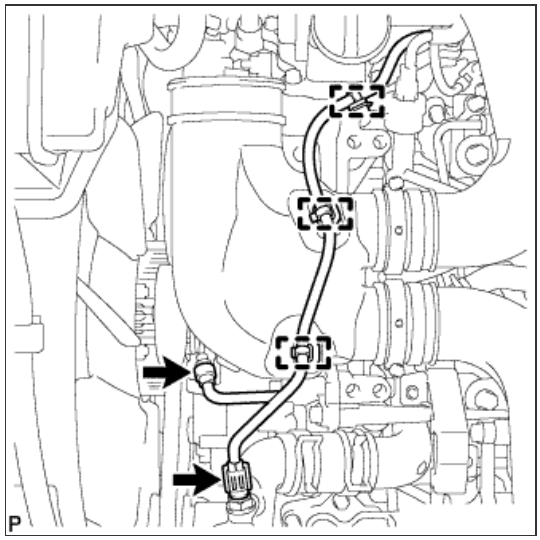
c. Tighten the 2 hose clamps.

**Torque:**
**6.3 N*m{ 64 kgf*cm , 56 in.*lbf }**



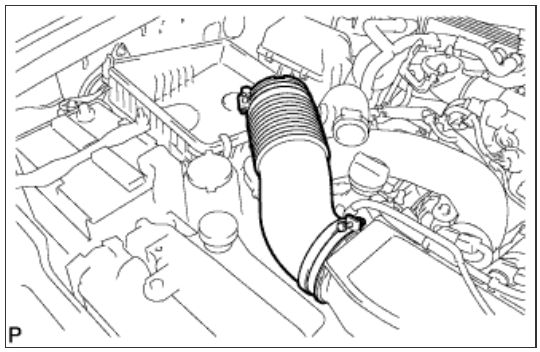

d. Attach the 3 wire harness clamps.

e. Connect the 2 connectors to the water temperature sensor and viscous heater.



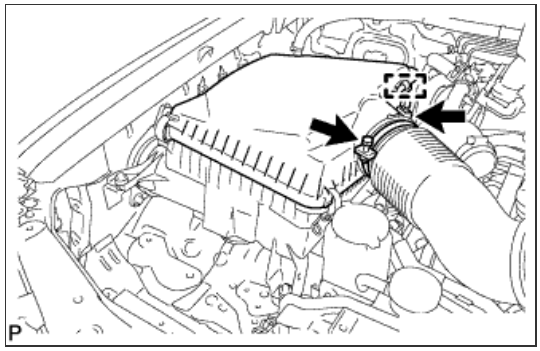

## 15. TEMPORARILY INSTALL NO. 1 AIR CLEANER HOSE

a. Temporarily install the air cleaner hose to the intake air connector.



## 16. INSTALL AIR CLEANER CAP SUB-ASSEMBLY

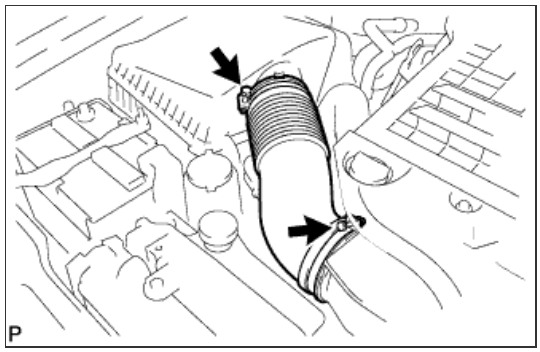
a. Align the protrusion of the air cleaner cap and concave portion of the air cleaner hose.



b. Connect the air cleaner cap to the air cleaner hose, and install the air cleaner cap with the 3 clamps.

c. Tighten the 2 hose clamps and connect the connector.

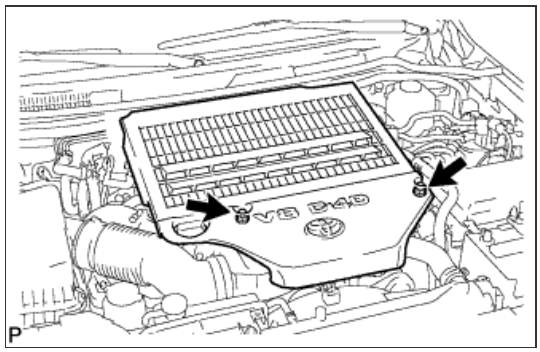
**Torque:**
**2.5 N*m{ 25 kgf*cm , 22 in.*lbf }**



## 17. INSTALL NO. 1 ENGINE COVER SUB-ASSEMBLY

a. Install the engine cover with the 2 nuts.

**Torque:**
**8.0 N*m{ 82 kgf*cm , 71 in.*lbf }**

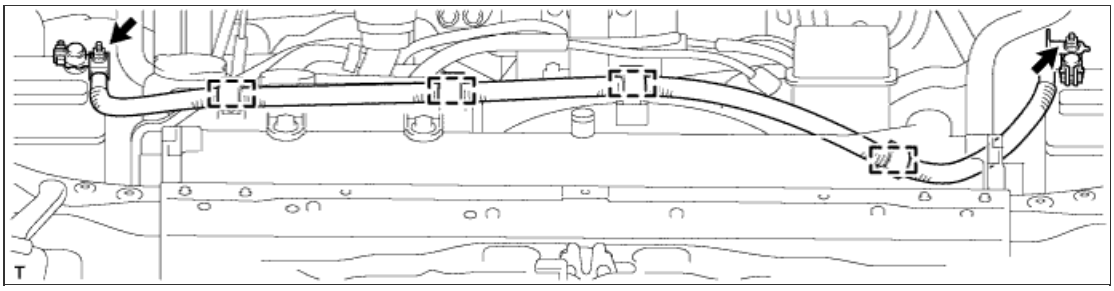


## 18. INSTALL NO. 3 ENGINE ROOM WIRE

a. Install the No. 3 engine room wire to the main battery and sub-battery positive terminals with the 2 nuts.

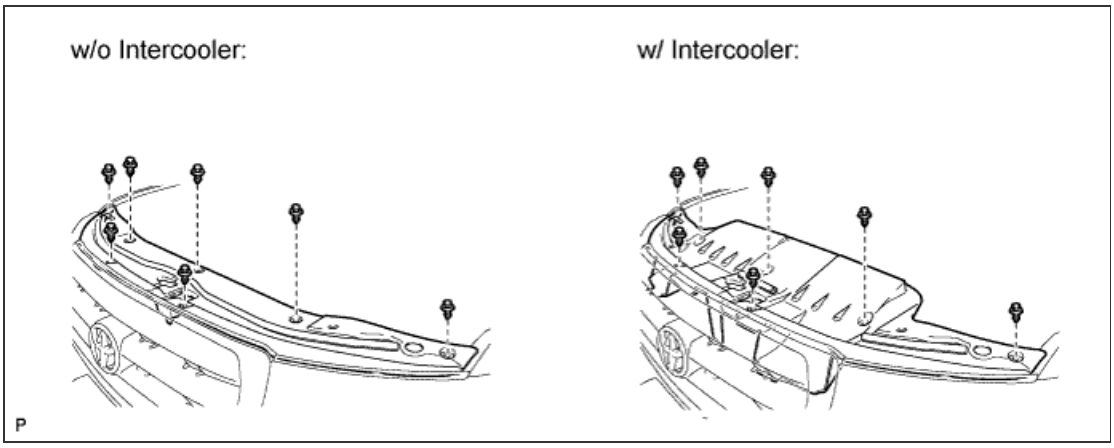
**Torque:**
**7.6 N*m{ 77 kgf*cm , 67 in.*lbf }**

b. Connect the No. 3 engine room wire with the 4 clamps.



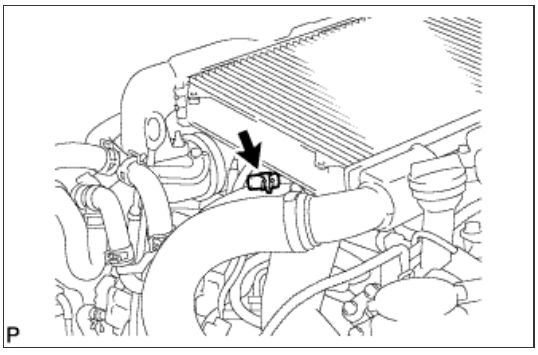

## 19. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the radiator support seal with the 7 clips.

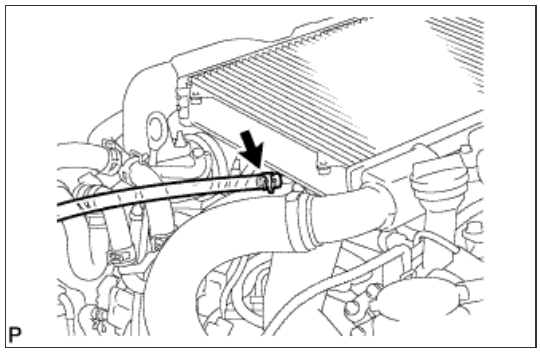



## 20. ADD ENGINE COOLANT

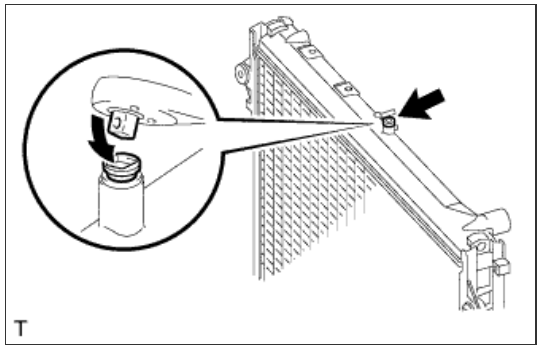
a. Remove the engine air bleed cap.




b. Connect a clear hose to the engine air bleed pipe.




c. Using a wrench, remove the vent plug.



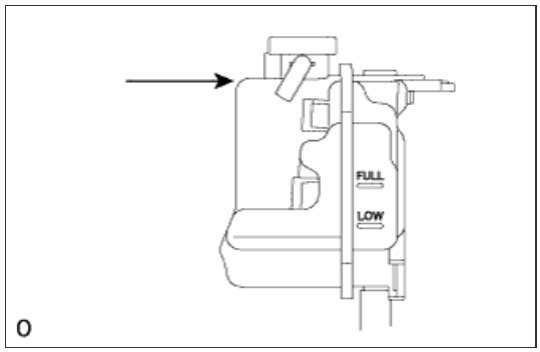

d. Fill the radiator with TOYOTA SLLC to the radiator reservoir filler neck.

**HINT:**

Pour TOYOTA SLLC until it spills out of the engine air bleed pipe.

**Standard Capacity (for Automatic Transmission):**

| Item | Specified Condition |
|---|---|
| Front heater only | 14.8 liters (15.6 US qts, 13.0 Imp. qts) |
| Front heater and rear heater | 17.6 liters (18.6 US qts, 15.5 Imp. qts) |
| Front heater with viscous heater | 15.2 liters (16.1 US qts, 13.4 Imp. qts) |
| Front heater and rear heater with viscous heater | 18.0 liters (19.0 US qts, 15.4 Imp. qts) |




**Standard capacity (for Manual Transmission):**
**15.4 liters (16.3 US qts, 13.5 Imp. qts)**

**NOTICE:**

Do not substitute plain water for engine coolant.

**HINT:**

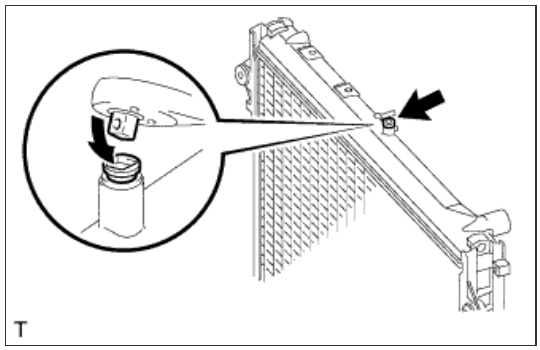
TOYOTA vehicles are filled with TOYOTA SLLC at the factory. In order to avoid damage to the engine cooling system and other technical problems, only use TOYOTA SLLC or similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite, non-borate coolant with long-life hybrid organic acid technology (coolant with long-life hybrid organic acid technology consists of a combination of low phosphates and organic acids).

e. Install the vent plug.

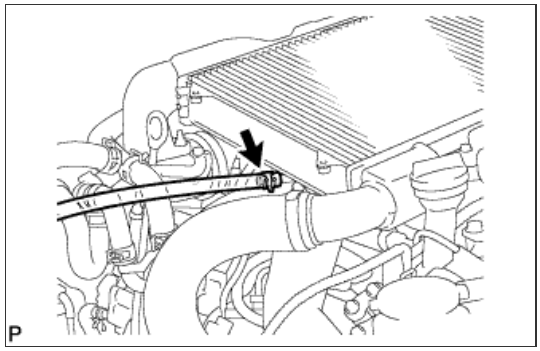
**Torque:**
**2.0 N*m{ 20 kgf*cm , 18 in.*lbf }**

**NOTICE:**

Do not tighten the plug to 5.0 N*m (51 kgf*cm, 44 in.*lbf) or more, as the plug will be damaged.




f. Disconnect the clear hose from the engine air bleed pipe.



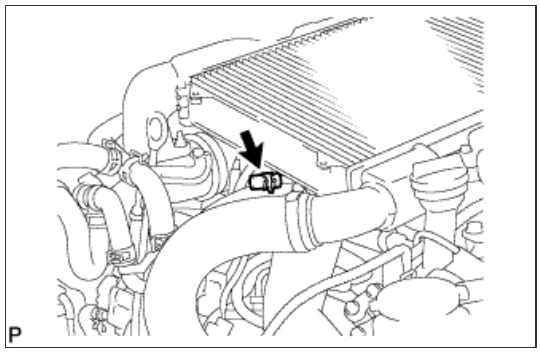

g. Install the engine air bleed cap when coolant comes out.

h. Install the radiator reservoir cap.

i. Start the engine.

**NOTICE:**

Immediately after starting the engine, if the radiator reservoir does not have any coolant, perform the following: 1) stop the engine, 2) wait until the coolant has cooled down, and 3) add coolant until the coolant is filled to the FULL line.




j. Maintain an engine speed of 3000 rpm for approximately 10 minutes so that the thermostat opens and air bleeding is performed.

**CAUTION:**

**When pressing the radiator hoses:**

- **Wear protective gloves.**
- **Be careful as the radiator hoses are hot.**
- **Keep your hands away from the radiator fan**

**NOTICE:**

- **Pay attention to the needle of the water temperature meter. Make sure that the needle does not show an abnormally high temperature.**
- **If there is not enough coolant, the engine may burn out or overheat.**

**HINT:**

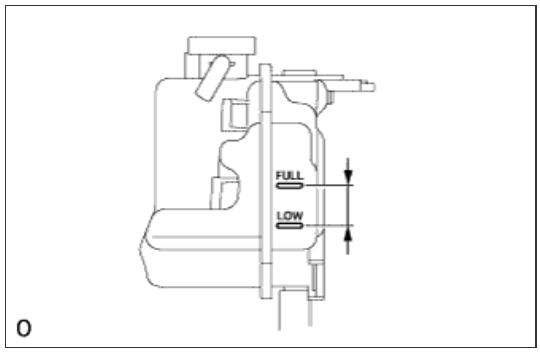
The thermostat opening timing can be confirmed by pressing the No. 2 radiator hose by hand, and checking when the engine coolant starts to flow inside the hose.

k. Stop the engine, and wait until the engine coolant cools down to ambient temperature.

**CAUTION:**

Do not remove the radiator reservoir cap while the engine and radiator are still hot. Pressurized, hot engine coolant and steam may be released and cause serious burns.

l. Check that the coolant level is between the FULL and LOW lines.
If the coolant level is above the FULL line, drain coolant so that the coolant level is between the FULL and LOW lines.




## 21. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. Install the No. 1 engine under cover with the 10 bolts.

**Torque:**
**29 N*m{ 296 kgf*cm , 21 ft.*lbf }**

## 22. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. for Standard:
Install the front fender splash shield ( Click here).

b. w/ Winch:
Install the front fender splash shield ( Click here).

## 23. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

a. for Standard:
Install the front fender splash shield ( Click here).

b. w/ Winch:
Install the front fender splash shield ( Click here).

## 24. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 25. CHECK FOR ENGINE COOLANT LEAKS

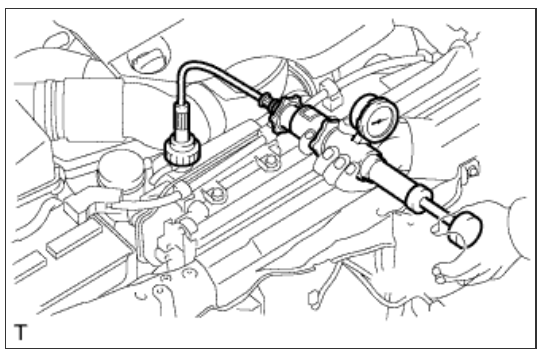
**CAUTION:**

Do not remove the radiator reservoir cap while the engine and radiator are still hot. Pressurized, hot engine coolant and steam may be released and cause serious burns.

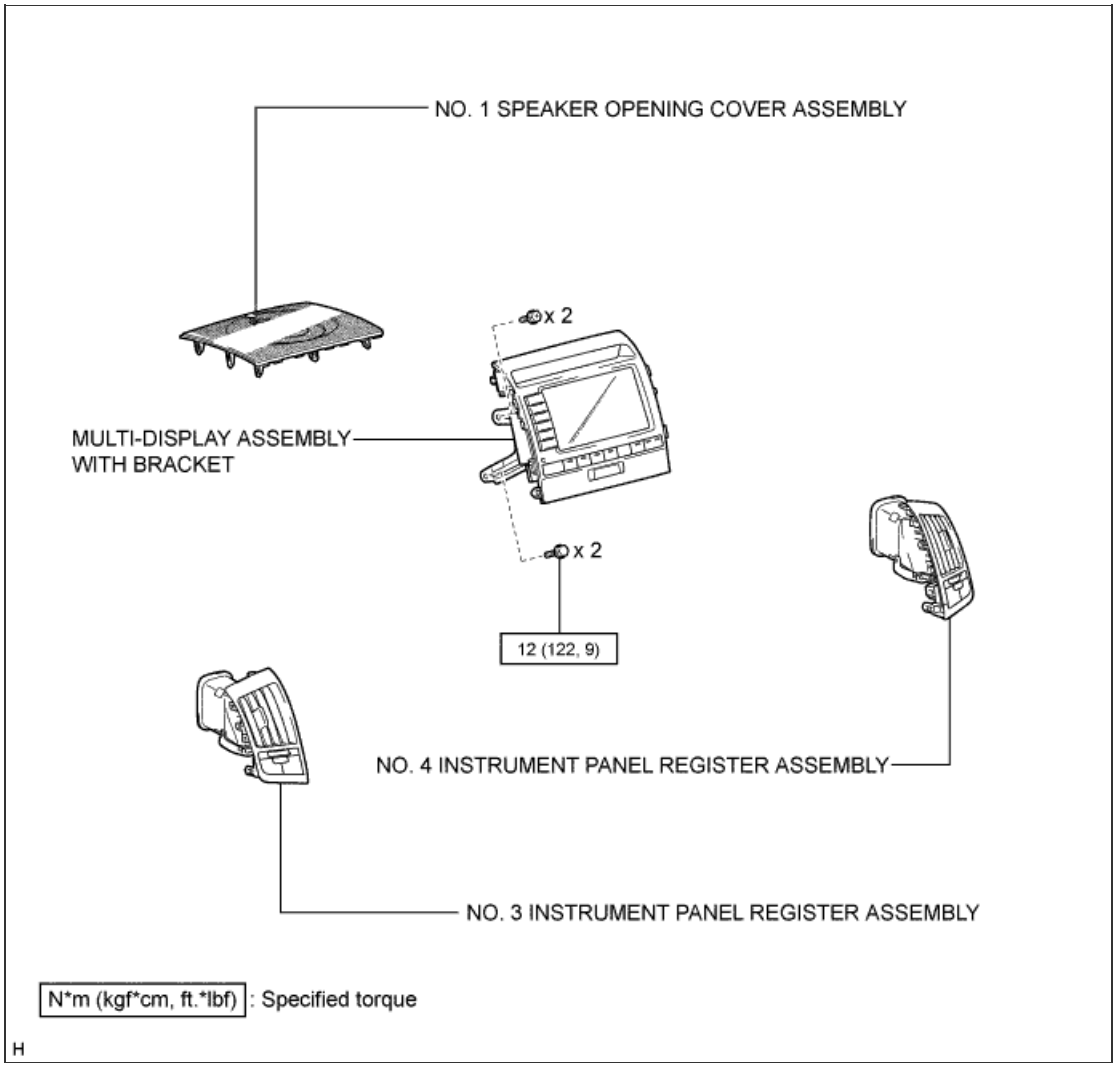
a. Fill the radiator with coolant and attach a radiator cap tester to the radiator reservoir.

b. Warm up the engine.

c. Using the radiator cap tester, increase the pressure inside the radiator to 123 kPa (1.3 kgf/cm$^2$, 17.8 psi), and check that the pressure does not drop.
If the pressure drops, check the hoses, radiator and water pump for leaks.
If no external leaks are found, check the cylinder block and cylinder head.



**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

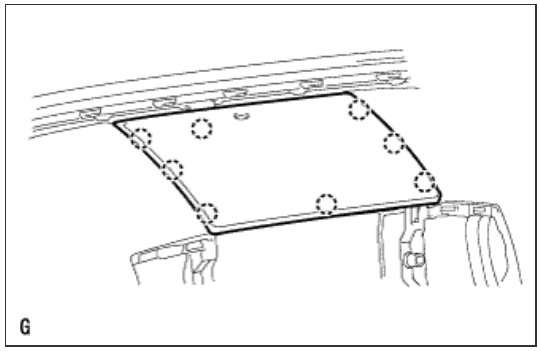
## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Detach the 8 claws and remove the opening cover.




## 4. REMOVE NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY

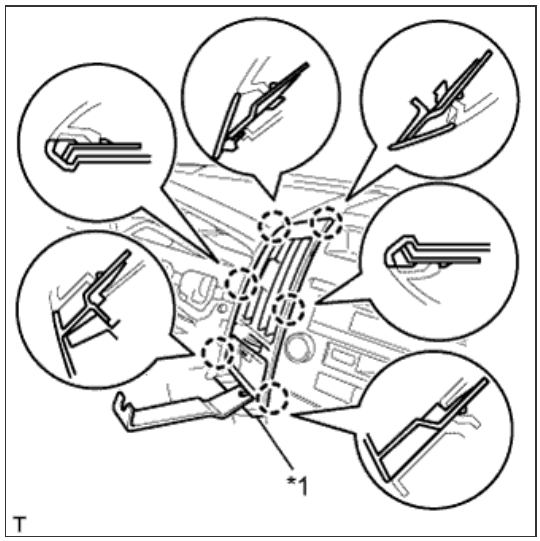
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the No. 3 instrument panel register.



## 5. REMOVE NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY

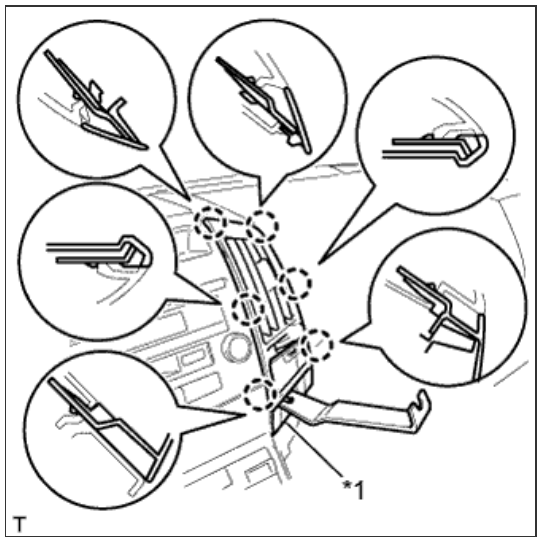
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

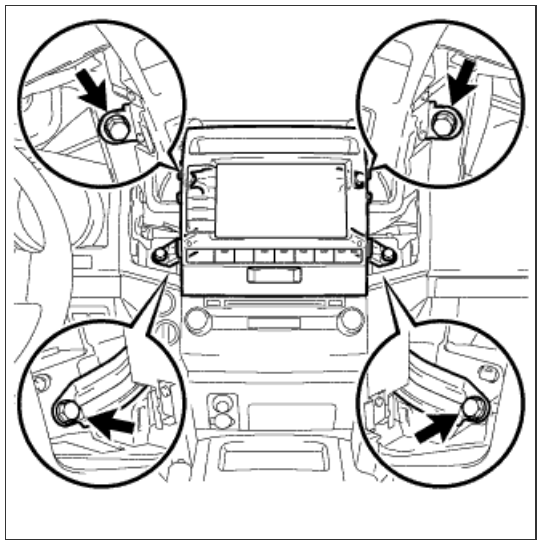
b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the No. 4 instrument panel register.



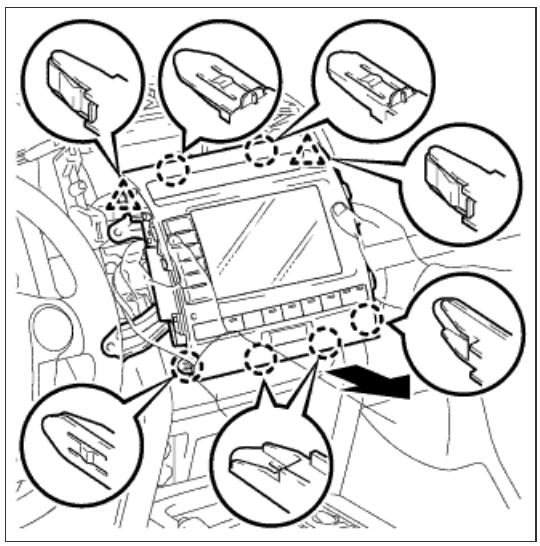

## 6. REMOVE MULTI-DISPLAY ASSEMBLY WITH BRACKET

a. Remove the 4 bolts.



b. Pull the radio receiver to detach the 8 claws on the backside of the radio receiver.

c. Disconnect the connectors and remove the radio receiver.



**for Preparation** Click here

## 1. INSTALL MULTI-DISPLAY ASSEMBLY WITH BRACKET

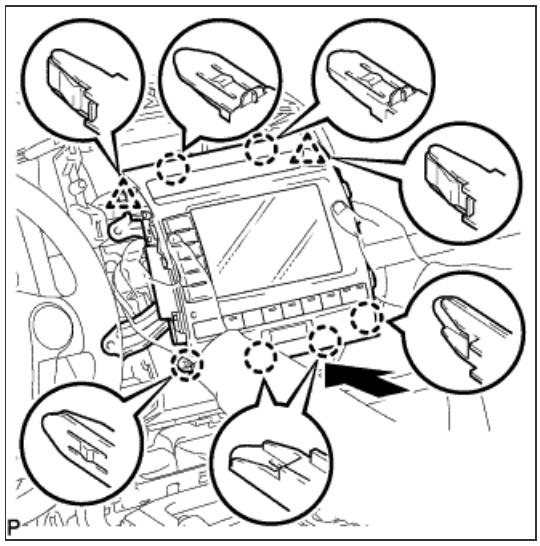
a. Connect the connectors.

b. Insert the radio receiver and attach the 8 claws on its backside.

**NOTICE:**

When inserting the radio receiver, do not press the knobs on it.

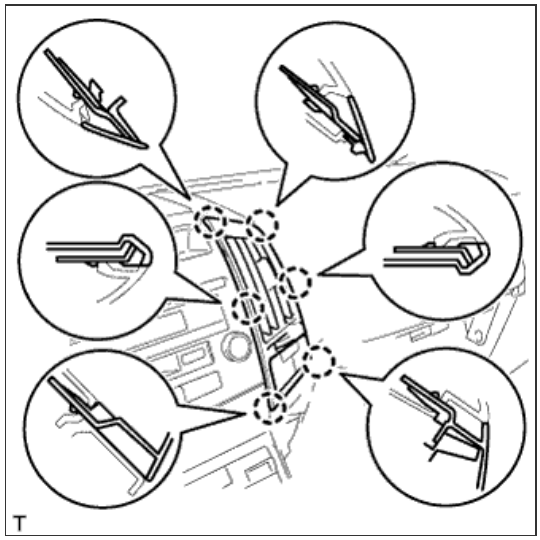
c. Install the radio receiver with the 4 bolts.




## 2. INSTALL NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY

a. Connect the connector.

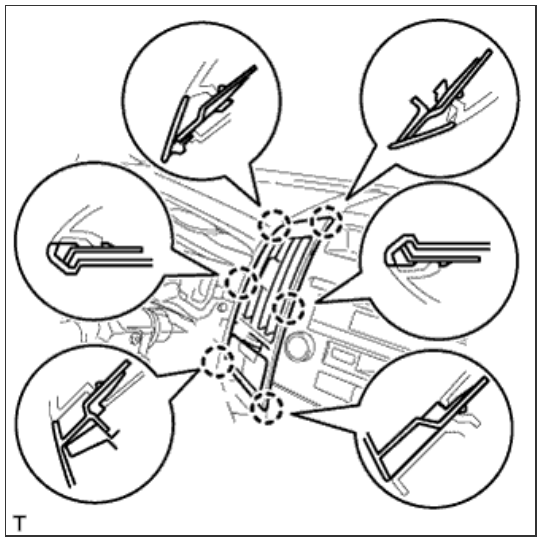
b. Attach the 6 claws to install the No. 4 instrument panel register.




## 3. INSTALL NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY

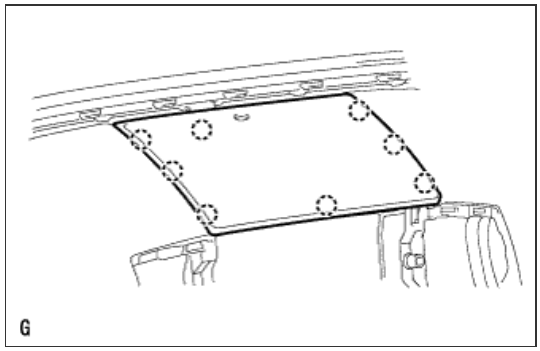
a. Connect the connector.

b. Attach the 6 claws to install the No. 3 instrument panel register.




### 4. INSTALL NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Attach the 8 claws to install the opening cover.




### 5. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**for Preparation** Click here

## 1.PRECAUTIONS FOR REPLACEMENT

**NOTICE:**

When replacing electronic parts, if there is a possibility that your body may contact a circuit board, etc., observe all precautions to prevent damage to the system by electrostatic discharge (ESD).

a. Procedures where static electricity countermeasures are necessary:

   i. Center cluster module circuit replacement.

   ii. Internal wiring connection/disconnection, inspection and replacement.

b. General precautions:

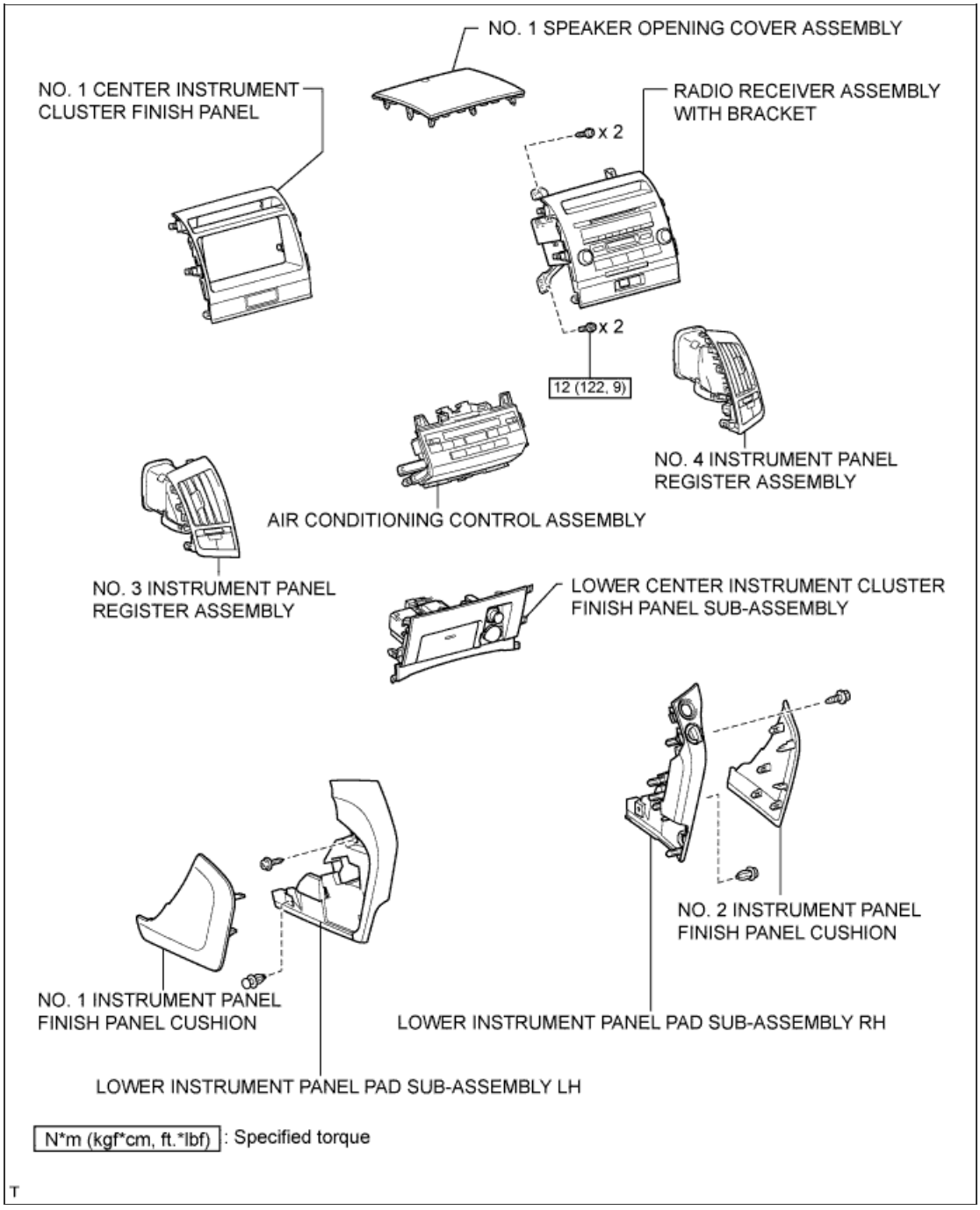
   i. Before performing any procedures, touch an unpainted metal part or ground bolt of the vehicle to discharge any static electricity.

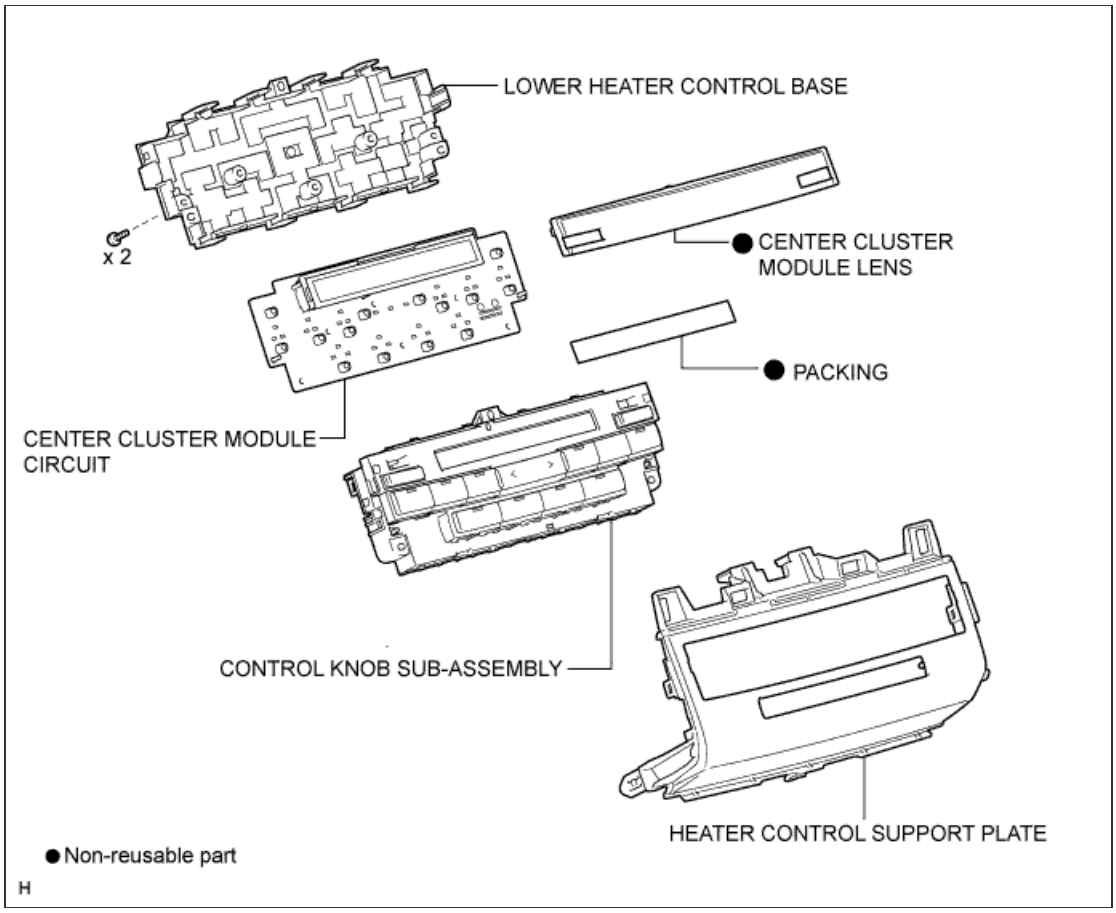
   ii. To prevent damage to electrical equipment, disconnect the battery power supply before removing or installing electrical equipment.

   iii. Never touch the electronic parts of a circuit board or the pins of an integrated circuit.

   iv. When performing procedures, do not allow clothing to come near or contact parts.

**for Preparation** Click here




LOWER HEATER CONTROL BASE
x 2
CENTER CLUSTER MODULE LENS
PACKING
CENTER CLUSTER MODULE CIRCUIT
CONTROL KNOB SUB-ASSEMBLY
HEATER CONTROL SUPPORT PLATE
● Non-reusable part
H

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

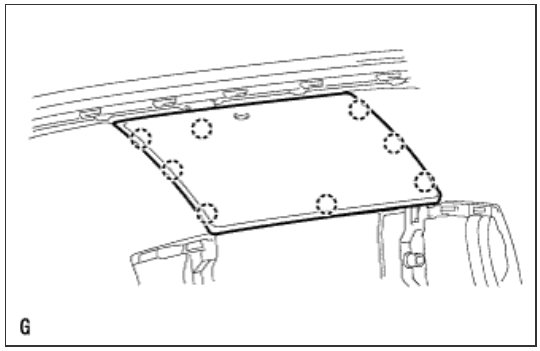
## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Detach the 8 claws and remove the opening cover.




## 4. REMOVE NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY

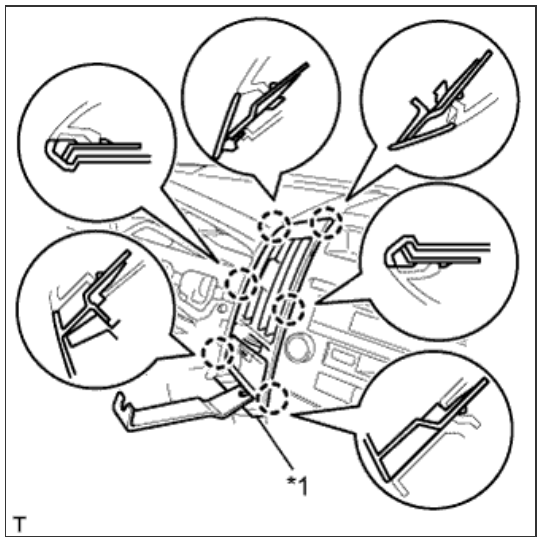
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the No. 3 instrument panel register.



## 5. REMOVE NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY

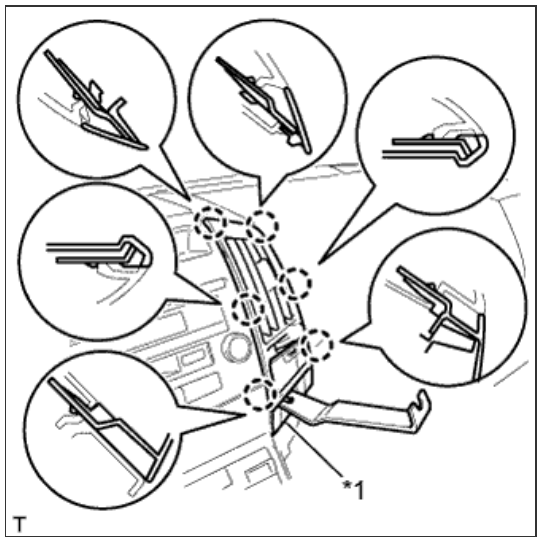
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the No. 4 instrument panel register.




## 6. REMOVE RADIO RECEIVER ASSEMBLY WITH BRACKET

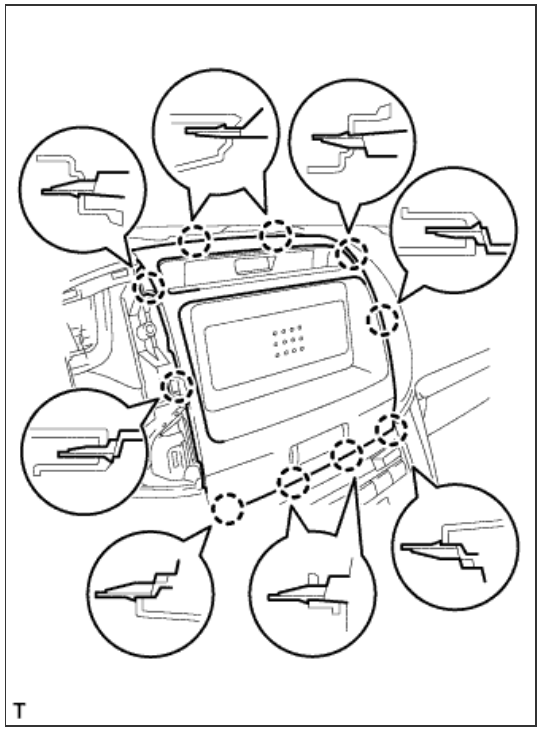
a. w/o Stereo Component Amplifier:
(Click here)

b. w/o Multi-dsplay:
(Click here)

## 7. REMOVE NO. 1 CENTER INSTRUMENT CLUSTER FINISH PANEL

a. Detach the 10 claws.

b. Disconnect the connector and remove the No. 1 center instrument cluster finish panel.



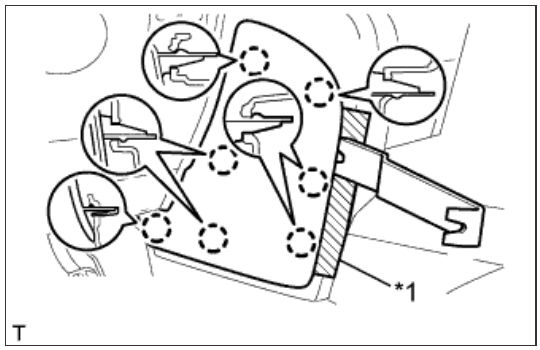

## 8. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 2 instrument panel finish panel cushion.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 2 instrument panel finish panel cushion.

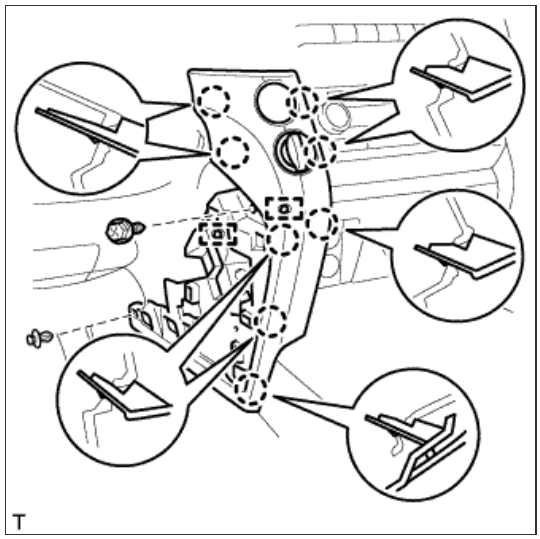



## 9. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.



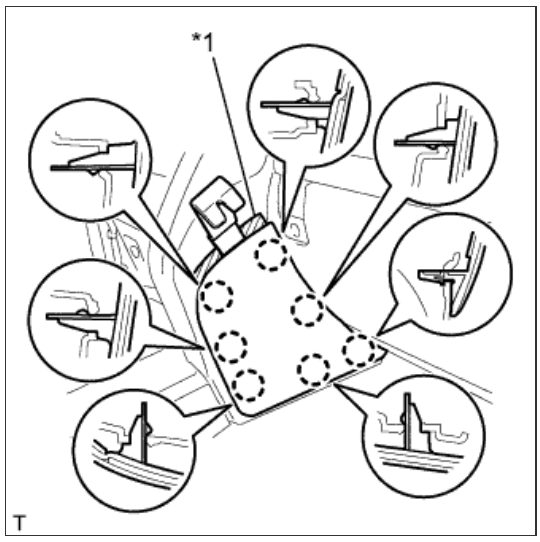

## 10. REMOVE NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 1 instrument panel finish panel cushion.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

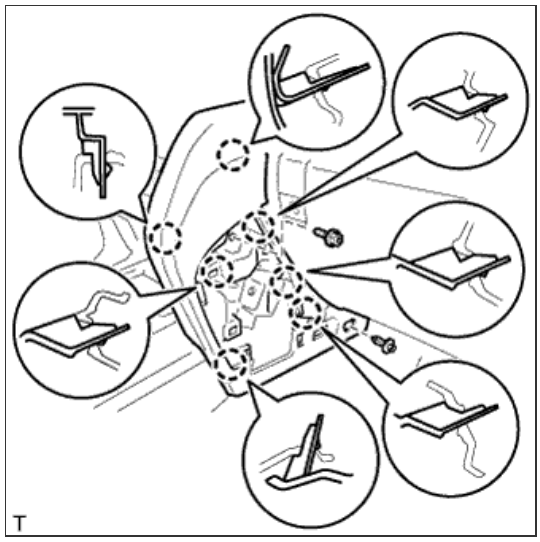
b. Using a moulding remover, detach the 7 claws and remove the No. 1 instrument panel finish panel cushion.




## 11. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip and screw.

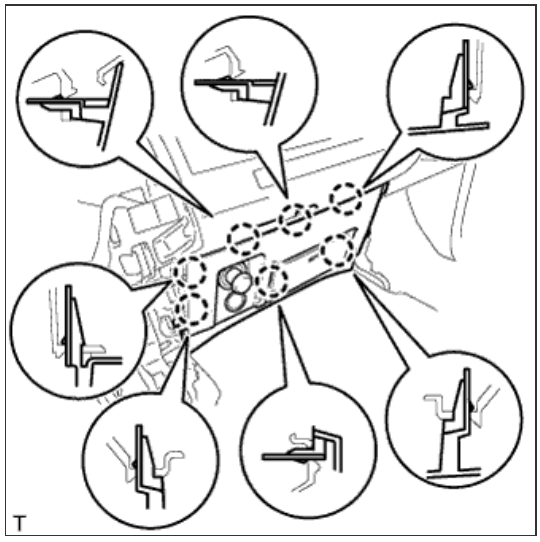
b. Detach the 7 claws and remove the lower instrument panel pad sub-assembly.




## 12. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

a. Detach the 7 claws.

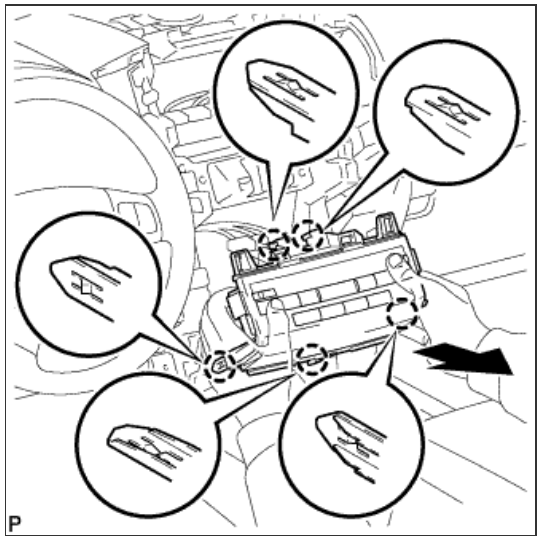
b. Disconnect the connectors and remove the lower center instrument cluster finish panel sub-assembly.




## 13. REMOVE AIR CONDITIONING CONTROL ASSEMBLY

a. Pull the radio receiver to detach the 5 claws on the backside of the radio receiver.

b. Disconnect the connectors and remove the radio receiver.

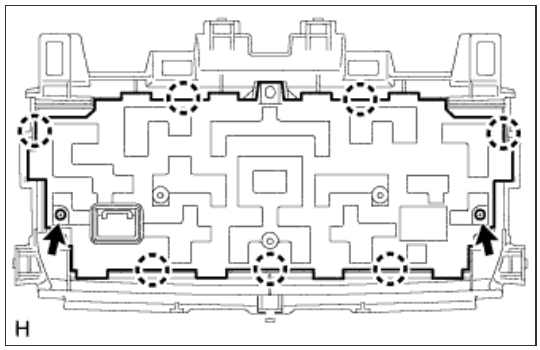


**for Preparation** Click here

## 1. REMOVE LOWER HEATER CONTROL BASE

a. Remove the 2 screws.

b. Detach the 7 claws and remove the lower heater control base.



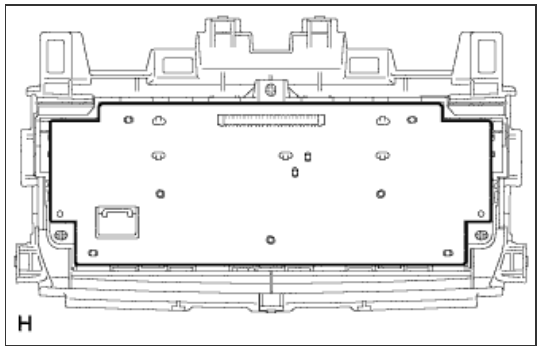

## 2. REMOVE CENTER CLUSTER MODULE CIRCUIT

**NOTICE:**

As the electronic parts of the circuit board may be damaged by static electricity, do not touch the electronic parts of the circuit board or the soldered areas with bare hands.

a. Remove the center cluster module circuit.

b. Remove the packing.

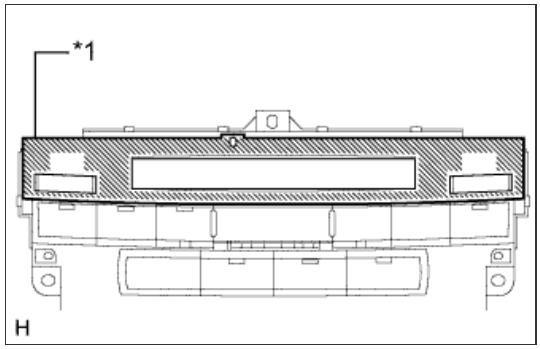



## 3. REMOVE CENTER CLUSTER MODULE LENS

a. Remove the double-sided tape and center cluster module lens.

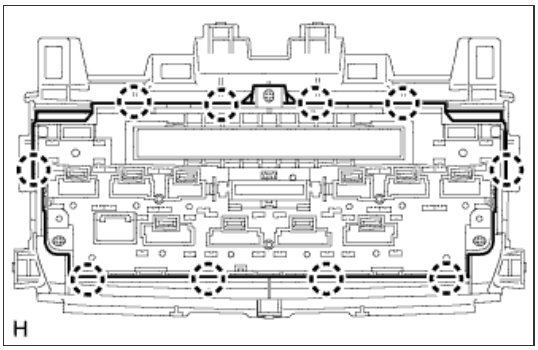
**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided Tape |




## 4. REMOVE CONTROL KNOB SUB-ASSEMBLY

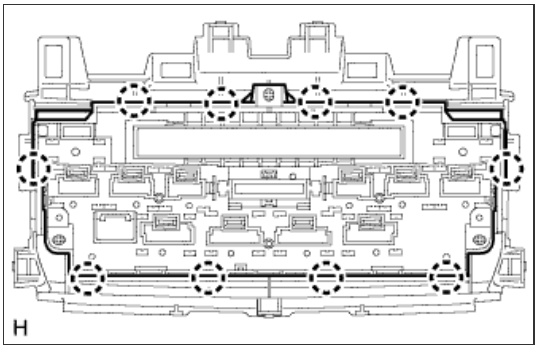
a. Detach the 10 claws and remove the control knob sub-assembly.



**for Preparation** Click here

## 1. INSTALL CONTROL KNOB SUB-ASSEMBLY

a. Attach the 10 claws to install the control knob sub-assembly.




## 2. INSTALL CENTER CLUSTER MODULE LENS

a. Remove the double-sided tape from the control knob sub-assembly.

**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided Tape |

b. Wipe off any tape adhesive residue with cleaner.

c. Remove the peeling paper from the new center cluster module lens.

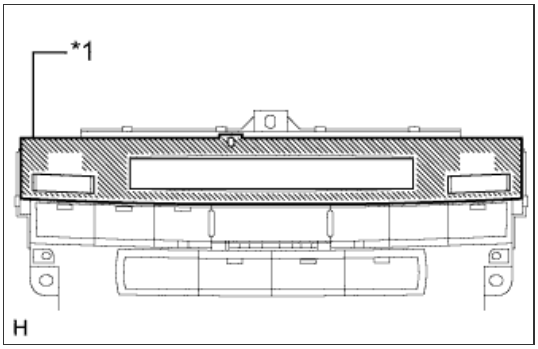
**HINT:**

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

d. Install the center cluster module lens.

**NOTICE:**

Do not reuse the center cluster module lens after removing it.



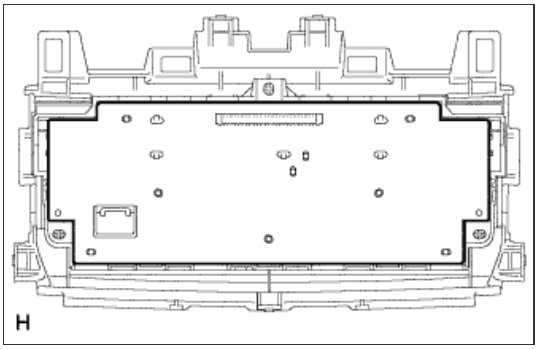

## 3. INSTALL CENTER CLUSTER MODULE CIRCUIT

**NOTICE:**

As the electronic parts of the circuit board may be damaged by static electricity, do not touch the electronic parts of the circuit board or the soldered areas with bare hands.

a. Install new packing.

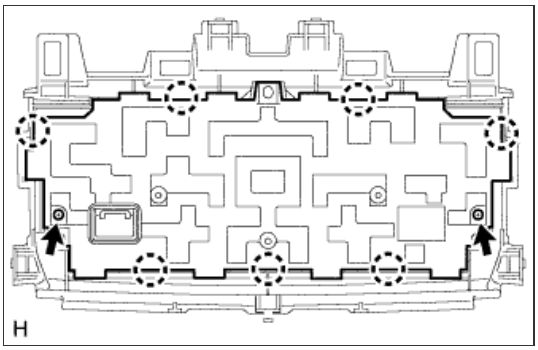
b. Install the center cluster module circuit.




## 4. INSTALL LOWER HEATER CONTROL BASE

a. Attach the 7 claws to install the lower heater control base.

b. Install the 2 screws.



**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

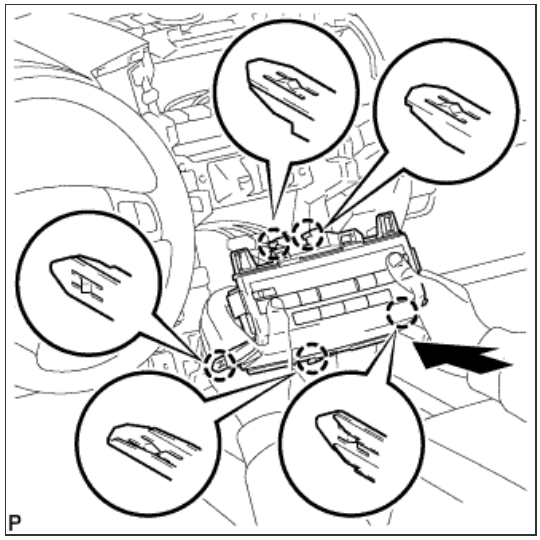
## 1. INSTALL AIR CONDITIONING CONTROL ASSEMBLY

a. Connect the connectors.

b. Insert the radio receiver and attach the 5 claws on its backside.

**NOTICE:**

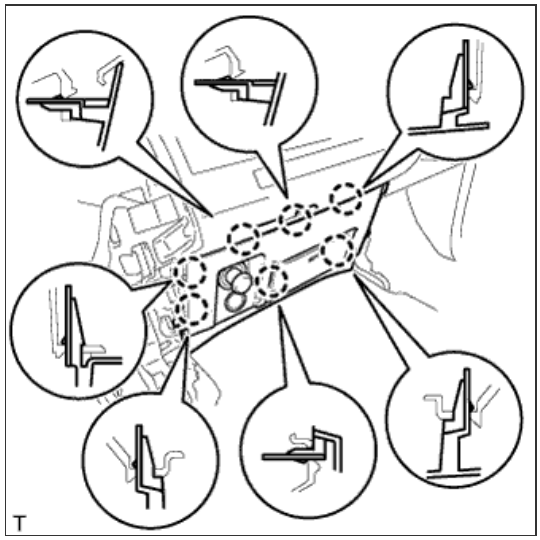
When inserting the radio receiver, do not press the knobs on it.




## 2. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

a. Connect the connectors.

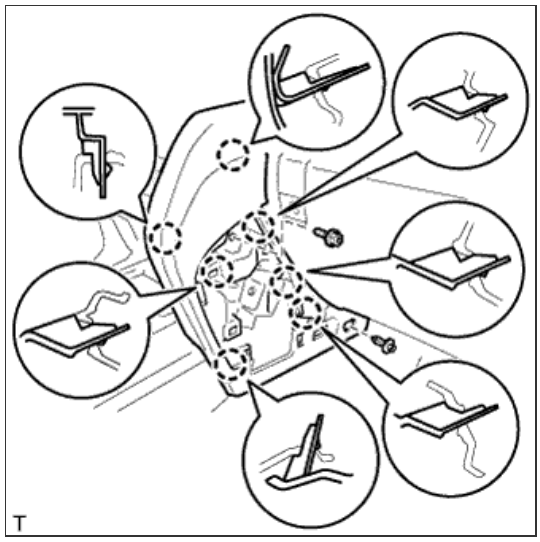
b. Attach the 7 claws to install the lower center instrument cluster finish panel sub-assembly.




## 3. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

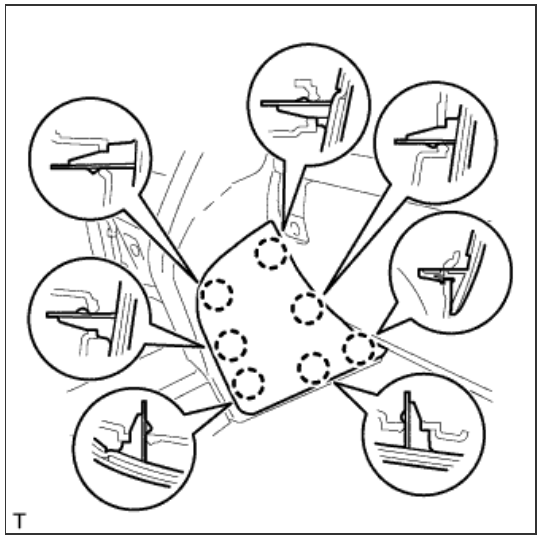
a. Attach the 7 claws to install the lower instrument panel pad sub-assembly.

b. Install the clip and screw.




### 4. INSTALL NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 1 instrument panel finish panel cushion.

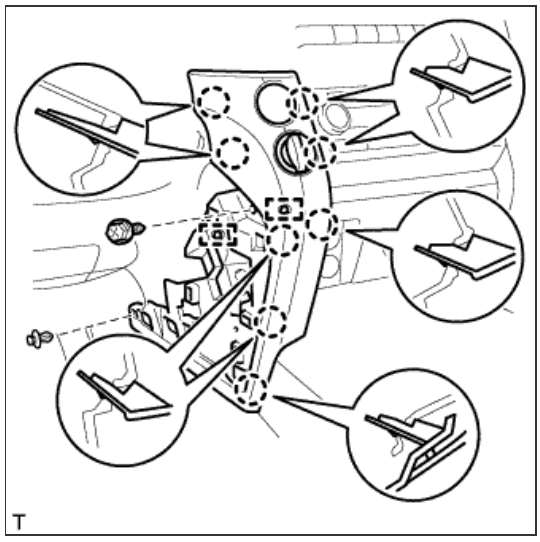



### 5. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

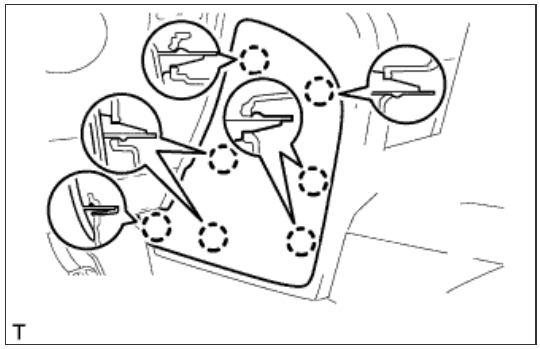
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.




### 6. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 2 instrument panel finish panel cushion.




## 7. INSTALL RADIO RECEIVER ASSEMBLY WITH BRACKET

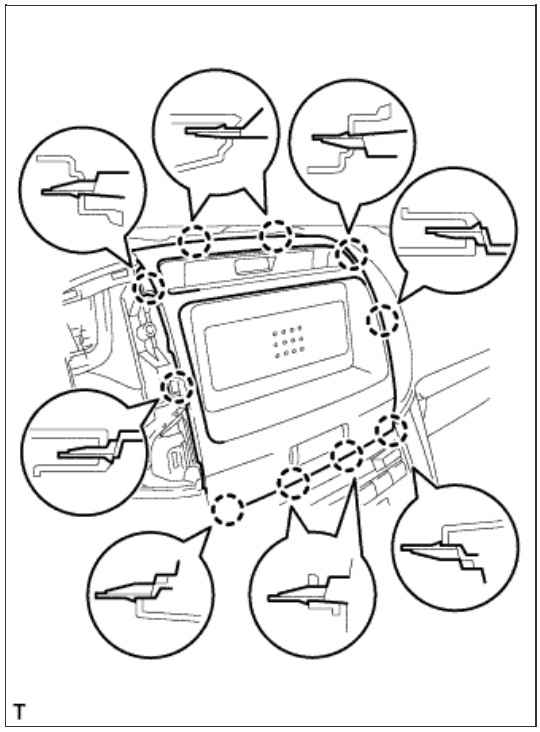
a. w/o Stereo Component Amplifier:
(Click here)

b. w/o Multi-display:
(Click here)

## 8. INSTALL NO. 1 CENTER INSTRUMENT CLUSTER FINISH PANEL

a. Connect the connector.

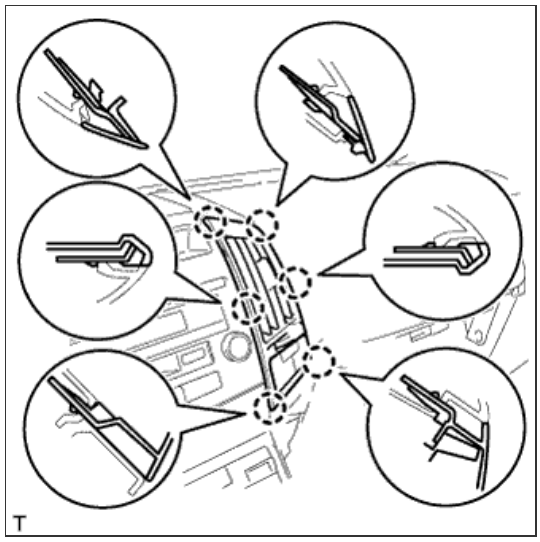
b. Attach the 10 claws to install the No. 1 center instrument cluster finish panel.




## 9. INSTALL NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY

a. Connect the connector.

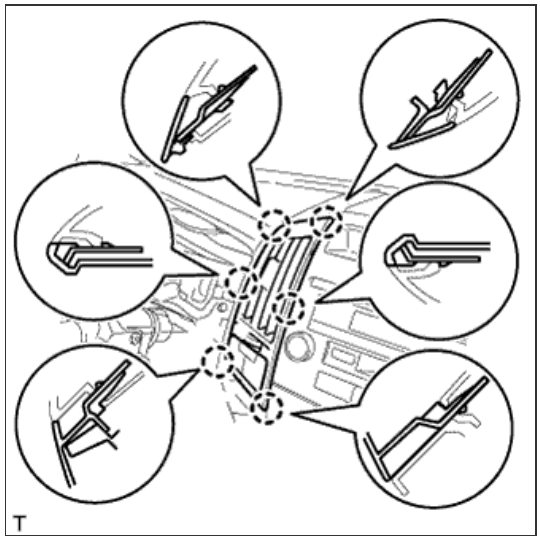
b. Attach the 6 claws to install the No. 4 instrument panel register.




## 10. INSTALL NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY

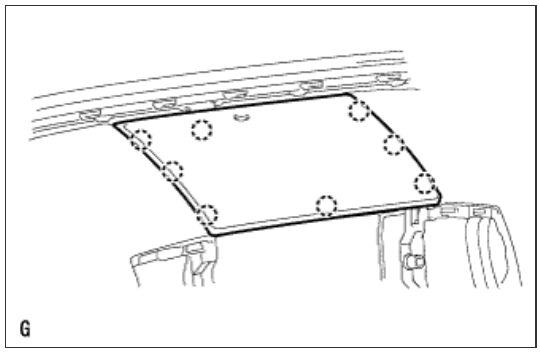
a. Connect the connector.

b. Attach the 6 claws to install the No. 3 instrument panel register.




## 11. INSTALL NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Attach the 8 claws to install the opening cover.




## 12. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**for Preparation** Click here

## 1.PRECAUTIONS FOR REPLACEMENT

**NOTICE:**

When replacing electronic parts, if there is a possibility that your body may contact a circuit board, etc., observe all precautions to prevent damage to the system by electrostatic discharge (ESD).

a. Procedures where static electricity countermeasures are necessary:

   i. Integration board sub-assembly replacement.

   ii. Internal wiring connection/disconnection, inspection and replacement.

b. General precautions:

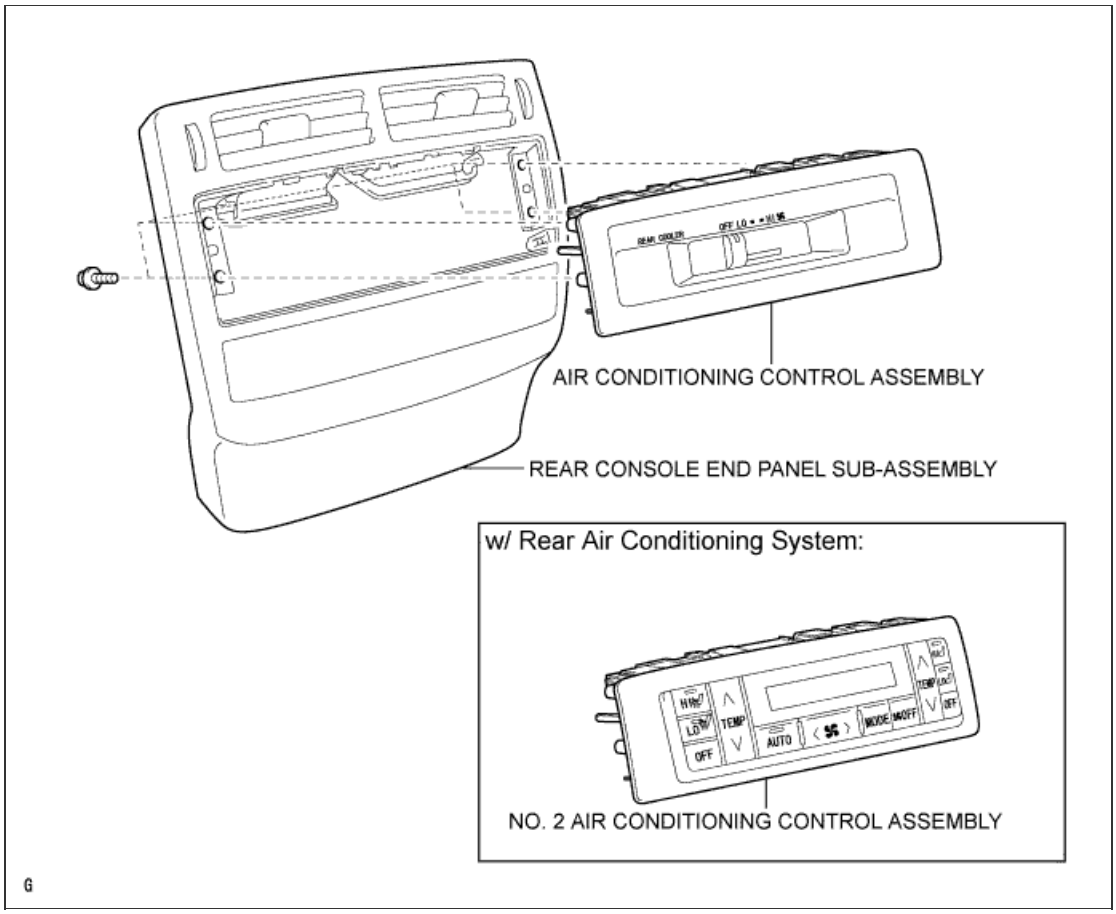
   i. Before performing any procedures, touch an unpainted metal part or ground bolt of the vehicle to discharge any static electricity.

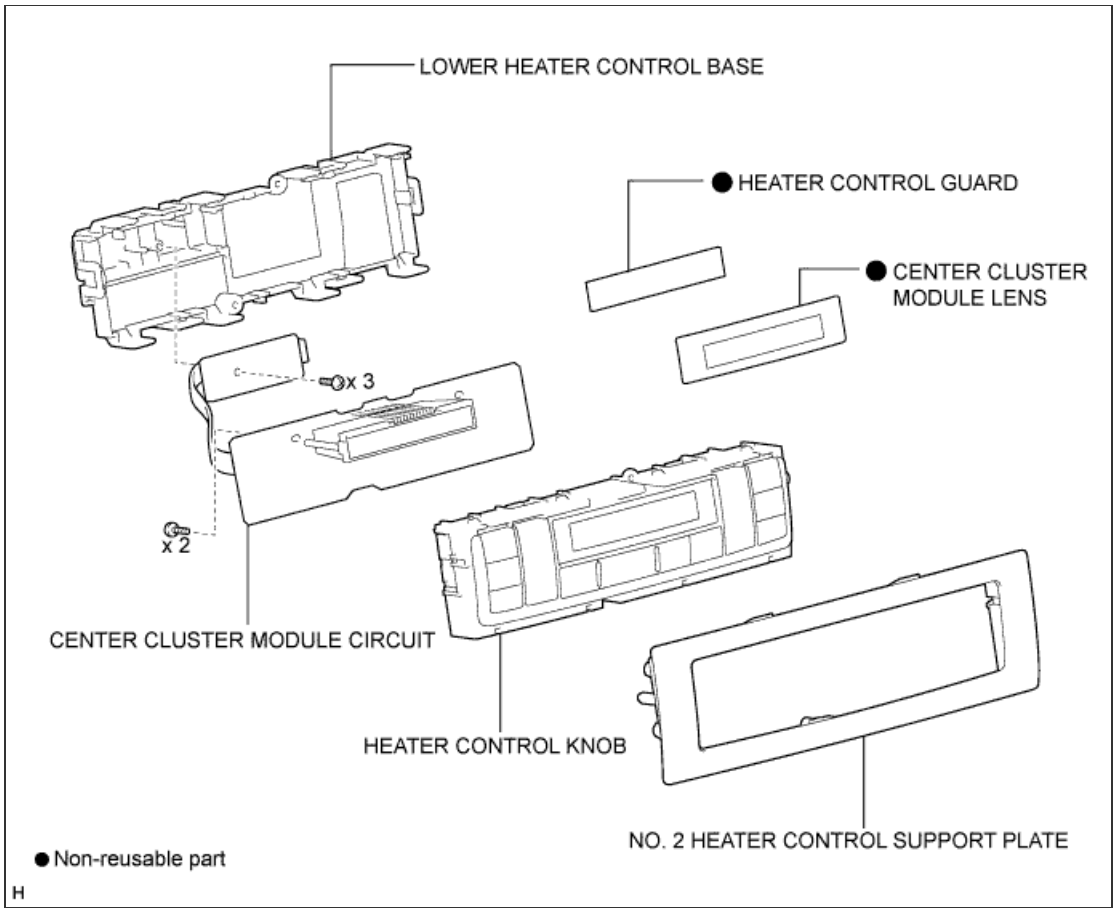
   ii. To prevent damage to electrical equipment, disconnect the battery power supply before removing or installing electrical equipment.

   iii. Never touch the electronic parts of a circuit board or the pins of an integrated circuit.

   iv. When performing procedures, do not allow clothing to come near or contact parts.

**for Preparation** Click here




LOWER HEATER CONTROL BASE
● HEATER CONTROL GUARD
● CENTER CLUSTER MODULE LENS
x 3
x 2
CENTER CLUSTER MODULE CIRCUIT
HEATER CONTROL KNOB
NO. 2 HEATER CONTROL SUPPORT PLATE
● Non-reusable part
H

**for Preparation** Click here

## 1. REMOVE REAR CONSOLE END PANEL SUB-ASSEMBLY

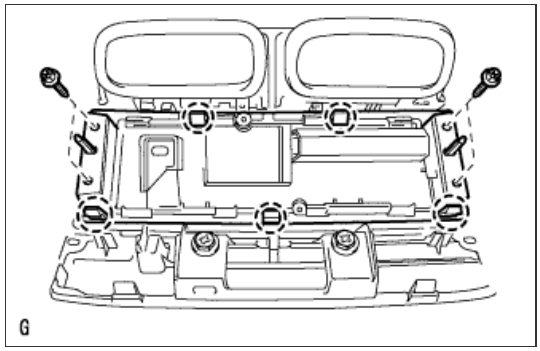
a. w/o Cool Box:
(Click here)

b. w/ Cool Box:
(Click here)

## 2. REMOVE NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Air Conditioning System)

a. Remove the 4 screws.

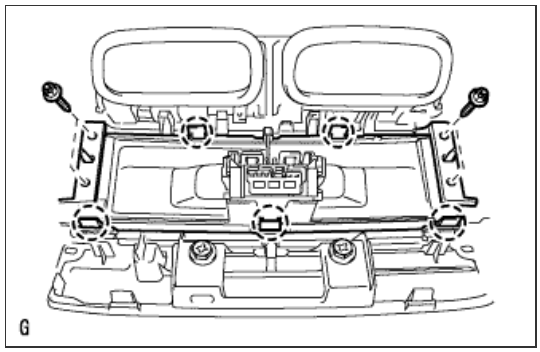
b. Detach the 5 claws and remove the air conditioning control.




## 3. REMOVE AIR CONDITIONING CONTROL ASSEMBLY (w/o Rear Air Conditioning System)

a. Remove the 4 screws.

b. Detach the 5 claws and remove the air conditioning control.



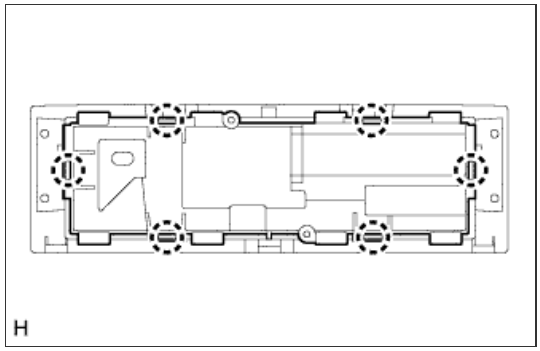
**for Preparation** Click here

## 1. REMOVE LOWER HEATER CONTROL BASE

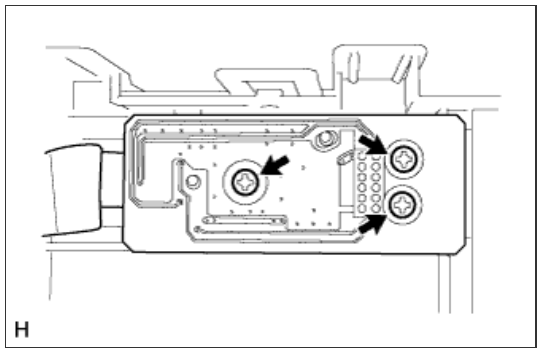
**NOTICE:**

As the electronic parts of the circuit board may be damaged by static electricity, do not touch the electronic parts of the circuit board or the soldered areas with bare hands.

a. Detach the 6 claws.




b. Remove the 3 screws and lower heater control base.

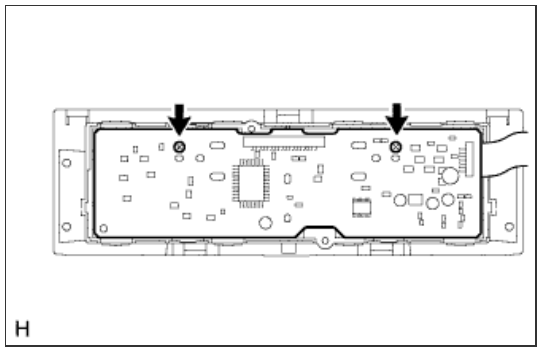



## 2. REMOVE CENTER CLUSTER MODULE CIRCUIT

**NOTICE:**

As the electronic parts of the circuit board may be damaged by static electricity, do not touch the electronic parts of the circuit board or the soldered areas with bare hands.

a. Remove the 2 screws and center cluster module circuit.

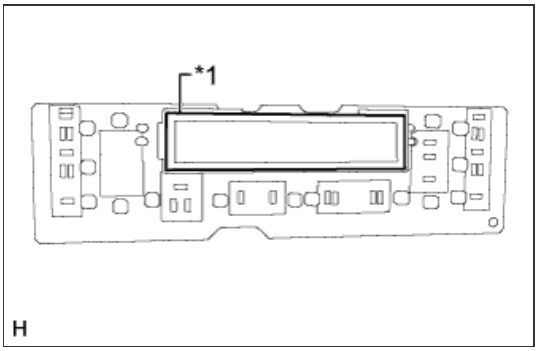



## 3. REMOVE HEATER CONTROL GUARD

a. Remove the heater control guard.

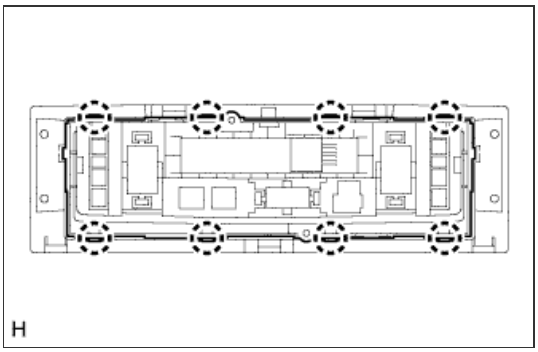
**Text in Illustration**

| | |
|---|---|
| *1 | Heater Control Guard |




## 4. REMOVE HEATER CONTROL KNOB

a. Detach the 8 claws and remove the heater control knob.

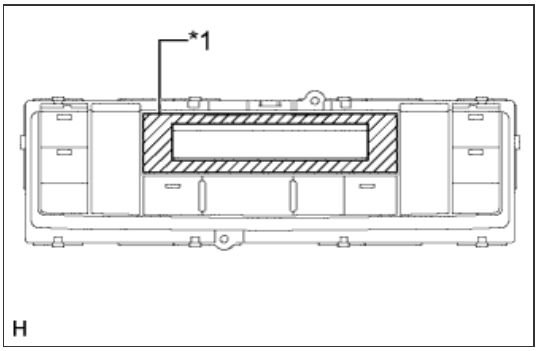



## 5. REMOVE CENTER CLUSTER MODULE LENS

a. Remove the double-sided tape and center cluster module lens.

**Text in Illustration**

| | |
|---|---|
| *1 | Double-sided Tape |



**for Preparation** Click here

## 1. INSTALL CENTER CLUSTER MODULE LENS

a. Remove the double-sided tape from the control knob sub-assembly.

Text in Illustration

| | |
|---|---|
| *1 | Double-sided Tape |

b. Wipe off any tape adhesive residue with cleaner.

c. Remove the peeling paper from a new center cluster module lens.

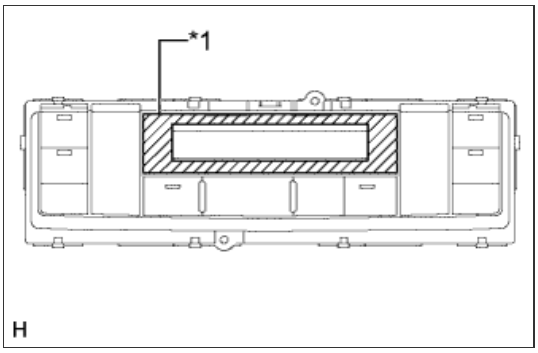
**HINT:**

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

d. Install the center cluster module lens.

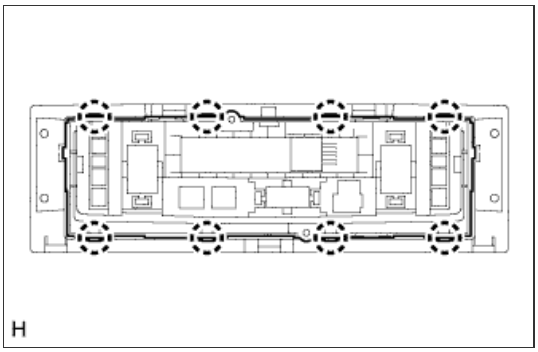
**NOTICE:**

Do not reuse the center cluster module lens after removing it.




## 2. INSTALL HEATER CONTROL KNOB

a. Attach the 8 claws to install the heater control knob.

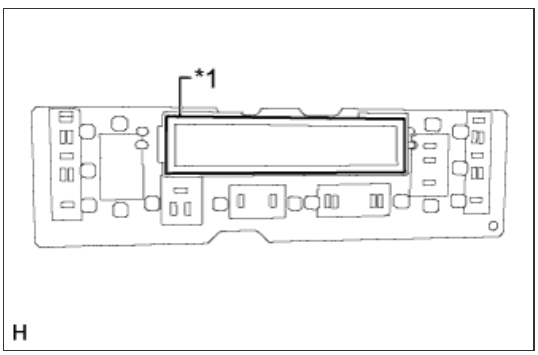



## 3. INSTALL HEATER CONTROL GUARD

a. Install a new heater control guard.

Text in Illustration

| | |
|---|---|
| *1 | Heater Control Guard |

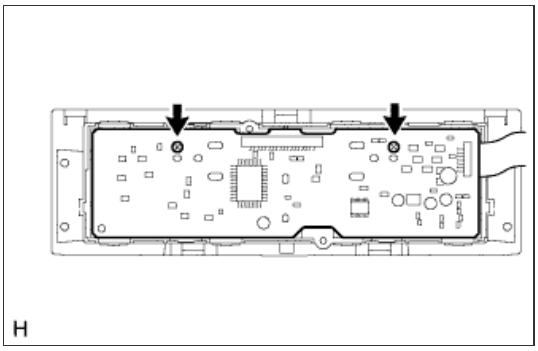



## 4. INSTALL CENTER CLUSTER MODULE CIRCUIT

**NOTICE:**

As the electronic parts of the circuit board may be damaged by static electricity, do not touch the electronic parts of the circuit board or the soldered areas with bare hands.

a. Install the center cluster module circuit with the 2 screws.

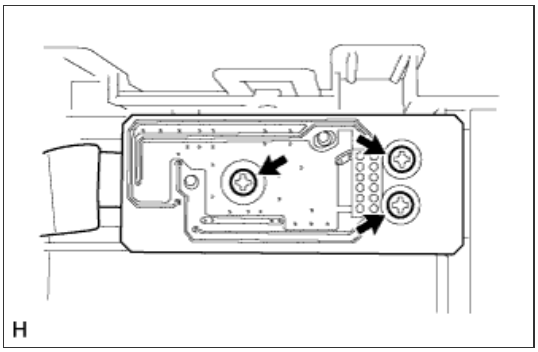



## 5. INSTALL LOWER HEATER CONTROL BASE

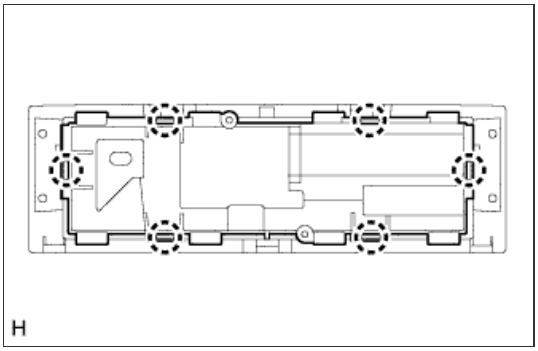
**NOTICE:**

As the electronic parts of the circuit board may be damaged by static electricity, do not touch the electronic parts of the circuit board or the soldered areas with bare hands.

a. Install the 3 screws.




b. Attach the 6 claws to install the lower heater control base.

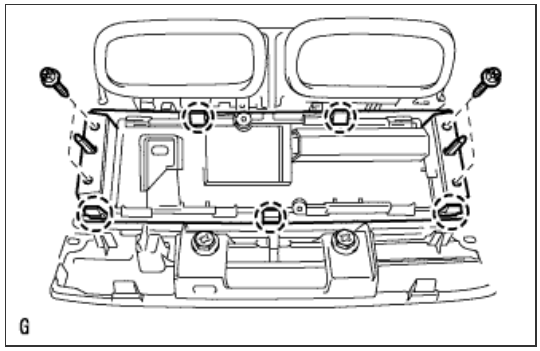


**for Preparation** Click here

## 1. INSTALL NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Air Conditioning System)

a. Attach the 5 claws to install the air conditioning control.

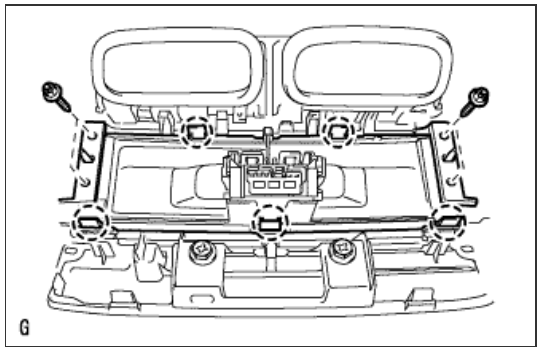
b. Install the 4 screws.




## 2. INSTALL AIR CONDITIONING CONTROL ASSEMBLY (w/o Rear Air Conditioning System)

a. Attach the 5 claws to install the air conditioning control.

b. Install the 4 screws.

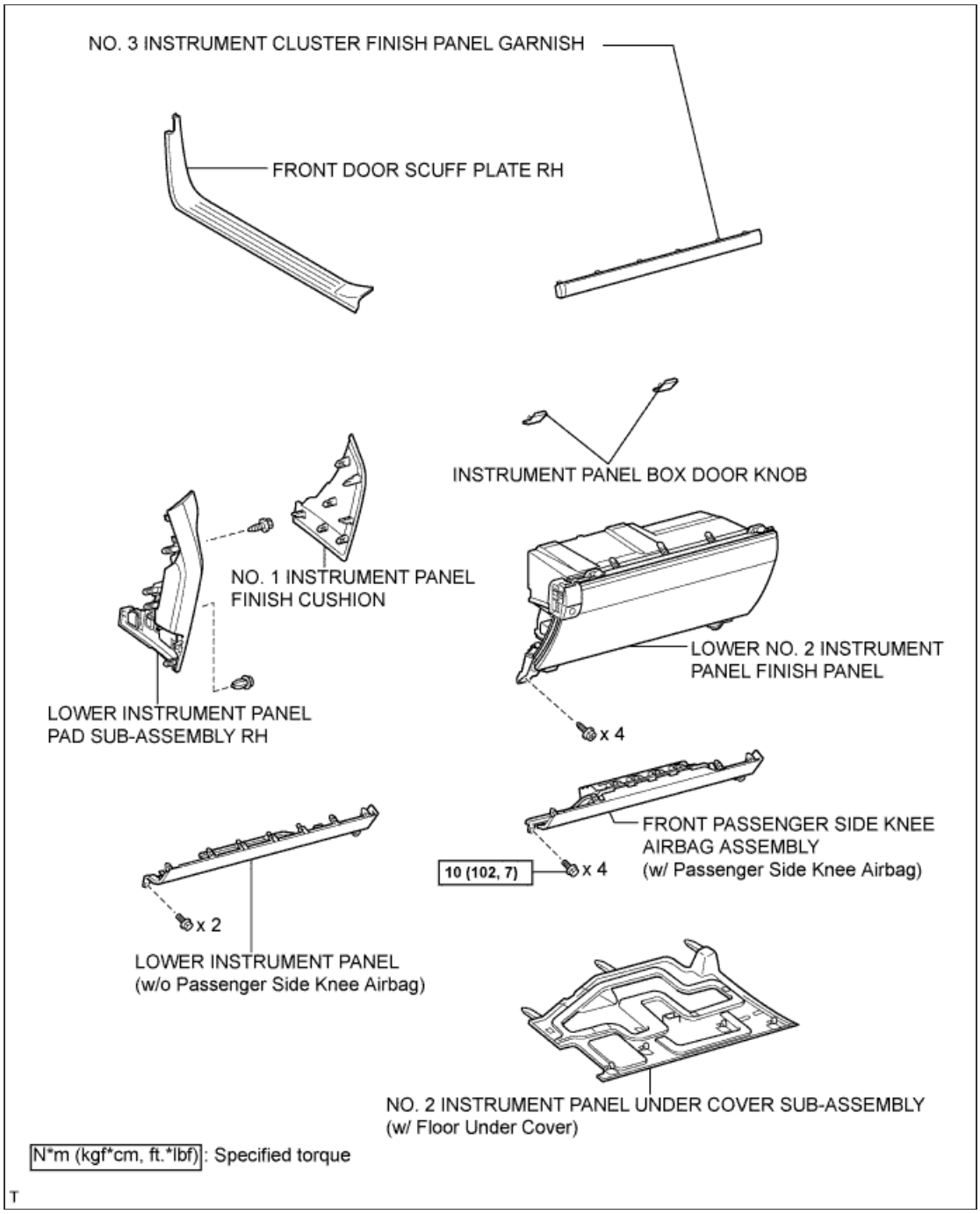


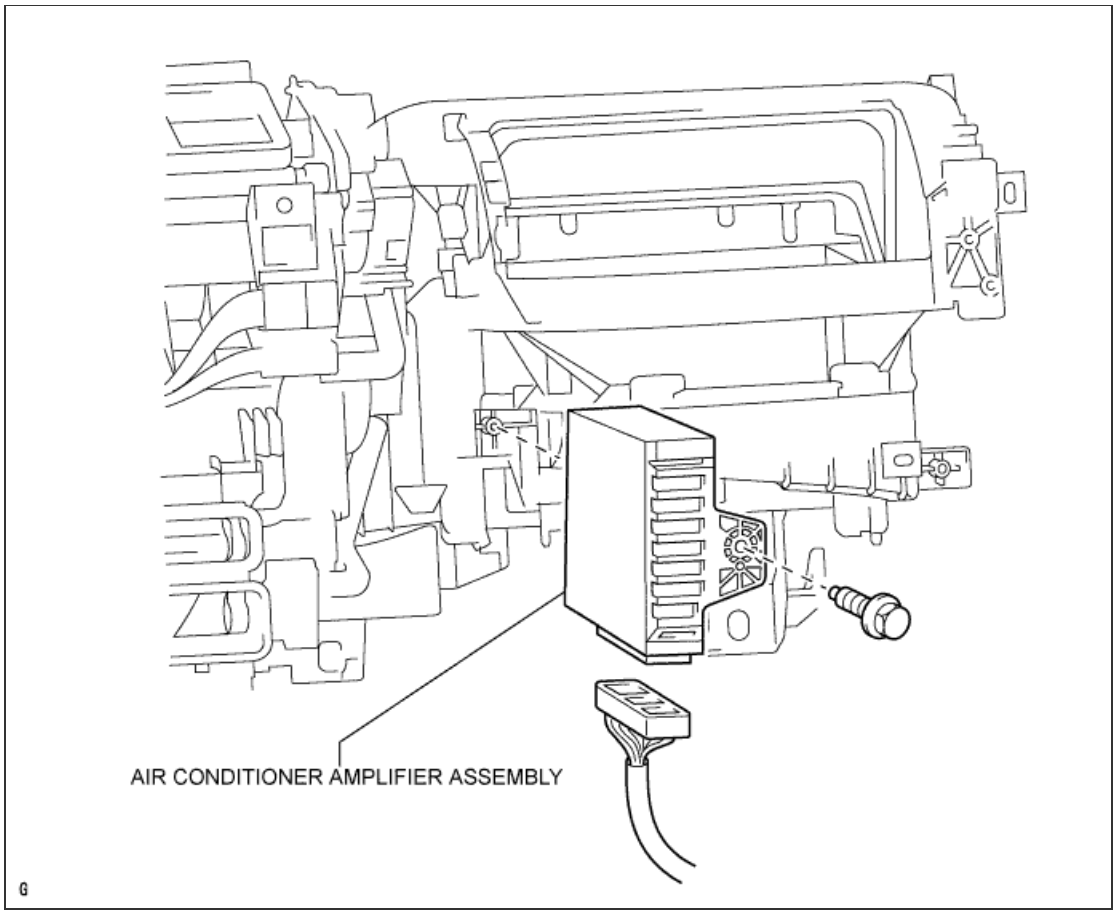

## 3. INSTALL REAR CONSOLE END PANEL SUB-ASSEMBLY

a. w/o Cool Box:
(Click here)

b. w/ Cool Box:
(Click here)

**for Preparation** Click here




AIR CONDITIONER AMPLIFIER ASSEMBLY
G

**for Preparation** Click here

**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL (w/ Passenger Side Knee Airbag)

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE FRONT DOOR SCUFF PLATE RH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

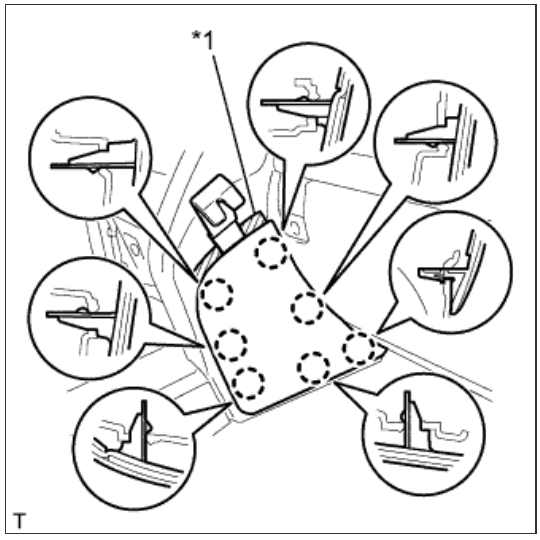
## 4. REMOVE NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Put protective tape around the No. 1 instrument panel finish panel cushion.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

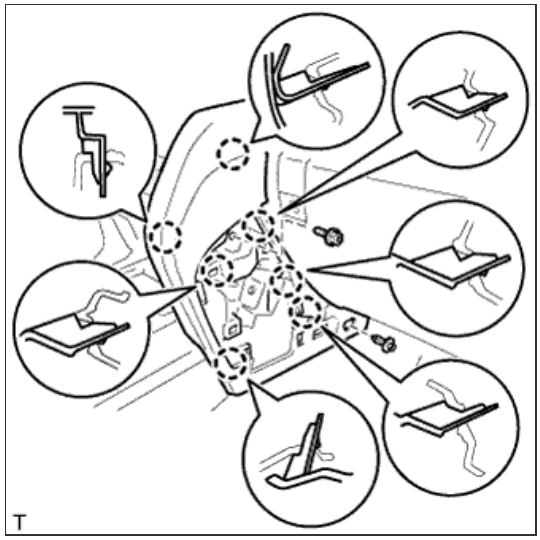
b. Using a moulding remover, detach the 7 claws and remove the No. 1 instrument panel finish panel cushion.




## 5. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

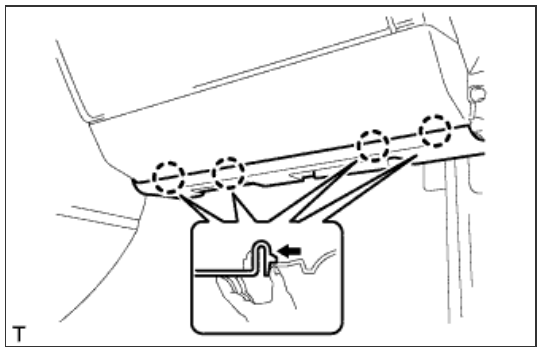
a. Remove the clip and screw.

b. Detach the 7 claws and remove the lower instrument panel pad sub-assembly.




## 6. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Detach the 4 claws and remove the No. 2 instrument panel under cover.




## 7. REMOVE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (w/ Passenger Side Knee Airbag)

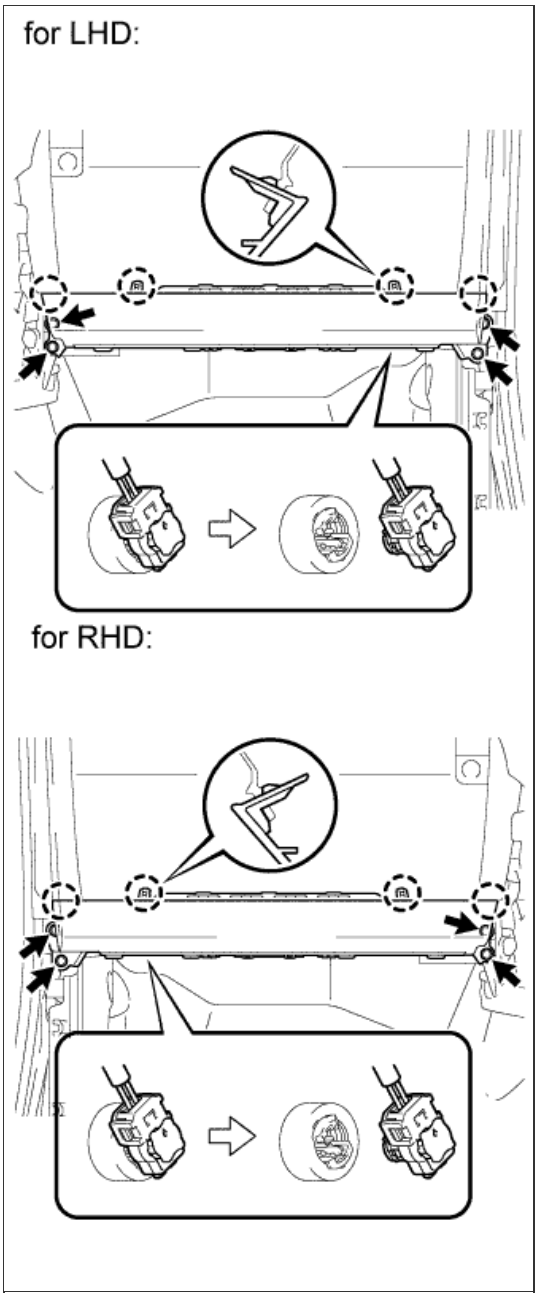
a. Remove the 4 bolts.

b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

**NOTICE:**

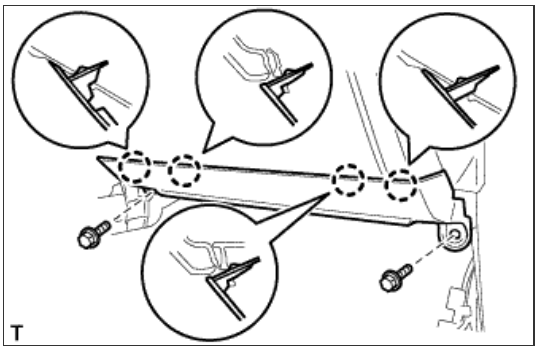
When handling the airbag connector, take care not to damage the airbag wire harness.




## 8. REMOVE LOWER INSTRUMENT PANEL (w/o Passenger Side Knee Airbag)

a. Remove the 2 bolts.

b. Detach the 4 claws and remove the lower instrument panel.



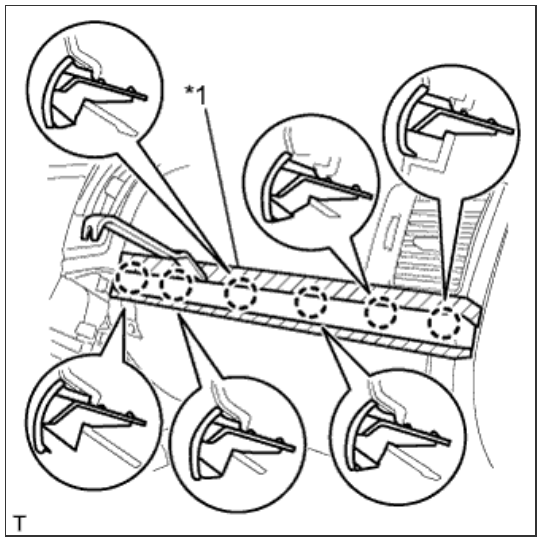

## 9. REMOVE NO. 3 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws and remove the No. 3 instrument cluster finish panel garnish.

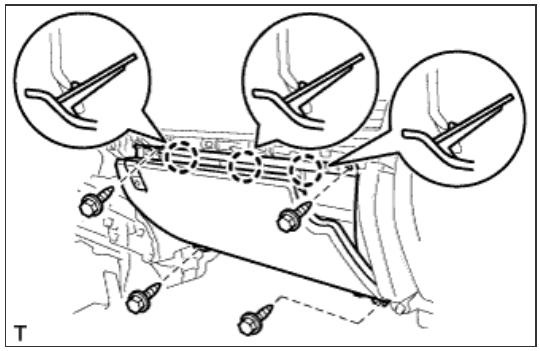



## 10. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 3 claws.

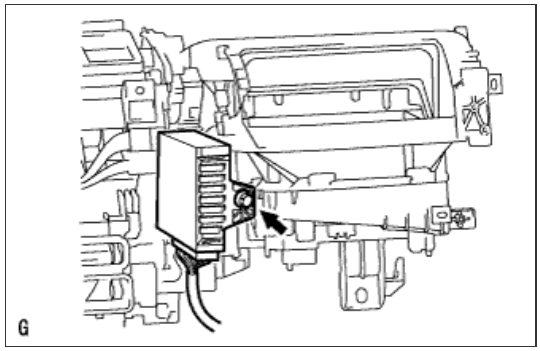
c. Disconnect the connector and remove the lower No. 2 instrument panel finish panel.




## 11. REMOVE AIR CONDITIONER AMPLIFIER ASSEMBLY

a. Disconnect the connector.

b. Remove the screw and amplifier.



**for Preparation** Click here

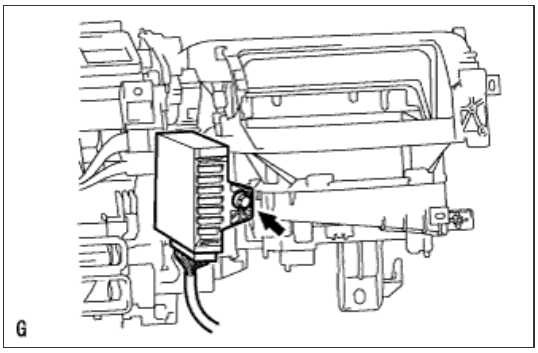
**HINT:**

- **Use the same procedures for the LHD vehicle and RHD vehicle.**
- **The procedures listed below are for the LHD vehicle.**

## 1. INSTALL AIR CONDITIONER AMPLIFIER ASSEMBLY

a. Install the amplifier with the screw.

b. Connect the connector.

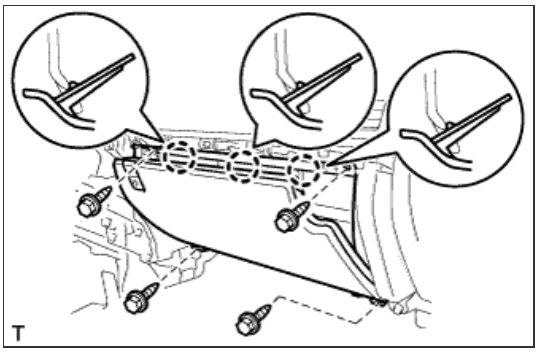



## 2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

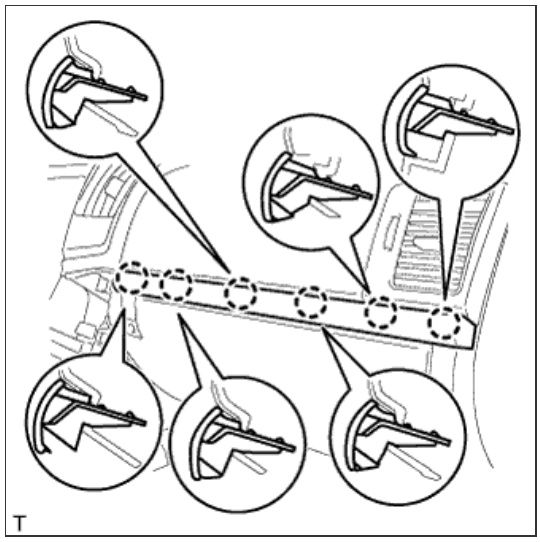
b. Attach the 3 claws to install the lower No. 2 instrument panel finish panel.

c. Install the 4 bolts.




## 3. INSTALL NO. 3 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 6 claws to install the No. 3 instrument cluster finish panel garnish.




## 4. INSTALL FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (w/ Passenger Side Knee Airbag)

a. Connect the connector.

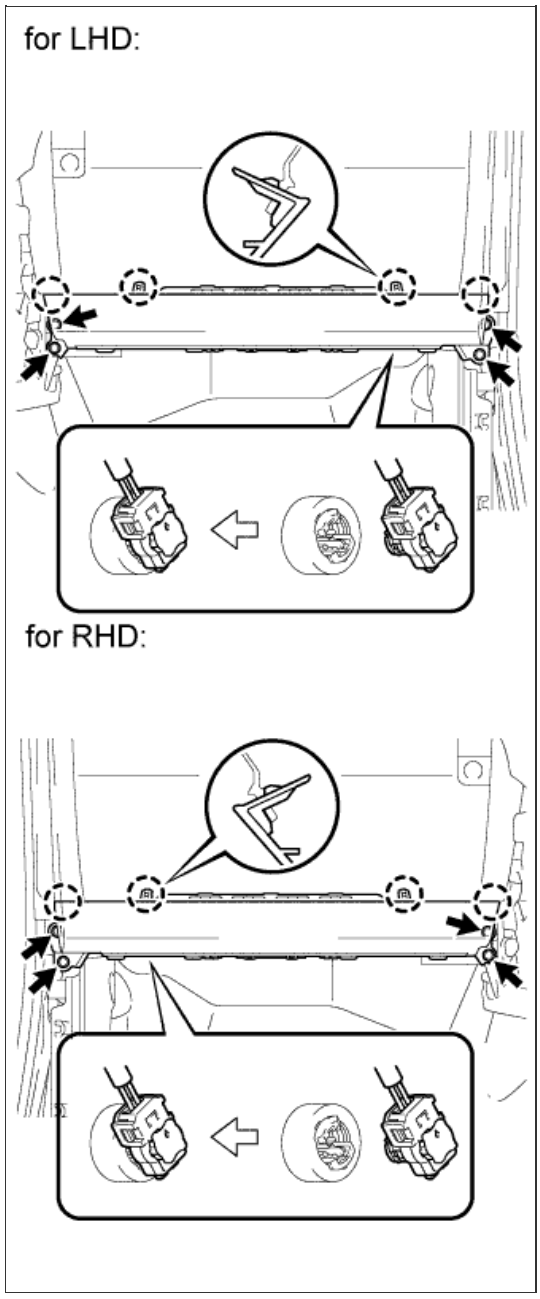
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Attach the 4 claws to install the front passenger side knee airbag.

c. Install the 4 bolts.

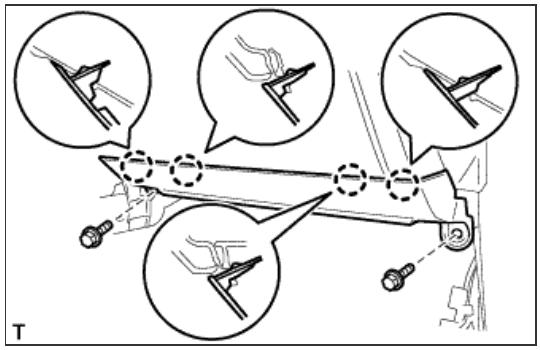
**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**



### 5. INSTALL LOWER INSTRUMENT PANEL (w/o Passenger Side Knee Airbag)

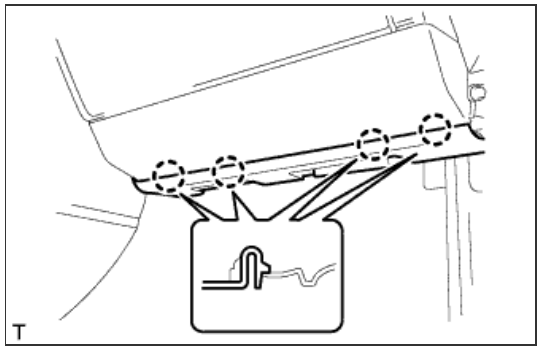
a. Attach the 4 claws to install the lower instrument panel.

b. Install the 2 bolts.




### 6. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

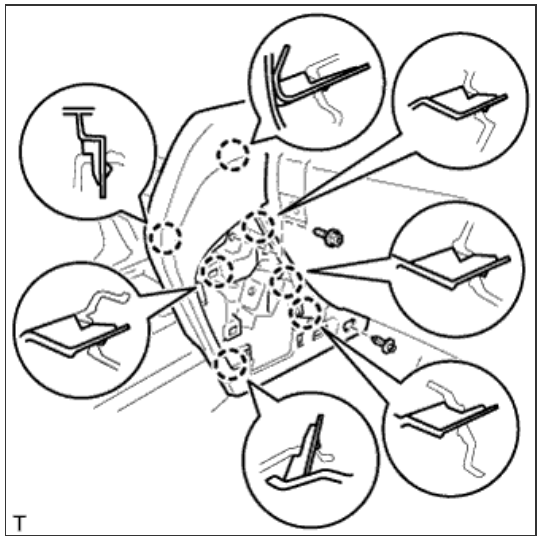
a. Attach the 4 claws to install the No. 2 instrument panel under cover.




### 7. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

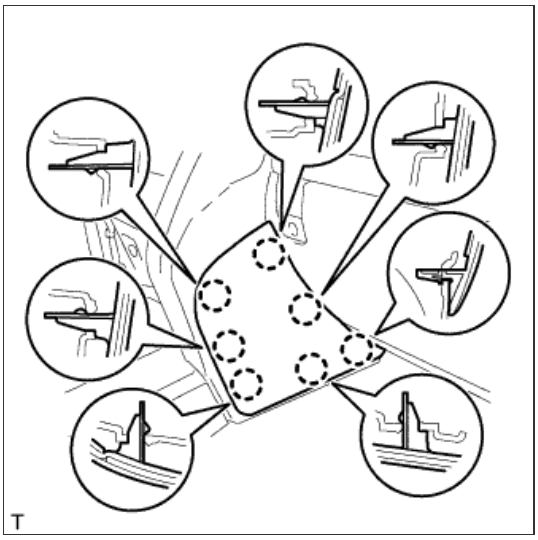
a. Attach the 7 claws to install the lower instrument panel pad sub-assembly.

b. Install the clip and screw.




### 8. INSTALL NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Attach the 7 claws to install the No. 1 instrument panel finish panel cushion.




### 9. INSTALL FRONT DOOR SCUFF PLATE RH

a. w/ Sliding Roof:
(Click here)

b. w/o Sliding Roof:
(Click here)

### 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL (w/ Passenger Side Knee Airbag)

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

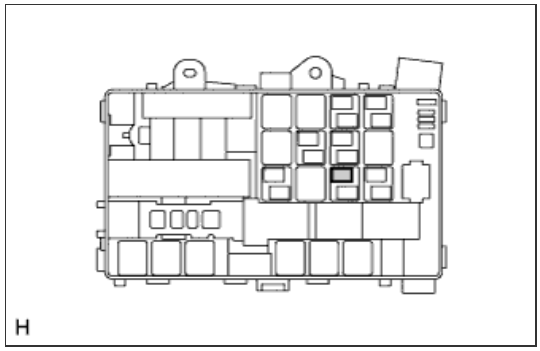
### 11. CHECK SRS WARNING LIGHT (w/ Passenger Side Knee Airbag)

(Click here)

**for Preparation** Click here

## 1. REMOVE VISCOUS HEATER RELAY

a. Remove the viscous heater relay from the engine room relay block.



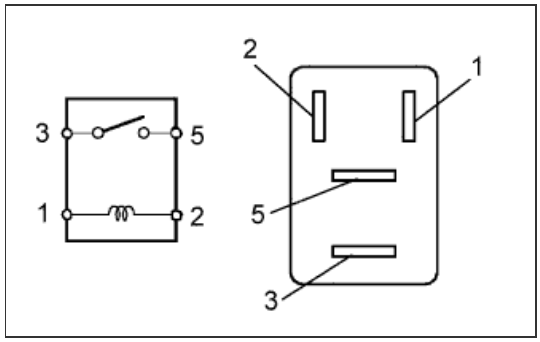

## 2. INSPECT VISCOUS HEATER RELAY

a. Measure the resistance of the viscous heater relay.

**Standard Resistance:**

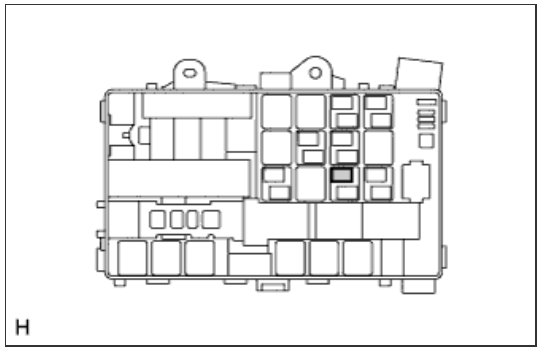
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage not applied between terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage applied to terminal 1 and 2 | Below 1 Ω |

If the result is not as specified, replace the relay.




## 3. INSTALL VISCOUS HEATER RELAY

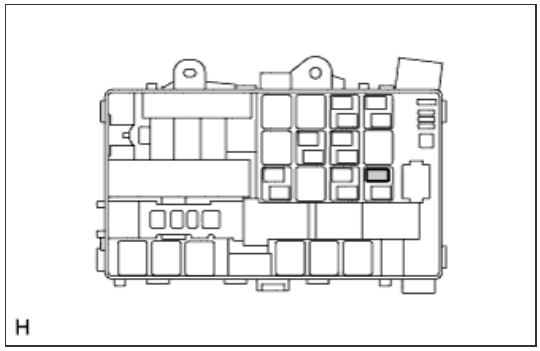
a. Install the viscous heater relay to the engine room relay block.



**for Preparation** Click here

## 1. REMOVE MAGNET CLUTCH RELAY

a. Remove the magnet clutch relay from the engine room relay block.



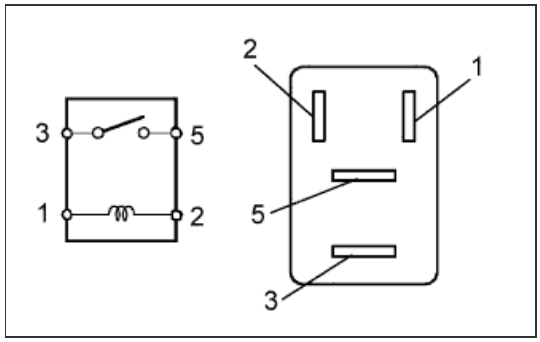

## 2. INSPECT MAGNET CLUTCH RELAY

a. Measure the resistance of the magnet clutch relay.

**Standard Resistance:**

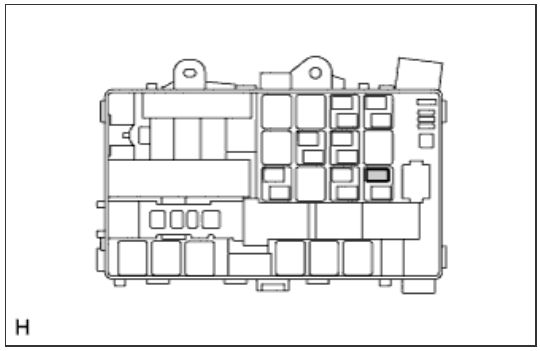
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage not applied between terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage applied to terminal 1 and 2 | Below 1 Ω |

If the result is not as specified, replace the relay.




## 3. INSTALL MAGNET CLUTCH RELAY

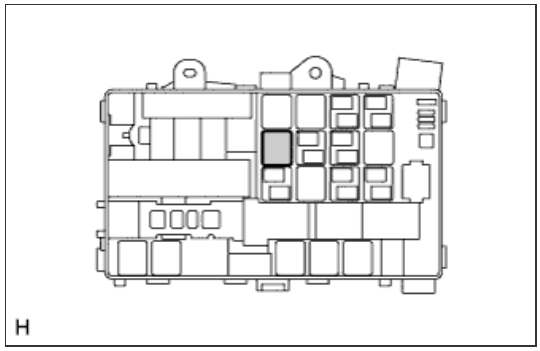
a. Install the magnet clutch relay to the engine room relay block.



**for Preparation** Click here

## 1. REMOVE REAR COOLER RELAY

a. Remove the rear cooler relay from the engine room relay block.

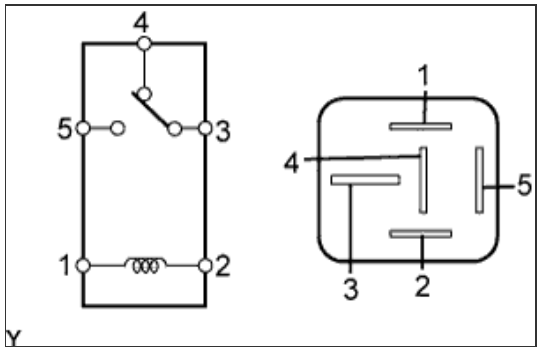



## 2. INSPECT REAR COOLER RELAY

a. Measure the resistance of the relay.

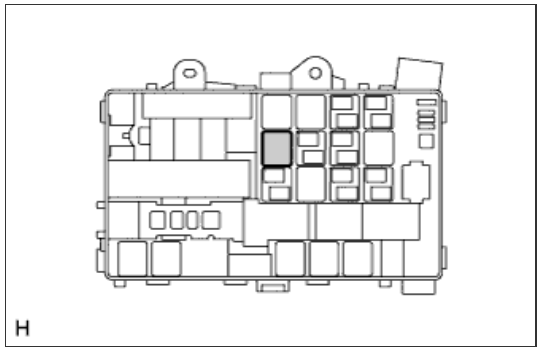
**Standard Resistance:**

| Tester Connection | Specified Condition |
|---|---|
| 3 - 4 | Below 1 Ω |
| 3 - 5 | 10 kΩ or higher |
| 3 - 4 | 10 kΩ or higher (Battery voltage is applied to terminals 1 and 2) |
| 3 - 5 | Below 1 Ω (Battery voltage is applied to terminals 1 and 2) |




## 3. INSTALL REAR COOLER RELAY

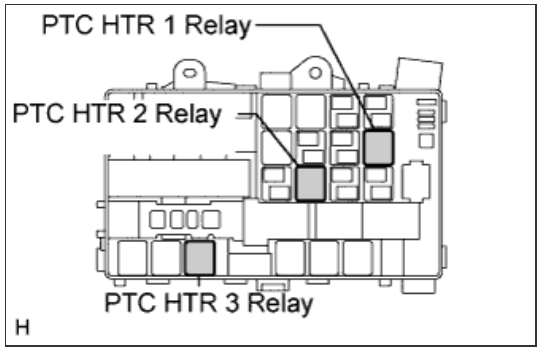
a. Install the rear cooler relay to the engine room relay block.



**for Preparation** Click here

## 1. REMOVE PTC HEATER RELAY (PTC HTR 1, PTC HTR 2, PTC HTR 3)

a. Remove the 3 PTC heater relays from the engine room relay block.



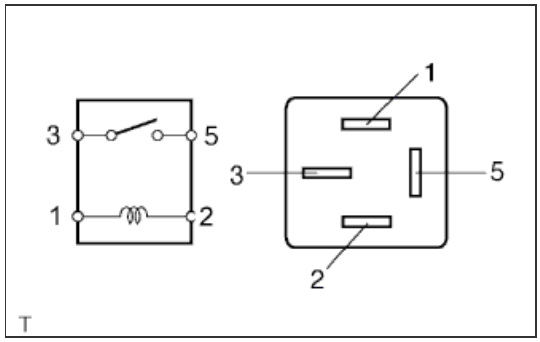

## 2. INSPECT PTC HEATER RELAY (PTC HTR 1, PTC HTR 2, PTC HTR 3)

a. Measure the resistance of the relay.

**Standard Resistance:**

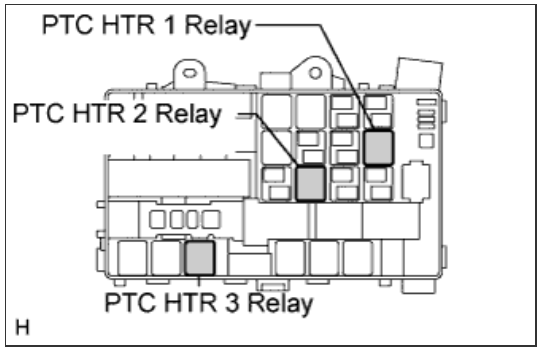
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 3 - 5 | Battery voltage not applied between terminals 1 and 2 | 10 kΩ or higher |
| | Battery voltage applied to terminal 1 and 2 | Below 1 Ω |

If the result is not as specified, replace the relay.

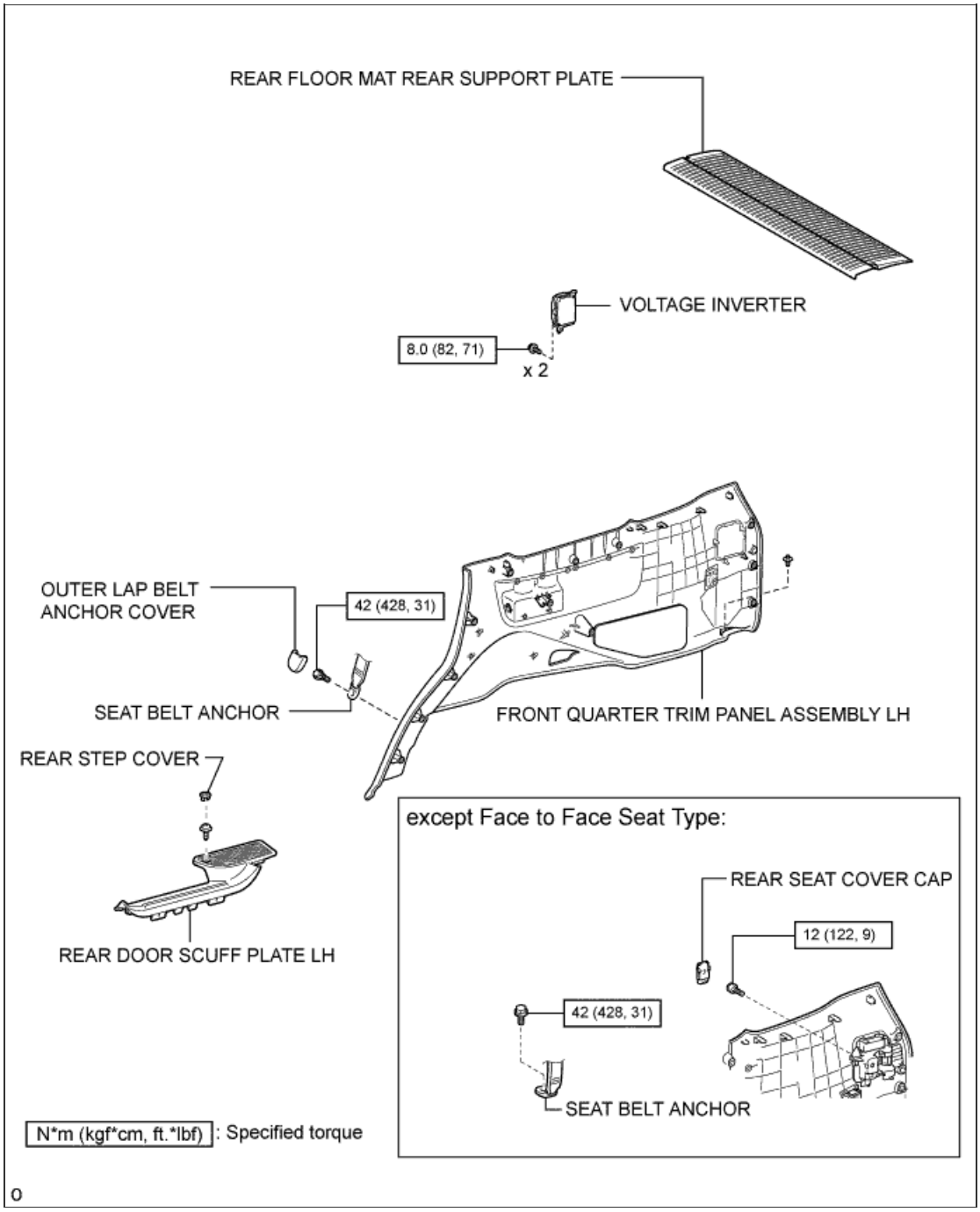



## 3. INSTALL PTC HEATER RELAY (PTC HTR 1, PTC HTR 2, PTC HTR 3)

a. Install the 3 PTC heater relays to the engine room relay block.



**for Preparation** Click here



**for Preparation** Click here

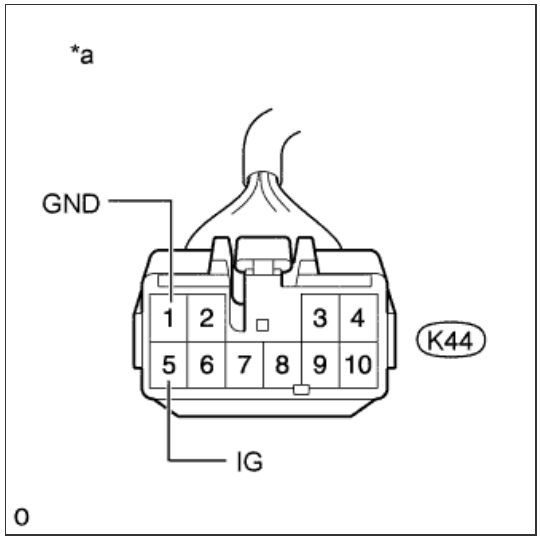
## 1. INSPECT VOLTAGE INVERTER

**HINT:**

Remove interior parts so that the voltage inverter can be seen.

a. Disconnect the voltage inverter connector.

b. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K44-5 (IG) - K44-1 (GND) | Ignition switch on (IG) | 10 to 16 V |
| K44-1 (GND) - Body ground | Always | Below 1 V |

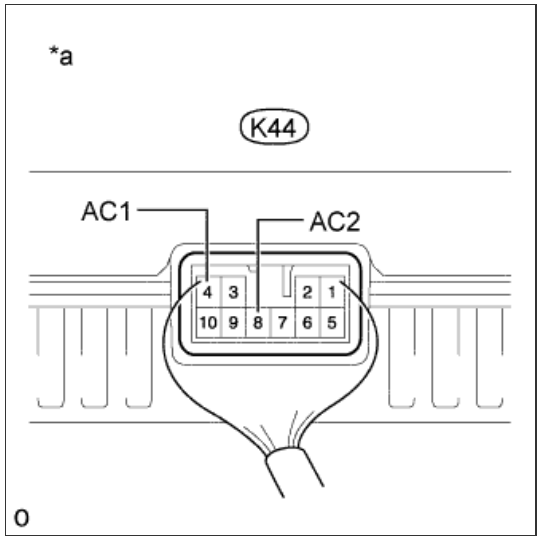
If the result is not as specified, repair or replace the harness or connector.

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector:<br>(to Voltage Inverter) |

c. Reconnect the voltage inverter connector.

d. Measure the voltage according to the value(s) in the table below.




**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K44-4 (AC1) - K44-8 (AC2) | Ignition switch on (IG)<br>Main switch on | AC 198 to 242 V |

If the result is not as specified, replace the voltage inverter.

**Text in Illustration**

| | |
|---|---|
| *a | Component with harness connected:<br>(Voltage Inverter) |

**for Preparation** Click here

### 1. REMOVE REAR NO. 2 SEAT ASSEMBLY (except Face to Face Seat Type)

Remove the rear No. 2 seat assembly ( Click here).

### 2. REMOVE REAR NO. 2 SEAT ASSEMBLY (for Face to Face Seat Type)

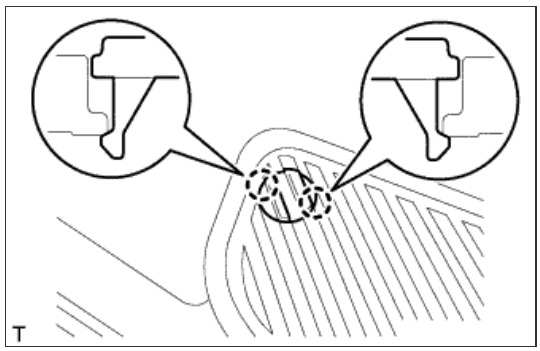
Remove the rear No. 2 seat assembly ( Click here).

### 3. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

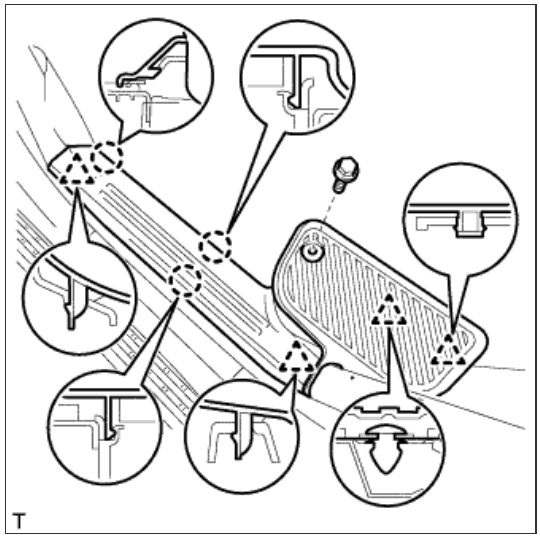
a. Detach the 2 claws and remove the step cover.




### 4. REMOVE REAR DOOR SCUFF PLATE LH

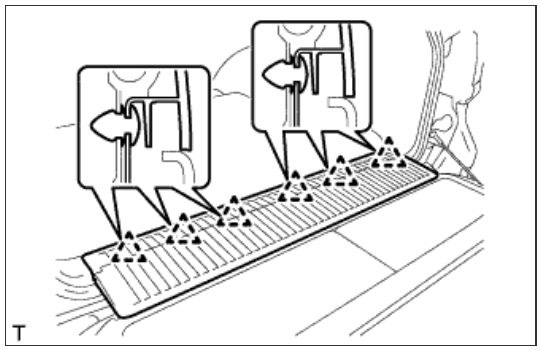
a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




### 5. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.




## 6. REMOVE REAR SEAT COVER CAP (except Face to Face Seat Type)

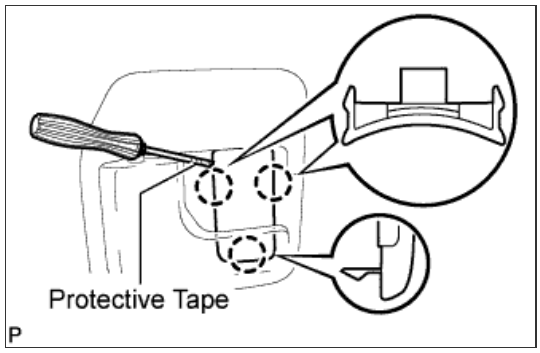
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

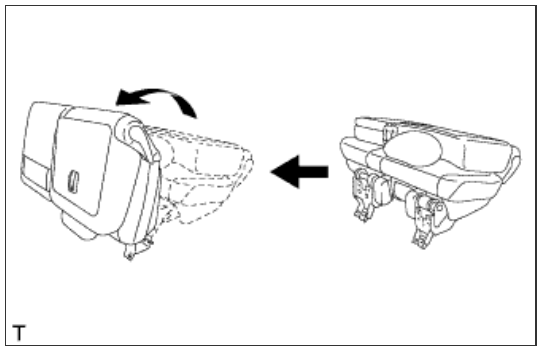
Tape the screwdriver tip before use.



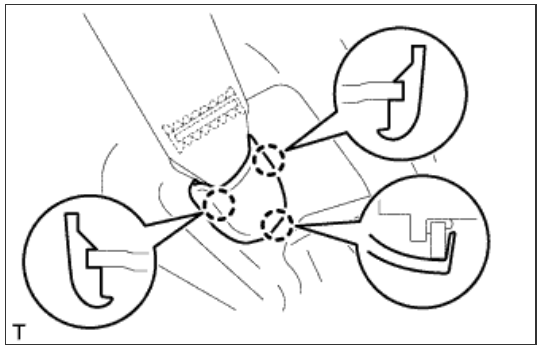

## 7. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

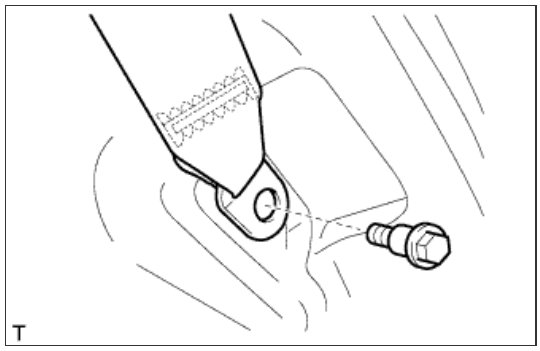
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



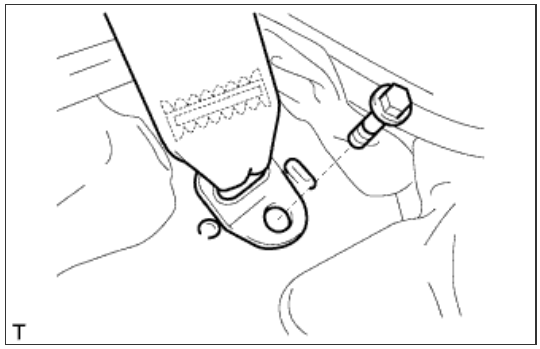

a. Detach the 3 claws and remove the cover.




b. Remove the bolt and rear No. 1 seat belt anchor.




c. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Remove the bolt and rear No. 2 seat belt anchor.



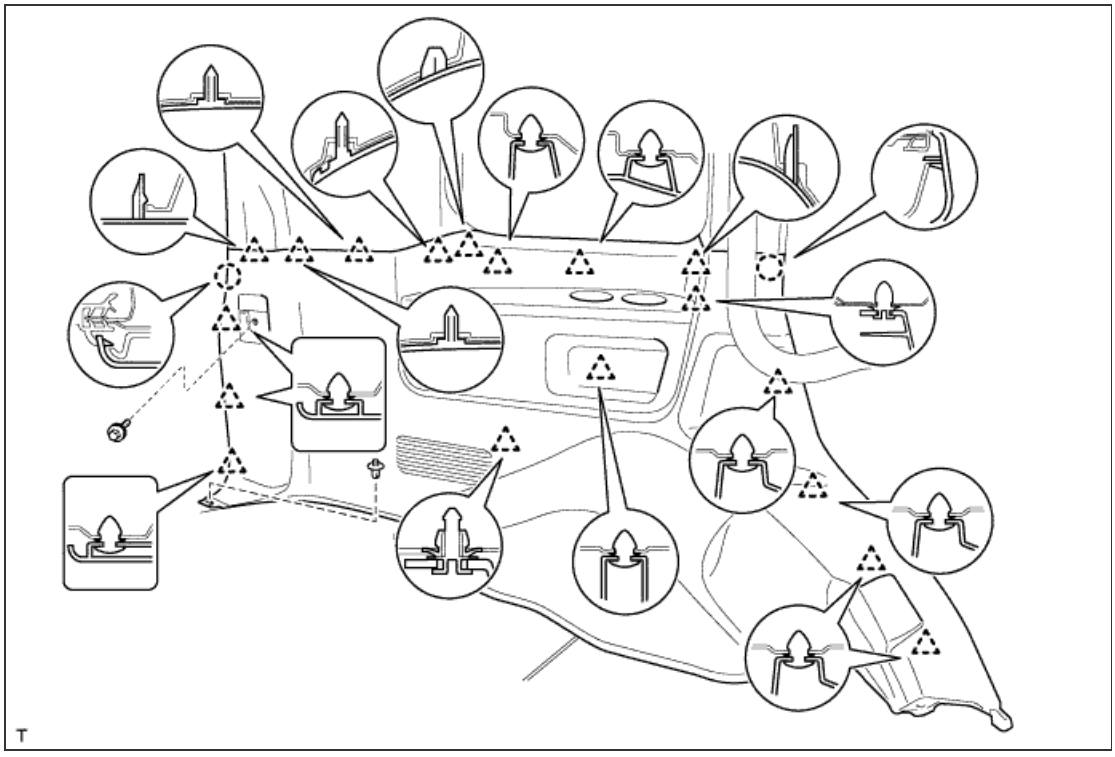

d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Remove the clip and bolt.

ii. Detach the 18 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

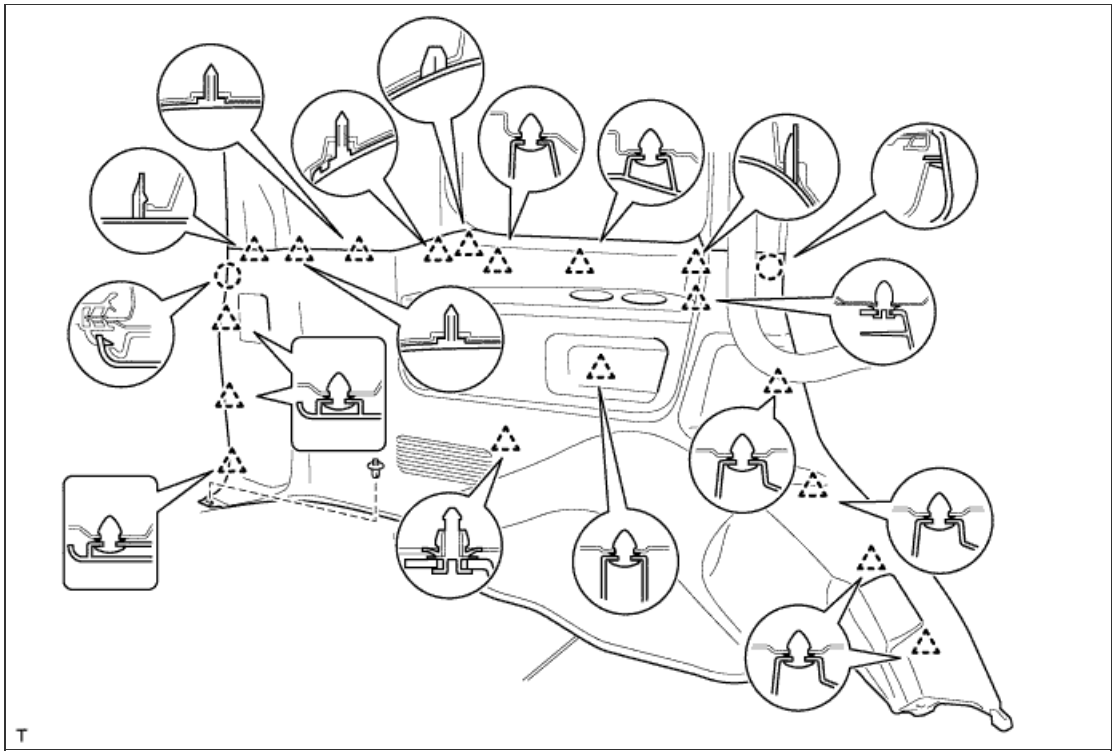
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.



e. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Remove the clip.

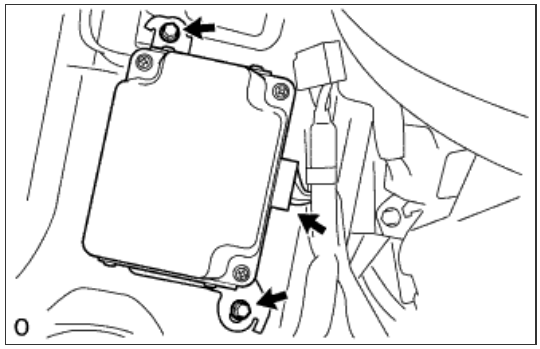
ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.




## 8. REMOVE VOLTAGE INVERTER

a. Disconnect the connector.

b. Remove the 2 bolts and voltage inverter.



**for Preparation** Click here

## 1. INSTALL VOLTAGE INVERTER

a. Install the voltage inverter with the 2 bolts.

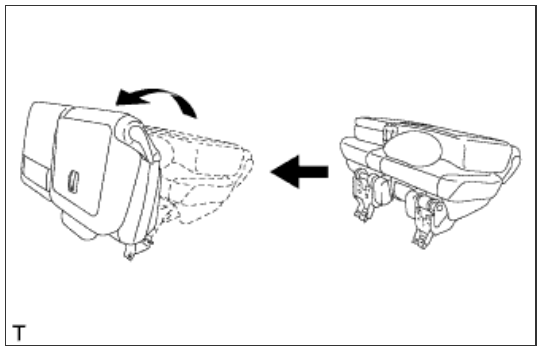
**Torque:**
**8.0 N*m{ 82 kgf*cm , 71 in.*lbf }**

b. Connect the connector.

## 2. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

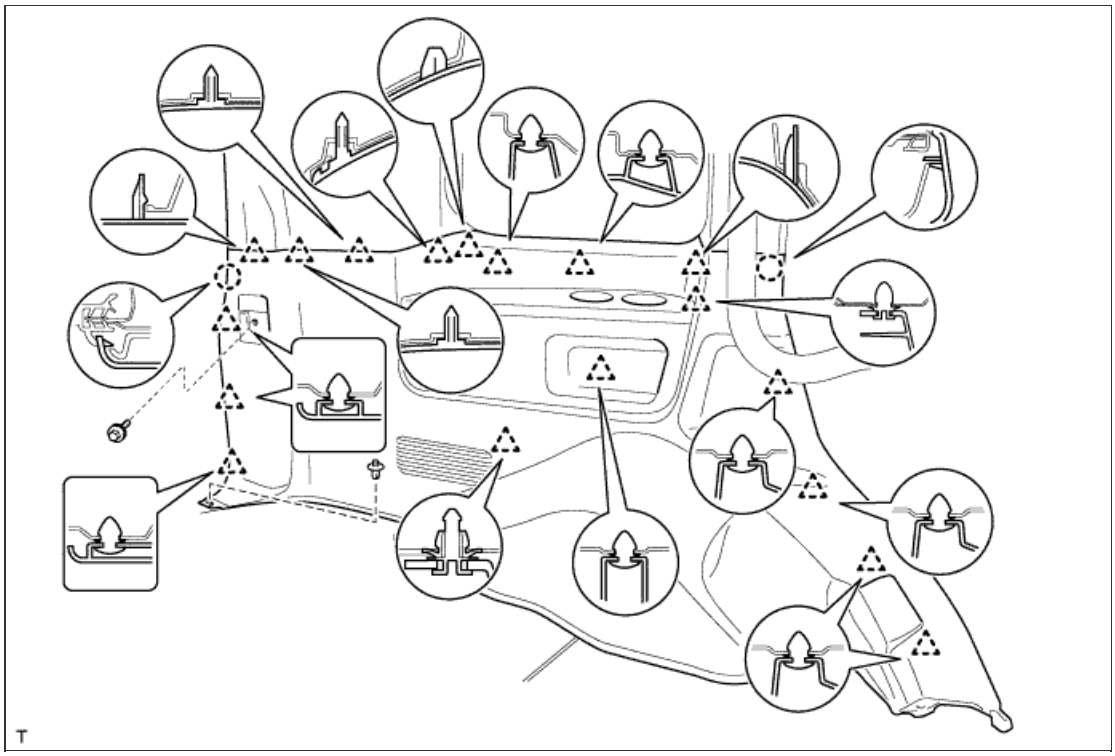
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 18 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

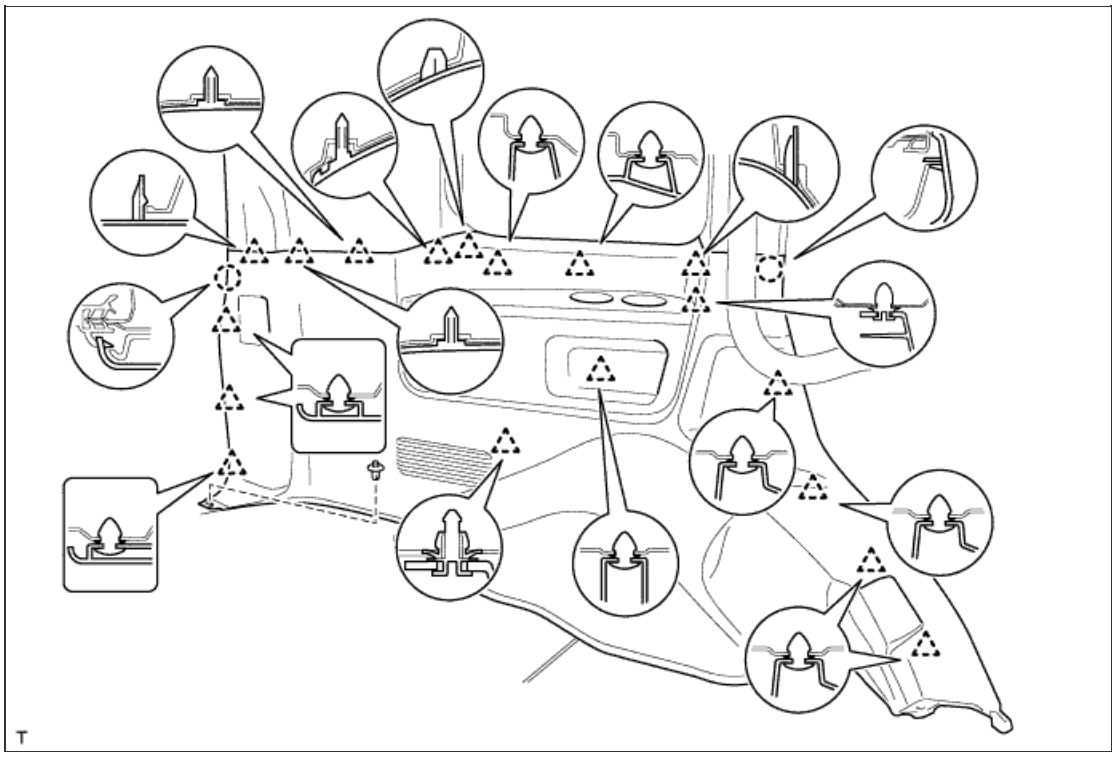
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

ii. Install the clip.



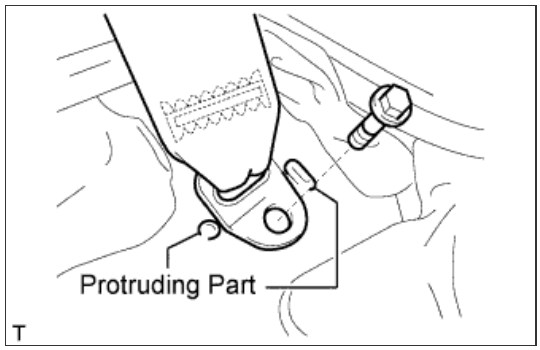

c. w/ Rear No. 2 Seat, except Face to Face Seat Type:

Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

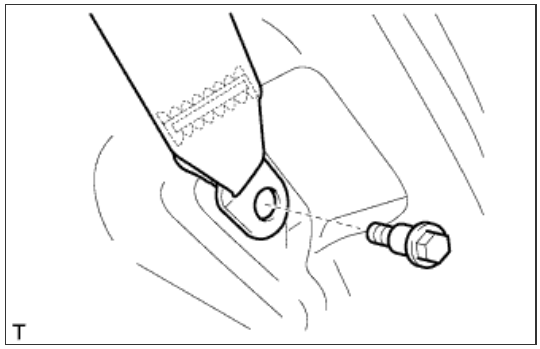
**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

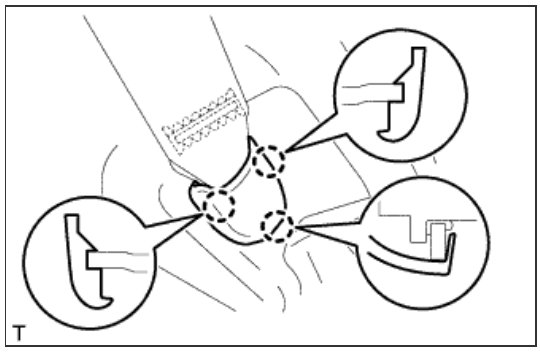



d. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




e. Attach the 3 claws to install the cover.

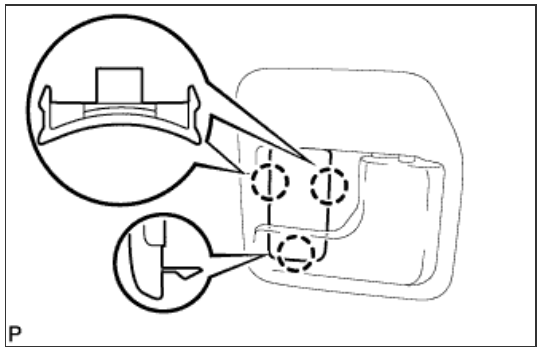



## 3. INSTALL REAR SEAT COVER CAP (except Face to Face Seat Type)

**HINT:**

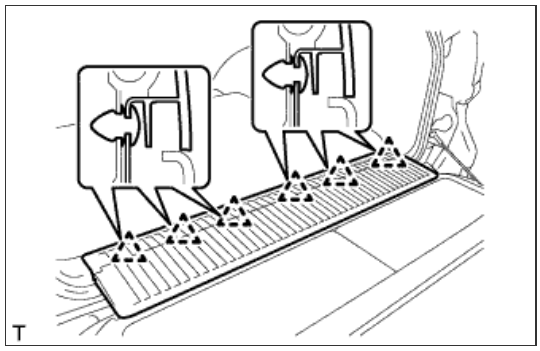
Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.




## 4. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

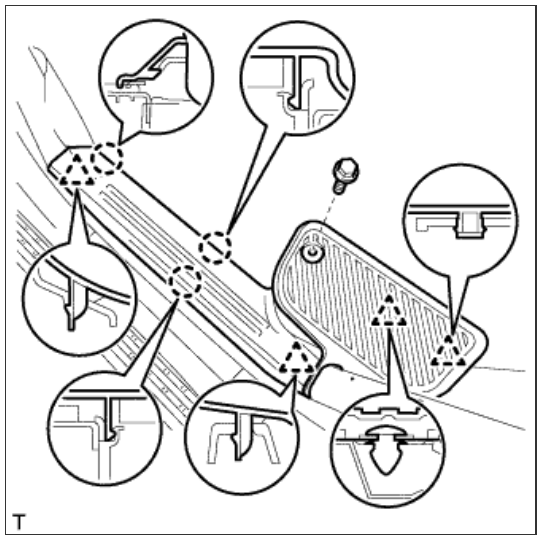
a. Attach the 6 clips to install the support plate.




### 5. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

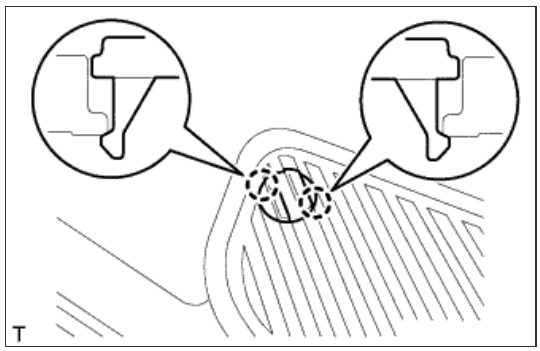



### 6. INSTALL REAR STEP COVER

**HINT:**

Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.



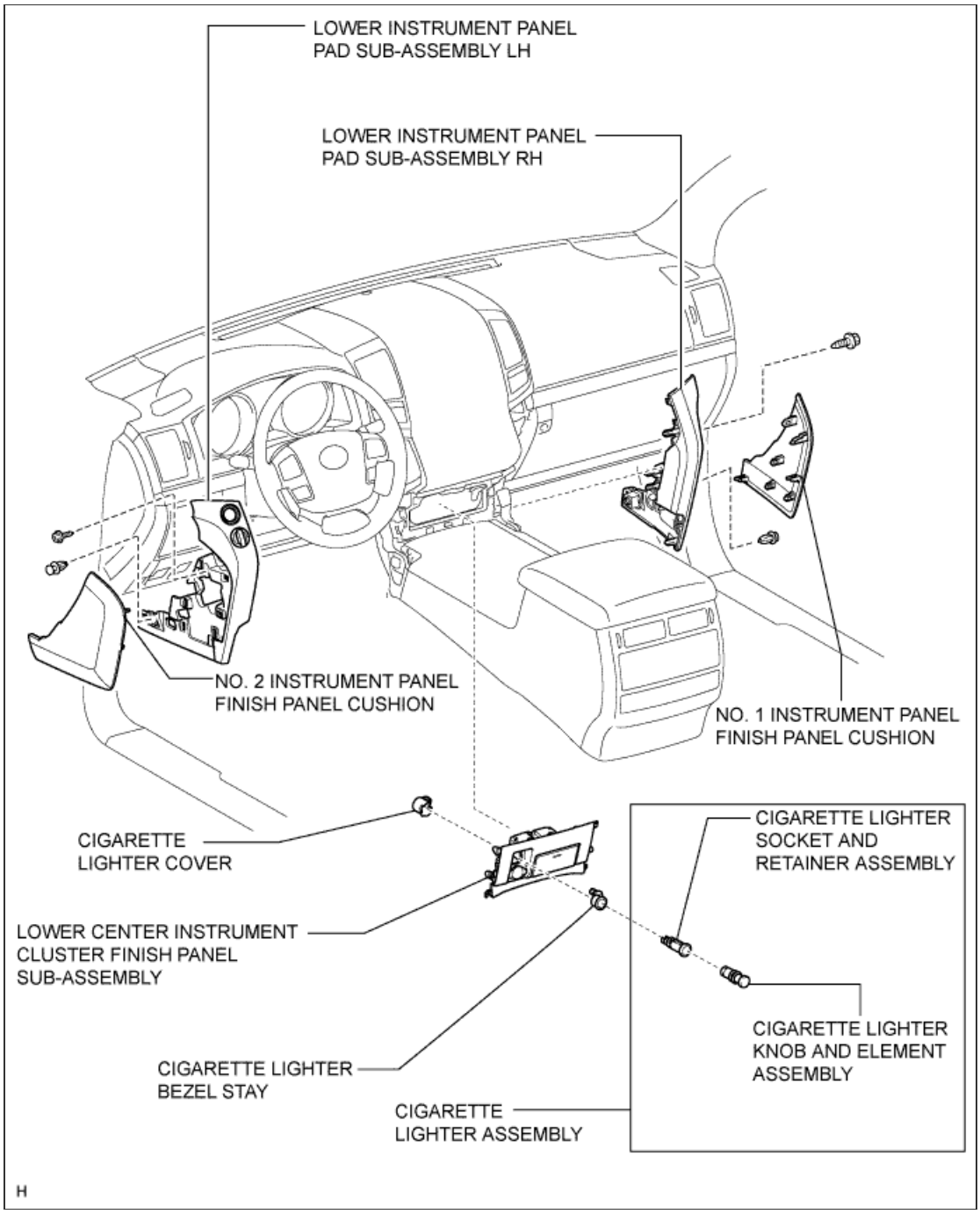

### 7. INSTALL REAR NO. 2 SEAT ASSEMBLY (for Face to Face Seat Type)

Install the rear No. 2 seat assembly ( Click here).

### 8. INSTALL REAR NO. 2 SEAT ASSEMBLY (except Face to Face Seat Type)

Install the rear No. 2 seat assembly ( Click here).

**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

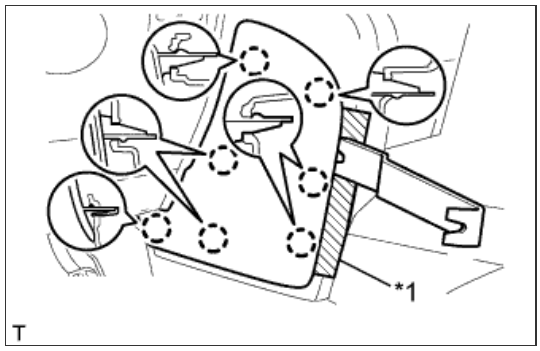
## 1. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 2 instrument panel finish panel cushion.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 2 instrument panel finish panel cushion.

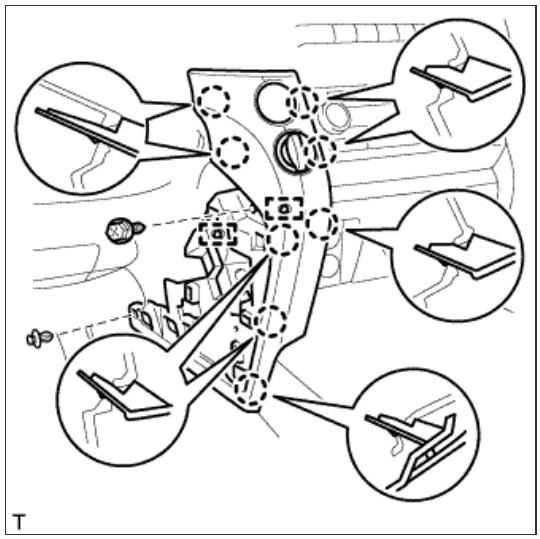



## 2. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.



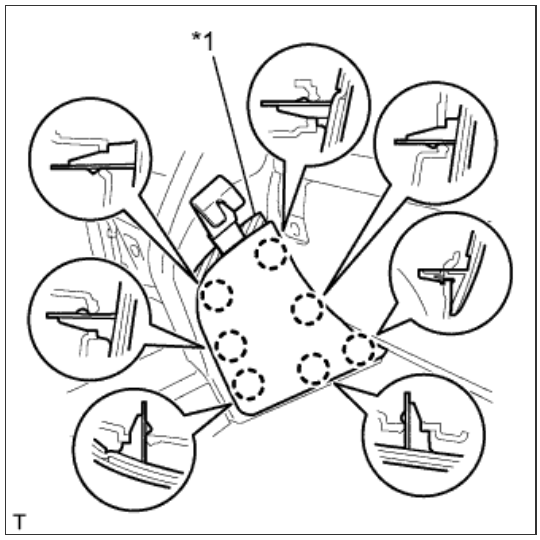

## 3. REMOVE NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 1 instrument panel finish panel cushion.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

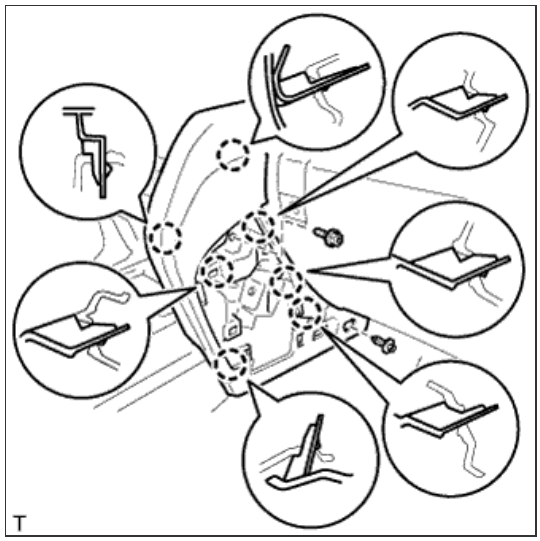
b. Using a moulding remover, detach the 7 claws and remove the No. 1 instrument panel finish panel cushion.




### 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip and screw.

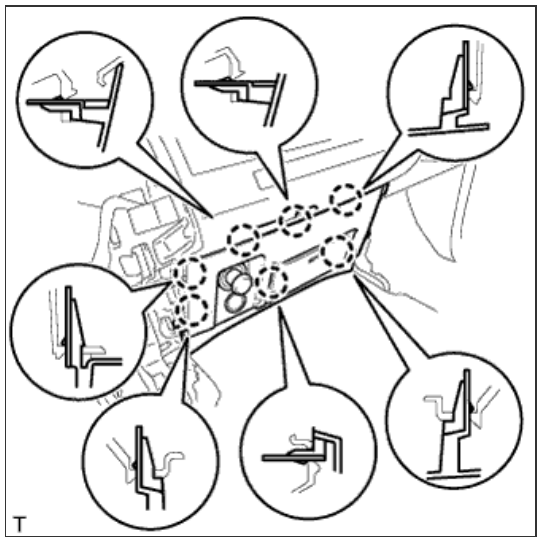
b. Detach the 7 claws and remove the lower instrument panel pad sub-assembly.




### 5. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

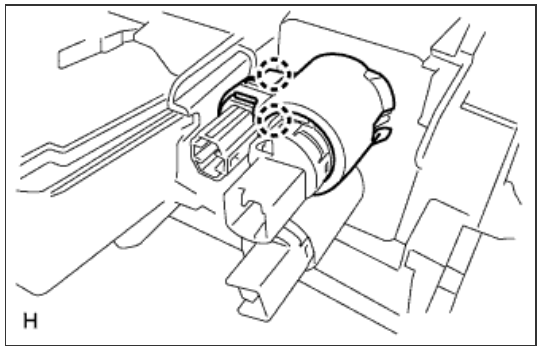
a. Detach the 7 claws.

b. Disconnect the connectors and remove the lower center instrument cluster finish panel sub-assembly.




### 6. REMOVE CIGARETTE LIGHTER COVER

a. Detach the 2 claws and remove the cover.



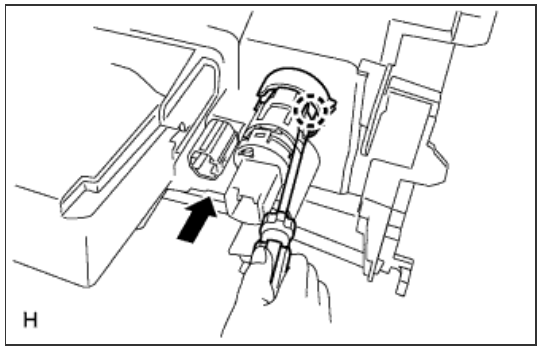

## 7. REMOVE CIGARETTE LIGHTER ASSEMBLY

a. Remove the cigarette lighter knob and element assembly.

b. Using a screwdriver, detach the claw, and remove the cigarette lighter socket and retainer assembly.

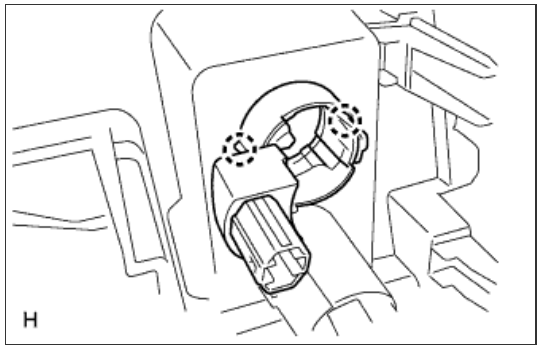
**HINT:**

Tape the screwdriver tip before use.




## 8. REMOVE CIGARETTE LIGHTER BEZEL STAY

a. Detach the 2 claws and remove the bezel stay.



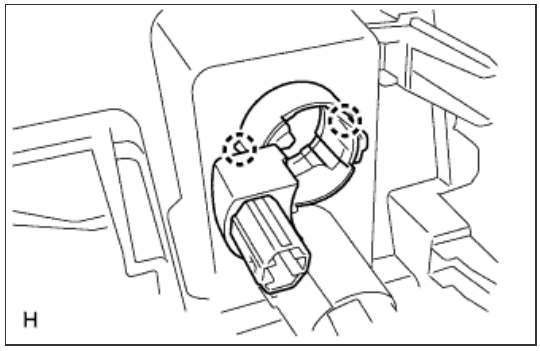
**for Preparation** Click here

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

## 1. INSTALL CIGARETTE LIGHTER BEZEL STAY

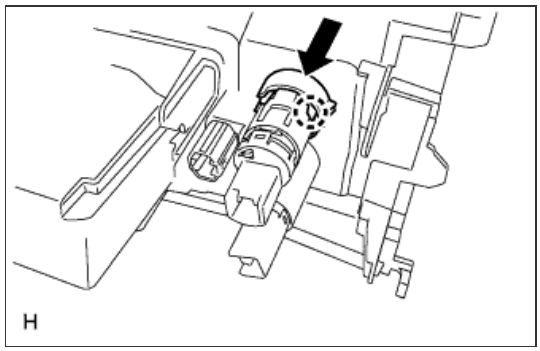
a. Attach the 2 claws to install the bezel stay.




## 2. INSTALL CIGARETTE LIGHTER ASSEMBLY

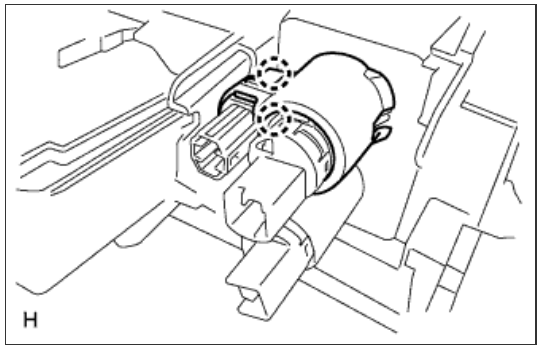
a. Attach the claw to install the cigarette lighter socket and retainer assembly.

b. Install the cigarette lighter knob and element assembly.




## 3. INSTALL CIGARETTE LIGHTER COVER

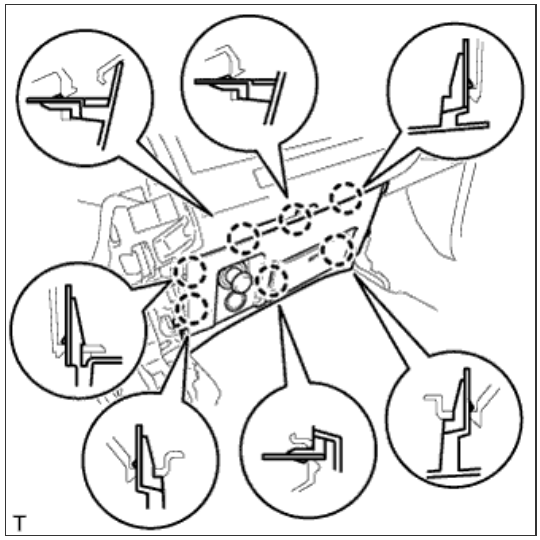
a. Attach the 2 claws to install the cover.




## 4. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

a. Connect the connectors.

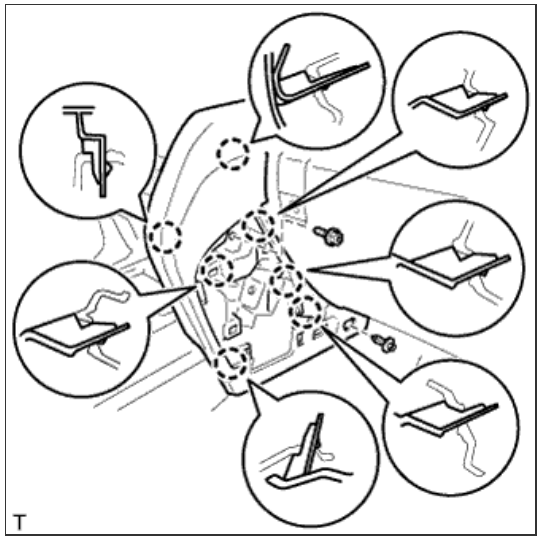
b. Attach the 7 claws to install the lower center instrument cluster finish panel sub-assembly.




## 5. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

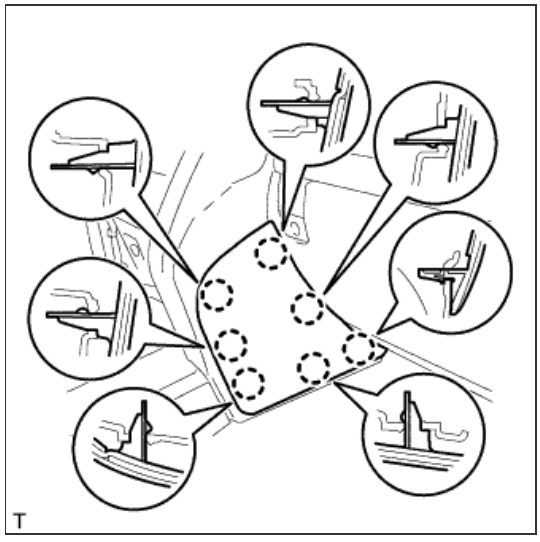
a. Attach the 7 claws to install the lower instrument panel pad sub-assembly.

b. Install the clip and screw.




## 6. INSTALL NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 1 instrument panel finish panel cushion.

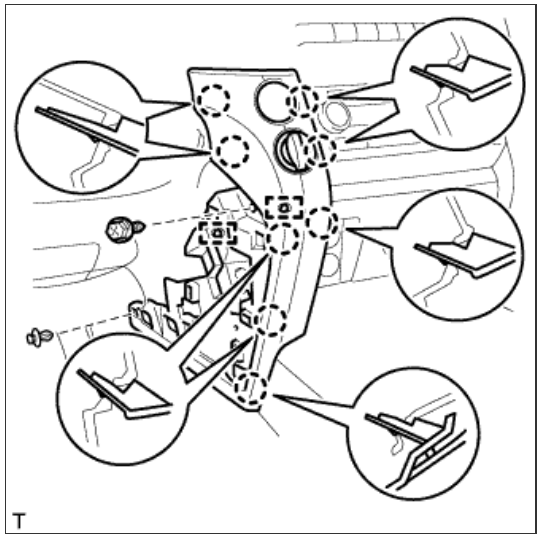



## 7. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

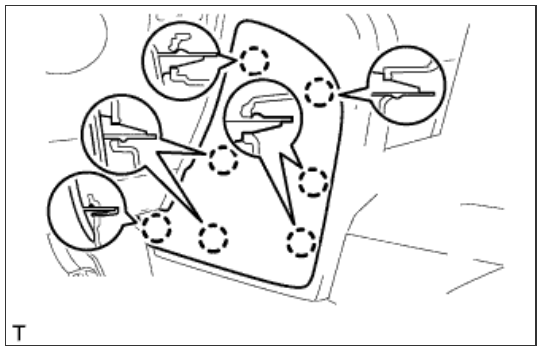
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.

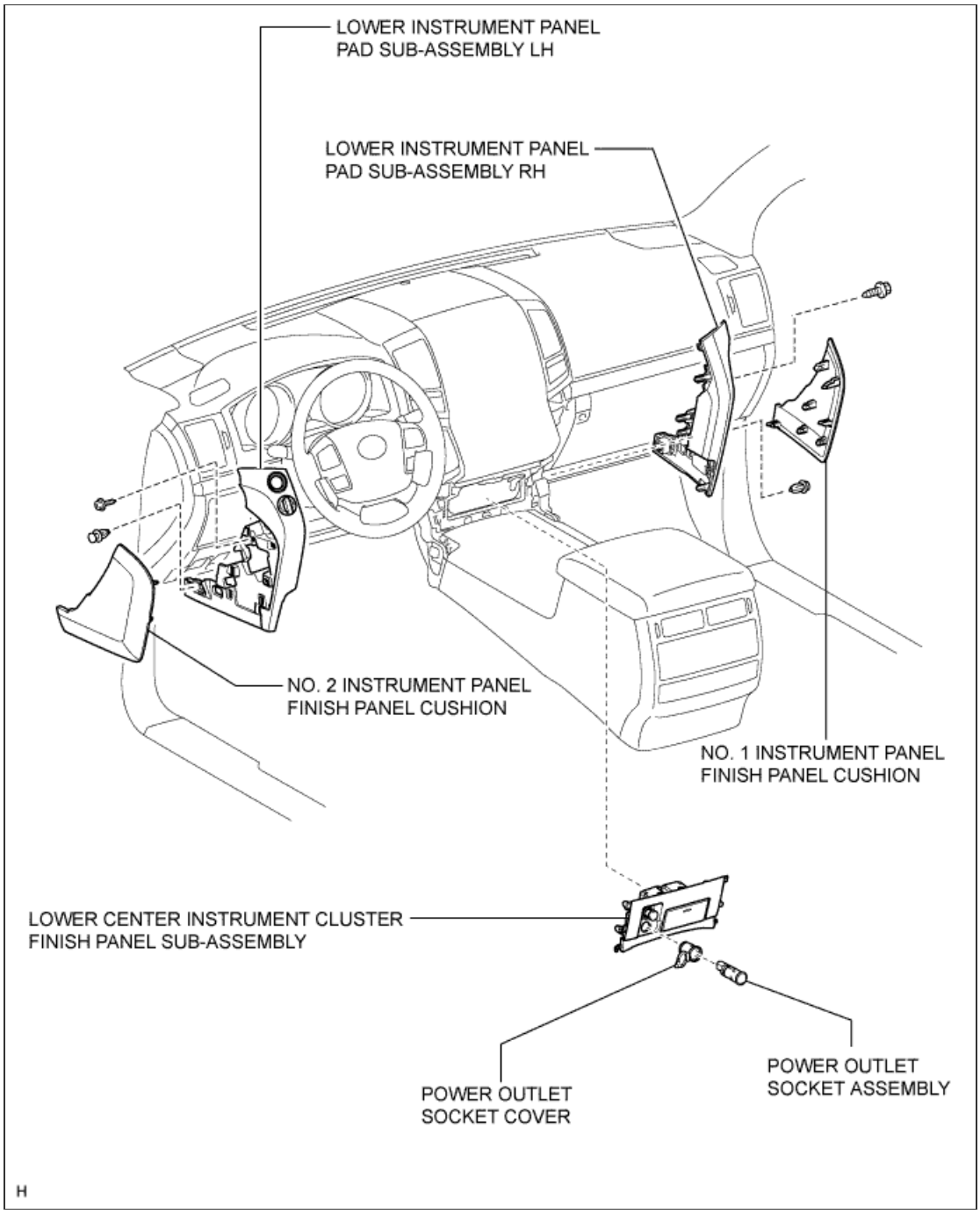



## 8. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 2 instrument panel finish panel cushion.



**for Preparation** Click here



**for Preparation** Click here

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

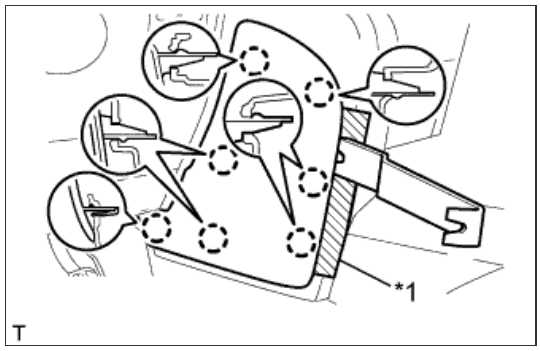
## 1. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 2 instrument panel finish panel cushion.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 2 instrument panel finish panel cushion.

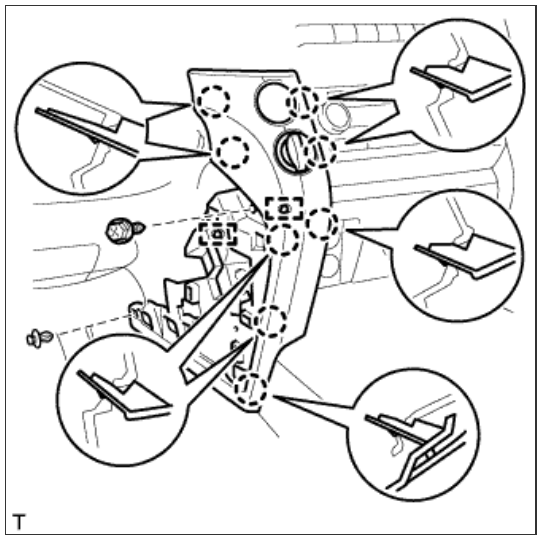



## 2. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.



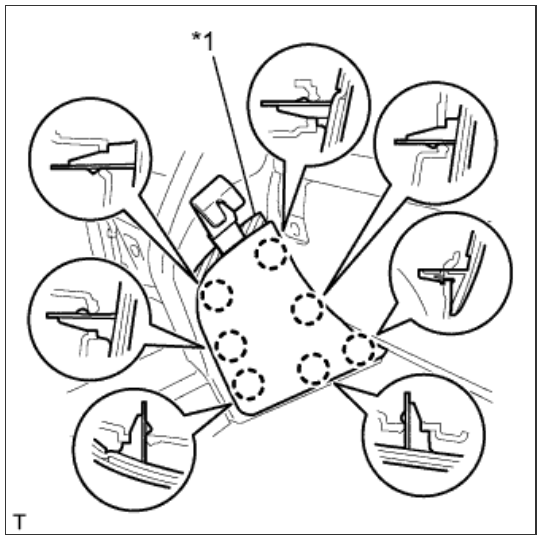

## 3. REMOVE NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 1 instrument panel finish panel cushion.

Text in Illustration

| | |
|---|---|
| *1 | Protective Tape |

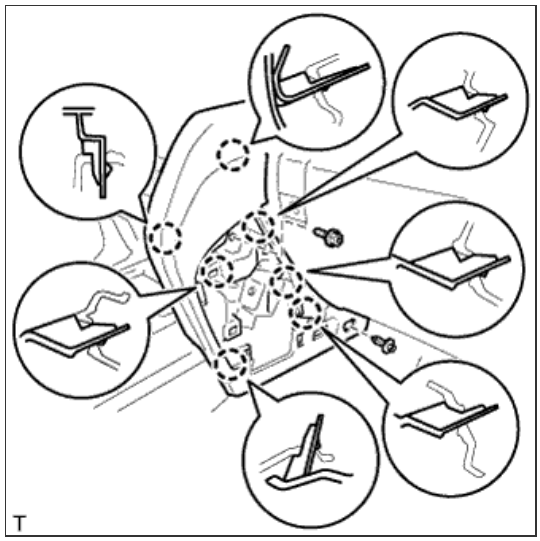
b. Using a moulding remover, detach the 7 claws and remove the No. 1 instrument panel finish panel cushion.




### 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip and screw.

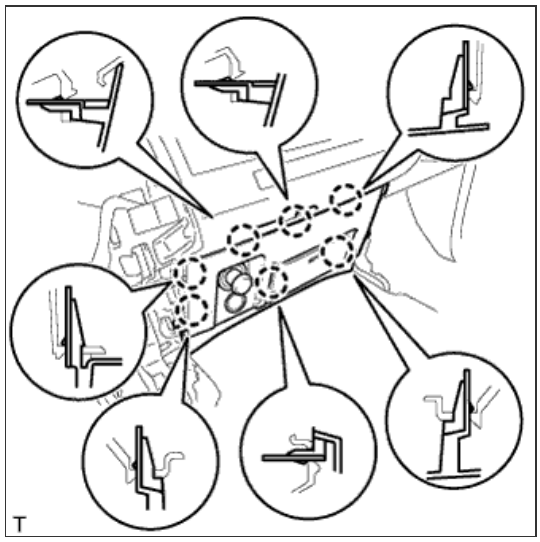
b. Detach the 7 claws and remove the lower instrument panel pad sub-assembly.




### 5. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

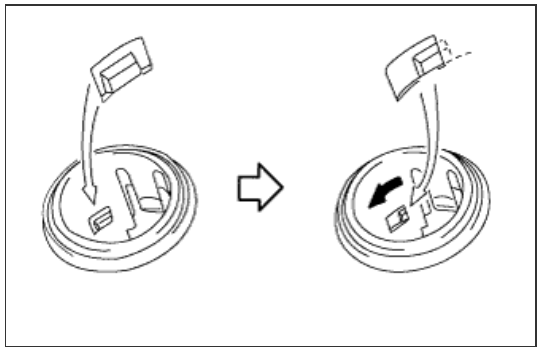
a. Detach the 7 claws.

b. Disconnect the connectors and remove the lower center instrument cluster finish panel sub-assembly.

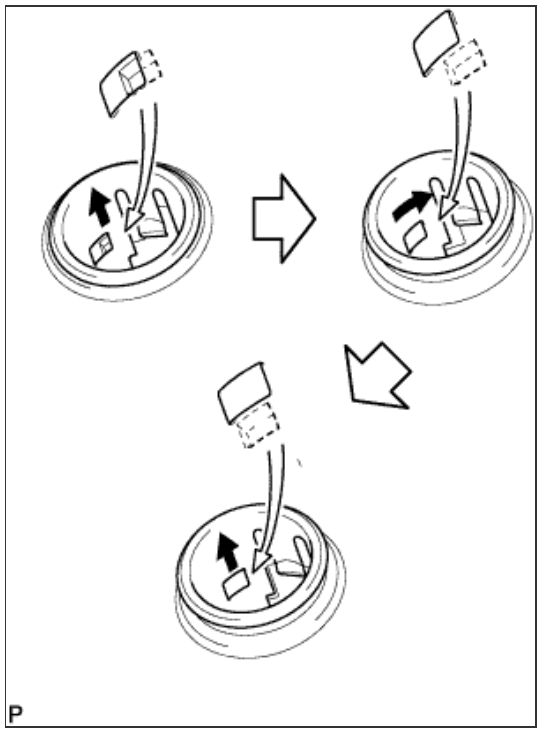



### 6. REMOVE POWER OUTLET SOCKET ASSEMBLY

a. Rotate the socket to disengage the notch.

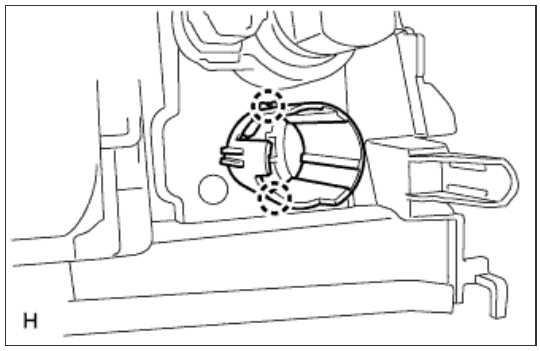


b. Pull out the socket halfway and rotate the socket until its protrusion is aligned with the groove of the cover. Then remove the power outlet socket.




## 7. REMOVE POWER OUTLET SOCKET COVER NO.2

a. Detach the 2 claws and remove the cover.



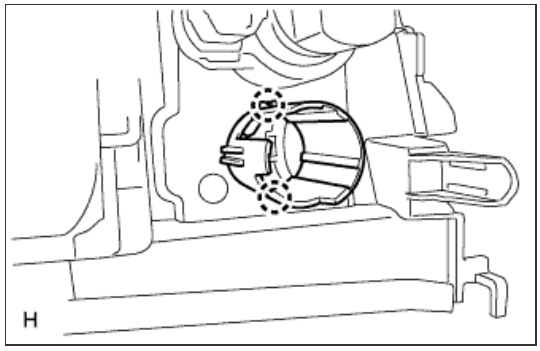
**for Preparation** Click here

**HINT:**

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

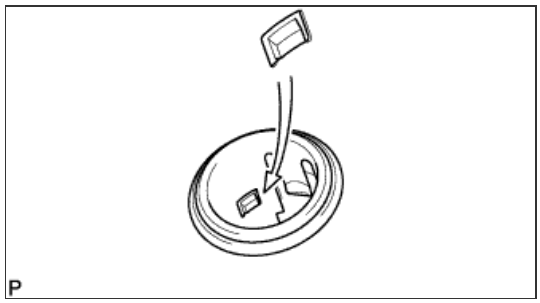
## 1. INSTALL POWER OUTLET SOCKET COVER NO.2

a. Attach the 2 claws to install the socket cover.




## 2. INSTALL POWER OUTLET SOCKET ASSEMBLY

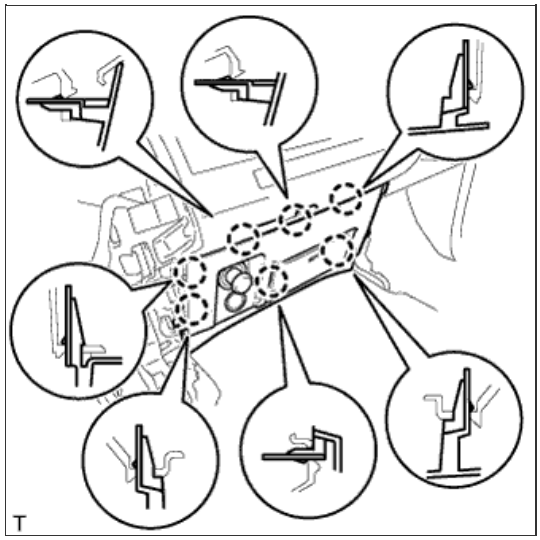
a. Align the protrusion on the backside of the socket with the groove of the cover. Then push the socket into the cover.




## 3. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

a. Connect the connectors.

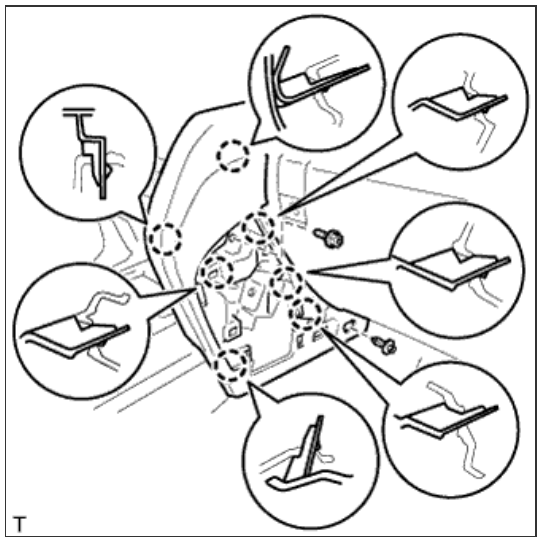
b. Attach the 7 claws to install the lower center instrument cluster finish panel sub-assembly.



## 4. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

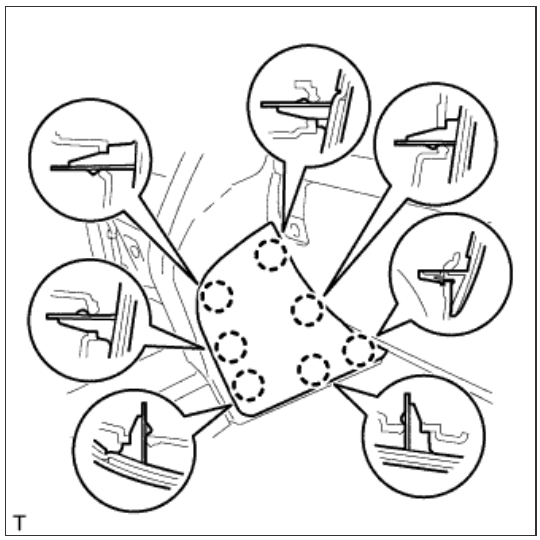
a. Attach the 7 claws to install the lower instrument panel pad sub-assembly.

b. Install the clip and screw.




## 5. INSTALL NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 1 instrument panel finish panel cushion.

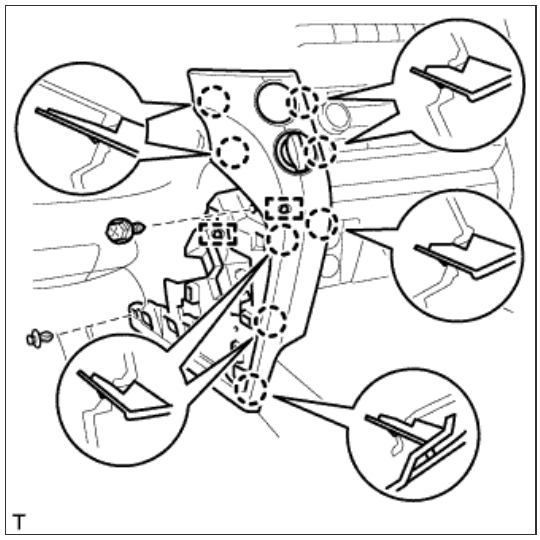



## 6. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

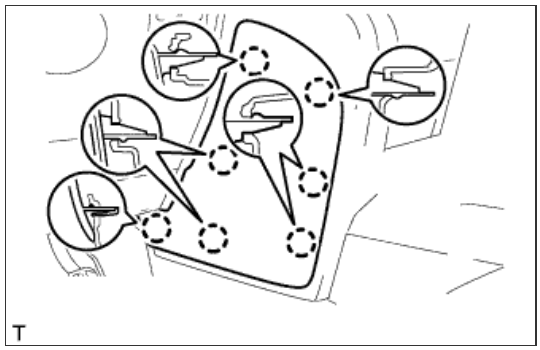
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.

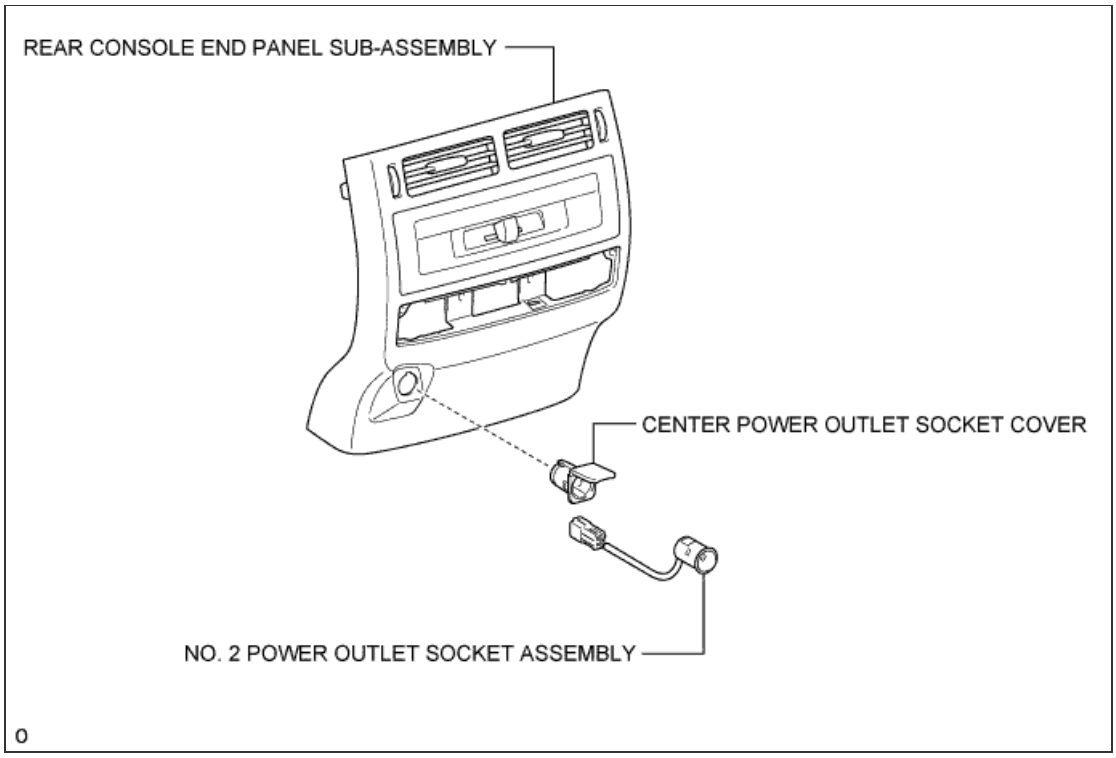



### 7. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the No. 2 instrument panel finish panel cushion.



**for Preparation** Click here



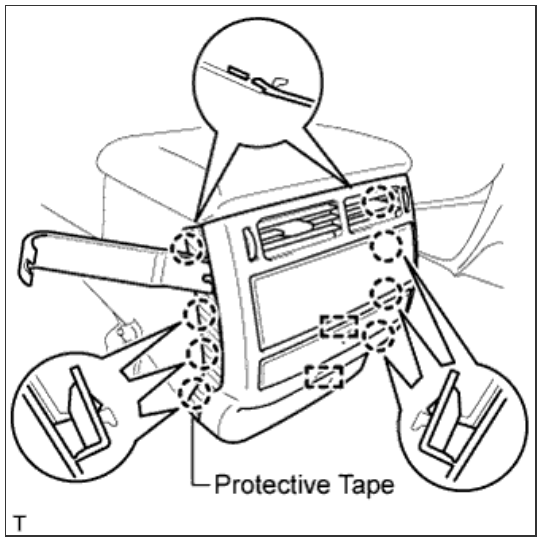
**for Preparation** Click here

## 1. REMOVE REAR CONSOLE END PANEL SUB-ASSEMBLY

a. Place protective tape as shown in the illustration.

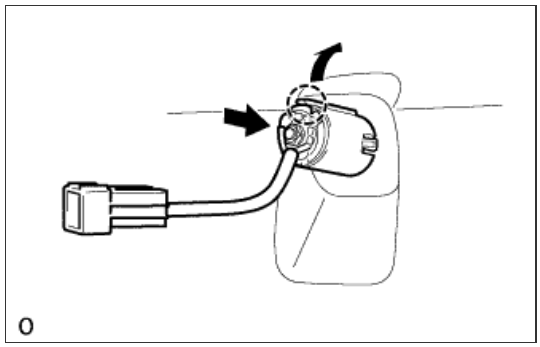
b. Using a moulding remover, detach the 8 claws.

c. Remove the end panel and disconnect the connectors and 2 clamps.



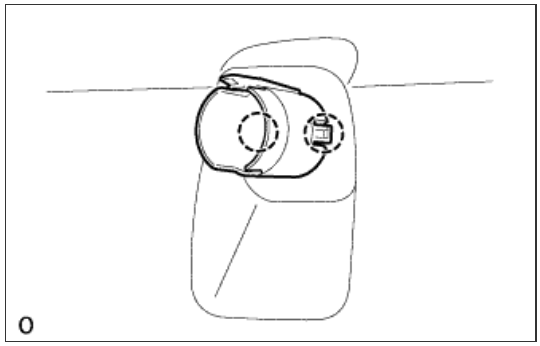

## 2. REMOVE NO. 2 POWER OUTLET SOCKET ASSEMBLY

a. Detach the claw to remove the No. 2 power outlet socket assembly as shown in the illustration.




## 3. REMOVE CENTER POWER OUTLET SOCKET COVER

a. Detach the 2 claws to remove the center power outlet socket cover.



**for Preparation** Click here

## 1. INSTALL CENTER POWER OUTLET SOCKET COVER

a. Attach the 2 claws to install the center power outlet socket cover.

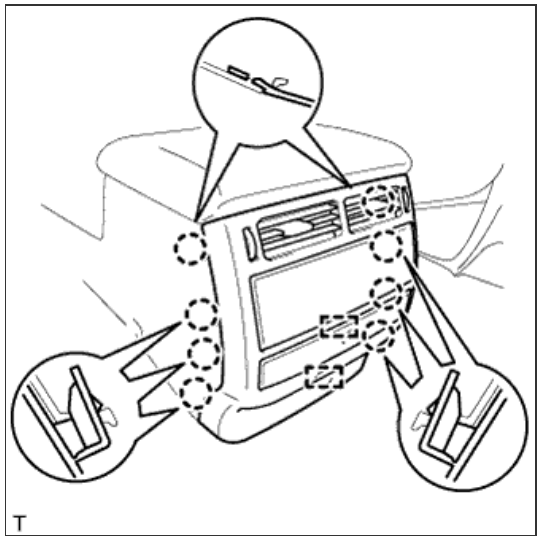
## 2. INSTALL NO. 2 POWER OUTLET SOCKET ASSEMBLY

a. Attach the claw to install the No. 2 power outlet socket assembly.

## 3. INSTALL REAR CONSOLE END PANEL SUB-ASSEMBLY

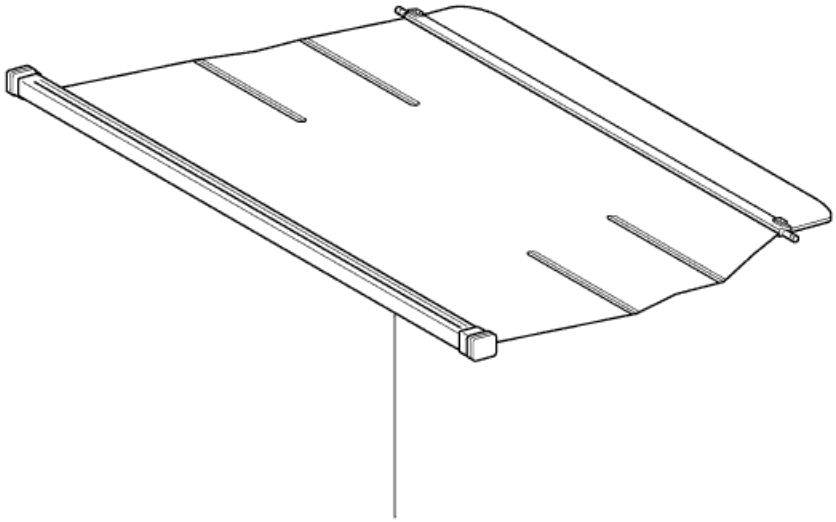
a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the end panel.



**for Preparation** Click here

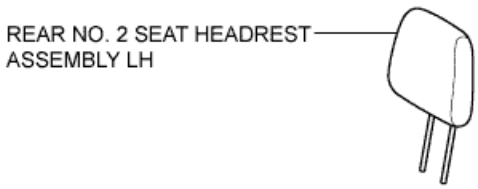
w/ Tonneau Cover:

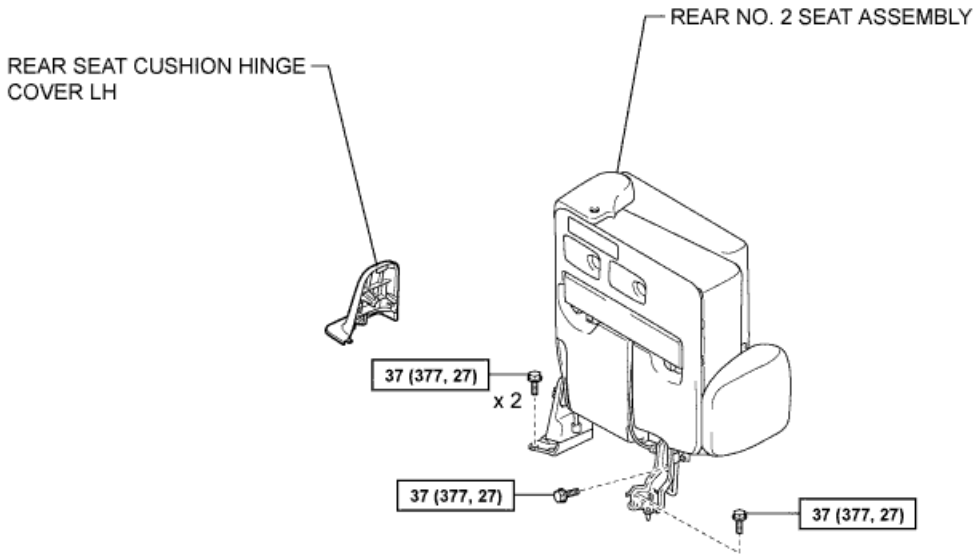


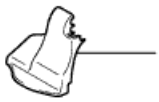

T

except Face to Face Seat Type:

w/ Rear Center Seat Headrest:



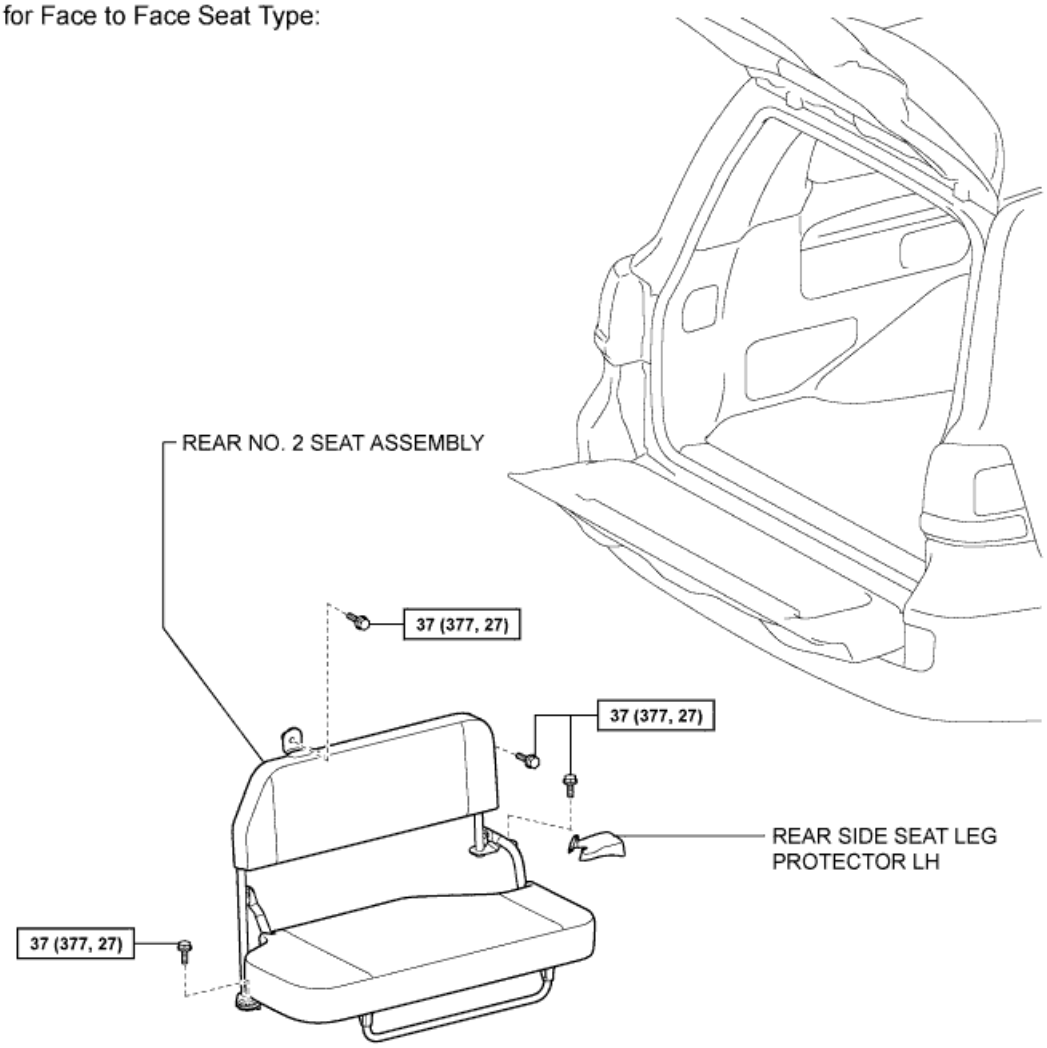




N*m (kgf*cm, ft.*lbf) : Specified torque

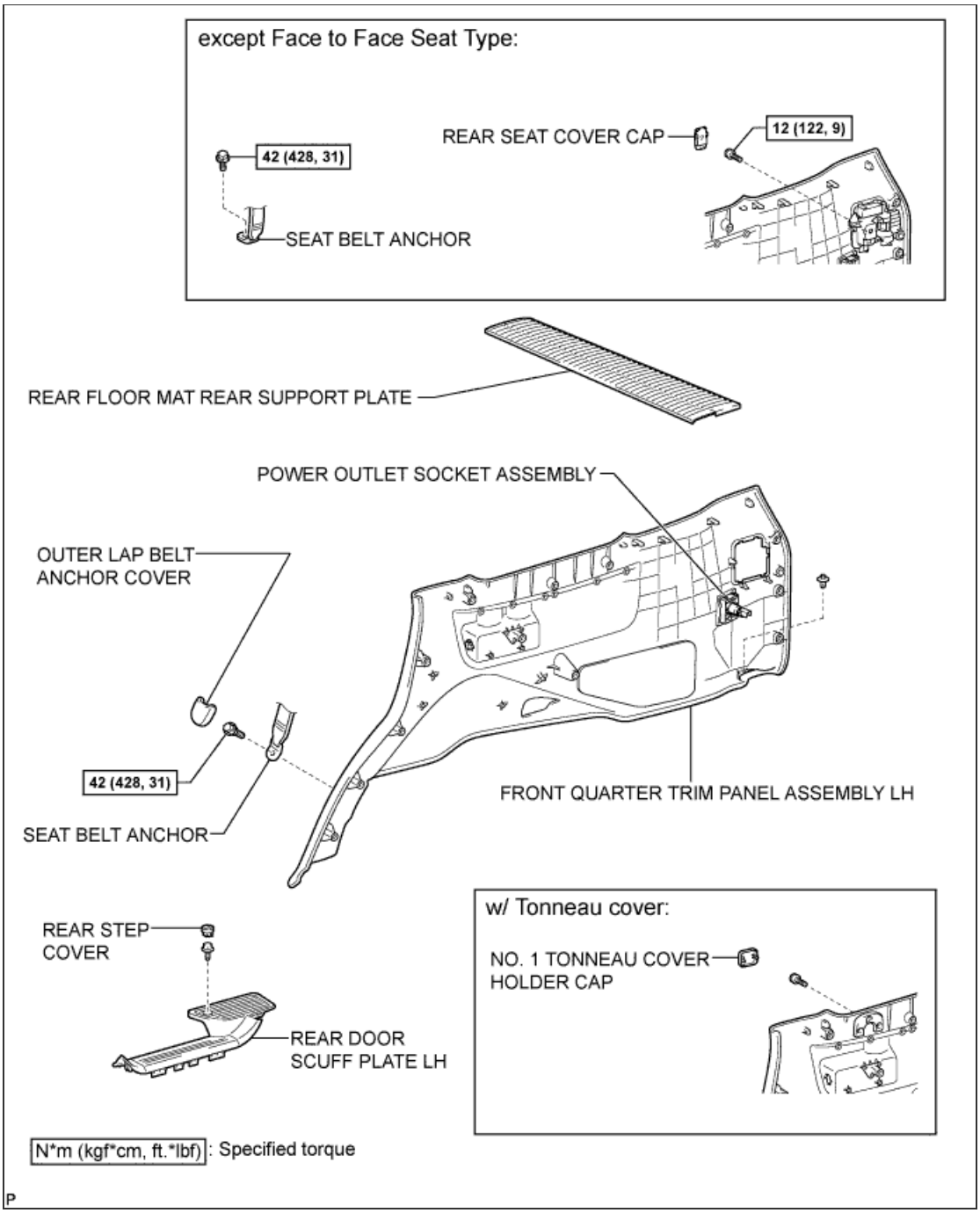
P

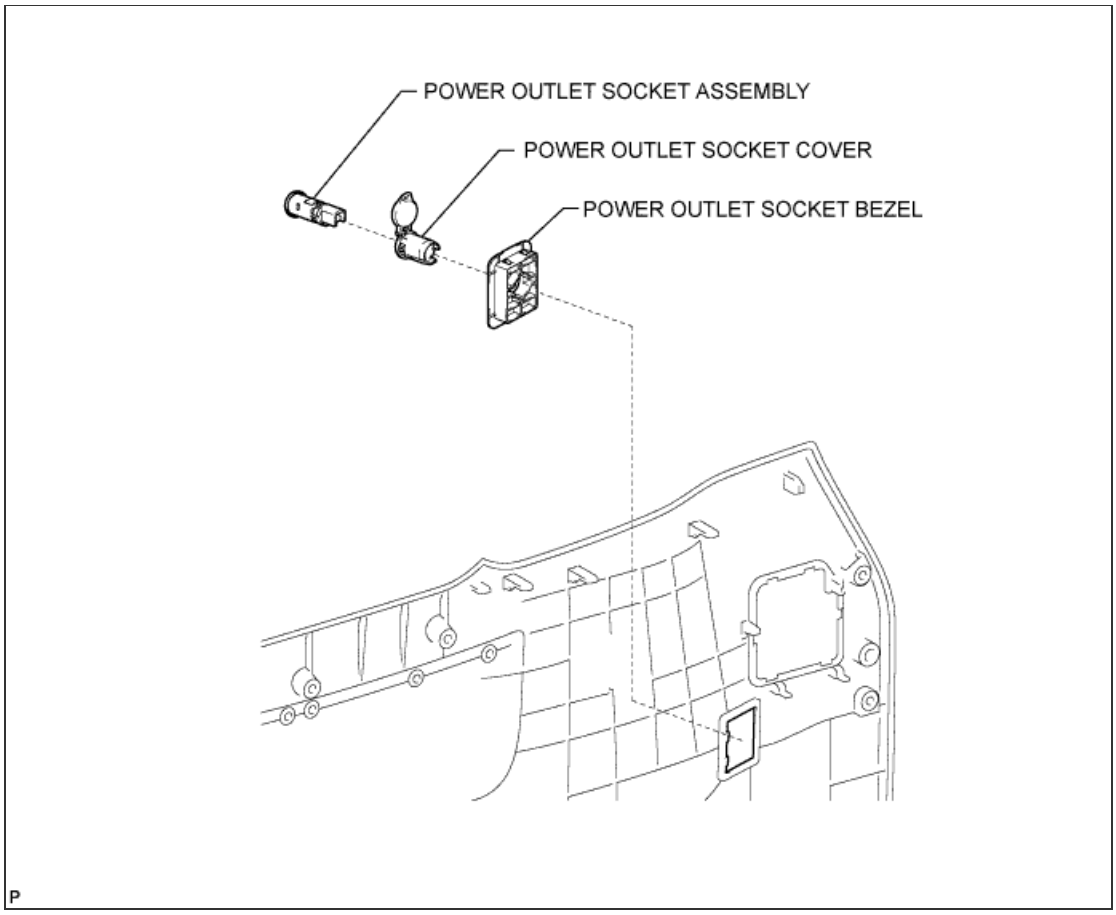
for Face to Face Seat Type:




N*m (kgf*cm, ft.*lbf) : Specified torque

P


except Face to Face Seat Type:
REAR SEAT COVER CAP
12 (122, 9)
42 (428, 31)
SEAT BELT ANCHOR
REAR FLOOR MAT REAR SUPPORT PLATE
POWER OUTLET SOCKET ASSEMBLY
OUTER LAP BELT ANCHOR COVER
42 (428, 31)
SEAT BELT ANCHOR
FRONT QUARTER TRIM PANEL ASSEMBLY LH
w/ Tonneau cover:
NO. 1 TONNEAU COVER HOLDER CAP
REAR STEP COVER
REAR DOOR SCUFF PLATE LH
N*m (kgf*cm, ft.*lbf): Specified torque
P


POWER OUTLET SOCKET ASSEMBLY
POWER OUTLET SOCKET COVER
POWER OUTLET SOCKET BEZEL
P

**for Preparation** Click here

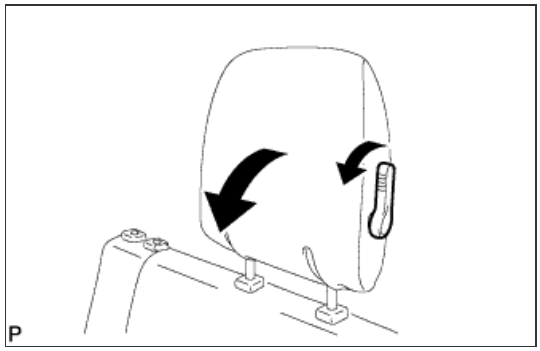
**1. REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)**

a. Remove the tonneau cover.

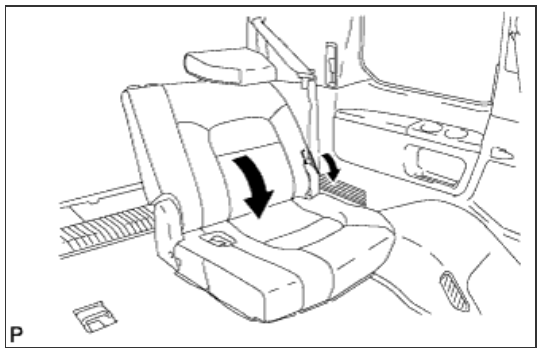
**2. REMOVE REAR NO. 2 SEAT HEADREST ASSEMBLY LH (w/ Rear Center Seat Headrest)**

**3. REMOVE REAR SEAT CUSHION HINGE COVER LH (except Face to Face Seat Type)**

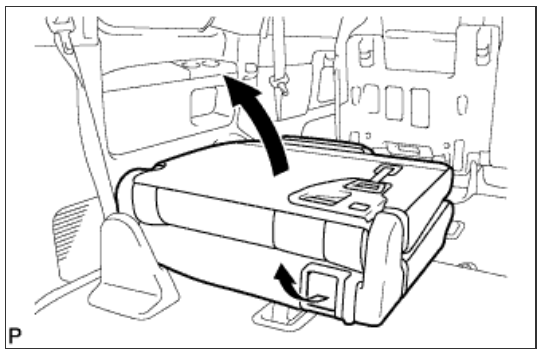
a. Operate the rear seat headrest handle and lower the headrest.




b. Operate the reclining adjuster release handle and fold down the seat.



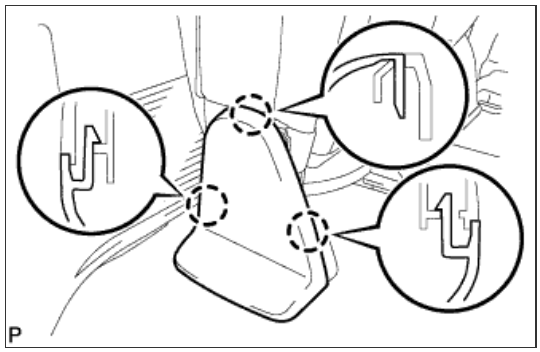

c. Operate the seat cushion lock release lever and move the seat to the storage position.




d. Using a screwdriver, detach the 3 claws and remove the cover.

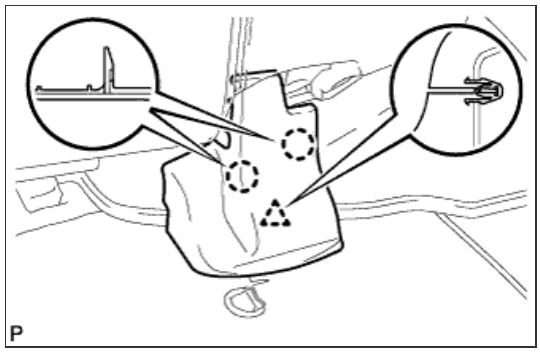
**HINT:**

Tape the screwdriver tip before use.




### 4. REMOVE REAR NO. 2 SEAT HINGE COVER LH (except Face to Face Seat Type)

a. Detach the 2 claws and clip, and then remove the cover.

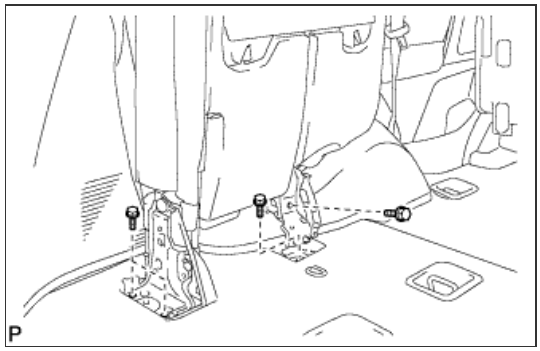



### 5. REMOVE REAR NO. 2 SEAT ASSEMBLY (except Face to Face Seat Type)

a. Remove the 4 bolts and seat assembly.

**NOTICE:**

Be careful not to damage the vehicle body.

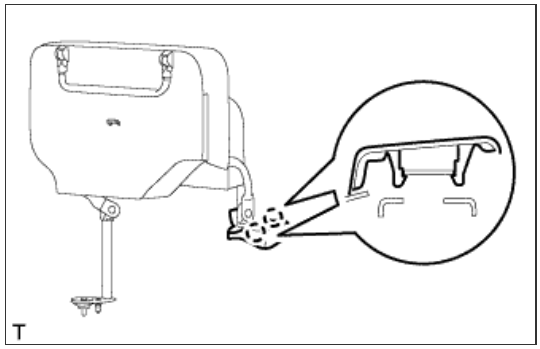



### 6. REMOVE REAR SIDE SEAT LEG PROTECTOR LH (for Face to Face Seat Type)

a. Using a screwdriver, detach the 2 claws and remove the protector.

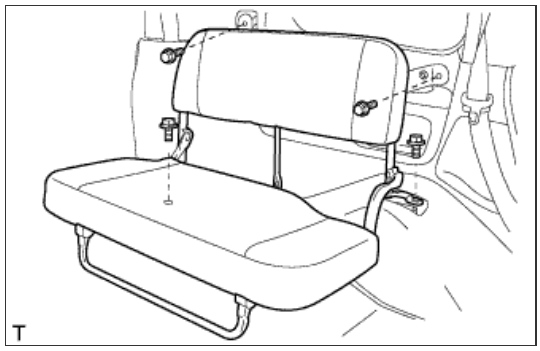
**HINT:**

Tape the screwdriver tip before use.




### 7. REMOVE REAR NO. 2 SEAT ASSEMBLY (for Face to Face Seat Type)

a. Remove the 4 bolts and rear No. 2 seat.

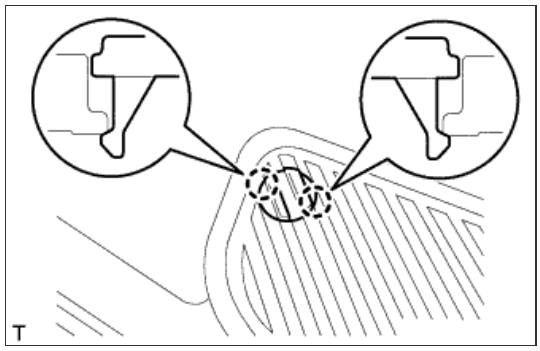



## 8. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

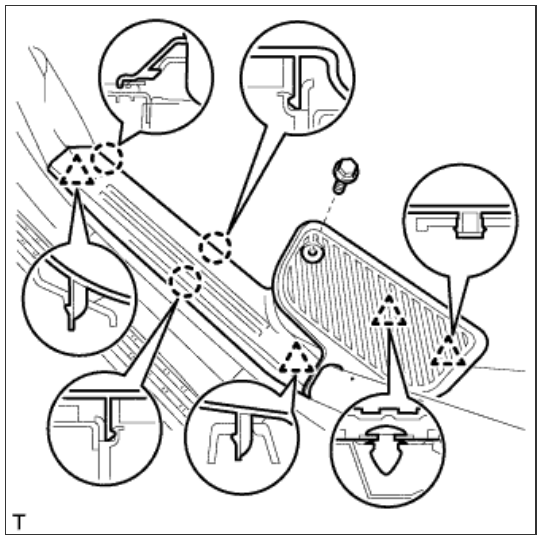
a. Detach the 2 claws and remove the step cover.




## 9. REMOVE REAR DOOR SCUFF PLATE LH

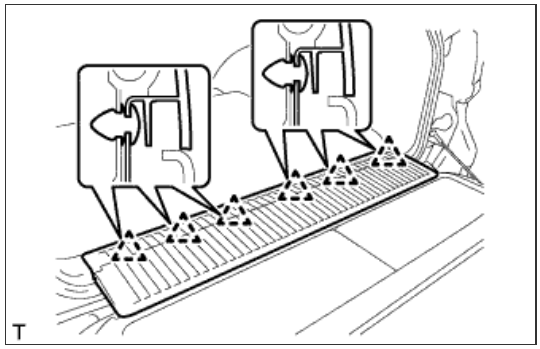
a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.




## 10. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.

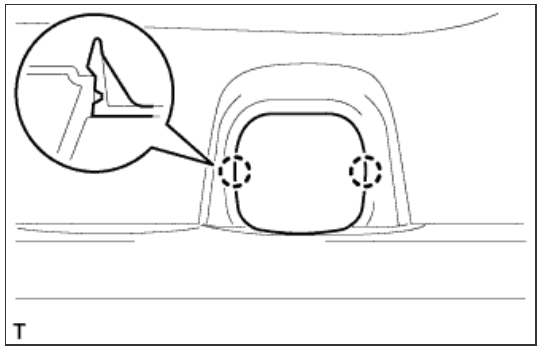


## 11. REMOVE NO. 1 TONNEAU COVER HOLDER CAP (w/ Tonneau Cover)

**HINT:**

Use the same procedure to remove the tonneau cover holder cap on the other side.

a. Detach the 2 claws and remove the tonneau cover holder cap.




## 12. REMOVE REAR SEAT COVER CAP (except Face to Face Seat Type)

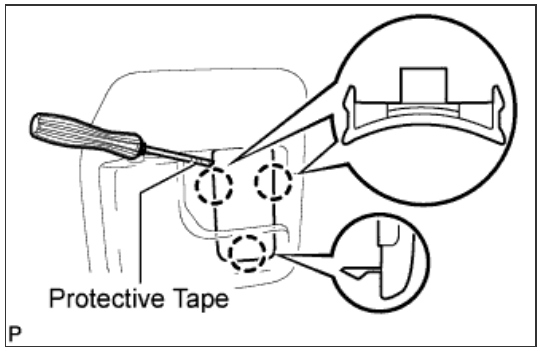
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

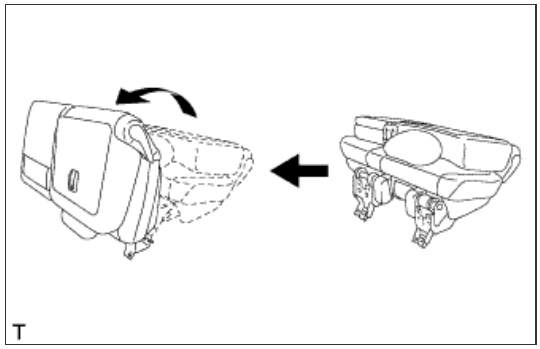
Tape the screwdriver tip before use.



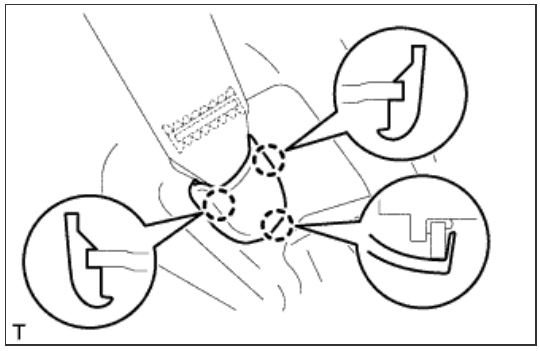

## 13. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

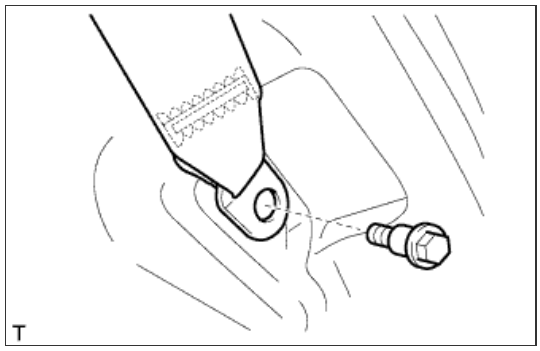
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



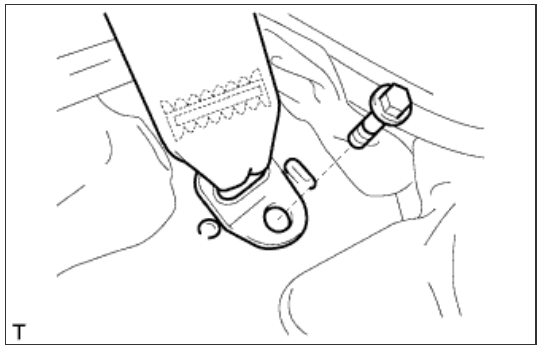

a. Detach the 3 claws and remove the cover.




b. Remove the bolt and rear No. 1 seat belt anchor.




c. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Remove the bolt and rear No. 2 seat belt anchor.



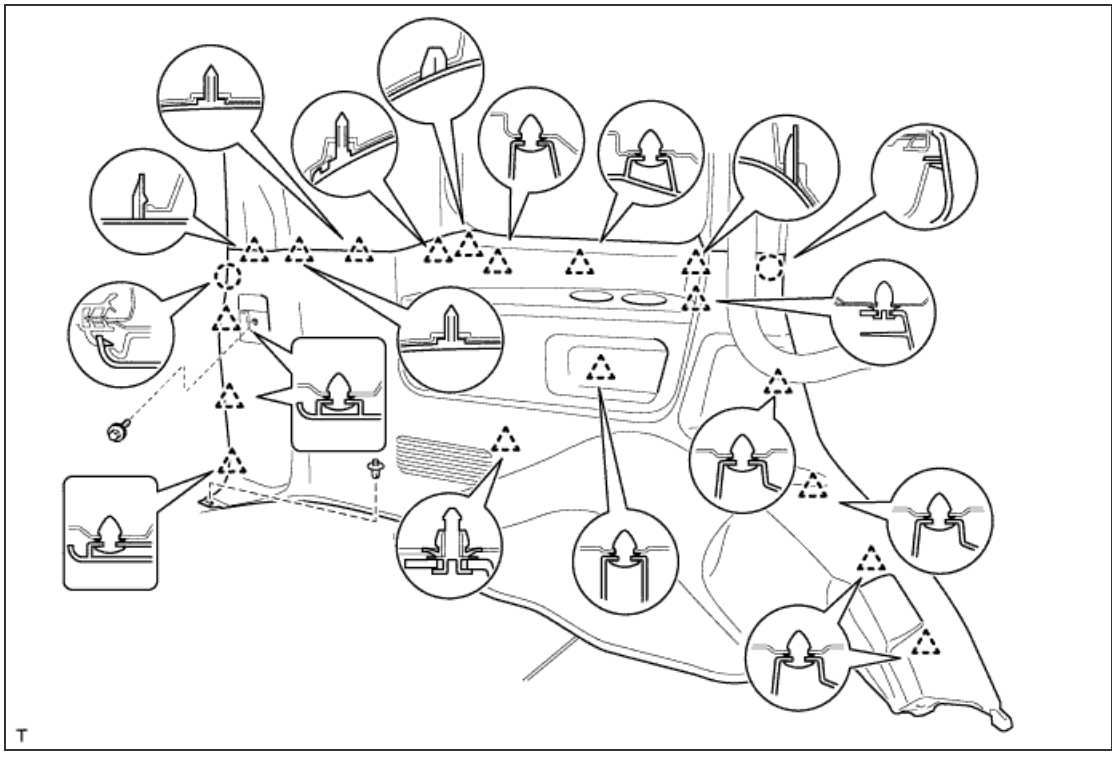

d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Remove the clip and bolt.

ii. Detach the 18 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

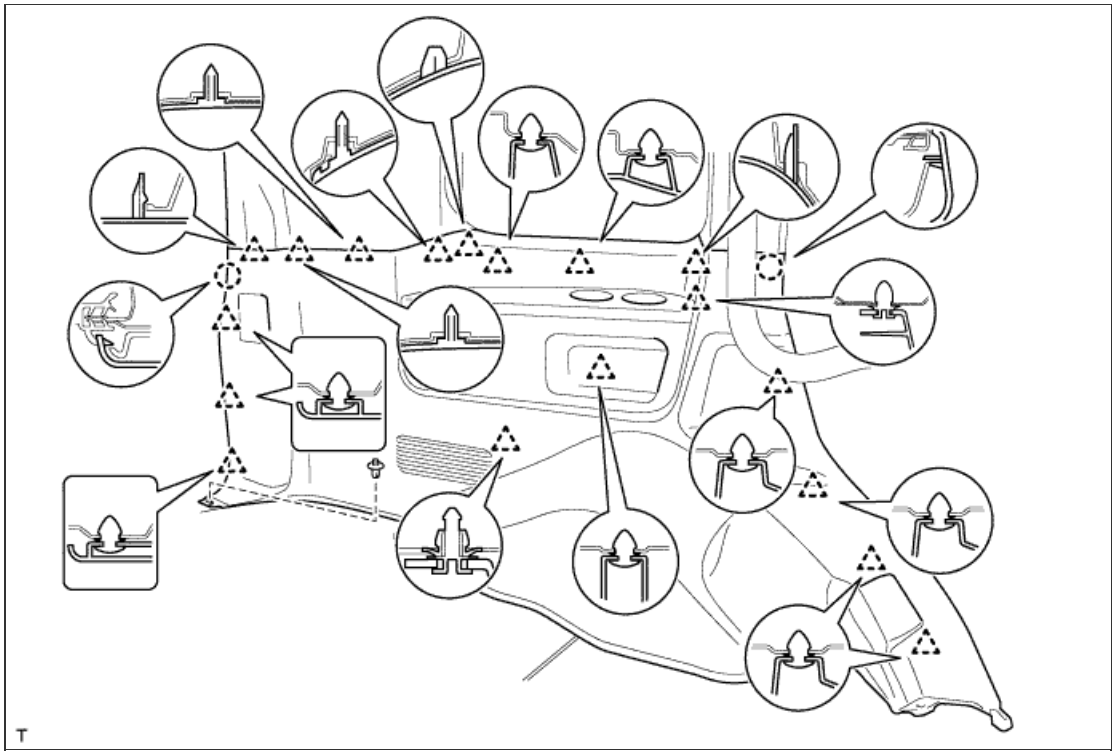
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.



e. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Remove the clip.

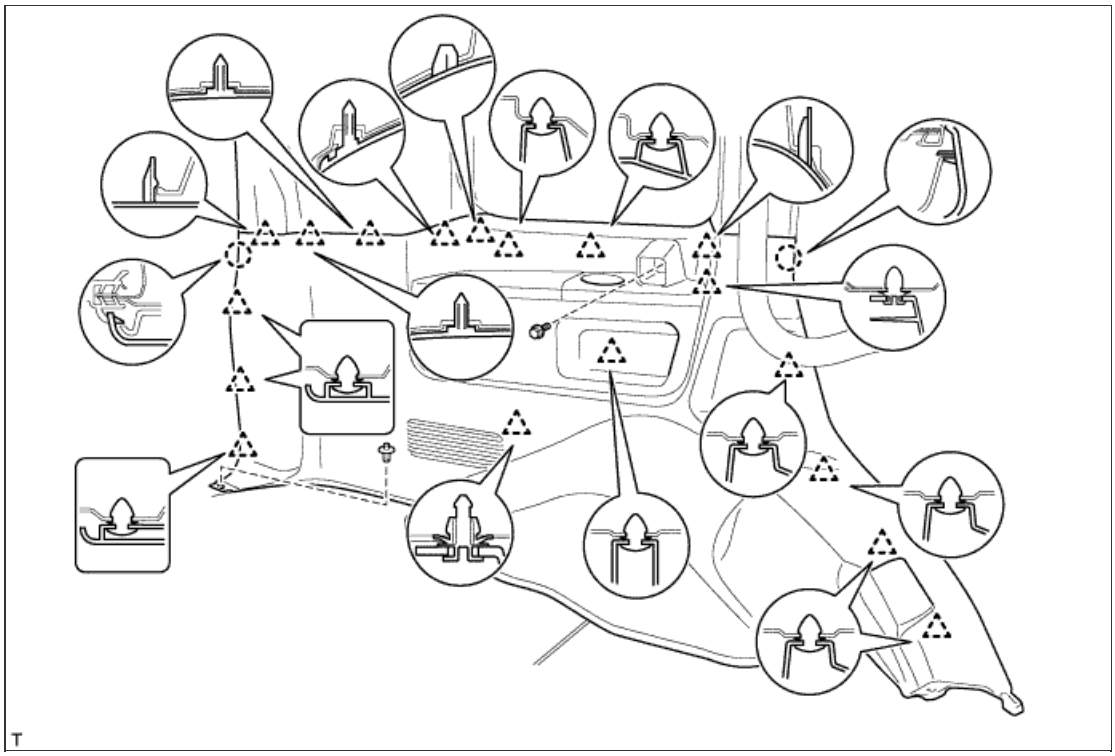
ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.




f. w/ Tonneau Cover:

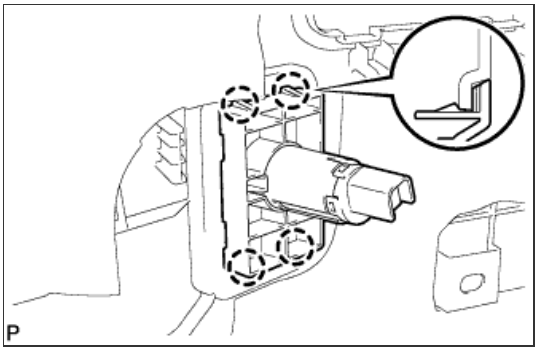
i. Remove the screw and clip.

ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.




## 14. REMOVE POWER OUTLET SOCKET ASSEMBLY

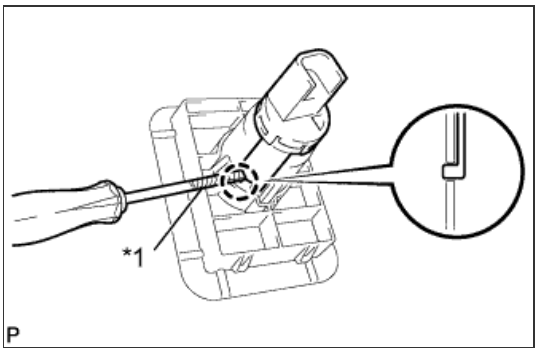
a. Disengage the 4 claws and remove the power outlet socket bezel.




b. Using a screwdriver with its tip wrapped in protective tape, disengage the claw and remove the power outlet socket assembly.

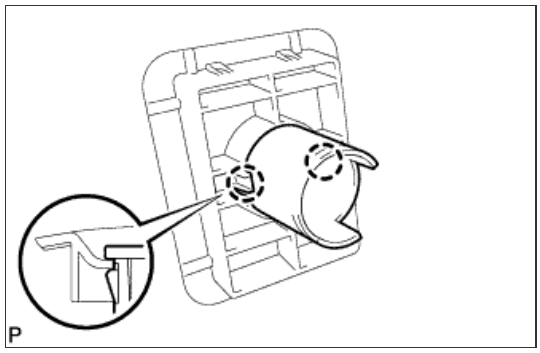
**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |




## 15. REMOVE POWER OUTLET SOCKET COVER NO.2

a. Disengage the 2 claws and remove the power outlet socket cover.


P

**for Preparation** Click here

## 1. INSTALL POWER OUTLET SOCKET COVER NO.2

a. Engage the 2 claws and install the power outlet socket cover.

## 2. INSTALL POWER OUTLET SOCKET ASSEMBLY

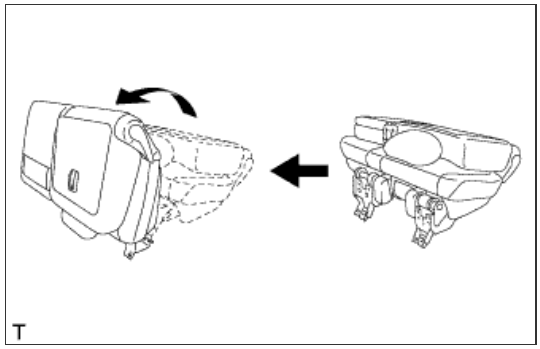
a. Engage the claw and install the power outlet socket assembly.

b. Engage the 4 claws and install the power outlet socket bezel.

## 3. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

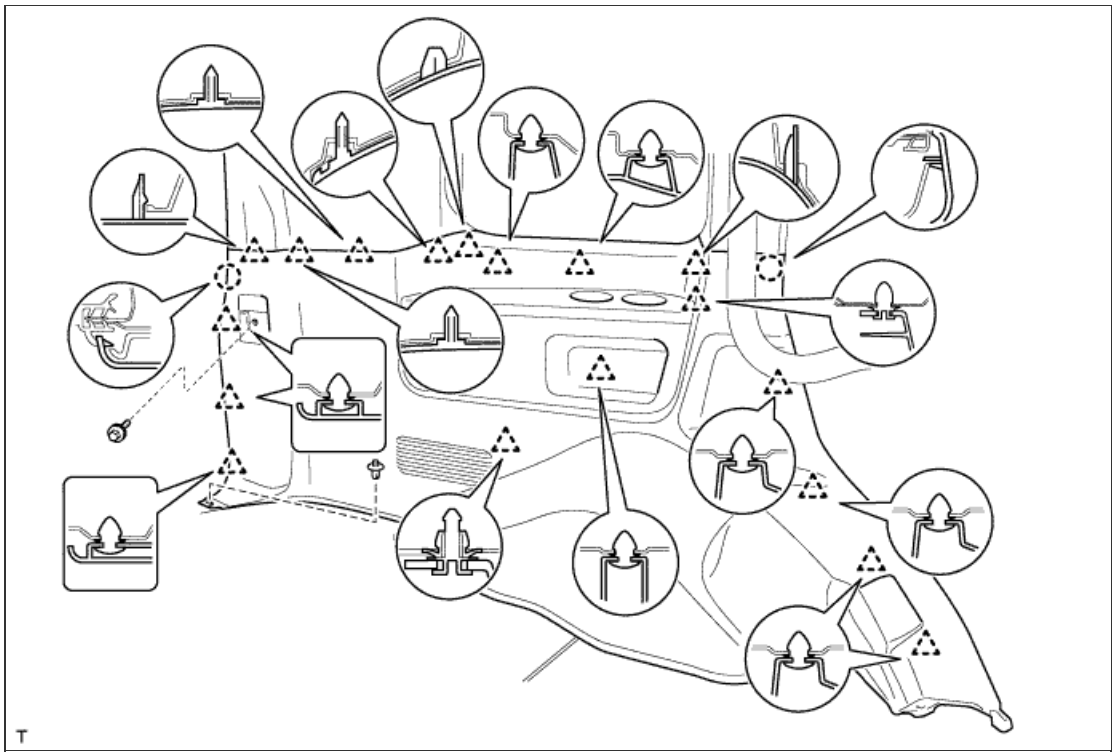
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 18 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

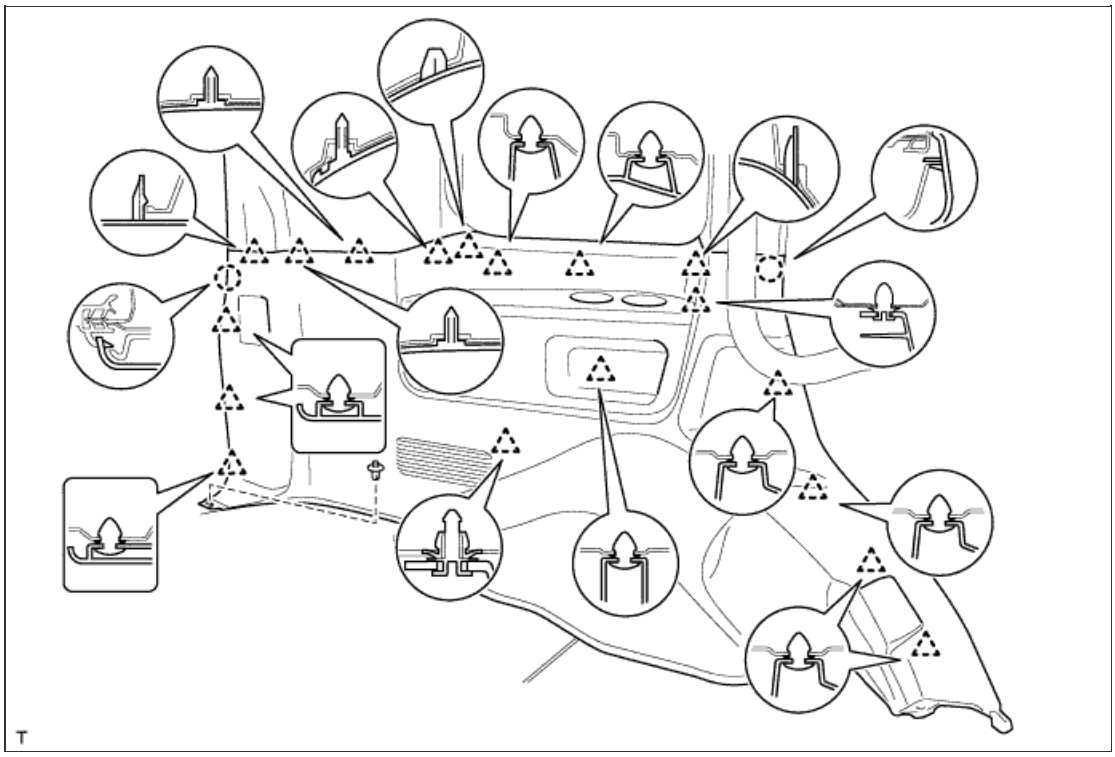
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

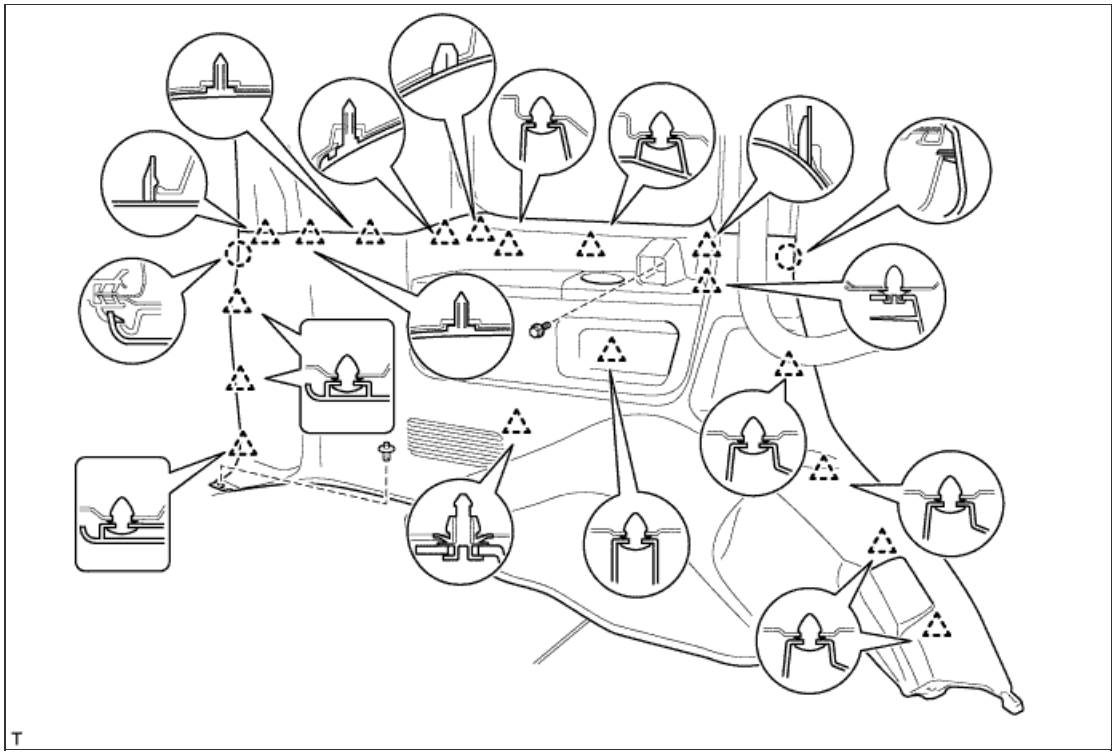
ii. Install the clip.




c. w/ Tonneau Cover:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

ii. Install the screw and clip.

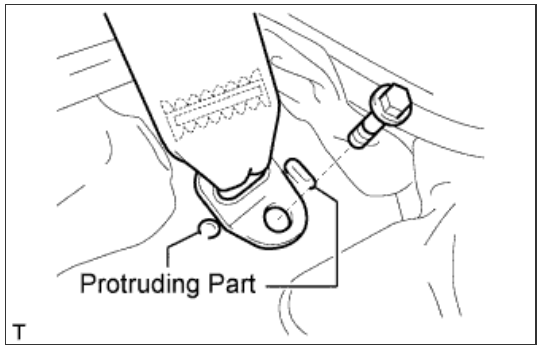



d. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

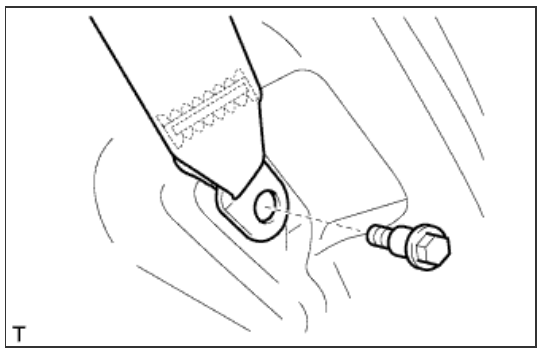
**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

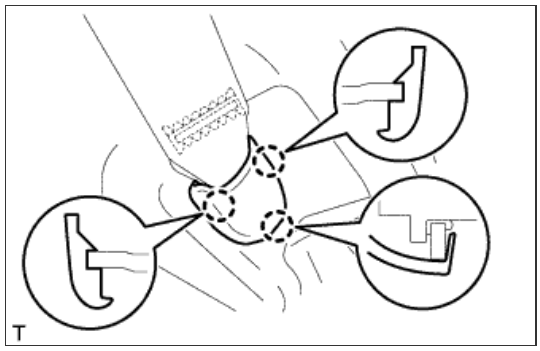



e. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




f. Attach the 3 claws to install the cover.

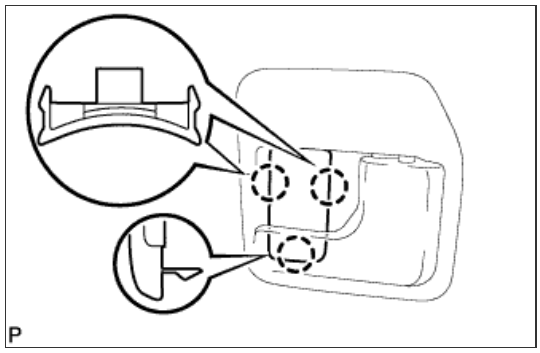



### 4. INSTALL REAR SEAT COVER CAP (except Face to Face Seat Type)

**HINT:**

Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.

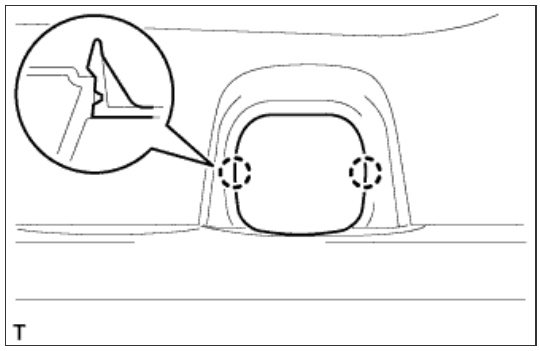



### 5. INSTALL NO. 1 TONNEAU COVER HOLDER CAP (w/ Tonneau Cover)

**HINT:**

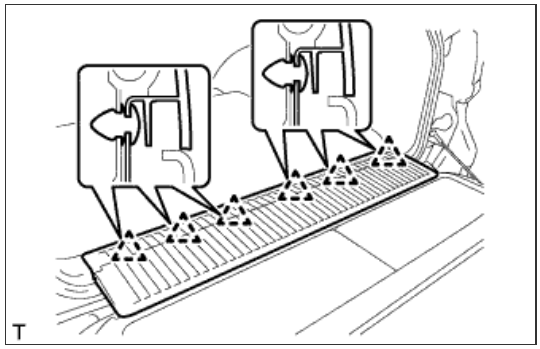
Use the same procedure to install the tonneau cover holder cap on the other side.

a. Attach the 2 claws to install the tonneau cover holder cap.




### 6. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

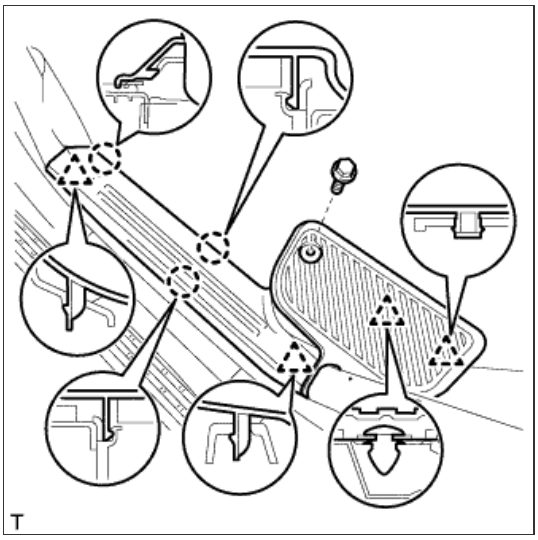
a. Attach the 6 clips to install the support plate.




### 7. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.

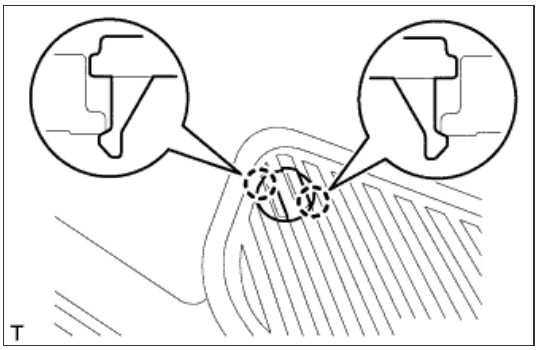



## 8. INSTALL REAR STEP COVER

**HINT:**

Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 9. INSTALL REAR NO. 2 SEAT ASSEMBLY (except Face to Face Seat Type)

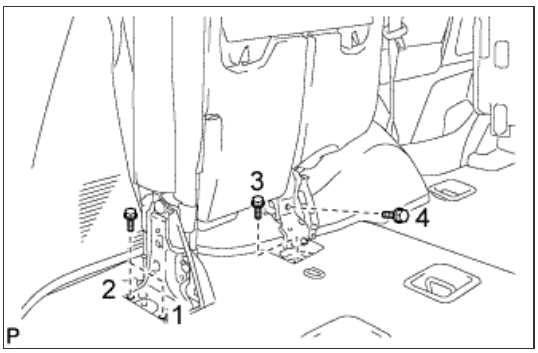
a. Temporarily install the seat assembly with the 4 bolts.

**NOTICE:**

Be careful not to damage the vehicle body.

b. Tighten the bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




## 10. INSTALL REAR NO. 2 SEAT HINGE COVER LH (except Face to Face Seat Type)

a. Attach the clip and 2 claws to install the cover.

## 11. INSTALL REAR SEAT CUSHION HINGE COVER LH (except Face to Face Seat Type)

a. Attach the 3 claws to install the cover.

b. Return the seat to the upright position.

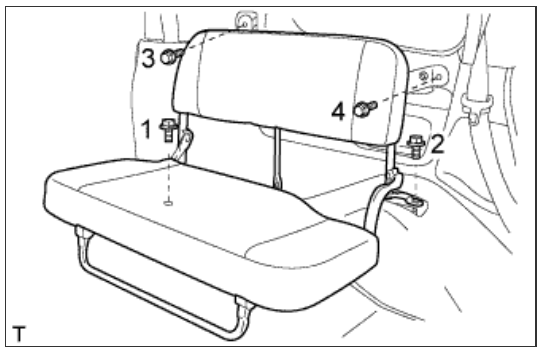
## 12. INSTALL REAR NO. 2 SEAT HEADREST ASSEMBLY LH (w/ Rear Center Seat Headrest)

## 13. INSTALL REAR NO. 2 SEAT ASSEMBLY (for Face to Face Seat Type)

a. Temporarily install the rear No. 2 seat with the 4 bolts.

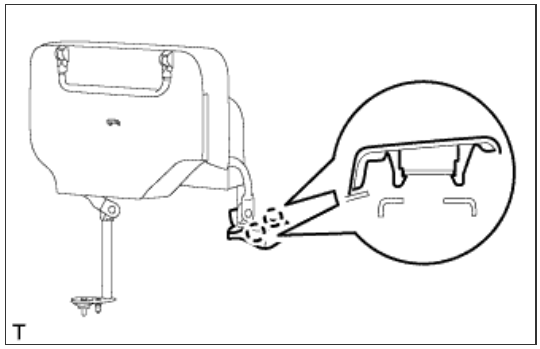
b. Tighten the bolts in the order shown in the illustration.

**Torque:**
**37 N*m{ 377 kgf*cm , 27 ft.*lbf }**




## 14. INSTALL REAR SIDE SEAT LEG PROTECTOR LH (for Face to Face Seat Type)

a. Attach the 2 claws to install the protector.




## 15. INSTALL TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

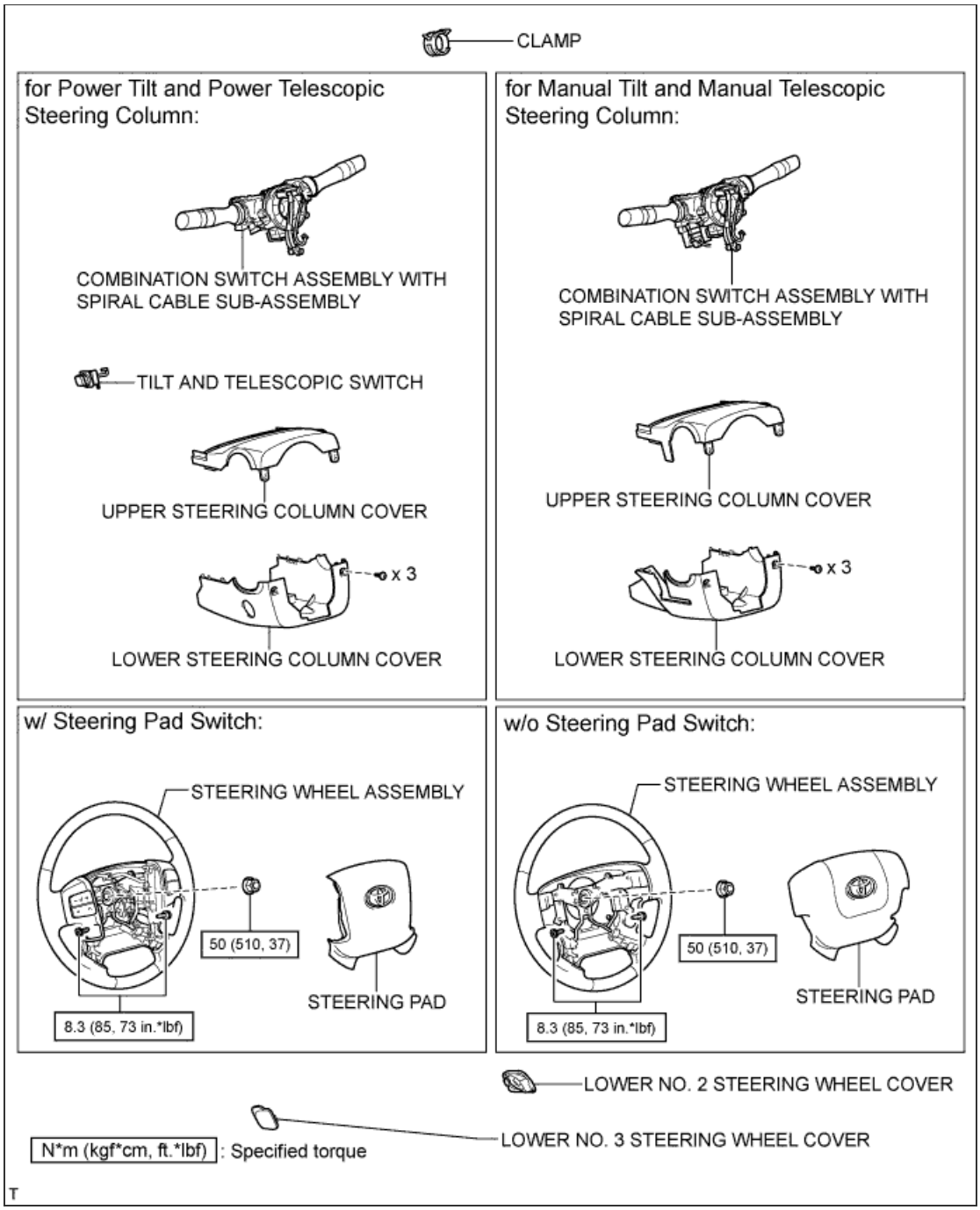
a. Install the tonneau cover assembly.

**for Preparation** Click here

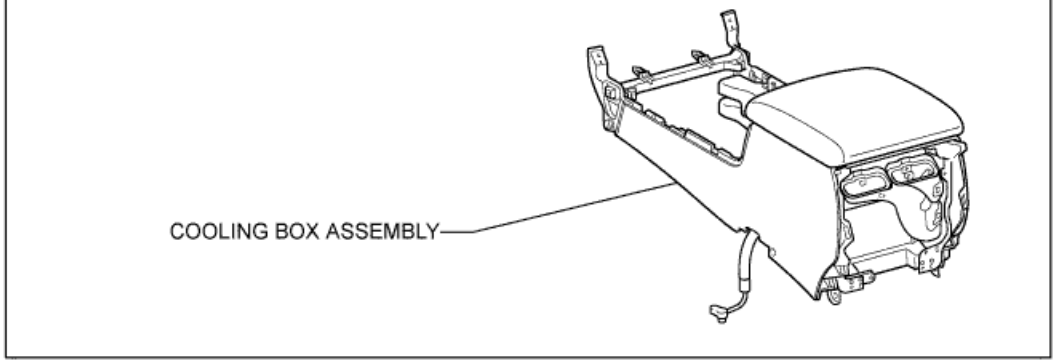
## 1.PRECAUTION FOR VEHICLE WITH SRS AIRBAG AND SEAT BELT PRETENSIONER

a. Some operations in this section may affect the SRS airbags. Prior to performing the corresponding operations, read the SRS airbag Precaution (Click here).

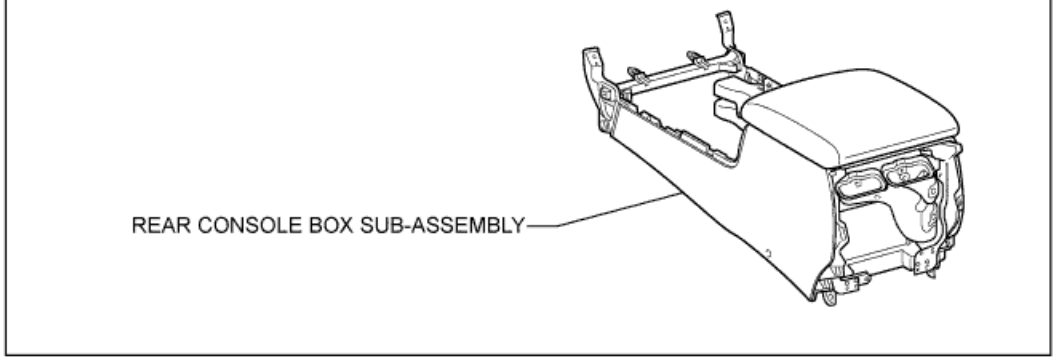
**for Preparation** Click here



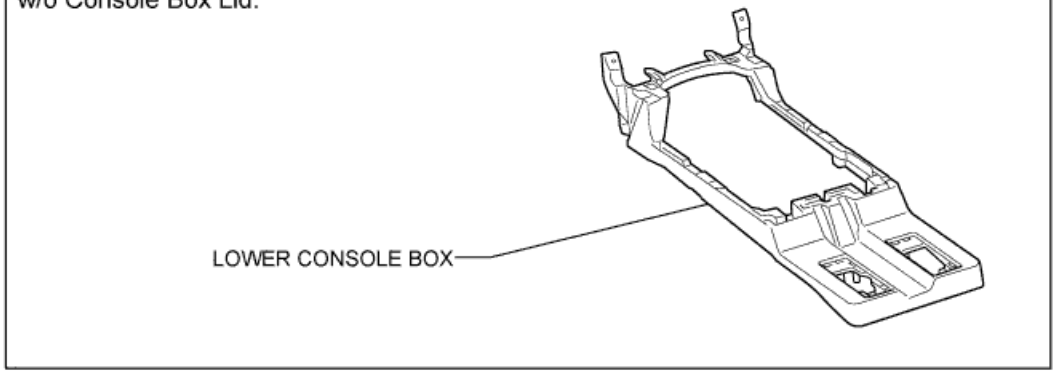
w/ Cool Box:

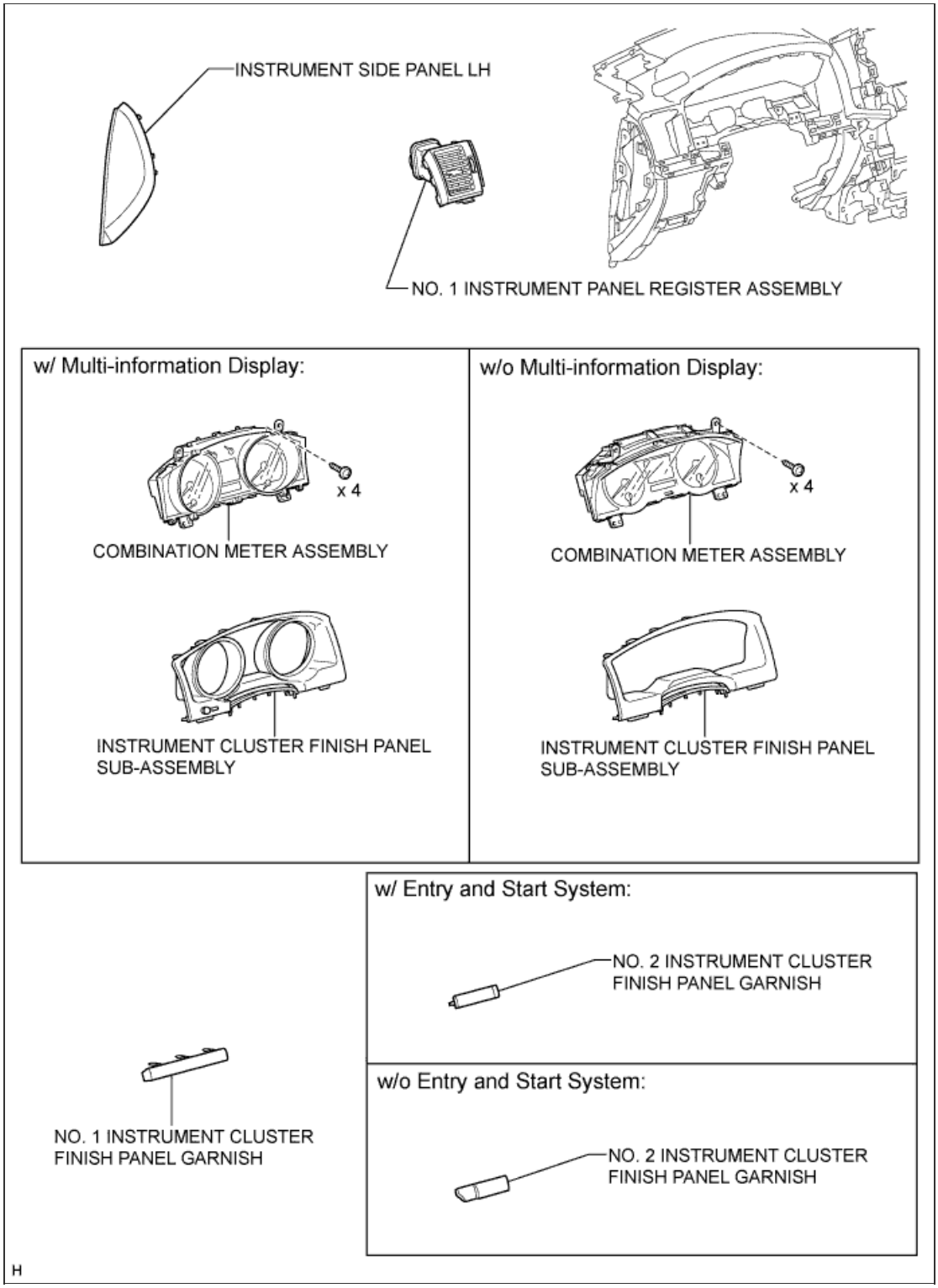


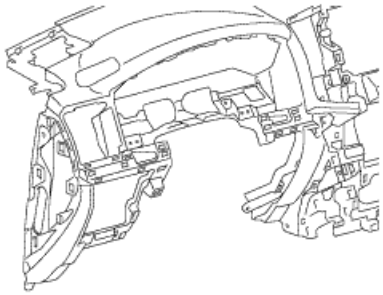

w/o Cool Box:



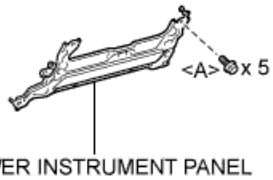

w/o Console Box Lid:



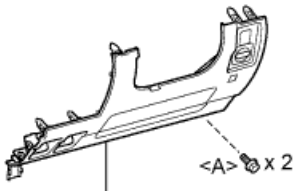

INSTRUMENT SIDE PANEL LH
NO. 1 INSTRUMENT PANEL REGISTER ASSEMBLY
w/ Multi-information Display:
x 4
COMBINATION METER ASSEMBLY
INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY
w/o Multi-information Display:
x 4
COMBINATION METER ASSEMBLY
INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY
w/ Entry and Start System:
NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH
w/o Entry and Start System:
NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH
NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH
H



w/o Driver Side Knee Airbag:

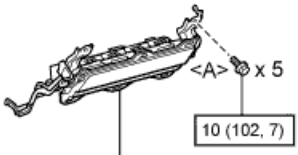



LOWER INSTRUMENT PANEL SUB-ASSEMBLY

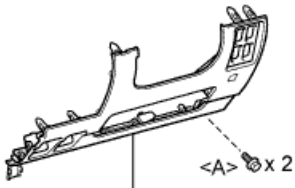



LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

w/ Driver Side Knee Airbag:




DRIVER SIDE KNEE AIRBAG ASSEMBLY

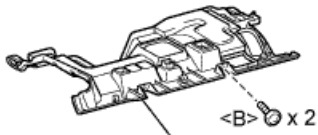



LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL



NO. 1 SWITCH HOLE BASE

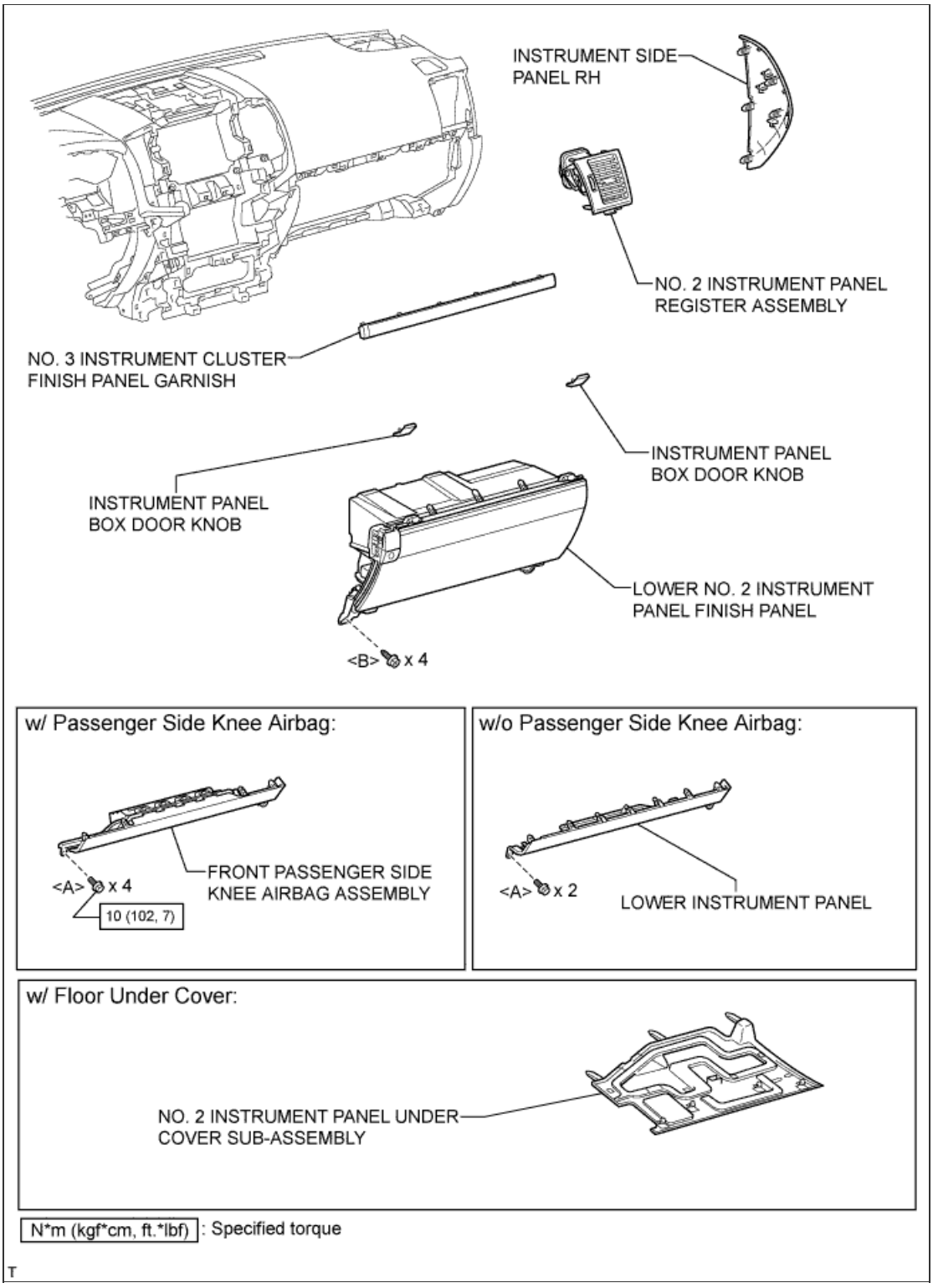
w/ Floor Under Cover:

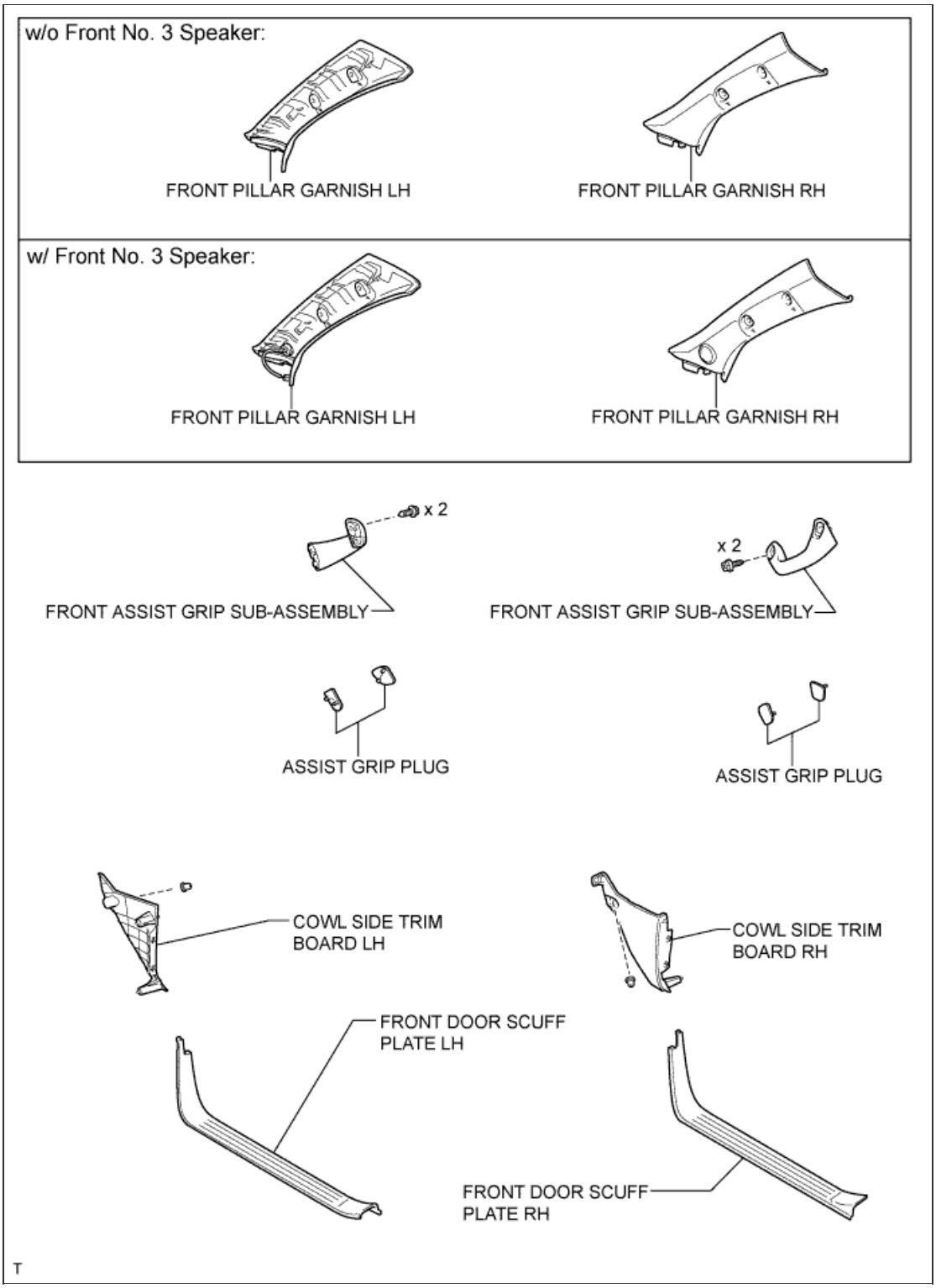


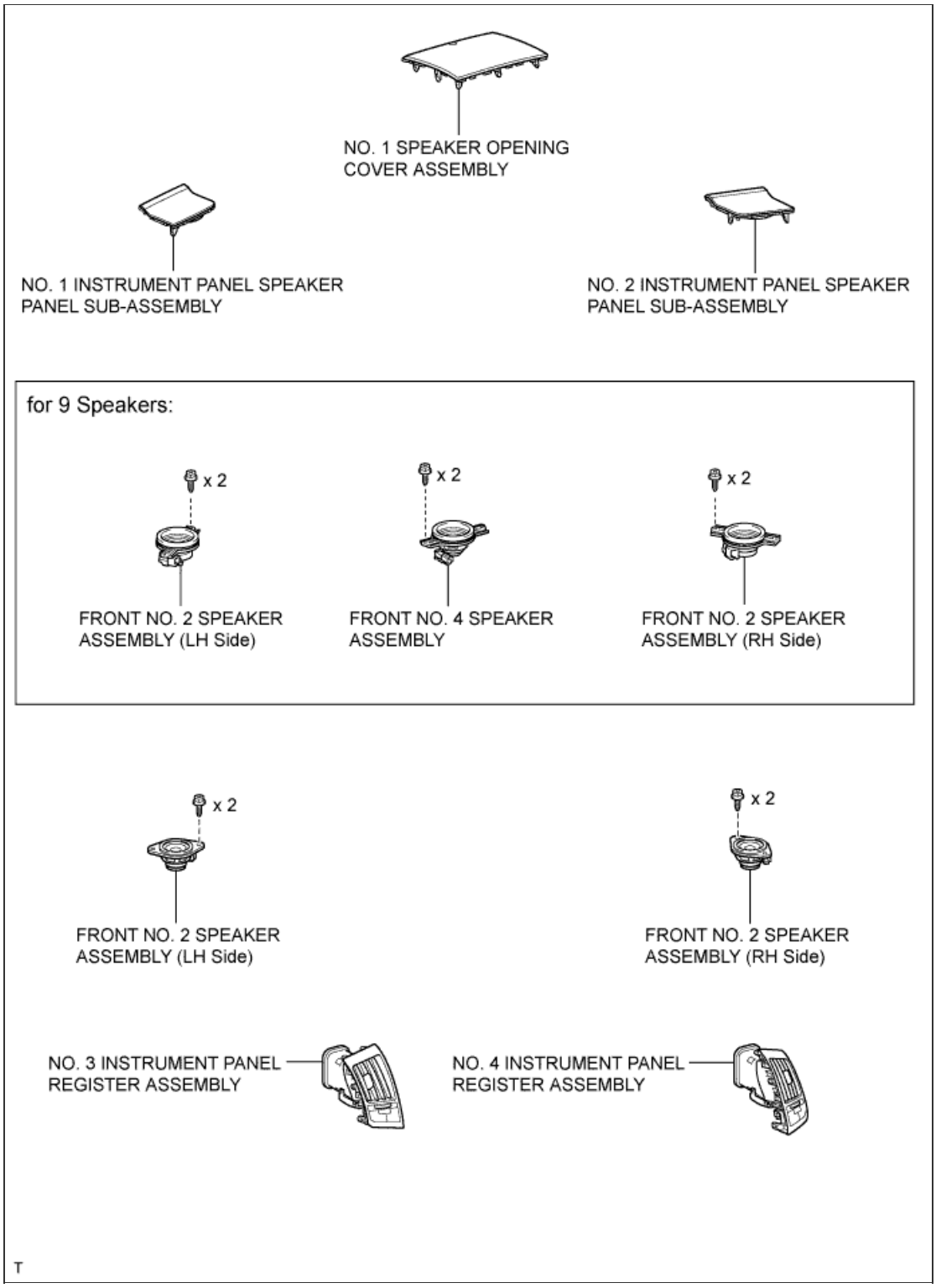

NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

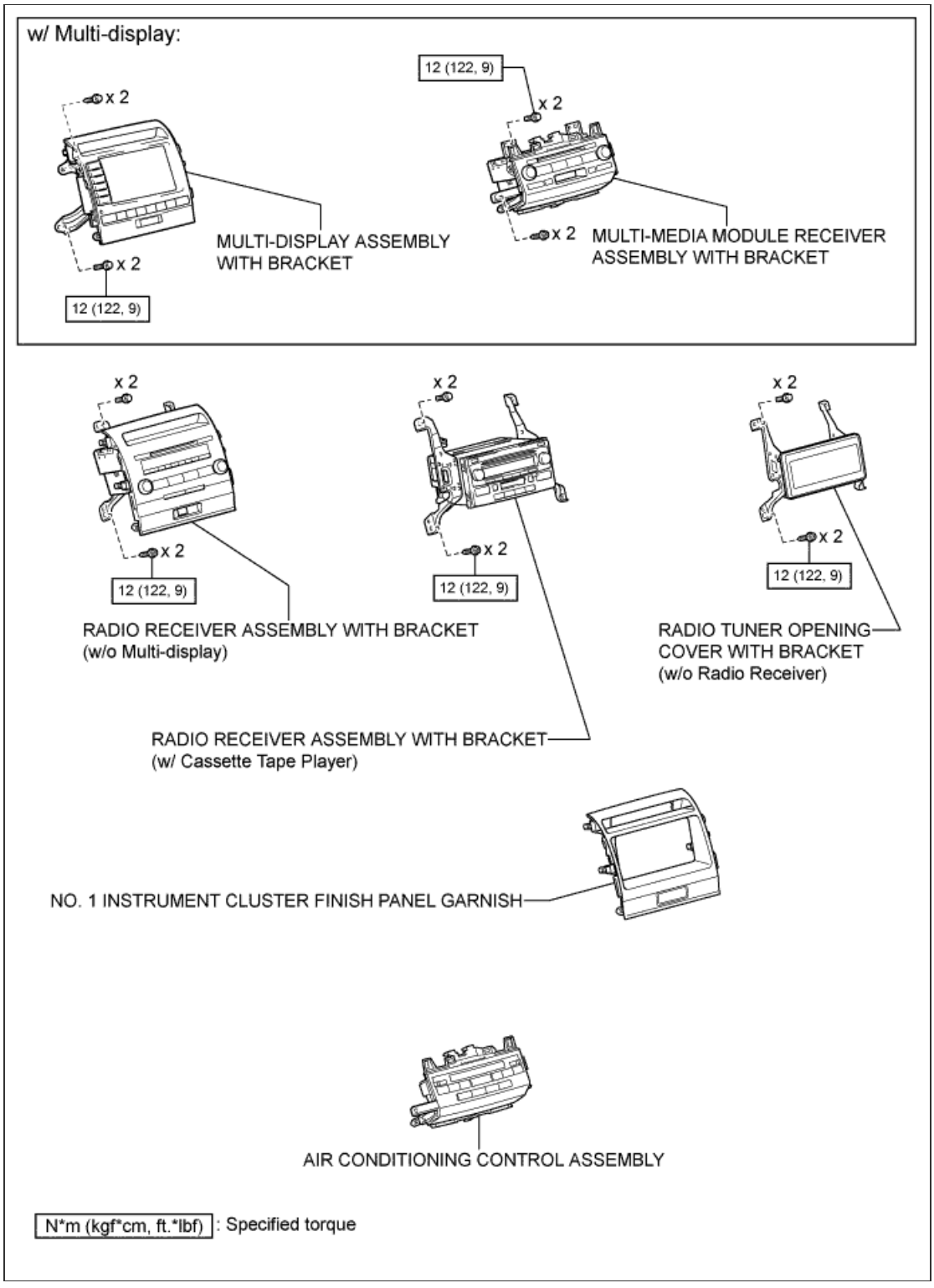
N*m (kgf*cm, ft.*lbf) : Specified torque

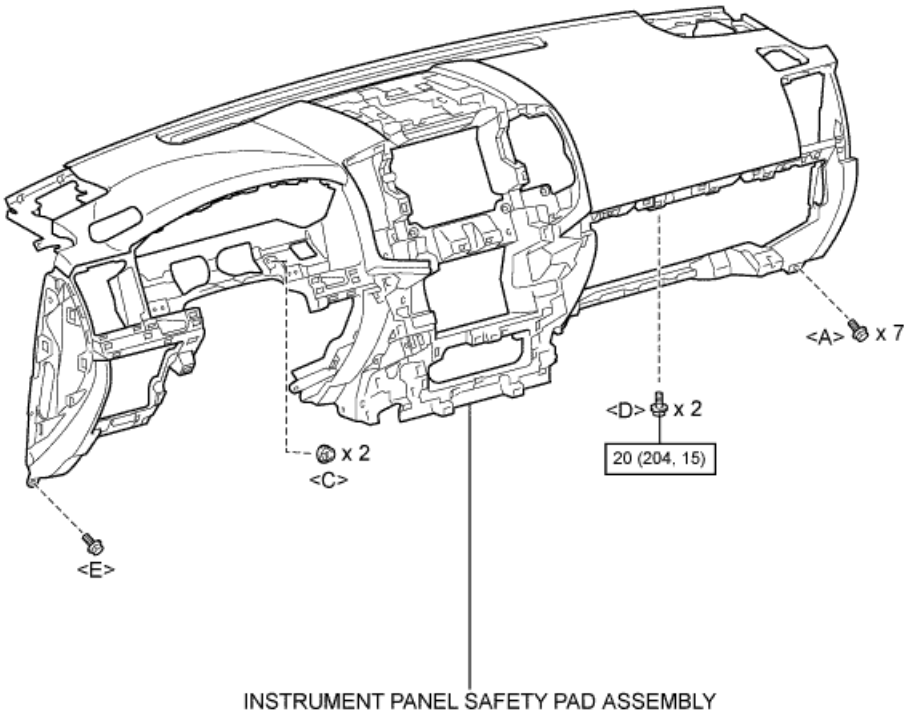
H


INSTRUMENT SIDE PANEL RH
NO. 2 INSTRUMENT PANEL REGISTER ASSEMBLY
NO. 3 INSTRUMENT CLUSTER FINISH PANEL GARNISH
INSTRUMENT PANEL BOX DOOR KNOB
INSTRUMENT PANEL BOX DOOR KNOB
LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL
<B> x 4
w/ Passenger Side Knee Airbag:
<A> x 4
10 (102, 7)
FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY
w/o Passenger Side Knee Airbag:
<A> x 2
LOWER INSTRUMENT PANEL
w/ Floor Under Cover:
NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
T

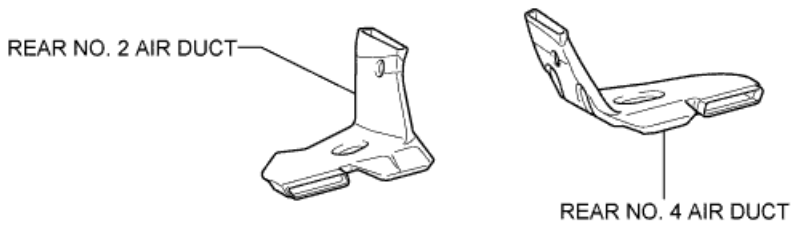

w/o Front No. 3 Speaker:
FRONT PILLAR GARNISH LH
FRONT PILLAR GARNISH RH
w/ Front No. 3 Speaker:
FRONT PILLAR GARNISH LH
FRONT PILLAR GARNISH RH
x 2
FRONT ASSIST GRIP SUB-ASSEMBLY
x 2
FRONT ASSIST GRIP SUB-ASSEMBLY
ASSIST GRIP PLUG
ASSIST GRIP PLUG
COWL SIDE TRIM BOARD LH
COWL SIDE TRIM BOARD RH
FRONT DOOR SCUFF PLATE LH
FRONT DOOR SCUFF PLATE RH
T


NO. 1 SPEAKER OPENING COVER ASSEMBLY
NO. 1 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY
NO. 2 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY
for 9 Speakers:
x 2
FRONT NO. 2 SPEAKER ASSEMBLY (LH Side)
x 2
FRONT NO. 4 SPEAKER ASSEMBLY
x 2
FRONT NO. 2 SPEAKER ASSEMBLY (RH Side)
x 2
FRONT NO. 2 SPEAKER ASSEMBLY (LH Side)
x 2
FRONT NO. 2 SPEAKER ASSEMBLY (RH Side)
NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY
NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY
T

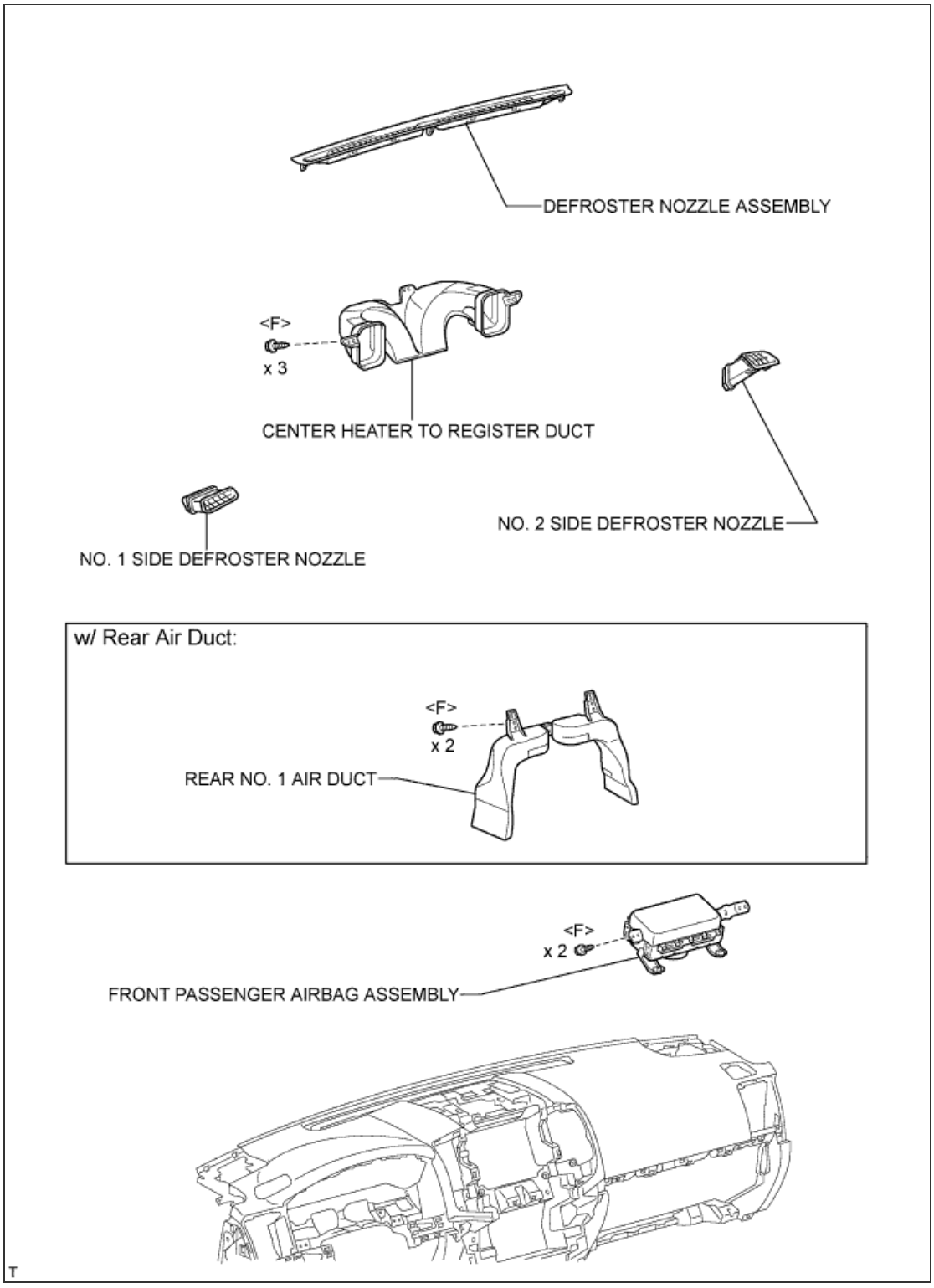

w/ Multi-display:
x 2
x 2
12 (122, 9)
MULTI-DISPLAY ASSEMBLY WITH BRACKET
12 (122, 9)
x 2
x 2
MULTI-MEDIA MODULE RECEIVER ASSEMBLY WITH BRACKET
x 2
x 2
12 (122, 9)
RADIO RECEIVER ASSEMBLY WITH BRACKET (w/o Multi-display)
x 2
x 2
12 (122, 9)
RADIO RECEIVER ASSEMBLY WITH BRACKET (w/ Cassette Tape Player)
x 2
x 2
12 (122, 9)
RADIO TUNER OPENING COVER WITH BRACKET (w/o Radio Receiver)
NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH
AIR CONDITIONING CONTROL ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque



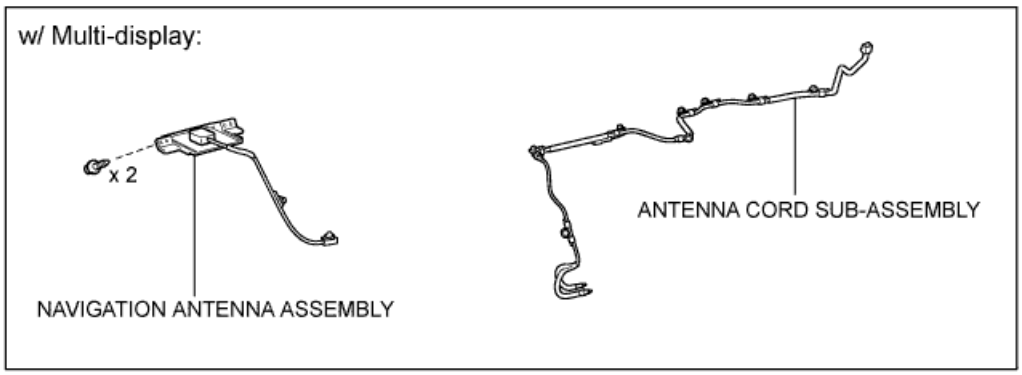

w/ Rear Air Duct:

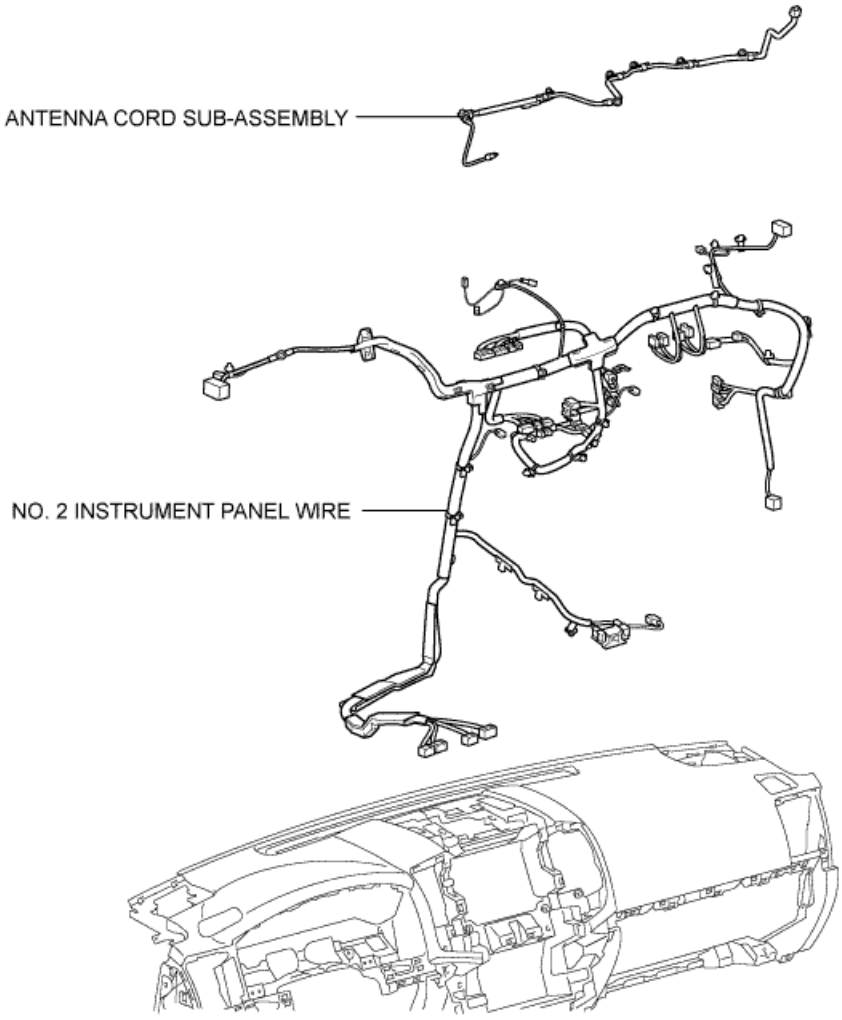



N*m (kgf*cm, ft.*lbf) : Specified torque


DEFROSTER NOZZLE ASSEMBLY
<F>
x 3
CENTER HEATER TO REGISTER DUCT
NO. 2 SIDE DEFROSTER NOZZLE
NO. 1 SIDE DEFROSTER NOZZLE
w/ Rear Air Duct:
<F>
x 2
REAR NO. 1 AIR DUCT
<F>
x 2
FRONT PASSENGER AIRBAG ASSEMBLY
T

for LHD:

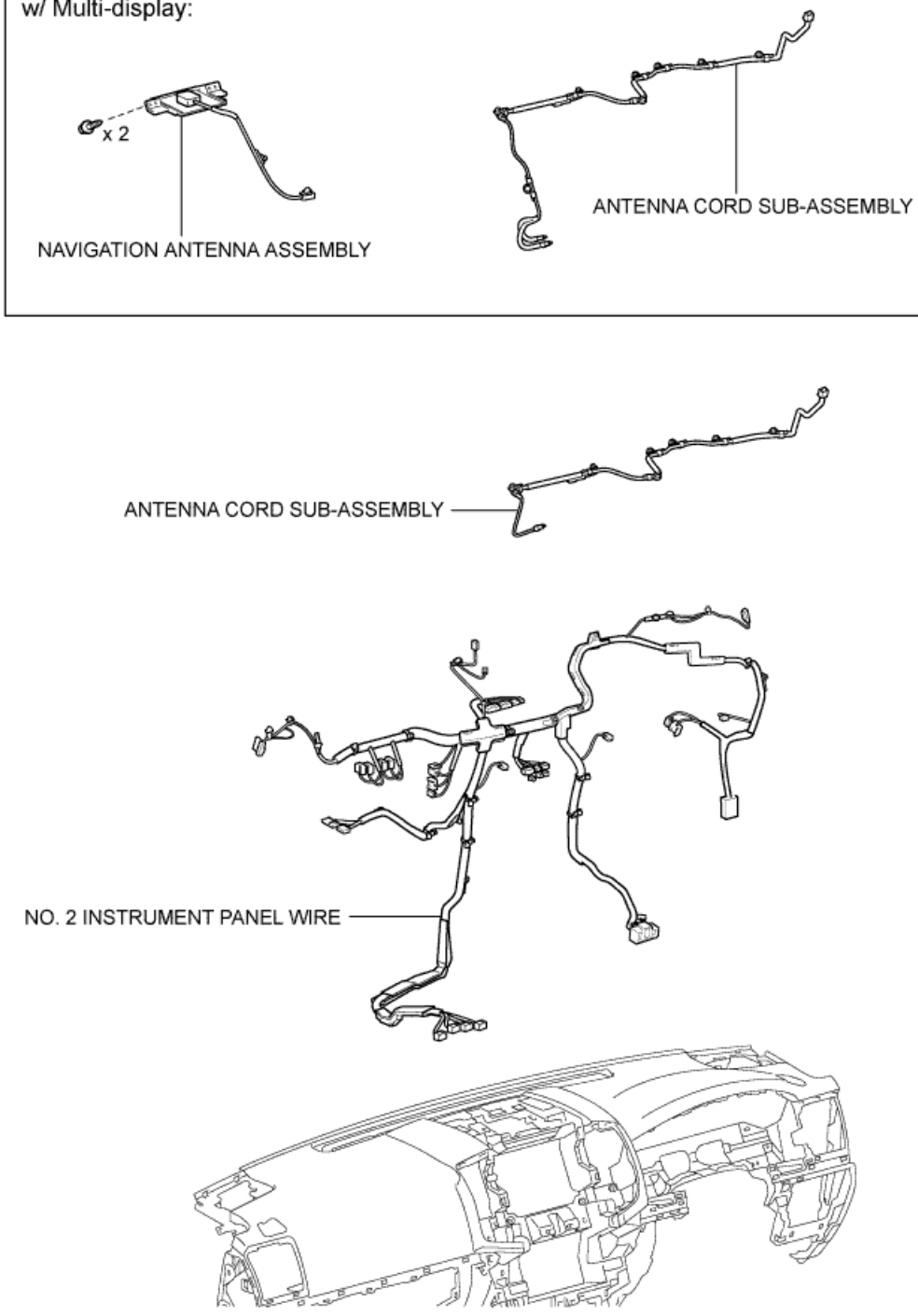

w/ Multi-display:
x 2
NAVIGATION ANTENNA ASSEMBLY
ANTENNA CORD SUB-ASSEMBLY


ANTENNA CORD SUB-ASSEMBLY
NO. 2 INSTRUMENT PANEL WIRE

T

for RHD:

w/ Multi-display:




T

**for Preparation** Click here

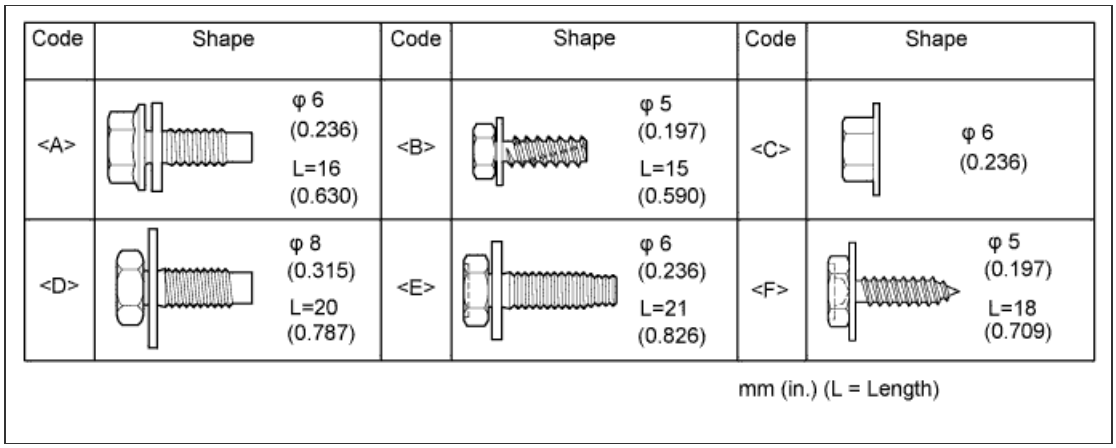
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. TABLE OF BOLT, SCREW AND NUT

**HINT:**

All bolts, screws and nuts relevant to installing and removing the instrument panel are shown along with their alphabet code in the table below.




## 2. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM (w/ Cool Box)

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 3. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 4. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. for Power Tilt and Power Telescopic Steering Column:

i. Disable the Autoaway/Return function by changing the customize parameter ( Click here).

**NOTICE:**

Record the current customize parameter setting (whether the Autoaway/Return function is enabled or disabled) in order to restore the current setting after finishing the operation.

**HINT:**

Performing the above operation causes the Autoaway/Return function to be disabled when the engine switch is turned off.

ii. Turn the engine switch on (IG). Operate the tilt and telescopic switch to fully extend and lower the steering column.

b. Turn the engine switch off and disconnect the cable from the negative (-) battery terminal.

**CAUTION:**

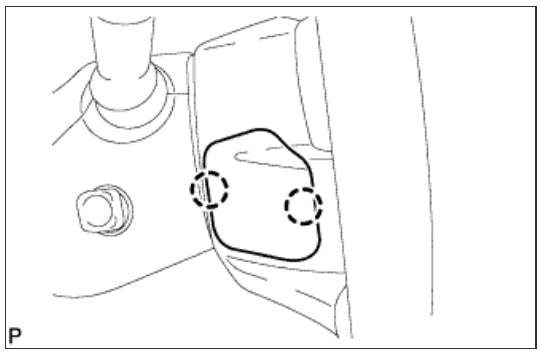
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

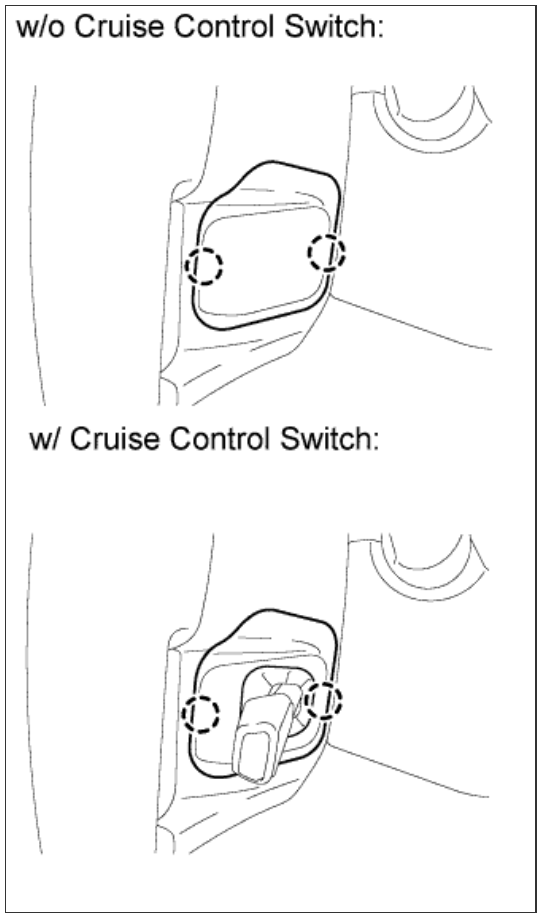
## 5. REMOVE LOWER NO. 3 STEERING WHEEL COVER

a. Detach the 2 claws and remove the steering wheel cover.



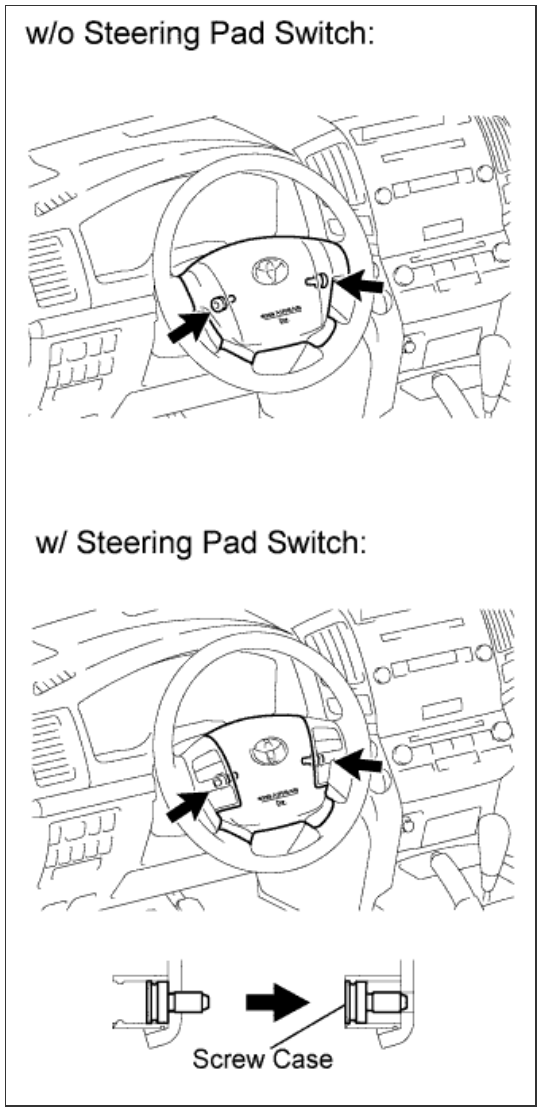

## 6. REMOVE LOWER NO. 2 STEERING WHEEL COVER

a. Detach the 2 claws and remove the steering wheel cover.




**7. REMOVE STEERING PAD**

a. Using a T30 "TORX" socket wrench, loosen the 2 screws until the groove along the screw circumference catches on the screw case.




b. Pull out the steering pad from the steering wheel, as shown in the illustration. Then support the steering pad with one hand.

**NOTICE:**

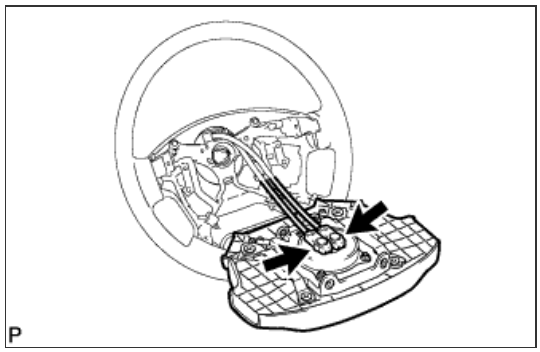
When removing the steering pad, do not pull the airbag wire harness.

c. Disconnect the horn connector.

d. Disconnect the 2 connectors and remove the steering pad.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.




## 8. REMOVE STEERING WHEEL ASSEMBLY

a. Remove the steering wheel set nut.

b. Put matchmarks on the steering wheel and main shaft.

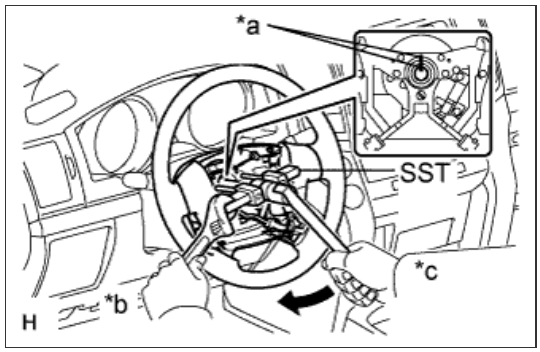
**Text in Illustration**

| | |
|---|---|
| *a | Matchmark |
| *b | Hold |
| *c | Turn |

c. Using SST, remove the steering wheel assembly.

*SST*

09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05011)



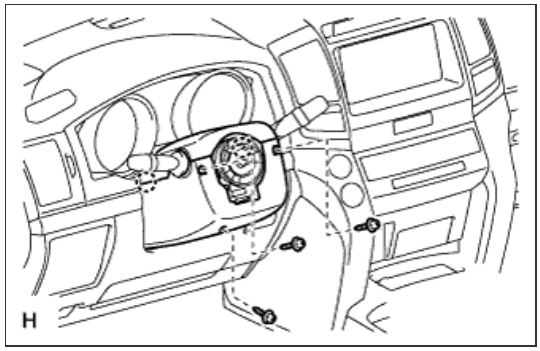

## 9. REMOVE LOWER STEERING COLUMN COVER (for Power Tilt and Power Telescopic Steering Column)

a. Remove the 3 screws.

b. Detach the 2 claws to remove the lower steering column cover.

**NOTICE:**

Do not damage the tilt and telescopic switch.



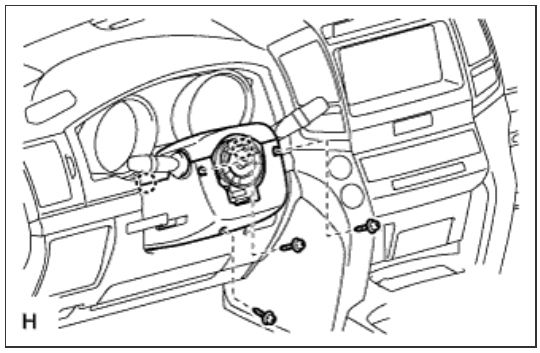

## 10. REMOVE LOWER STEERING COLUMN COVER (for Manual Tilt and Manual Telescopic Steering Column)

a. Remove the 3 screws.

b. Detach the 2 claws to remove the lower steering column cover.

**NOTICE:**

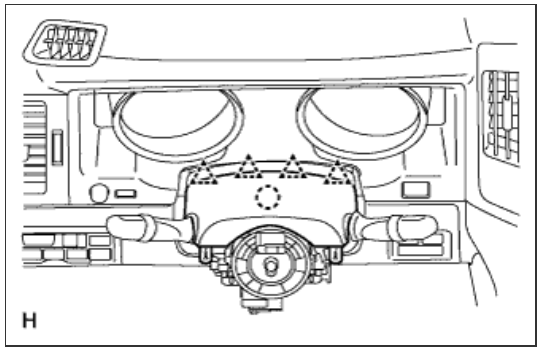
Do not damage the tilt and telescopic switch.




## 11. REMOVE UPPER STEERING COLUMN COVER (for Power Tilt and Power Telescopic Steering Column)

a. Detach the 4 clips.

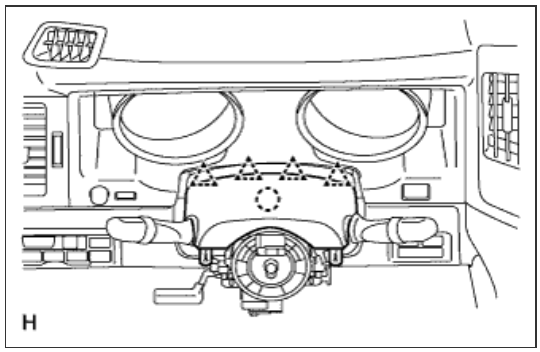
b. Detach the claw to remove the upper steering column cover.




## 12. REMOVE UPPER STEERING COLUMN COVER (for Manual Tilt and Manual Telescopic Steering Column)

a. Detach the 4 clips.

b. Detach the claw to remove the upper steering column cover.




**13. REMOVE TILT AND TELESCOPIC SWITCH (for Power Tilt and Power Telescopic Steering Column)**

a. Disconnect the switch connector.

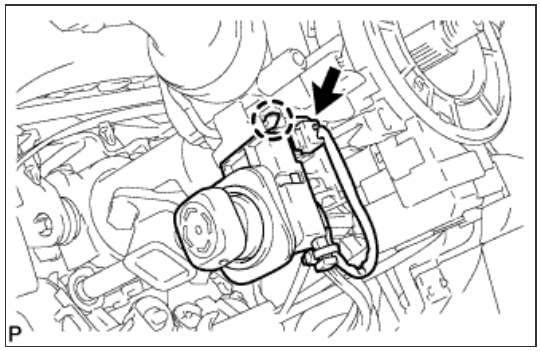
b. Using a screwdriver, detach the claw and pull out the switch.

**NOTICE:**

Pushing on the claw too hard will break the claw.

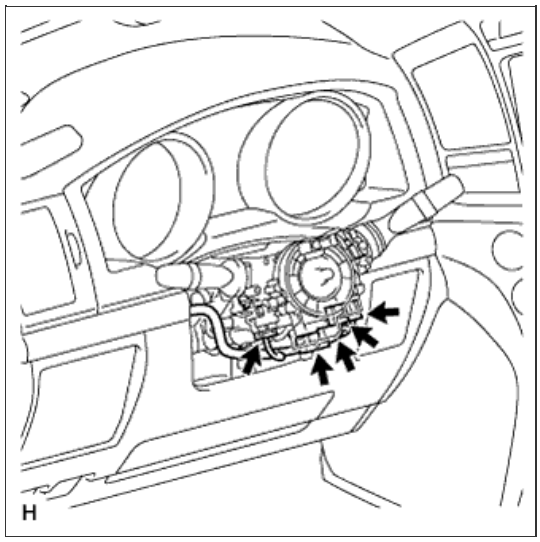
**HINT:**

Tape the screwdriver tip before use.

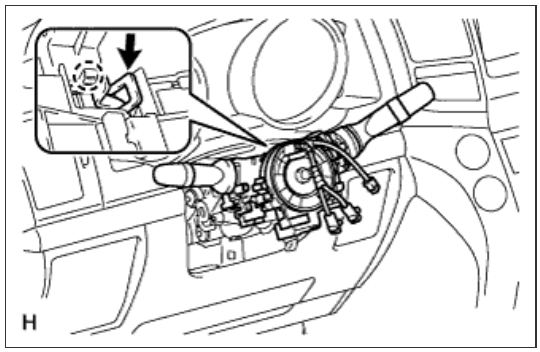



**14. REMOVE COMBINATION SWITCH ASSEMBLY WITH SPIRAL CABLE SUB-ASSEMBLY (for Power Tilt and Power Telescopic Steering Column)**

a. Disconnect the 5 connectors from the turn signal switch with spiral cable.



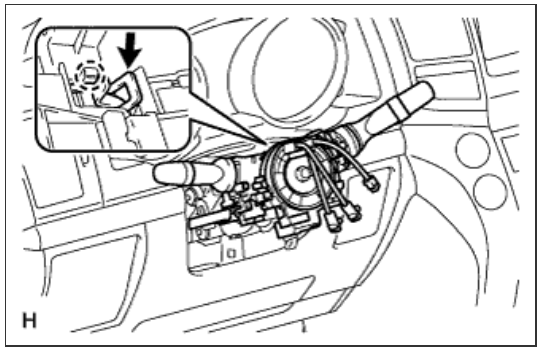

b. Using pliers, grip the claws of the clamp and remove the turn signal switch with spiral cable from the steering column.




**15. REMOVE COMBINATION SWITCH ASSEMBLY WITH SPIRAL CABLE SUB-ASSEMBLY (for Manual Tilt and Manual Telescopic Steering Column)**

a. Disconnect the connectors from the combination switch with spiral cable.

b. Using pliers, grip the claws of the clamp and remove the combination switch with spiral cable from the steering column.




**16. REMOVE FRONT SEAT ASSEMBLY LH (for Power Seat)**

(Click here)

**17. REMOVE FRONT SEAT ASSEMBLY LH (for Manual Seat)**

(Click here)

**18. REMOVE FRONT SEAT ASSEMBLY RH (for Power Seat)**

(Click here)

**19. REMOVE FRONT SEAT ASSEMBLY RH (for Manual Seat)**

(Click here)

**20. REMOVE FRONT SEAT ASSEMBLY RH (for Bench Seat Type)**

(Click here)

**21. REMOVE REAR CONSOLE BOX SUB-ASSEMBLY (w/o Cool Box)**

(Click here)

**22. REMOVE COOLING BOX ASSEMBLY (w/ Cool Box)**

(Click here)

**23. REMOVE LOWER CONSOLE BOX (w/o Console Box Lid)**

(Click here)

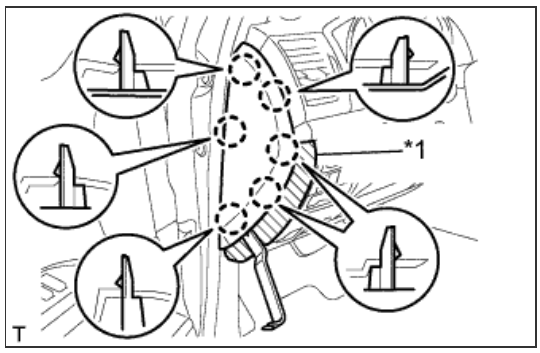
## 24. REMOVE INSTRUMENT SIDE PANEL LH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws and remove the instrument side panel.



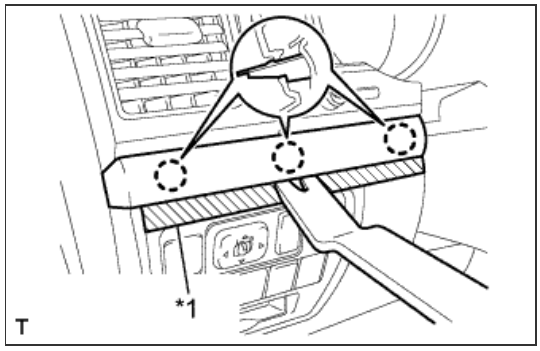

## 25. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

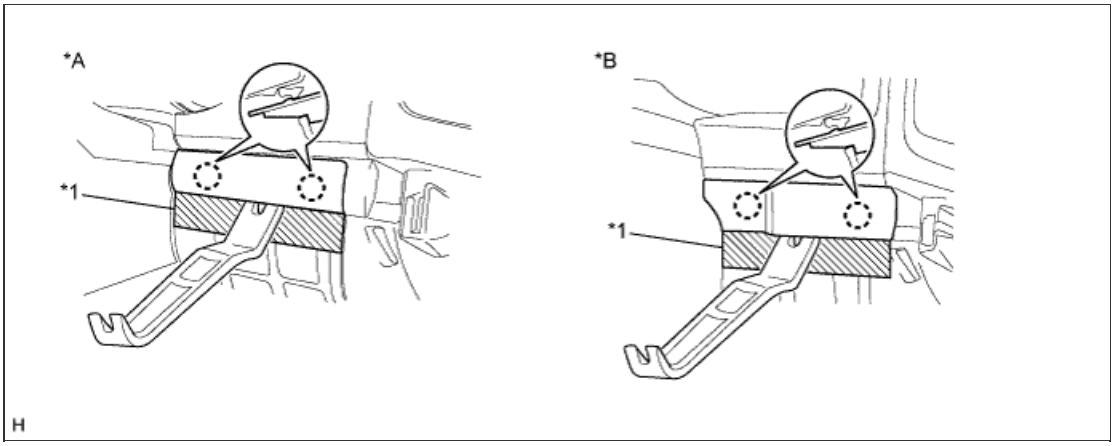
b. Using a moulding remover, detach the 3 claws and remove the No. 1 instrument cluster finish panel garnish.




## 26. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 2 claws and remove the No. 2 instrument cluster finish panel garnish.



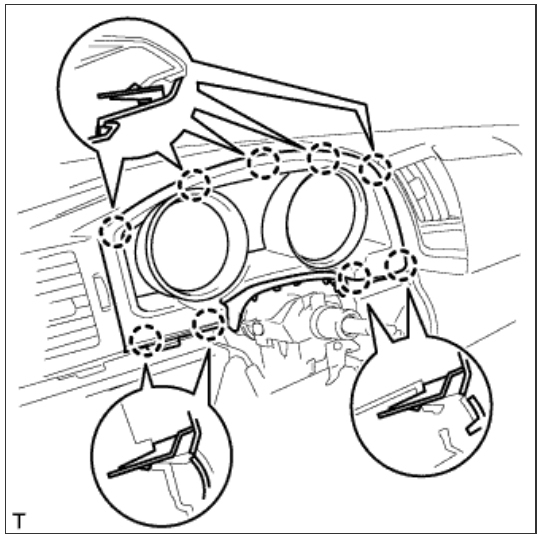

**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |
| *1 | Protective Tape | - | - |

## 27. REMOVE INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY (w/ Multi-information Display)

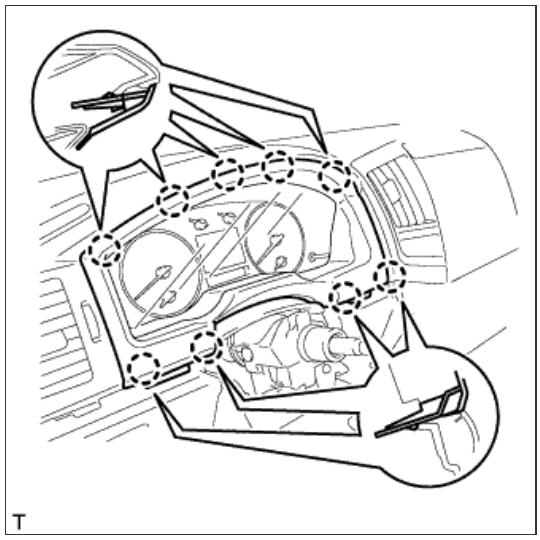
a. Detach the 9 claws.

b. Disconnect the connector and remove the instrument cluster finish panel.




**28. REMOVE INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY (w/o Multi-information Display)**

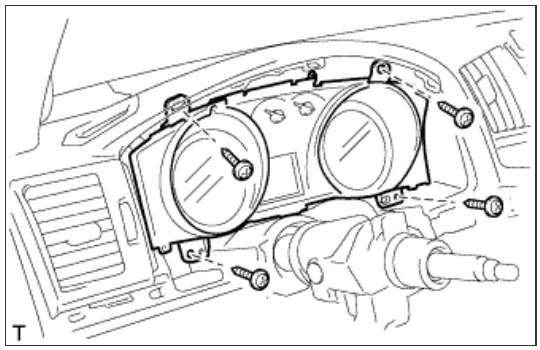
a. Detach the 9 claws and remove the instrument cluster finish panel.




**29. REMOVE COMBINATION METER ASSEMBLY (w/ Multi-information Display)**

a. Remove the 4 screws.

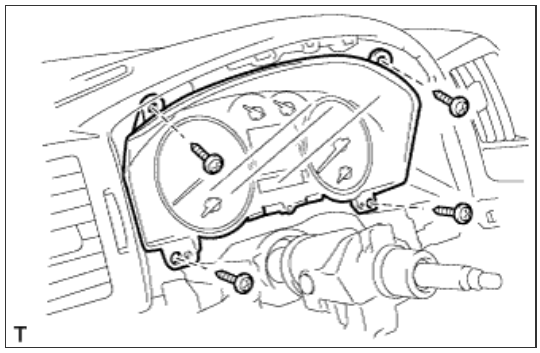
b. Disconnect the connectors and remove the combination meter.




**30. REMOVE COMBINATION METER ASSEMBLY (w/o Multi-information Display)**

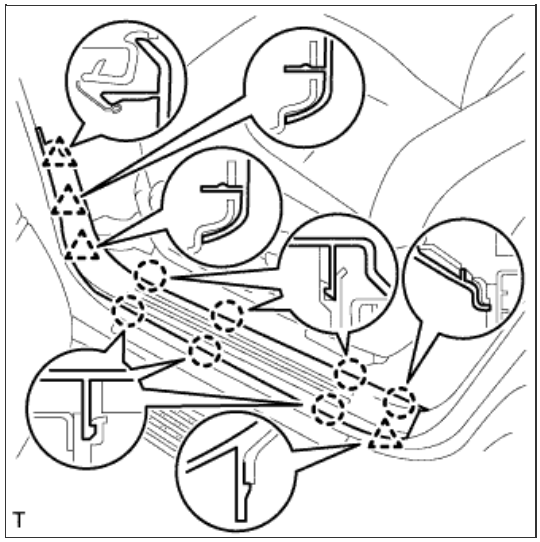
a. Remove the 4 screws.

b. Disconnect the connectors and remove the combination meter.



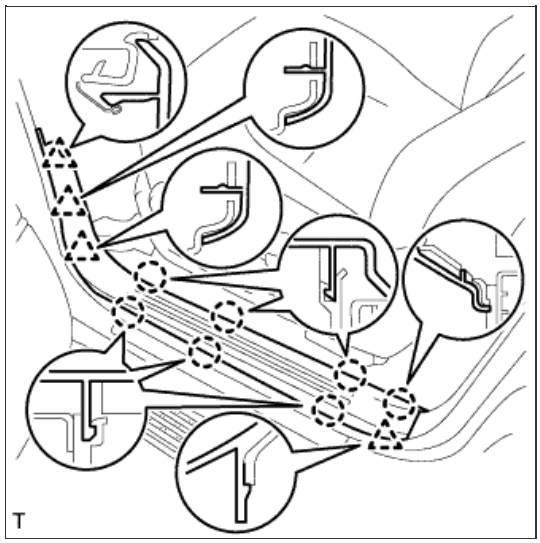

### 31. REMOVE FRONT DOOR SCUFF PLATE LH (w/o Sliding Roof)

a. Detach the 7 claws and 4 clips, and remove the scuff plate.




### 32. REMOVE FRONT DOOR SCUFF PLATE LH (w/ Sliding Roof)

a. Detach the 7 claws and 4 clips, and remove the scuff plate.

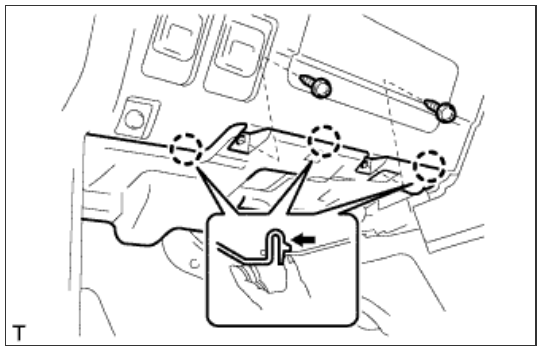



### 33. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Remove the 2 screws.

b. Detach the 3 claws.

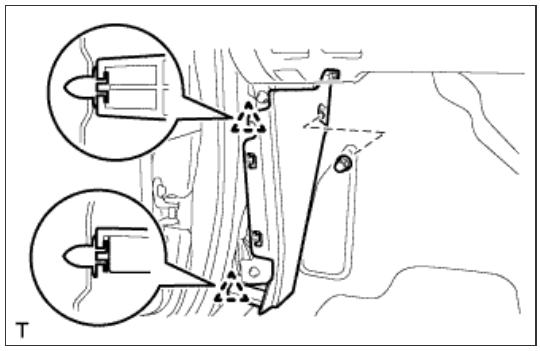
c. Disconnect the connectors and remove the No. 1 instrument panel under cover.




## 34. REMOVE COWL SIDE TRIM BOARD LH

a. Remove the cap nut.

b. Detach the 2 clips and remove the cowl side trim board.




## 35. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

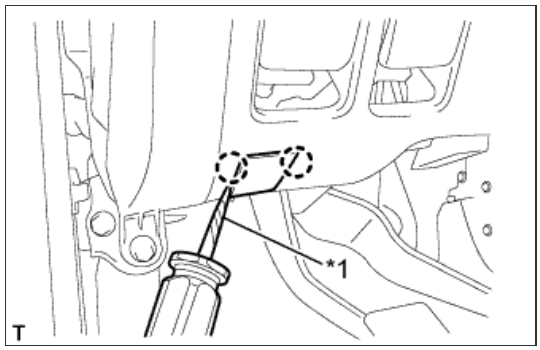
a. Using a screwdriver, detach the 2 claws and open the hole cover.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

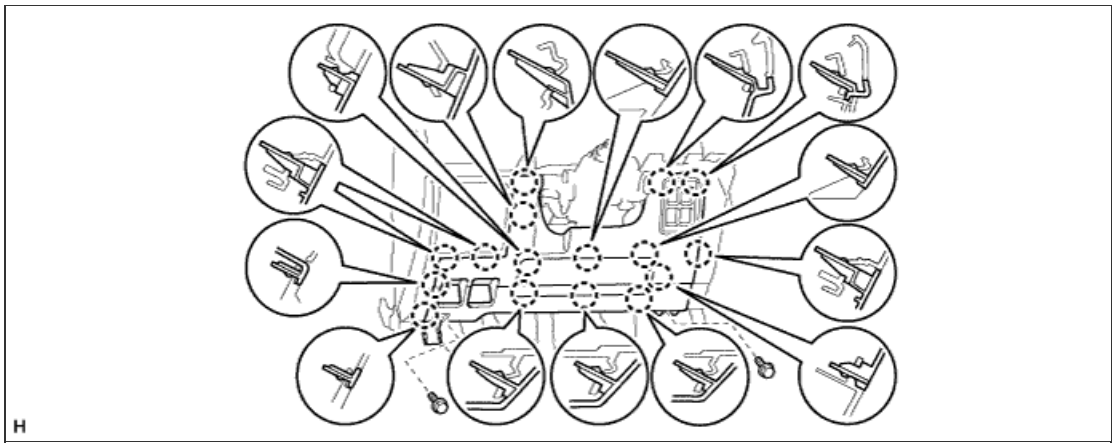
| | |
|---|---|
| *1 | Protective Tape |




b. w/ Driver Side Knee Airbag:

i. Remove the 2 bolts.

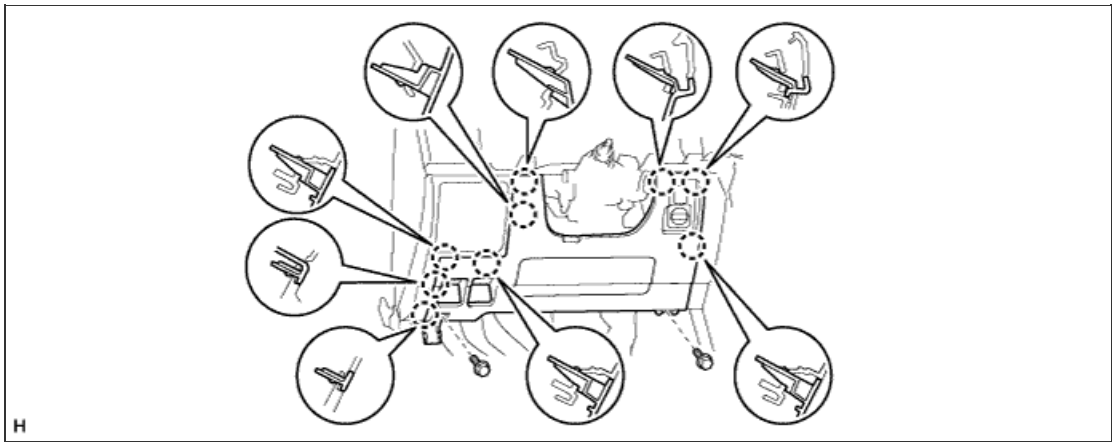
ii. Detach the 16 claws.




c. w/o Driver Side Knee Airbag:

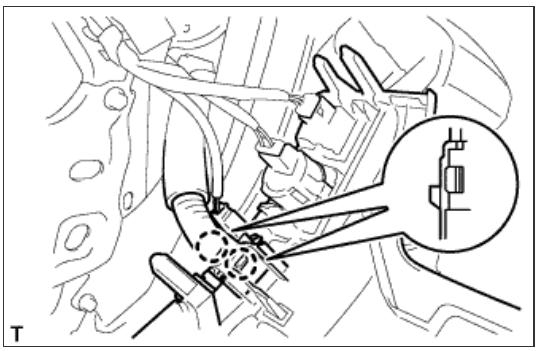
i. Remove the 2 bolts.

ii. Detach the 9 claws.



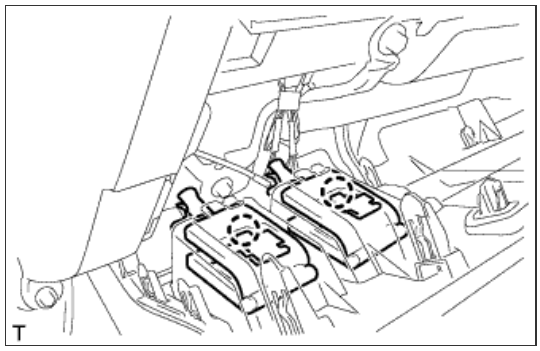

d. for Automatic Air Conditioning System:

i. Detach the 2 claws and remove the room temperature sensor.




e. Detach the 2 claws and disconnect the 2 control cables.

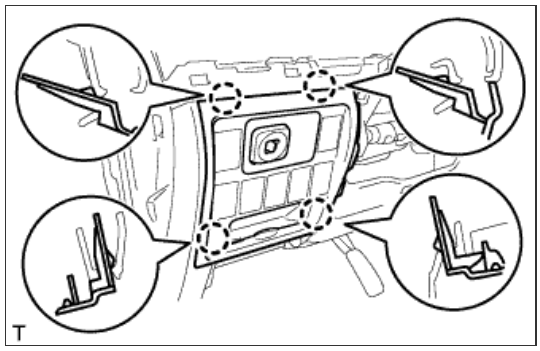
f. Disconnect the connectors and remove the lower No. 1 instrument panel finish panel.




### 36. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 4 claws.

b. Disconnect the connectors and remove the No. 1 switch hole cover.



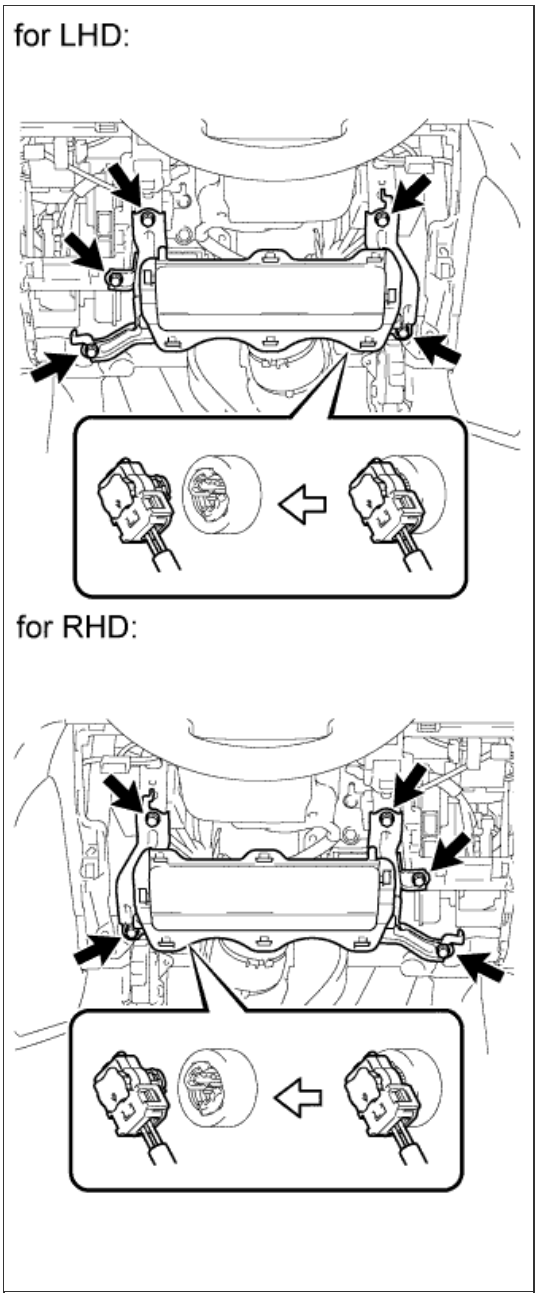

### 37. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY (w/ Driver Side Knee Airbag)

a. Remove the 5 bolts and driver side knee airbag.

b. Disconnect the connector.

**NOTICE:**

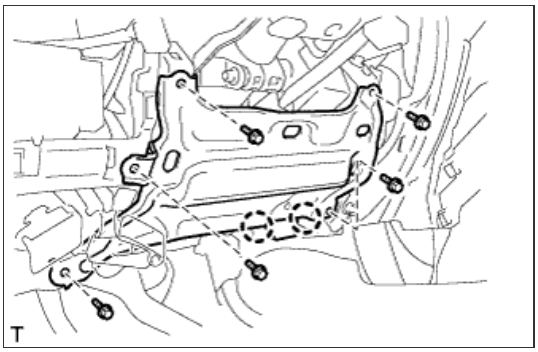
When handling the airbag connector, take care not to damage the airbag wire harness.




**38. REMOVE LOWER INSTRUMENT PANEL SUB-ASSEMBLY (w/o Driver Side Knee Airbag)**

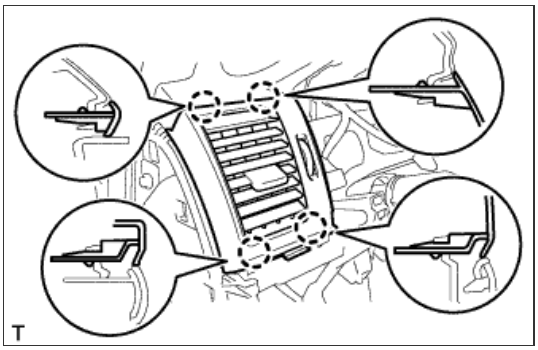
a. Detach the 2 claws and disconnect the DLC3.

b. Remove the 5 bolts and lower instrument panel.




**39. REMOVE NO. 1 INSTRUMENT PANEL REGISTER ASSEMBLY**

a. Detach the 4 claws and remove the No. 1 instrument panel register.



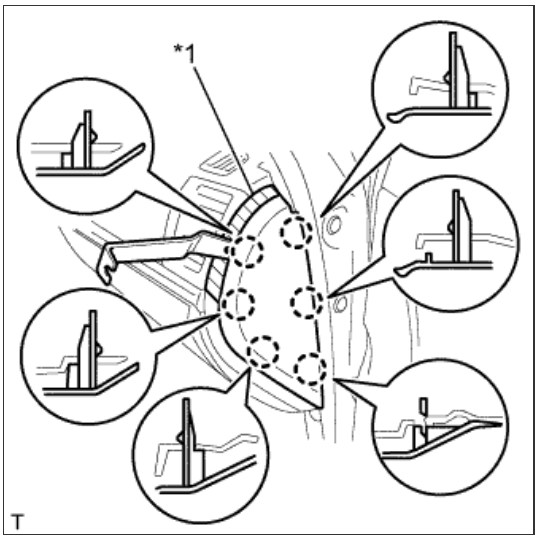

### 40. REMOVE INSTRUMENT SIDE PANEL RH (w/o Airbag Cut Off Switch)

a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws and remove the instrument side panel.




### 41. REMOVE INSTRUMENT SIDE PANEL RH (w/ Airbag Cut Off Switch)

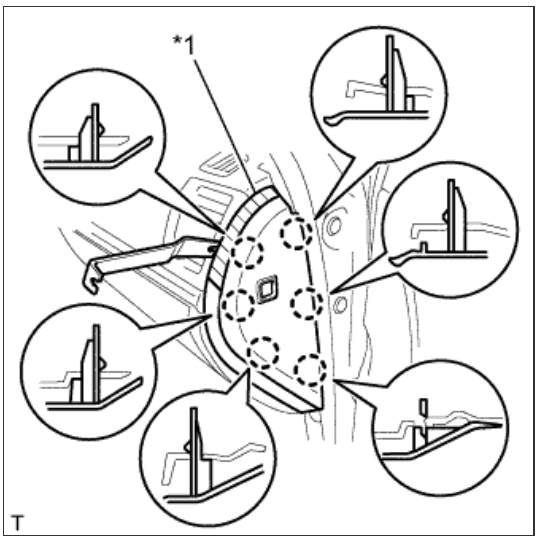
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the instrument side panel.




### 42. REMOVE FRONT DOOR SCUFF PLATE RH (w/o Sliding Roof)

**HINT:**

Use the same procedures described for the LH side.

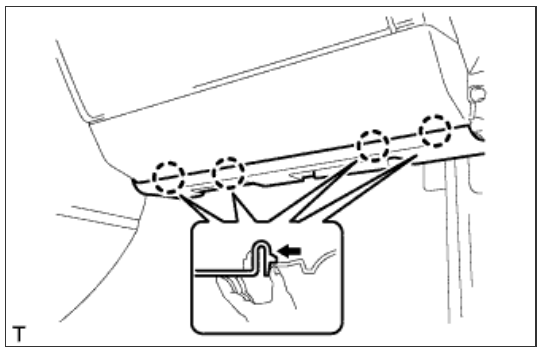
### 43. REMOVE FRONT DOOR SCUFF PLATE RH (w/ Sliding Roof)

**HINT:**

Use the same procedures described for the LH side.

### 44. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

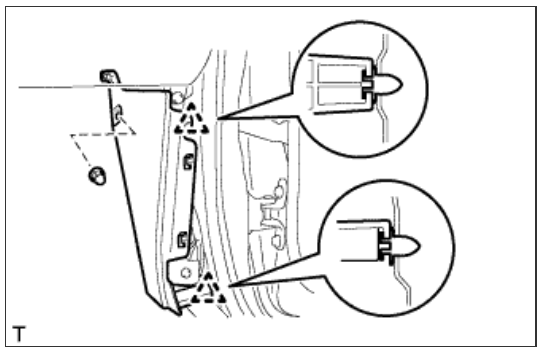
a. Detach the 4 claws and remove the No. 2 instrument panel under cover.




### 45. REMOVE COWL SIDE TRIM BOARD RH

a. Remove the cap nut.

b. Detach the 2 clips and remove the cowl side trim board.




### 46. REMOVE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (w/ Passenger Side Knee Airbag)

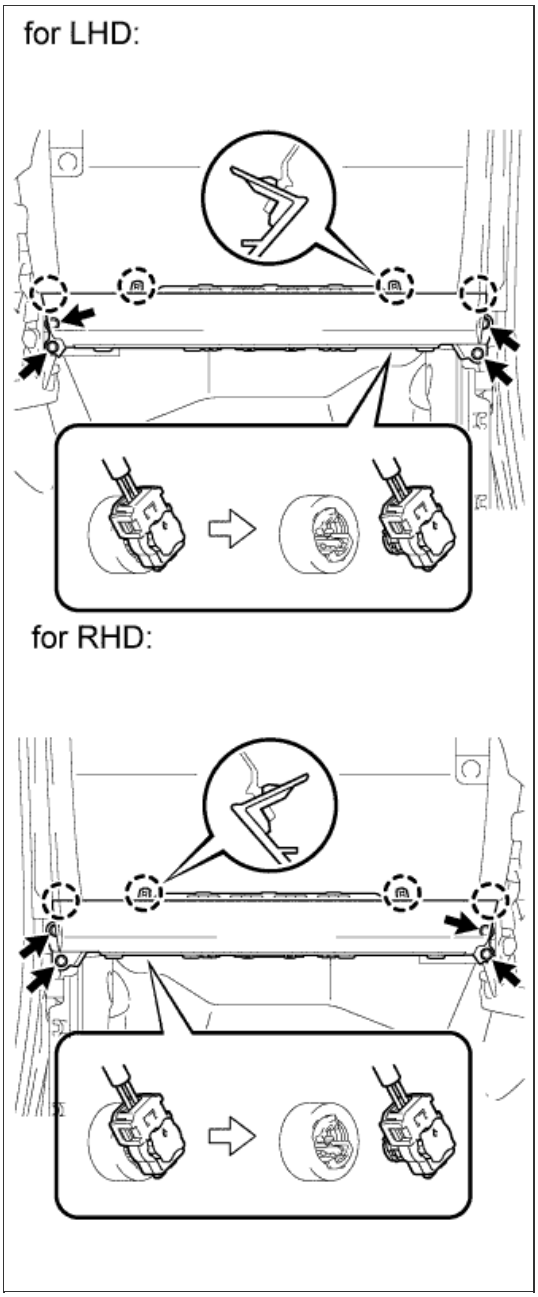
a. Remove the 4 bolts.

b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

**NOTICE:**

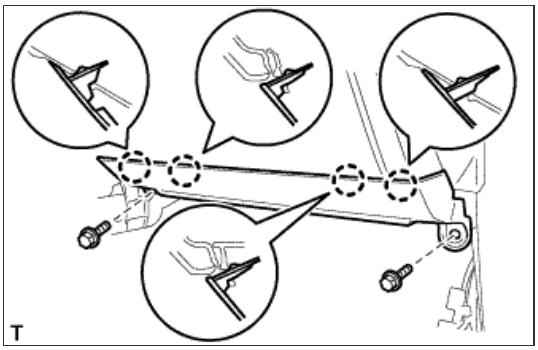
When handling the airbag connector, take care not to damage the airbag wire harness.




## 47. REMOVE LOWER INSTRUMENT PANEL (w/o Passenger Side Knee Airbag)

a. Remove the 2 bolts.

b. Detach the 4 claws and remove the lower instrument panel.



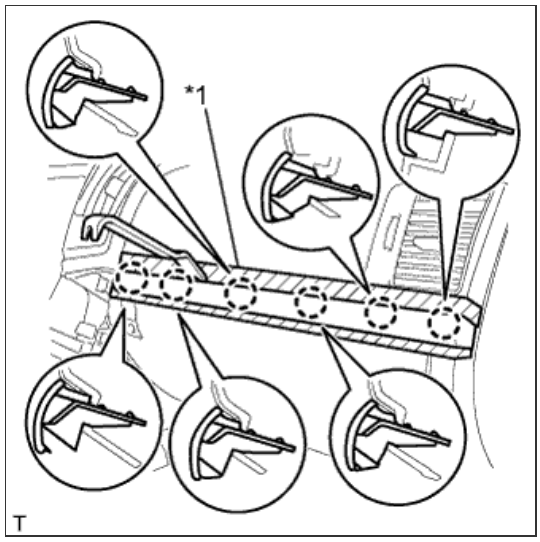

## 48. REMOVE NO. 3 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Place protective tape as shown in the illustration.

**Text in Illustration**

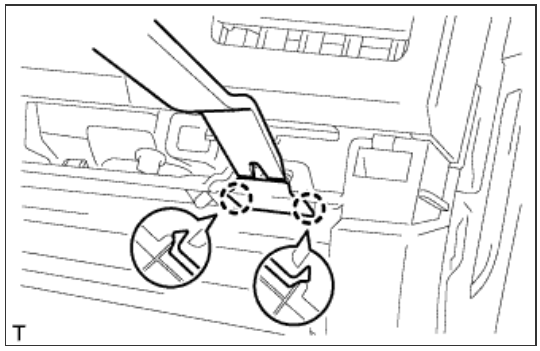
| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws and remove the No. 3 instrument cluster finish panel garnish.




## 49. REMOVE INSTRUMENT PANEL BOX DOOR KNOB

a. Using a moulding remover, detach the 2 claws and remove the instrument panel box door knob.

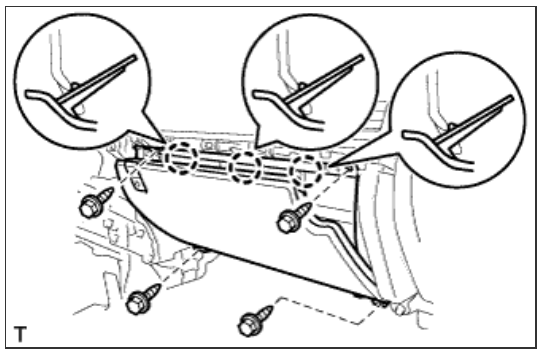



## 50. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

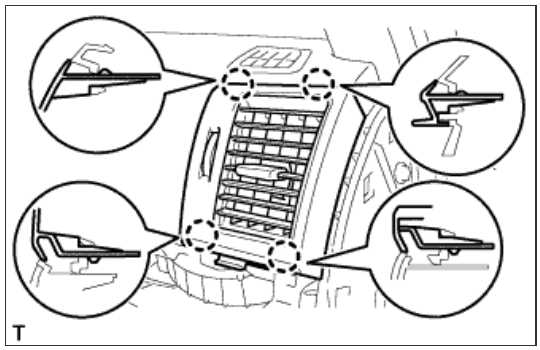
b. Detach the 3 claws.

c. Disconnect the connector and remove the lower No. 2 instrument panel finish panel.




## 51. REMOVE NO. 2 INSTRUMENT PANEL REGISTER ASSEMBLY

a. Detach the 4 claws and remove the No. 2 instrument panel register.

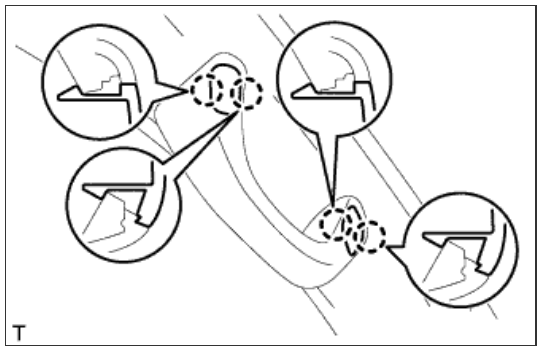



### 52. REMOVE FRONT ASSIST GRIP SUB-ASSEMBLY (w/o Sliding Roof)

**HINT:**

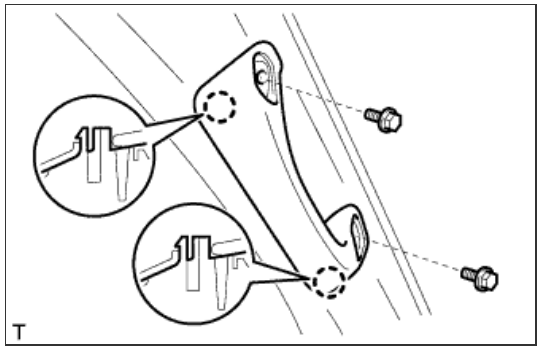
Use the same procedure to remove the front assist grip on the other side.

a. Detach the 4 claws and remove the 2 assist grip plugs.




b. Remove the 2 bolts.

c. Detach the 2 claws and remove the front assist grip.

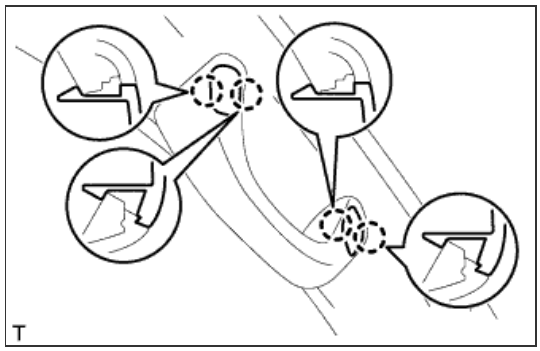



### 53. REMOVE FRONT ASSIST GRIP SUB-ASSEMBLY (w/ Sliding Roof)

**HINT:**

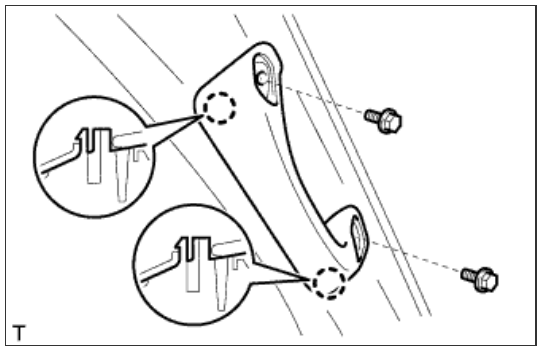
Use the same procedure to remove the front assist grip on the other side.

a. Detach the 4 claws and remove the 2 assist grip plugs.




b. Remove the 2 bolts.

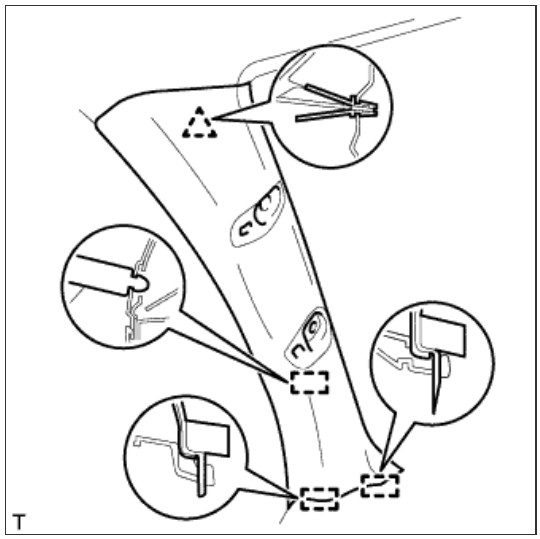
c. Detach the 2 claws and remove the front assist grip.




## 54. REMOVE FRONT PILLAR GARNISH LH (w/o Sliding Roof)

a. Detach the clip and 3 guides, and remove the front pillar garnish.

b. for 9, 14 Speakers:
Disconnect the speaker connector and then remove the front pillar garnish.

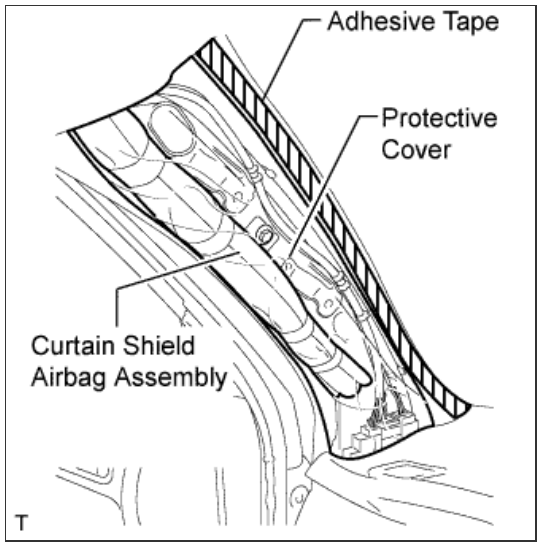



c. Protect the curtain shield airbag.

i. Thoroughly cover the airbag with a cloth or nylon sheet and fix the ends of the cover with adhesive tape, as shown in the illustration.

**NOTICE:**

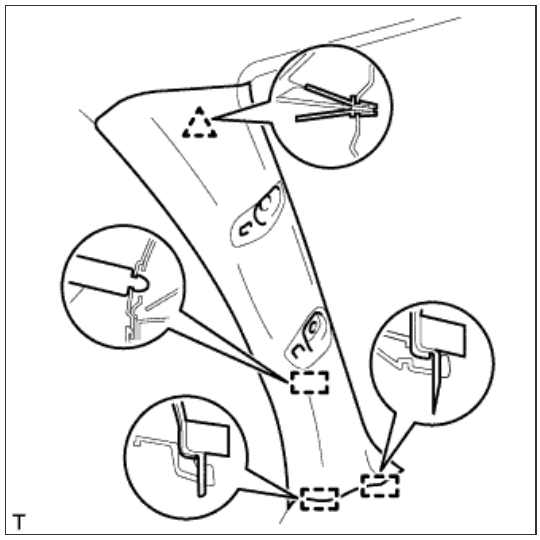
Cover the curtain shield airbag with a protective cover as soon as the front pillar garnish is removed.




## 55. REMOVE FRONT PILLAR GARNISH LH (w/ Sliding Roof)

a. Detach the clip 3 guides, and remove the front pillar garnish.

b. for 9, 14 Speakers:
Disconnect the speaker connector and then remove the front pillar garnish.

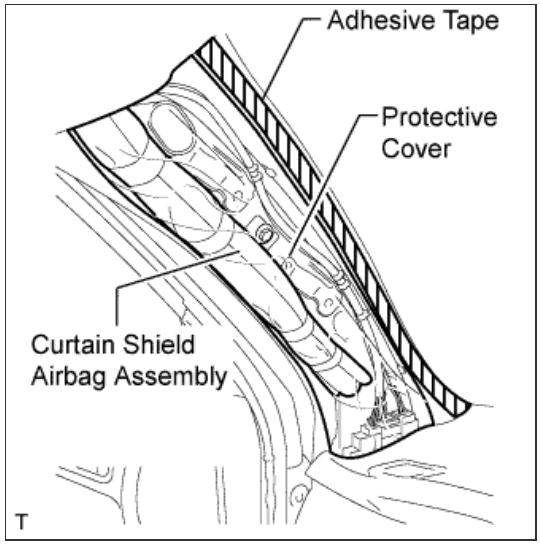



c. Protect the curtain shield airbag.

i. Thoroughly cover the airbag with a cloth or nylon sheet and fix the ends of the cover with adhesive tape, as shown in the illustration.

**NOTICE:**

Cover the curtain shield airbag with a protective cover as soon as the front pillar garnish is removed.




## 56. REMOVE FRONT PILLAR GARNISH RH (w/o Sliding Roof)

**HINT:**

Use the same procedures described for the LH side.

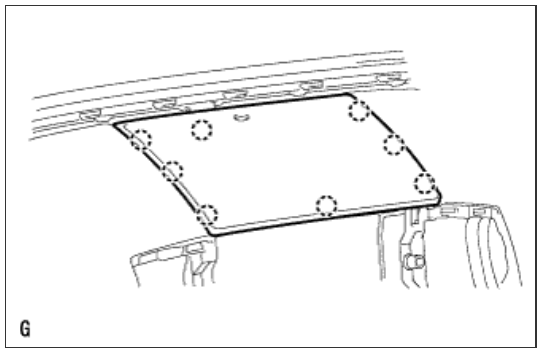
## 57. REMOVE FRONT PILLAR GARNISH RH (w/ Sliding Roof)

**HINT:**

Use the same procedures described for the LH side.

## 58. REMOVE NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Detach the 8 claws and remove the opening cover.



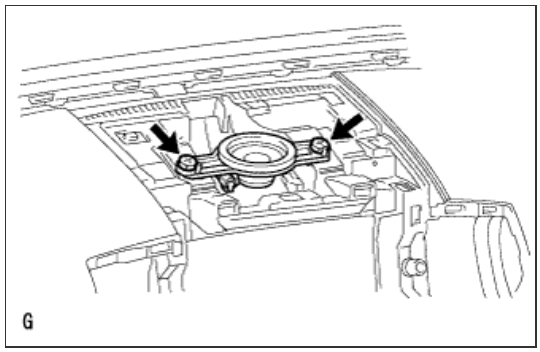

## 59. REMOVE FRONT NO. 4 SPEAKER ASSEMBLY

a. Remove the 2 bolts.

b. Remove the speaker and then disconnect the speaker connector.

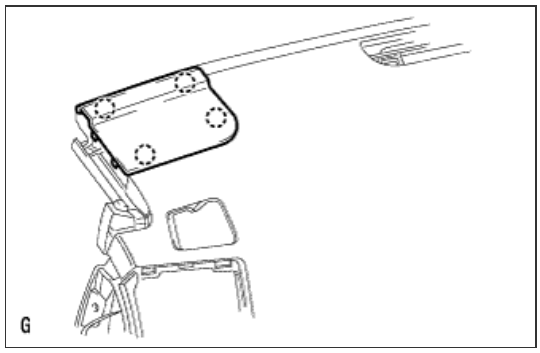
**NOTICE:**

Do not touch the cone part of the speaker.




## 60. REMOVE NO. 1 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY

a. Detach the 4 claws and remove the speaker panel.




## 61. REMOVE FRONT NO. 2 SPEAKER ASSEMBLY (LH Side)

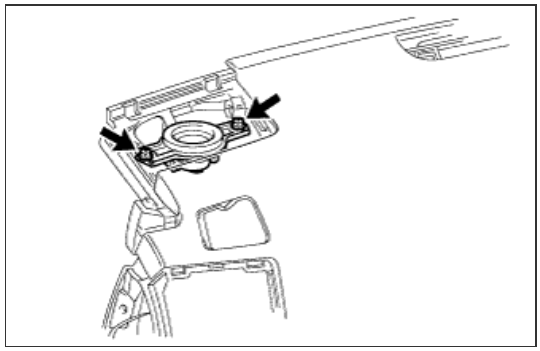
a. for 9 Speakers Models:

i. Remove the 2 bolts.

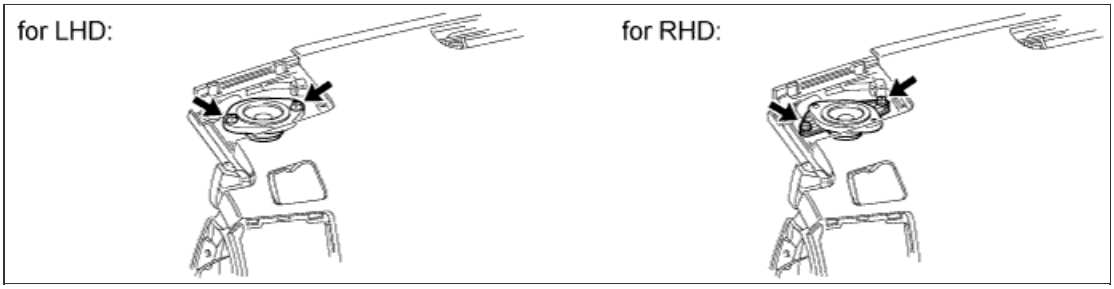
ii. Remove the speaker and then disconnect the speaker connector.

**NOTICE:**

Do not touch the cone part of the speaker.



b. except 9 Speakers Models:




i. Remove the 2 bolts.

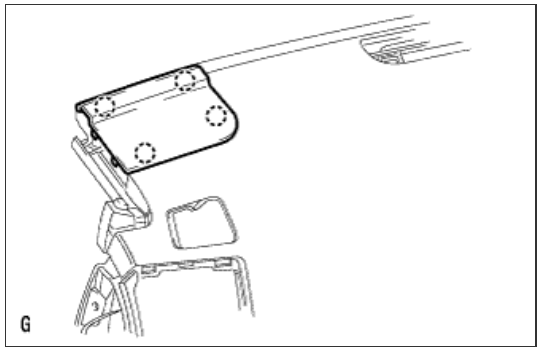
ii. Remove the speaker and then disconnect the speaker connector.

**NOTICE:**

Do not touch the cone part of the speaker.

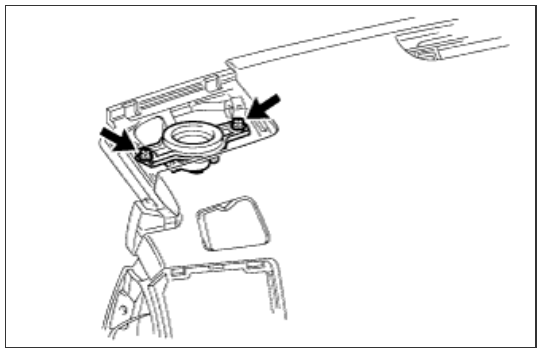
## 62. REMOVE NO. 2 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY

a. Detach the 4 claws and remove the speaker panel.




## 63. REMOVE FRONT NO. 2 SPEAKER ASSEMBLY (RH Side)

a. for 9 Speakers Models:



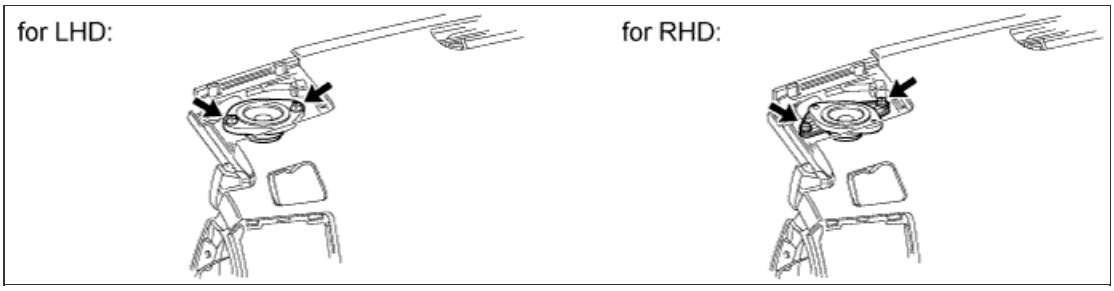
i. Remove the 2 bolts.

ii. Remove the speaker and then disconnect the speaker connector.

**NOTICE:**

Do not touch the cone part of the speaker.

b. except 9 Speakers Models:




i. Remove the 2 bolts.

ii. Remove the speaker and then disconnect the speaker connector.

**NOTICE:**

Do not touch the cone part of the speaker.

## 64. REMOVE NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY

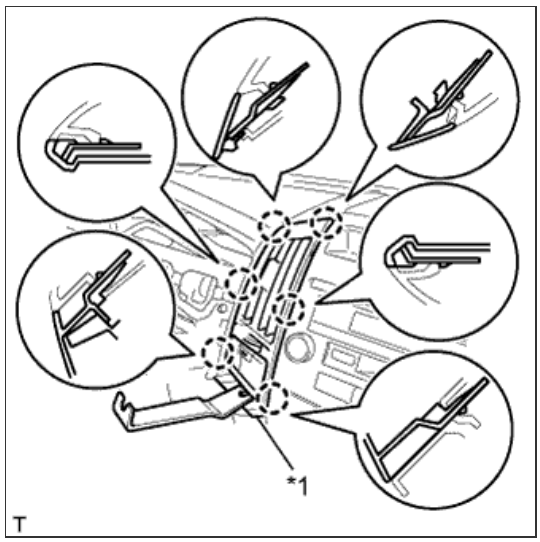
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the No. 3 instrument panel register.




## 65. REMOVE NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY

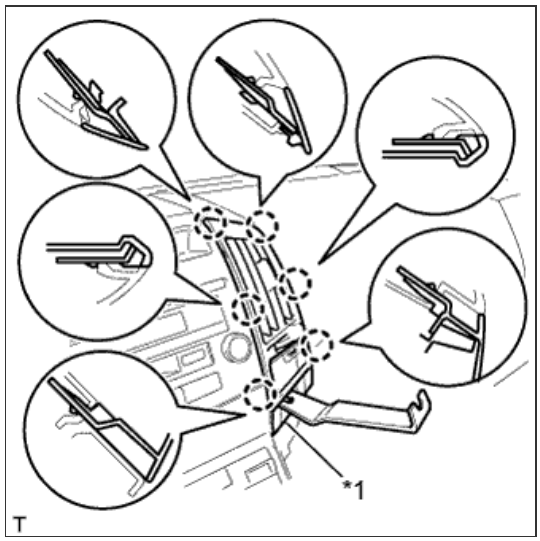
a. Place protective tape as shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

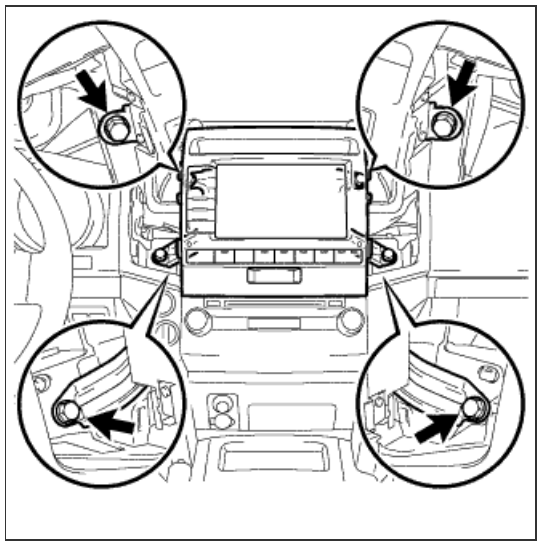
b. Using a moulding remover, detach the 6 claws.

c. Disconnect the connector and remove the No. 4 instrument panel register.



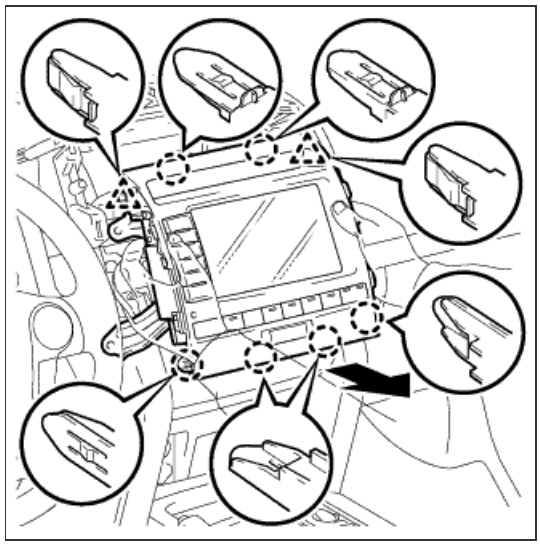

## 66. REMOVE MULTI-DISPLAY ASSEMBLY WITH BRACKET (w/ Multi-display)

a. Remove the 2 screws and 2 bolts.



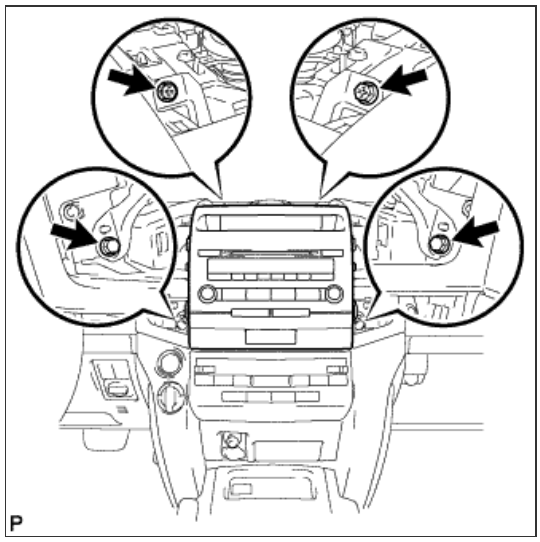
b. Pull the multi-display assembly to detach the 2 clips and 6 claws on the backside of the multi-display assembly.

c. Disconnect the connectors and remove the multi-display assembly.



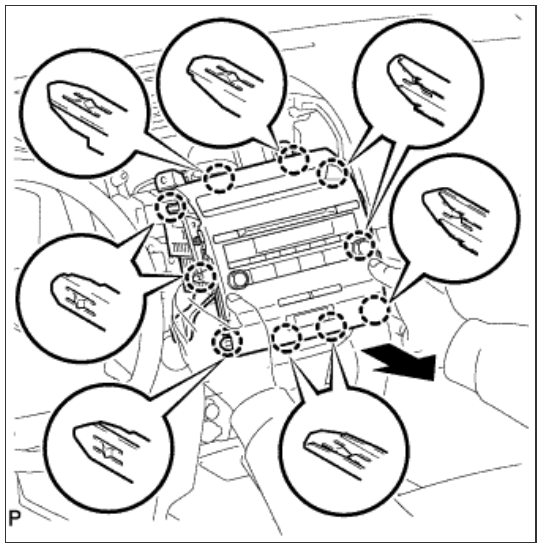
## 67. REMOVE RADIO RECEIVER ASSEMBLY WITH BRACKET (w/o Multi-display)

a. Remove the 2 screws and 2 bolts.




b. Pull the radio receiver to detach the 10 claws on the backside of the radio receiver.

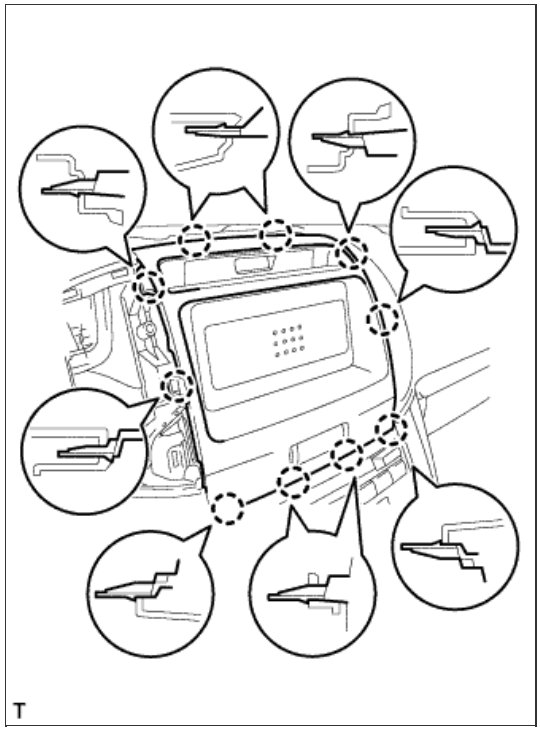
c. Disconnect the connectors and remove the radio receiver.




**68. REMOVE NO. 1 CENTER INSTRUMENT CLUSTER FINISH PANEL**

a. Detach the 10 claws.

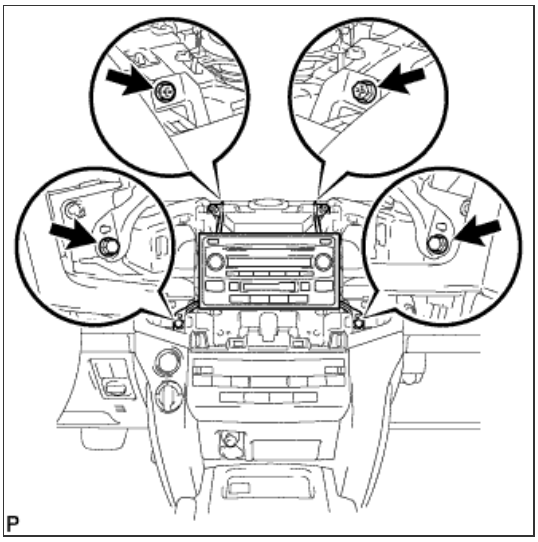
b. Disconnect the connector and remove the No. 1 center instrument cluster finish panel.




**69. REMOVE RADIO RECEIVER ASSEMBLY WITH BRACKET (w/ Cassette Tape Player)**

a. Remove the 2 screws and 2 bolts.

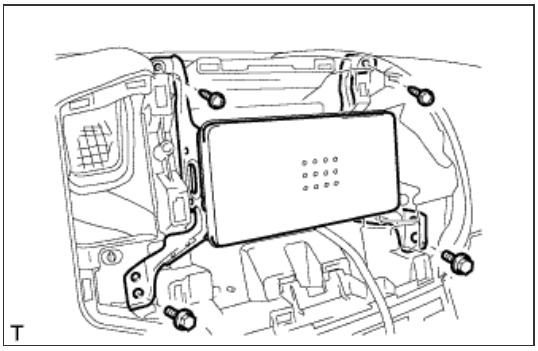
b. Disconnect the connectors and remove the radio receiver.




**70. REMOVE RADIO TUNER OPENING COVER WITH BRACKET (w/o Radio Receiver)**

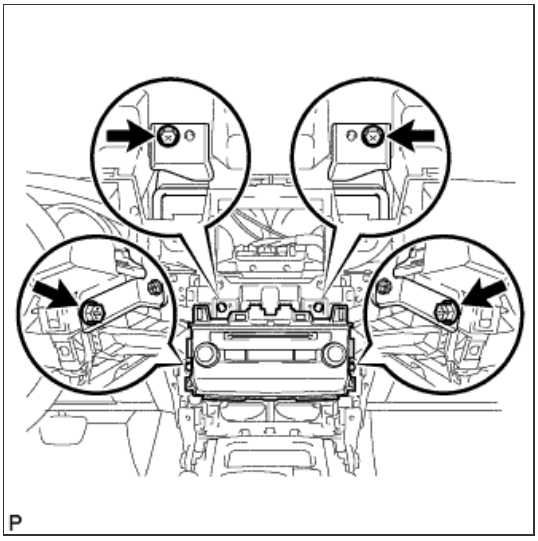
a. Remove the 2 bolts.

b. Remove the 2 screws and radio tuner opening cover with bracket.



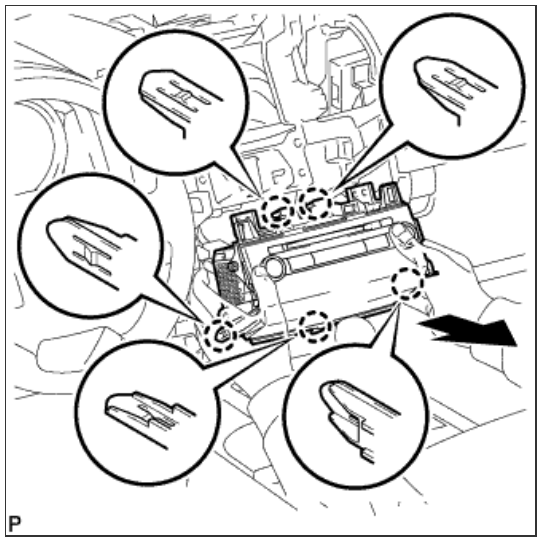

**71. REMOVE MULTI-MEDIA MODULE RECEIVER ASSEMBLY WITH BRACKET (w/ Multi-display)**

a. Remove the 2 screws and 2 bolts.




b. Pull the multi-media module receiver assembly to detach the 5 claws on the backside of the multi-media module receiver assembly.

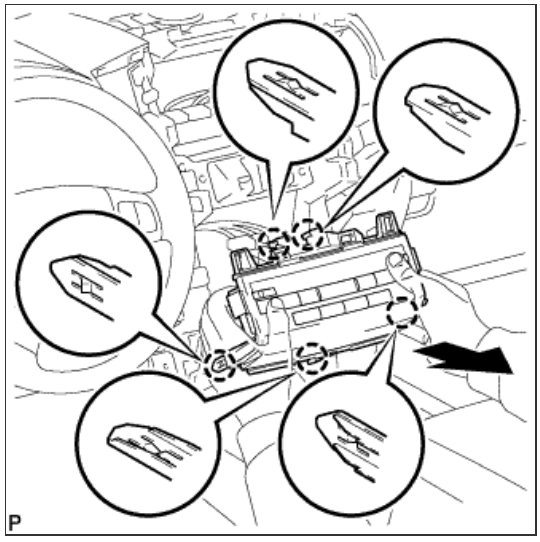
c. Disconnect the connectors and remove the multi-media module receiver assembly.




### 72. REMOVE AIR CONDITIONING CONTROL ASSEMBLY

a. Pull the radio receiver to detach the 5 claws on the backside of the radio receiver.

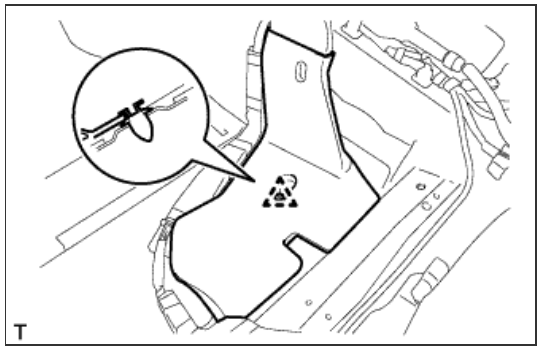
b. Disconnect the connectors and remove the radio receiver.




### 73. REMOVE REAR NO. 2 AIR DUCT (w/ Rear Air Duct)

a. Fold back the front floor carpet.

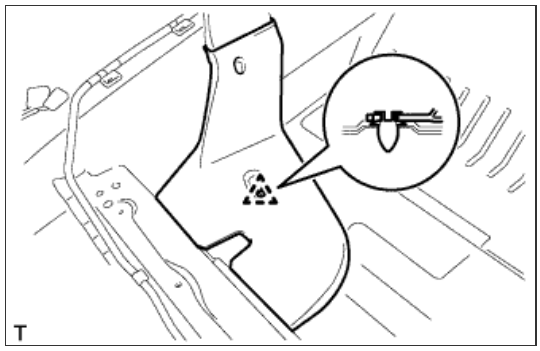
b. Detach the clip and remove the rear No. 2 air duct.




### 74. REMOVE REAR NO. 4 AIR DUCT (w/ Rear Air Duct)

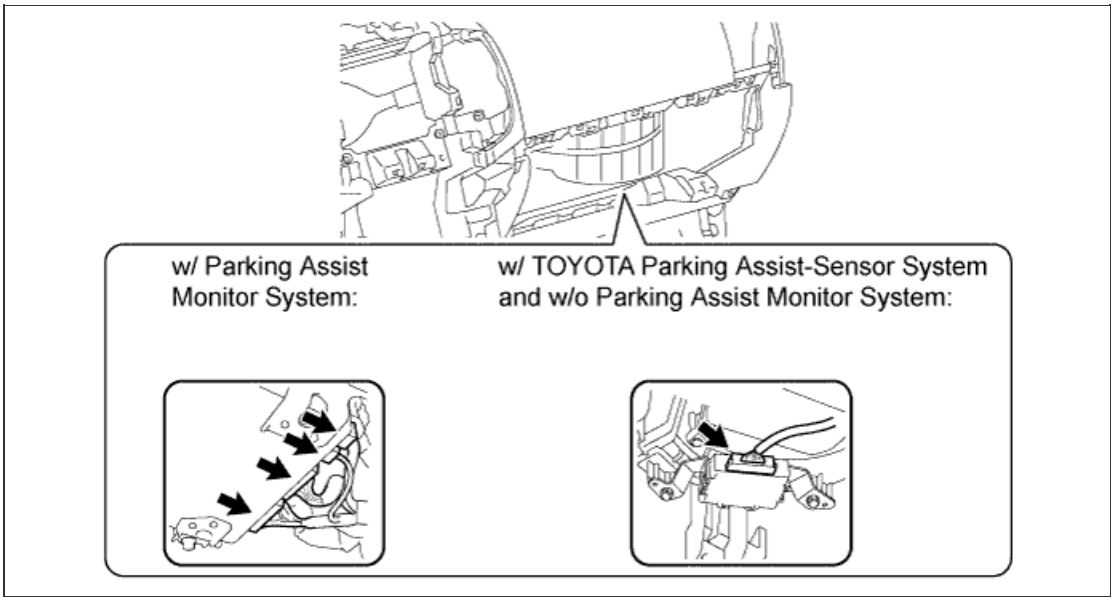
a. Fold back the front floor carpet.

b. Detach the clip and remove the rear No. 4 air duct.



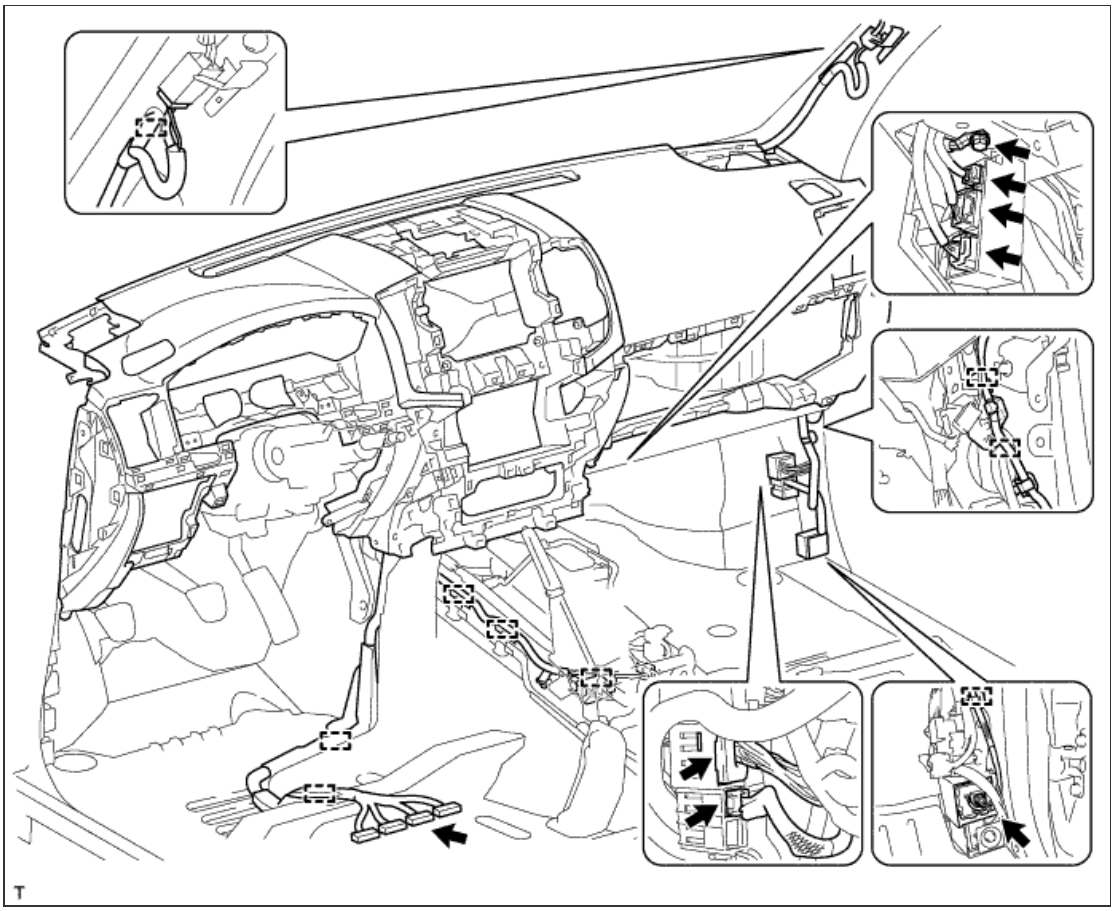

### 75. REMOVE INSTRUMENT PANEL SAFETY PAD ASSEMBLY (for LHD)

a. Disconnect the connectors.




b. Disconnect the connectors and detach the clamps.

c. Remove the bolt and disconnect the wire harness.

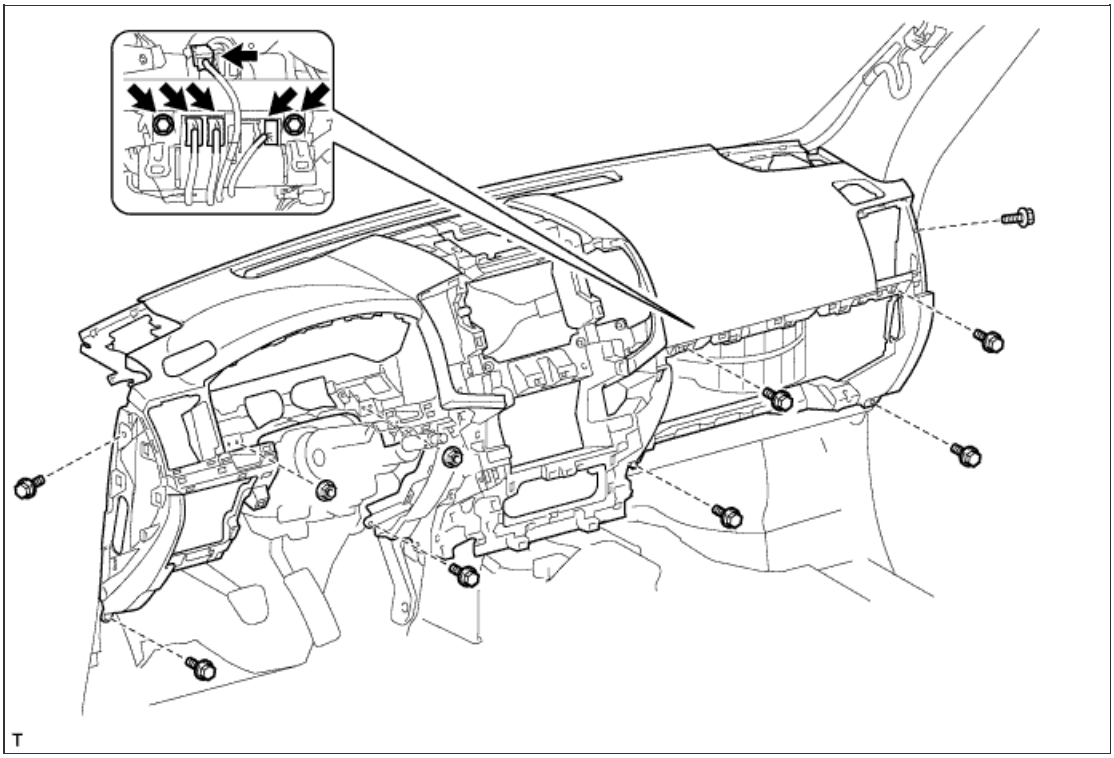



d. Remove the 2 passenger airbag bolts.

e. Disconnect the connectors.

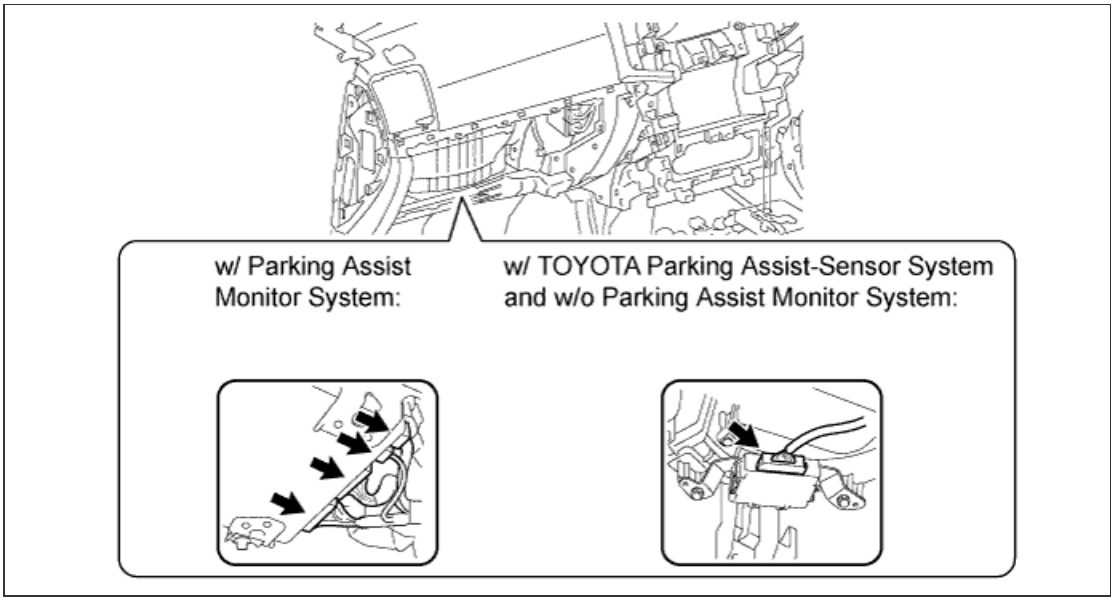
f. Remove the 8 bolts.

g. Remove the 2 nuts and instrument panel safety pad.



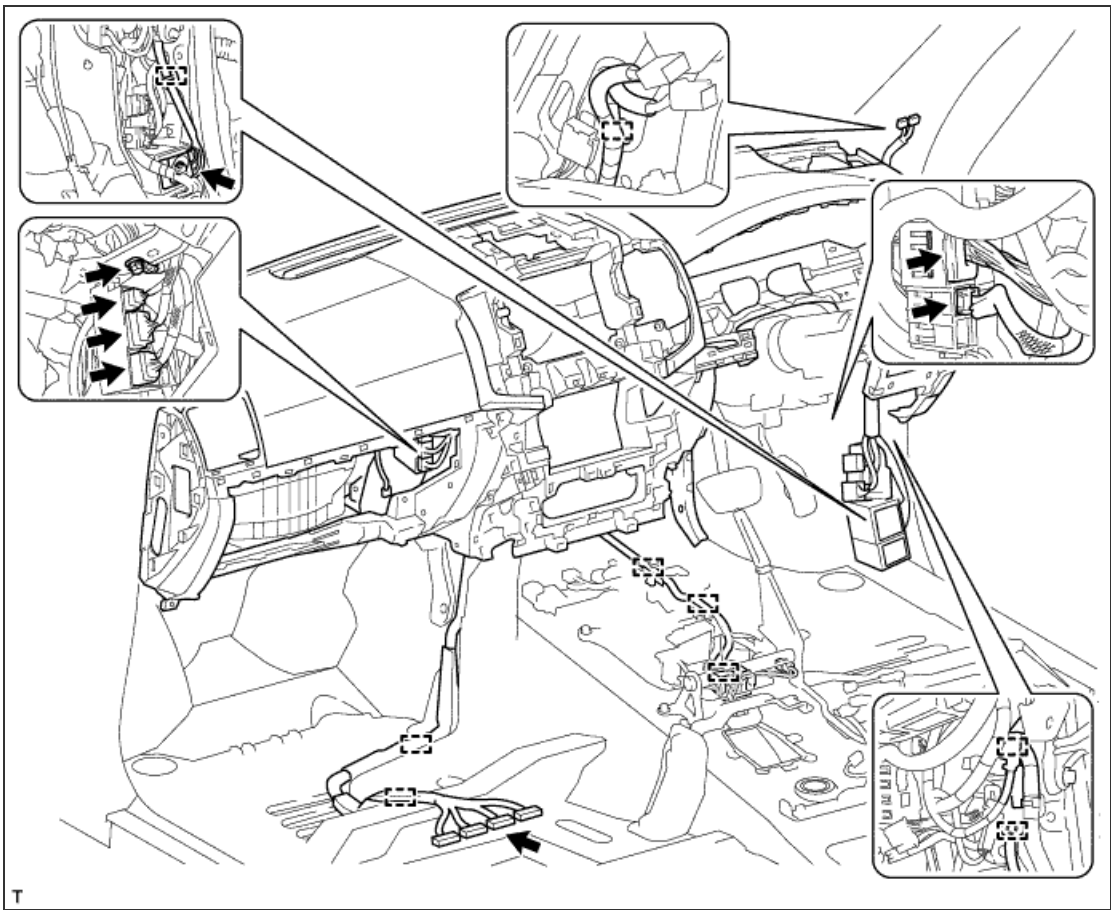
## 76. REMOVE INSTRUMENT PANEL SAFETY PAD ASSEMBLY (for RHD)

a. Disconnect the connectors.




b. Disconnect the connectors and detach the clamps.

c. Remove the bolt and disconnect the wire harness.

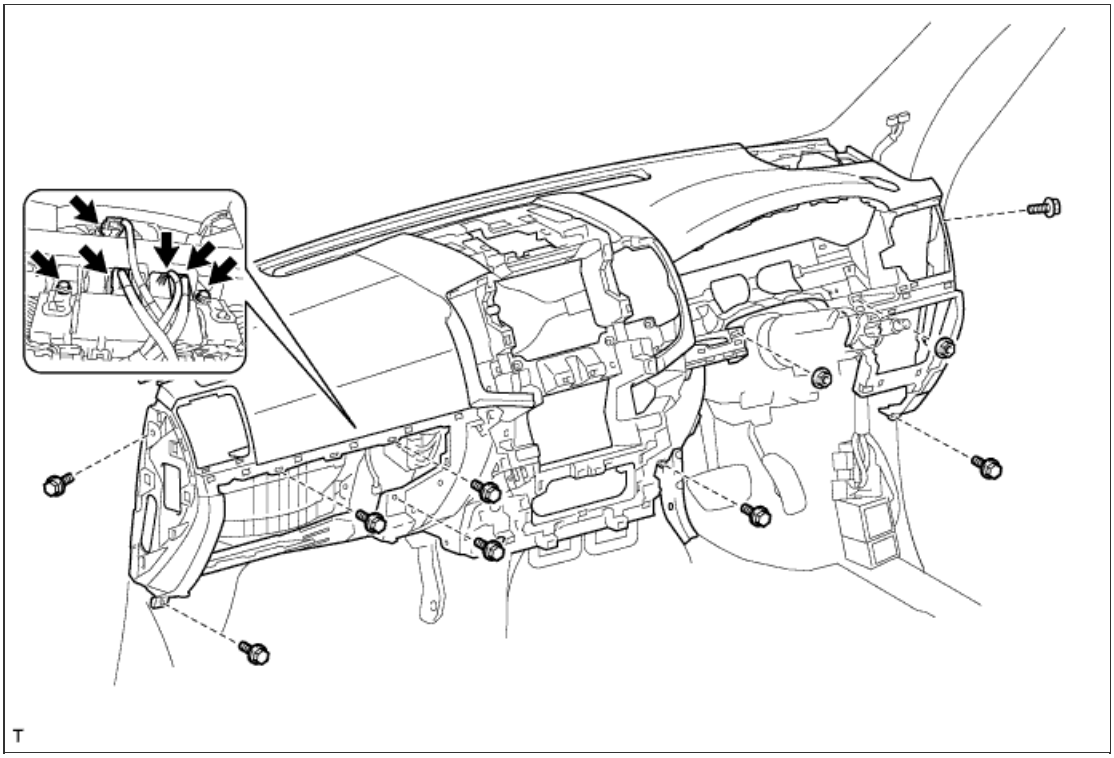


d. Remove the 2 passenger airbag bolts.

e. Disconnect the connectors.

f. Remove the 8 bolts.

g. Remove the 2 nuts and instrument panel safety pad.



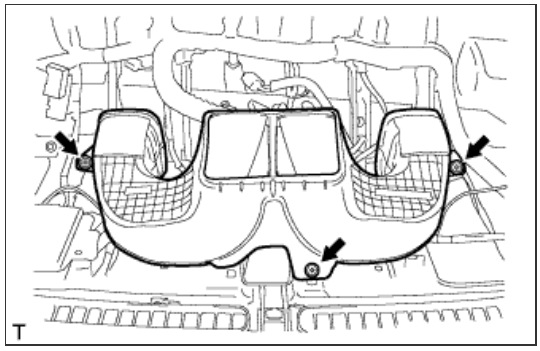
**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

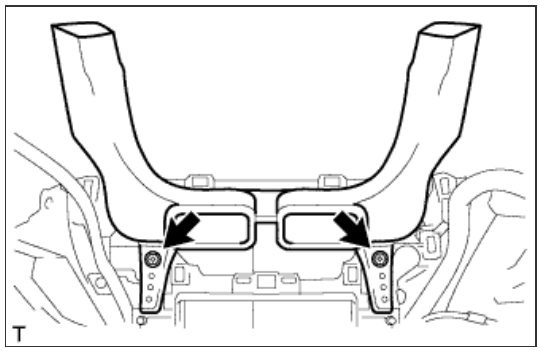
## 1. REMOVE CENTER HEATER TO REGISTER DUCT

a. Remove the 3 screws and center heater to register duct.




## 2. REMOVE REAR NO. 1 AIR DUCT (w/ Rear Air Duct)

a. Remove the 2 screws and rear No. 1 air duct.



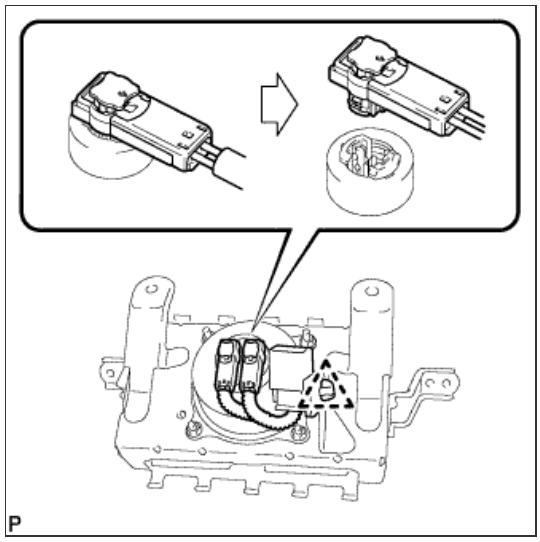

## 3. REMOVE FRONT PASSENGER AIRBAG ASSEMBLY

a. Detach the claw and remove the wire.

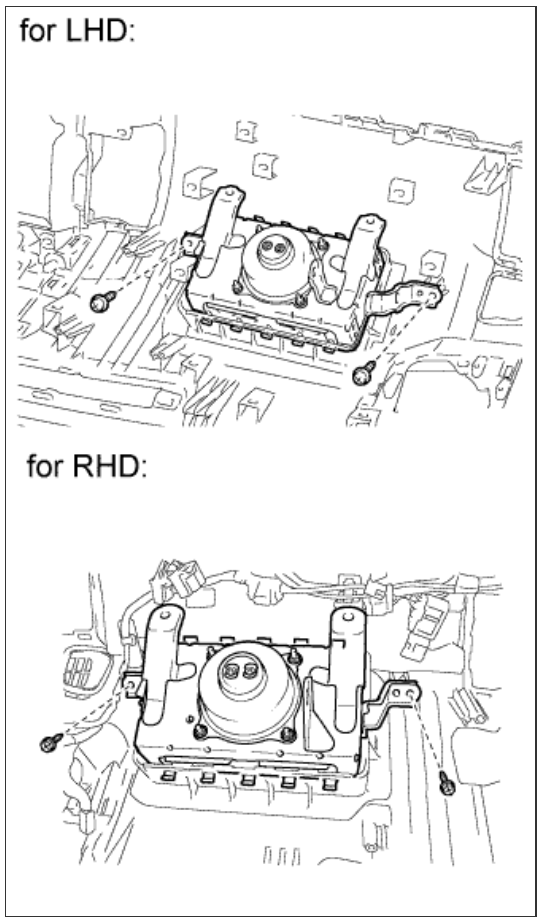
b. Disconnect the 2 connectors and remove the instrument panel wire from the front passenger airbag.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

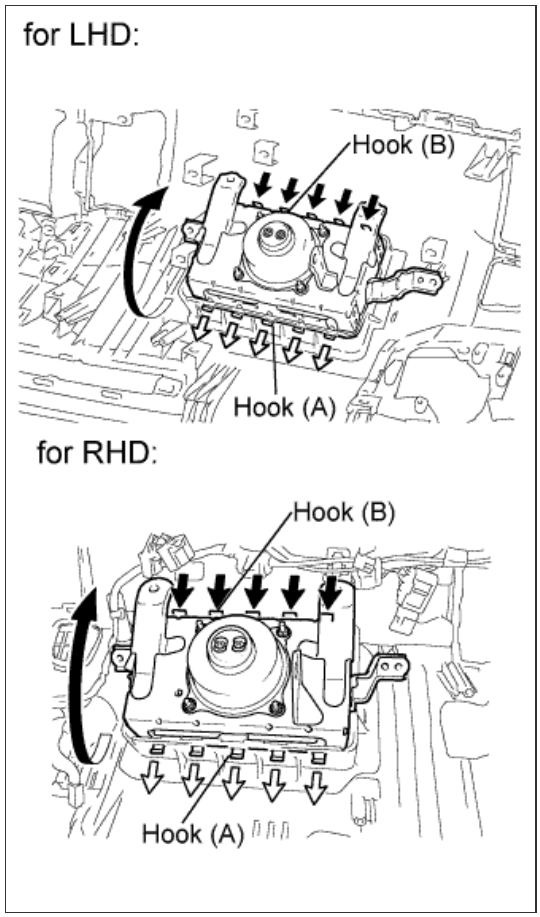



c. Remove the 2 screws.



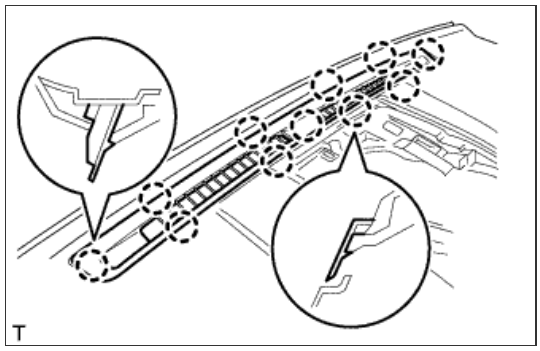

d. Detach the 5 hooks (A).

e. Detach the 5 hooks (B) and remove the front passenger airbag from the instrument panel.



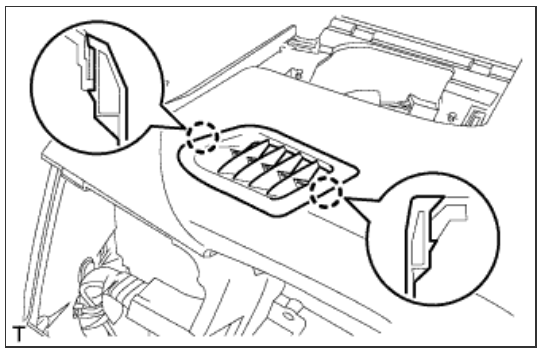

**4. REMOVE DEFROSTER NOZZLE ASSEMBLY**

a. Detach the 11 claws and remove the defroster nozzle.



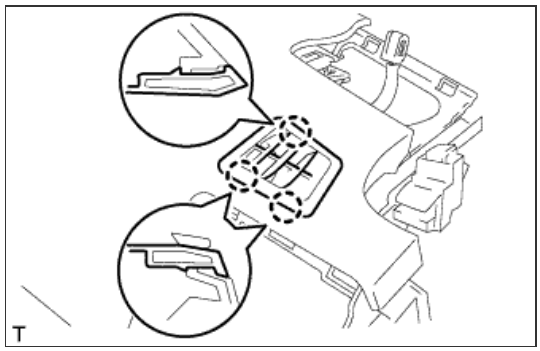

**5. REMOVE NO. 1 SIDE DEFROSTER NOZZLE**

a. Detach the 2 claws and remove the No. 1 side defroster nozzle.




**6. REMOVE NO. 2 SIDE DEFROSTER NOZZLE**

a. Detach the 3 claws and remove the No. 2 side defroster nozzle.

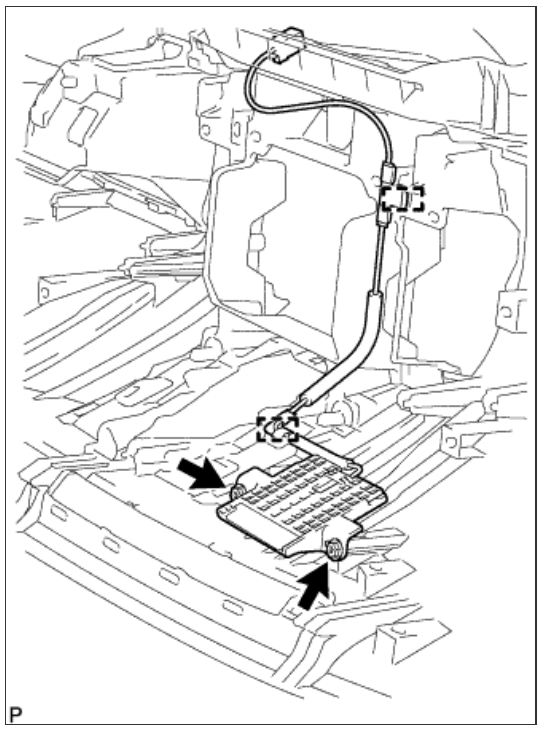



## 7. REMOVE NAVIGATION ANTENNA ASSEMBLY (w/ Multi-display)

a. for LHD:

i. Detach the 2 clamps.

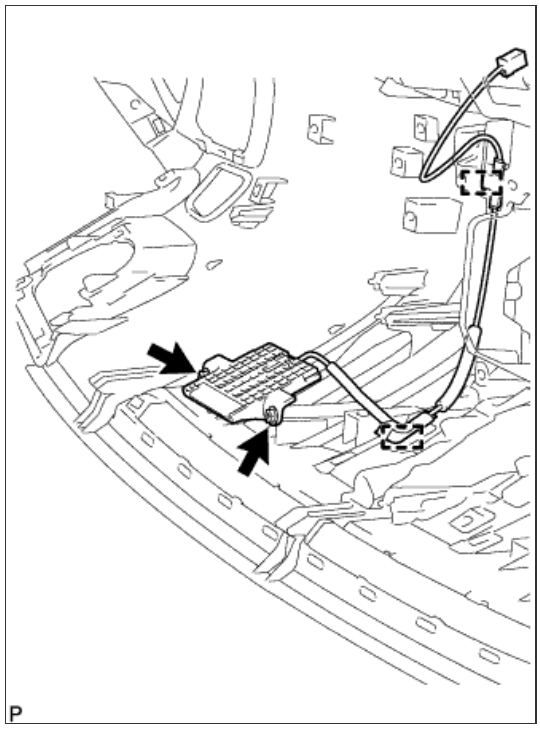
ii. Remove the 2 screws and navigation antenna assembly.




b. for RHD:

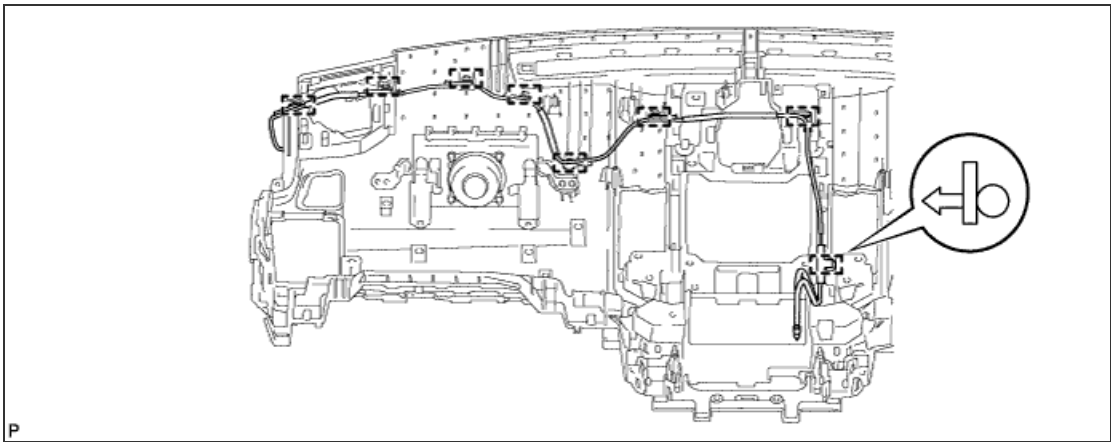
i. Detach the 2 clamps.

ii. Remove the 2 screws and navigation antenna assembly.

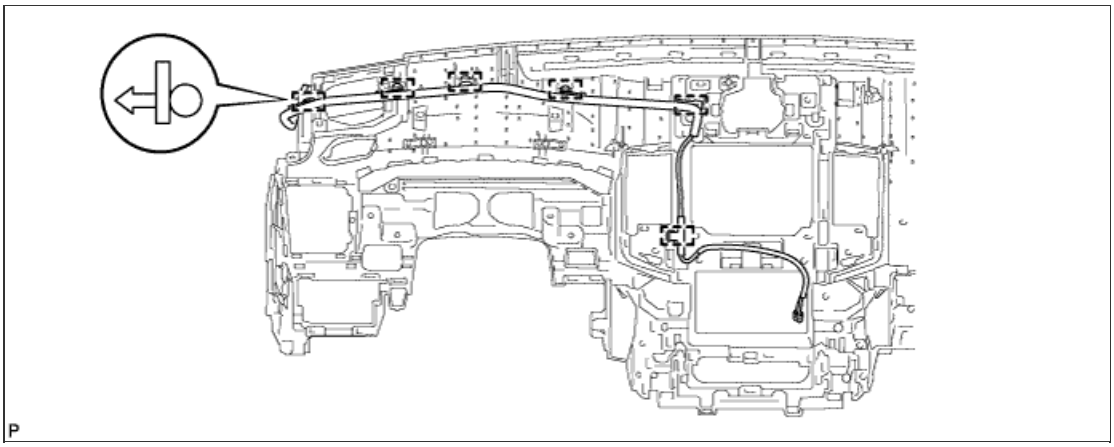



**8. REMOVE ANTENNA CORD SUB-ASSEMBLY (w/ Multi-display)**

**a.** for LHD:
Detach the 8 clamps and remove the antenna cord.

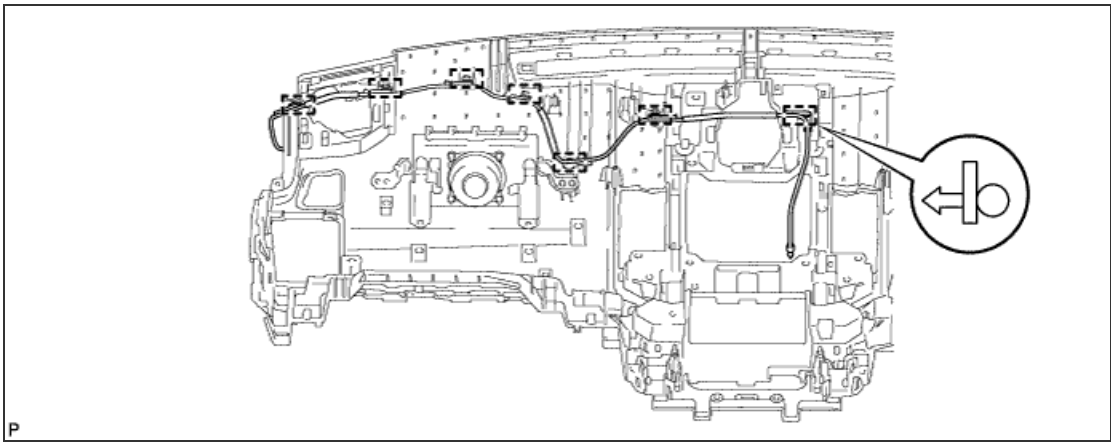



**b.** for RHD:
Detach the 6 clamps and remove the antenna cord.

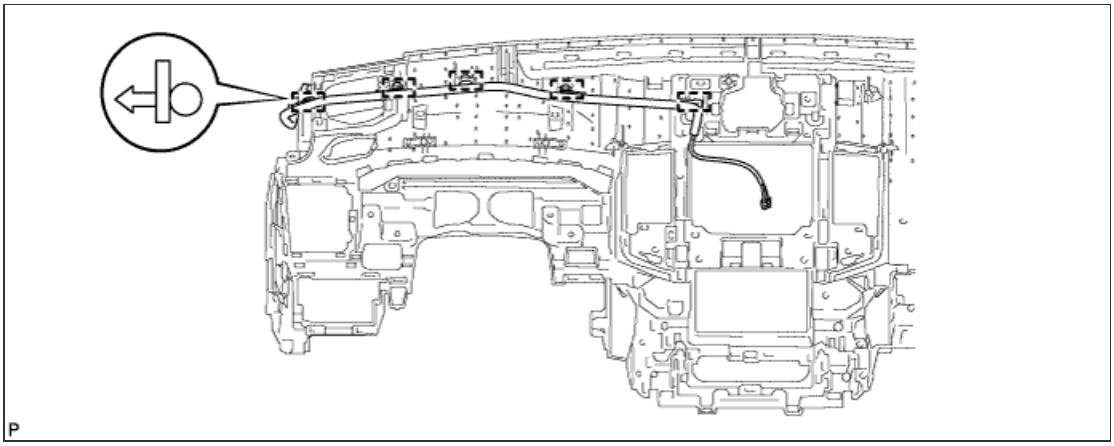



**9. REMOVE ANTENNA CORD SUB-ASSEMBLY (w/o Multi-display)**

**a.** for LHD:
Detach the 7 clamps and remove the antenna cord.

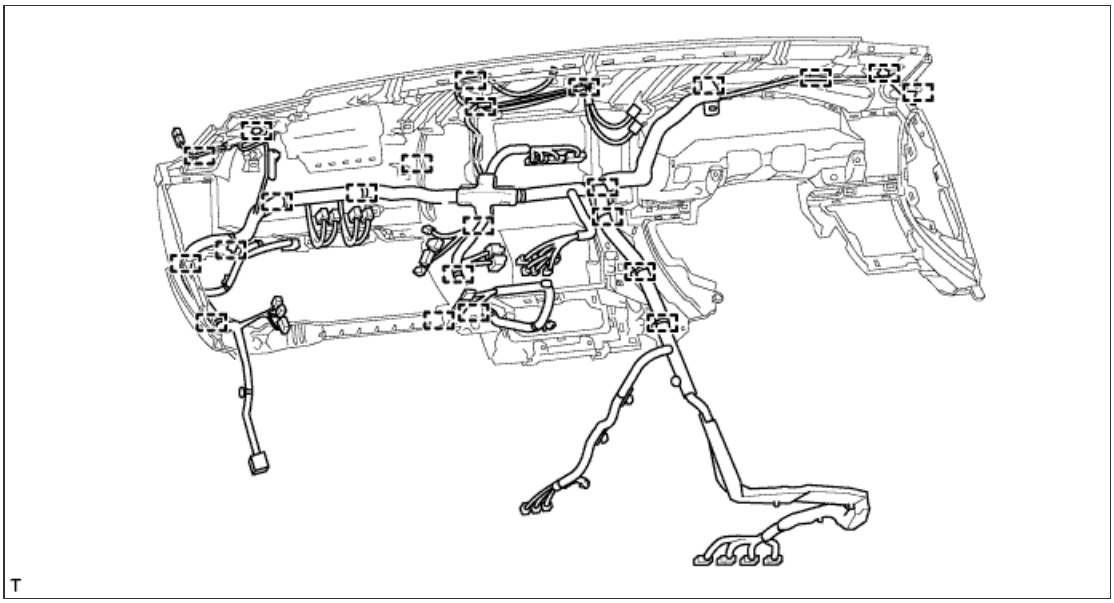



**b.** for RHD:
Detach the 5 clamps and remove the antenna cord.



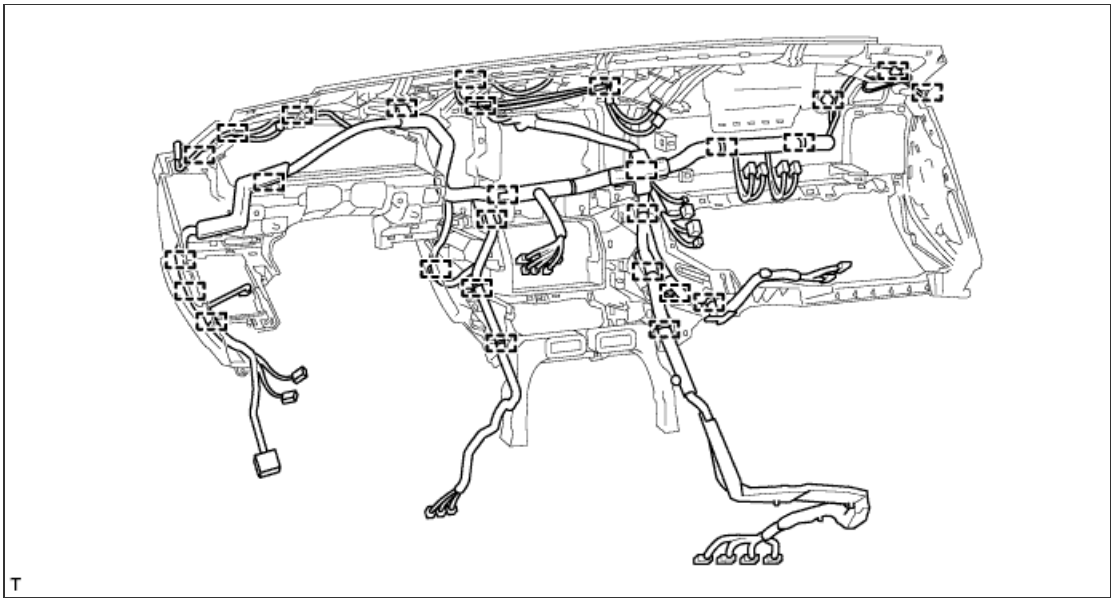

**10. REMOVE NO. 2 INSTRUMENT PANEL WIRE (for LHD)**

a. Detach the clamps and remove the No. 2 instrument panel wire from the instrument panel.




**11. REMOVE NO. 2 INSTRUMENT PANEL WIRE (for RHD)**

a. Detach the clamps and remove the No. 2 instrument panel wire from the instrument panel.



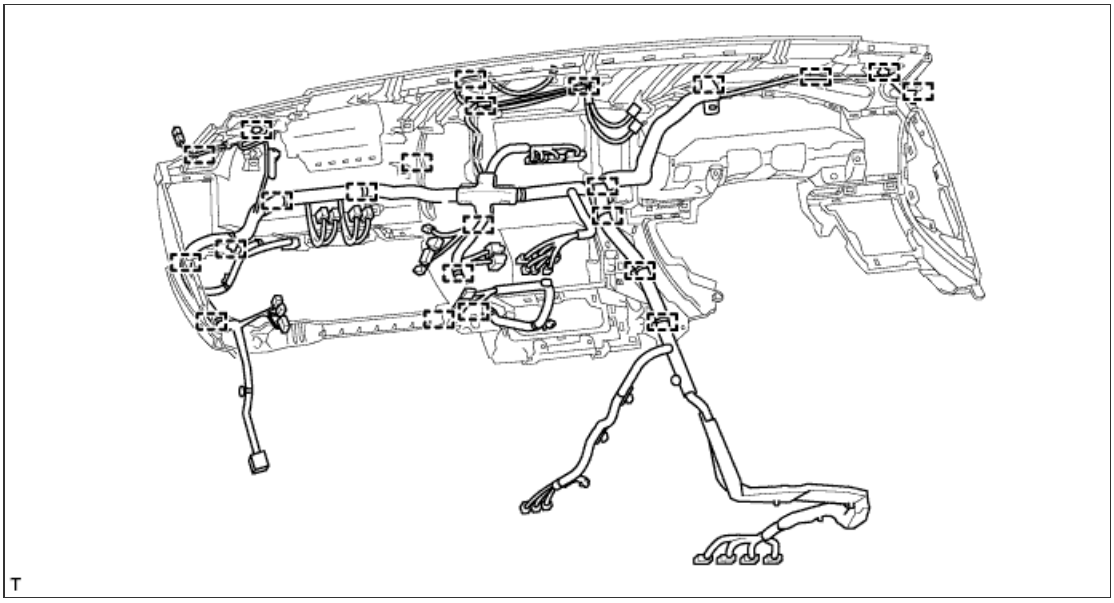
**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

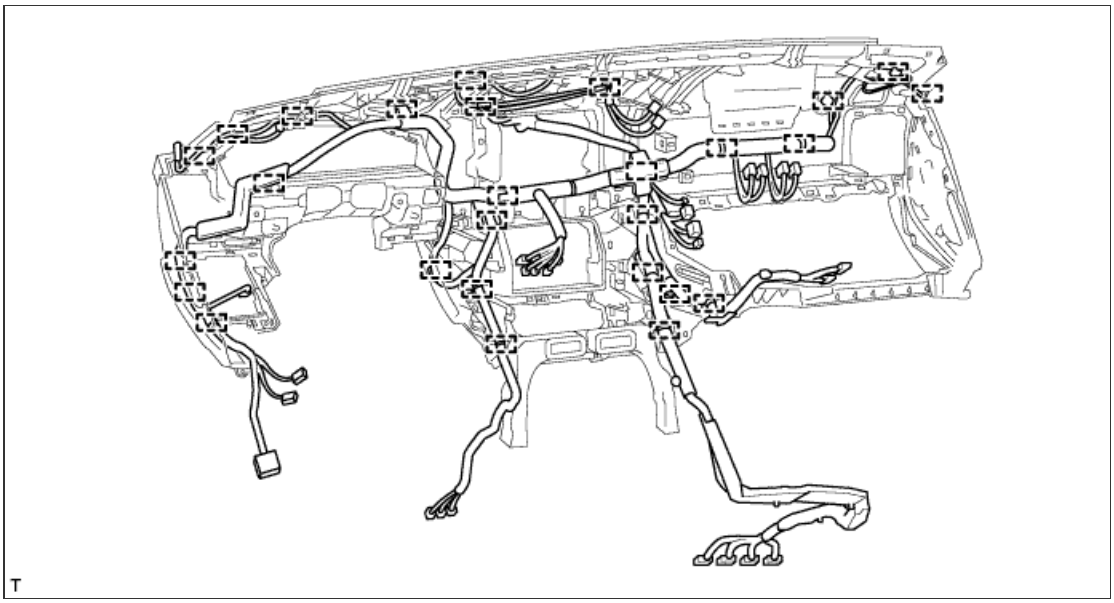
## 1. INSTALL NO. 2 INSTRUMENT PANEL WIRE (for LHD)

a. Attach the clamps to install the No. 2 instrument panel wire to the instrument panel.



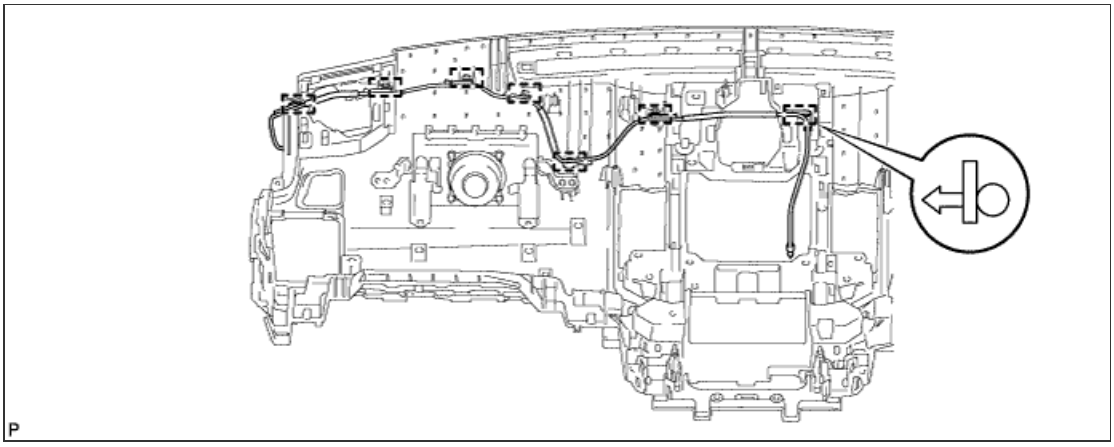

## 2. INSTALL NO. 2 INSTRUMENT PANEL WIRE (for RHD)

a. Attach the clamps to install the No. 2 instrument panel wire to the instrument panel.

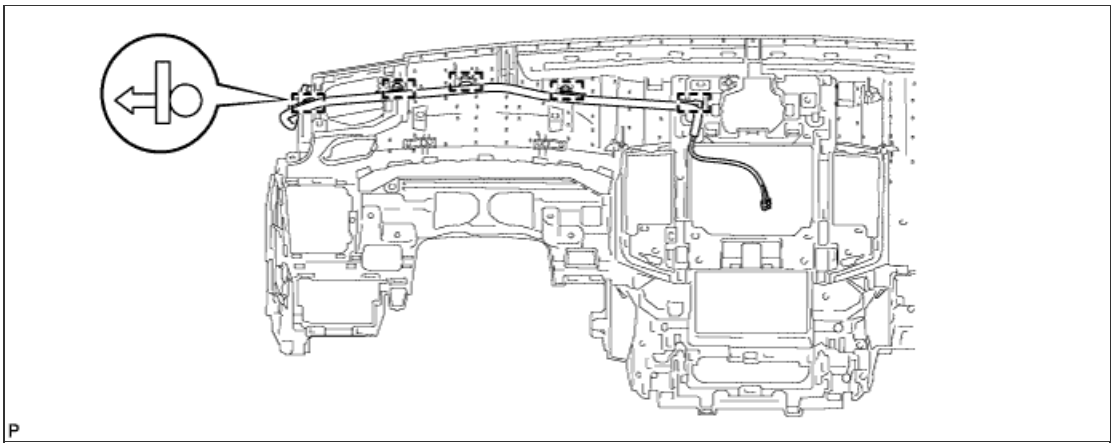



### 3. INSTALL ANTENNA CORD SUB-ASSEMBLY (w/o Multi-display)

a. for LHD:
Attach the 7 clamps to install the antenna cord.

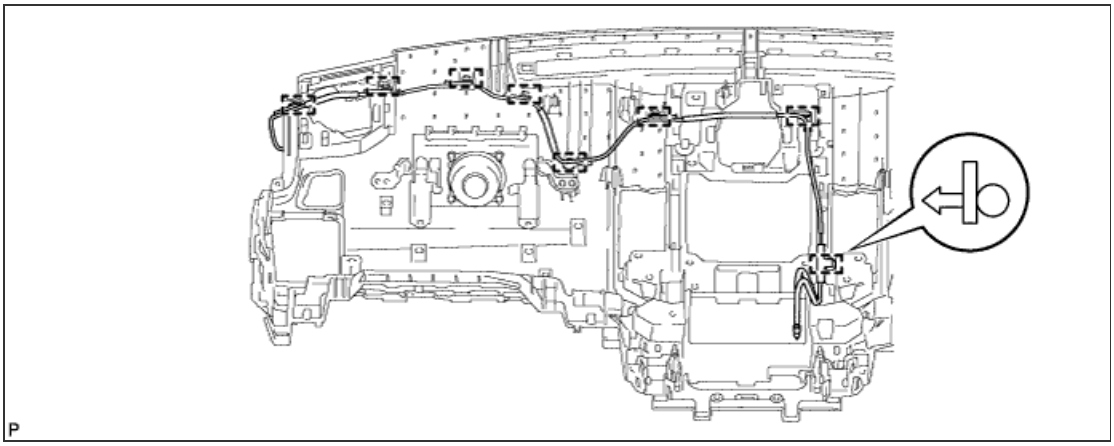



b. for RHD:
Attach the 5 clamps to install the antenna cord.

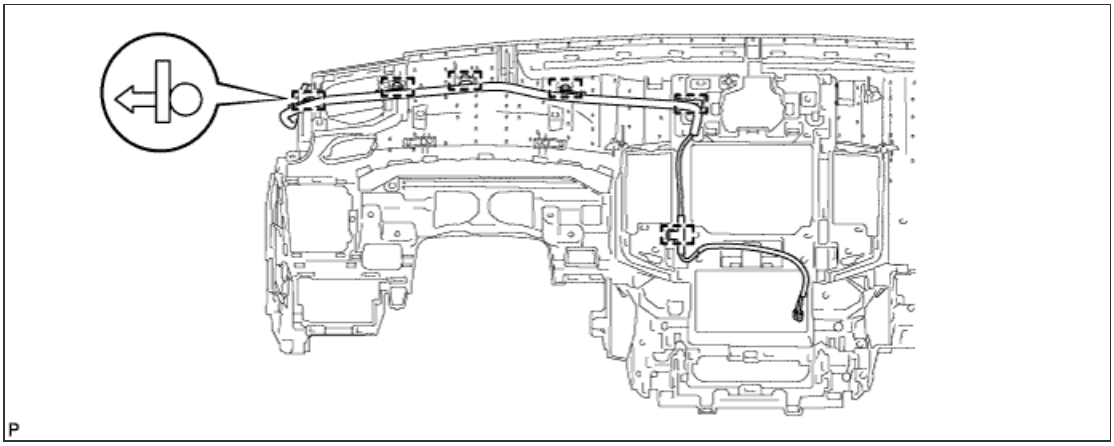



**4. INSTALL ANTENNA CORD SUB-ASSEMBLY (w/ Multi-display)**

**a.** for LHD:
Attach the 8 clamps to install the antenna cord.




**b.** for RHD:
Attach the 6 clamps to install the antenna cord.




**5. INSTALL NAVIGATION ANTENNA ASSEMBLY (w/ Multi-display)**

a. for LHD:

i. Install the navigation antenna assembly with the 2 screws.

ii. Attach the 2 clamps.

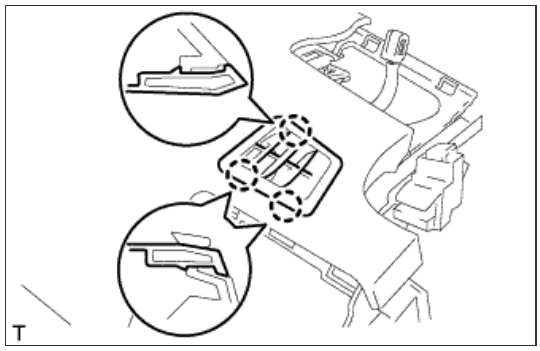
b. for RHD:

i. Install the navigation antenna assembly with the 2 screws.

ii. Attach the 2 clamps.

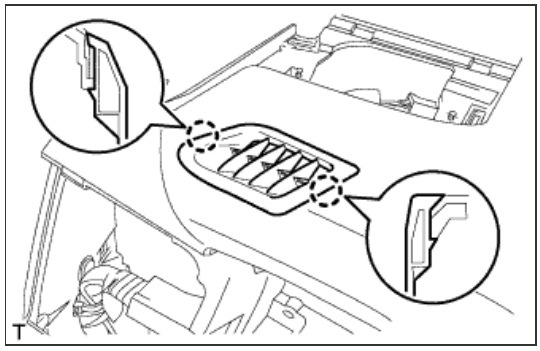
## 6. INSTALL NO. 2 SIDE DEFROSTER NOZZLE

a. Attach the 3 claws to install the No. 2 side defroster nozzle.



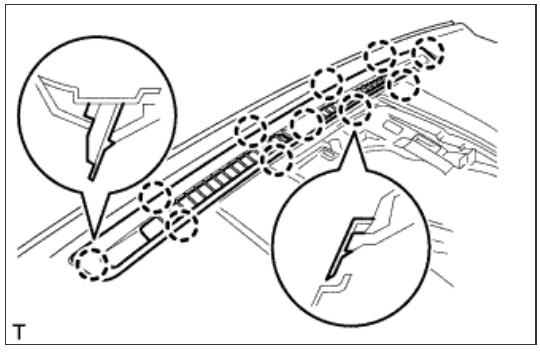

## 7. INSTALL NO. 1 SIDE DEFROSTER NOZZLE

a. Attach the 2 claws to install the No. 1 side defroster nozzle.




## 8. INSTALL DEFROSTER NOZZLE ASSEMBLY

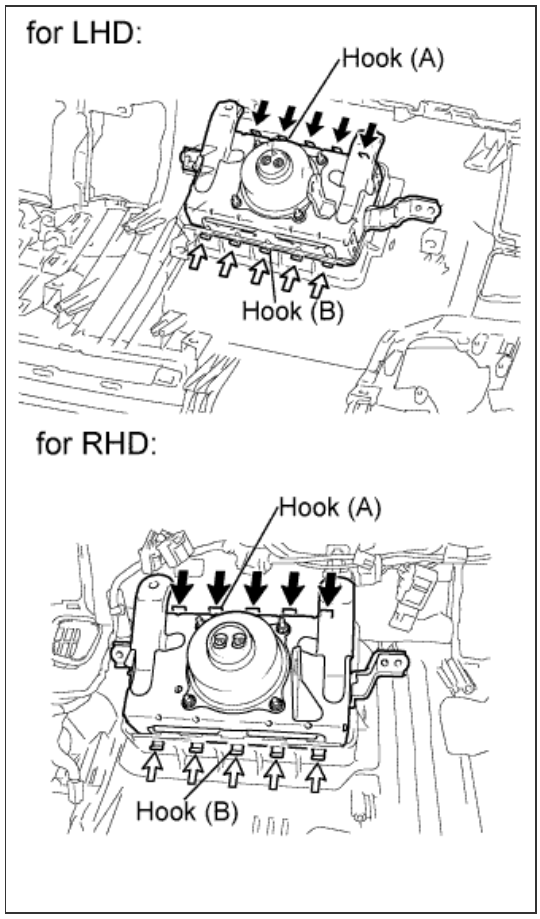
a. Attach the 11 claws to install the defroster nozzle.



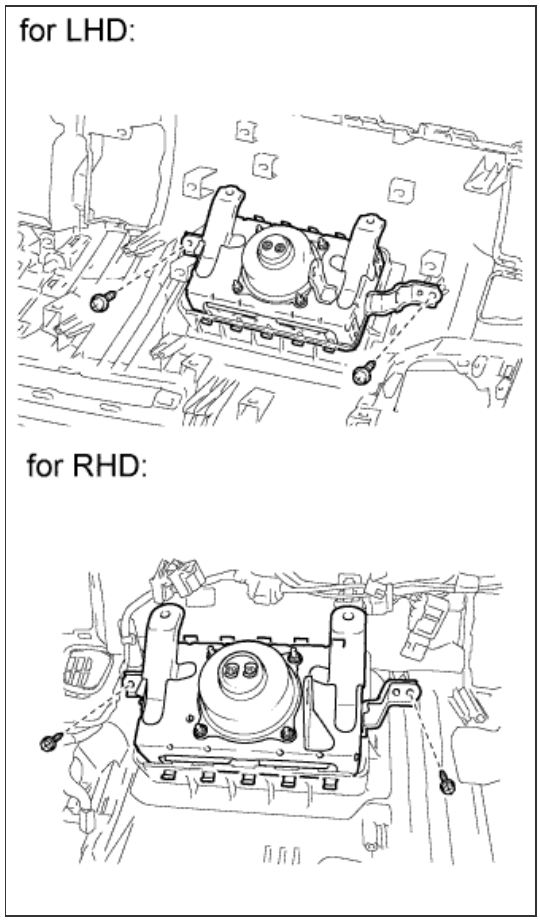

## 9. INSTALL FRONT PASSENGER AIRBAG ASSEMBLY

a. Attach the 5 hooks (A).

b. Attach the 5 hooks (B) to install the front passenger airbag on the instrument panel.




c. Install the 2 screws.

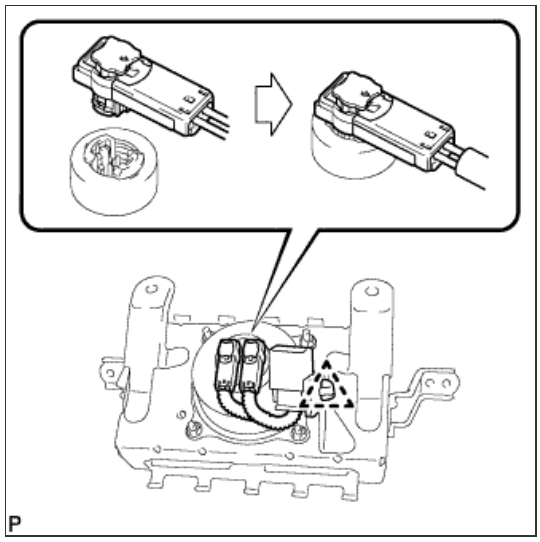



d. Connect the 2 connectors and install the instrument panel wire assembly to the front passenger airbag.

**NOTICE:**

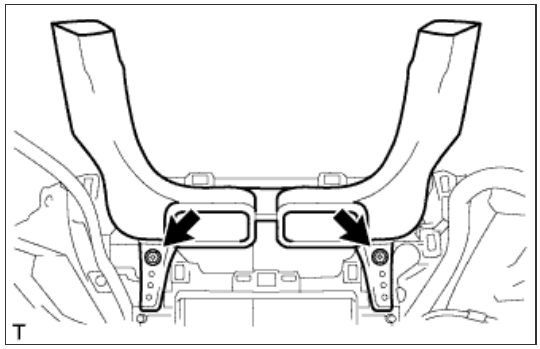
When handling the airbag connector, take care not to damage the airbag wire harness.

e. Attach the claw and install the wire.



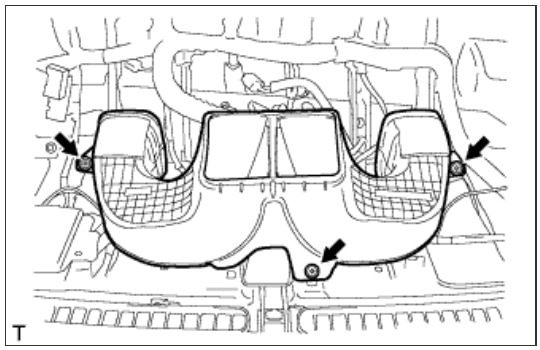

## 10. INSTALL REAR NO. 1 AIR DUCT (w/ Rear Air Duct)

a. Install the rear No. 1 air duct with the 2 screws.




## 11. INSTALL CENTER HEATER TO REGISTER DUCT

a. Install the center heater to register duct with the 3 screws.



**for Preparation** Click here

**HINT:**

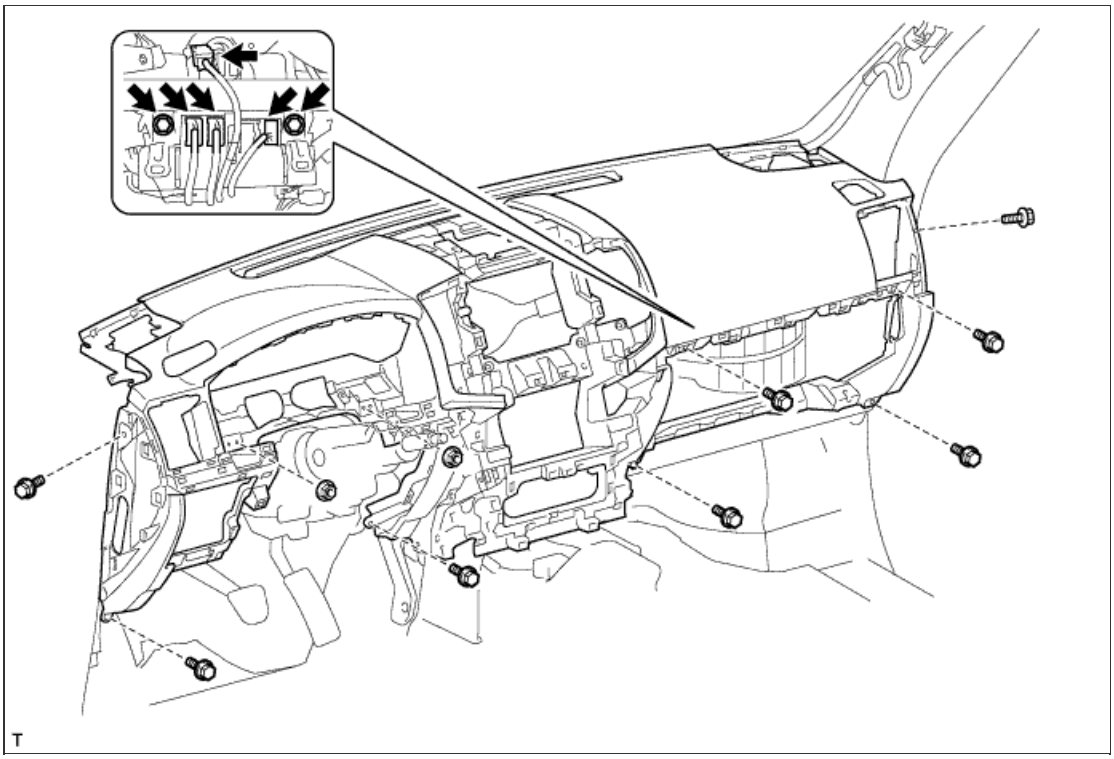
- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

## 1. INSTALL INSTRUMENT PANEL SAFETY PAD ASSEMBLY (for LHD)

a. Install the instrument panel safety pad with the 8 bolts and 2 nuts.

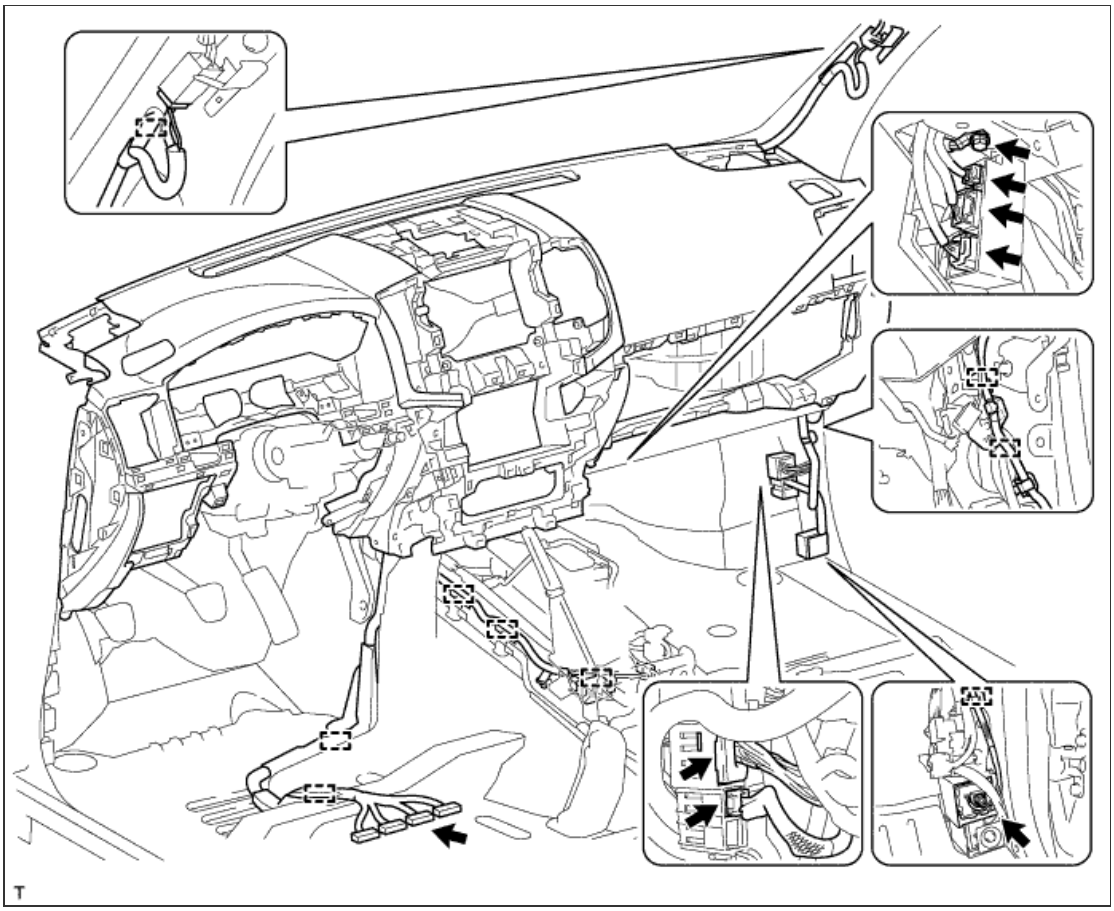
b. Install the 2 passenger airbag bolts.

**Torque:**
**20 N*m{ 204 kgf*cm , 15 ft.*lbf }**

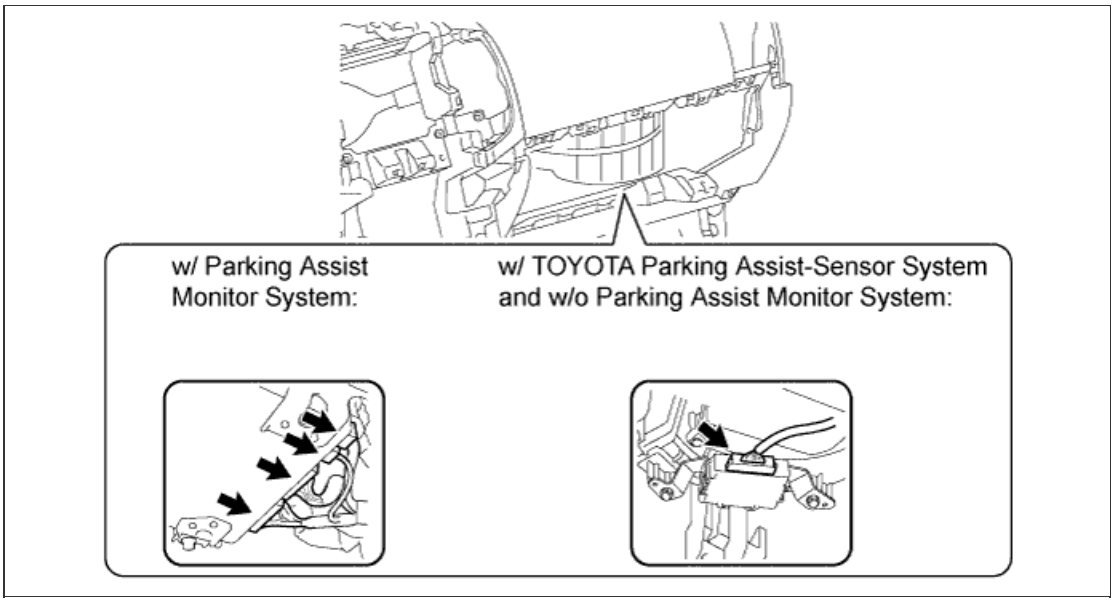



c. Connect the wire harness with the bolt.

d. Connect the connectors and attach the clamps.




e. Connect the connectors.



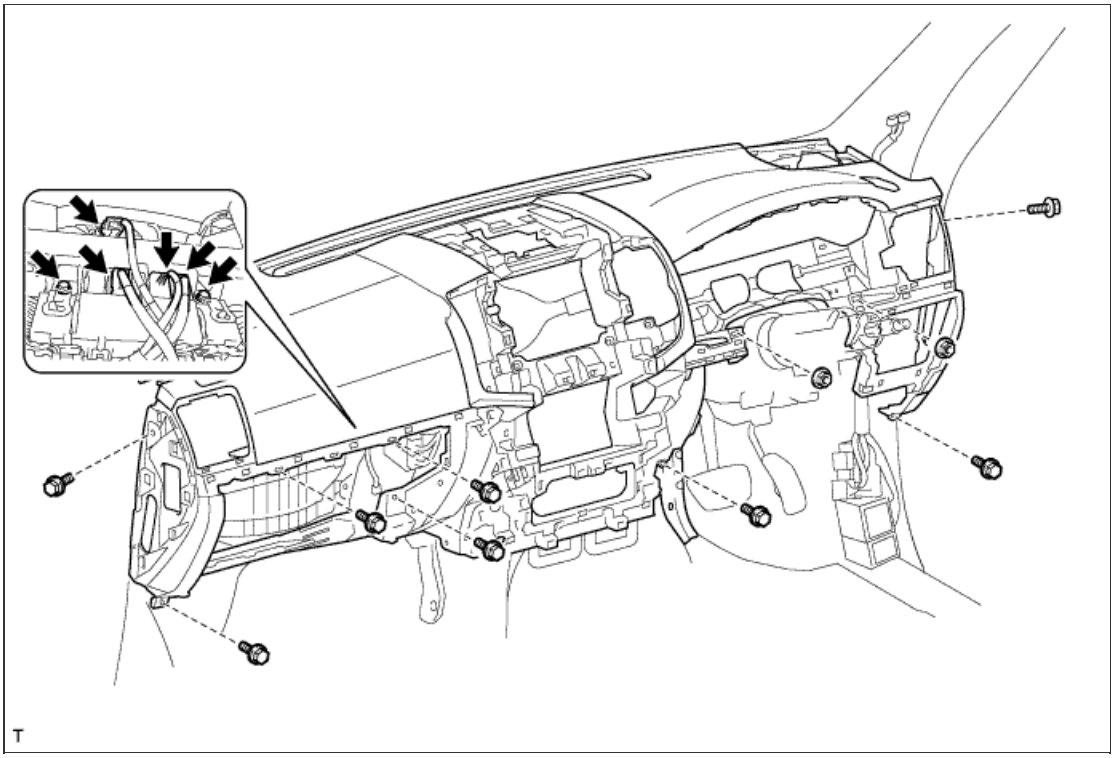

## 2. INSTALL INSTRUMENT PANEL SAFETY PAD ASSEMBLY (for RHD)

a. Install the instrument panel safety pad with the 8 bolts and 2 nuts.

b. Connect the connectors.

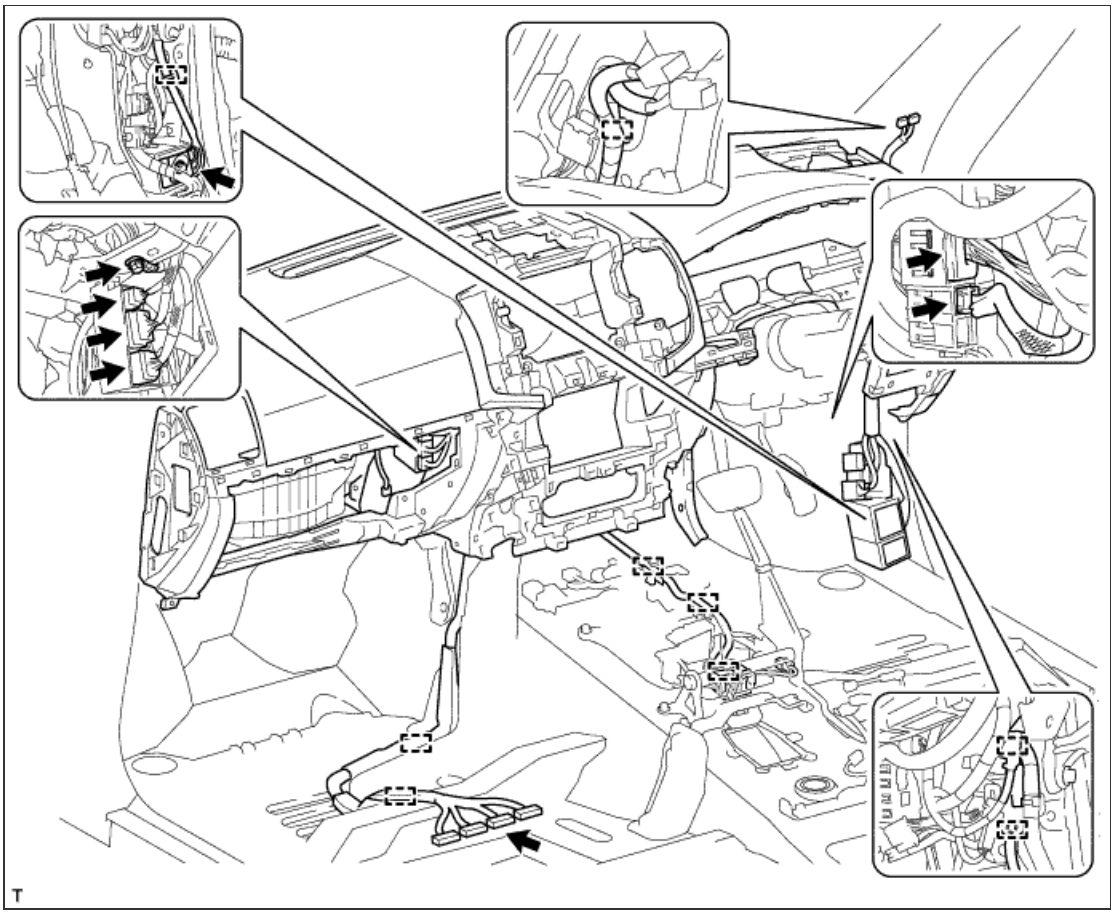
c. Install the 2 passenger airbag bolts.

**Torque:**
**20 N*m{ 204 kgf*cm , 15 ft.*lbf }**

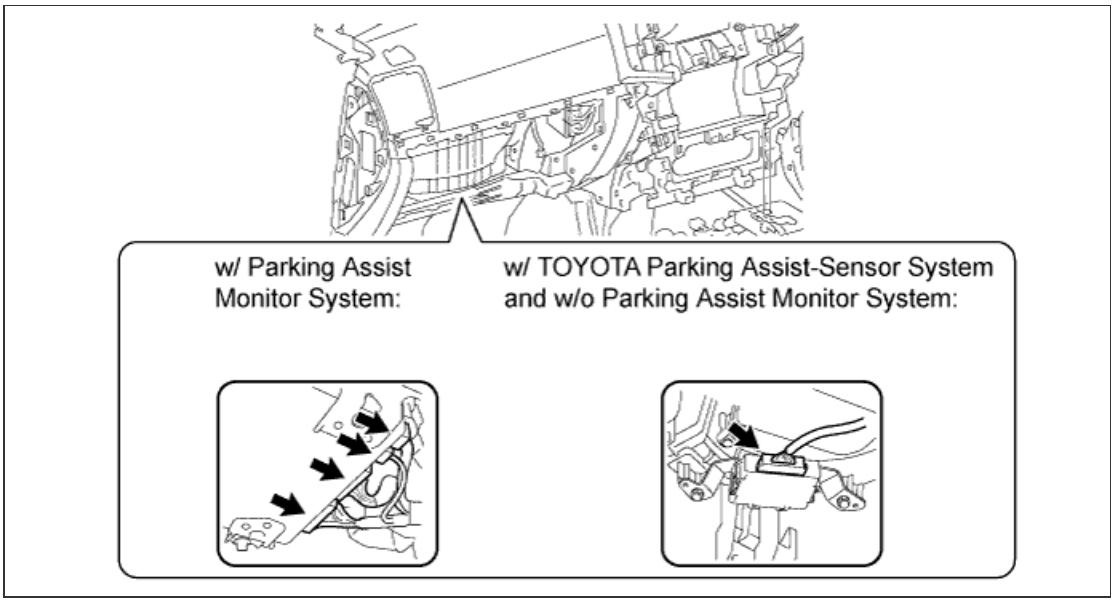



d. Connect the wire harness with the bolt.

e. Connect the connectors and attach the clamps.

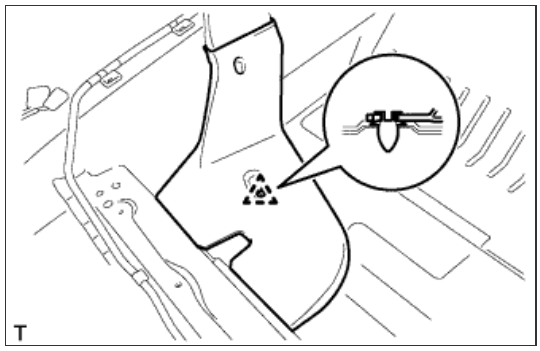



f. Connect the connectors.



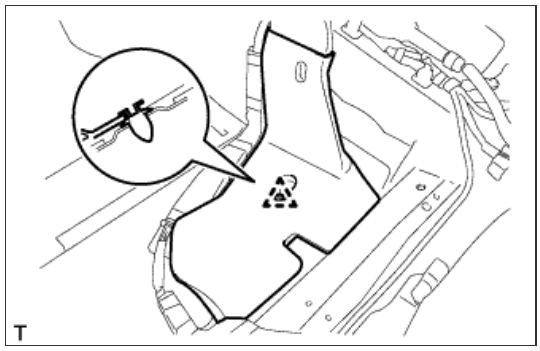

### 3. INSTALL REAR NO. 4 AIR DUCT (w/ Rear Air Duct)

a. Attach the clip to install the rear No. 4 air duct.




### 4. INSTALL REAR NO. 2 AIR DUCT (w/ Rear Air Duct)

a. Attach the clip to install the rear No. 2 air duct.



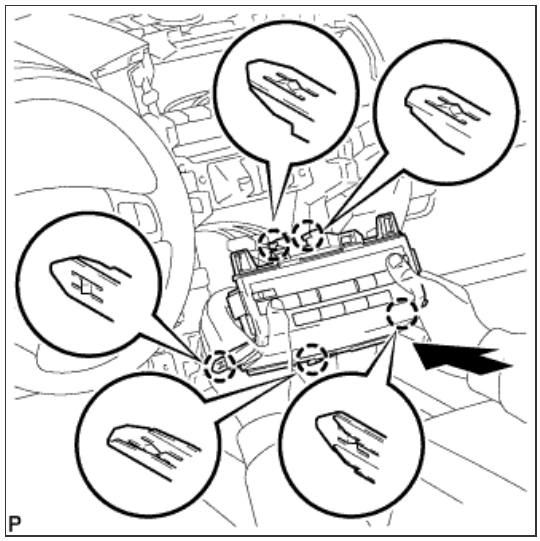

### 5. INSTALL AIR CONDITIONING CONTROL ASSEMBLY

a. Connect the connectors.

b. Insert the radio receiver and attach the 5 claws on its backside.

**NOTICE:**

When inserting the radio receiver, do not press the knobs on it.



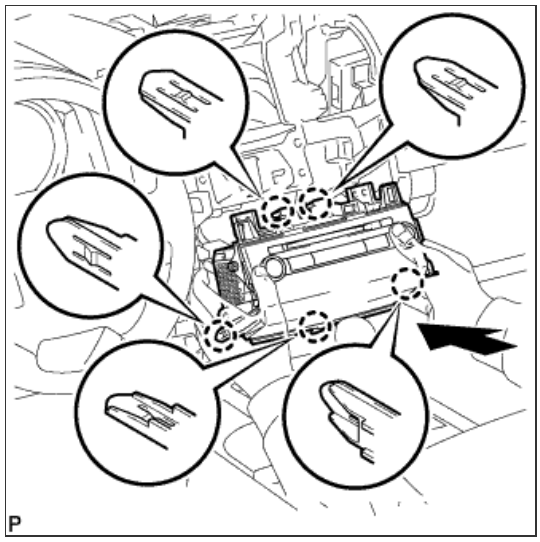

### 6. INSTALL MULTI-MEDIA MODULE RECEIVER ASSEMBLY WITH BRACKET (w/ Multi-display)

a. Connect the connectors.

b. Insert the multi-media module receiver assembly to attach the 5 claws on its backside.

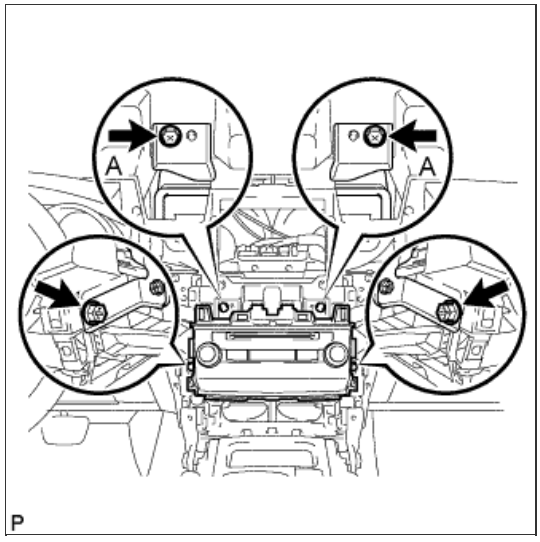
**NOTICE:**

When inserting the multi-media module receiver assembly, do not press the knobs on it.




c. Install the multi-media module receiver assembly with the 2 screws and 2 bolts.

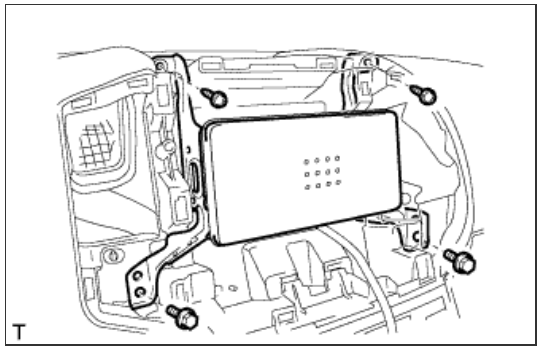
**Torque:**
**Bolt A:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




## 7. INSTALL RADIO TUNER OPENING COVER WITH BRACKET (w/o Radio Receiver)

a. Install the radio tuner opening cover with the 2 bolts and 2 screws.

**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**

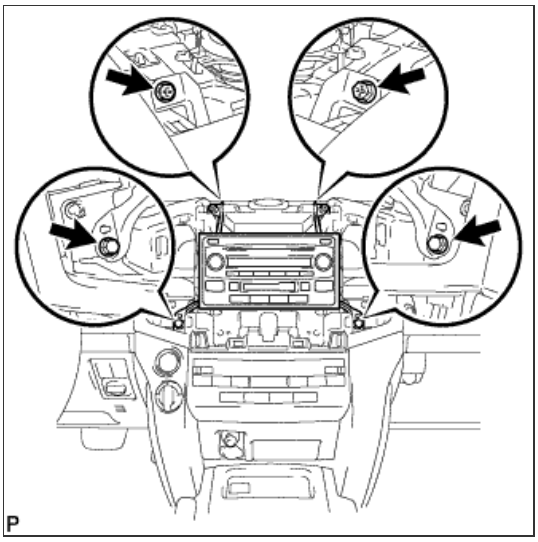



## 8. INSTALL RADIO RECEIVER ASSEMBLY WITH BRACKET (w/ Cassette Tape Player)

a. Connect the connectors.

b. Install the radio receiver with the 2 screws and 2 bolts.

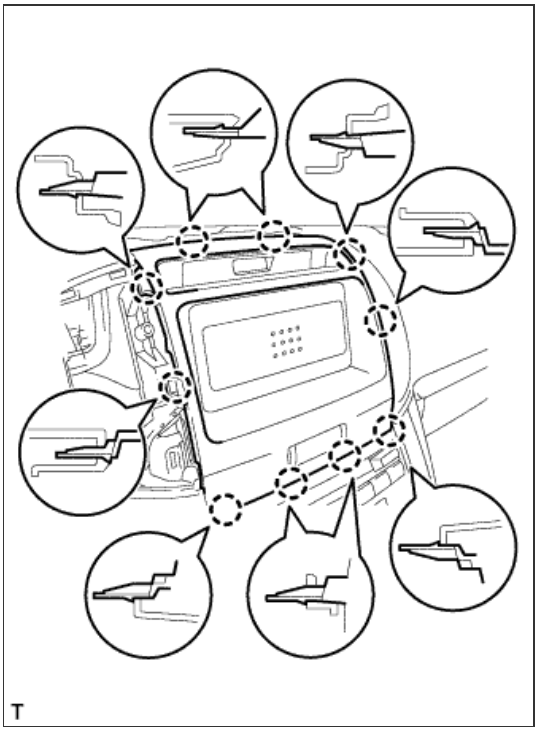
**Torque:**
**Bolt:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




### 9. INSTALL NO. 1 CENTER INSTRUMENT CLUSTER FINISH PANEL

a. Connect the connector.

b. Attach the 10 claws to install the No. 1 center instrument cluster finish panel.



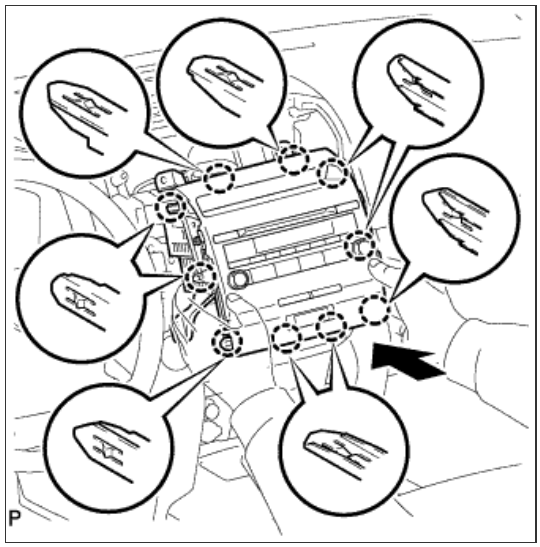

### 10. INSTALL RADIO RECEIVER ASSEMBLY WITH BRACKET (w/o Multi-display)

a. Connect the connectors.

b. Insert the radio receiver to attach the 10 claws on its backside.

**NOTICE:**

When inserting the radio receiver, do not press the knobs on it.




c. Install the radio receiver with the 2 screws and 2 bolts.

**Torque:**
**Bolt:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**



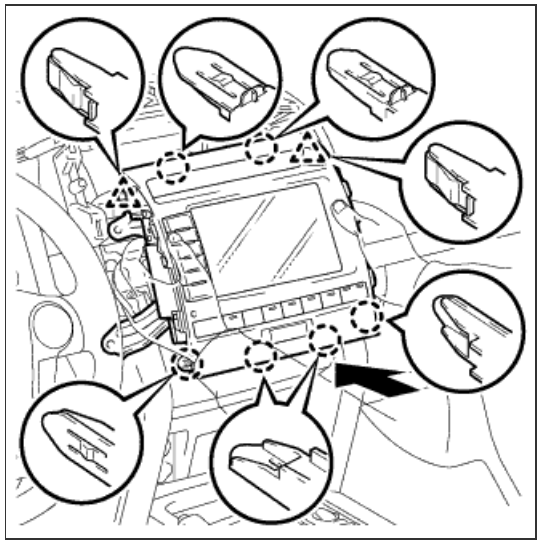

## 11. INSTALL MULTI-DISPLAY ASSEMBLY WITH BRACKET (w/ Multi-display)

a. Connect the connectors.

b. Insert the multi-display assembly and attach the 2 clips and 6 claws on its backside.

**NOTICE:**

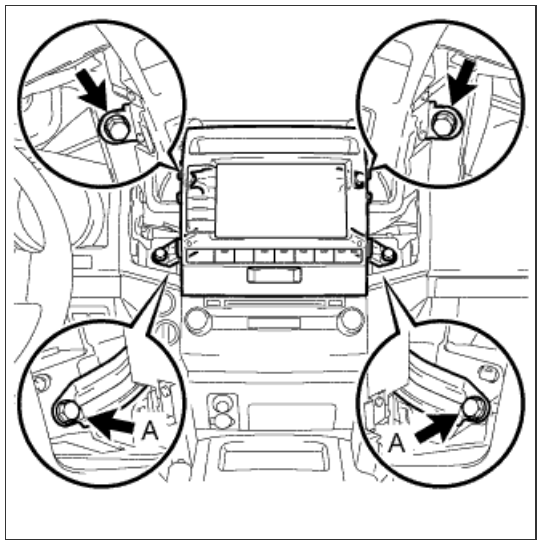
When inserting the multi-display assembly, do not press the knobs on it.



c. Install the multi-display assembly with the 2 screws and 2 bolts.

**Torque:**
**Bolt A:**

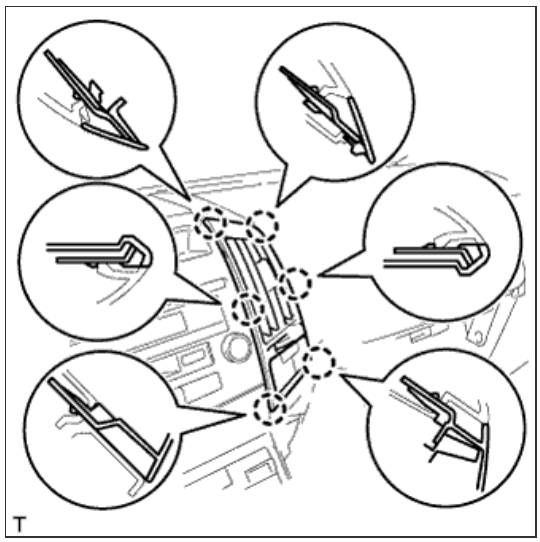
12 N*m{ 122 kgf*cm , 9 ft.*lbf }




## 12. INSTALL NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY

a. Connect the connector.

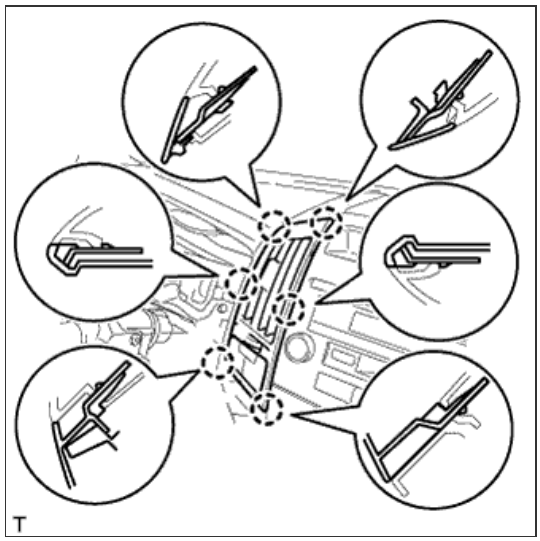
b. Attach the 6 claws to install the No. 4 instrument panel register.




## 13. INSTALL NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY

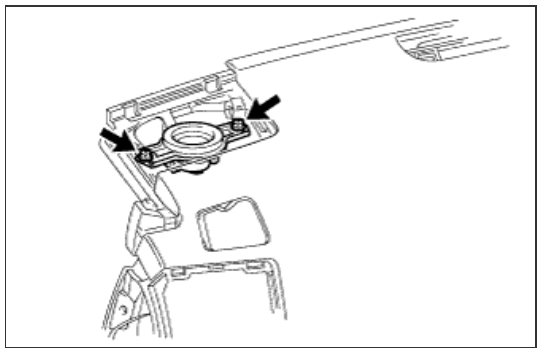
a. Connect the connector.

b. Attach the 6 claws to install the No. 3 instrument panel register.




## 14. INSTALL FRONT NO. 2 SPEAKER ASSEMBLY (RH Side)

a. for 9 Speakers Models:



i. Connect the connector.

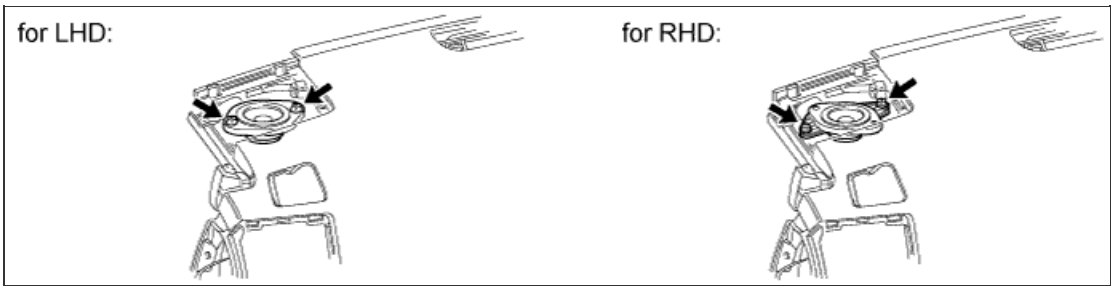
ii. Temporarily install the speaker by aligning the positioning pins of the speaker with the instrument panel.

iii. Install the speaker with the 2 bolts.

**NOTICE:**

- **Do not touch the cone part of the speaker.**
- **When installing the speaker to the instrument panel be careful that the wires do not get caught between the parts.**

b. except 9 Speakers Models:




i. Connect the connector.

ii. Temporarily install the speaker by aligning the positioning pins of the speaker with the instrument panel.

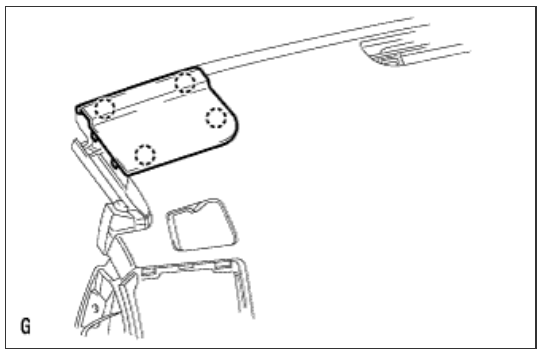
iii. Install the speaker with the 2 bolts.

**NOTICE:**

- **Do not touch the cone part of the speaker.**
- **When installing the speaker to the instrument panel be careful that the wires do not get caught between the parts.**

## 15. INSTALL NO. 2 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY

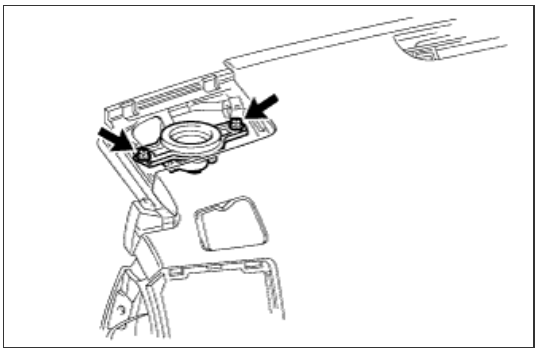
a. Attach the 4 claws to install the panel.




## 16. INSTALL FRONT NO. 2 SPEAKER ASSEMBLY (LH Side)

a. for 9 Speakers Models:

a. for 9 Speakers Models:



i. Connect the connector.

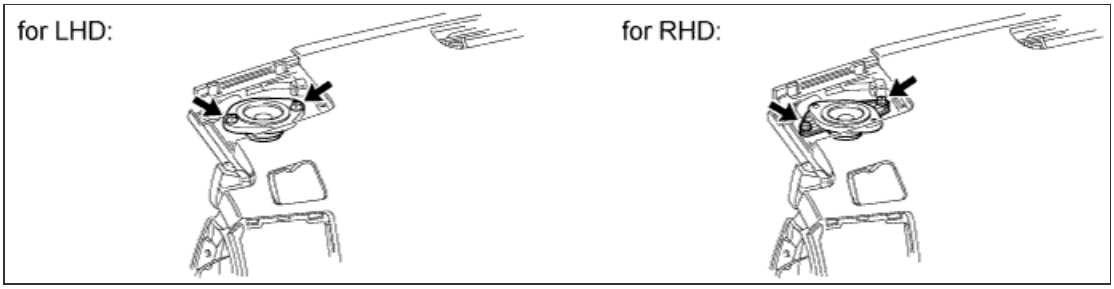
ii. Temporarily install the speaker by aligning the positioning pins of the speaker with the instrument panel.

iii. Install the speaker with the 2 bolts.

**NOTICE:**

- **Do not touch the cone part of the speaker.**
- **When installing the speaker to the instrument panel be careful that the wires do not get caught between the parts.**

b. except 9 Speakers Models:




i. Connect the connector.

ii. Temporarily install the speaker by aligning the positioning pins of the speaker with the instrument panel.

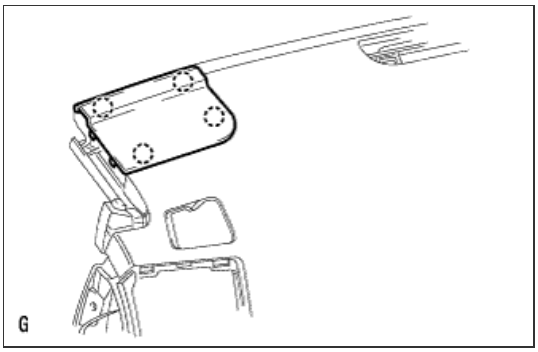
iii. Install the speaker with the 2 bolts.

**NOTICE:**

- **Do not touch the cone part of the speaker.**
- **When installing the speaker to the instrument panel be careful that the wires do not get caught between the parts.**

## 17. INSTALL NO. 1 INSTRUMENT PANEL SPEAKER PANEL SUB-ASSEMBLY

a. Attach the 4 claws to install the panel.




## 18. INSTALL FRONT NO. 4 SPEAKER ASSEMBLY

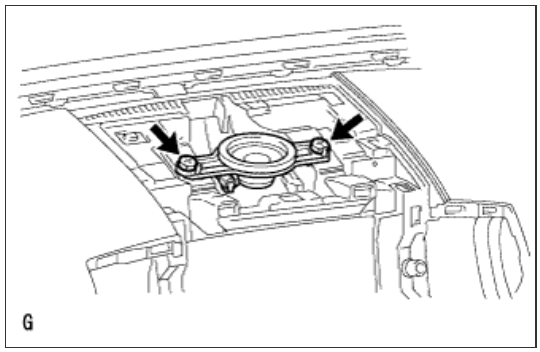
a. Connect the speaker connector.

b. Temporarily install the speaker by aligning the positioning pins of the speaker with the instrument panel.

c. Install the speaker with the 2 bolts.

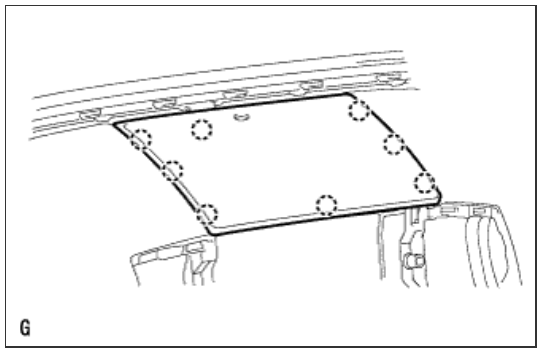
**NOTICE:**

- **Do not touch the cone part of the speaker.**
- **When installing the speaker to the instrument panel be careful that the wires do not get caught between the parts.**




## 19. INSTALL NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Attach the 8 claws to install the opening cover.




## 20. INSTALL FRONT PILLAR GARNISH RH (w/ Sliding Roof)

**HINT:**

Use the same procedures described for the LH side.

## 21. INSTALL FRONT PILLAR GARNISH RH (w/o Sliding Roof)

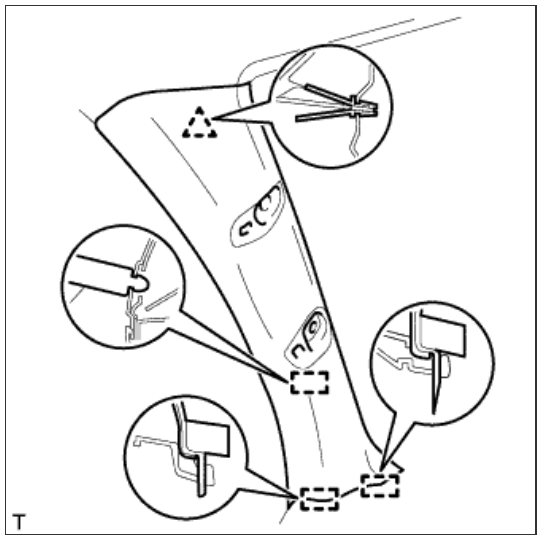
**HINT:**

Use the same procedures described for the LH side.

## 22. INSTALL FRONT PILLAR GARNISH LH (w/ Sliding Roof)

a. for 9, 14 Speakers:
Connect the speaker connector.

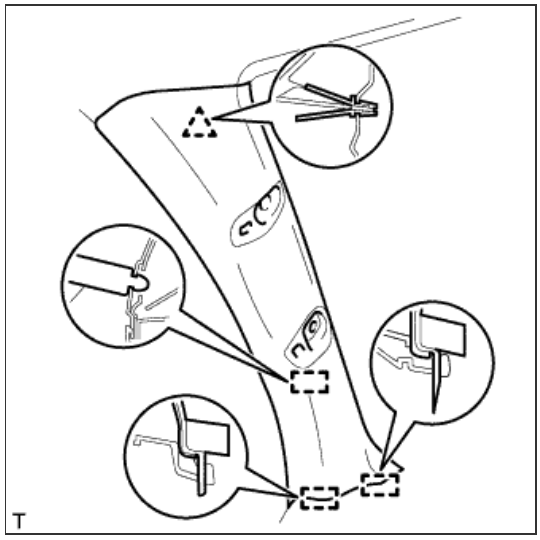
b. Attach the clip and 3 guides to install the front pillar garnish.



## 23. INSTALL FRONT PILLAR GARNISH LH (w/o Sliding Roof)

a. for 9, 14 Speakers:
Connect the speaker connector.

b. Attach the clip and 3 guides to install the front pillar garnish.



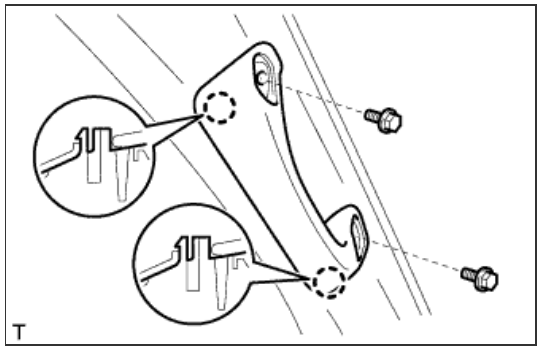

## 24. INSTALL FRONT ASSIST GRIP SUB-ASSEMBLY (w/ Sliding Roof)

**HINT:**

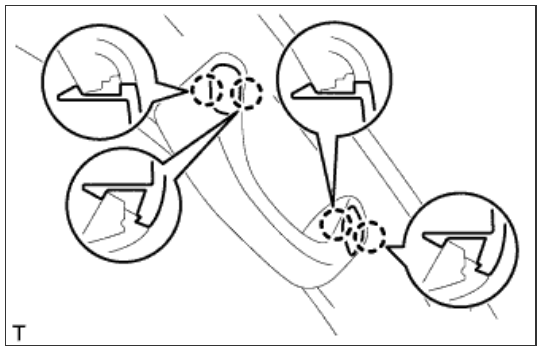
Use the same procedure to install the front assist grip on the other side.

a. Attach the 2 claws to install the front assist grip.

b. Install the 2 bolts.




c. Attach the 4 claws to install the 2 assist grip plugs.



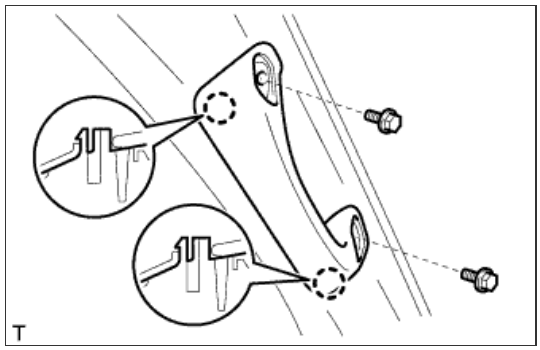

## 25. INSTALL FRONT ASSIST GRIP SUB-ASSEMBLY (w/o Sliding Roof)

**HINT:**

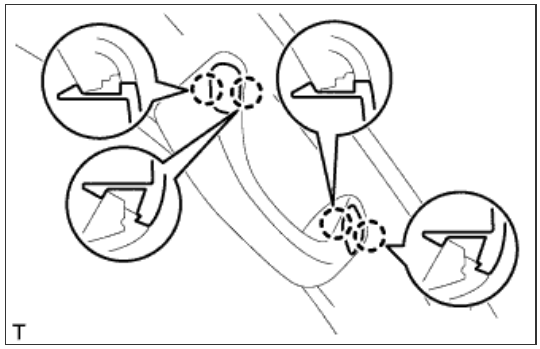
Use the same procedure to install the front assist grip on the other side.

a. Attach the 2 claws to install the front assist grip.

b. Install the 2 bolts.

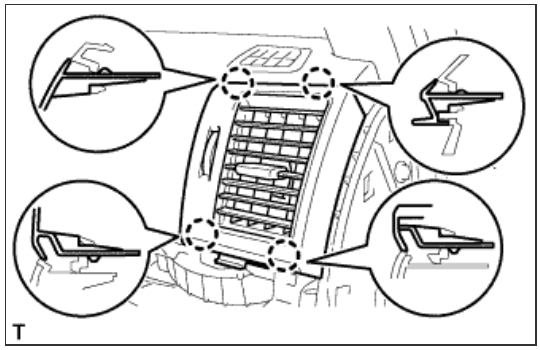



c. Attach the 4 claws to install the 2 assist grip plugs.




## 26. INSTALL NO. 2 INSTRUMENT PANEL REGISTER ASSEMBLY

a. Attach the 4 claws to install the No. 2 instrument panel register.

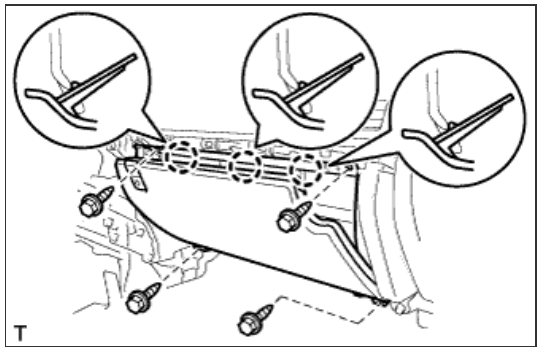



## 27. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

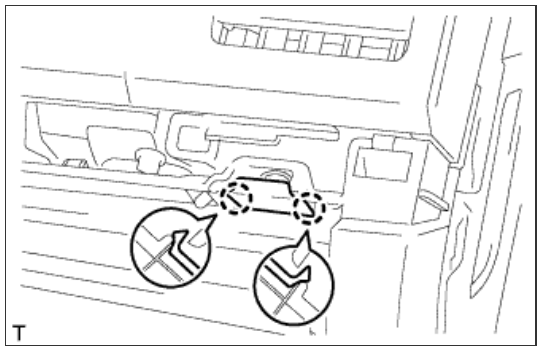
b. Attach the 3 claws to install the lower No. 2 instrument panel finish panel.

c. Install the 4 bolts.



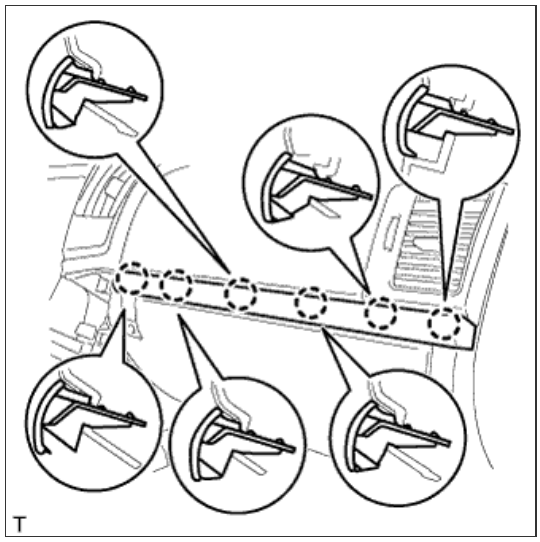

## 28. INSTALL INSTRUMENT PANEL BOX DOOR KNOB

a. Attach the 2 claws to install the instrument panel box door knob.




### 29. INSTALL NO. 3 INSTRUMENT CLUSTER FINISH PANEL GARNISH

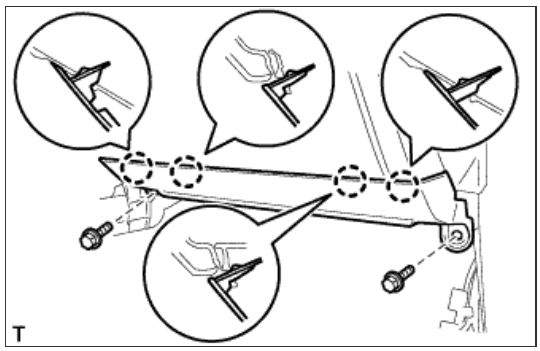
a. Attach the 6 claws to install the No. 3 instrument cluster finish panel garnish.




### 30. INSTALL LOWER INSTRUMENT PANEL (w/o Passenger Side Knee Airbag)

a. Attach the 4 claws to install the lower instrument panel.

b. Install the 2 bolts.




### 31. INSTALL FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (w/ Passenger Side Knee Airbag)

a. Connect the connector.

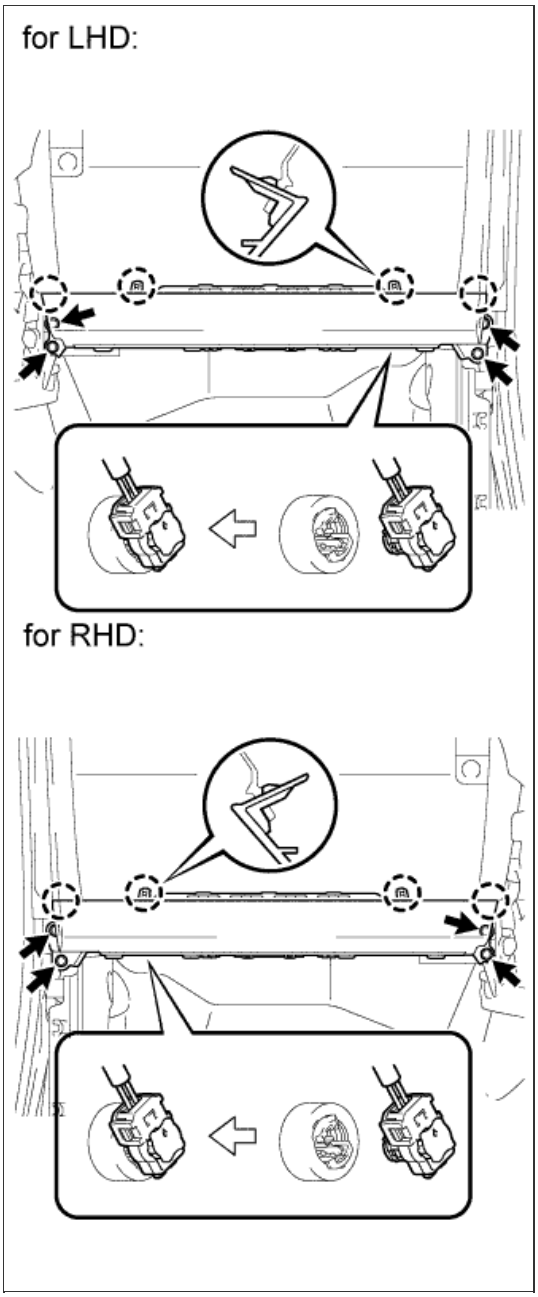
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Attach the 4 claws to install the front passenger side knee airbag.

c. Install the 4 bolts.

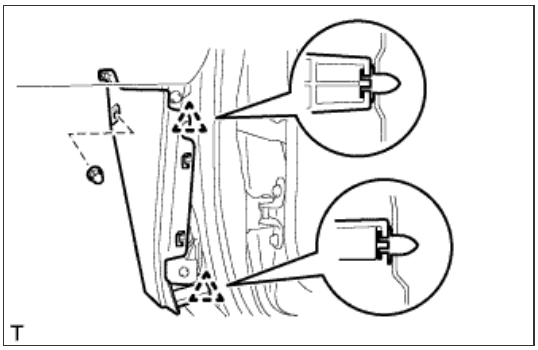
**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




### 32. INSTALL COWL SIDE TRIM BOARD RH

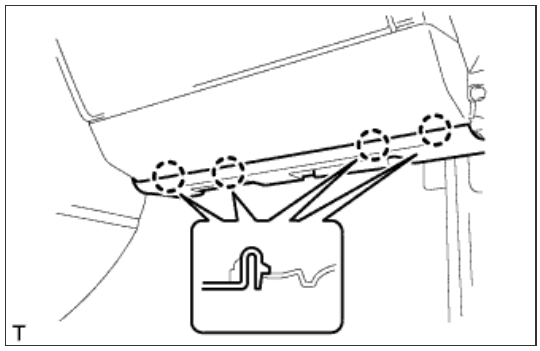
a. Attach the 2 clips to install the cowl side trim board.

b. Install the cap nut.




### 33. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Attach the 4 claws to install the No. 2 instrument panel under cover.




### 34. INSTALL FRONT DOOR SCUFF PLATE RH (w/ Sliding Roof)

**HINT:**

Use the same procedures described for the LH side.

### 35. INSTALL FRONT DOOR SCUFF PLATE RH (w/o Sliding Roof)

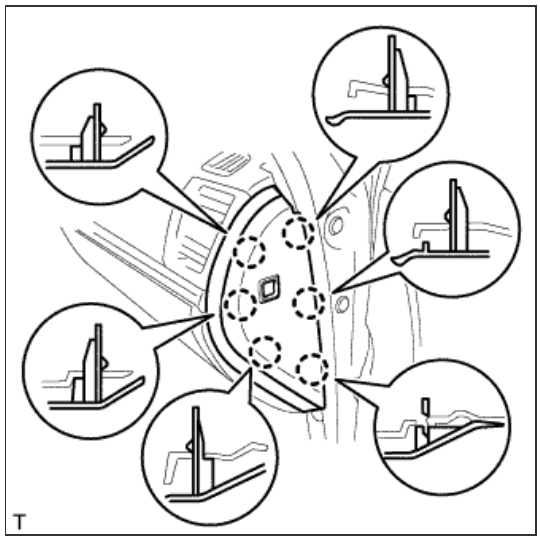
**HINT:**

Use the same procedures described for the LH side.

### 36. INSTALL INSTRUMENT SIDE PANEL RH (w/ Airbag Cut Off Switch)

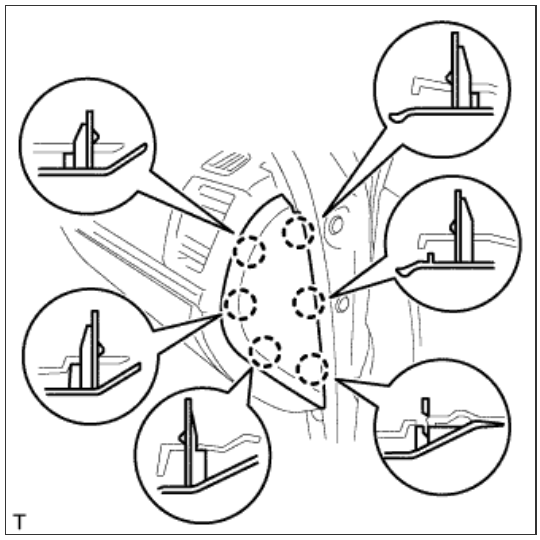
a. Connect the connector.

b. Attach the 6 claws to install the instrument side panel.



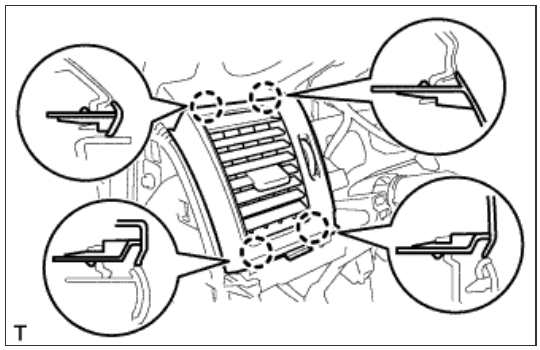

### 37. INSTALL INSTRUMENT SIDE PANEL RH (w/o Airbag Cut Off Switch)

a. Attach the 6 claws to install the instrument side panel.




## 38. INSTALL NO. 1 INSTRUMENT PANEL REGISTER ASSEMBLY

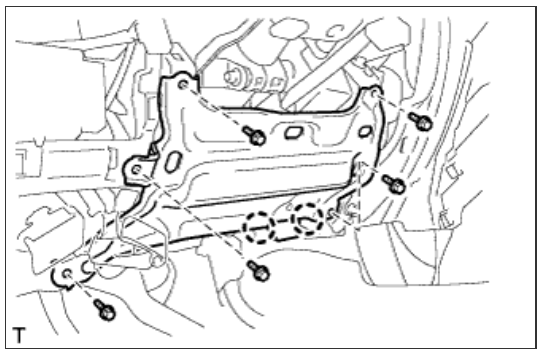
a. Attach the 4 claws to install the No. 1 instrument panel register.




## 39. INSTALL LOWER INSTRUMENT PANEL SUB-ASSEMBLY (w/o Driver Side Knee Airbag)

a. Attach the 2 claws and connect the DLC3.

b. Install the lower instrument panel with the 5 bolts.




## 40. INSTALL DRIVER SIDE KNEE AIRBAG ASSEMBLY (w/ Driver Side Knee Airbag)

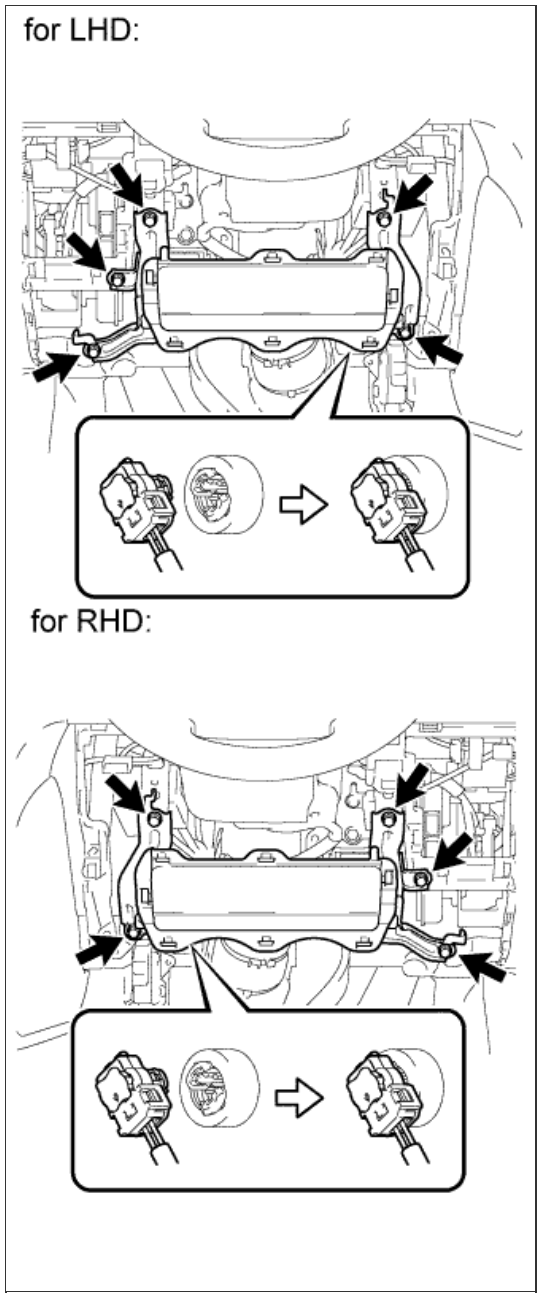
a. Connect the connector.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Install the driver side knee airbag with the 5 bolts.

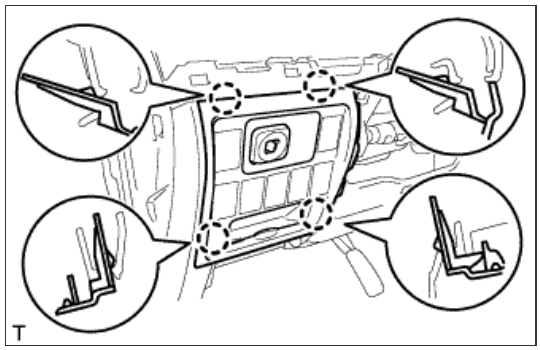
**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




### 41. INSTALL NO. 1 SWITCH HOLE BASE

a. Connect the connectors.

b. Attach the 4 claws to install the No. 1 switch hole base.

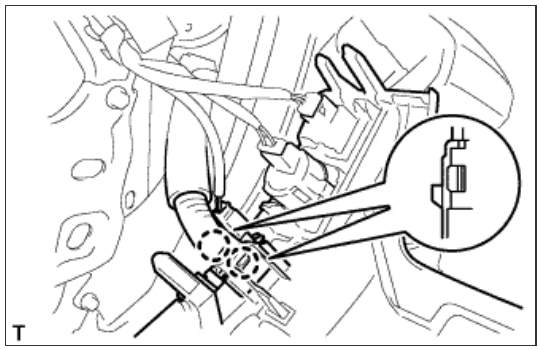



### 42. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

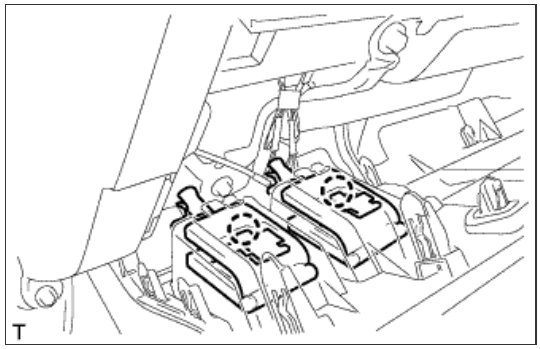
a. Connect the connectors.

b. for Automatic Air Conditioning System:

i. Attach the 2 claws to install the room temperature sensor.



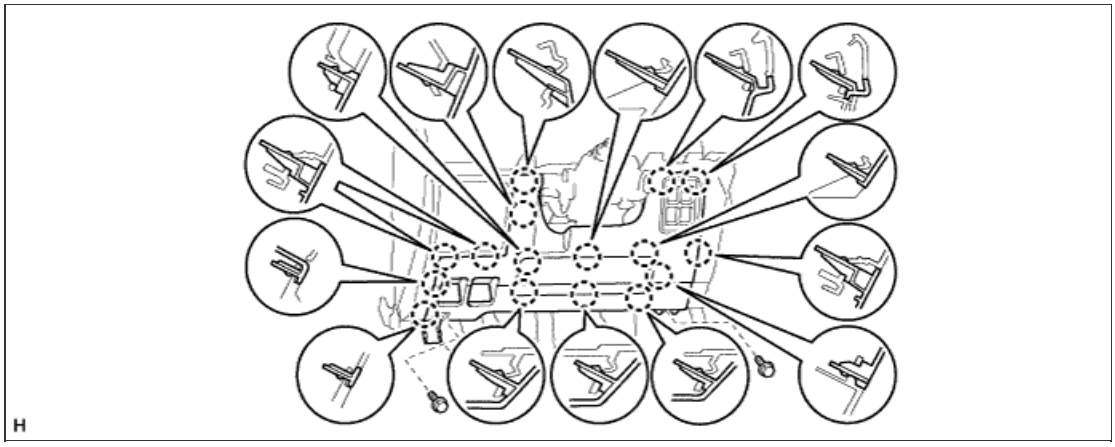

c. Attach the 2 claws to connect the 2 control cables.




d. w/ Driver Side Knee Airbag:

i. Attach the 16 claws to install the lower No. 1 instrument panel finish panel.

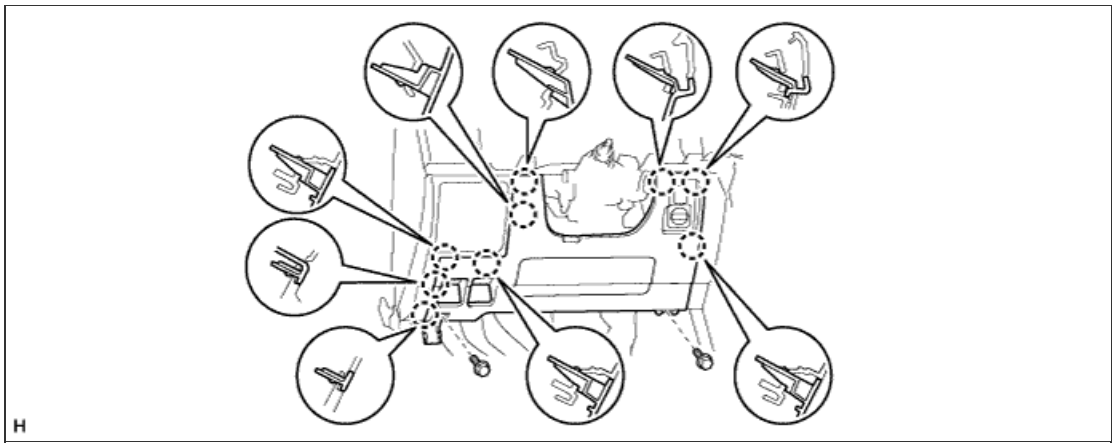
ii. Install the 2 bolts.



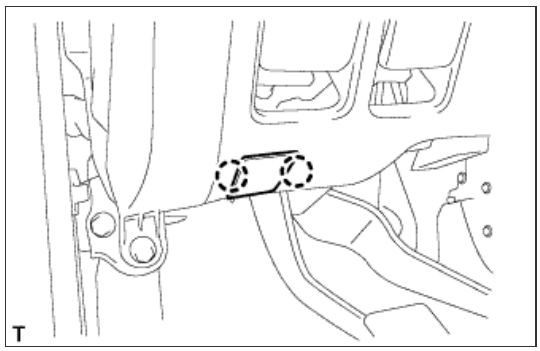

e. w/o Driver Side Knee Airbag:

i. Attach the 9 claws to install the lower No. 1 instrument panel finish panel.

ii. Install the 2 bolts.



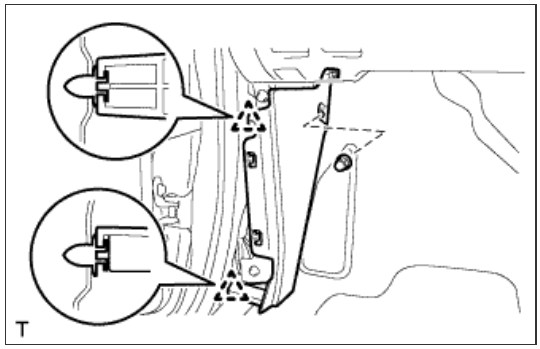

f. Attach the 2 claws to close the hole cover.




## 43. INSTALL COWL SIDE TRIM BOARD LH

a. Attach the 2 clips to install the cowl side trim board.

b. Install the cap nut.

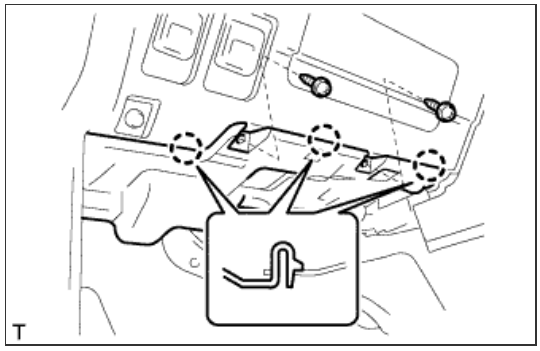



## 44. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover)

a. Connect the connectors.

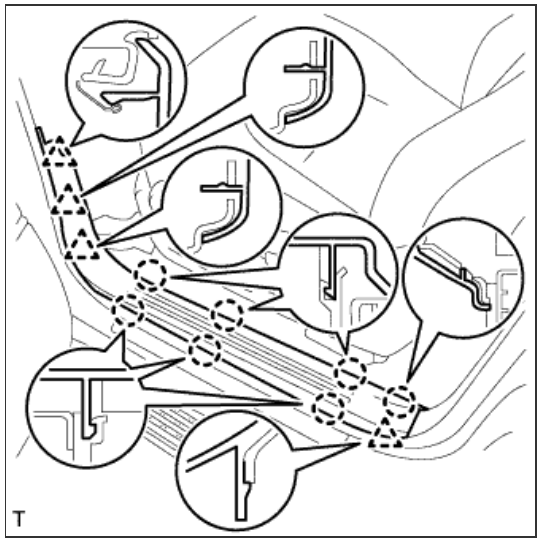
b. Attach the 3 claws to install the No. 1 instrument panel under cover.

c. Install the 2 screws.



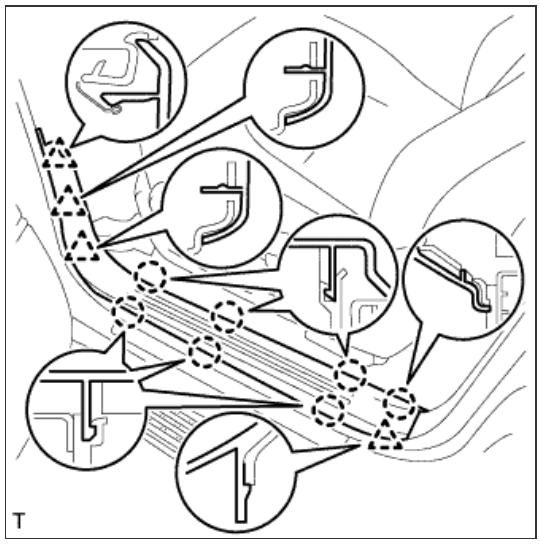

## 45. INSTALL FRONT DOOR SCUFF PLATE LH (w/ Sliding Roof)

a. Attach the 7 claws and 4 clips to install the scuff plate.




## 46. INSTALL FRONT DOOR SCUFF PLATE LH (w/o Sliding Roof)

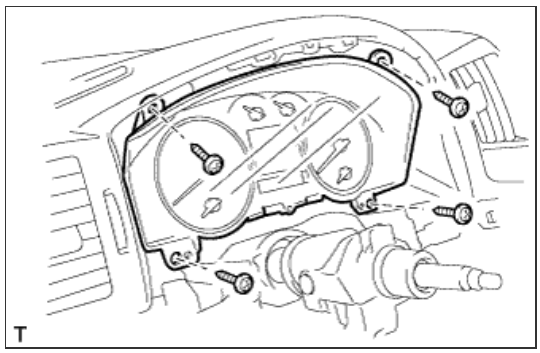
a. Attach the 7 claws and 4 clips to install the scuff plate.




## 47. INSTALL COMBINATION METER ASSEMBLY (w/o Multi-information Display)

a. Connect the connectors.

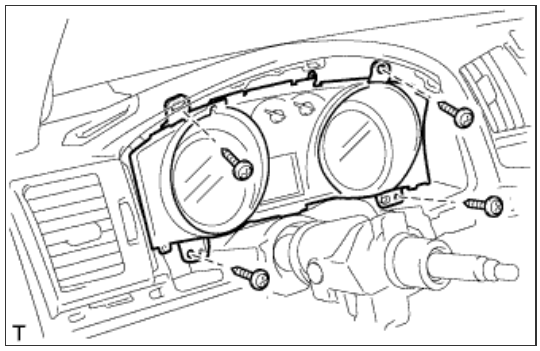
b. Install the combination meter with the 4 screws.




## 48. INSTALL COMBINATION METER ASSEMBLY (w/ Multi-information Display)

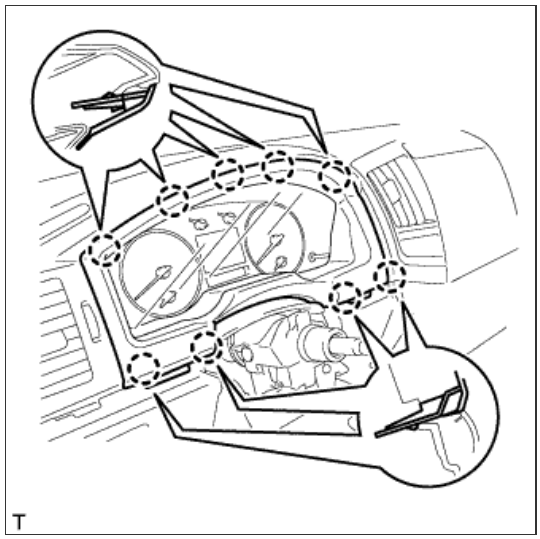
a. Connect the connectors.

b. Install the combination meter with the 4 screws.




### 49. INSTALL INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY (w/o Multi-information Display)

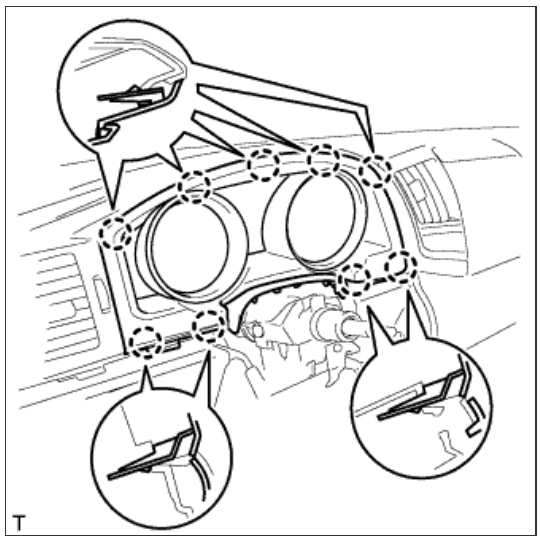
a. Attach the 9 claws to install the instrument cluster finish panel.




### 50. INSTALL INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY (w/ Multi-information Display)

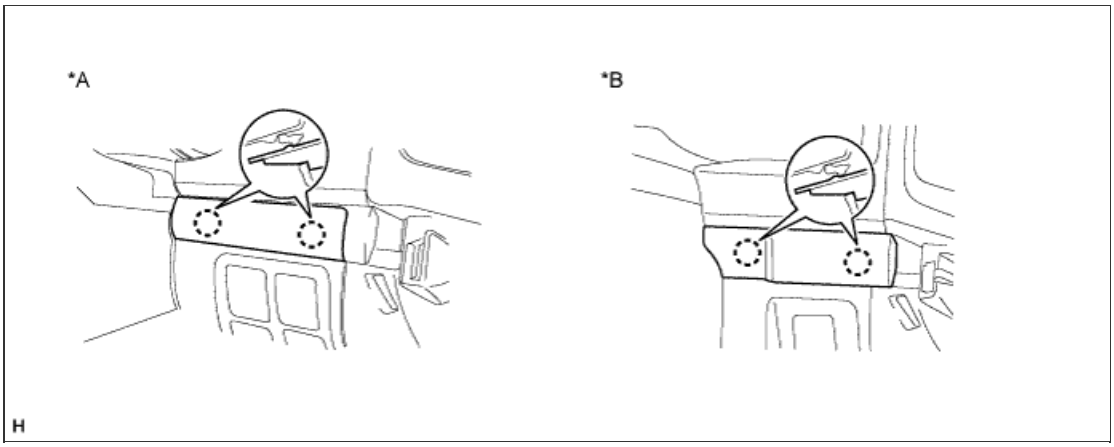
a. Connect the connector.

b. Attach the 9 claws to install the instrument cluster finish panel.




### 51. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 2 claws to install the No. 2 instrument cluster finish panel garnish.

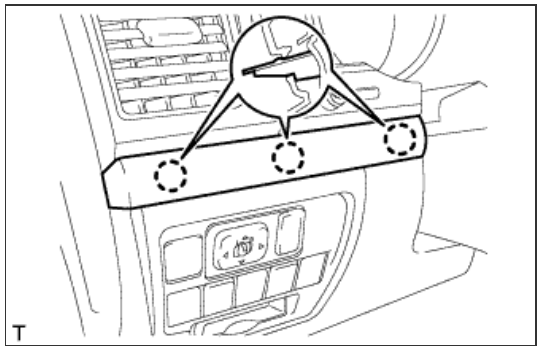



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | w/ Entry and Start System | *B | w/o Entry and Start System |

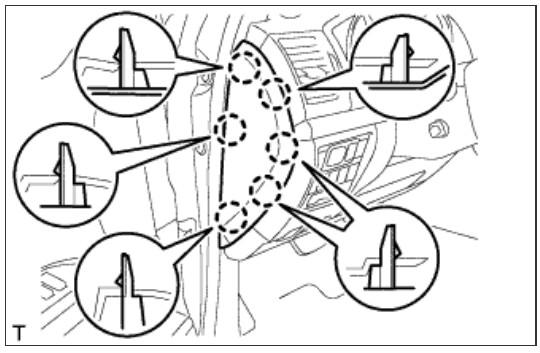
### 52. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH

a. Attach the 3 claws to install the No. 1 instrument cluster finish panel garnish.




### 53. INSTALL INSTRUMENT SIDE PANEL LH

a. Attach the 6 claws to install the instrument side panel.




### 54. INSTALL LOWER CONSOLE BOX (w/o Console Box Lid)

(Click here)

### 55. INSTALL COOLING BOX ASSEMBLY (w/ Cool Box)

(Click here)

### 56. INSTALL REAR CONSOLE BOX SUB-ASSEMBLY (w/o Cool Box)

(Click here)

### 57. INSTALL FRONT SEAT ASSEMBLY RH (for Bench Seat Type)

(Click here)

### 58. INSTALL FRONT SEAT ASSEMBLY RH (for Manual Seat)

(Click here)

### 59. INSTALL FRONT SEAT ASSEMBLY RH (for Power Seat)

(Click here)

### 60. INSTALL FRONT SEAT ASSEMBLY LH (for Manual Seat)

(Click here)

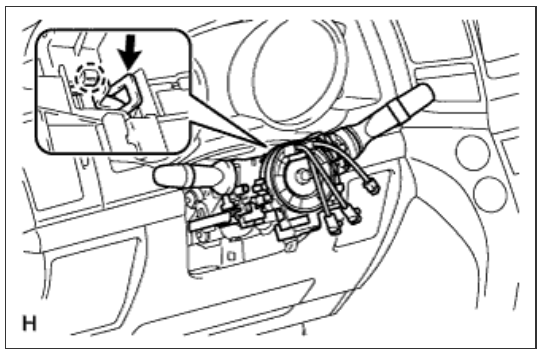
### 61. INSTALL FRONT SEAT ASSEMBLY LH (for Power Seat)

(Click here)

### 62. INSTALL COMBINATION SWITCH ASSEMBLY WITH SPIRAL CABLE SUB-ASSEMBLY (for Manual Tilt and Manual Telescopic Steering Column)

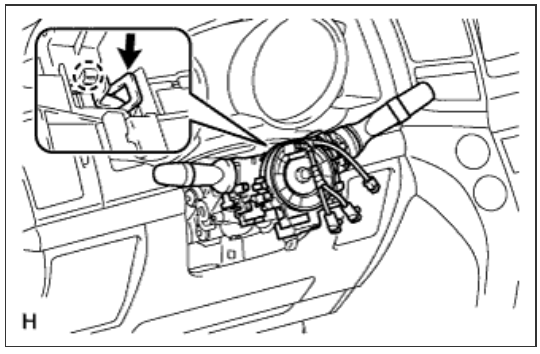
a. Using pliers, grip the claws of the clamp and install the combination switch assembly with spiral cable sub-assembly to the steering column assembly with the clamp.

b. Connect the connectors to the combination switch with spiral cable.

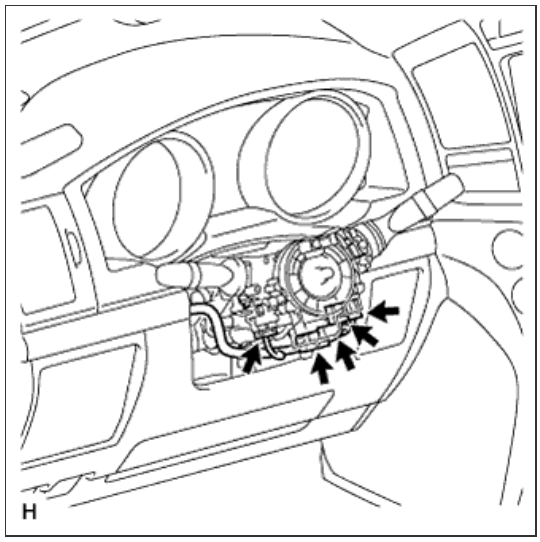



### 63. INSTALL COMBINATION SWITCH ASSEMBLY WITH SPIRAL CABLE SUB-ASSEMBLY (for Power Tilt and Power Telescopic Steering Column)

a. Using pliers, grip the claws of the clamp and install the turn signal switch assembly with spiral cable sub-assembly to the steering column assembly with the clamp.



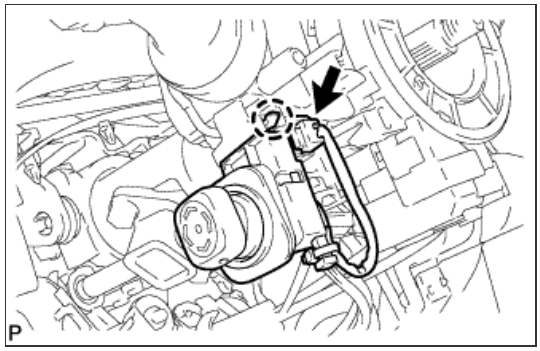

b. Connect the 5 connectors to the turn signal switch with spiral cable.




### 64. INSTALL TILT AND TELESCOPIC SWITCH (for Power Tilt and Power Telescopic Steering Column)

a. Attach the claw to install the switch.

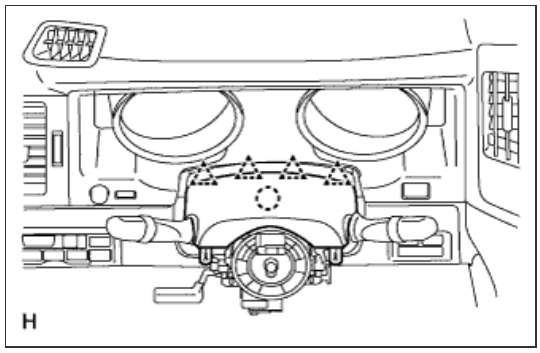
b. Connect the switch connector.




### 65. INSTALL UPPER STEERING COLUMN COVER (for Manual Tilt and Manual Telescopic Steering Column)

a. Attach the claw to install the upper steering column cover.

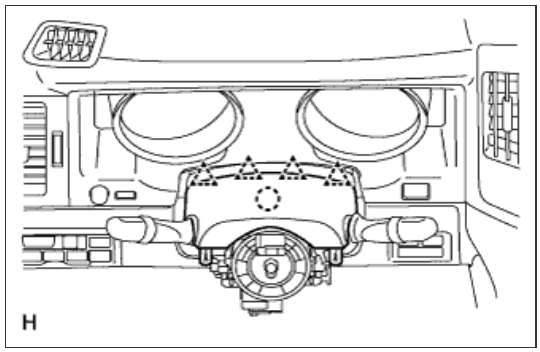
b. Attach the 4 clips to install the upper steering column cover onto the instrument cluster finish panel.




### 66. INSTALL UPPER STEERING COLUMN COVER (for Power Tilt and Power Telescopic Steering Column)

a. Attach the claw to install the upper steering column cover.

b. Attach the 4 clips to install the upper steering column cover onto the instrument cluster finish panel.




## 67. INSTALL LOWER STEERING COLUMN COVER (for Manual Tilt and Manual Telescopic Steering Column)

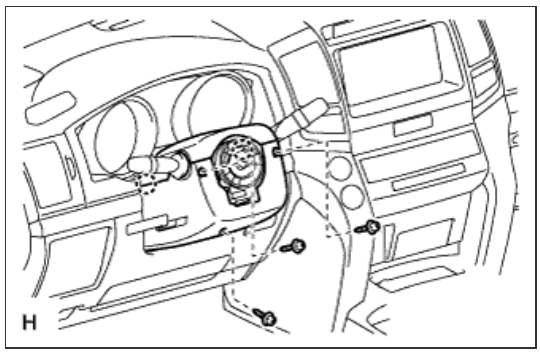
a. Attach the 2 claws to install the lower steering column cover.

**NOTICE:**

Do not damage the tilt and telescopic switch.

b. Install the 3 screws.

**Torque:**
**2.0 N*m{ 20 kgf*cm , 18 in.*lbf }**




## 68. INSTALL LOWER STEERING COLUMN COVER (for Power Tilt and Power Telescopic Steering Column)

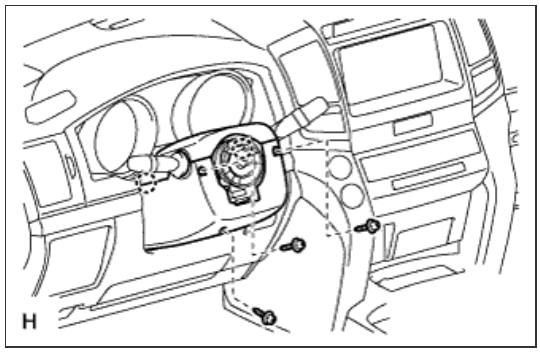
a. Attach the 2 claws to install the lower steering column cover.

**NOTICE:**

Do not damage the tilt and telescopic switch.

b. Install the 3 screws.

**Torque:**
**1.5 N*m{ 15 kgf*cm , 13 in.*lbf }**




## 69. INSTALL STEERING WHEEL ASSEMBLY

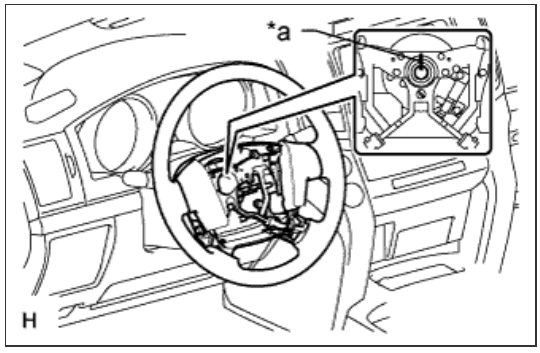
a. Align the matchmarks on the steering wheel assembly and steering main shaft assembly.

**Text in Illustration**

| | |
|---|---|
| *a | Matchmark |

b. Install the steering wheel assembly set nut.

**Torque:**
**50 N*m{ 510 kgf*cm , 37 ft.*lbf }**




## 70. INSTALL STEERING PAD

a. Support the steering pad with one hand.

b. Connect the 2 connectors to the steering pad.

**NOTICE:**

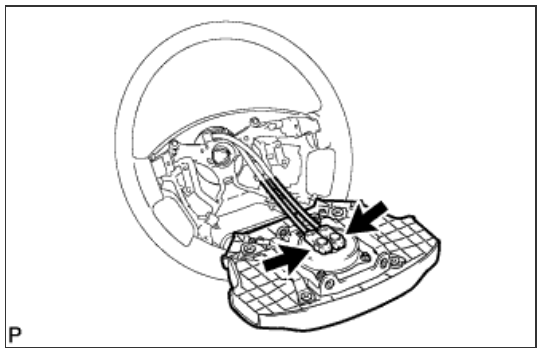
When handling the airbag connector, take care not to damage the airbag wire harness.

c. Connect the horn connector.

d. Confirm that the circumference groove of the "TORX" screw fits in the screw case, and place the steering pad onto the steering wheel.

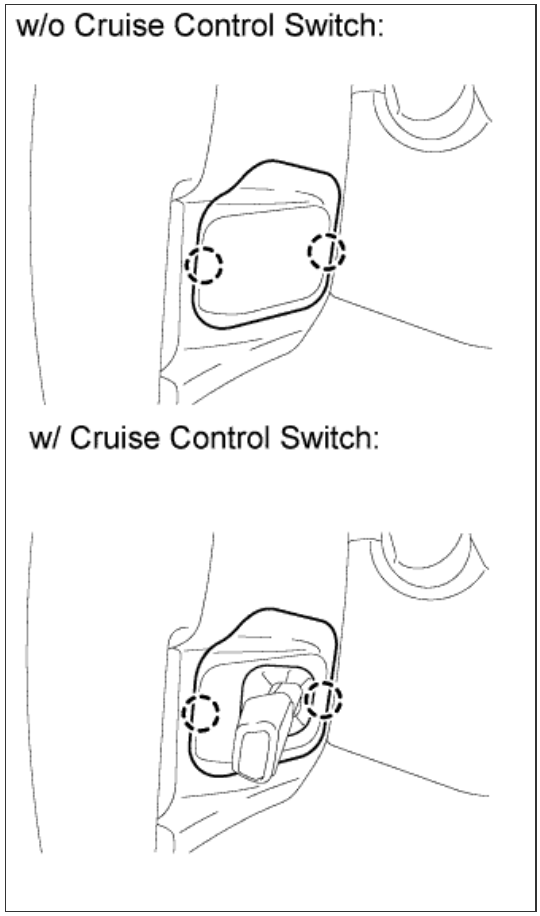
e. Using a T30 "TORX" socket wrench, tighten the 2 screws.

**Torque:**
**8.8 N*m{ 90 kgf*cm , 78 in.*lbf }**



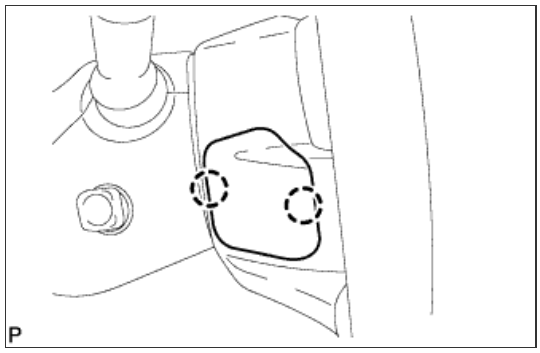

## 71. INSTALL LOWER NO. 2 STEERING WHEEL COVER

a. Attach the 2 claws to install the cover.




## 72. INSTALL LOWER NO. 3 STEERING WHEEL COVER

a. Attach the 2 claws to install the cover.




## 73. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

- **for Power Tilt and Power Telescopic Steering Column:**
  **Reset the Autoaway/Return function setting to the previous condition by changing the customize parameter ( Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## 74. CHARGE REFRIGERANT (w/ Cool Box)

***SST***

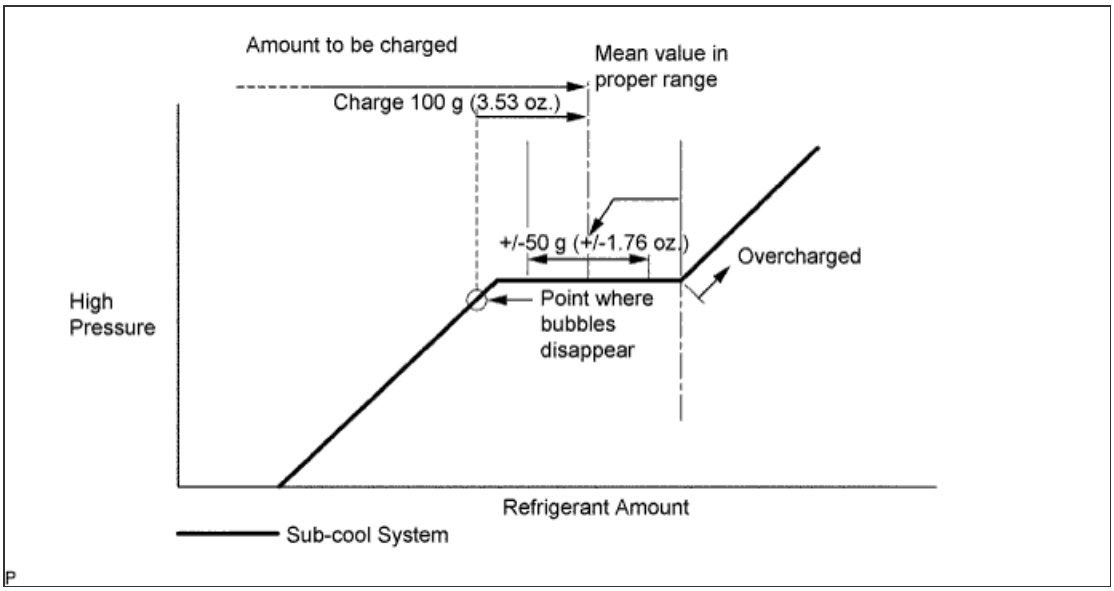
**09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)**

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |



**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 75. WARM UP ENGINE (w/ Cool Box)

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 76. CHECK FOR REFRIGERANT GAS LEAK (w/ Cool Box)

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

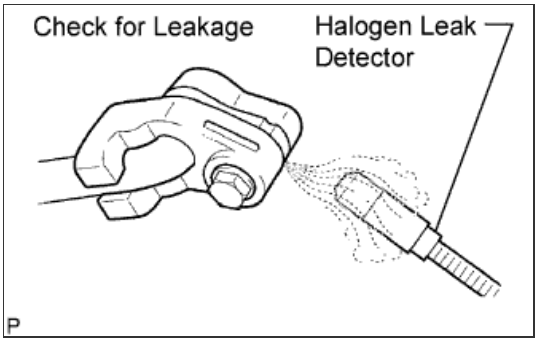
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

c. Using a halogen leak detector, check the refrigerant line for leakage.

d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

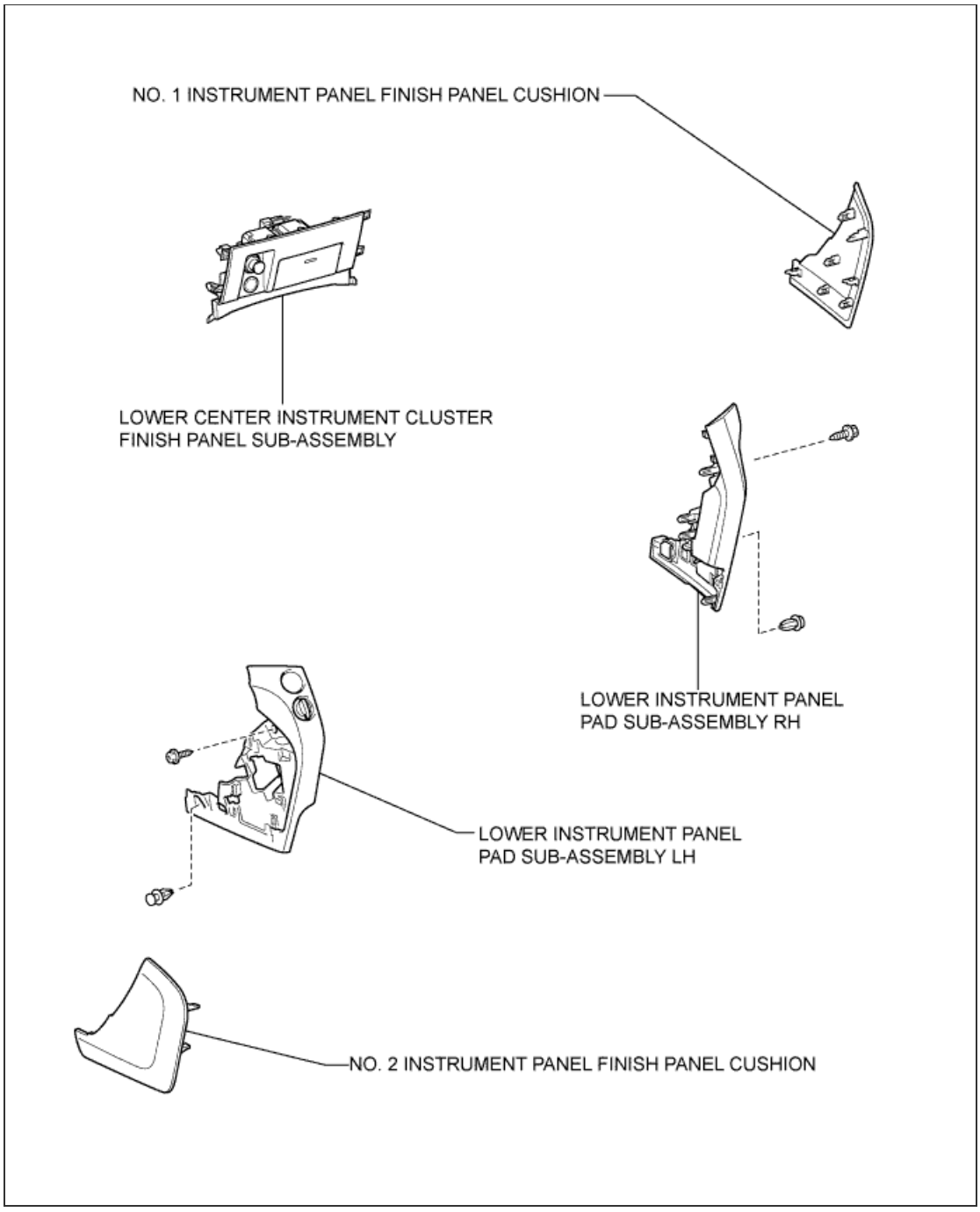
e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.

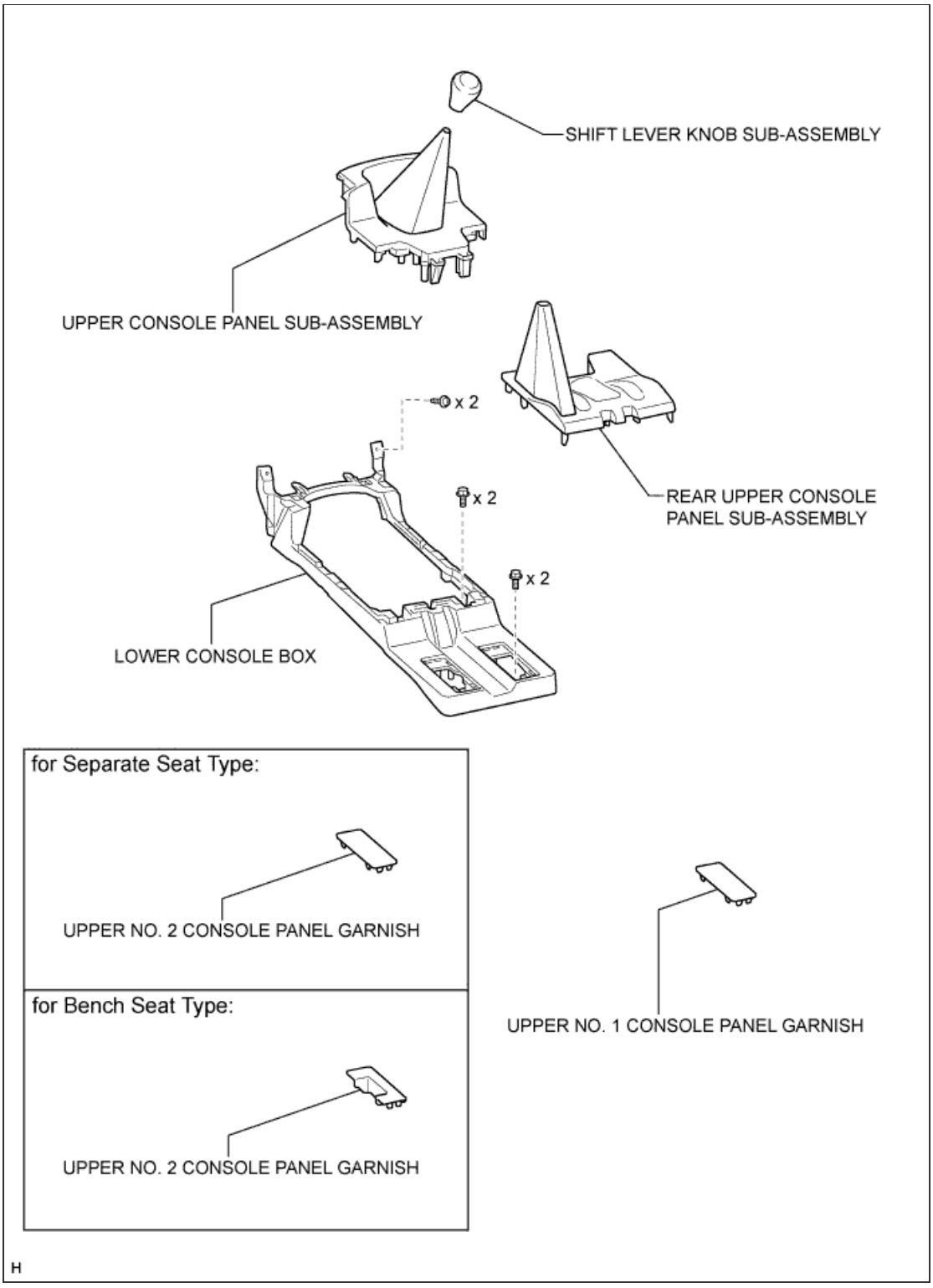


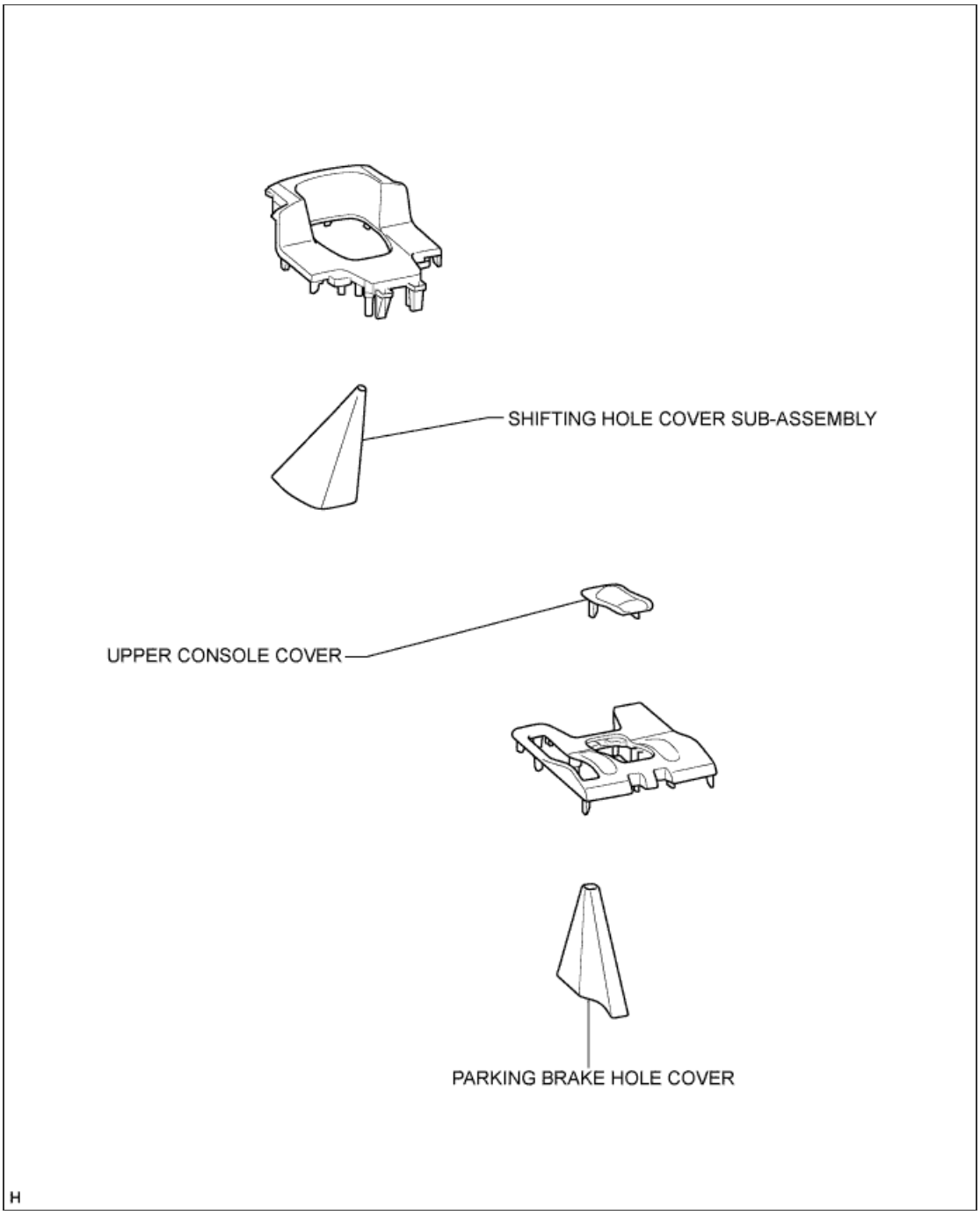

## 77. CHECK SRS WARNING LIGHT

(Click here)

**for Preparation** Click here




SHIFT LEVER KNOB SUB-ASSEMBLY
UPPER CONSOLE PANEL SUB-ASSEMBLY
x 2
REAR UPPER CONSOLE PANEL SUB-ASSEMBLY
x 2
x 2
LOWER CONSOLE BOX
for Separate Seat Type:
UPPER NO. 2 CONSOLE PANEL GARNISH
for Bench Seat Type:
UPPER NO. 2 CONSOLE PANEL GARNISH
UPPER NO. 1 CONSOLE PANEL GARNISH
H


SHIFTING HOLE COVER SUB-ASSEMBLY
UPPER CONSOLE COVER
PARKING BRAKE HOLE COVER
H

**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

## 1. REMOVE FRONT SEAT ASSEMBLY RH

(Click here)

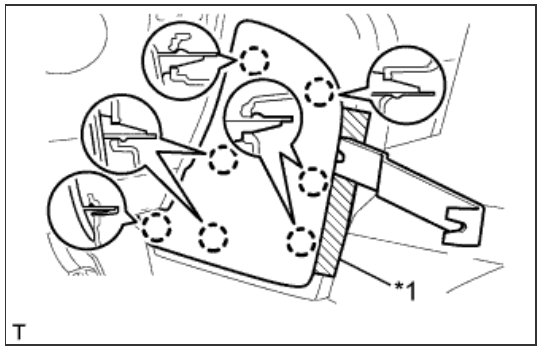
## 2. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 2 instrument panel finish panel cushion.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

b. Using a moulding remover, detach the 7 claws and remove the No. 2 instrument panel finish panel cushion.

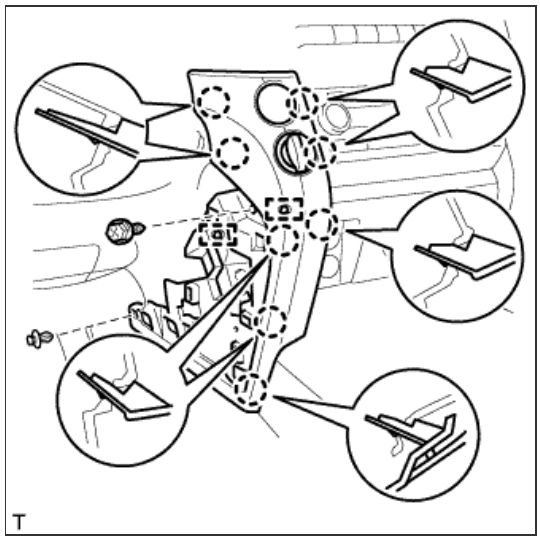



## 3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip and screw.

b. Detach the 8 claws.

c. Disconnect the connectors, detach the 2 clamps and remove the lower instrument panel pad sub-assembly.



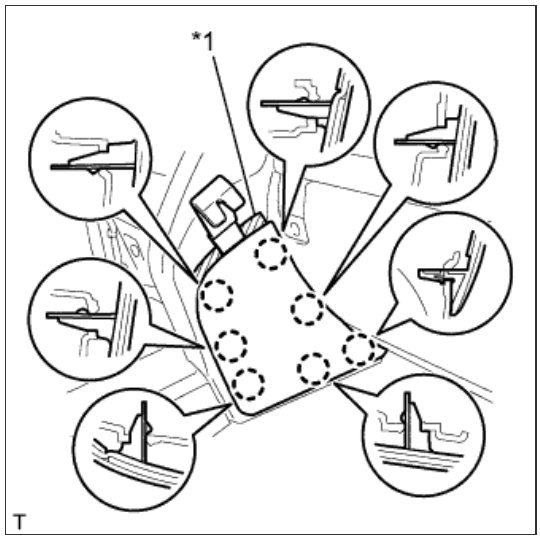

## 4. REMOVE NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Put protective tape around the No. 1 instrument panel finish panel cushion.

**Text in Illustration**

| | |
|---|---|
| *1 | Protective Tape |

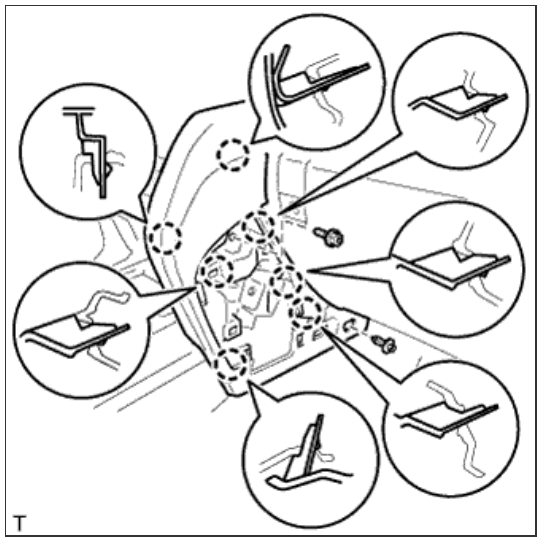
b. Using a moulding remover, detach the 7 claws and remove the No. 1 instrument panel finish panel cushion.




### 5. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip and screw.

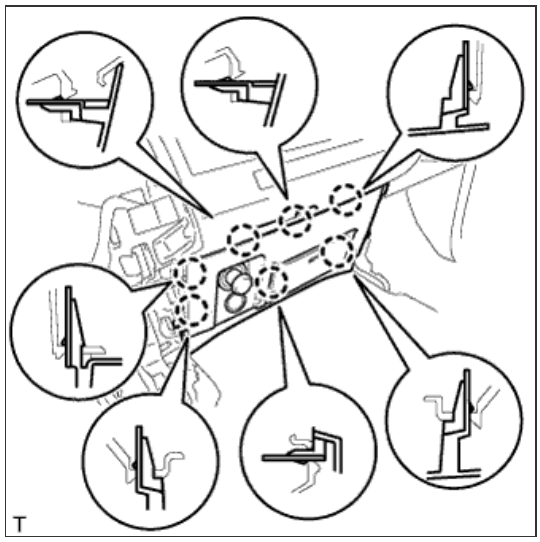
b. Detach the 7 claws and remove the lower instrument panel pad sub-assembly.




### 6. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

a. Detach the 7 claws.

b. Disconnect the connectors and remove the lower center instrument cluster finish panel sub-assembly.



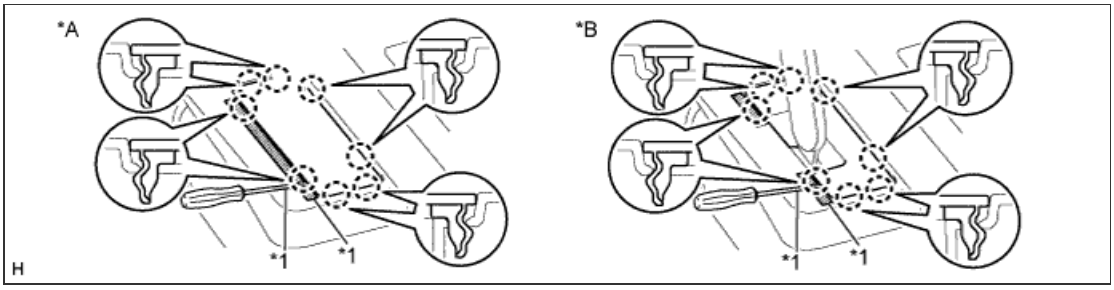

### 7. REMOVE UPPER NO. 2 CONSOLE PANEL GARNISH

a. Put protective tape around the upper No. 2 console panel garnish.

b. Using a screwdriver, detach the 8 claws and remove the upper No. 2 console panel garnish.

**HINT:**

Tape the screwdriver tip before use.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Separate Seat Type | *B | for Bench Seat Type |
| *1 | Protective Tape | - | - |

## 8. REMOVE UPPER NO. 1 CONSOLE PANEL GARNISH

a. Put protective tape around the upper No. 1 console panel garnish.

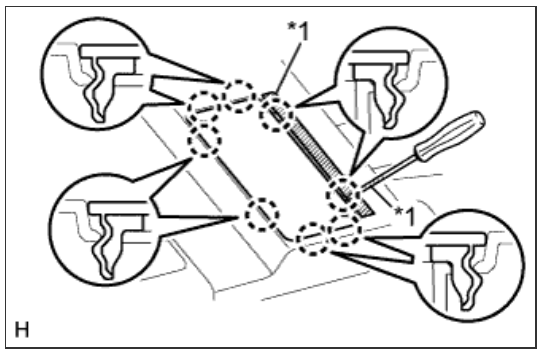
b. Using a screwdriver, detach the 8 claws and remove the upper No. 1 console panel garnish.

**HINT:**

Tape the screwdriver tip before use.

**Text in Illustration**

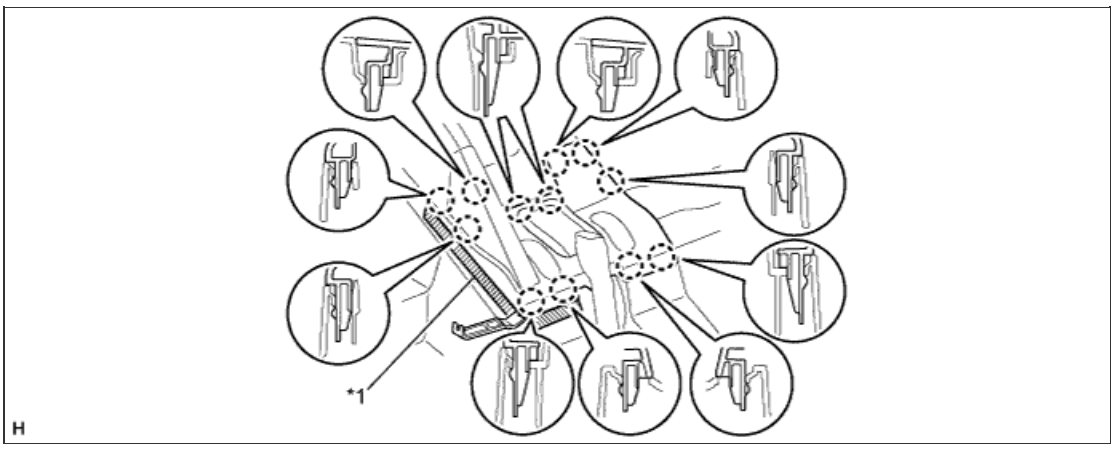
| | |
|---|---|
| *1 | Protective Tape |




## 9. REMOVE REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Put protective tape around the rear upper console panel sub-assembly.

b. Using a moulding remover, detach the 12 claws and remove the rear upper console panel sub-assembly.

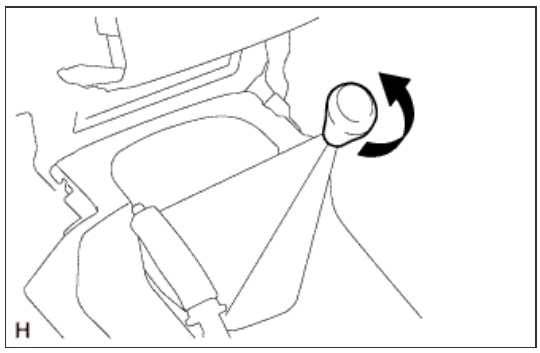


**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Protective Tape | - | - |

## 10. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY

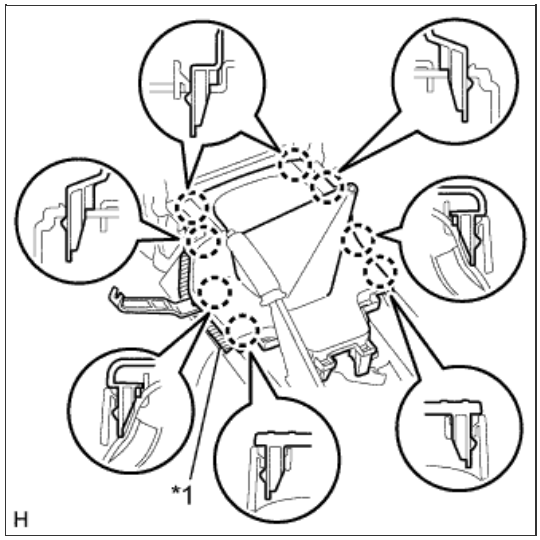
a. Twist the shift lever knob sub-assembly in the direction indicated by the arrow and remove it.




## 11. REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Put protective tape around the upper console panel sub-assembly.

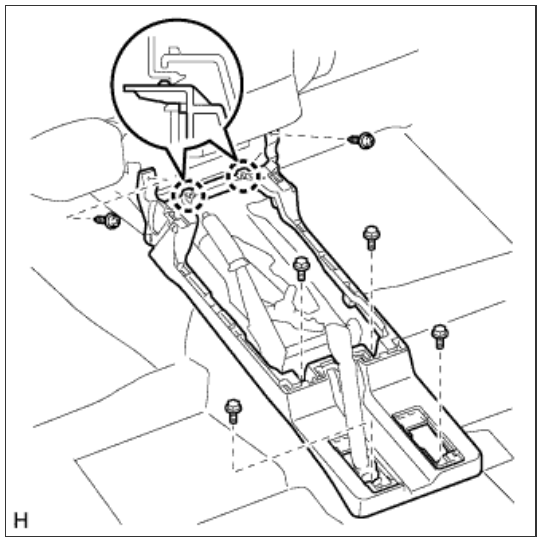
b. Using a moulding remover, detach the 8 claws and remove the upper console panel sub-assembly.




## 12. REMOVE LOWER CONSOLE BOX

a. Remove the 2 screws and 4 bolts.

b. Detach the 2 claws and remove the lower console box.



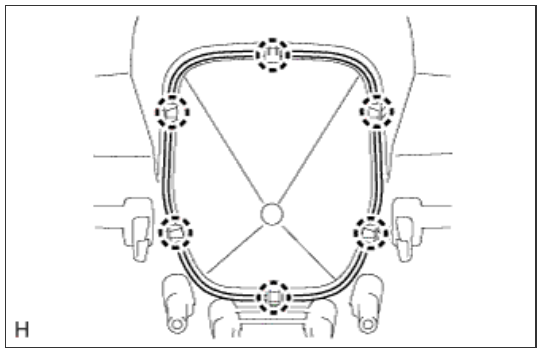
**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

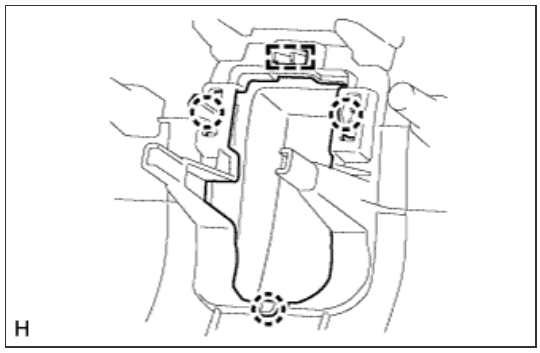
## 1. REMOVE SHIFTING HOLE COVER SUB-ASSEMBLY

a. Detach the 6 claws and remove the shifting hole cover sub-assembly.



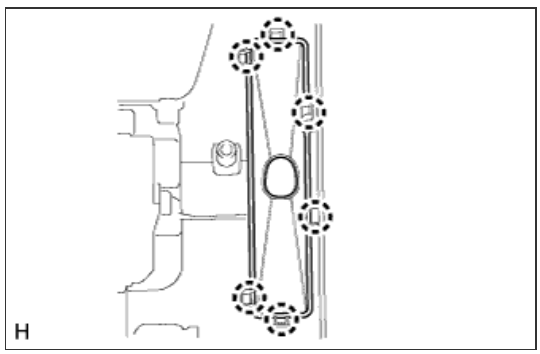

## 2. REMOVE UPPER CONSOLE COVER

a. Detach the 3 claws, guide and remove the upper console cover.




## 3. REMOVE PARKING BRAKE HOLE COVER

a. Detach the 6 claws and remove the parking brake hole cover.



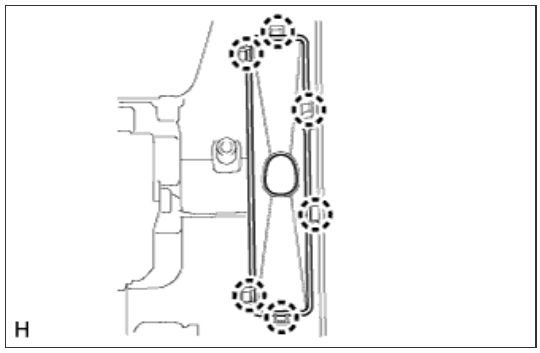
**for Preparation** Click here

**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**

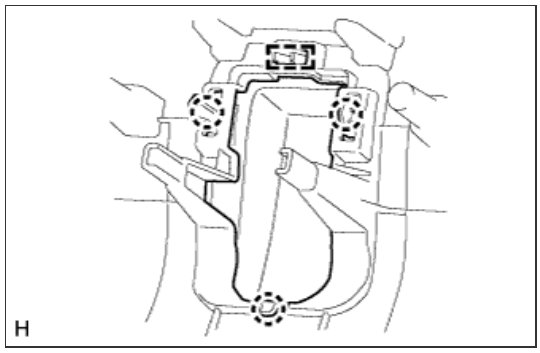
## 1. INSTALL PARKING BRAKE HOLE COVER

a. Attach the 6 claws to install the parking brake hole cover.



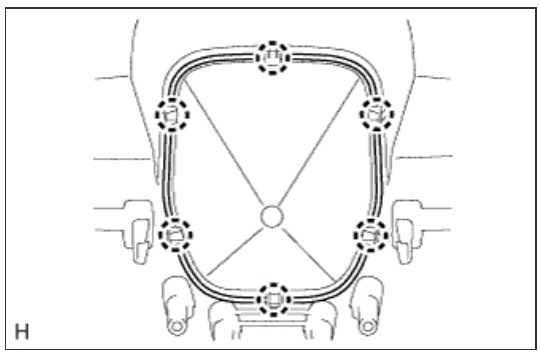

## 2. INSTALL UPPER CONSOLE COVER

a. Attach the guide and 3 claws to install the upper console cover.




## 3. INSTALL SHIFTING HOLE COVER SUB-ASSEMBLY

a. Attach the 6 claws to install the shifting hole cover sub-assembly.



**for Preparation** Click here

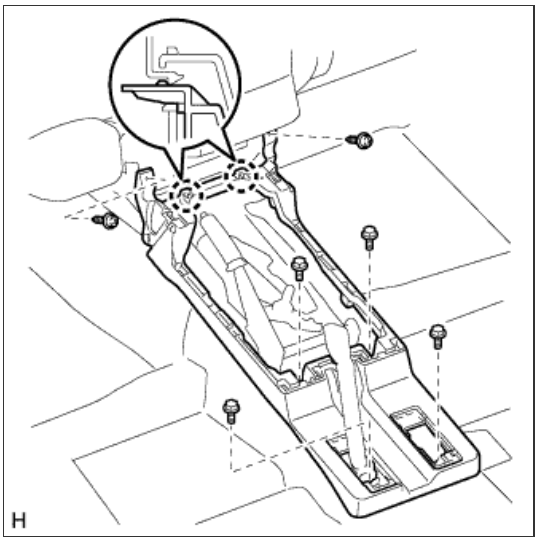
**HINT:**

- **Use the same procedure for RHD and LHD vehicles.**
- **The procedure listed below is for LHD vehicles.**
- **A bolt without a torque specification is shown in the standard bolt chart ( Click here).**

## 1. INSTALL LOWER CONSOLE BOX

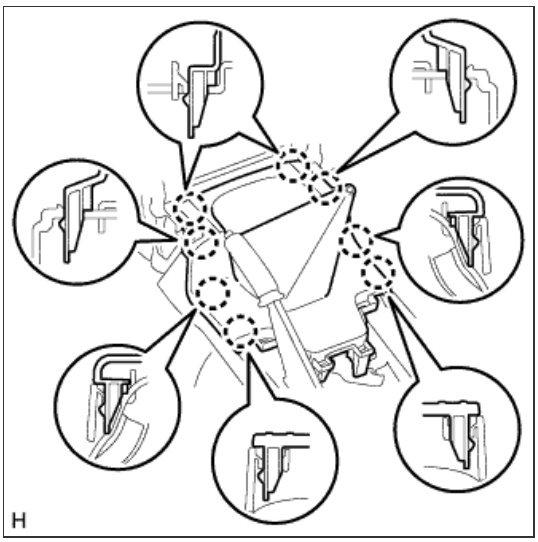
a. Attach the 2 claws to install the lower console box.

b. Install the 2 screws and 4 bolts.



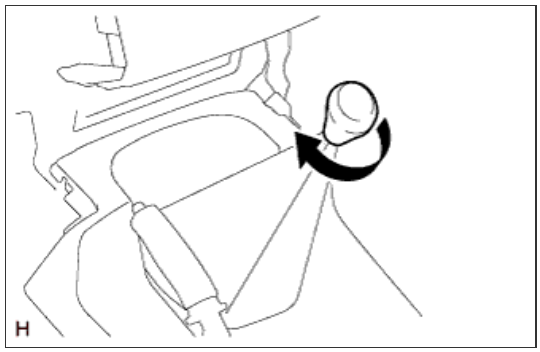

## 2. INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Attach the 8 claws to install the upper console panel sub-assembly.



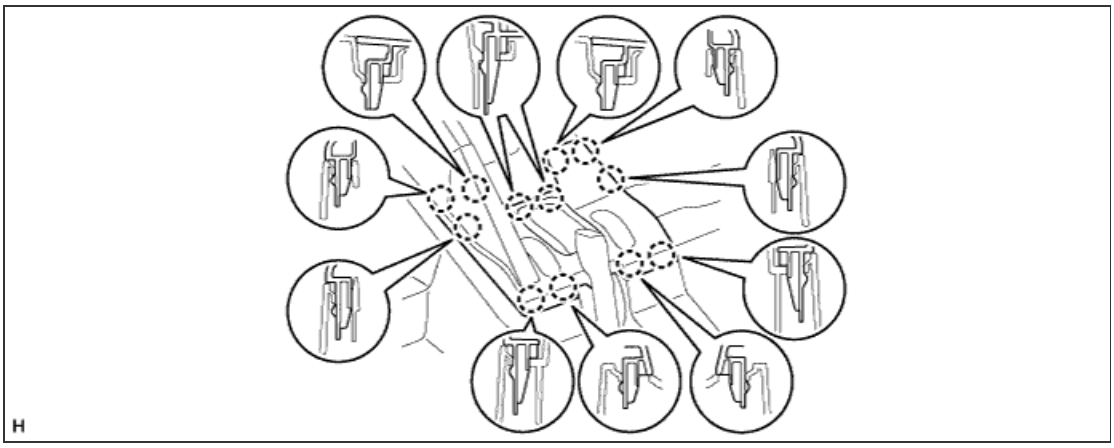

## 3. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY

a. Install the shift lever knob and twist it in the direction indicated by the arrow.



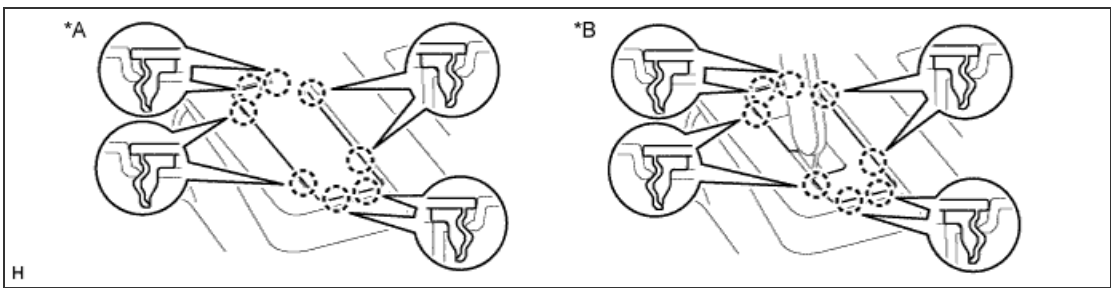

## 4. INSTALL REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Attach the 12 claws to install the rear upper console panel sub-assembly.




## 5. INSTALL UPPER NO. 2 CONSOLE PANEL GARNISH

a. Attach the 8 claws to install the upper No. 2 console panel garnish.

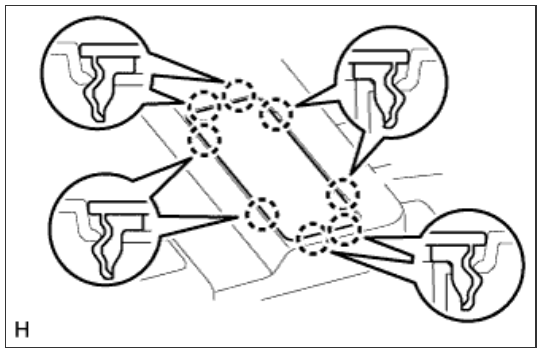



**Text in Illustration**

| | | | |
|---|---|---|---|
| *A | for Separate Seat Type | *B | for Bench Seat Type |

## 6. INSTALL UPPER NO. 1 CONSOLE PANEL GARNISH

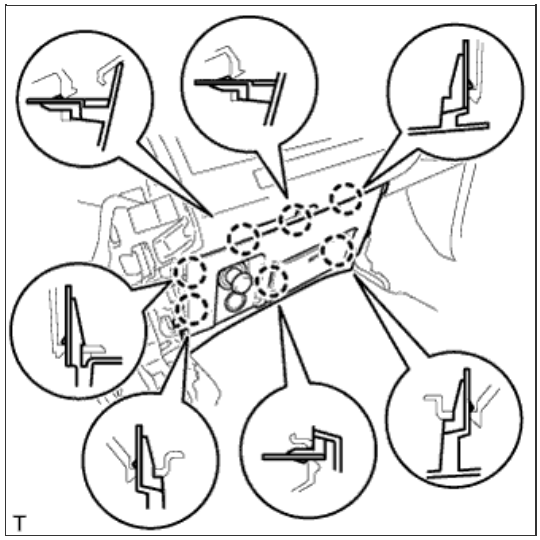
a. Attach the 8 claws to install the upper No. 1 console panel garnish.




### 7. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 7 claws to install the lower center instrument cluster finish panel sub-assembly.

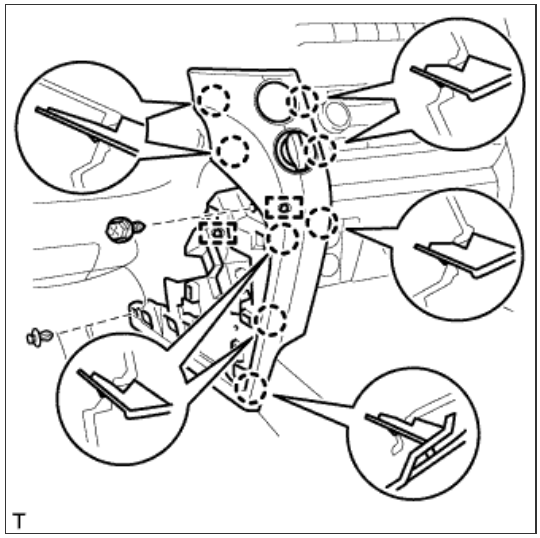



### 8. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and attach the 2 clamps.

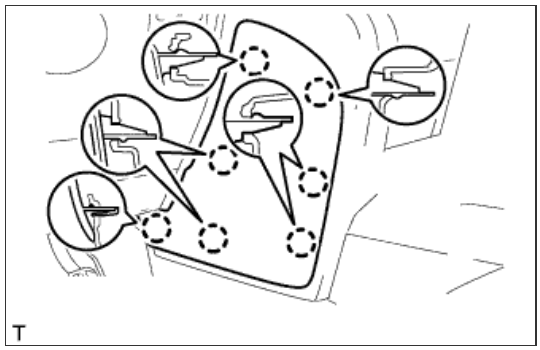
b. Attach the 8 claws to install the lower instrument panel pad sub-assembly.

c. Install the clip and screw.




### 9. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

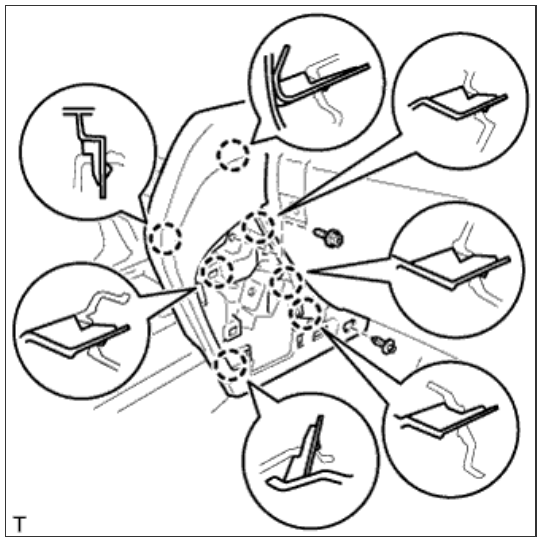
a. Attach the 7 claws to install the No. 2 instrument panel finish panel cushion.




### 10. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

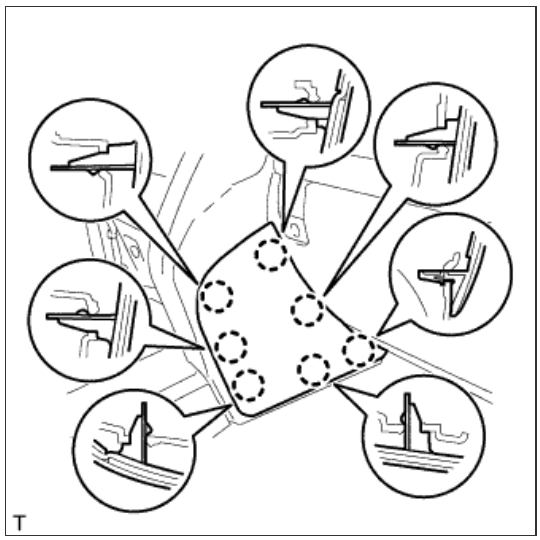
a. Attach the 7 claws to install the lower instrument panel pad sub-assembly.

b. Install the clip and screw.




### 11. INSTALL NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

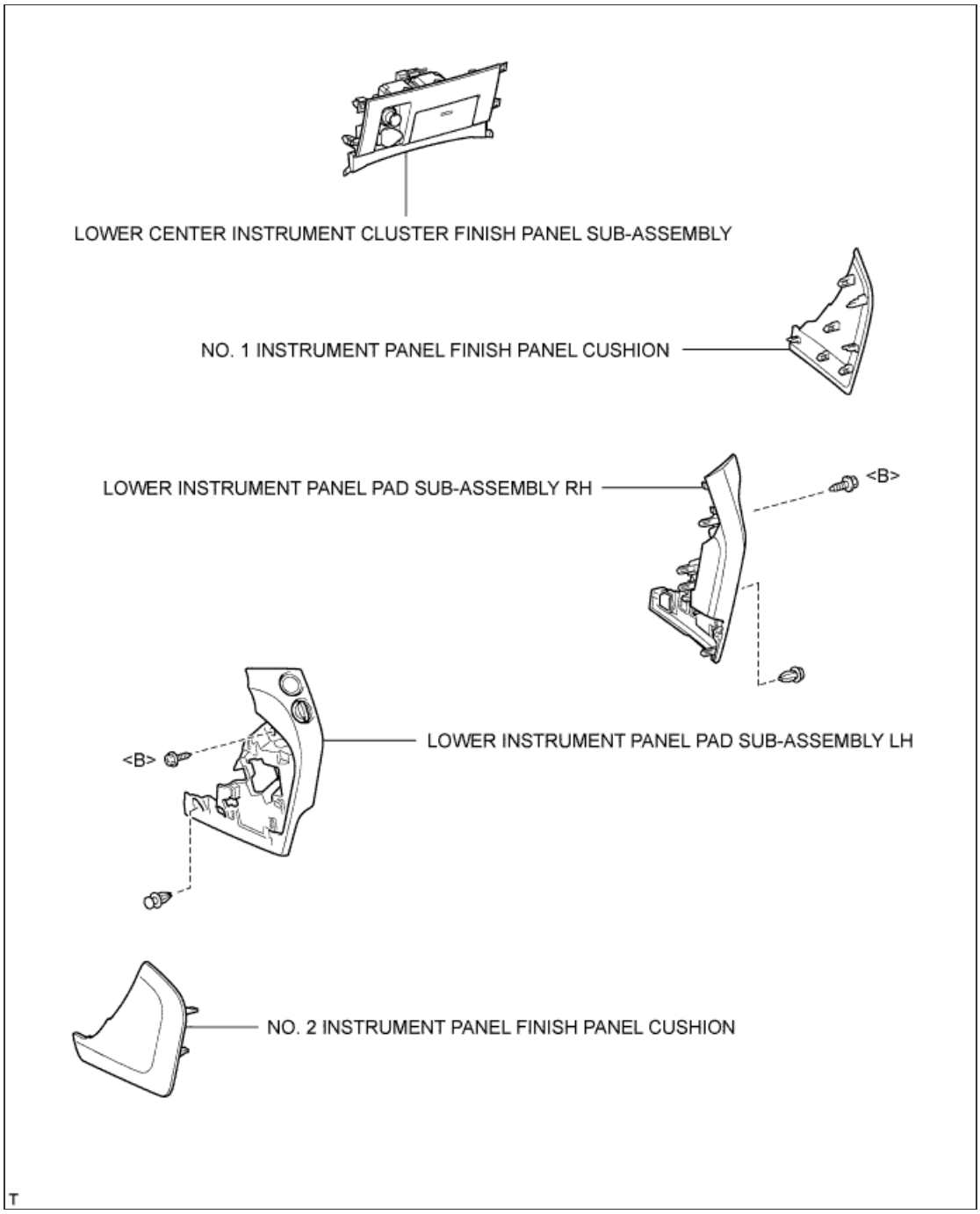
a. Attach the 7 claws to install the No. 1 instrument panel finish panel cushion.

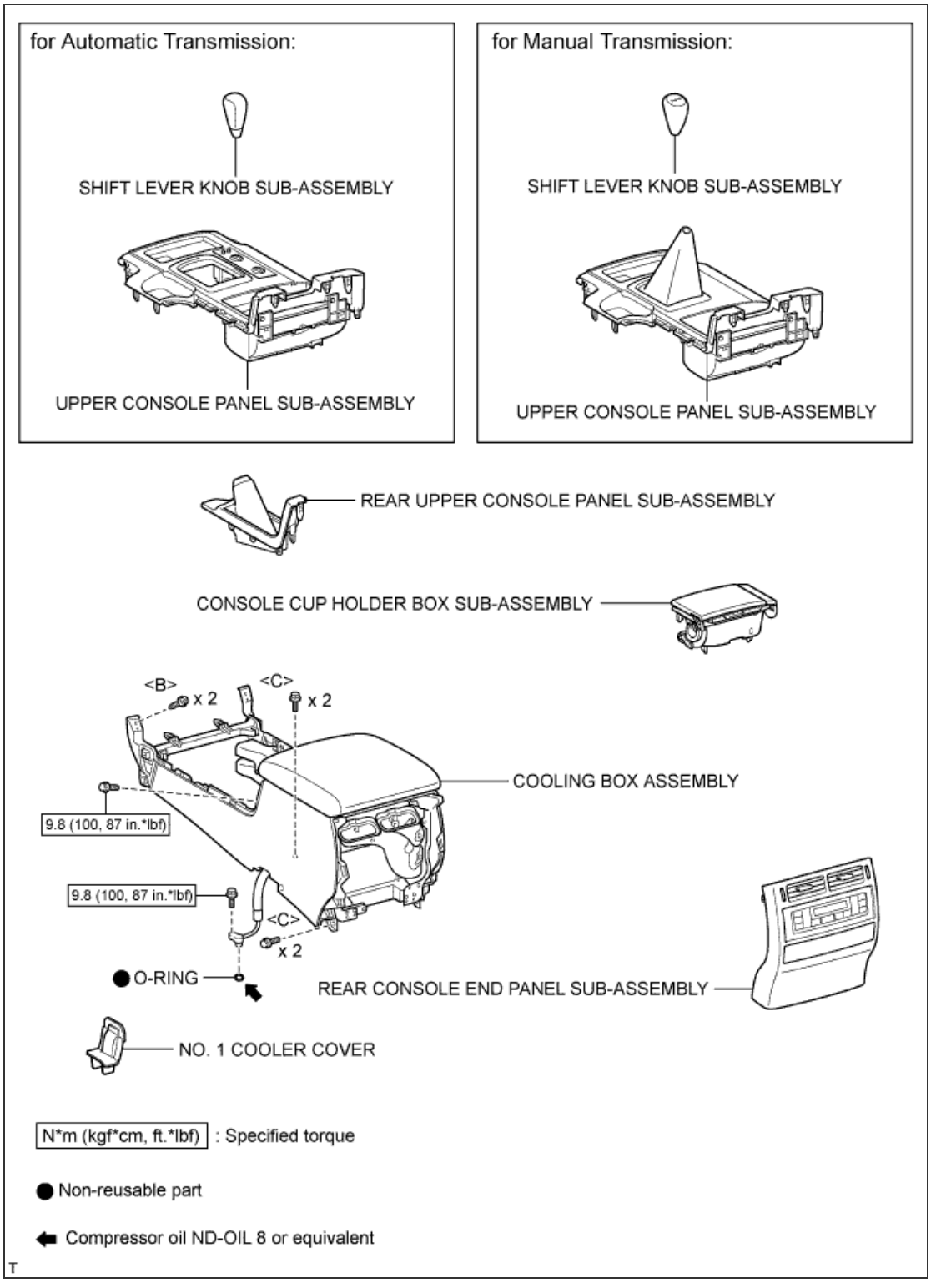


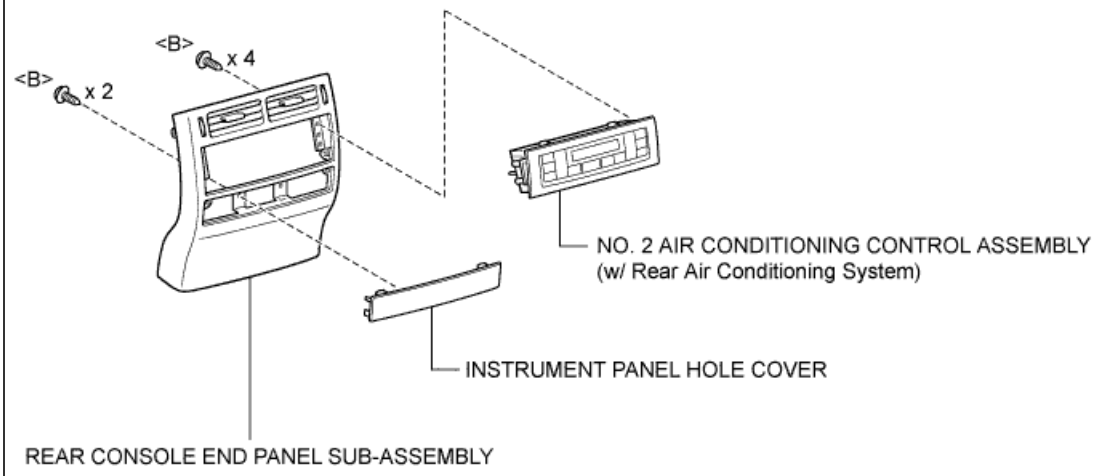

### 12. INSTALL FRONT SEAT ASSEMBLY RH

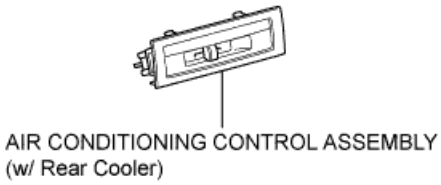
(Click here)

**for Preparation** Click here

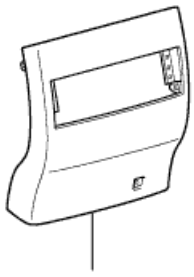



for Automatic Transmission:
SHIFT LEVER KNOB SUB-ASSEMBLY
UPPER CONSOLE PANEL SUB-ASSEMBLY
for Manual Transmission:
SHIFT LEVER KNOB SUB-ASSEMBLY
UPPER CONSOLE PANEL SUB-ASSEMBLY
REAR UPPER CONSOLE PANEL SUB-ASSEMBLY
CONSOLE CUP HOLDER BOX SUB-ASSEMBLY
<B>
x 2
<C>
x 2
COOLING BOX ASSEMBLY
9.8 (100, 87 in.*lbf)
9.8 (100, 87 in.*lbf)
<C>
x 2
O-RING
REAR CONSOLE END PANEL SUB-ASSEMBLY
NO. 1 COOLER COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
Compressor oil ND-OIL 8 or equivalent
T



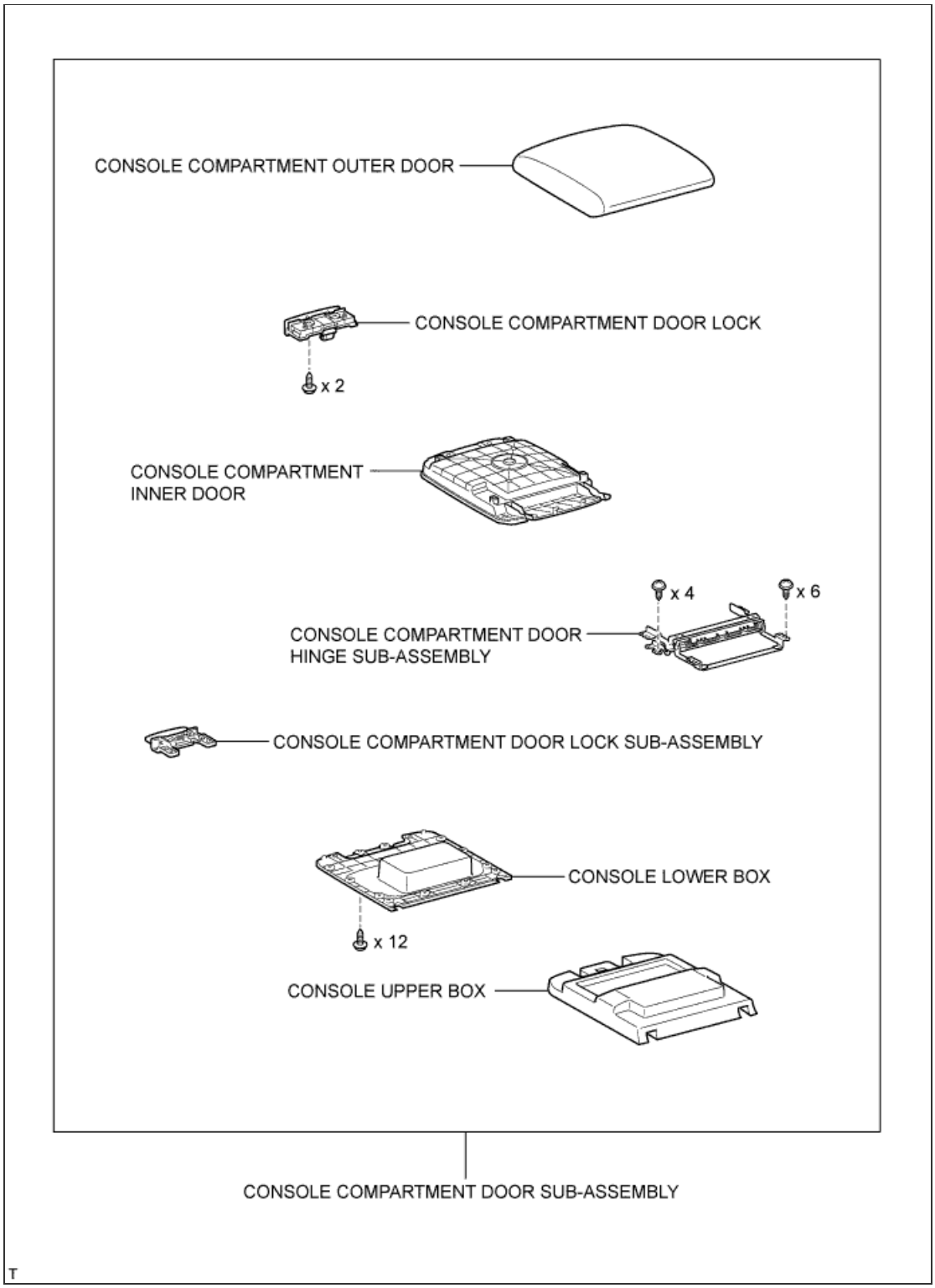

w/o Rear Cooler:



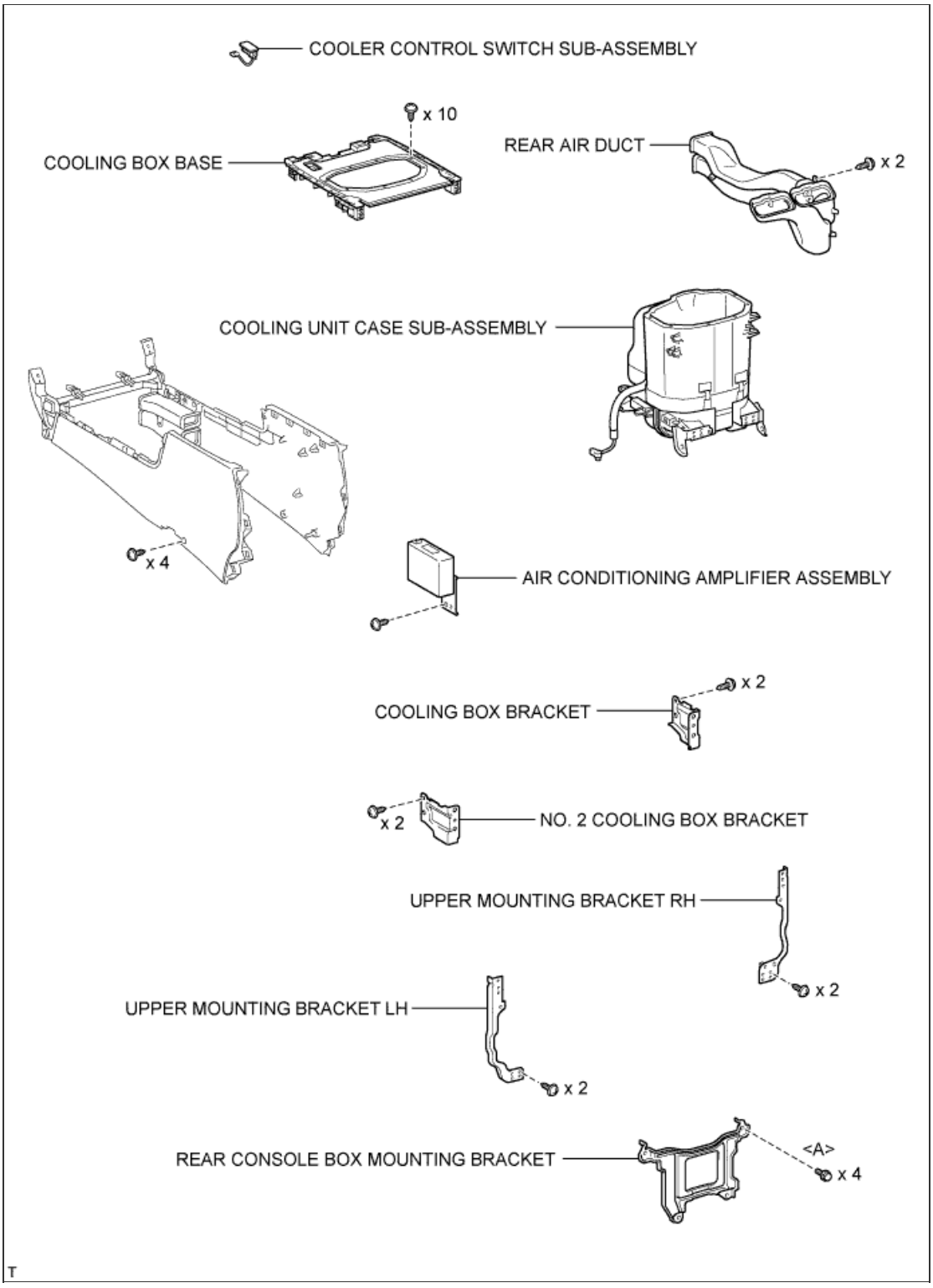


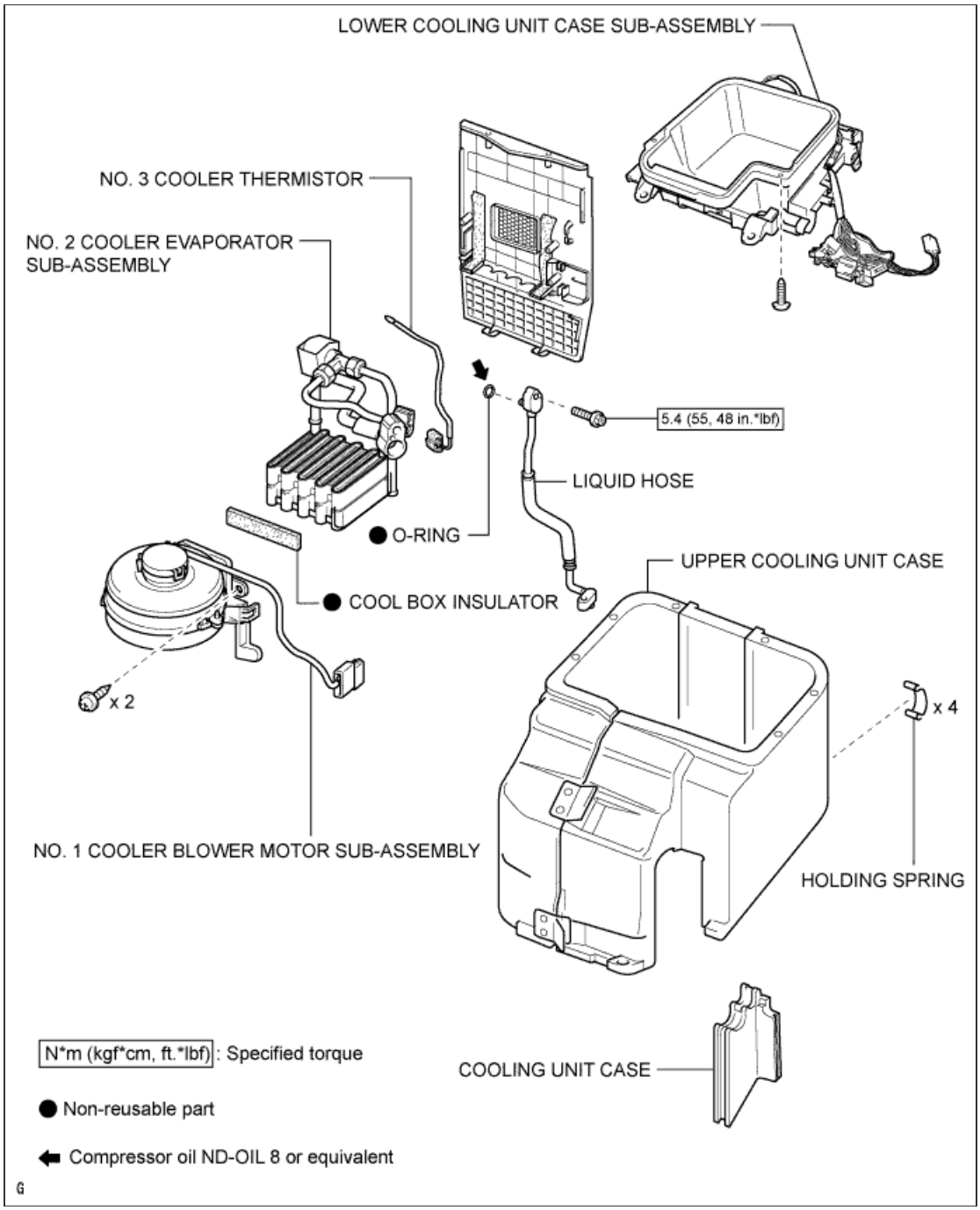


T


CONSOLE COMPARTMENT OUTER DOOR
CONSOLE COMPARTMENT DOOR LOCK
x 2
CONSOLE COMPARTMENT
INNER DOOR
x 4
x 6
CONSOLE COMPARTMENT DOOR
HINGE SUB-ASSEMBLY
CONSOLE COMPARTMENT DOOR LOCK SUB-ASSEMBLY
CONSOLE LOWER BOX
x 12
CONSOLE UPPER BOX
CONSOLE COMPARTMENT DOOR SUB-ASSEMBLY

T


COOLER CONTROL SWITCH SUB-ASSEMBLY
x 10
COOLING BOX BASE
REAR AIR DUCT
x 2
COOLING UNIT CASE SUB-ASSEMBLY
x 4
AIR CONDITIONING AMPLIFIER ASSEMBLY
x 2
COOLING BOX BRACKET
x 2
NO. 2 COOLING BOX BRACKET
UPPER MOUNTING BRACKET RH
x 2
UPPER MOUNTING BRACKET LH
x 2
REAR CONSOLE BOX MOUNTING BRACKET
<A>
x 4
T


LOWER COOLING UNIT CASE SUB-ASSEMBLY
NO. 3 COOLER THERMISTOR
NO. 2 COOLER EVAPORATOR SUB-ASSEMBLY
5.4 (55, 48 in.*lbf)
LIQUID HOSE
O-RING
UPPER COOLING UNIT CASE
COOL BOX INSULATOR
x 2
x 4
NO. 1 COOLER BLOWER MOTOR SUB-ASSEMBLY
HOLDING SPRING
COOLING UNIT CASE
N*m (kgf*cm, ft.*lbf): Specified torque
Non-reusable part
Compressor oil ND-OIL 8 or equivalent
G

**for Preparation** Click here

## 1. RECOVER REFRIGERANT FROM REFRIGERATION SYSTEM

a. Start the engine.

b. Turn the A/C switch on.

c. Operate the cooler compressor while the engine speed is approximately 1000 rpm for 5 to 6 minutes to circulate the refrigerant and collect the compressor oil remaining in each component into the cooler compressor.

d. Stop the engine.

e. Recover the refrigerant from the A/C system using a refrigerant recovery unit.

## 2. REMOVE FRONT SEAT ASSEMBLY LH (for Power Seat)

a. Remove the front seat assembly LH ( Click here).

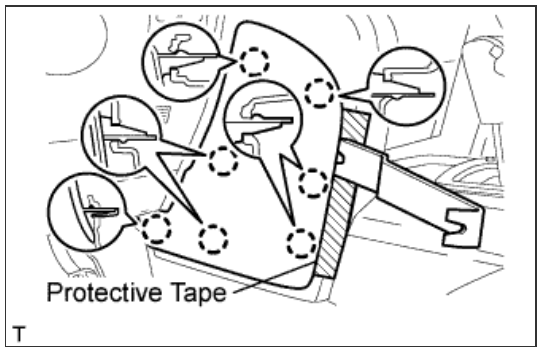
## 3. REMOVE FRONT SEAT ASSEMBLY LH (for Manual Seat)

a. Remove the front seat assembly LH ( Click here).

## 4. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.



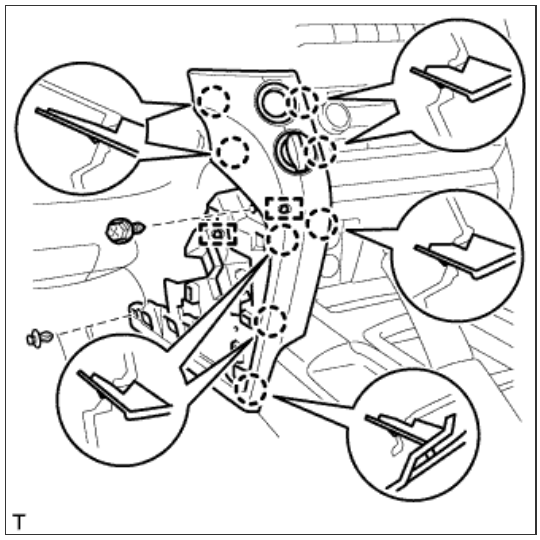

## 5. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip.

b. Remove the screw.

c. Detach the 8 claws.

d. Remove the panel pad and disconnect the connectors and 2 clamps.




### 6. REMOVE NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.

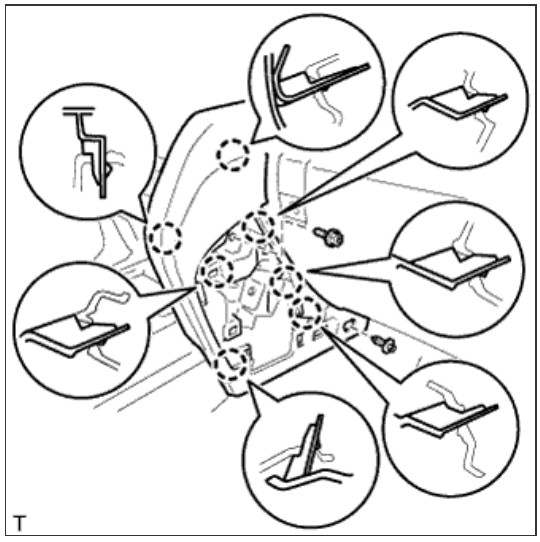



### 7. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip.

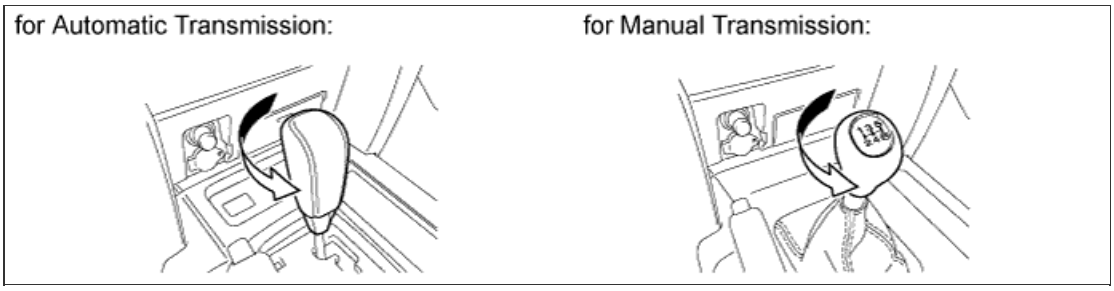
b. Remove the screw.

c. Detach the 7 claws and remove the panel.




### 8. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY

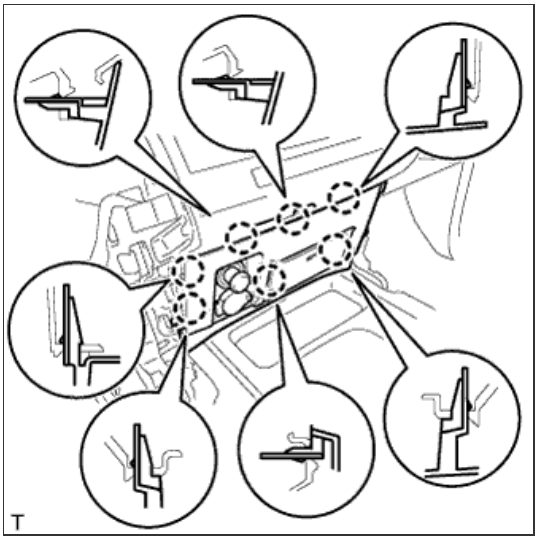
a. Twist the shift lever knob in the direction indicated by the arrow and remove it.




## 9. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

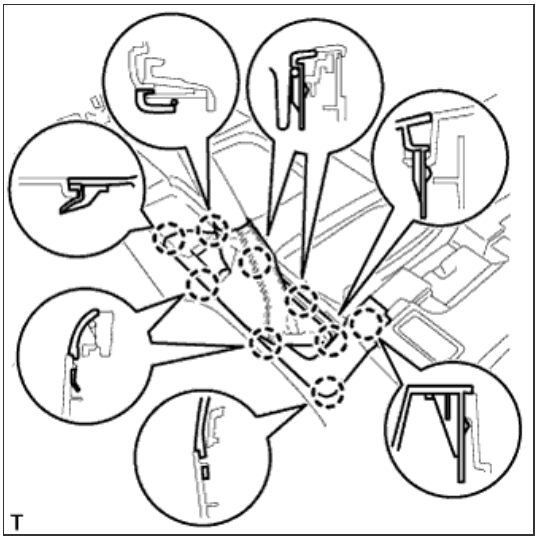
a. Detach the 7 claws.

b. Disconnect the connectors and remove the panel.



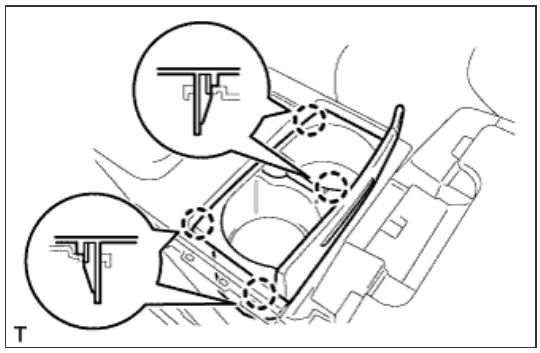

## 10. REMOVE REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 9 claws and remove the panel.




## 11. REMOVE CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

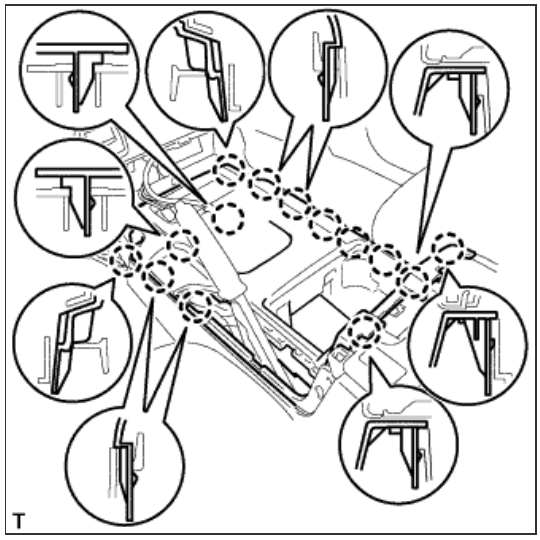
a. Detach the 4 claws and remove the box.




## 12. REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY

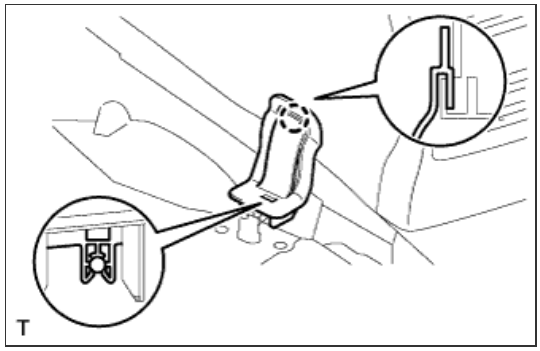
a. Detach the 14 claws.

b. Disconnect the connectors and remove the console panel.




## 13. REMOVE NO. 1 COOLER COVER

a. Detach the clamp on the lower part of the cooler cover, and then pull the cooler cover upward to remove it.

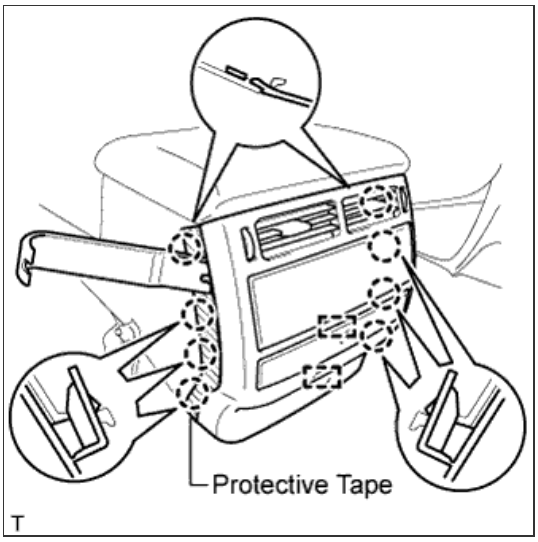



## 14. REMOVE REAR CONSOLE END PANEL SUB-ASSEMBLY

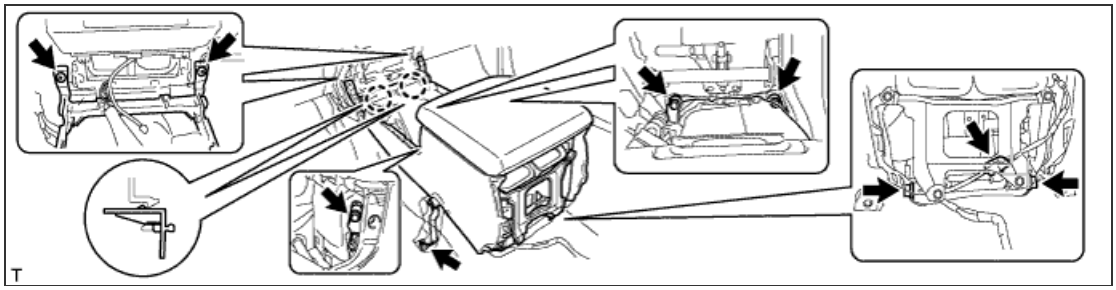
a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 8 claws.

c. Remove the end panel and disconnect the connectors and 2 clamps.




## 15. REMOVE COOLING BOX ASSEMBLY




a. Remove the 4 bolts and 2 screws.

b. Remove the 2 bolts and disconnect the 2 cooler pipes.

c. Remove the 2 O-rings from the cooler pipes.

d. Disconnect the connector.

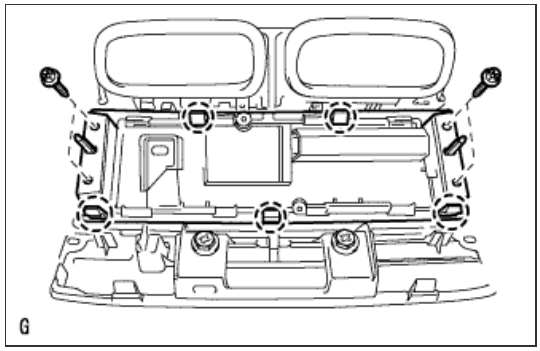
e. Detach the 2 claws and remove the cooling box.

**for Preparation** Click here

## 1. REMOVE NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Air Conditioning System)

a. Remove the 4 screws.

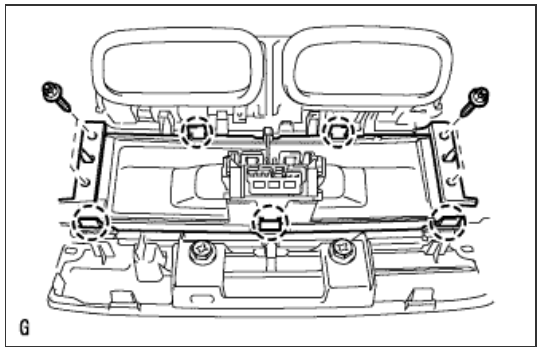
b. Detach the 5 claws and remove the air conditioning control.




## 2. REMOVE AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Cooler)

a. Remove the 4 screws.

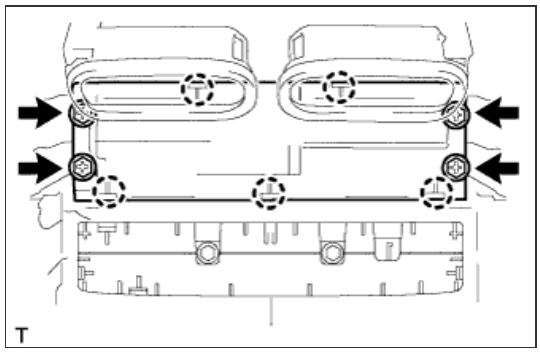
b. Detach the 5 claws and remove the air conditioning control.




## 3. REMOVE REAR COOLER SWITCH HOLE COVER (w/o Rear Cooler)

a. Remove the 4 screws.

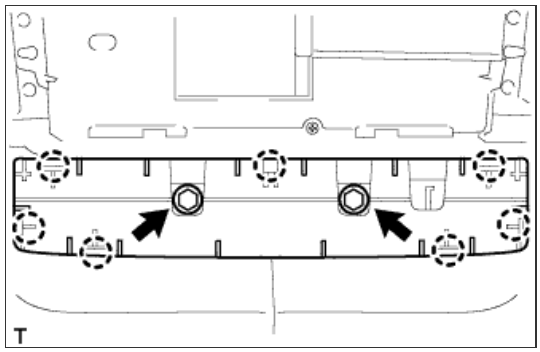
b. Detach the 5 claws and remove the hole cover.




## 4. REMOVE INSTRUMENT PANEL HOLE COVER

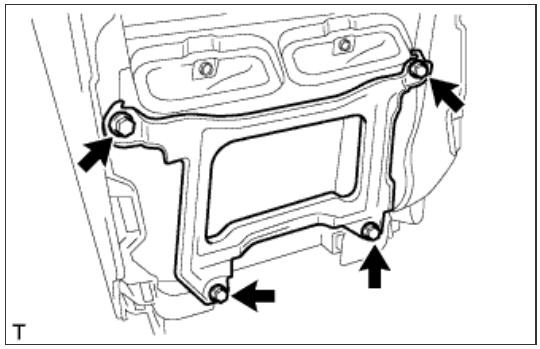
a. Remove the 2 screws.

b. Detach the 7 claws and remove the hole cover.



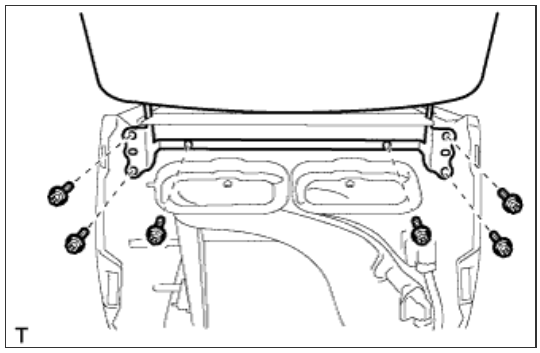

## 5. REMOVE REAR CONSOLE BOX MOUNTING BRACKET

a. Remove the 4 screws and bracket.



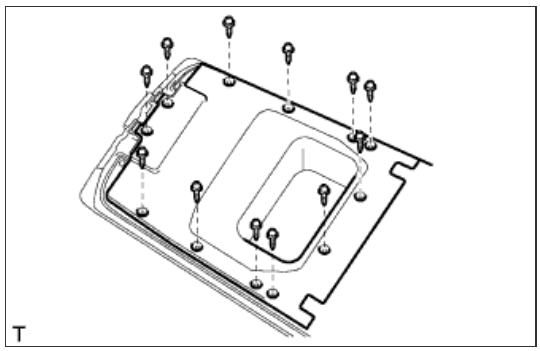

## 6. REMOVE CONSOLE COMPARTMENT DOOR SUB-ASSEMBLY

a. Remove the 6 screws and door.



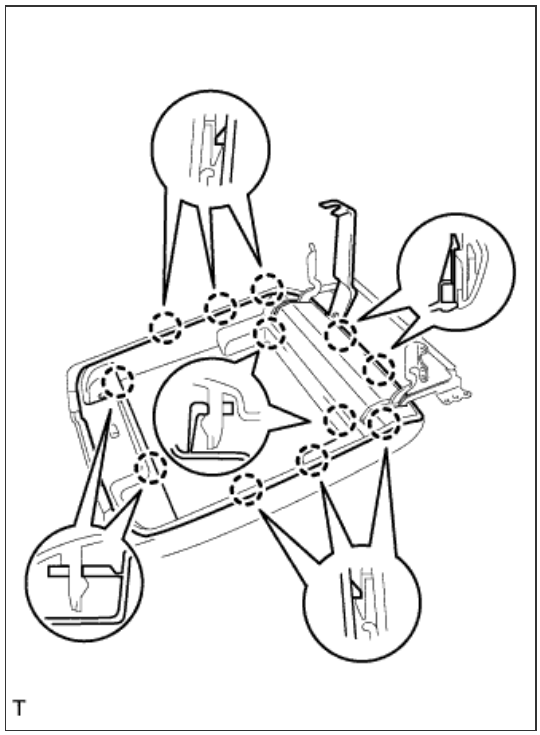

## 7. REMOVE CONSOLE COMPARTMENT DOOR LOCK SUB-ASSEMBLY

a. Remove the 12 screws, lower box and door lock.

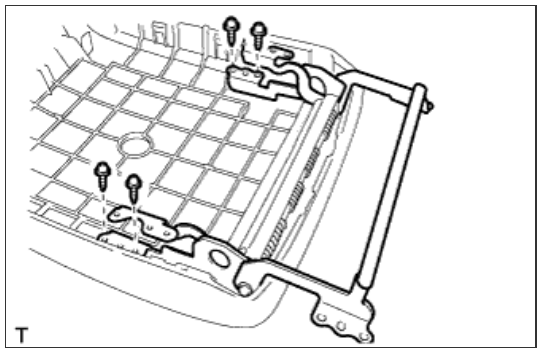



## 8. REMOVE CONSOLE COMPARTMENT DOOR HINGE SUB-ASSEMBLY

a. Using a moulding remover, detach the 12 claws and remove the inner door.

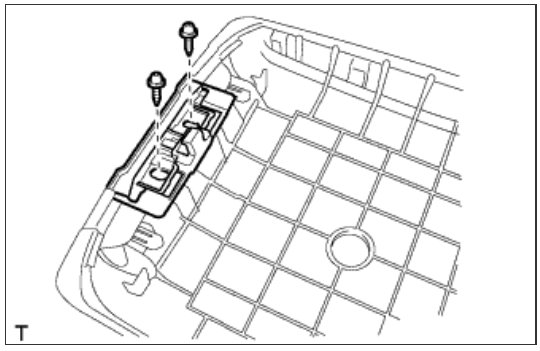



b. Remove the 4 screws and door hinge.




## 9. REMOVE CONSOLE COMPARTMENT DOOR LOCK

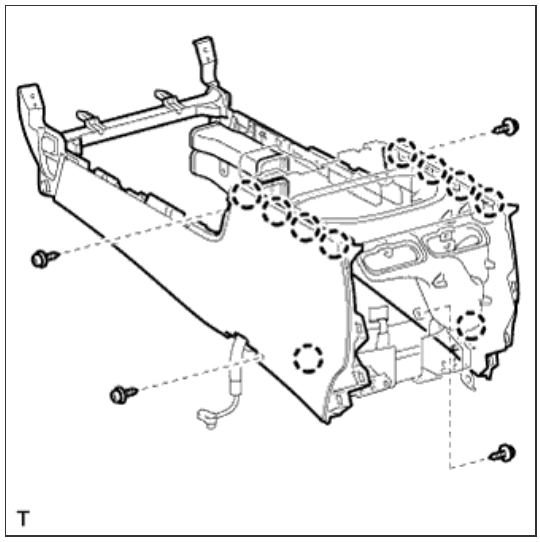
a. Remove the 2 screws and door lock.




## 10. REMOVE COOLING BOX ASSEMBLY

a. Remove the 4 screws.

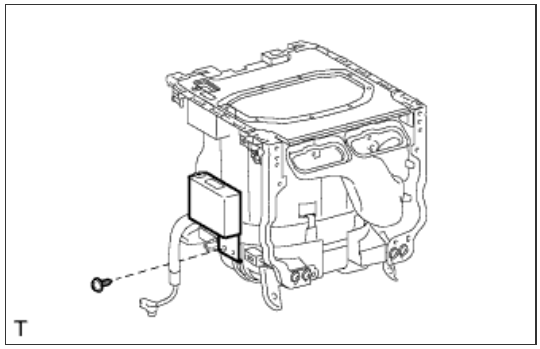
b. Detach the 10 claws and remove the cooling box.




## 11. REMOVE AIR CONDITIONING AMPLIFIER ASSEMBLY

a. Disconnect the connector.

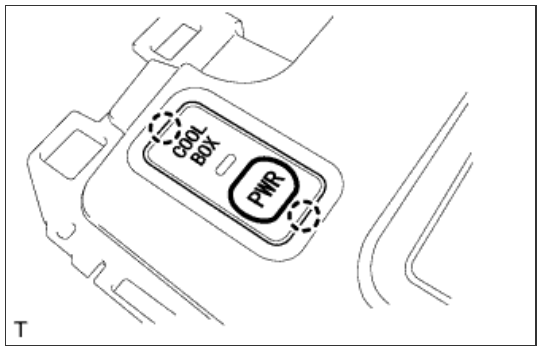
b. Remove the screw and amplifier.




## 12. REMOVE COOLER CONTROL SWITCH SUB-ASSEMBLY

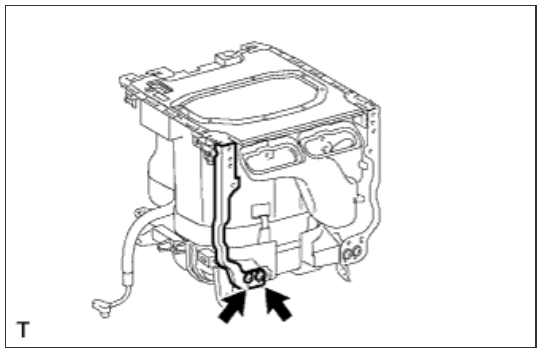
a. Detach the 2 claws.

b. Disconnect the connector and remove the switch.

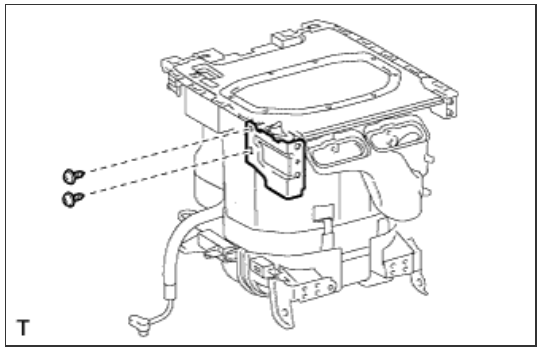



## 13. REMOVE NO. 2 COOLING BOX BRACKET

a. Remove the 2 screws and mounting bracket.

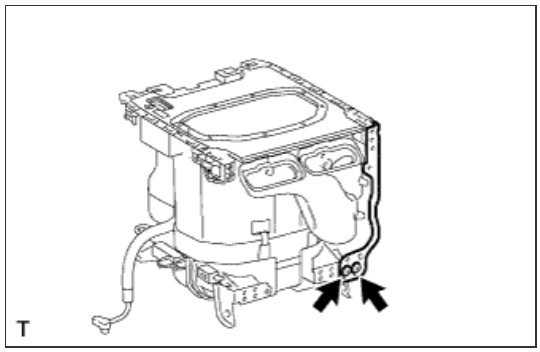



b. Remove the 2 screws and bracket.

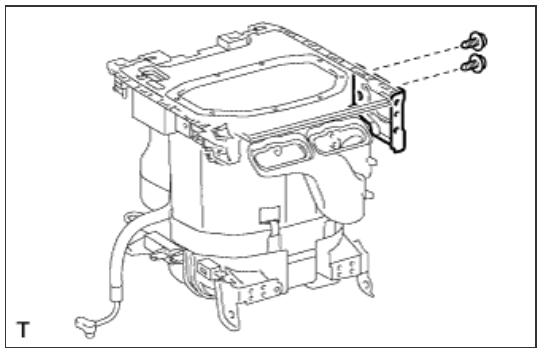



## 14. REMOVE COOLING BOX BRACKET

a. Remove the 2 screws and mounting bracket.

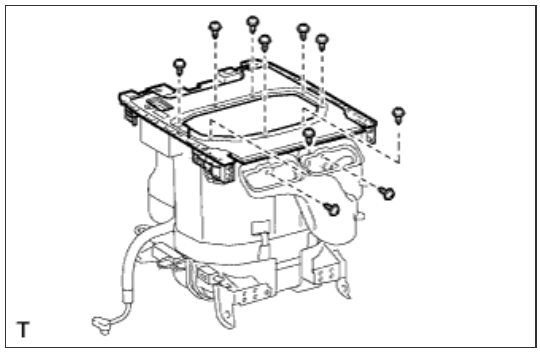



b. Remove the 2 screws and bracket.



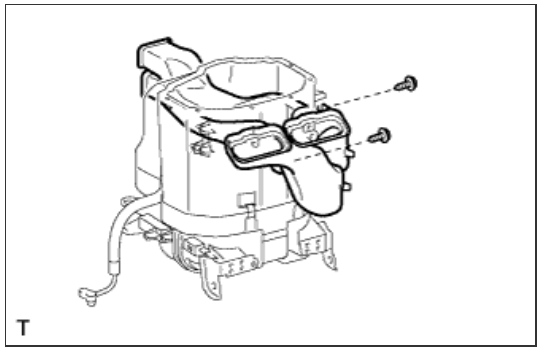

## 15. REMOVE COOLING BOX BASE

a. Remove the 10 screws and cooling box base.




## 16. REMOVE COOLING UNIT CASE SUB-ASSEMBLY

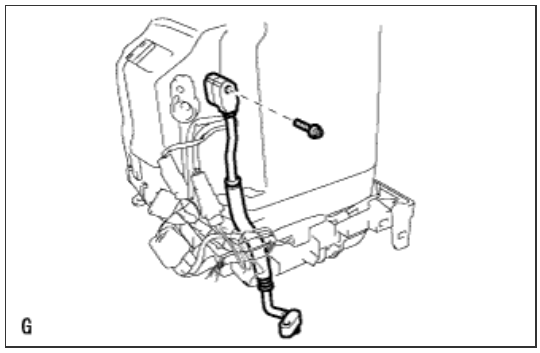
a. Remove the 2 screws and air duct from the case.




## 17. REMOVE LIQUID HOSE

a. Remove the bolt and liquid hose.

b. Remove the O-ring from the liquid hose.

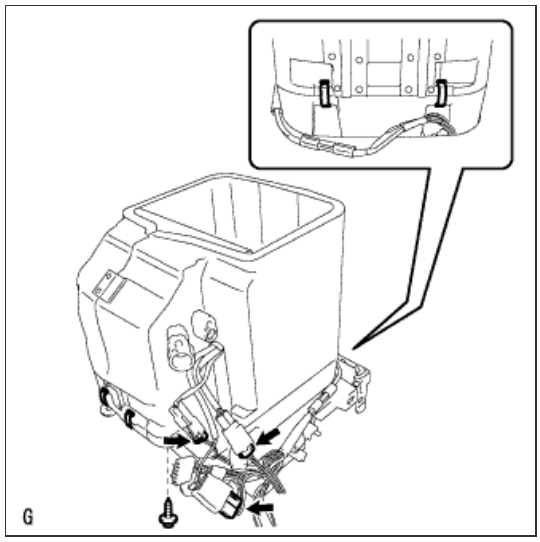



## 18. REMOVE LOWER COOLING UNIT CASE SUB-ASSEMBLY

a. Remove the screw.

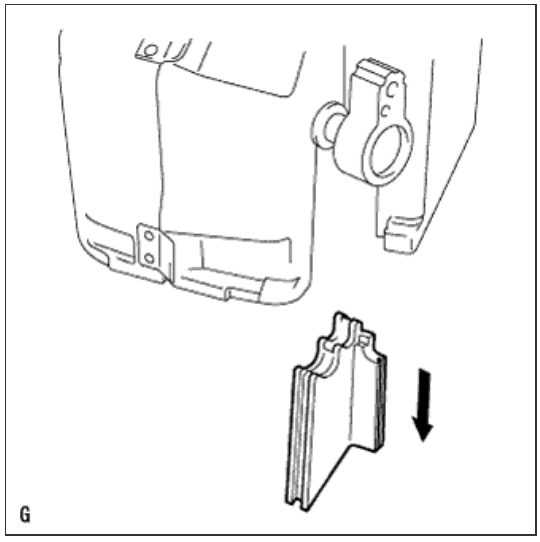
b. Disconnect the 3 connectors.

c. Remove the 4 holding springs and lower cooling unit case.

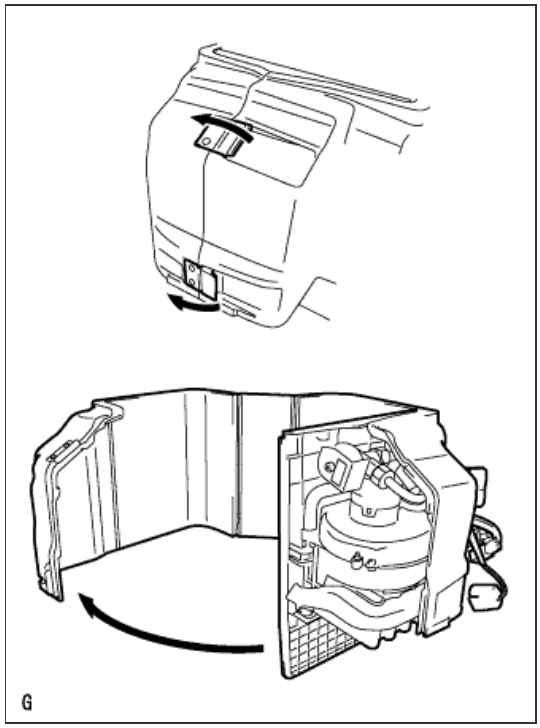



## 19. REMOVE UPPER COOLING UNIT CASE

a. Remove the cooling unit case.

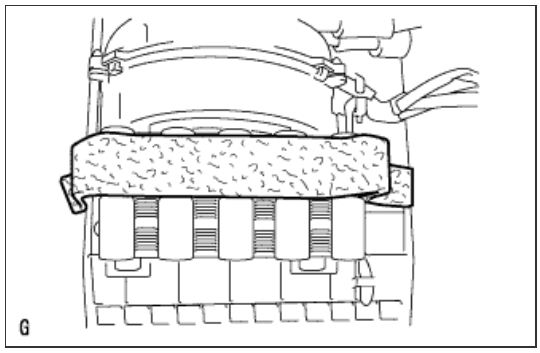



b. Detach the 2 hooks and open the case, as shown in the illustration.

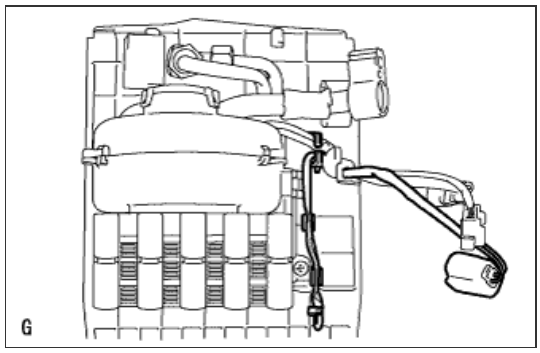


## 20. REMOVE NO. 3 COOLER THERMISTOR

a. Remove the cool box insulator.



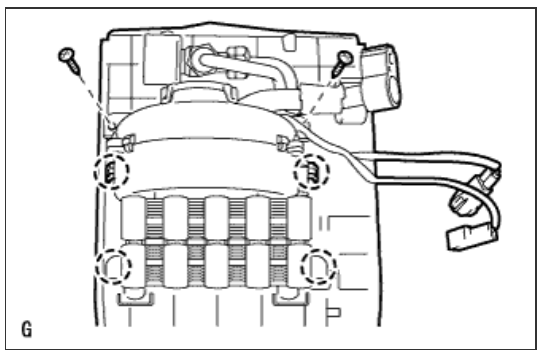

b. Remove the thermistor.




## 21. REMOVE NO. 1 COOLER BLOWER MOTOR SUB-ASSEMBLY

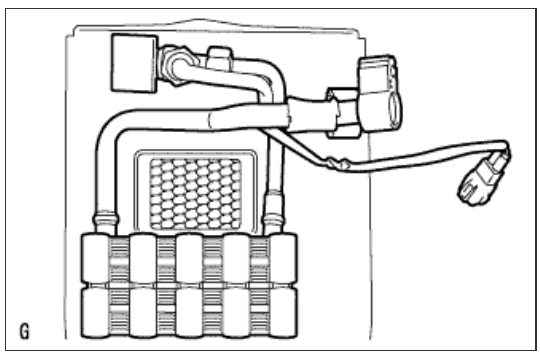
a. Remove the 2 screws.

b. Detach the 4 claws and remove the blower motor.




## 22. REMOVE NO. 2 COOLER EVAPORATOR SUB-ASSEMBLY

a. Remove the evaporator.



**for Preparation** Click here

## 1. INSPECT COOLER CONTROL SWITCH SUB-ASSEMBLY

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 1 - 2 | On | Below 1 Ω |
| 1 - 2 | Off | 10 kΩ or higher |

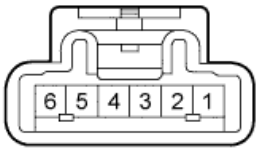
b. Apply battery voltage to the cooler control switch connector and check that the indicator illuminates.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 3<br>Battery negative (-) → Terminal 4 | indicator illuminates |

If the result is not as specified, replace the cooler control switch.

Component without harness connected:
(Cooler Control Switch)




## 2. INSPECT NO. 1 COOLER BLOWER MOTOR SUB-ASSEMBLY

a. Apply battery voltage to the blower motor connector and check the operation of the blower motor.

**OK:**

| Measurement Condition | Specified Condition |
|---|---|
| Battery positive (+) → Terminal 1<br>Battery negative (-) → Terminal 2 | Motor operates smoothly |

If the result is not as specified, replace the blower motor.

Component without harness connected:
(No. 1 Cooler Blower Motor)




## 3. INSPECT NO. 3 COOLER THERMISTOR

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 1 - 2 | -10°C (14°F) | 7.40 to 9.20 kΩ |
| 1 - 2 | -5°C (23°F) | 5.65 to 7.00 kΩ |
| 1 - 2 | 0°C (32°F) | 4.35 to 5.40 kΩ |
| 1 - 2 | 5°C (41°F) | 3.40 to 4.20 kΩ |
| 1 - 2 | 10°C (50°F) | 2.68 to 3.30 kΩ |
| 1 - 2 | 15°C (59°F) | 2.10 to 2.60 kΩ |
| 1 - 2 | 20°C (68°F) | 1.66 to 2.10 kΩ |
| | | |

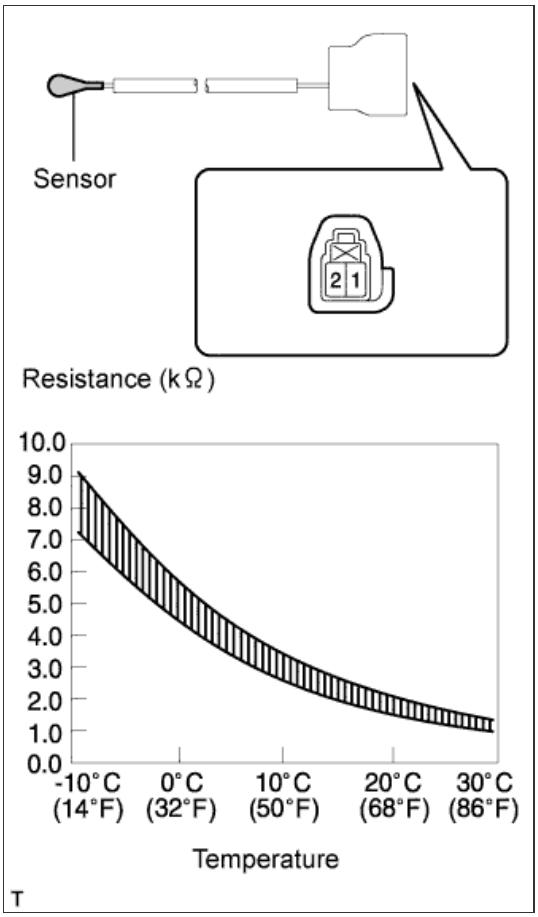
| | | |
|---|---|---|
| 1 - 2 | 25°C (77°F)<br>30°C (86°F) | 1.32 to 1.66 kΩ<br>1.05 to 1.35 kΩ |

**NOTICE:**

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

**HINT:**

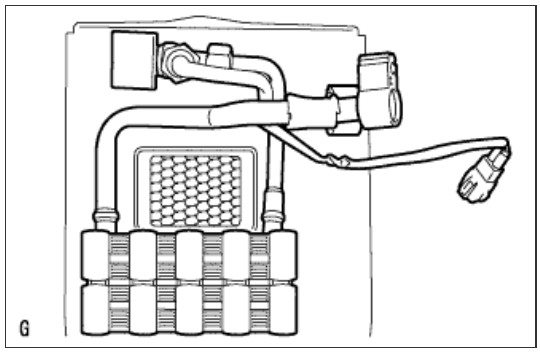
- **As the temperature increases, the resistance decreases (see the graph).**
- **If the result is not as specified, replace the cooler thermistor.**



**for Preparation** Click here

## 1. INSTALL NO. 2 COOLER EVAPORATOR SUB-ASSEMBLY

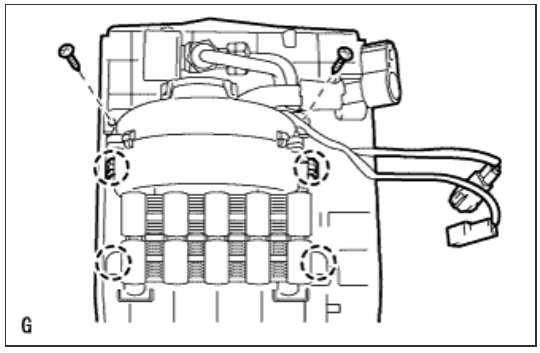
a. Install the evaporator.




## 2. INSTALL NO. 1 COOLER BLOWER MOTOR SUB-ASSEMBLY

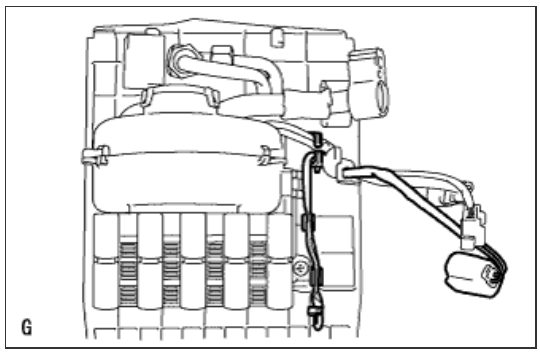
a. Attach the 4 claws to install the blower motor.

b. Install the 2 screws.

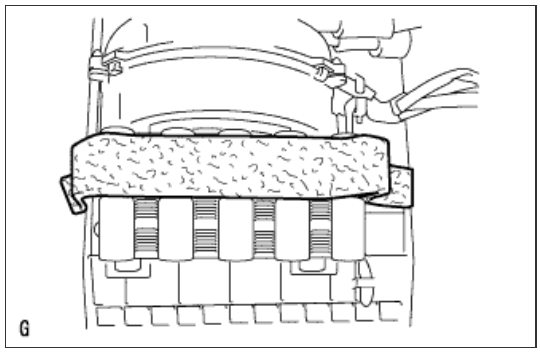



## 3. INSTALL NO. 3 COOLER THERMISTOR

a. Install the thermistor.

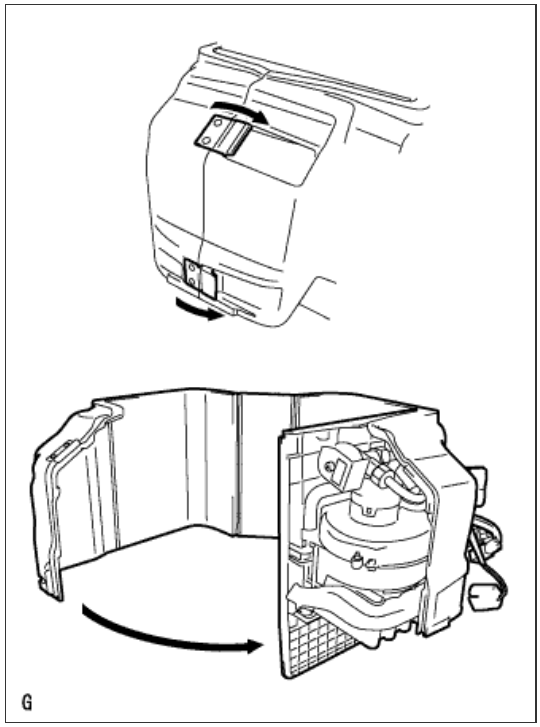



b. Install a new cool box insulator, as shown in the illustration.

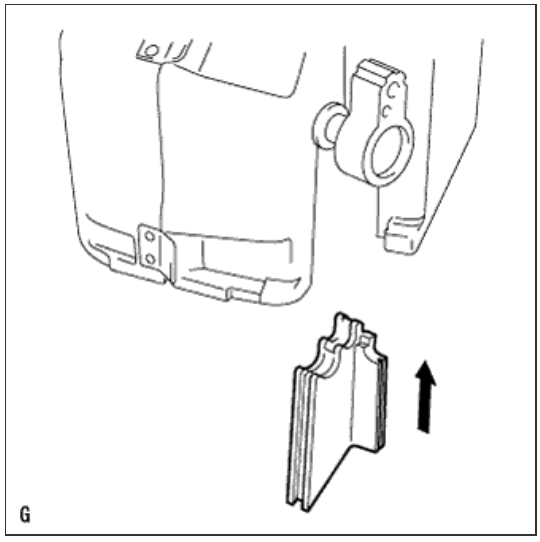



## 4. INSTALL UPPER COOLING UNIT CASE

a. Attach the 2 hooks and close the case, as shown in the illustration.




b. Install the cooling unit case.

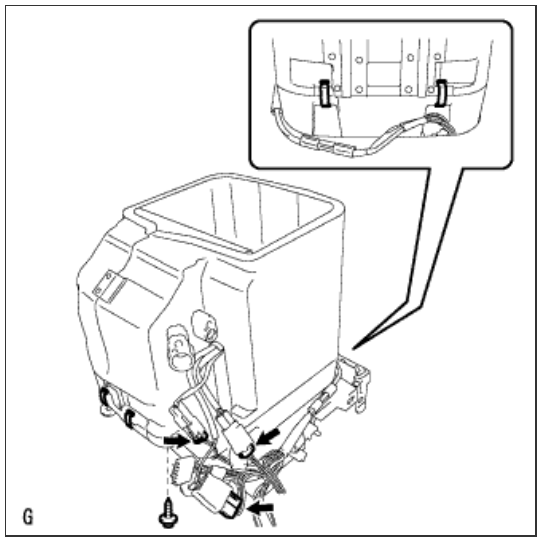



## 5. INSTALL LOWER COOLING UNIT CASE SUB-ASSEMBLY

a. Install the lower cooling unit case with the 4 holding springs.

b. Connect the 3 connectors.

c. Install the screw.




## 6. INSTALL LIQUID HOSE

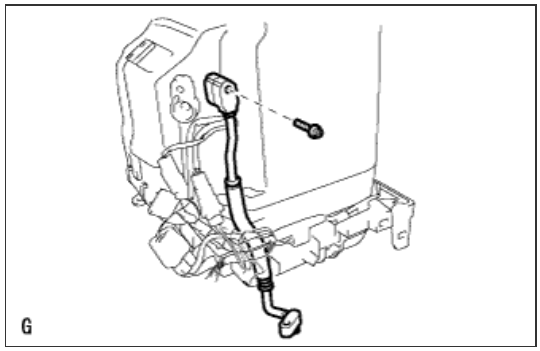
a. Sufficiently apply compressor oil to a new O-ring and the fitting surface of the cooler evaporator.

**Compressor oil:**
**ND-OIL 8 or equivalent**

b. Install the O-ring on the liquid hose.

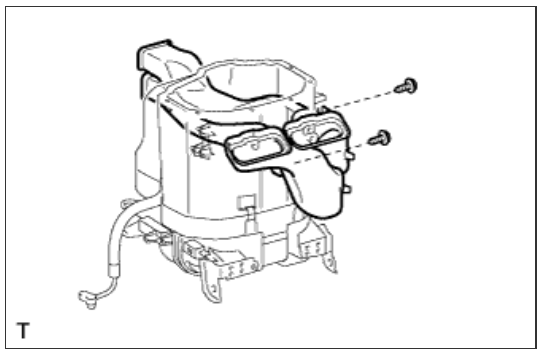
c. Install the liquid hose to the evaporator with the bolt.

**Torque:**
**5.4 N*m{ 55 kgf*cm , 48 in.*lbf }**



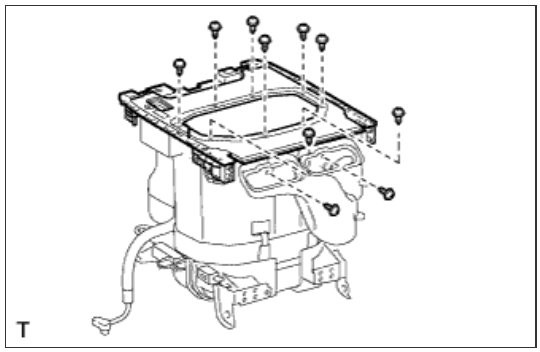

## 7. INSTALL COOLING UNIT CASE SUB-ASSEMBLY

a. Install the air duct to the case with the 2 screws.



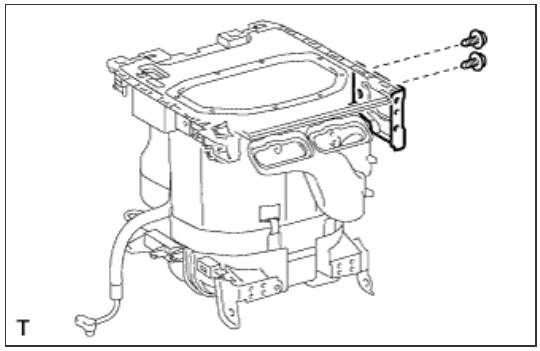

## 8. INSTALL COOLING BOX BASE

a. Install the cooling box base with the 10 screws.

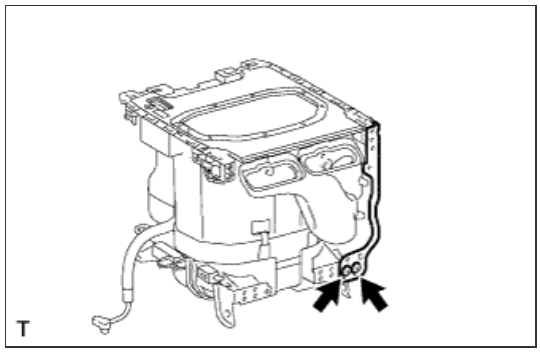



## 9. INSTALL COOLING BOX BRACKET

a. Install the bracket with the 2 screws.

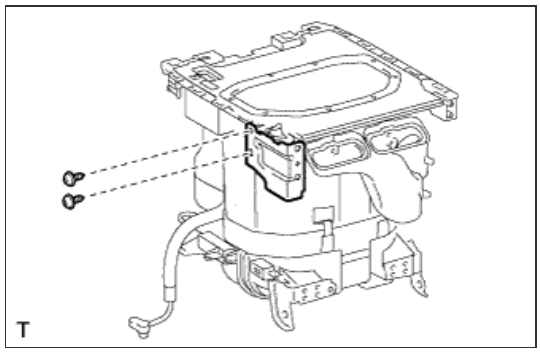



b. Install the mounting bracket with the 2 screws.

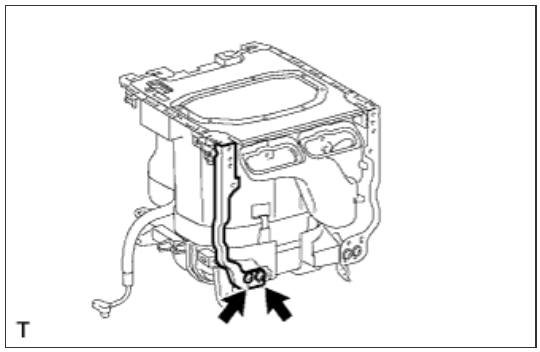



## 10. INSTALL NO. 2 COOLING BOX BRACKET

a. Install the bracket with the 2 screws.



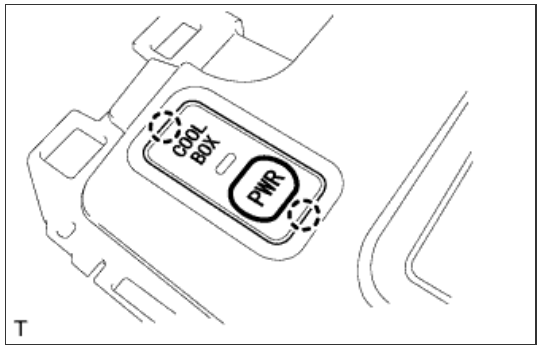

b. Install the mounting bracket with the 2 screws.




## 11. INSTALL COOLER CONTROL SWITCH SUB-ASSEMBLY

a. Connect the connector.

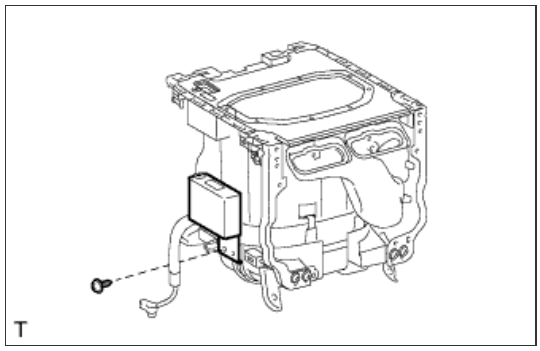
b. Attach the 2 claws to install the switch.




## 12. INSTALL AIR CONDITIONING AMPLIFIER ASSEMBLY

a. Install the amplifier with the screw.

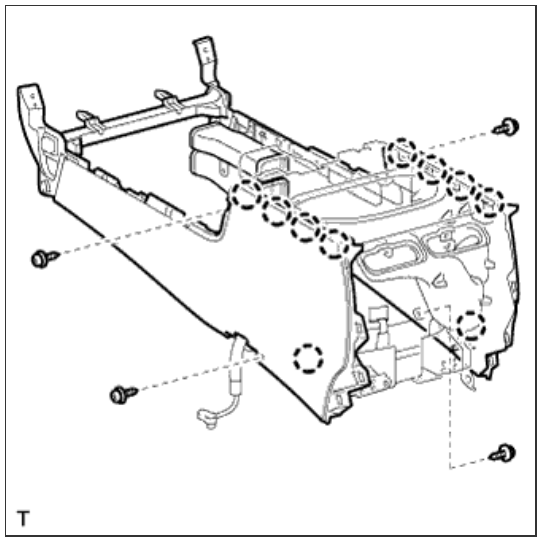
b. Connect the connector.




## 13. INSTALL COOLING BOX ASSEMBLY

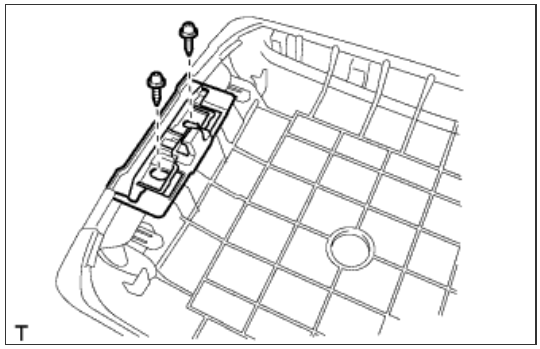
a. Attach the 10 claws to install the cooling box.

b. Install the 4 screws.



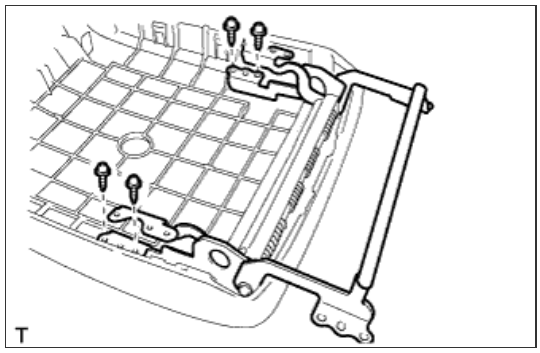

### 14. INSTALL CONSOLE COMPARTMENT DOOR LOCK

a. Install the door lock with the 2 screws.

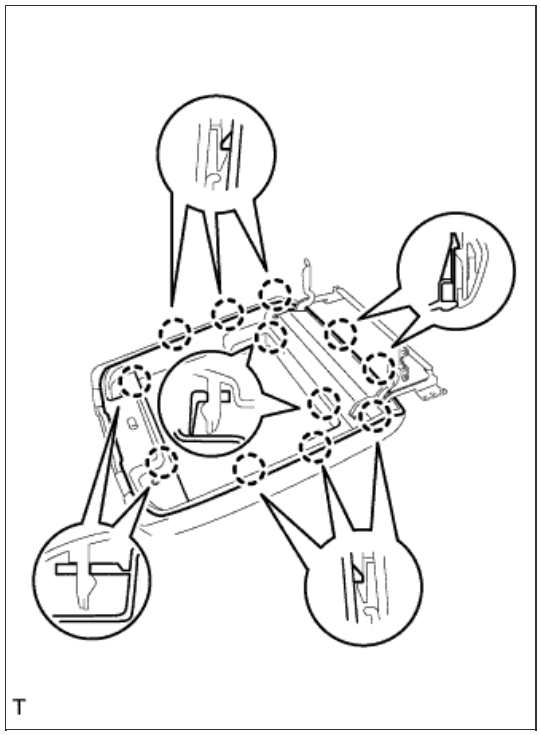



### 15. INSTALL CONSOLE COMPARTMENT DOOR HINGE SUB-ASSEMBLY

a. Install the door hinge with the 4 screws.

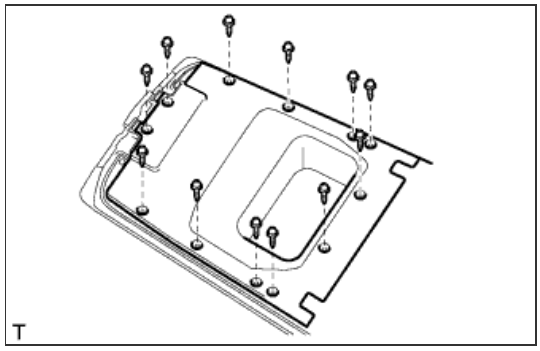



b. Attach the 12 claws to install the inner door.



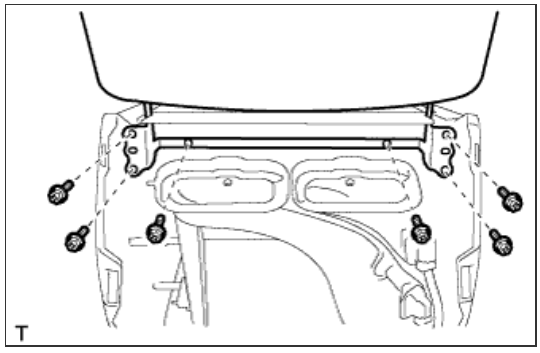

### 16. INSTALL CONSOLE COMPARTMENT DOOR LOCK SUB-ASSEMBLY

a. Install the door lock. Then install the lower box with the 12 screws.



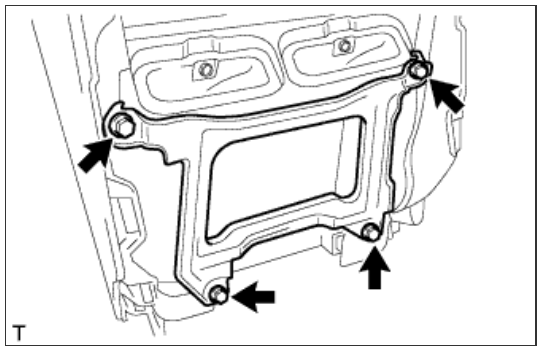

### 17. INSTALL CONSOLE COMPARTMENT DOOR SUB-ASSEMBLY

a. Install the door with the 6 screws.




### 18. INSTALL REAR CONSOLE BOX MOUNTING BRACKET

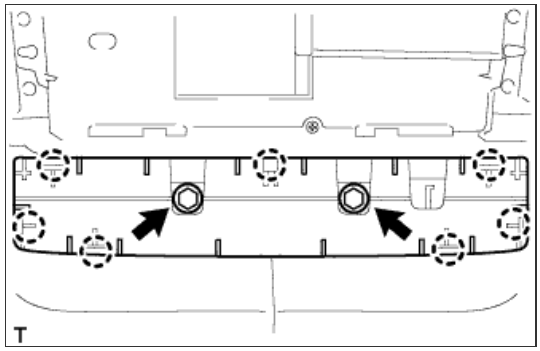
a. Install the bracket with the 4 bolts.




## 19. INSTALL INSTRUMENT PANEL HOLE COVER

a. Attach the 7 claws to install the hole cover.

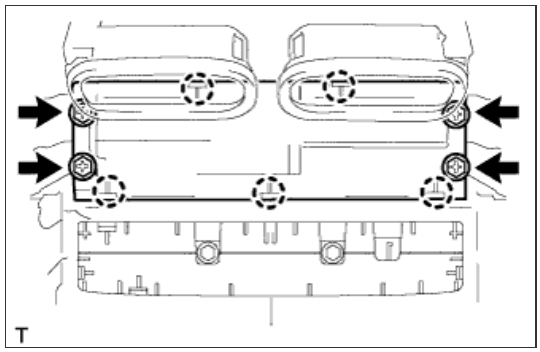
b. Install the 2 screws.




## 20. INSTALL REAR COOLER SWITCH HOLE COVER (w/o Rear Cooler)

a. Attach the 5 claws.

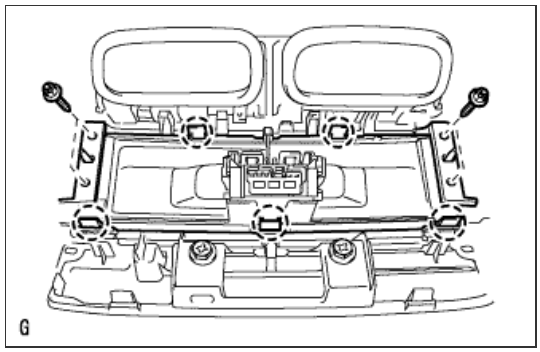
b. Install the hole cover with the 4 screws.




## 21. INSTALL AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Cooler)

a. Attach the 5 claws to install the air conditioning control.

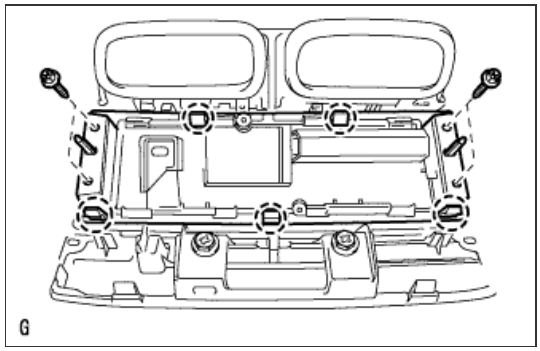
b. Install the 4 screws.




## 22. INSTALL NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Air Conditioning System)

a. Attach the 5 claws to install the air conditioning control.

b. Install the 4 screws.

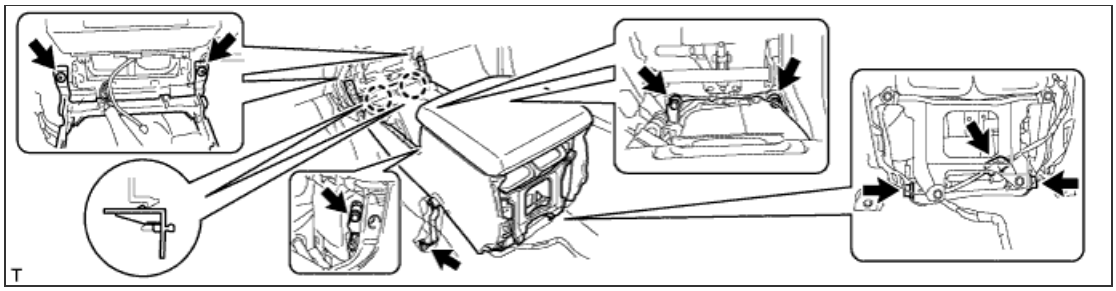


**for Preparation** Click here

**HINT:**

A bolt without a torque specification is shown in the standard bolt chart ( Click here).

## 1. INSTALL COOLING BOX ASSEMBLY




a. Attach the 2 claws.

b. Connect the connector.

c. Sufficiently apply compressor oil to 2 new O-rings.

**Compressor oil:**
**ND-OIL 8 or equivalent**

d. Install the 2 O-rings on the 2 cooler pipes.

e. Connect the 2 cooler pipes with the 2 bolts.

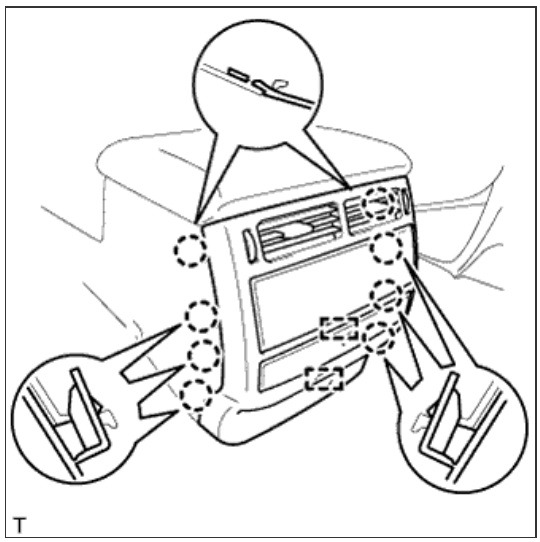
**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

f. Install the cooling box with the 4 bolts and 2 screws.

## 2. INSTALL REAR CONSOLE END PANEL SUB-ASSEMBLY

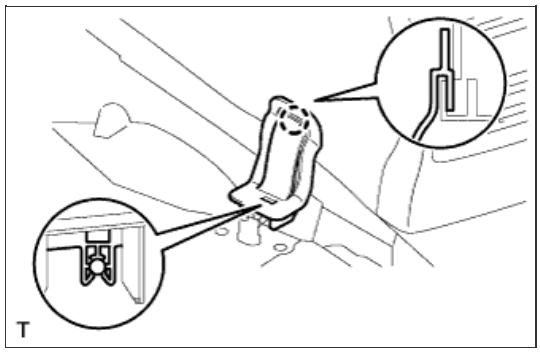
a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the end panel.



### 3. INSTALL NO. 1 COOLER COVER

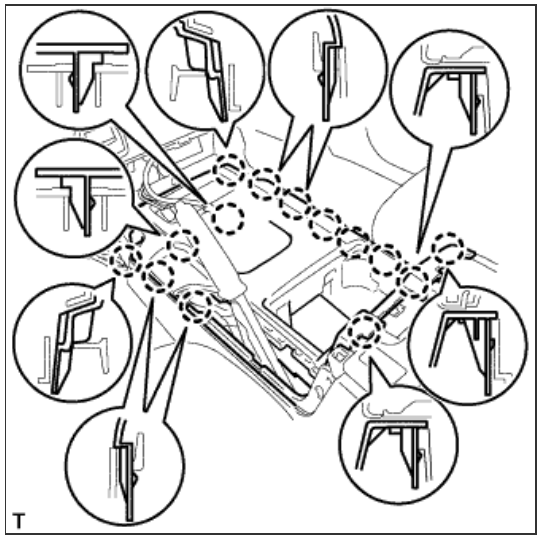
a. Attach the claw on the upper part of the cooler cover, and then attach the clamp on the lower part of the cooler cover to install it.




### 4. INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY

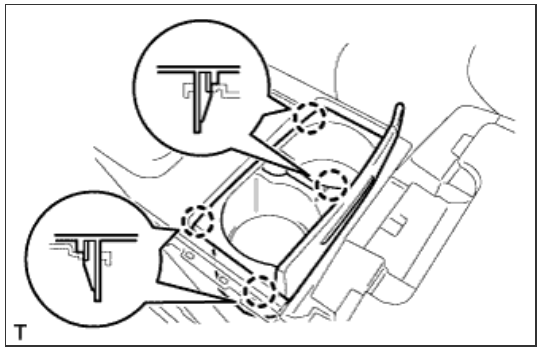
a. Connect the connectors.

b. Attach the 14 claws to install the console panel.



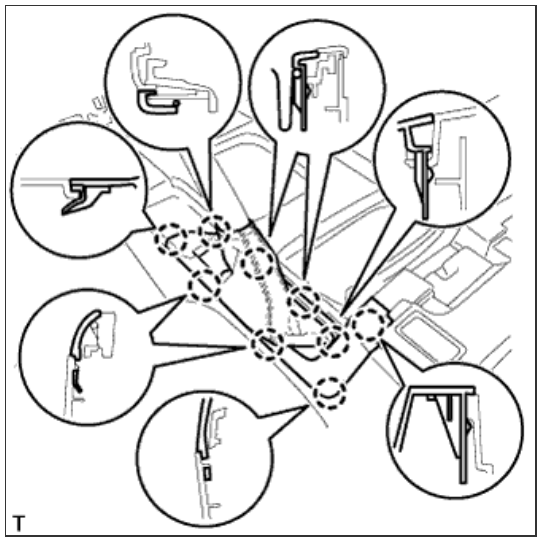

### 5. INSTALL CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

a. Attach the 4 claws to install the box.




### 6. INSTALL REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

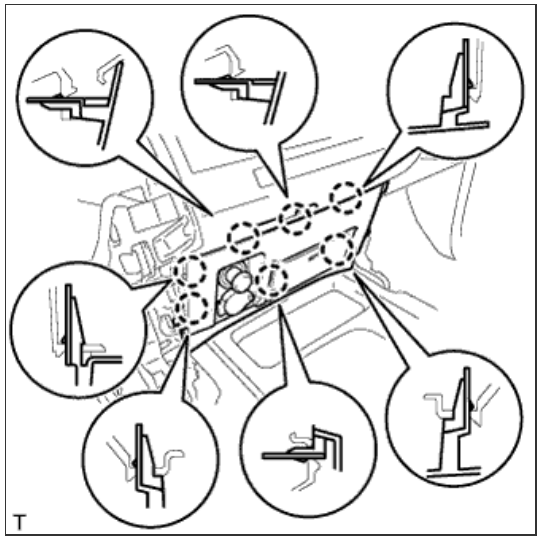
a. Attach the 9 claws to install the panel.




## 7. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

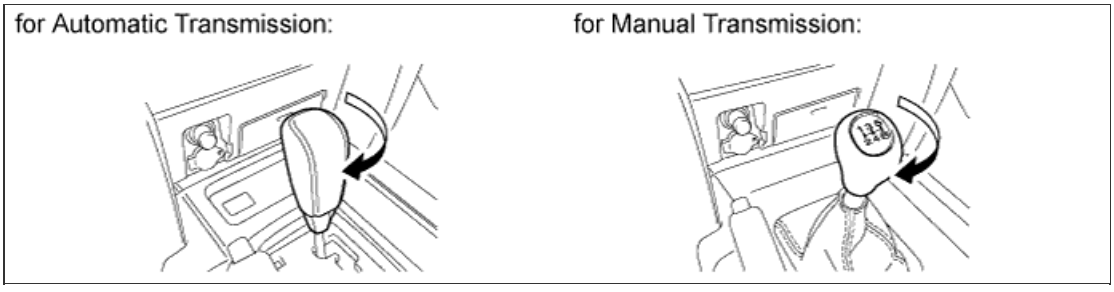
a. Connect the connectors.

b. Attach the 7 claws to install the panel.




## 8. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY

a. Install the shift lever knob and twist it in the direction indicated by the arrow.

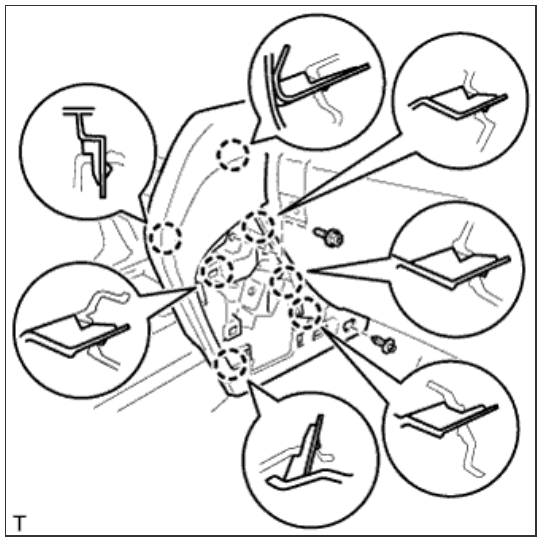



## 9. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 7 claws to install the panel pad.

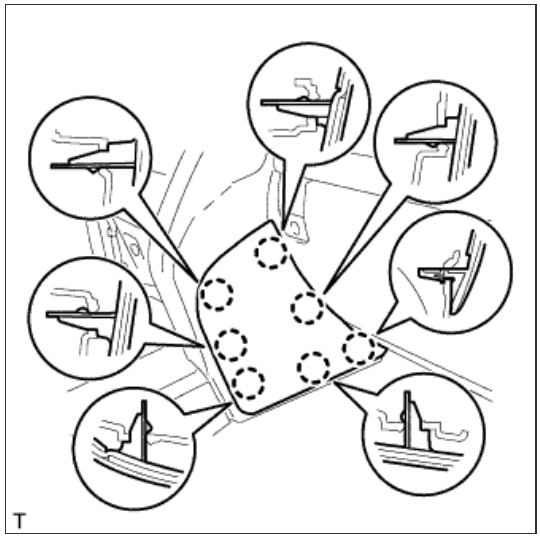
b. Install the screw.

c. Install the clip.




## 10. INSTALL NO. 1 INSTRUMENT PANEL FINISH CUSHION

a. Attach the 7 claws to install the panel cushion.



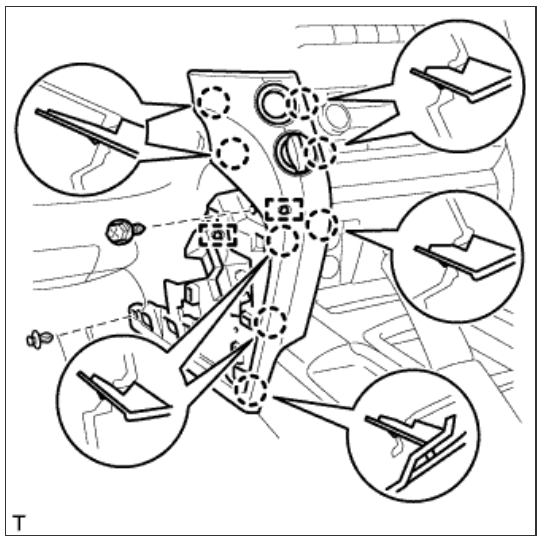

## 11. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the panel pad.

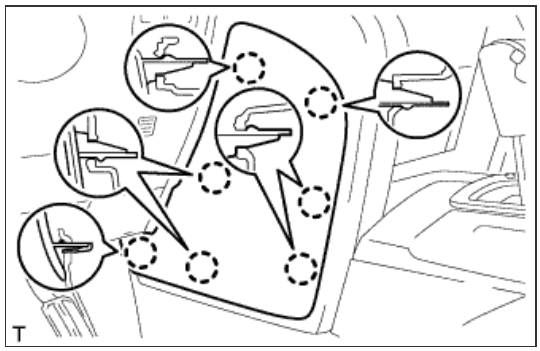
c. Install the screw.

d. Install the clip.




## 12. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the panel cushion.




## 13. INSTALL FRONT SEAT ASSEMBLY LH (for Manual Seat)

a. Install the front seat assembly LH ( Click here).

## 14. INSTALL FRONT SEAT ASSEMBLY LH (for Power Seat)

a. Install the front seat assembly LH ( Click here).

## 15. CHARGE REFRIGERANT

*SST*

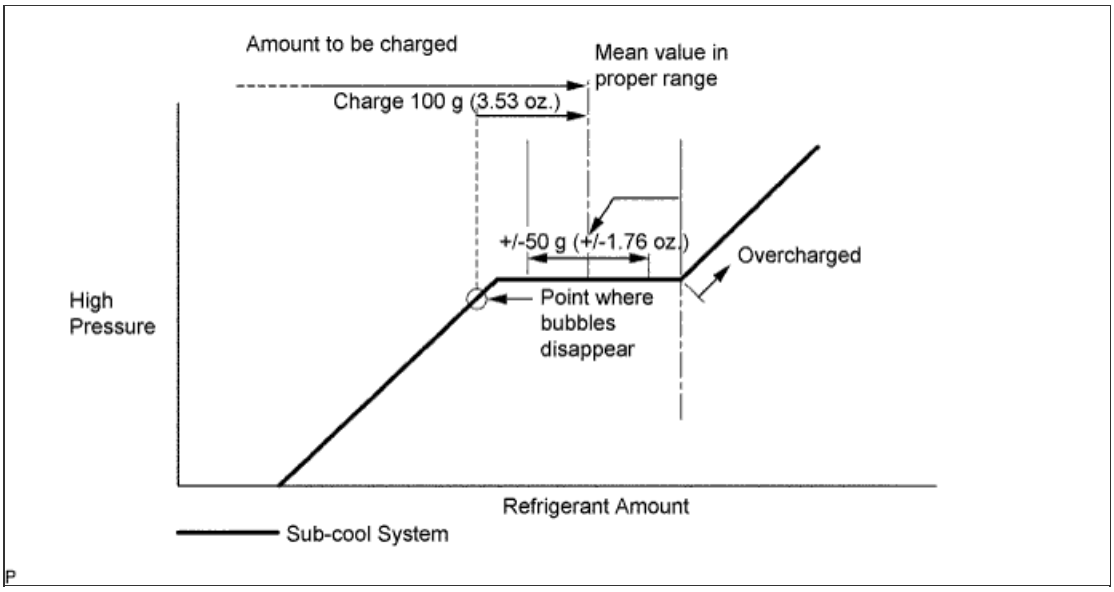
09985-20010 (09985-02130, 09985-02150, 09985-02090, 09985-02110, 09985-02010, 09985-02050, 09985-02060, 09985-02070)

a. Perform vacuum purging using a vacuum pump.

b. Charge refrigerant HFC-134a (R134a).

**Standard:**

| Condenser Core Thickness | Air Conditioning Type | Cool Box | Refrigerant Charging Amount |
|---|---|---|---|
| 22 mm (0.866 in.) | w/o Rear Cooler | w/ Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | | w/o Cool Box | 870 +/-30 g (30.7 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 1010 +/-30 g (35.6 +/-1.1 oz.) |
| | | w/o Cool Box | 960 +/-30 g (33.9 +/-1.1 oz.) |
| 16 mm (0.630 in.) | w/o Rear Cooler | w/ Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | | w/o Cool Box | 770 +/-30 g (27.2 +/-1.1 oz.) |
| | w/ Rear Cooler | w/ Cool Box | 970 +/-30 g (34.2 +/-1.1 oz.) |
| | | w/o Cool Box | 920 +/-30 g (32.5 +/-1.1 oz.) |




**NOTICE:**

- **Do not operate the cooler compressor before charging refrigerant as the cooler compressor will not work properly without any refrigerant, and will overheat.**
- **Approximately 200 g (7.05 oz.) of refrigerant may need to be charged after bubbles disappear. The refrigerant amount should be checked by measuring its quantity, and not with the sight glass.**

## 16. WARM UP ENGINE

a. Warm up the engine at less than 1850 rpm for 2 minutes or more after charging the refrigerant.

**NOTICE:**

Be sure to warm up the compressor when turning the A/C switch is on after removing and installing the cooler refrigerant lines (including the compressor), to prevent damage to the compressor.

## 17. CHECK FOR REFRIGERANT GAS LEAK

a. After recharging the refrigerant gas, check for refrigerant gas leakage using a halogen leak detector.

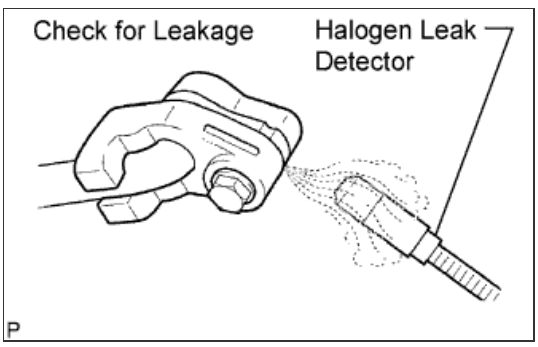
b. Perform the operation under these conditions:

- Stop the engine.
- Secure good ventilation (the halogen leak detector may react to volatile gases other than refrigerant, such as evaporated gasoline or exhaust gas).
- Repeat the test 2 or 3 times.
- Make sure that some refrigerant remains in the refrigeration system. When compressor is off: approximately 392 to 588 kPa (4.0 to 6.0 kgf/cm$^2$, 57 to 85 psi).

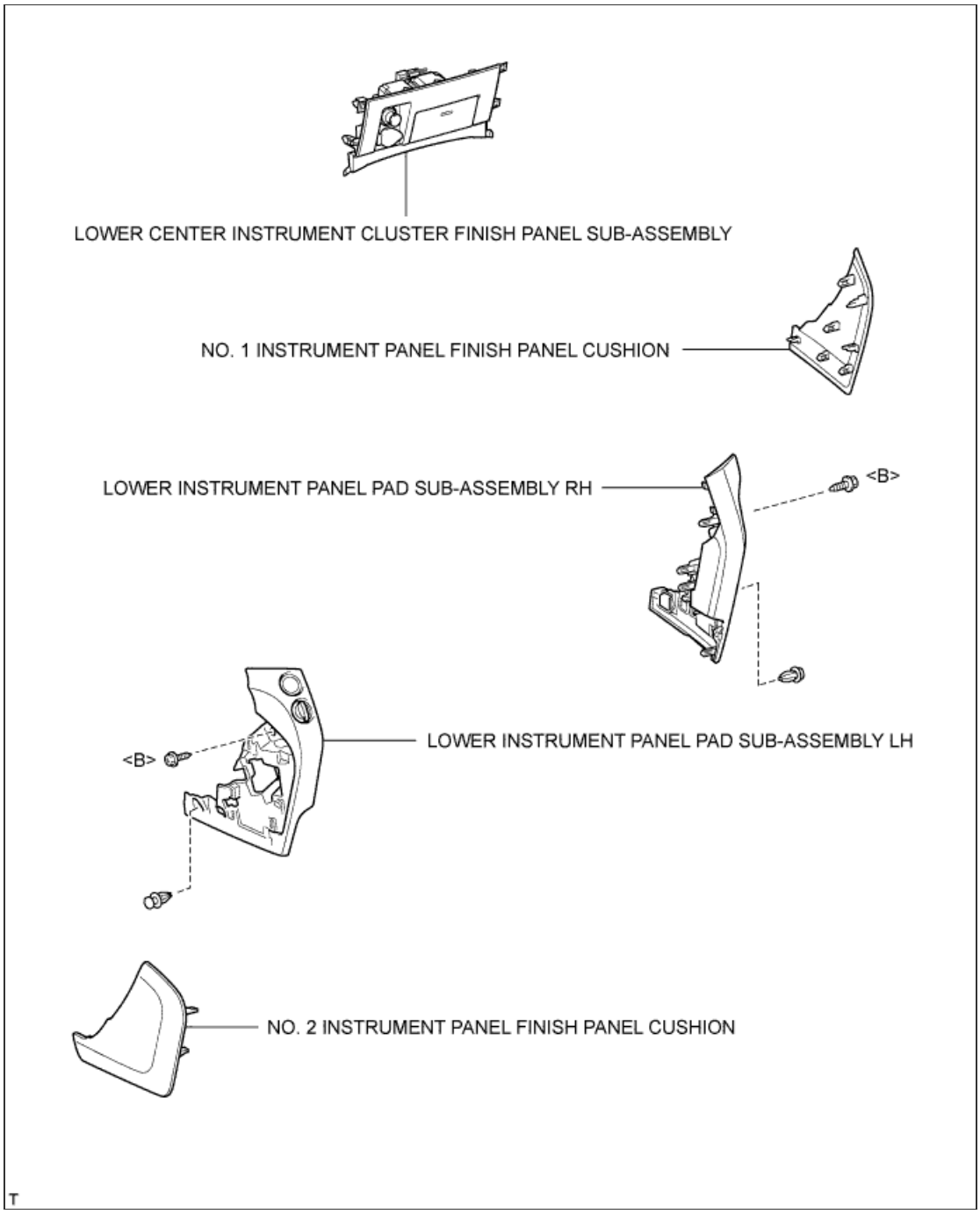
c. Using a halogen leak detector, check the refrigerant line for leakage.

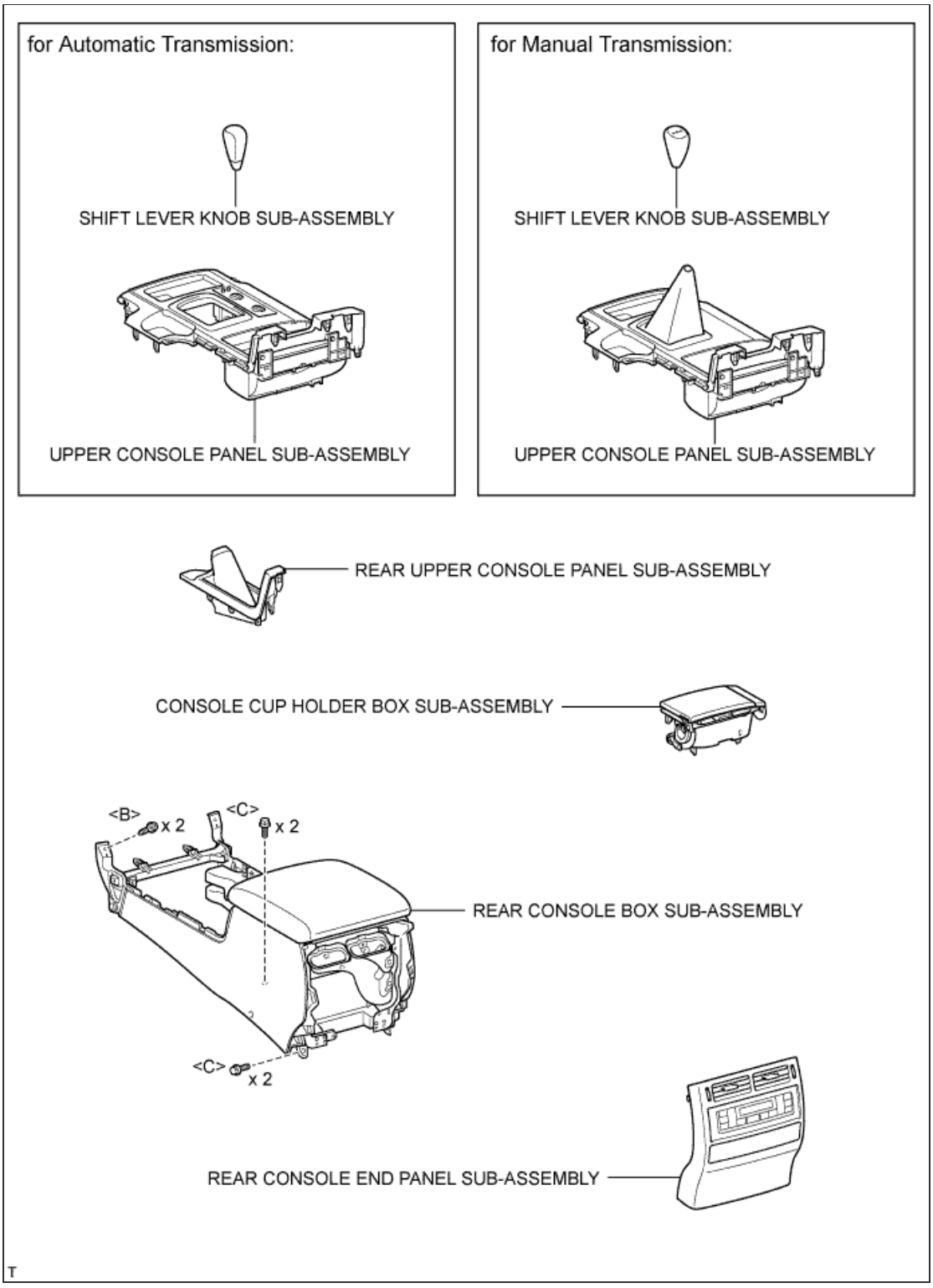
d. If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the halogen leak detector sensor into the unit and perform the test.

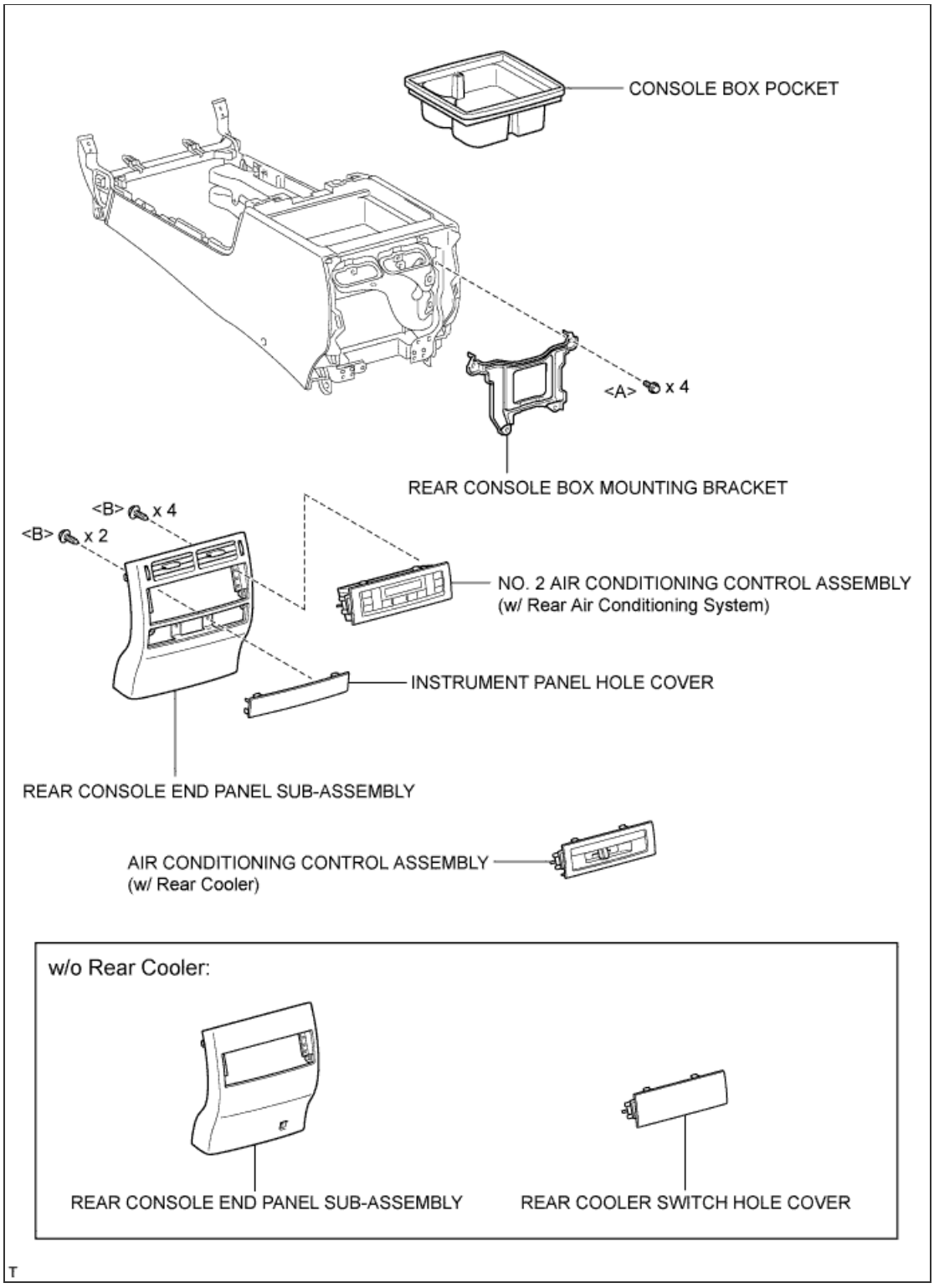
e. Disconnect the connector and wait for approximately 20 minutes. Bring the halogen leak detector close to the pressure switch and perform the test.



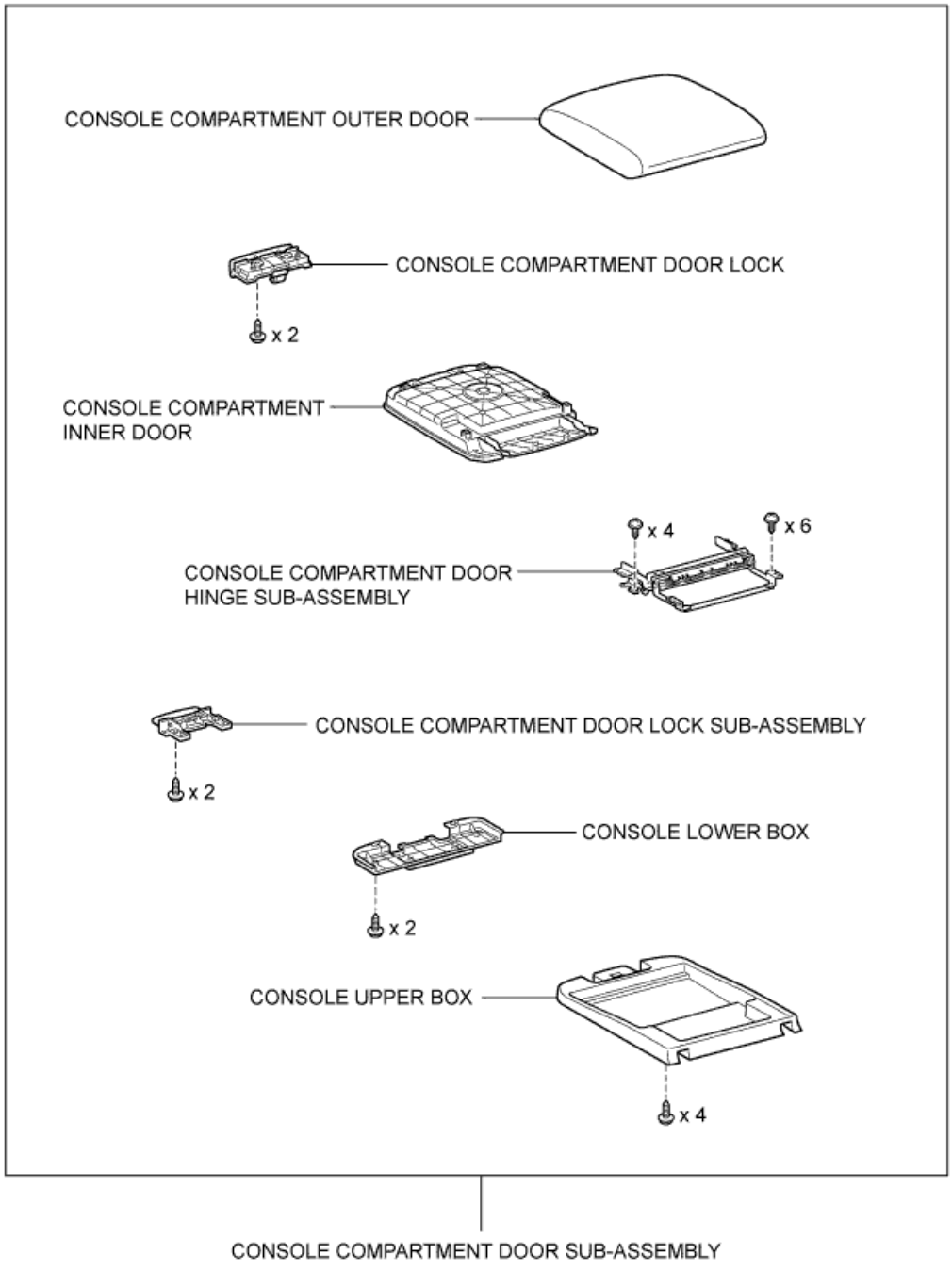
**for Preparation** Click here




for Automatic Transmission:
SHIFT LEVER KNOB SUB-ASSEMBLY
UPPER CONSOLE PANEL SUB-ASSEMBLY
for Manual Transmission:
SHIFT LEVER KNOB SUB-ASSEMBLY
UPPER CONSOLE PANEL SUB-ASSEMBLY
REAR UPPER CONSOLE PANEL SUB-ASSEMBLY
CONSOLE CUP HOLDER BOX SUB-ASSEMBLY
<B>
x 2
<C>
x 2
REAR CONSOLE BOX SUB-ASSEMBLY
<C>
x 2
REAR CONSOLE END PANEL SUB-ASSEMBLY
T


CONSOLE BOX POCKET
<A> x 4
REAR CONSOLE BOX MOUNTING BRACKET
<B> x 4
<B> x 2
NO. 2 AIR CONDITIONING CONTROL ASSEMBLY
(w/ Rear Air Conditioning System)
INSTRUMENT PANEL HOLE COVER
REAR CONSOLE END PANEL SUB-ASSEMBLY
AIR CONDITIONING CONTROL ASSEMBLY
(w/ Rear Cooler)
w/o Rear Cooler:
REAR CONSOLE END PANEL SUB-ASSEMBLY
REAR COOLER SWITCH HOLE COVER

T


CONSOLE COMPARTMENT OUTER DOOR
CONSOLE COMPARTMENT DOOR LOCK
x 2
CONSOLE COMPARTMENT
INNER DOOR
x 4
x 6
CONSOLE COMPARTMENT DOOR
HINGE SUB-ASSEMBLY
CONSOLE COMPARTMENT DOOR LOCK SUB-ASSEMBLY
x 2
CONSOLE LOWER BOX
x 2
CONSOLE UPPER BOX
x 4
CONSOLE COMPARTMENT DOOR SUB-ASSEMBLY

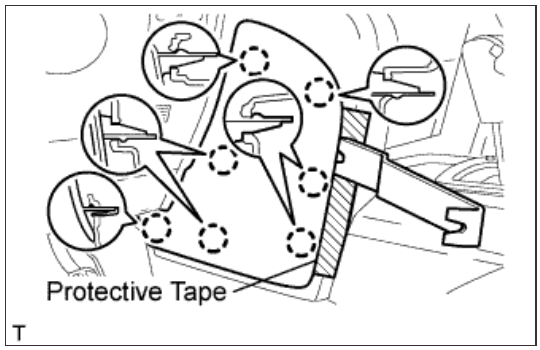
T

**for Preparation** Click here

## 1. REMOVE NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.



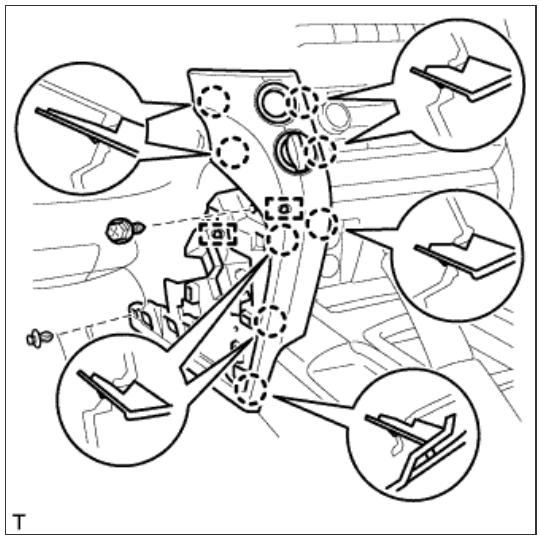

## 2. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Remove the clip.

b. Remove the screw.

c. Detach the 8 claws.

d. Remove the panel pad and disconnect the connectors and 2 clamps.




## 3. REMOVE NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 7 claws and remove the panel cushion.

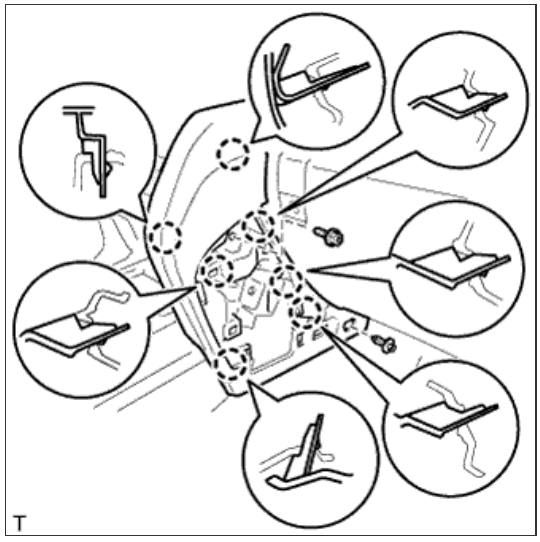



## 4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Remove the clip.

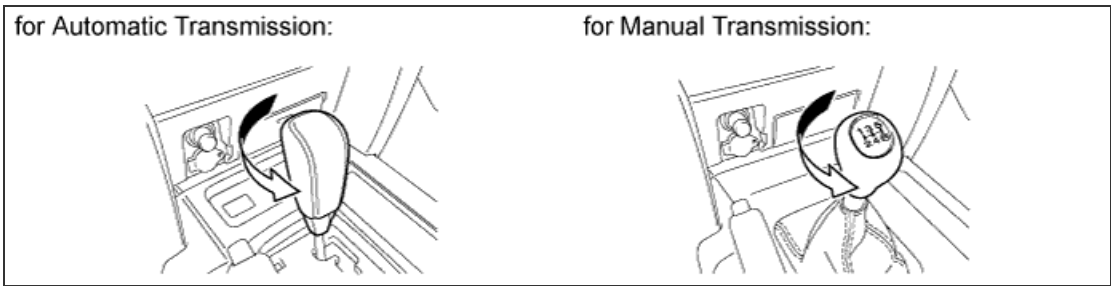
b. Remove the screw.

c. Detach the 7 claws and remove the panel.




## 5. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY

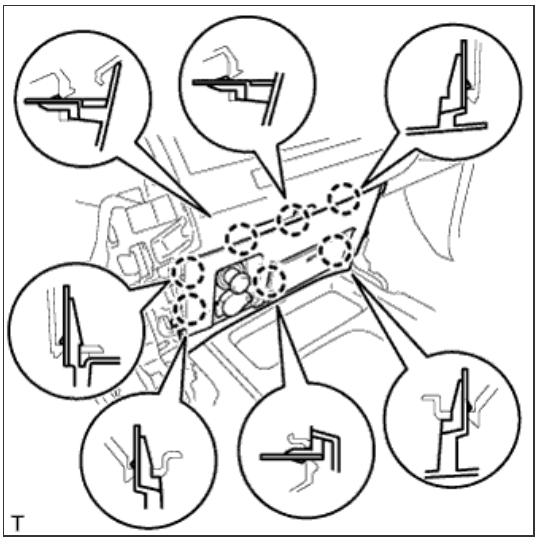
a. Twist the shift lever knob in the direction indicated by the arrow and remove it.




## 6. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

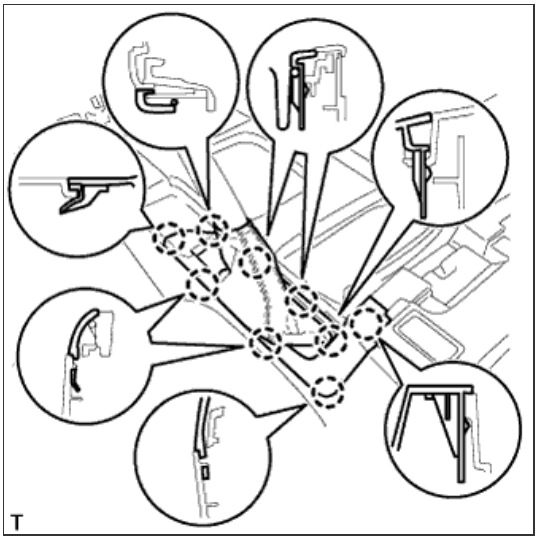
a. Detach the 7 claws.

b. Disconnect the connectors and remove the panel.



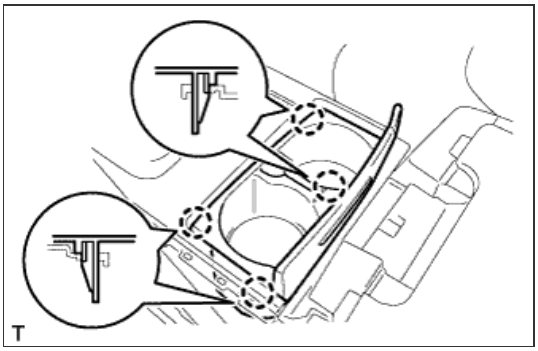

## 7. REMOVE REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 9 claws and remove the panel.




## 8. REMOVE CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

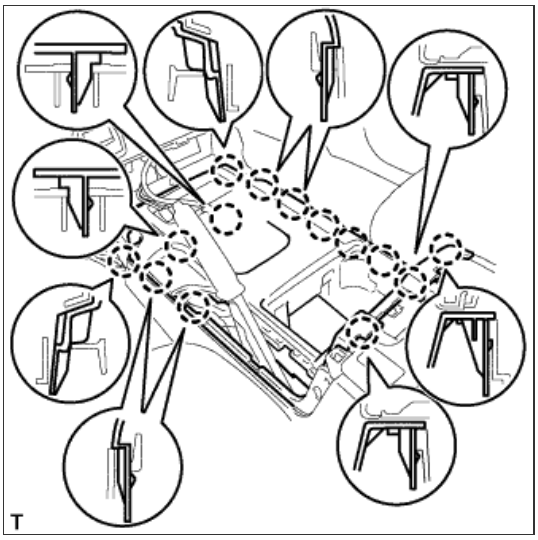
a. Detach the 4 claws and remove the box.




## 9. REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY

a. Detach the 14 claws.

b. Disconnect the connectors and remove the console panel.

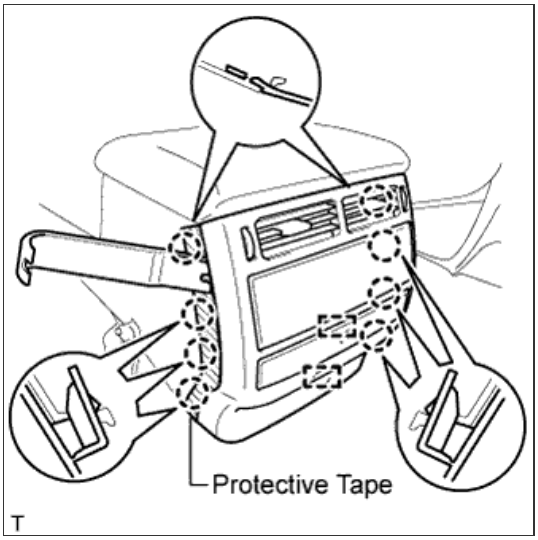



## 10. REMOVE REAR CONSOLE END PANEL SUB-ASSEMBLY

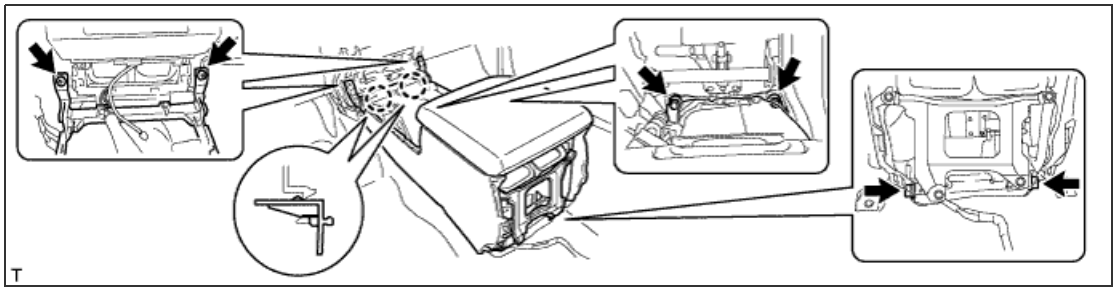
a. Place protective tape as shown in the illustration.

b. Using a moulding remover, detach the 8 claws.

c. Remove the end panel and disconnect the connectors and 2 clamps.




## 11. REMOVE REAR CONSOLE BOX SUB-ASSEMBLY




a. Remove the 4 bolts and 2 screws.

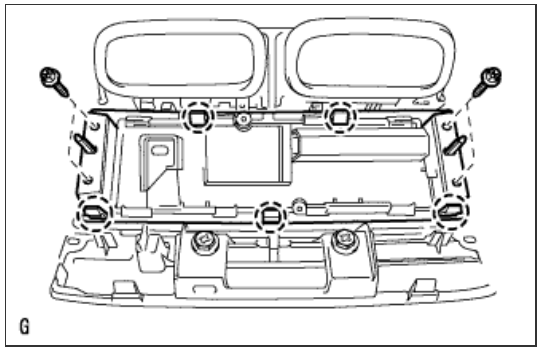
b. Detach the 2 claws and remove the console box.

**for Preparation** Click here

## 1. REMOVE NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Air Conditioning System)

a. Remove the 4 screws.

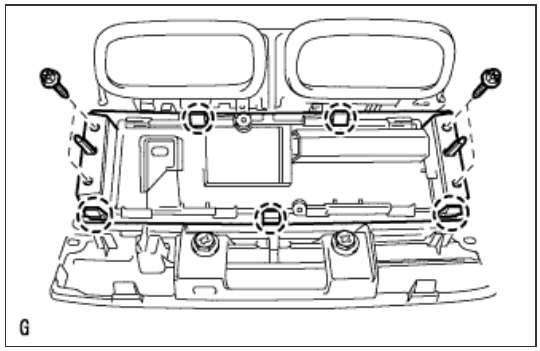
b. Detach the 5 claws and remove the air conditioning control.




## 2. REMOVE AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Cooler)

a. Remove the 4 screws.

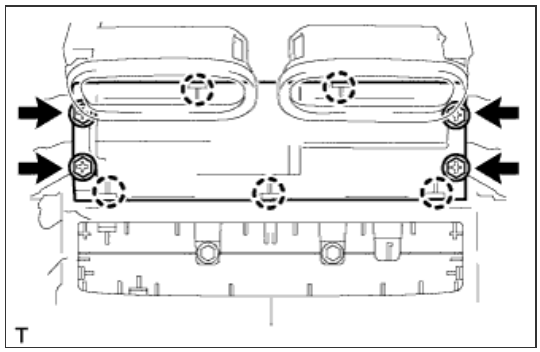
b. Detach the 5 claws and remove the air conditioning control.




## 3. REMOVE REAR COOLER SWITCH HOLE COVER (w/o Rear Cooler)

a. Remove the 4 screws.

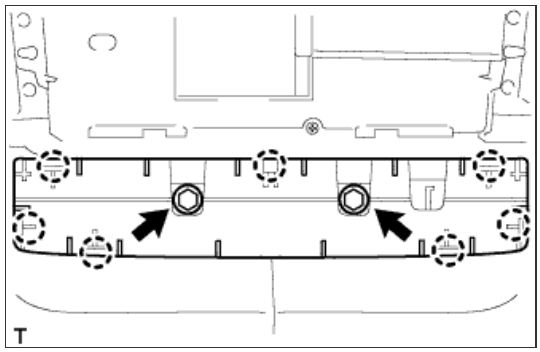
b. Detach the 5 claws and remove the hole cover.




## 4. REMOVE INSTRUMENT PANEL HOLE COVER

a. Remove the 2 screws.

b. Detach the 7 claws and remove the hole cover.

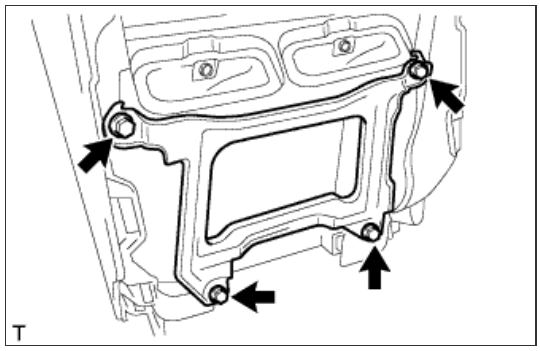



### 5. REMOVE CONSOLE BOX POCKET

a. Remove the box pocket.

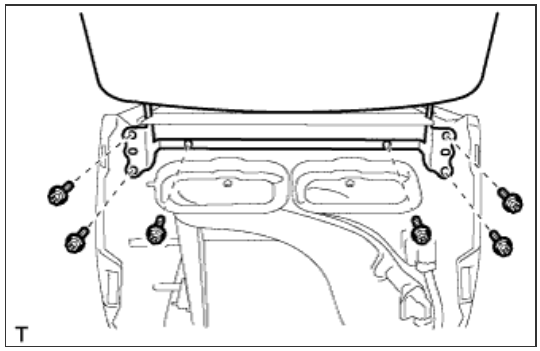
### 6. REMOVE REAR CONSOLE BOX MOUNTING BRACKET

a. Remove the 4 screws and bracket.



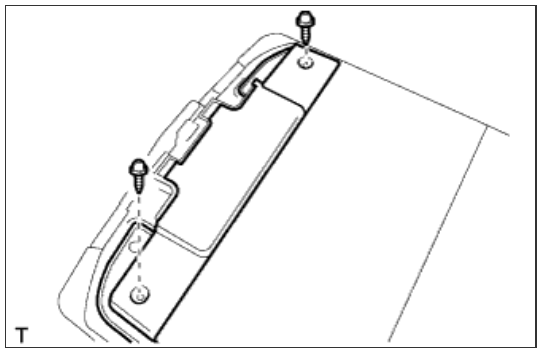

### 7. REMOVE CONSOLE COMPARTMENT DOOR SUB-ASSEMBLY

a. Remove the 6 screws and door.

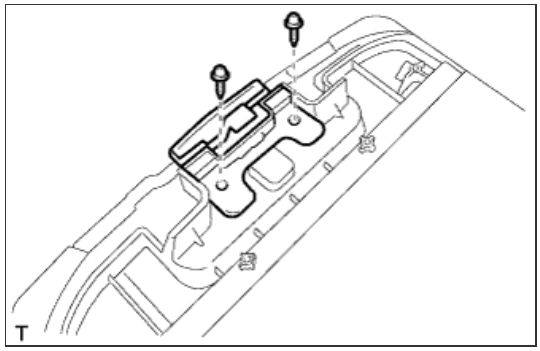



### 8. REMOVE CONSOLE COMPARTMENT DOOR LOCK SUB-ASSEMBLY

a. Remove the 2 screws and lower box.

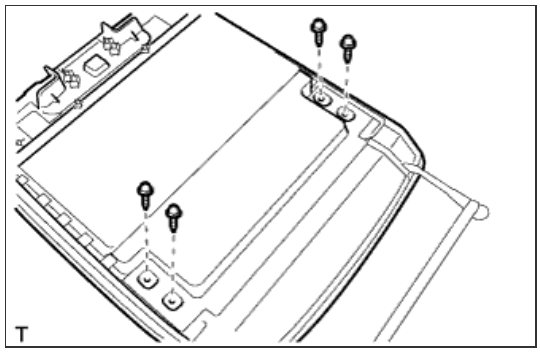



b. Remove the 2 screws and door lock.

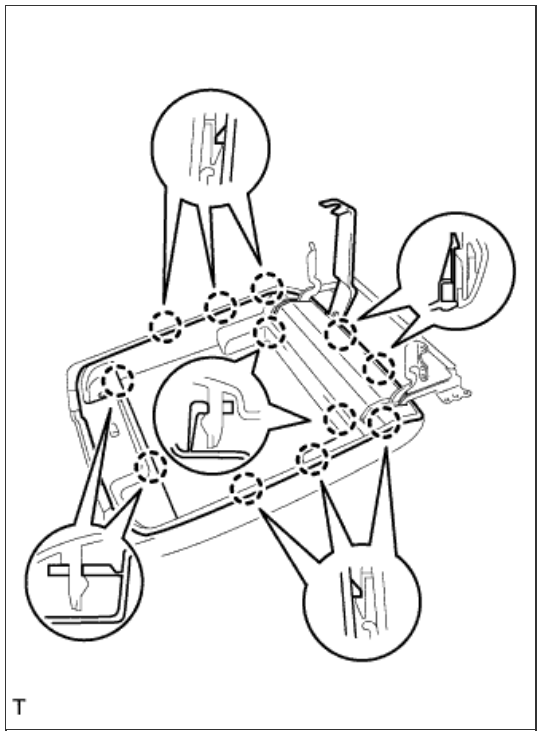



## 9. REMOVE CONSOLE COMPARTMENT DOOR HINGE SUB-ASSEMBLY

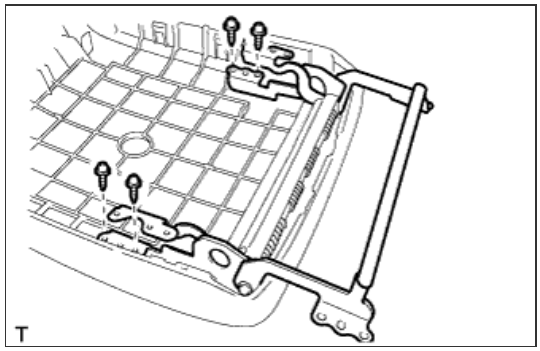
a. Remove the 4 screws and upper box.




b. Using a moulding remover, detach the 12 claws and remove the inner door.

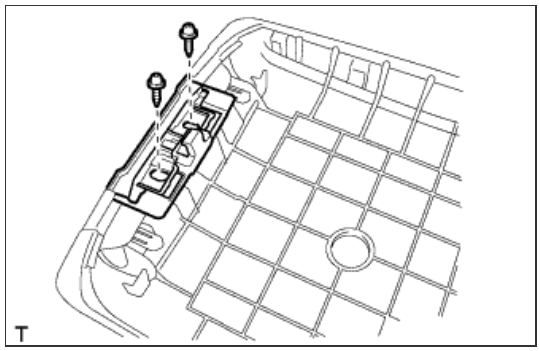



c. Remove the 4 screws and door hinge.




## 10. REMOVE CONSOLE COMPARTMENT DOOR LOCK

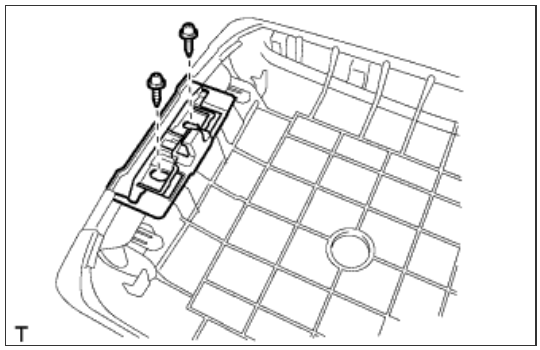
a. Remove the 2 screws and door lock.



**for Preparation** Click here

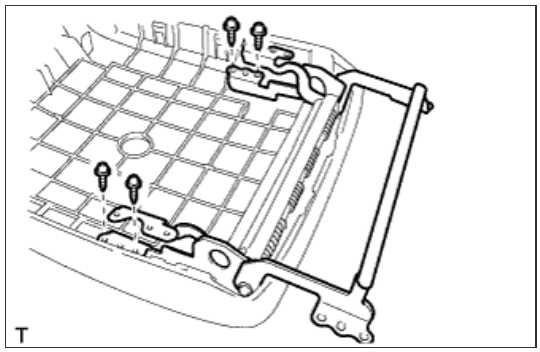
## 1. INSTALL CONSOLE COMPARTMENT DOOR LOCK

a. Install the door lock with the 2 screws.

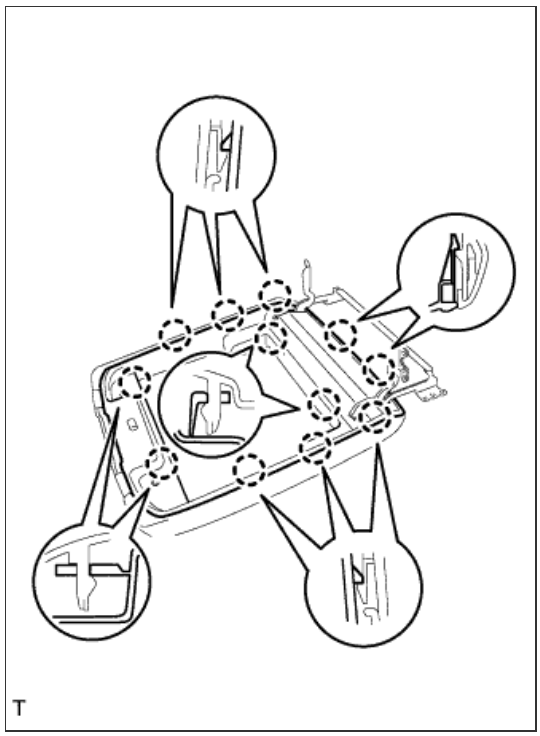



## 2. INSTALL CONSOLE COMPARTMENT DOOR HINGE SUB-ASSEMBLY

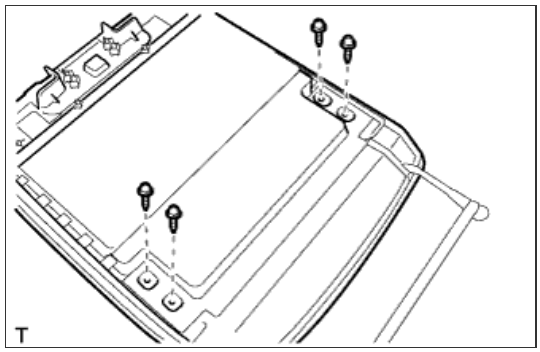
a. Install the door hinge with the 4 screws.




b. Attach the 12 claws to install the inner door.

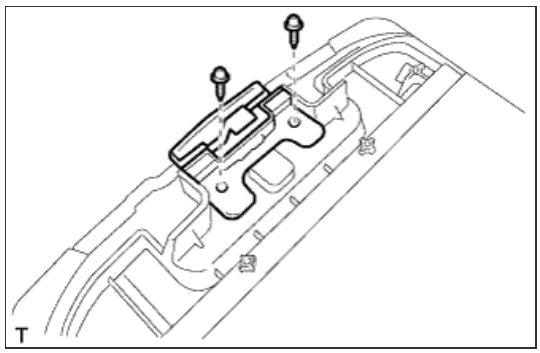


c. Install the upper box with the 4 screws.

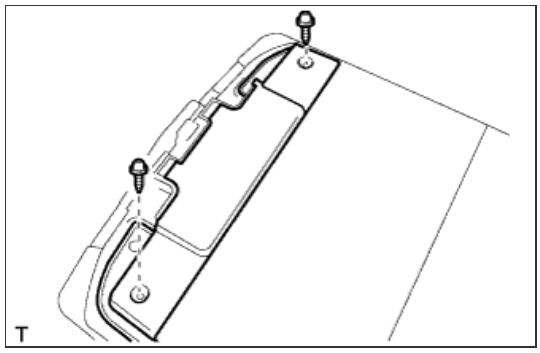



## 3. INSTALL CONSOLE COMPARTMENT DOOR LOCK SUB-ASSEMBLY

a. Install the door lock with the 2 screws.

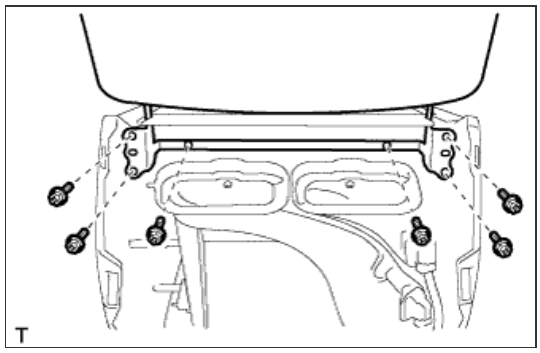



b. Install the lower box with the 2 screws.



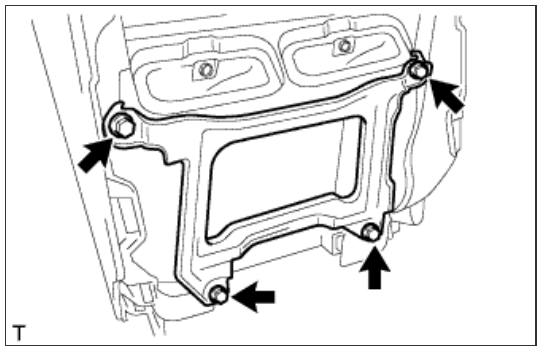

## 4. INSTALL CONSOLE COMPARTMENT DOOR SUB-ASSEMBLY

a. Install the door with the 6 screws.




## 5. INSTALL REAR CONSOLE BOX MOUNTING BRACKET

a. Install the bracket with the 4 bolts.



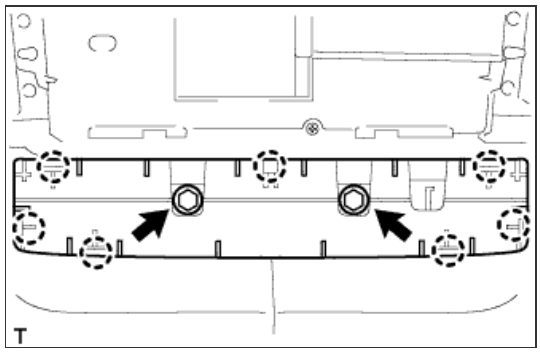

## 6. INSTALL CONSOLE BOX POCKET

a. Install the box pocket.

## 7. INSTALL INSTRUMENT PANEL HOLE COVER

a. Attach the 7 claws to install the hole cover.

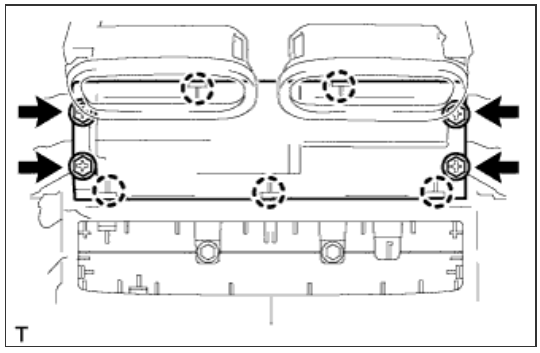
b. Install the 2 screws.




## 8. INSTALL REAR COOLER SWITCH HOLE COVER (w/o Rear Cooler)

a. Attach the 5 claws to install the hole cover.

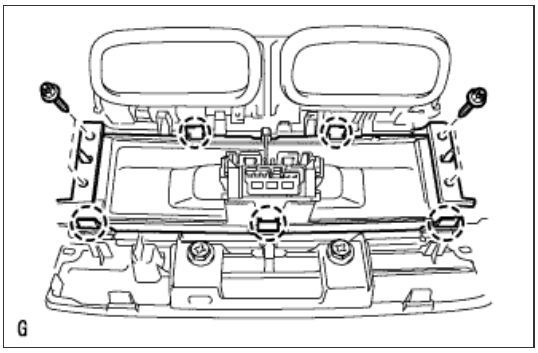
b. Install the 4 screws.




## 9. INSTALL AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Cooler)

a. Attach the 5 claws to install the air conditioning control.

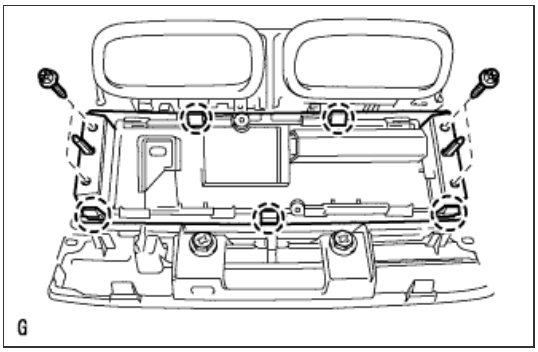
b. Install the 4 screws.




**10. INSTALL NO. 2 AIR CONDITIONING CONTROL ASSEMBLY (w/ Rear Air Conditioning System)**

a. Attach the 5 claws to install the air conditioning control.

b. Install the 4 screws.

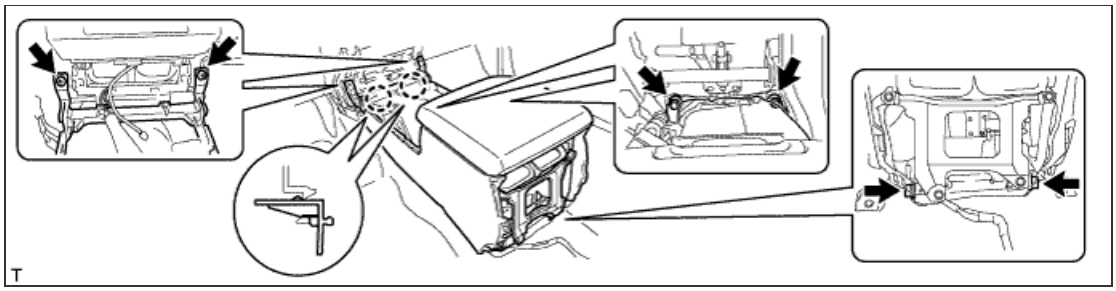


**for Preparation** Click here

**HINT:**

A bolt without a torque specification is shown in the standard bolt chart ( Click here).

## 1. INSTALL REAR CONSOLE BOX SUB-ASSEMBLY



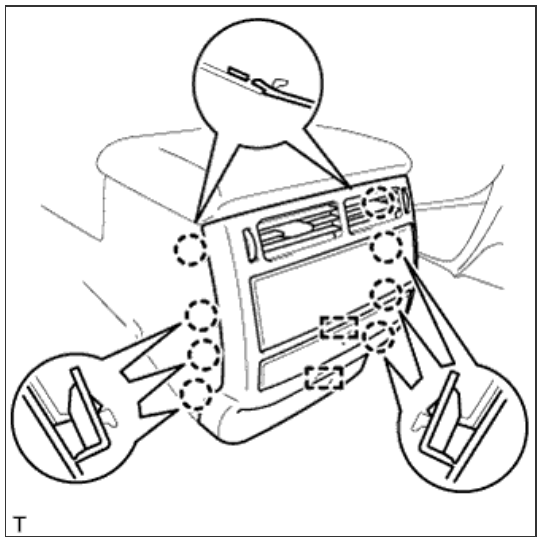

a. Attach the 2 claws.

b. Install the console box with the 4 bolts and 2 screws.

## 2. INSTALL REAR CONSOLE END PANEL SUB-ASSEMBLY

a. Connect the connectors and 2 clamps.

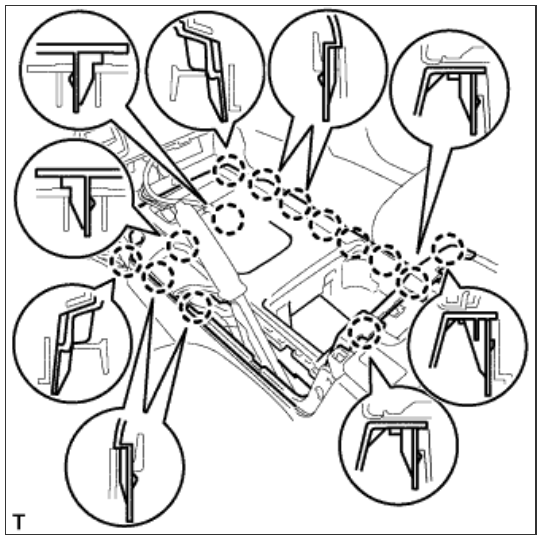
b. Attach the 8 claws to install the end panel.




## 3. INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY

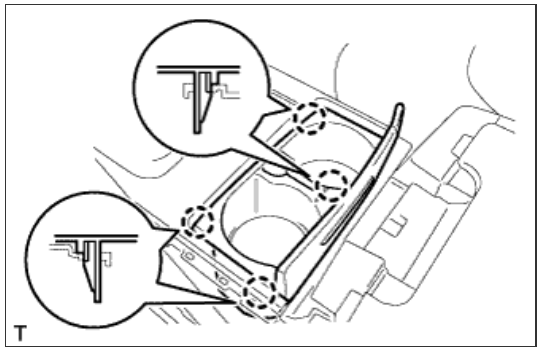
a. Connect the connectors.

b. Attach the 14 claws to install the console panel.



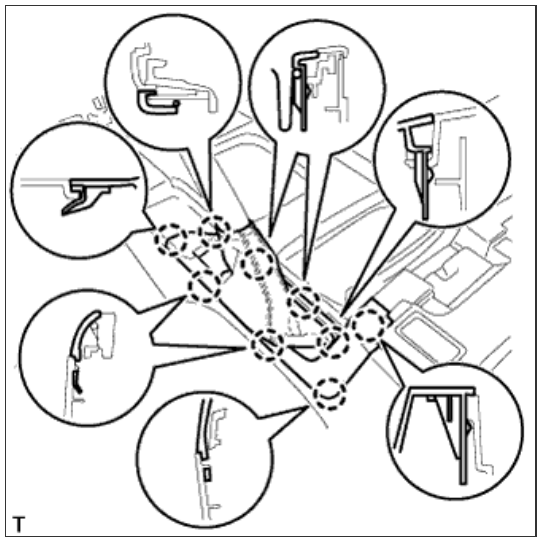

## 4. INSTALL CONSOLE CUP HOLDER BOX SUB-ASSEMBLY

a. Attach the 4 claws to install the box.




## 5. INSTALL REAR UPPER CONSOLE PANEL SUB-ASSEMBLY

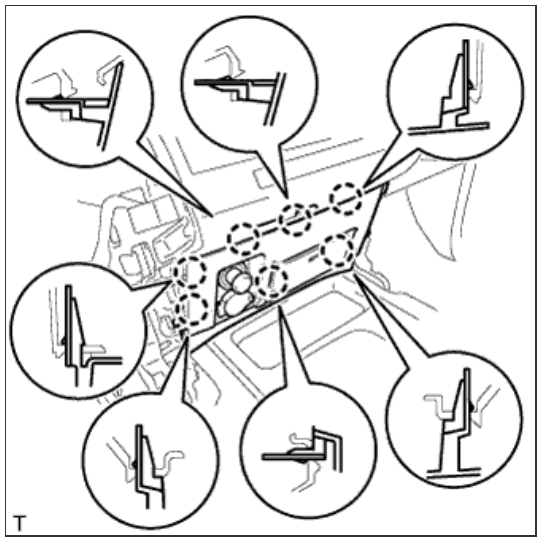
a. Attach the 9 claws to install the panel.




## 6. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY

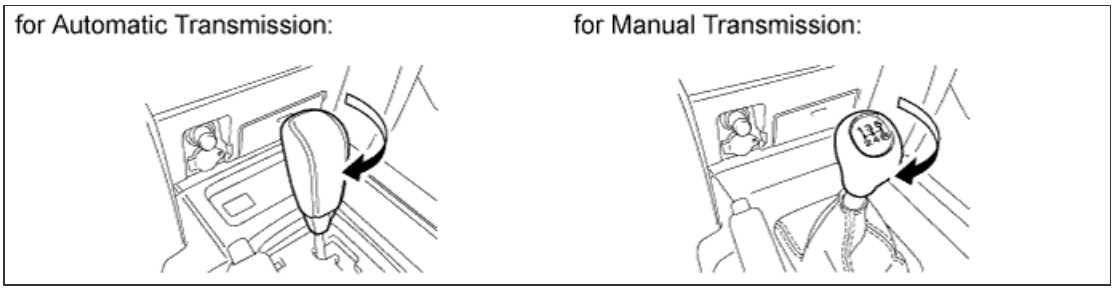
a. Connect the connectors.

b. Attach the 7 claws to install the panel.




### 7. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY

a. Install the shift lever knob and twist it in the direction indicated by the arrow.

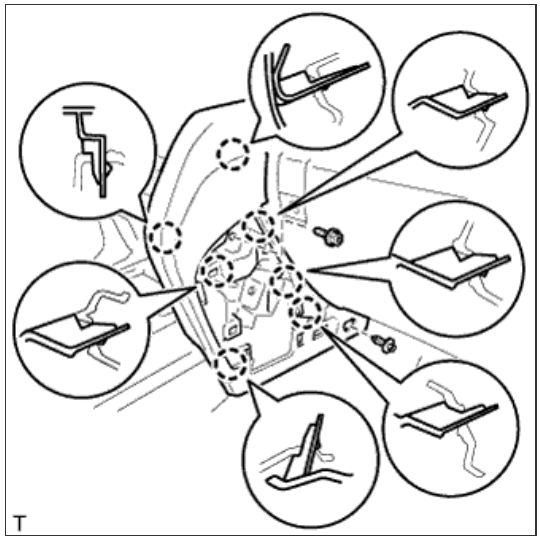



### 8. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 7 claws to install the panel pad.

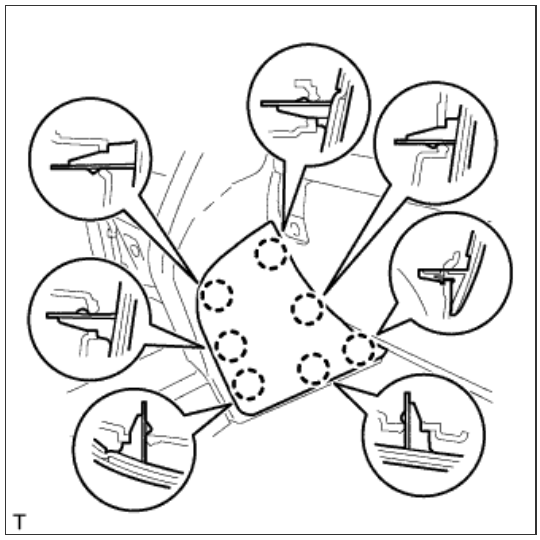
b. Install the screw.

c. Install the clip.




### 9. INSTALL NO. 1 INSTRUMENT PANEL FINISH PANEL CUSHION

a. Attach the 7 claws to install the panel cushion.



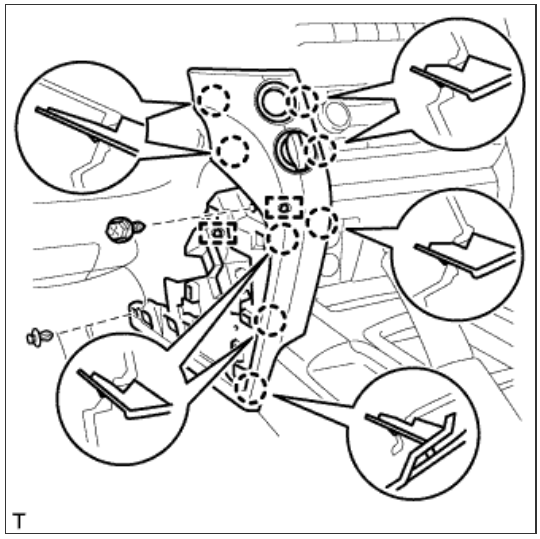

## 10. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connectors and 2 clamps.

b. Attach the 8 claws to install the panel pad.

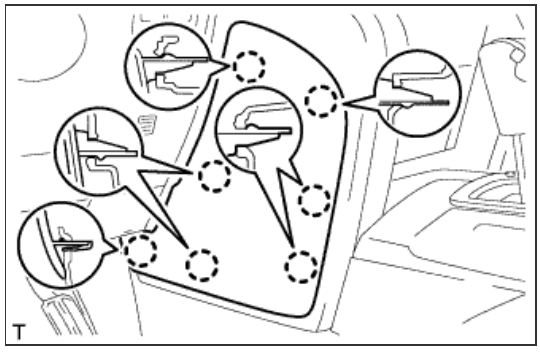
c. Install the screw.

d. Install the clip.

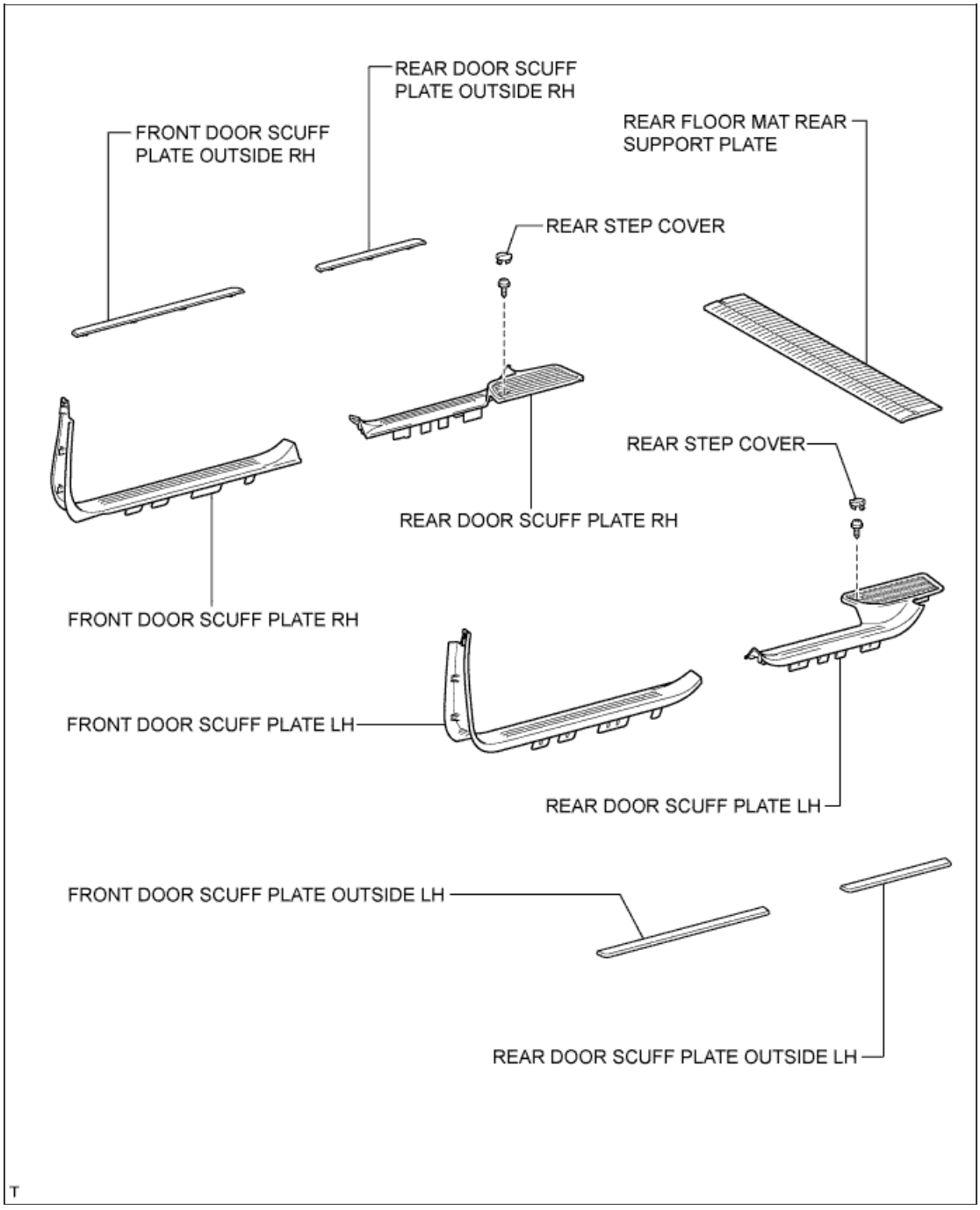


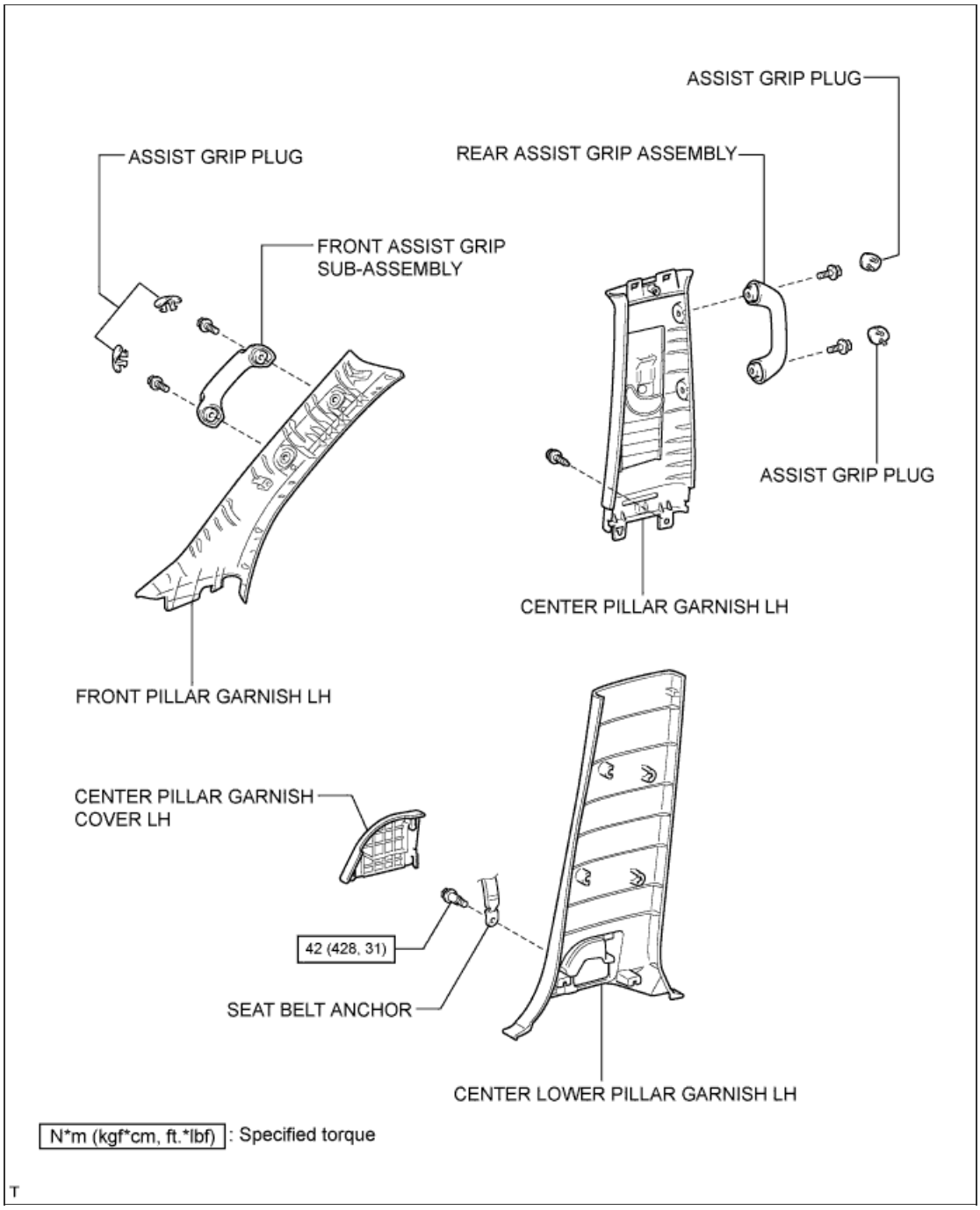

## 11. INSTALL NO. 2 INSTRUMENT PANEL FINISH PANEL CUSHION

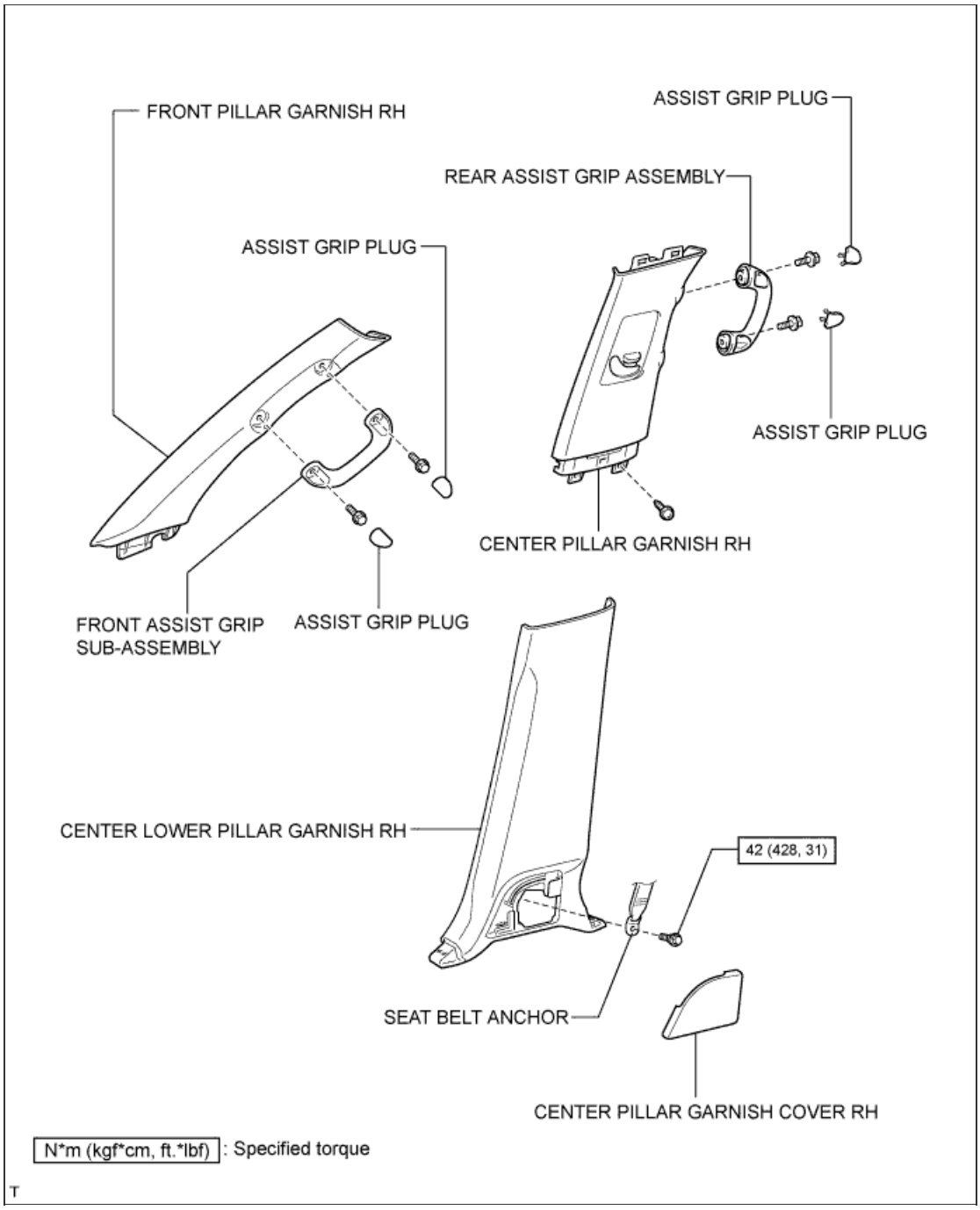
a. Attach the 7 claws to install the panel cushion.



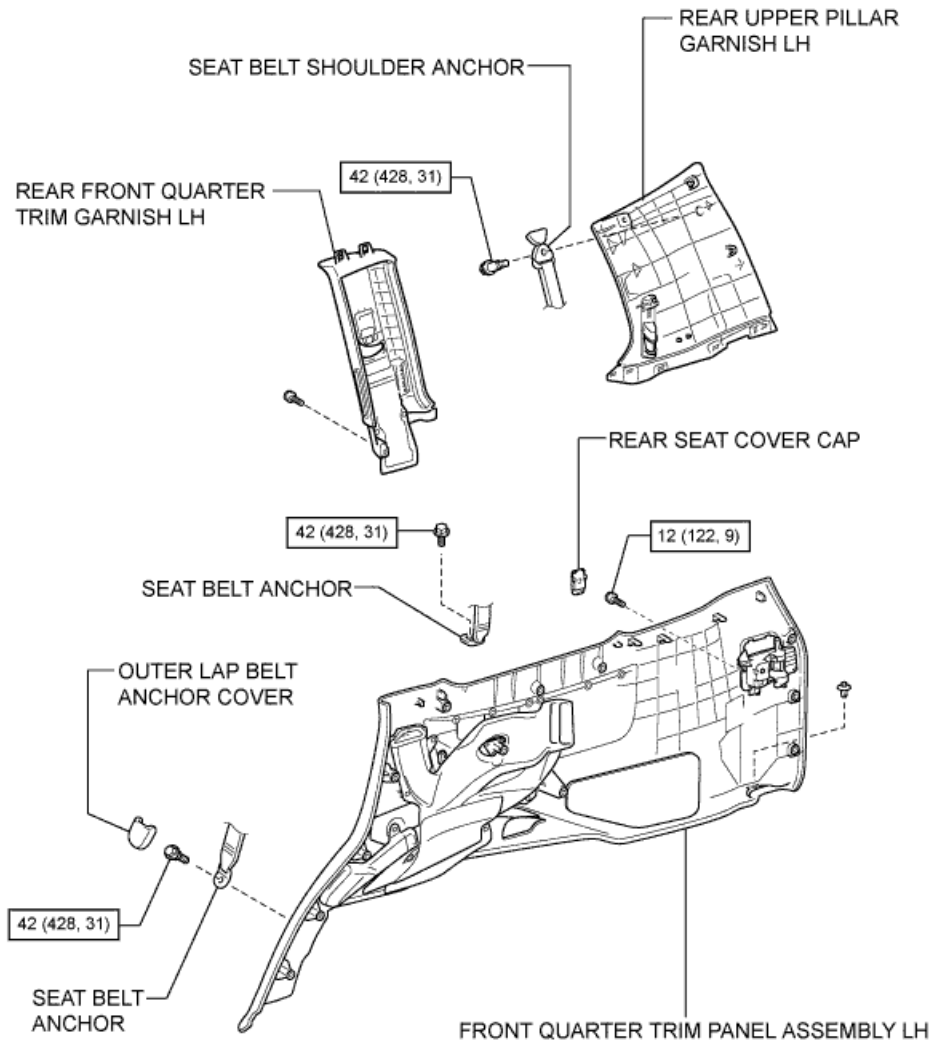
**for Preparation** Click here




ASSIST GRIP PLUG
REAR ASSIST GRIP ASSEMBLY
ASSIST GRIP PLUG
FRONT ASSIST GRIP SUB-ASSEMBLY
ASSIST GRIP PLUG
CENTER PILLAR GARNISH LH
FRONT PILLAR GARNISH LH
CENTER PILLAR GARNISH COVER LH
42 (428, 31)
SEAT BELT ANCHOR
CENTER LOWER PILLAR GARNISH LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T


FRONT PILLAR GARNISH RH
ASSIST GRIP PLUG
REAR ASSIST GRIP ASSEMBLY
ASSIST GRIP PLUG
ASSIST GRIP PLUG
CENTER PILLAR GARNISH RH
FRONT ASSIST GRIP SUB-ASSEMBLY
ASSIST GRIP PLUG
CENTER LOWER PILLAR GARNISH RH
42 (428, 31)
SEAT BELT ANCHOR
CENTER PILLAR GARNISH COVER RH
N*m (kgf*cm, ft.*lbf) : Specified torque
T

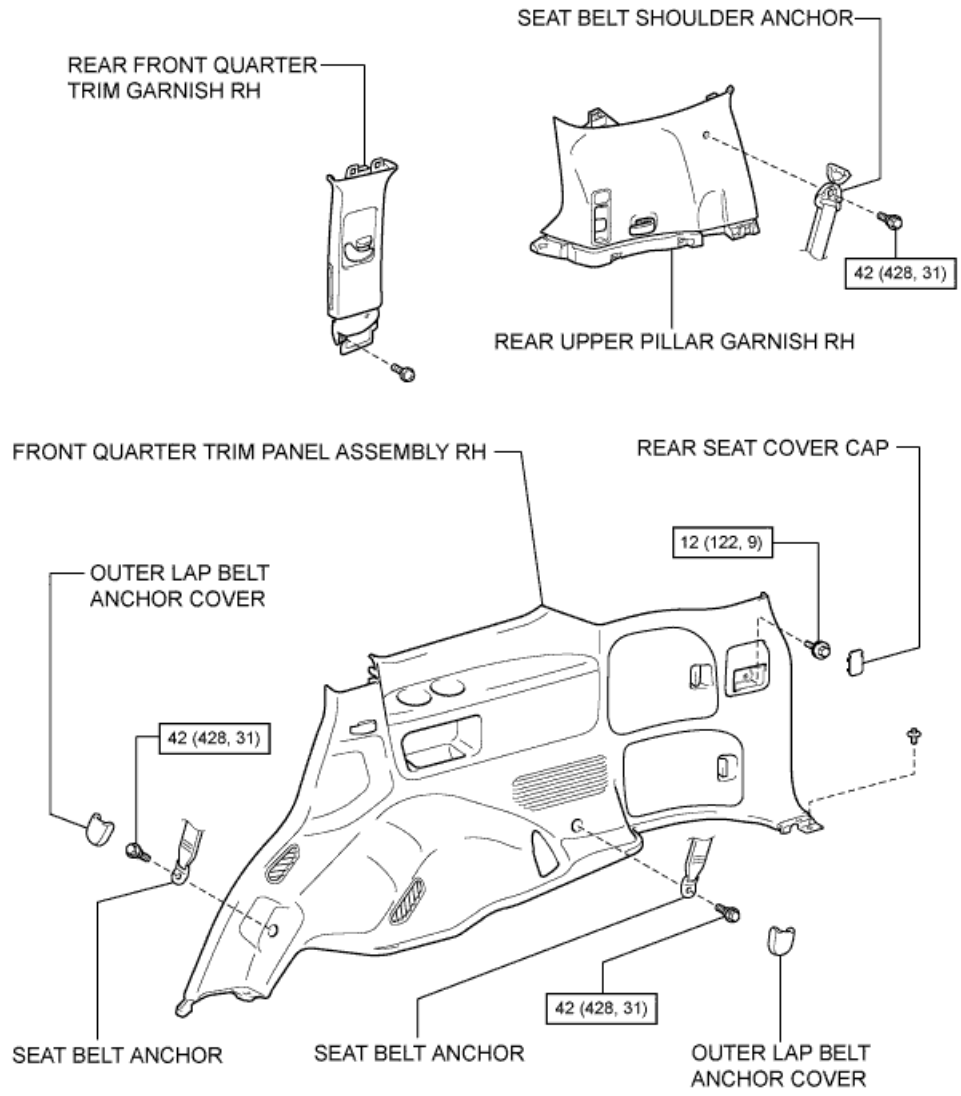
w/ Rear No. 2 Seat, except Face to Face Seat Type:




N*m (kgf*cm, ft.*lbf) : Specified torque

T

w/ Rear No. 2 Seat, except Face to Face Seat Type:

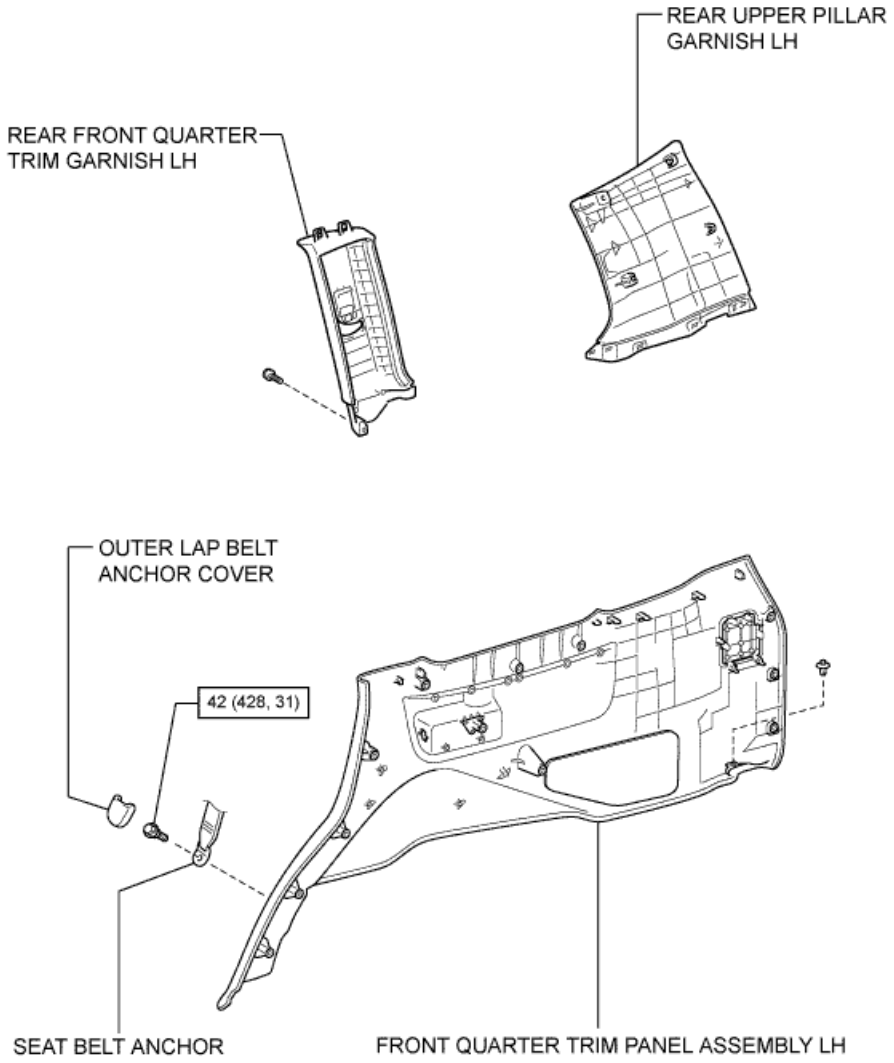



N*m (kgf*cm, ft.*lbf) : Specified torque

T

w/ Rear No. 2 Seat, for Face to Face Seat Type:

w/o Rear No. 2 Seat:

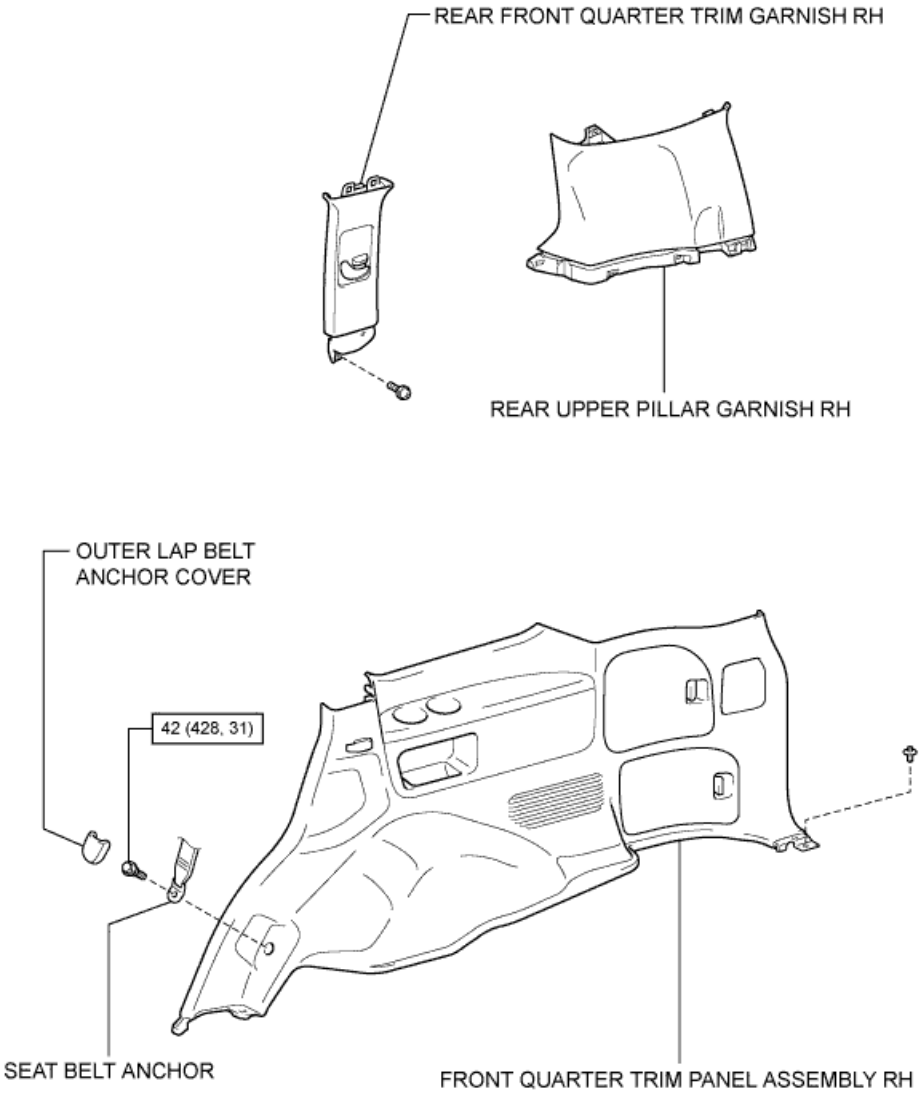



N*m (kgf*cm, ft.*lbf) : Specified torque

T

w/ Rear No. 2 Seat, for Face to Face Seat Type:

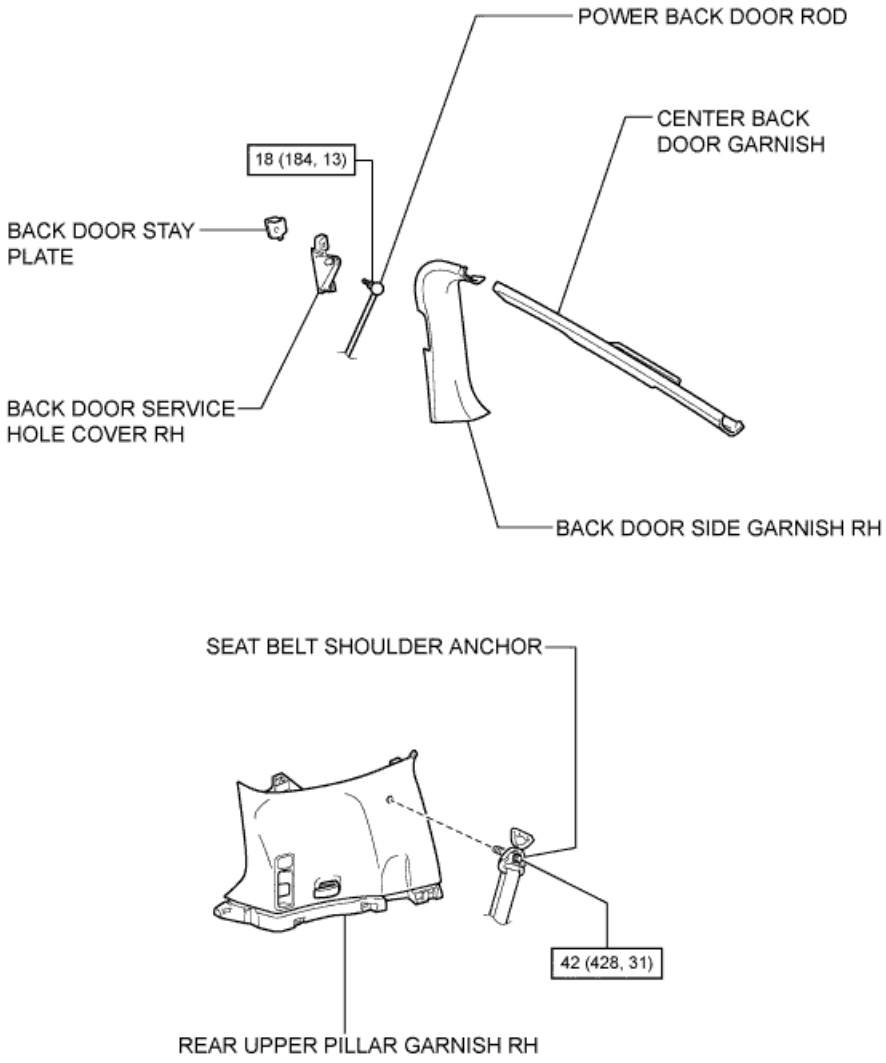
w/o Rear No. 2 Seat:




N*m (kgf*cm, ft.*lbf) : Specified torque

T

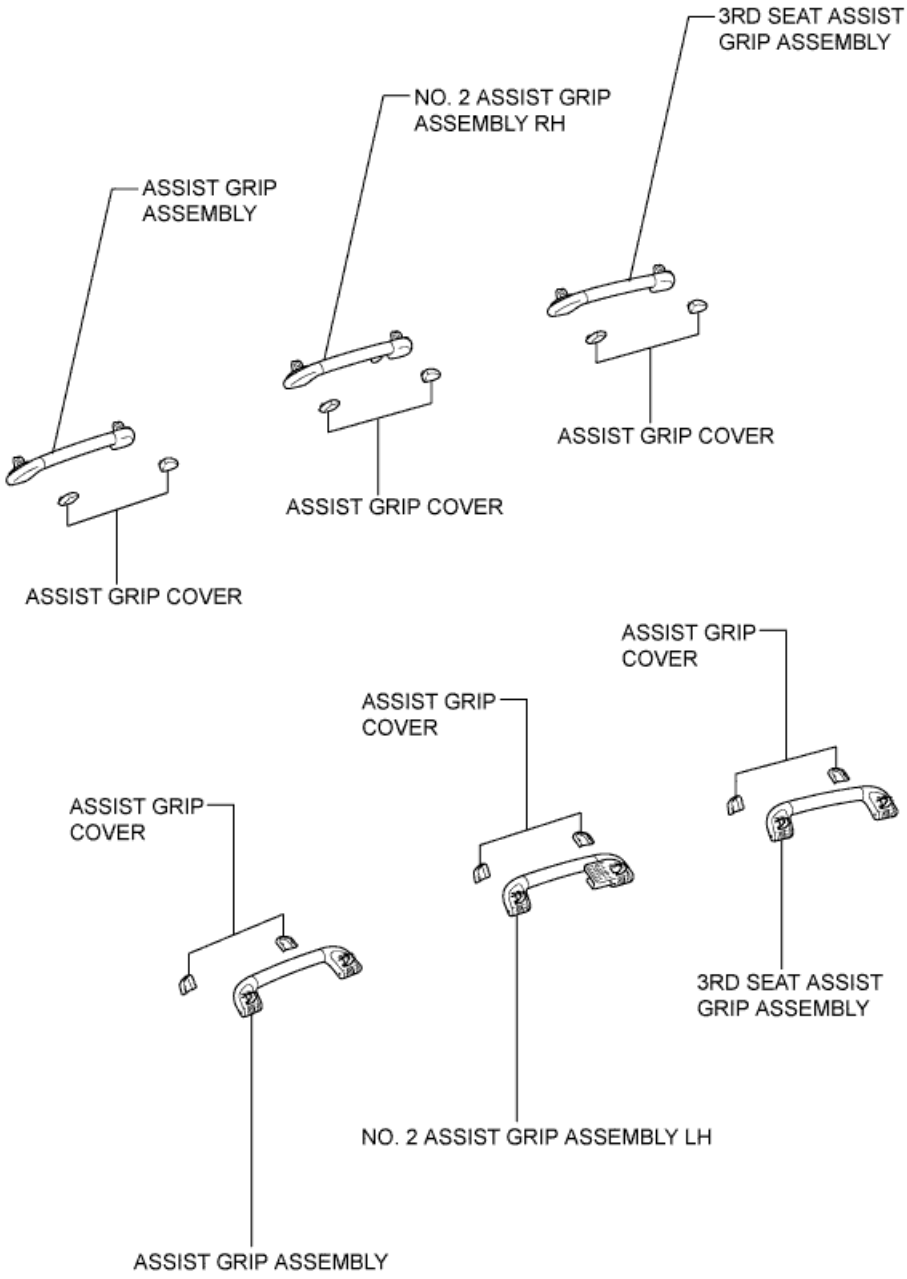
w/ Power Back Door:



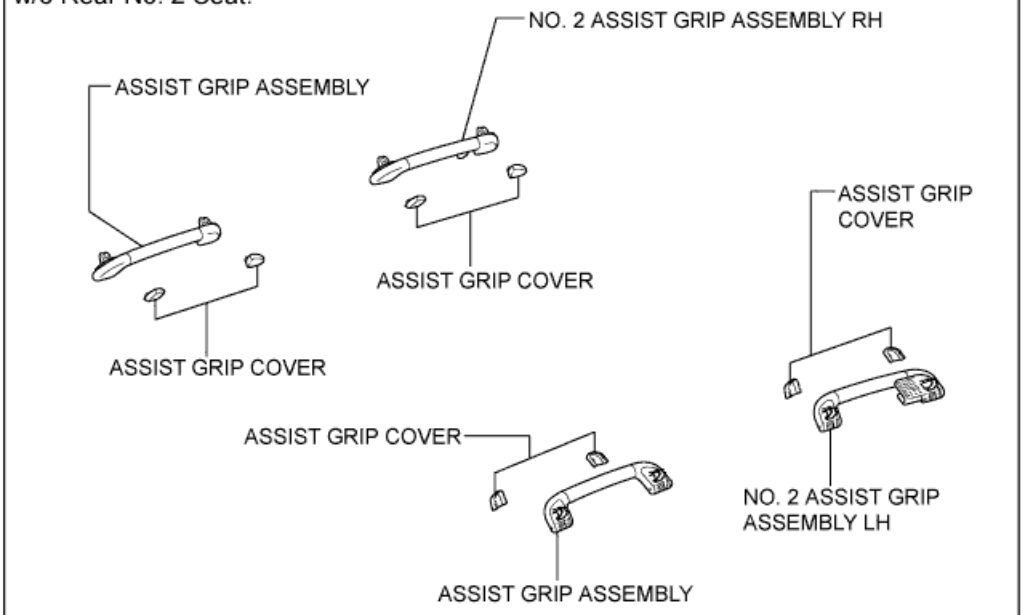

N*m (kgf*cm, ft.*lbf) : Specified torque

T

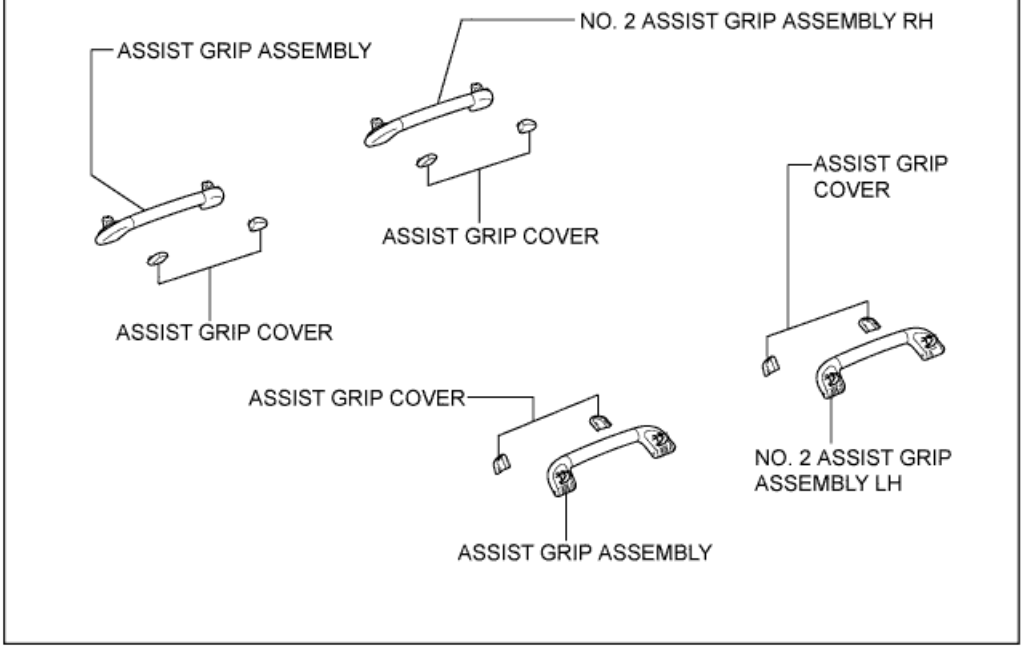
w/ Rear No. 2 Seat, except Face to Face Seat Type:



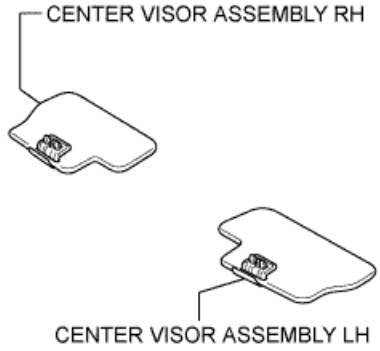
w/o Rear No. 2 Seat:



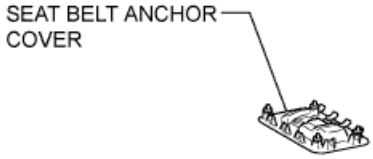

w/ Rear No. 2 Seat, for Face to Face Seat Type:

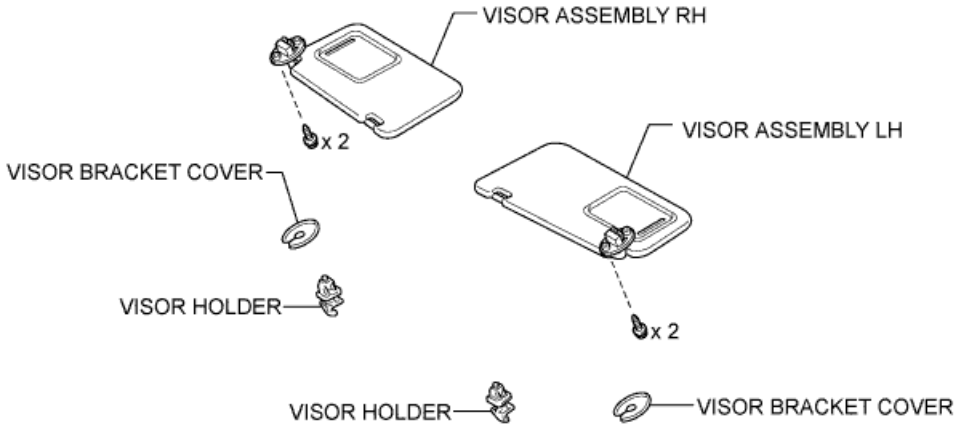


w/ Sub Visor:




for 3 Person Seat Type Rear No. 2 Seat:

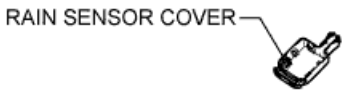


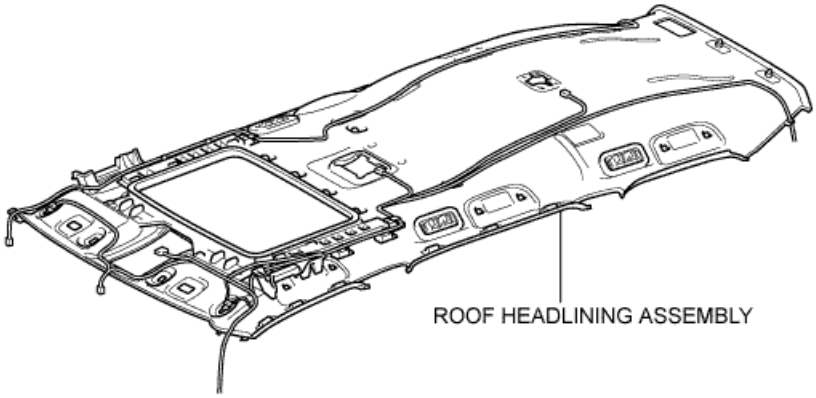

w/ EC Mirror:



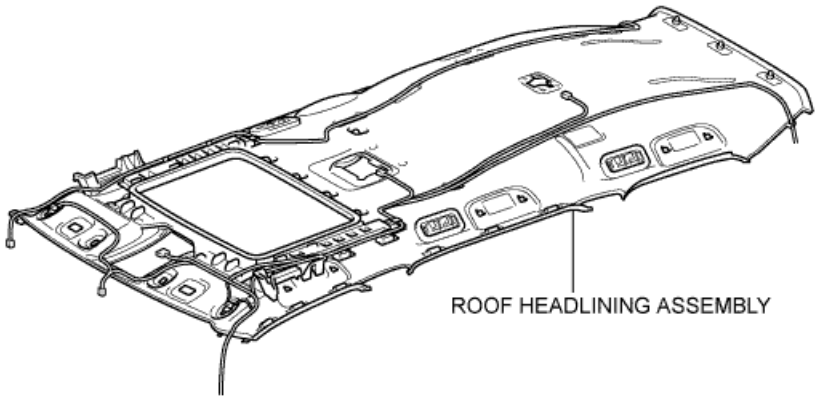

w/ Rain Sensor:

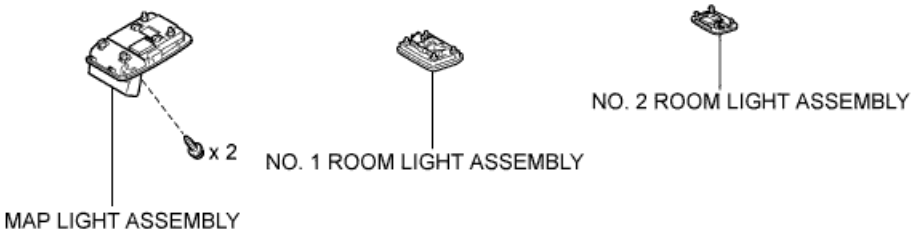


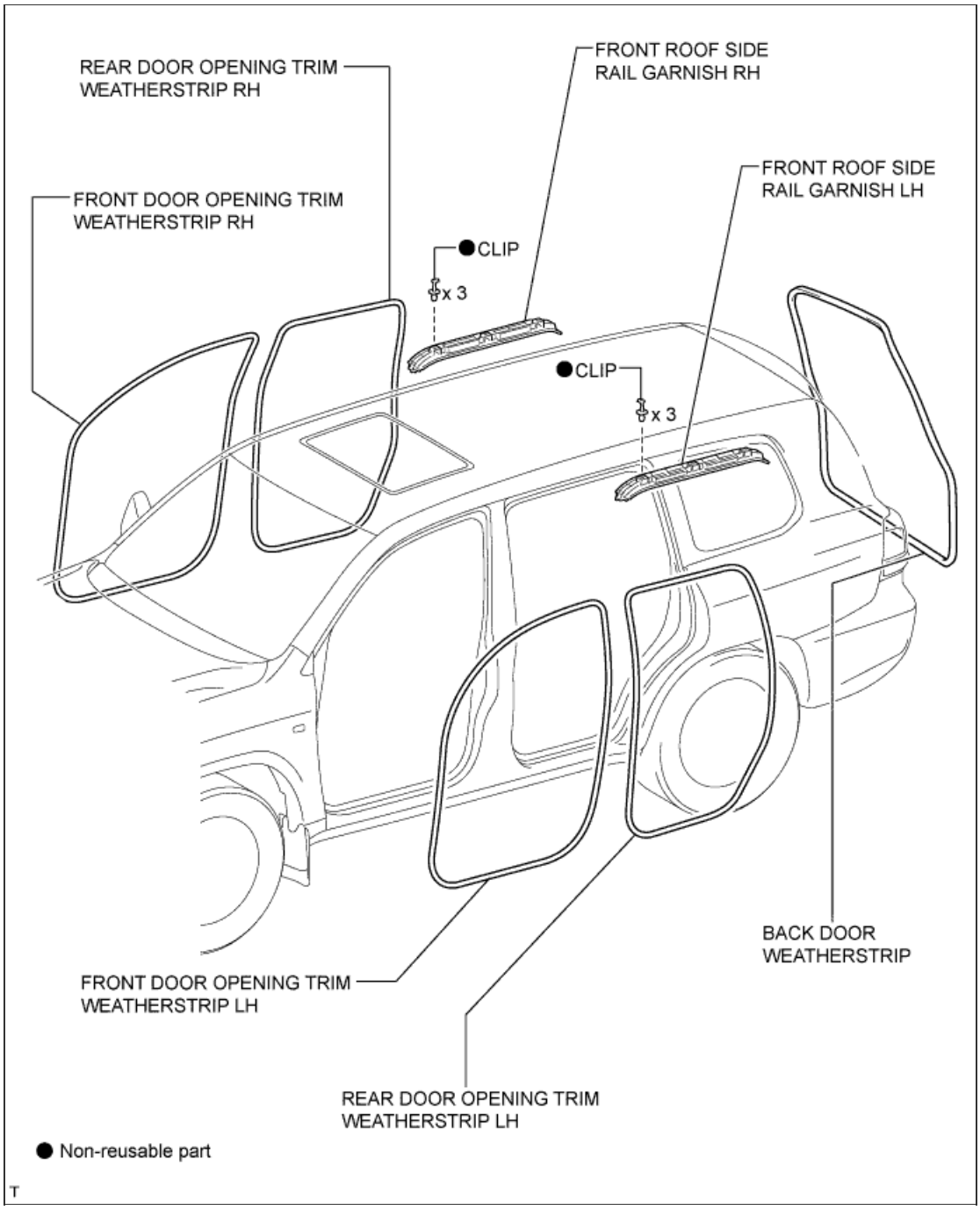
for 3 Person Seat Type Rear No. 2 Seat:



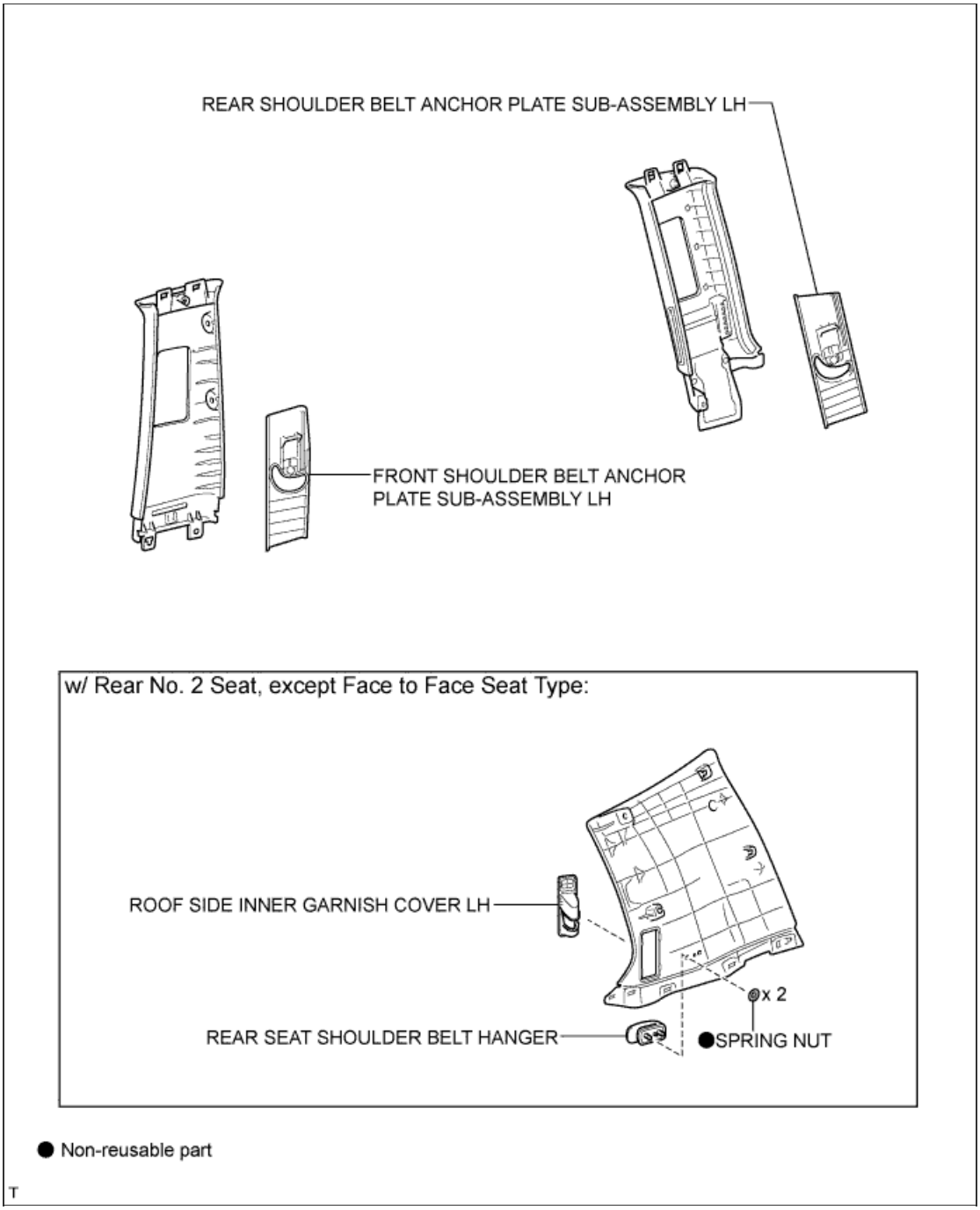

except 3 Person Seat Type Rear No. 2 Seat:



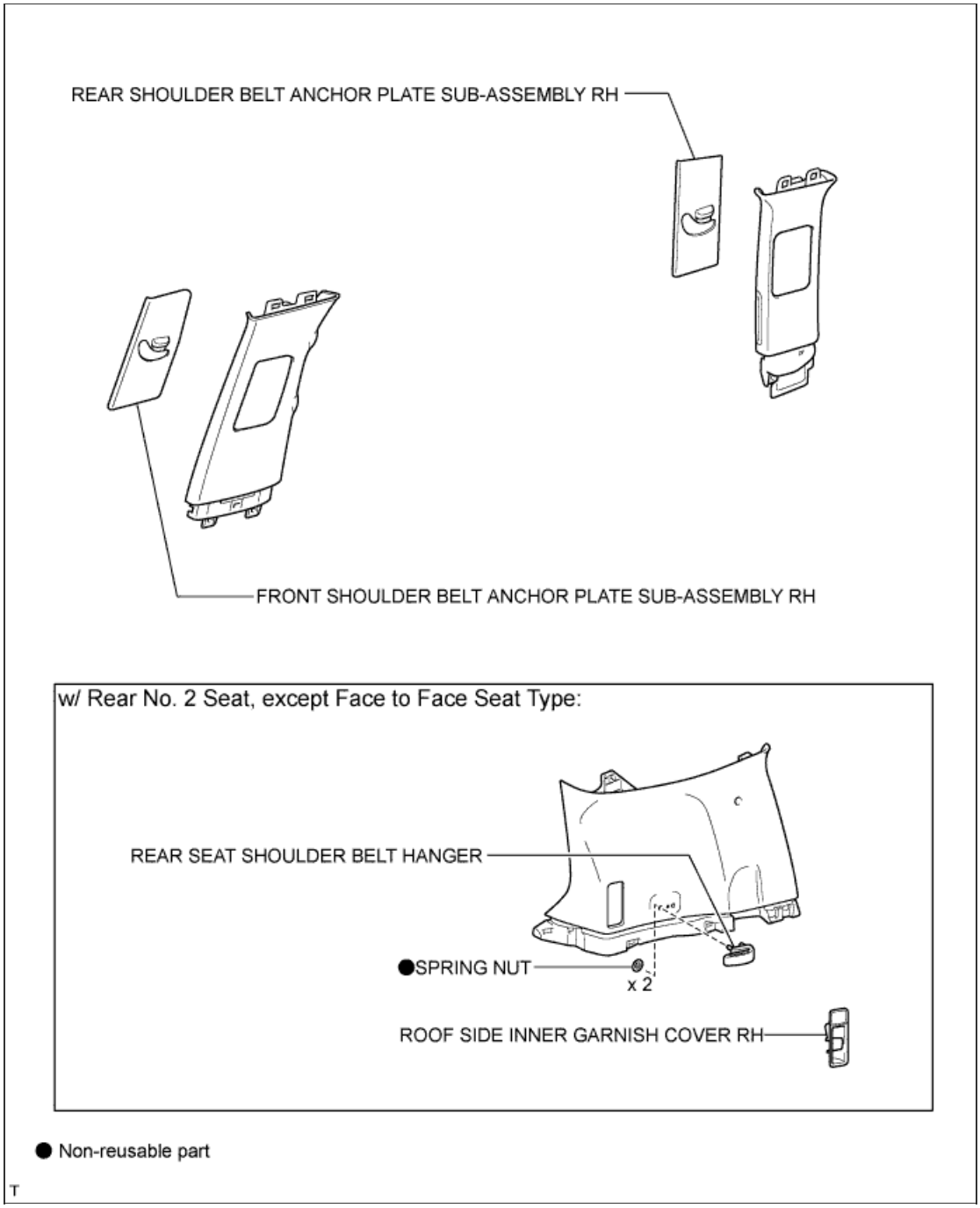

REAR DOOR OPENING TRIM WEATHERSTRIP RH
FRONT ROOF SIDE RAIL GARNISH RH
FRONT ROOF SIDE RAIL GARNISH LH
FRONT DOOR OPENING TRIM WEATHERSTRIP RH
CLIP
x 3
CLIP
x 3
BACK DOOR WEATHERSTRIP
FRONT DOOR OPENING TRIM WEATHERSTRIP LH
REAR DOOR OPENING TRIM WEATHERSTRIP LH
Non-reusable part

T




● Non-reusable part

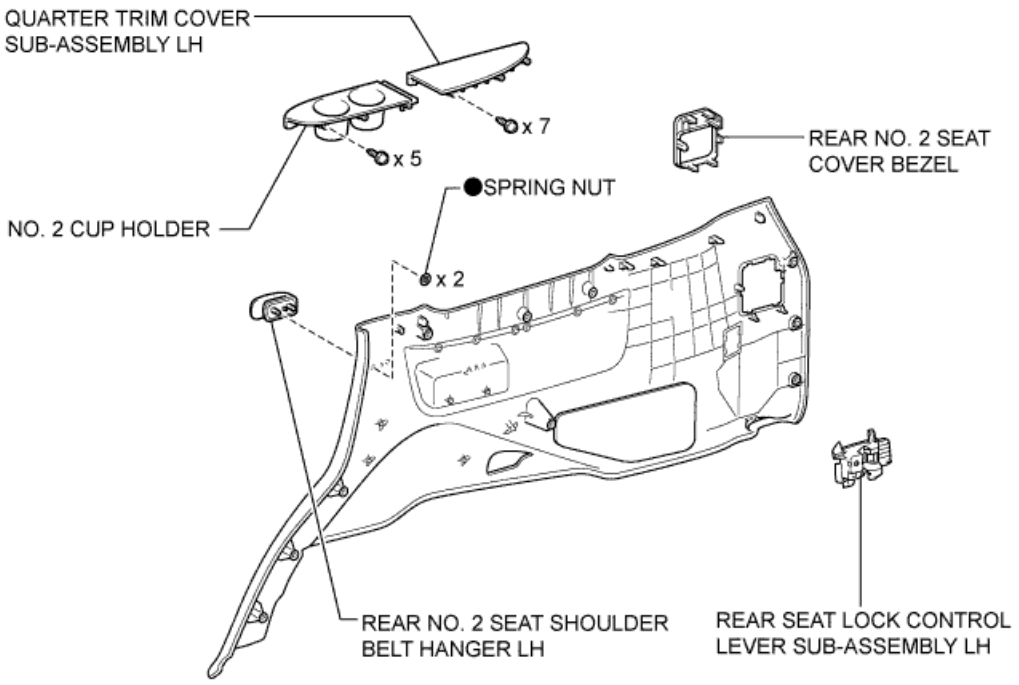
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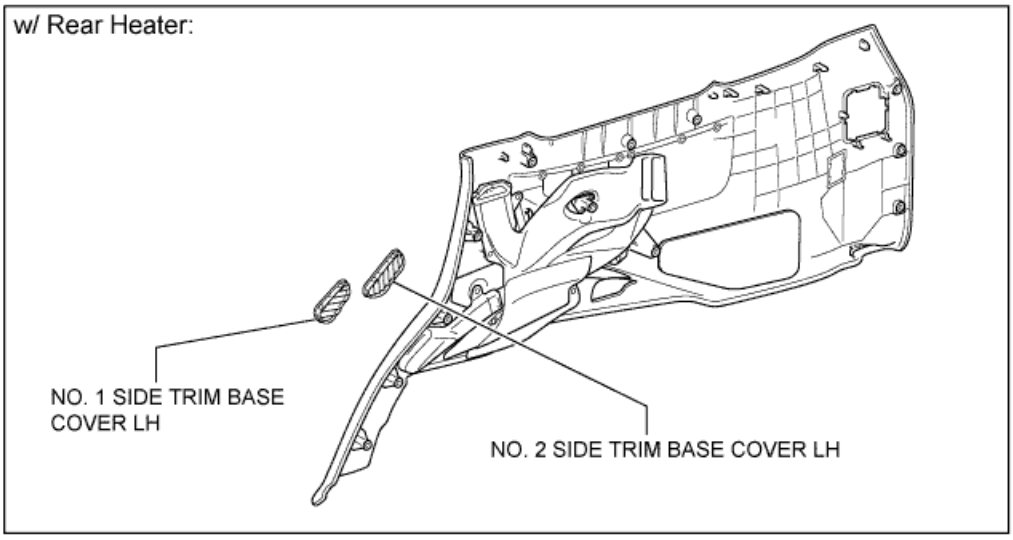

● Non-reusable part

T

w/ Rear No. 2 Seat, except Face to Face Seat Type:

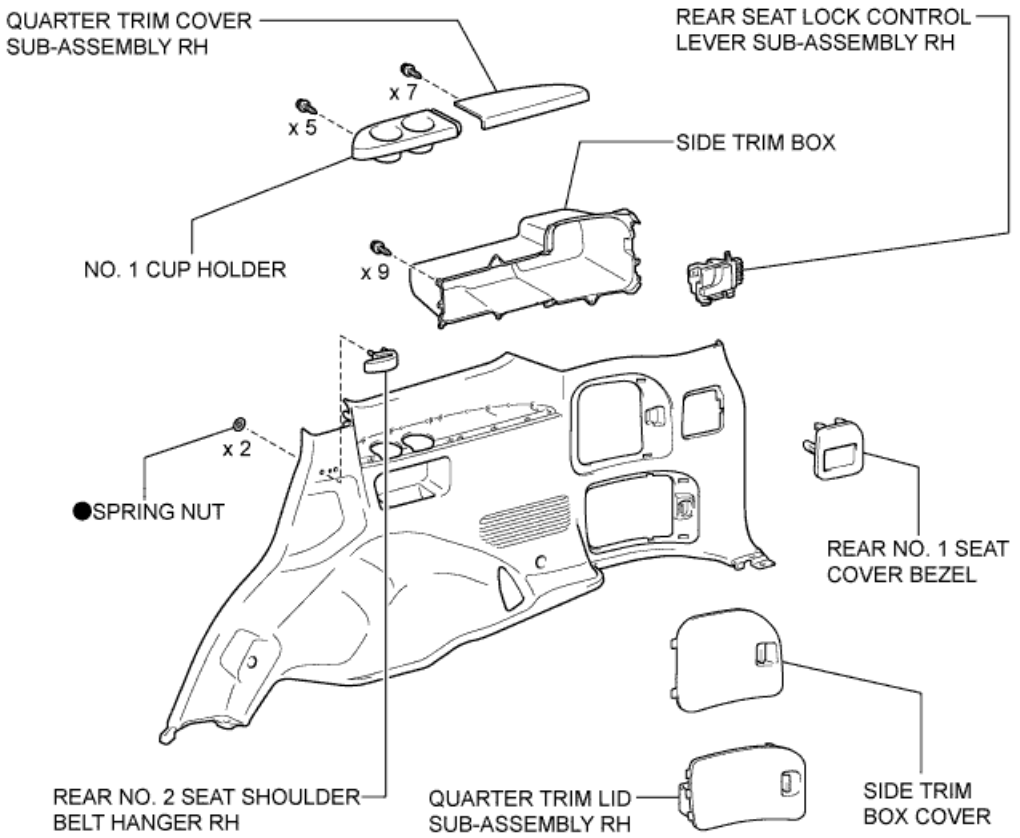



w/ Rear Heater:

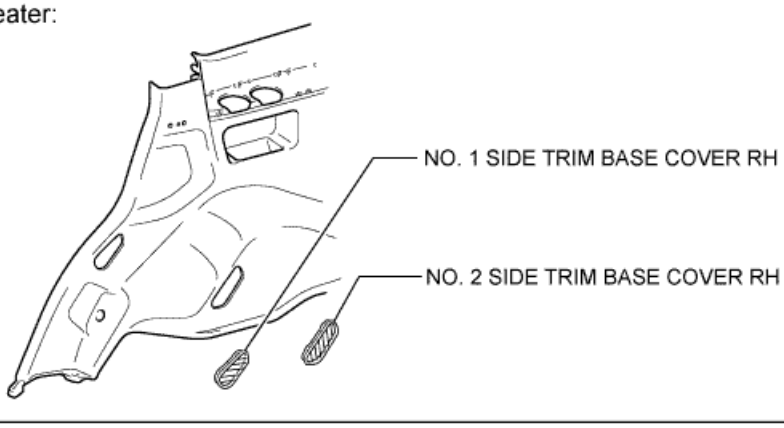



● Non-reusable part

w/ Rear No. 2 Seat, except Face to Face Seat Type:



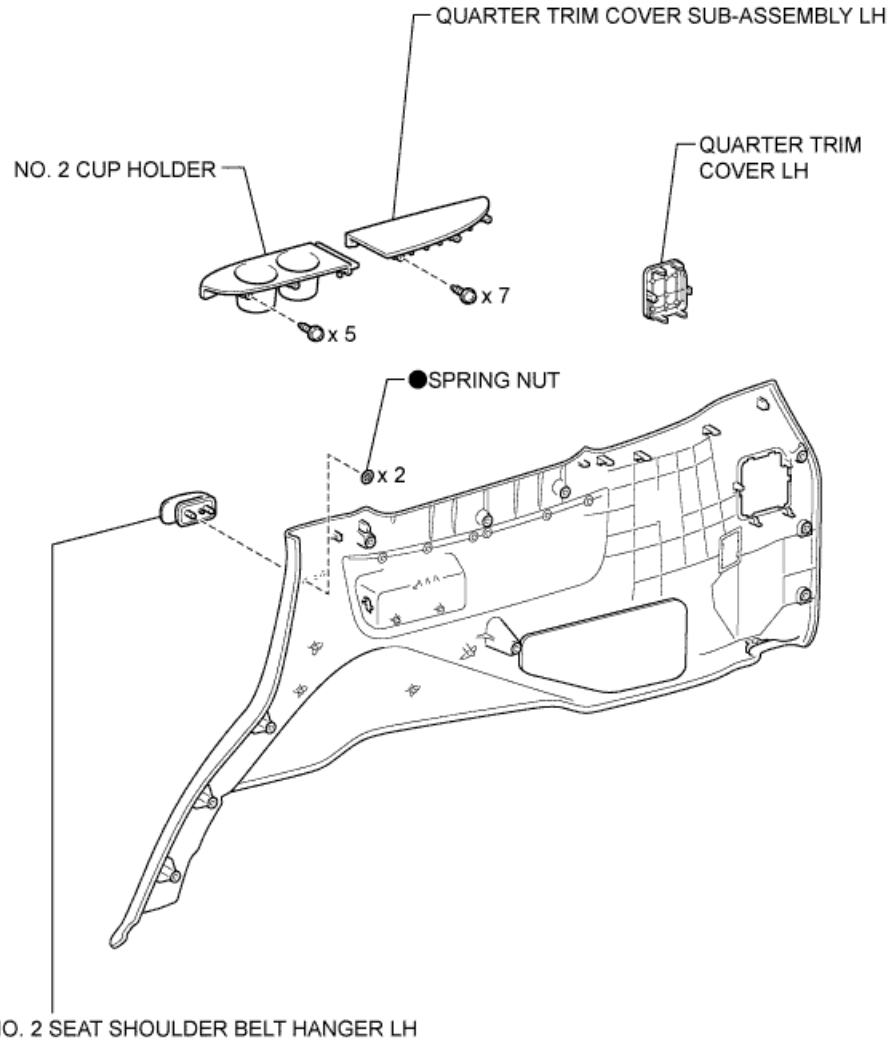

w/ Rear Heater:




● Non-reusable part

w/ Rear No. 2 Seat, for Face to Face Seat Type:

w/o Rear No. 2 Seat:

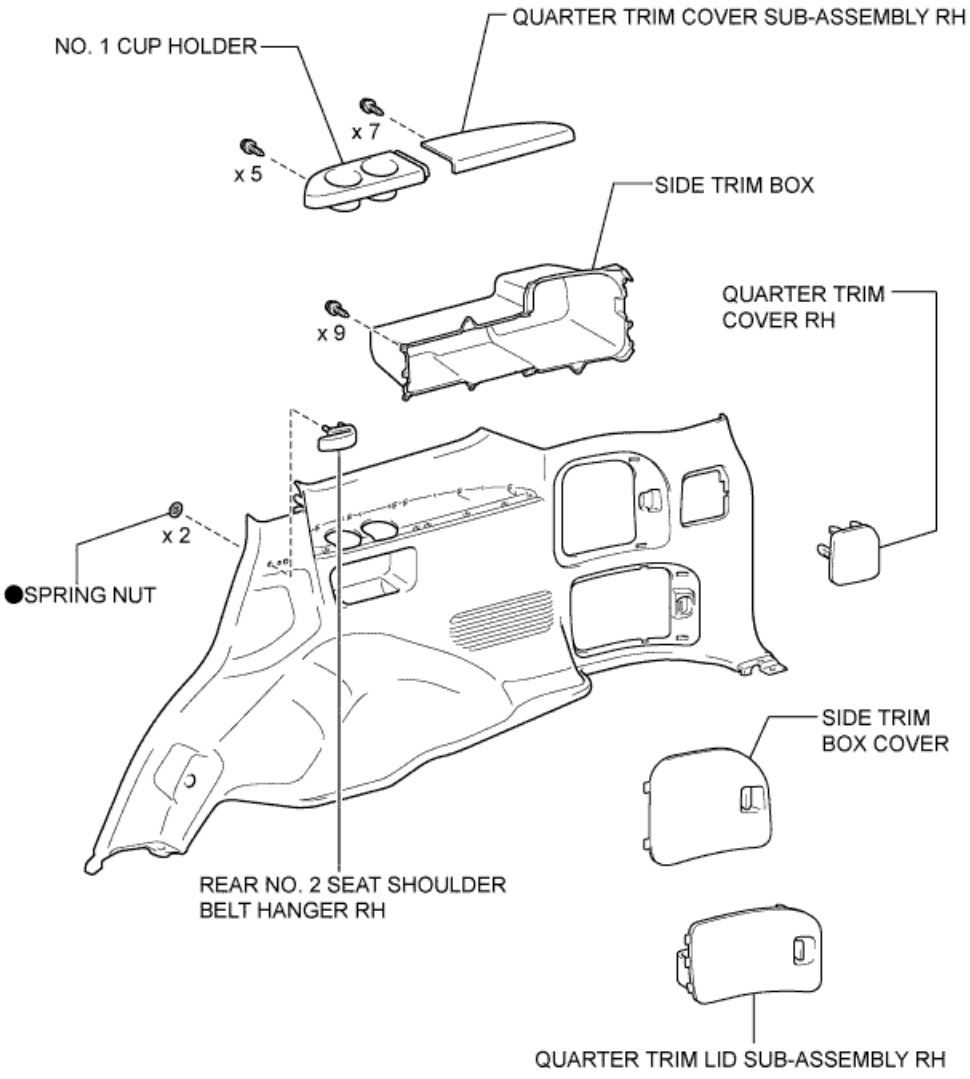



● Non-reusable part

T

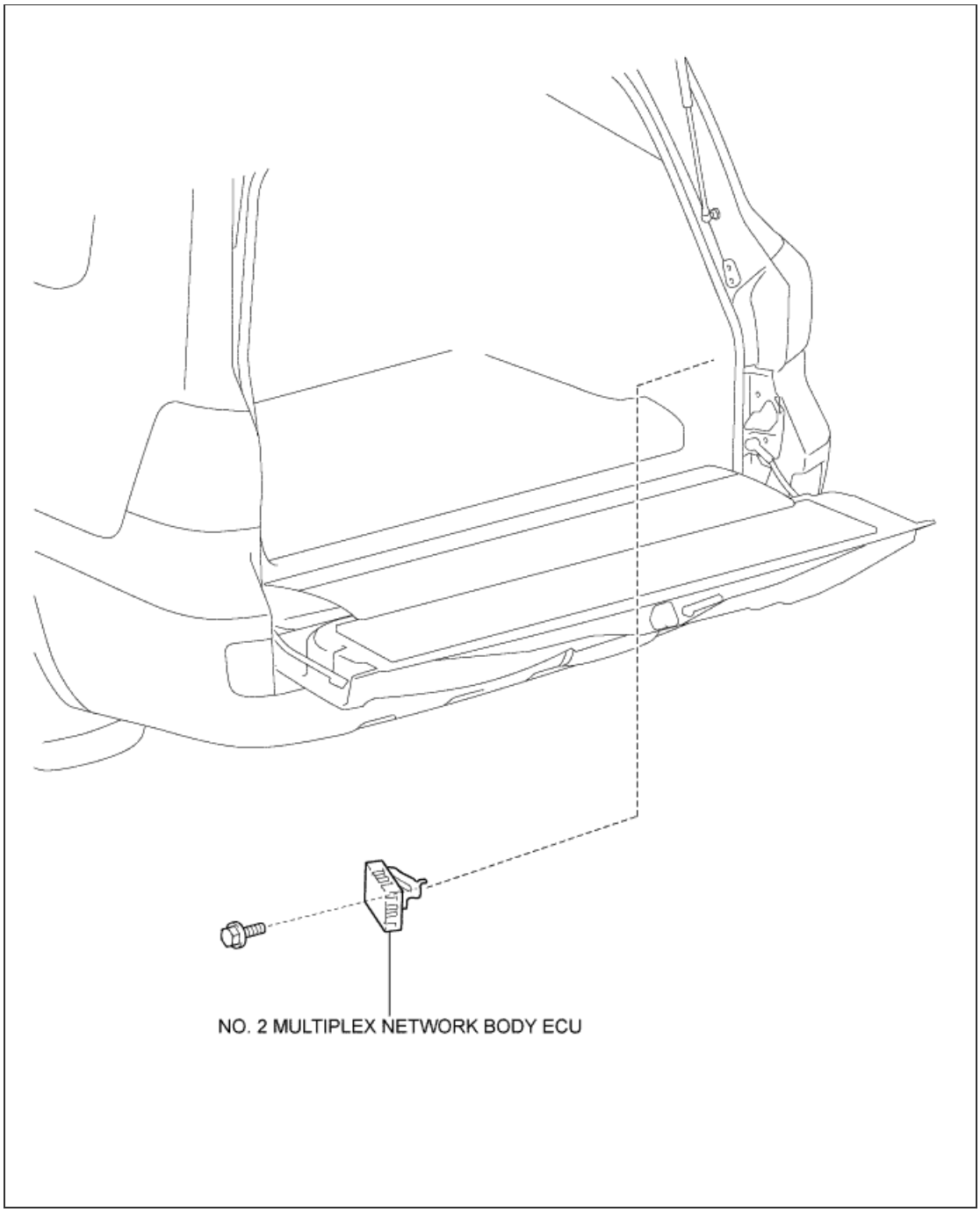
w/ Rear No. 2 Seat, for Face to Face Seat Type:

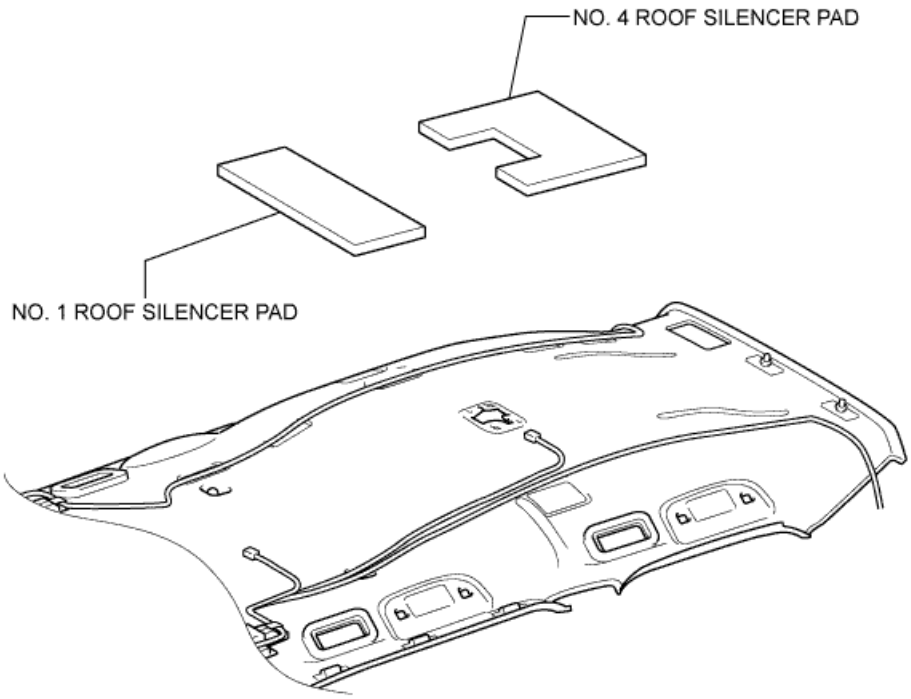
w/o Rear No. 2 Seat:



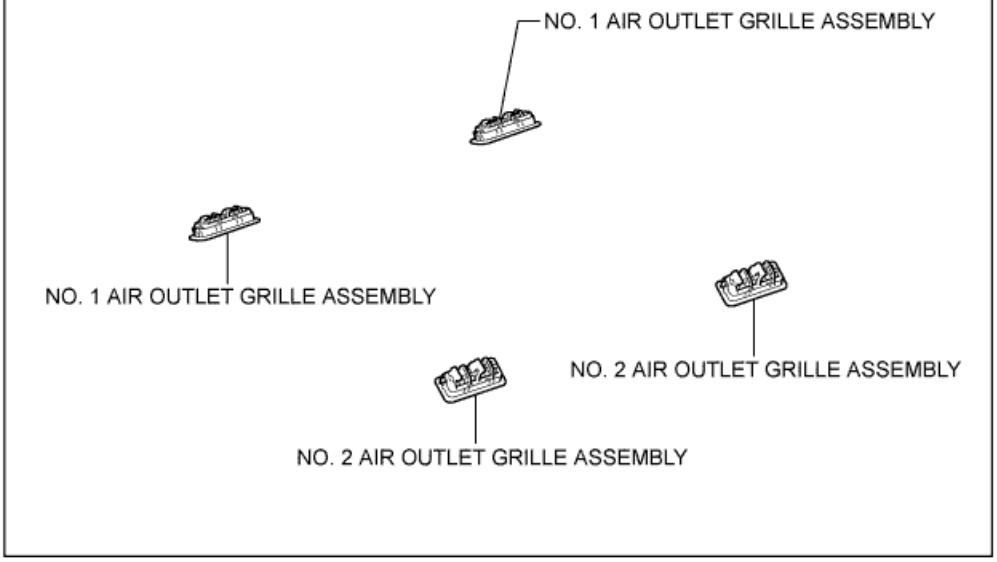

● Non-reusable part

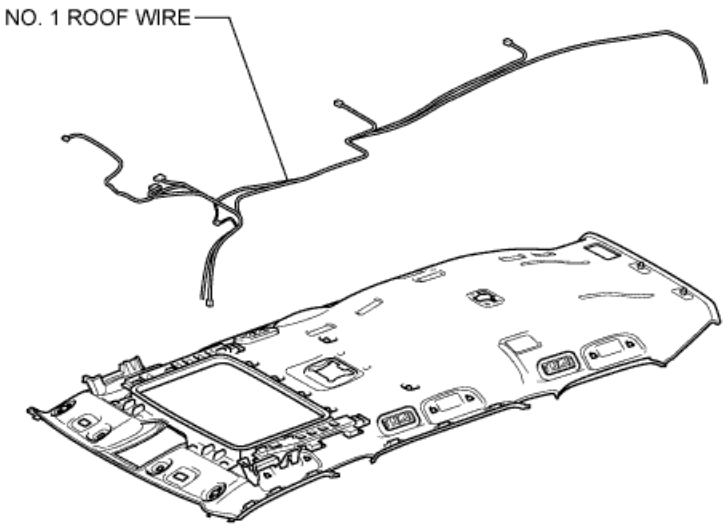
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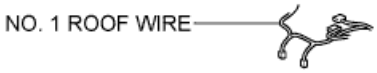
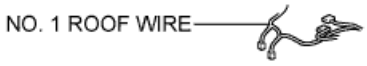

NO. 2 MULTIPLEX NETWORK BODY ECU



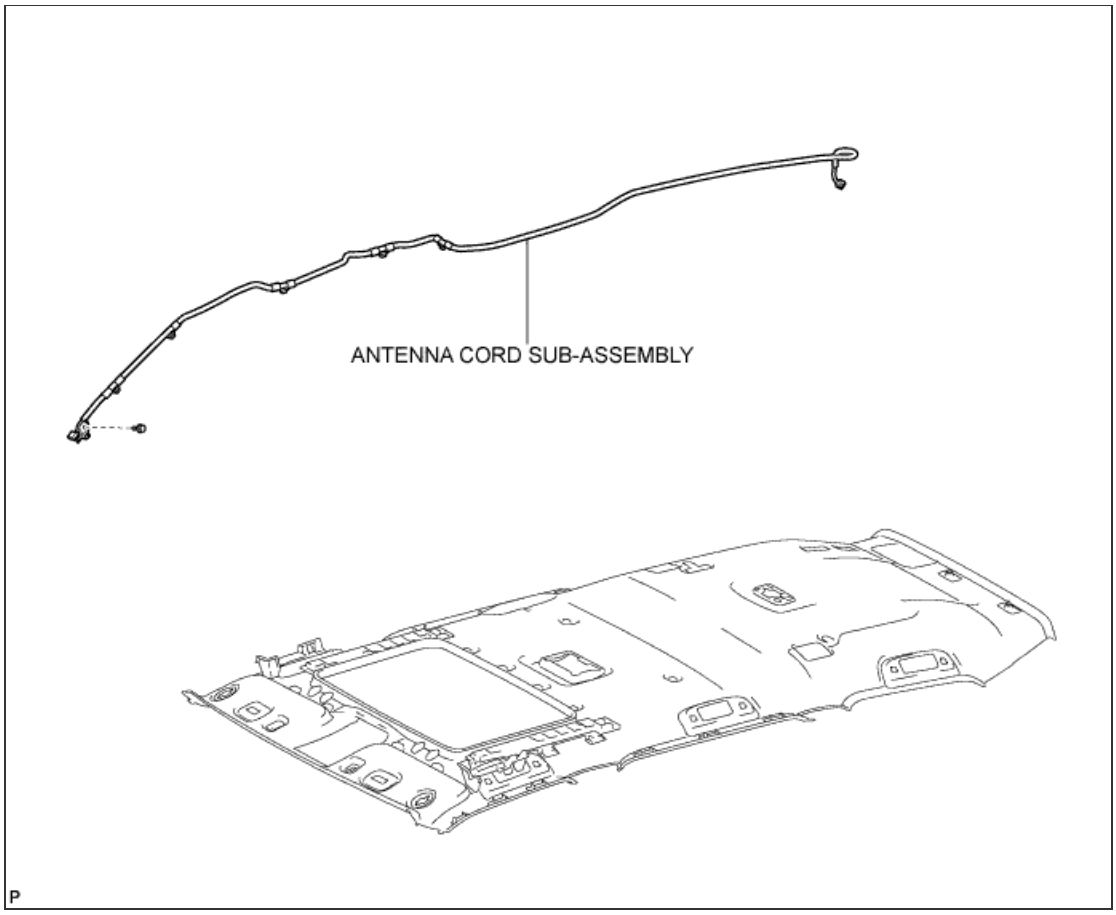

w/ Rear Air Conditioning System:






| | | |
|---|---|---|
| w/ EC Mirror:<br><br> | for LHD, w/ Rain Sensor:<br><br> | for RHD, w/ Rain Sensor:<br><br> |
| for LHD, w/ Rain Sensor, w/ EC Mirror:<br><br> | for RHD, w/ Rain Sensor, w/ EC Mirror:<br><br> | |

T


ANTENNA CORD SUB-ASSEMBLY
P

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (except Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

## 4. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

## 5. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (for Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

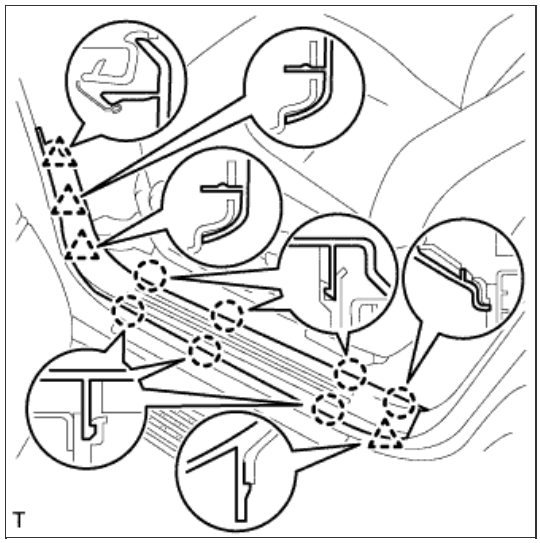
## 6. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

## 7. REMOVE FRONT DOOR SCUFF PLATE LH

a. Detach the 7 claws and 4 clips, and remove the scuff plate.




### 8. REMOVE FRONT DOOR SCUFF PLATE RH

**HINT:**

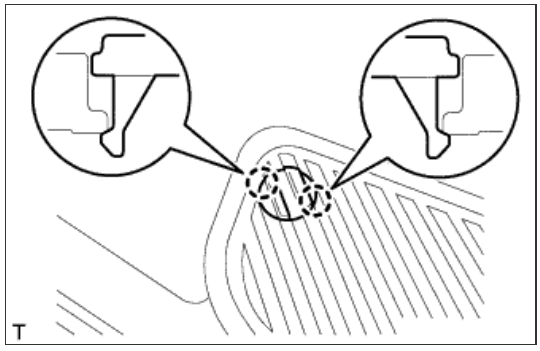
Use the same procedures described for the LH side.

### 9. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

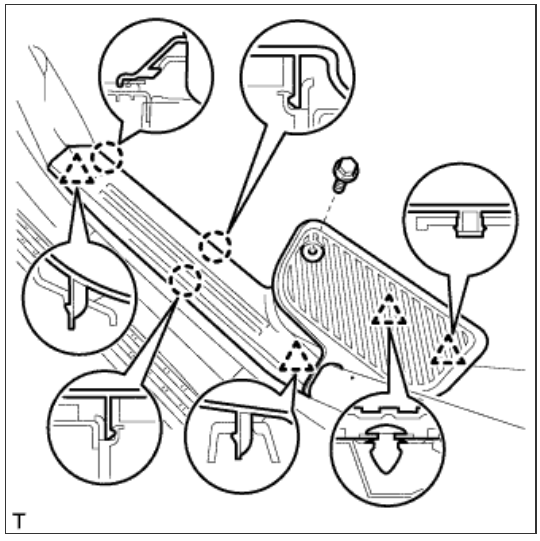
a. Detach the 2 claws and remove the step cover.




### 10. REMOVE REAR DOOR SCUFF PLATE LH

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.



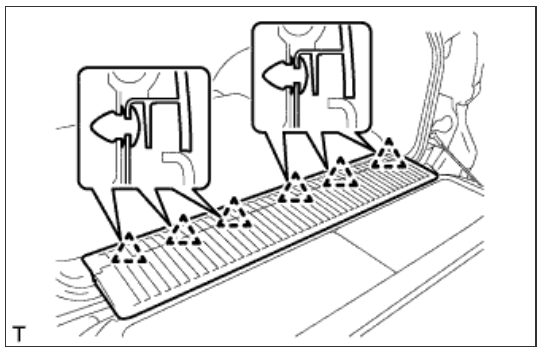

### 11. REMOVE REAR DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

## 12. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.

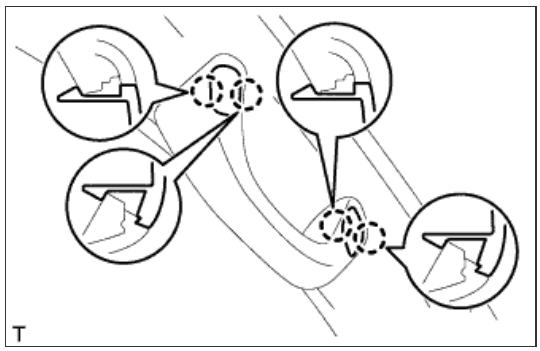



## 13. REMOVE FRONT ASSIST GRIP SUB-ASSEMBLY

**HINT:**

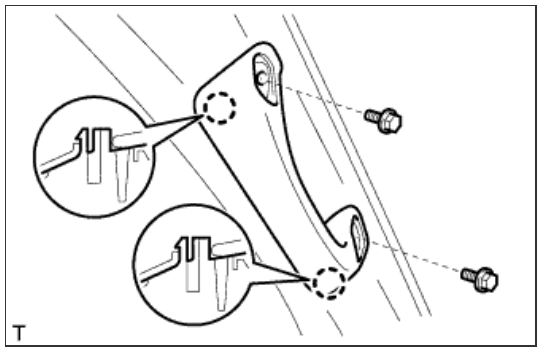
Use the same procedure to remove the front assist grip on the other side.

a. Detach the 4 claws and remove the 2 assist grip plugs.




b. Remove the 2 bolts.

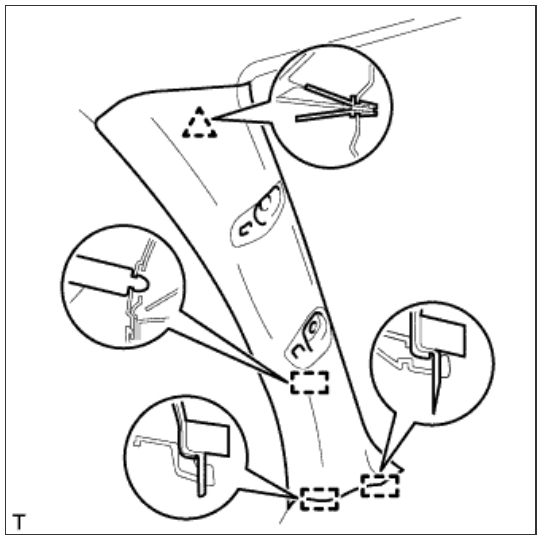
c. Detach the 2 claws and remove the front assist grip.




## 14. REMOVE FRONT PILLAR GARNISH LH

a. Detach the clip 3 guides, and remove the front pillar garnish.

b. for 9, 14 Speakers:
Disconnect the speaker connector and then remove the front pillar garnish.

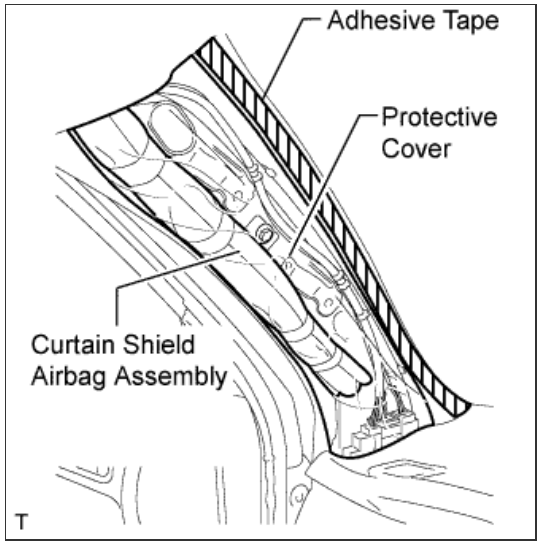



c. Protect the curtain shield airbag.

i. Thoroughly cover the airbag with a cloth or nylon sheet and fix the ends of the cover with adhesive tape, as shown in the illustration.

**NOTICE:**

Cover the curtain shield airbag with a protective cover as soon as the front pillar garnish is removed.




## 15. REMOVE FRONT PILLAR GARNISH RH

**HINT:**

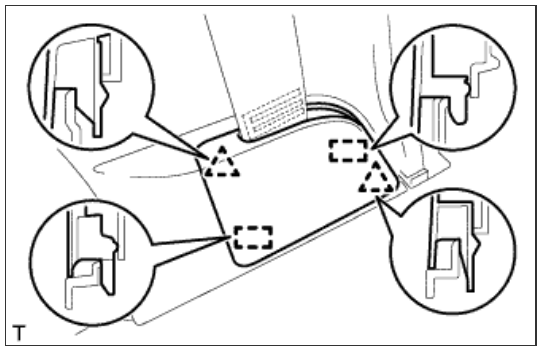
Use the same procedures described for the LH side.

## 16. REMOVE CENTER PILLAR GARNISH COVER LH

**HINT:**

- **for Manual Seat:**
  **When removing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When removing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Detach the 2 clips and 2 guides, and remove the cover.




## 17. REMOVE CENTER PILLAR GARNISH COVER RH

**HINT:**

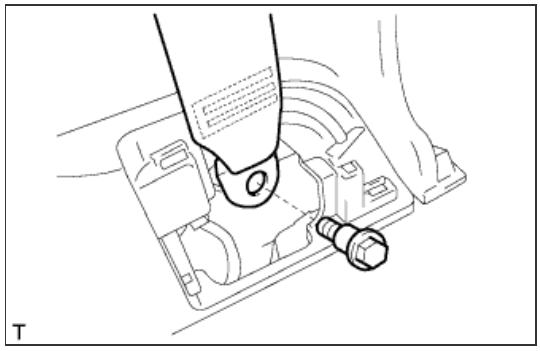
Use the same procedures described for the LH side.

## 18. REMOVE CENTER LOWER PILLAR GARNISH LH

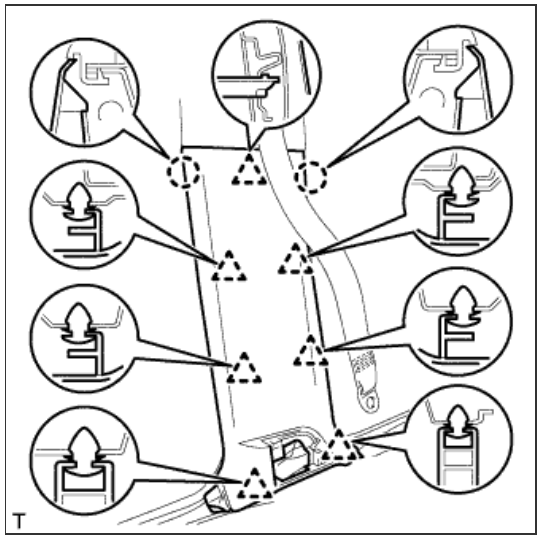
**HINT:**

- **for Manual Seat:**
  **When removing the center lower pillar garnish, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When removing the center lower pillar garnish, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Remove the bolt and seat belt anchor.




b. Detach the 2 claws and 7 clips, and remove the center lower pillar garnish.




## 19. REMOVE CENTER LOWER PILLAR GARNISH RH

**HINT:**

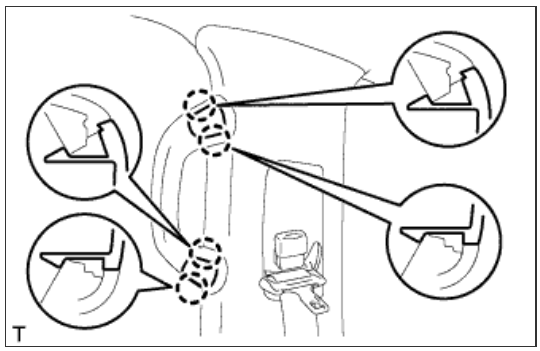
Use the same procedures described for the LH side.

## 20. REMOVE REAR ASSIST GRIP ASSEMBLY

**HINT:**

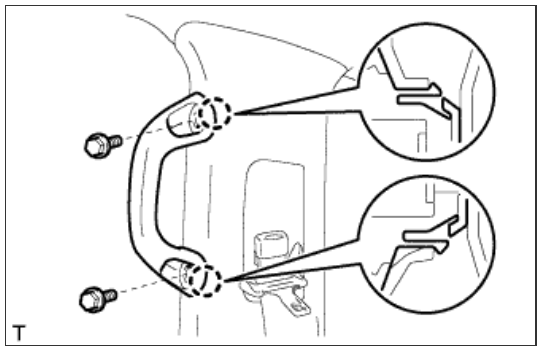
Use the same procedure to remove the rear assist grip on the other side.

a. Detach the 4 claws and remove the 2 assist grip plugs.




b. Remove the 2 bolts.

c. Detach the 2 claws and remove the rear assist grip.

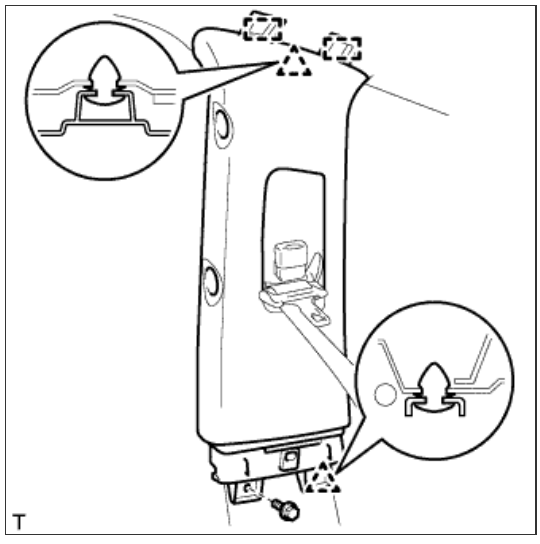



## 21. REMOVE CENTER PILLAR GARNISH LH

a. Remove the bolt.

b. Detach the 2 clips and 2 guides.

c. Pass the seat belt anchor through the center pillar garnish, and remove the center pillar garnish.




## 22. REMOVE CENTER PILLAR GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

## 23. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

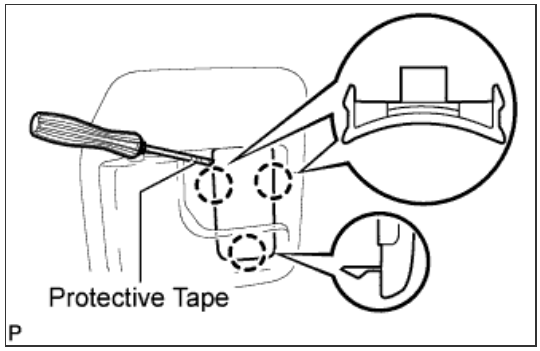
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

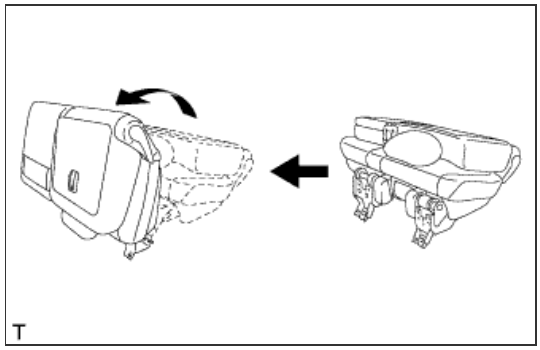
Tape the screwdriver tip before use.



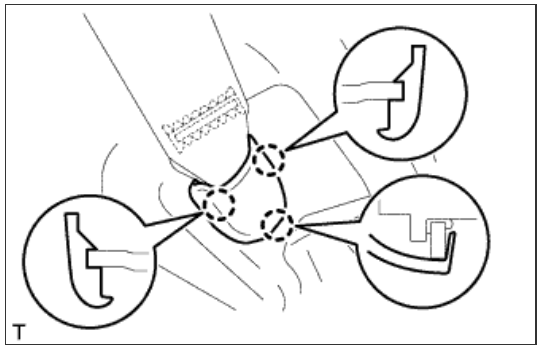

## 24. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

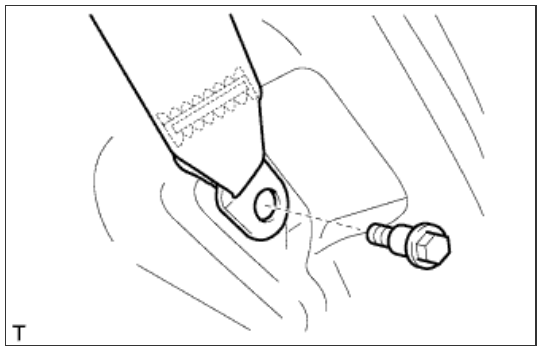
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



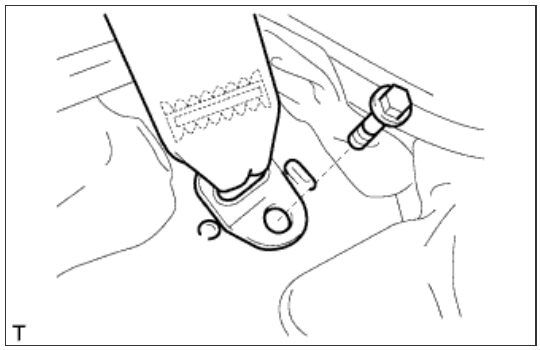

a. Detach the 3 claws and remove the cover.




b. Remove the bolt and rear No. 1 seat belt anchor.




c. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Remove the bolt and rear No. 2 seat belt anchor.



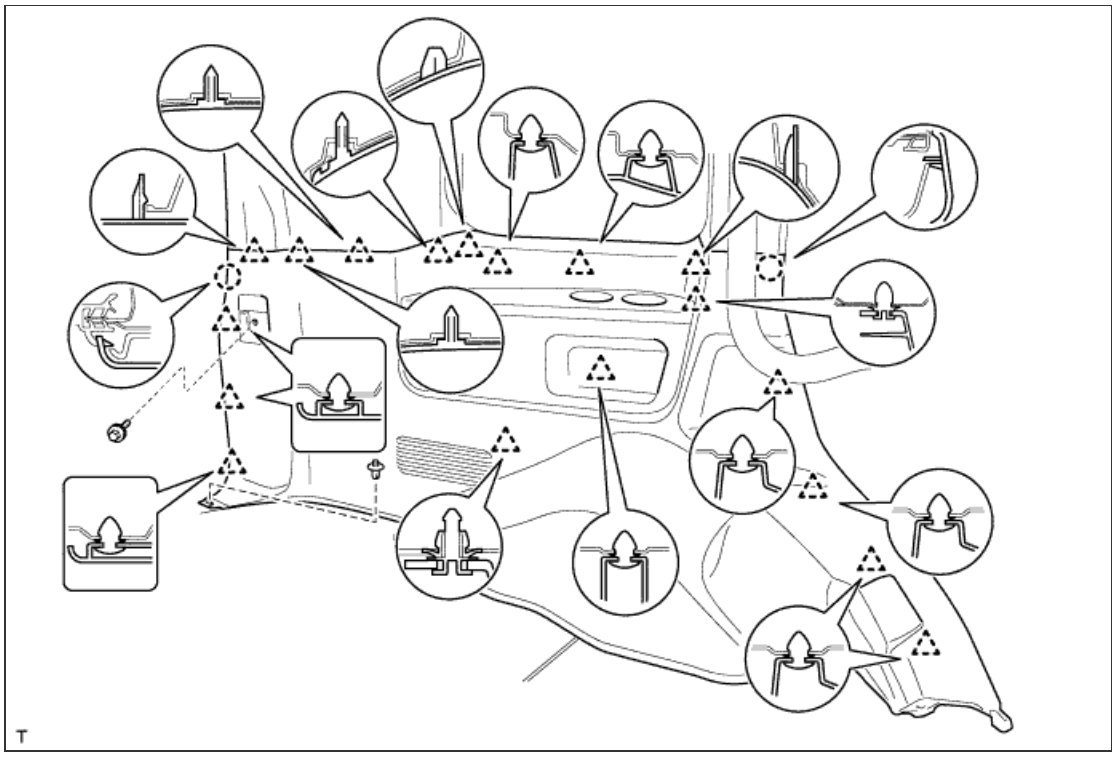

**d.** w/ Rear No. 2 Seat, except Face to Face Seat Type:

**i.** Remove the clip and bolt.

**ii.** Detach the 18 clips and 2 claws.

**iii.** w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

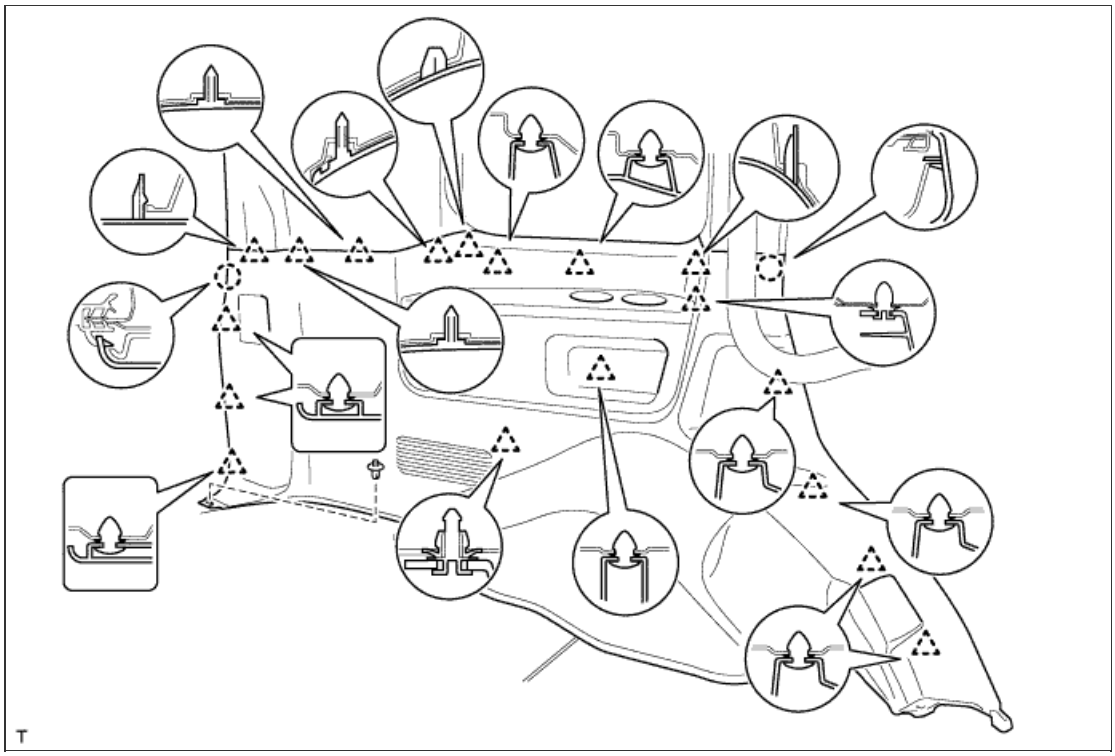
**iv.** w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.




**e.** w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

**i.** Remove the clip.

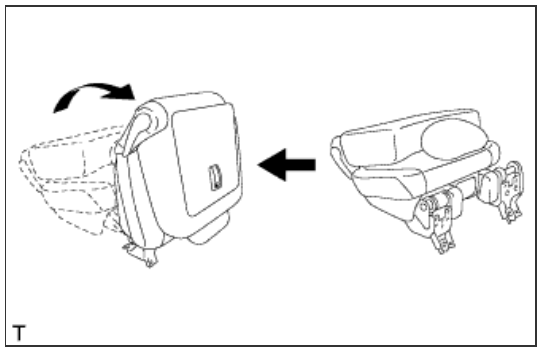
**ii.** Detach the 18 clips and 2 claws, and remove the quarter trim panel.



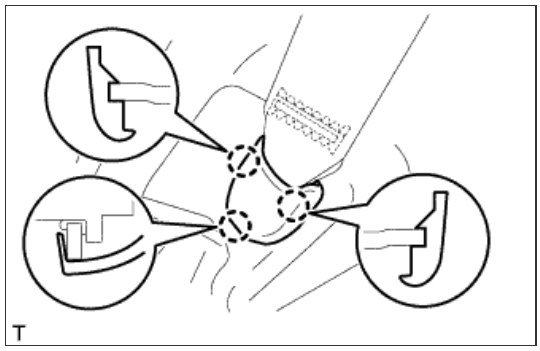

## 25. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

**HINT:**

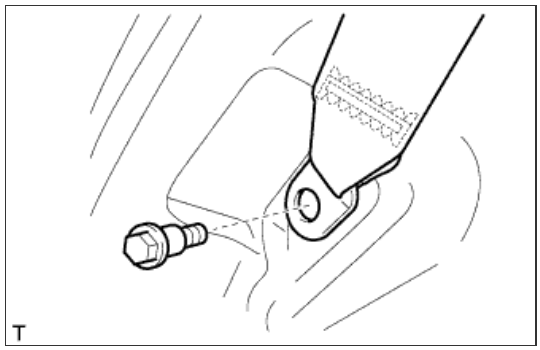
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. Detach the 3 claws and remove the cover.

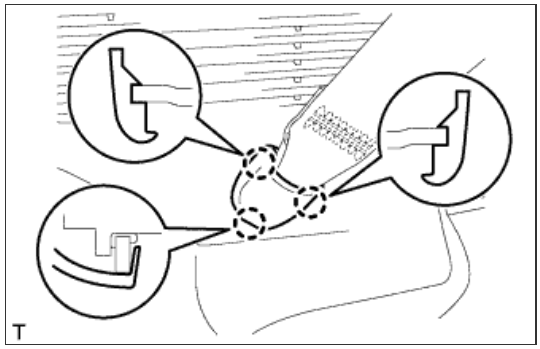



b. Remove the bolt and rear No. 1 seat belt anchor.

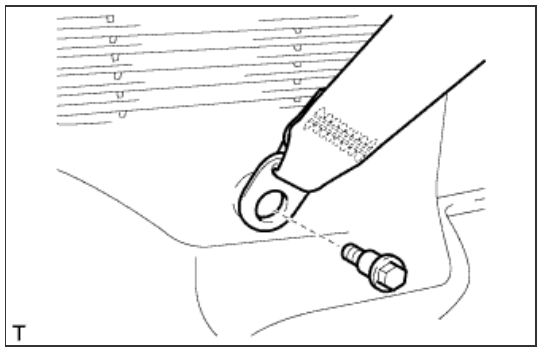



c. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Detach the 3 claws and remove the cover.




ii. Remove the bolt and rear No. 2 seat belt anchor.



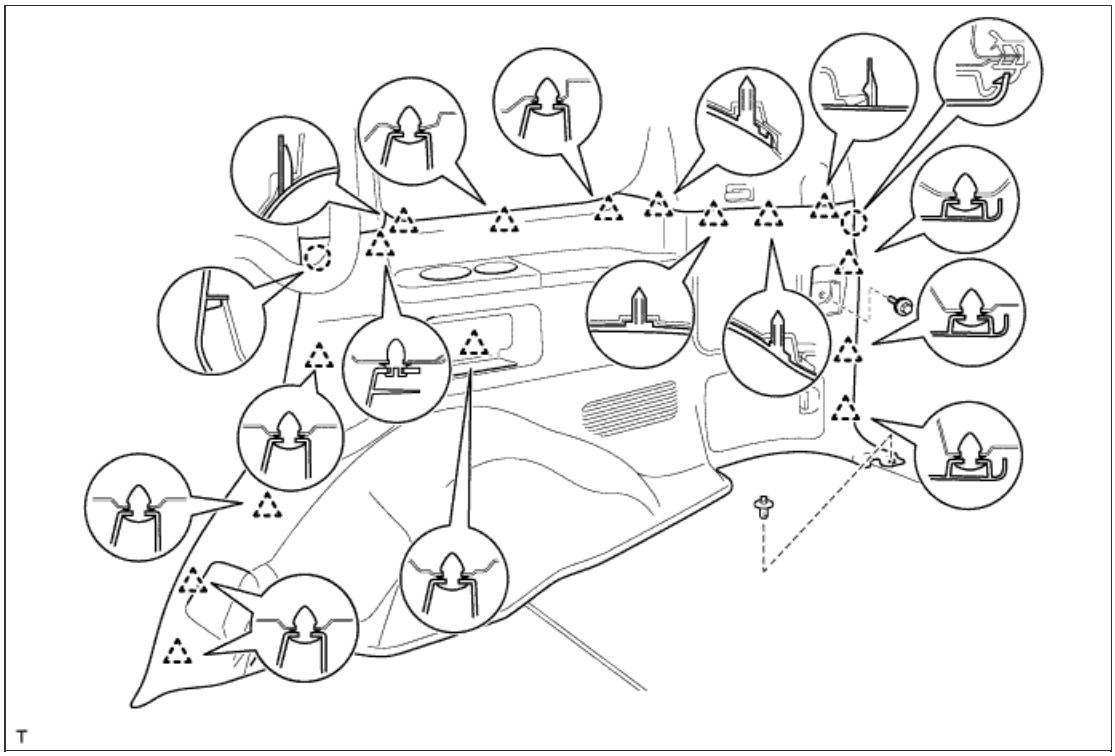

d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Remove the clip and bolt.

ii. Detach the 16 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

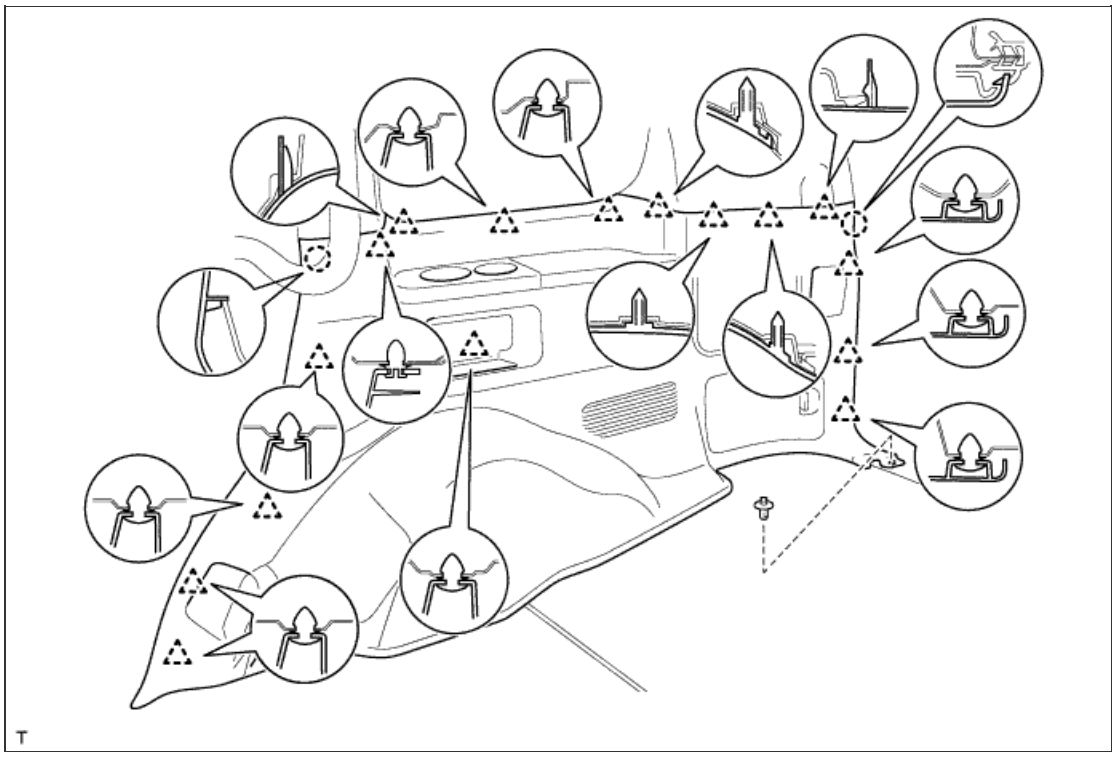
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.




e. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Remove the clip.

ii. Detach the 16 clips and 2 claws, and remove the quarter trim panel.

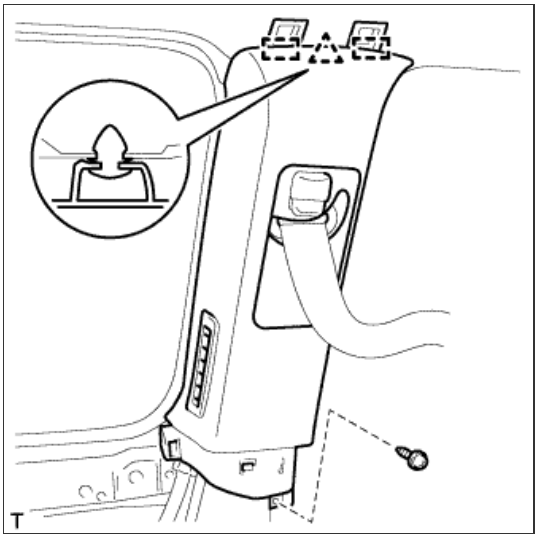



**26. REMOVE REAR FRONT QUARTER TRIM GARNISH LH**

a. Remove the screw.

b. Detach the clip and 2 guides.

c. Pass the seat belt anchor through the quarter trim garnish, and remove the quarter trim garnish.




## 27. REMOVE REAR FRONT QUARTER TRIM GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

## 28. REMOVE REAR UPPER PILLAR GARNISH LH

a. w/ Rear No. 2 Seat, except Face to Face Seat Type

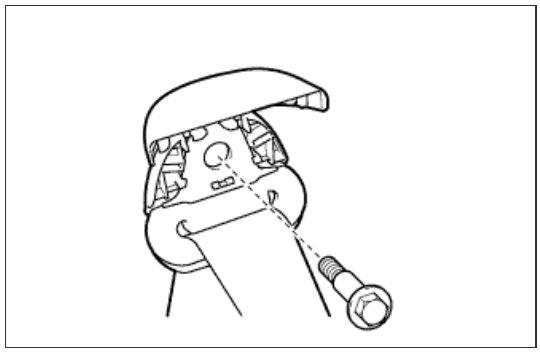
i. Using a screwdriver, detach the 2 claws and open the seat belt shoulder anchor cover.

**HINT:**

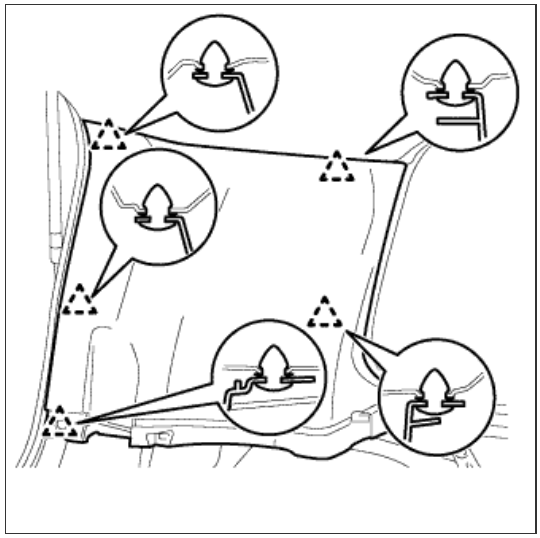
Tape the screwdriver tip before use.




ii. Remove the bolt and seat belt shoulder anchor.

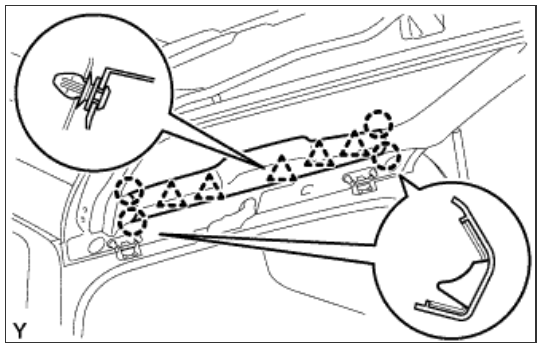


b. Detach the 5 clips and remove the rear upper pillar garnish.



## 29. REMOVE CENTER BACK DOOR GARNISH (w/ Power Back Door)

a. Detach the 5 clips and 4 claws, and remove the center back door garnish.




## 30. REMOVE BACK DOOR SIDE GARNISH RH (w/ Power Back Door)

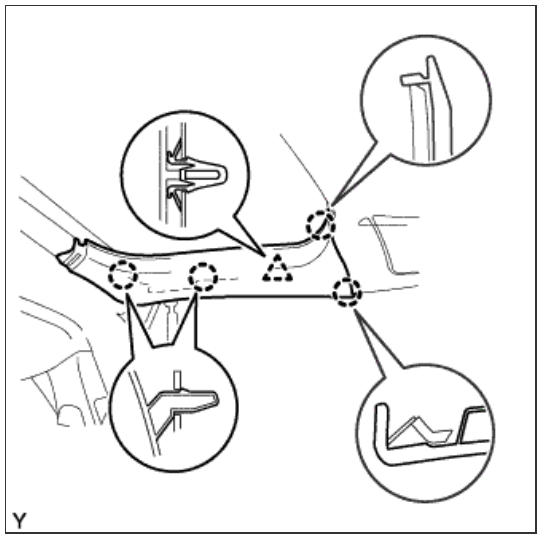
a. w/o Power Back Door:

**HINT:**

Use the same procedure described for the LH side.

b. w/ Power Back Door:

i. Detach the clip and 4 claws, and remove the back door side garnish RH.

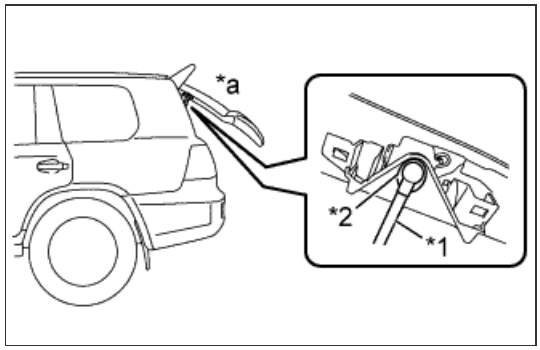



## 31. REMOVE BACK DOOR SERVICE HOLE COVER RH (w/ Power Back Door)

a. Move the back door to a half-open position so that the hole in the center of the back door service hole cover RH is aligned lengthwise with the power back door rod.

**Text in Illustration**

| | |
|---|---|
| *1 | Power Back Door Rod |
| *2 | Hole of Back Door Service Hole Cover RH |
| *a | Back Door is Half-open |



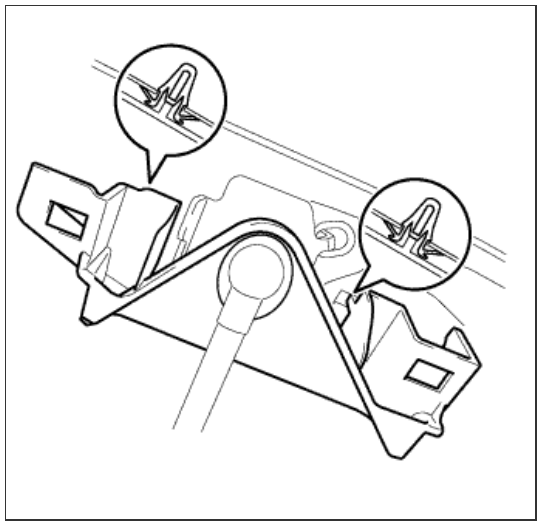

b. Detach the 2 clips and separate the back door service hole cover RH, passing the power back door rod through the hole of the back door service hole cover RH.

**NOTICE:**

If the back door is in a fully-open position, the power back door rod will interfere with the hole of the back door service hole cover RH, so do not perform this operation with the back door in a fully open position.

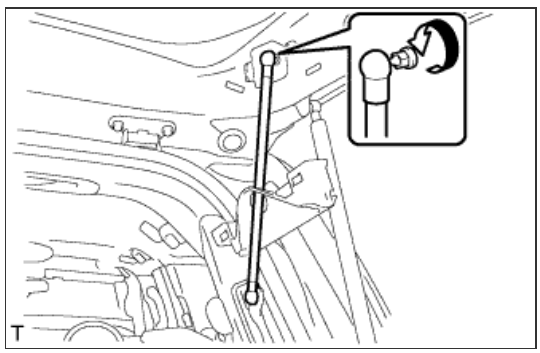
**HINT:**

If any of the clips have remained on the back door, remove the clips from the back door and install them to the back door service hole cover RH.



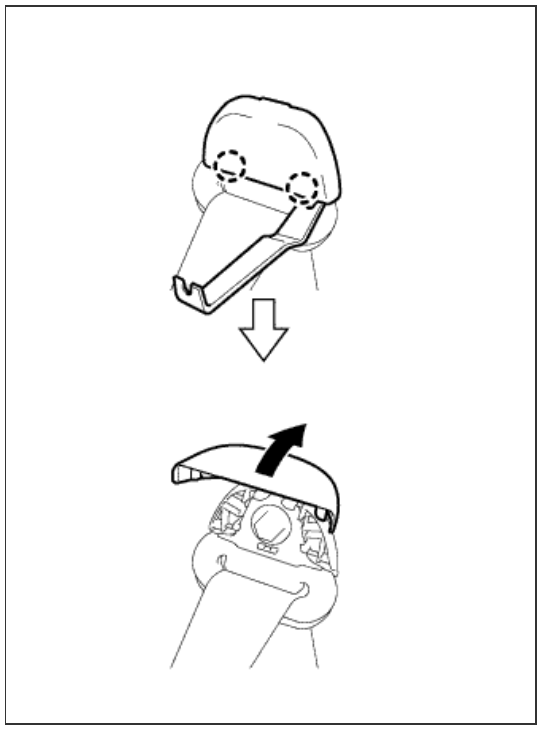
c. Remove the ball joint bolt, power back door rod and back door stay plate.

d. Remove the back door service hole cover RH from the power back door rod.

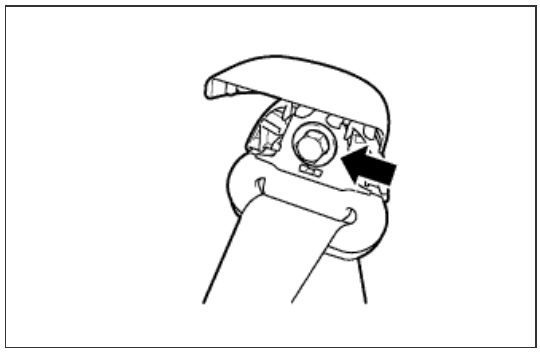


## 32. REMOVE REAR UPPER PILLAR GARNISH RH

a. Using a moulding remover, detach the 2 claws and open the seat belt shoulder anchor cover.

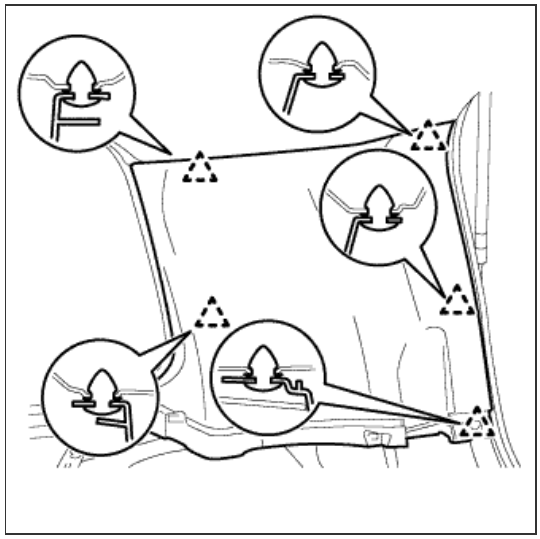


b. Remove the bolt and seat belt shoulder anchor.



c. w/o Power Back Door:

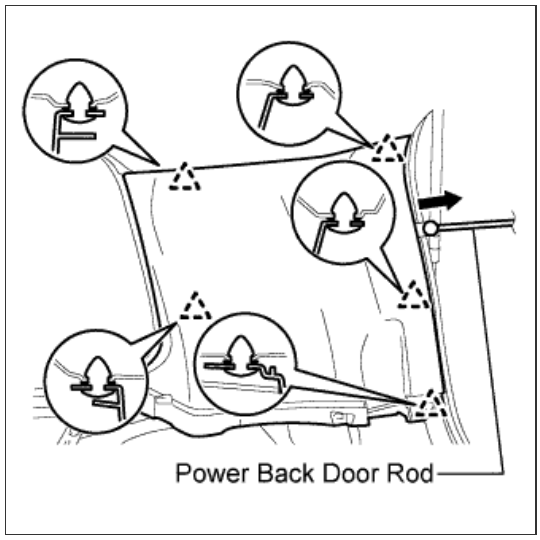
i. Detach the 5 clips and remove the rear upper pillar garnish.



d. w/ Power Back Door:

i. Detach the 5 clips.

ii. Pass the power back door rod through the rear upper pillar garnish, and remove the rear upper pillar garnish.




## 33. REMOVE MAP LIGHT ASSEMBLY

a. Using a screwdriver, detach the 2 claws and open the 2 covers.

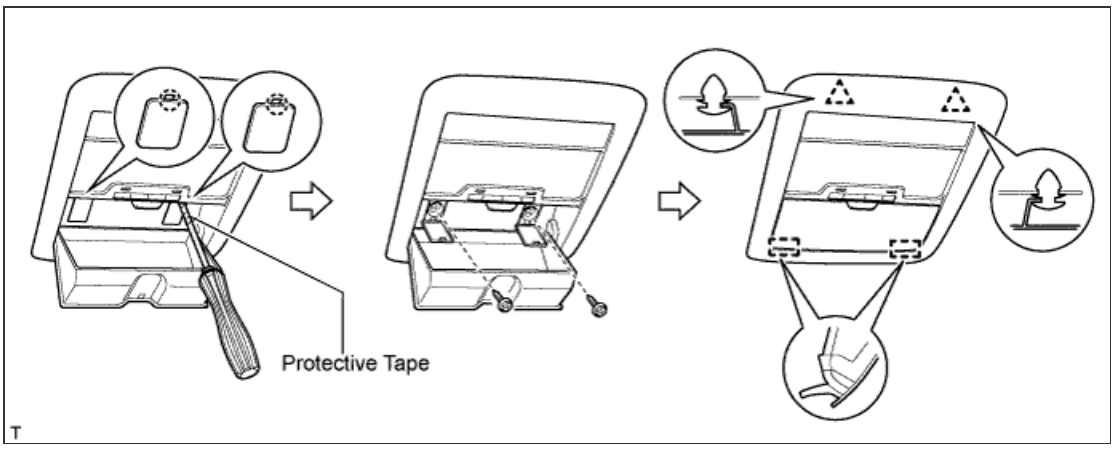
**HINT:**

Tape the screwdriver tip before use.

b. Remove the 2 screws.

c. Detach the 2 clips and 2 guides.

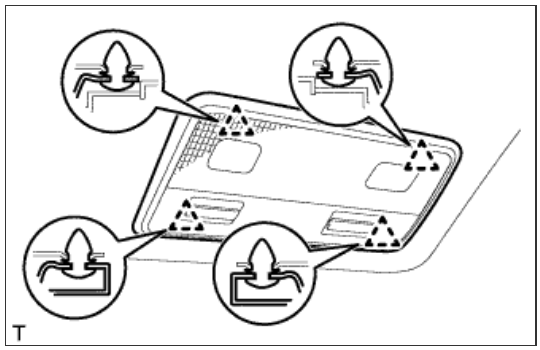
d. Disconnect the connector and then remove the map light.




## 34. REMOVE NO. 1 ROOM LIGHT ASSEMBLY

a. Detach the 4 clips.

b. Disconnect the connector and then remove the room light.

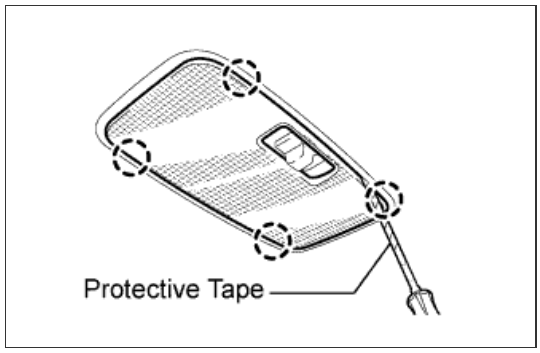



## 35. REMOVE NO. 2 ROOM LIGHT ASSEMBLY

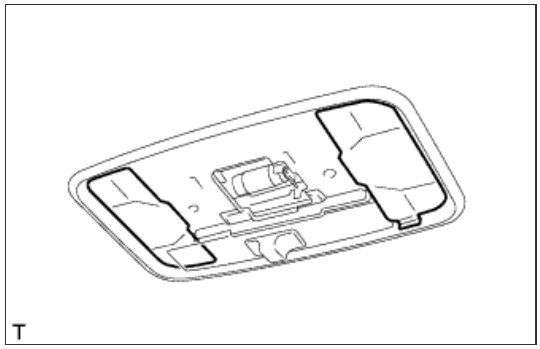
a. Using a screwdriver, detach the 4 claws and remove the room light lens.

**HINT:**

Tape the screwdriver tip before use.

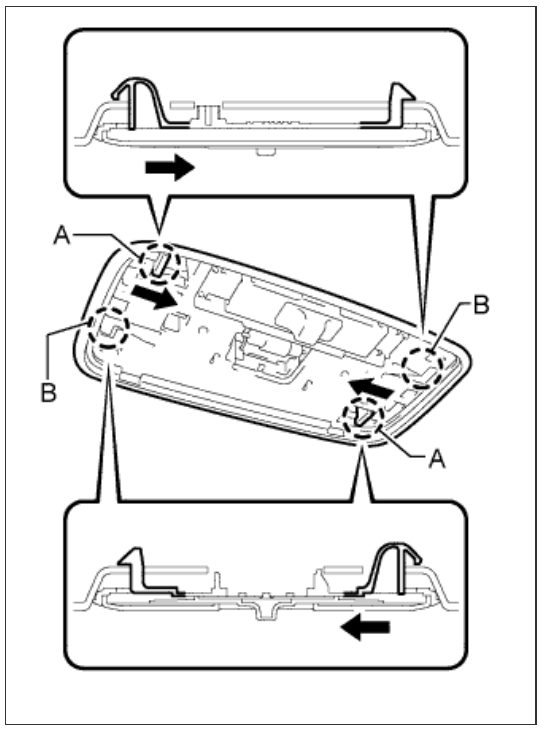



b. Remove the 2 covers.

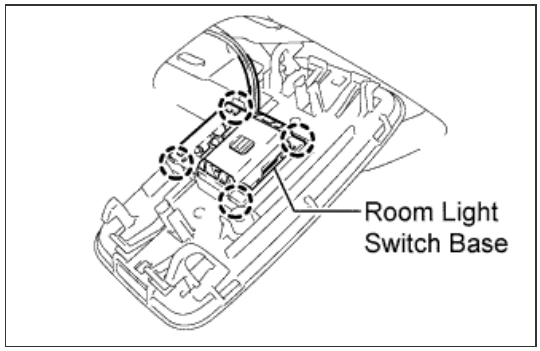



c. Using a screwdriver, push the 2 levers in the direction of the arrows in the illustration, and detach the 2 claws labeled A.

d. Detach the 2 claws labeled B.



e. Detach the 4 claws and remove the room light from the room light switch base.

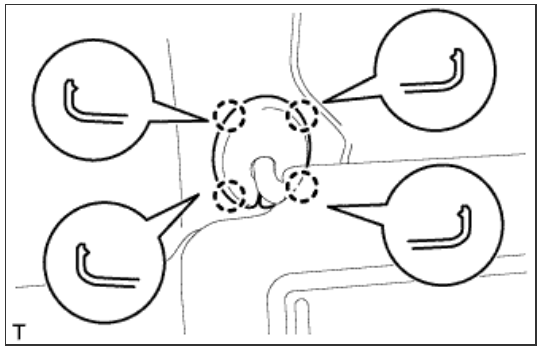



### 36. REMOVE VISOR BRACKET COVER

**HINT:**

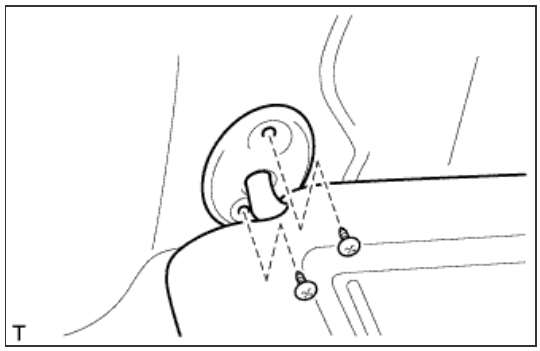
Use the same procedure to remove the visor bracket cover on the other side.

a. Detach the 4 claws and remove the visor bracket cover.




### 37. REMOVE VISOR ASSEMBLY LH

a. Remove the 2 screws and visor.




### 38. REMOVE VISOR ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

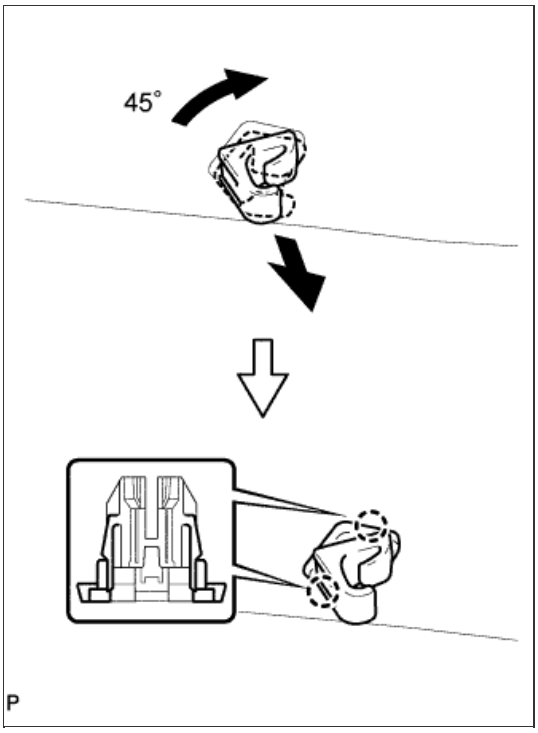
### 39. REMOVE VISOR HOLDER

**HINT:**

Use the same procedure to remove the visor holder on the other side.

a. Turn the visor holder approximately 45° and pull it out as shown in the illustration.

b. Detach the 2 claws and remove the visor holder.




### 40. REMOVE CENTER VISOR ASSEMBLY LH (w/ Sub Visor)

a. Using a screwdriver, pry off the cover to detach the 2 clips and remove the center visor.

**HINT:**

Tape the screwdriver tip before use.



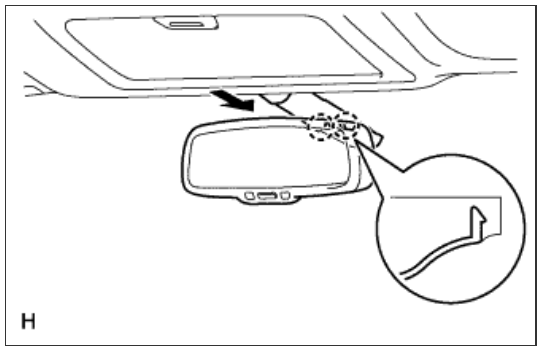

### 41. REMOVE CENTER VISOR ASSEMBLY RH (w/ Sub Visor)

**HINT:**

Use the same procedures described for the LH side.

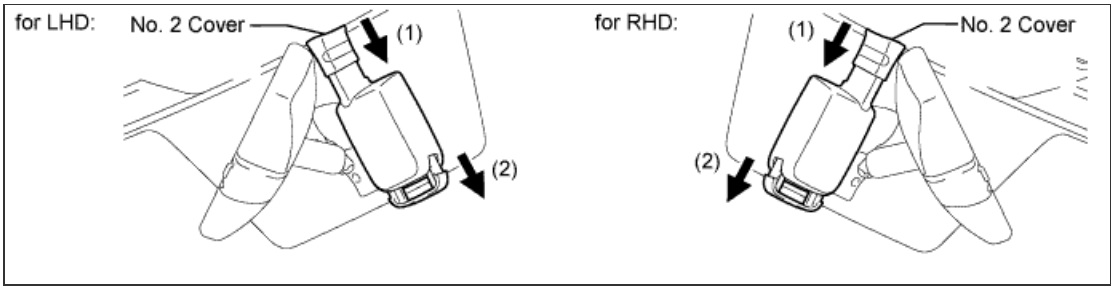
### 42. REMOVE INNER REAR VIEW MIRROR STAY HOLDER COVER (w/ EC Mirror)

a. Detach the 2 claws and remove the cover as shown in the illustration.




### 43. REMOVE RAIN SENSOR COVER (w/ Rain Sensor)

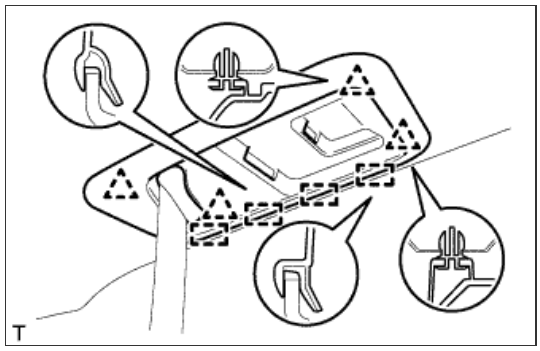
a. Slide the No. 2 cover in the direction of the arrow labeled (1).




b. Pull the stopper in the direction of the arrow labeled (2) to remove the No. 2 cover.

### 44. REMOVE SEAT BELT ANCHOR COVER (for 3 Person Seat Type Rear No. 2 Seat)

a. Detach the 4 clips and 4 guides, and remove the seat belt anchor cover.




### 45. REMOVE ASSIST GRIP ASSEMBLY

**HINT:**

Use the same procedure to remove the assist grip on the other side.

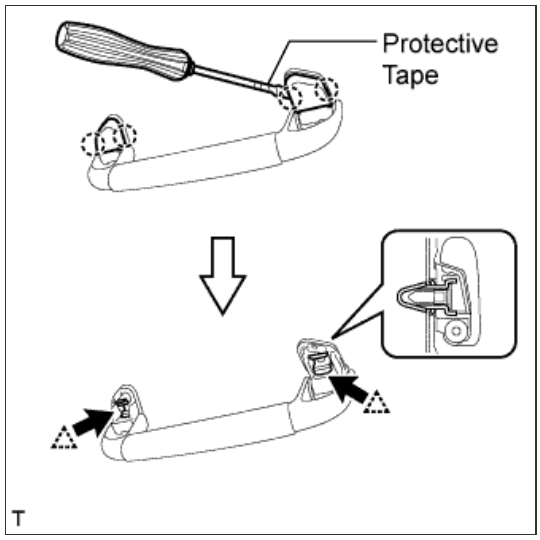
a. Using a screwdriver, detach the 4 claws and remove the 2 assist grip covers.

**HINT:**

Tape the screwdriver tip before use.

b. Detach the 2 clips and remove the assist grip.

c. Remove the 2 clips from the vehicle body.




## 46. REMOVE NO. 2 ASSIST GRIP ASSEMBLY LH

a. w/ Rear No. 2 Seat, except Face to Face Seat Type or w/o Rear No. 2 Seat:
Remove the No. 2 assist grip assembly.

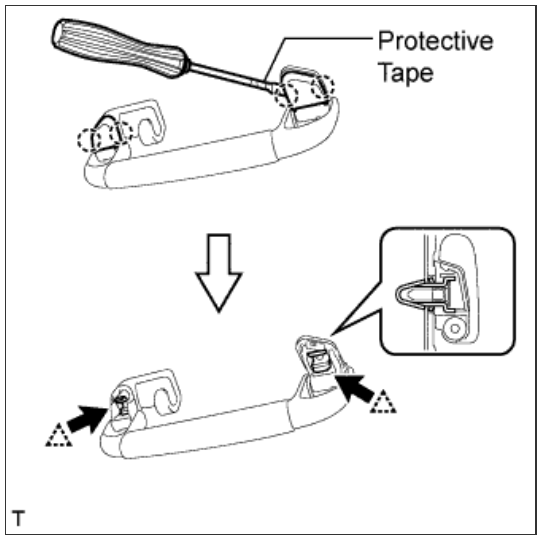
i. Using a screwdriver, detach the 4 claws and remove the 2 assist grip covers.

**HINT:**

Tape the screwdriver tip before use.

ii. Detach the 2 clips and remove the assist grip.

iii. Remove the 2 clips from the vehicle body.




b. w/ Rear No. 2 Seat, for Face to Face Seat Type:
Remove the No. 2 assist grip assembly.

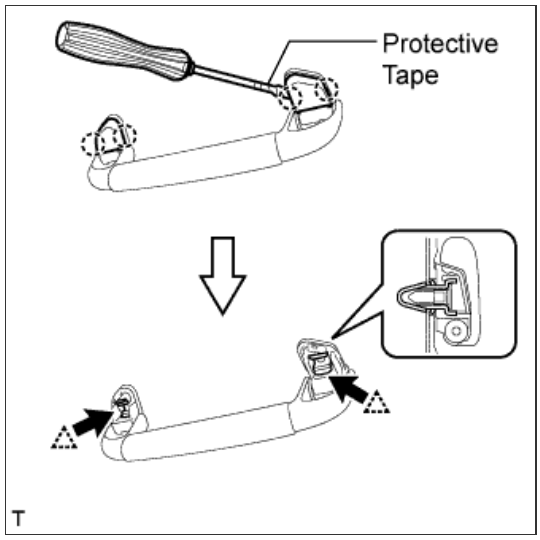
i. Using a screwdriver, detach the 4 claws and remove the 2 assist grip covers.

**HINT:**

Tape the screwdriver tip before use.

ii. Detach the 2 clips and remove the assist grip.

iii. Remove the 2 clips from the vehicle body.




## 47. REMOVE NO. 2 ASSIST GRIP ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

## 48. REMOVE 3RD SEAT ASSIST GRIP ASSEMBLY (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedure to remove the 3rd seat assist grip on the other side.

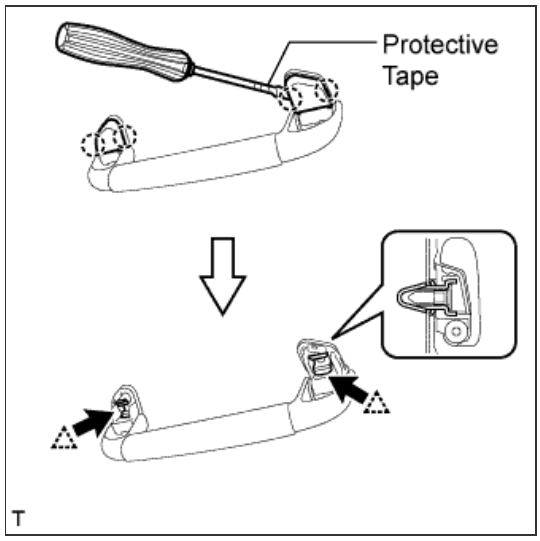
a. Using a screwdriver, detach the 4 claws and remove the 2 assist grip covers.

**HINT:**

Tape the screwdriver tip before use.

b. Detach the 2 clips and remove the assist grip.

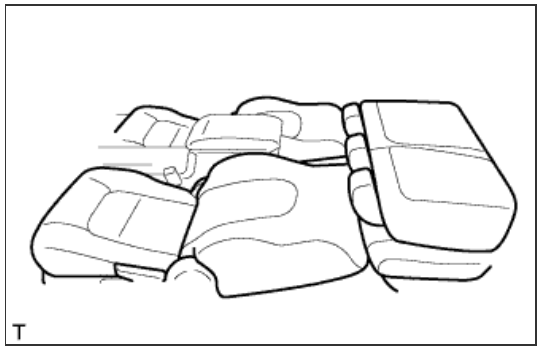
c. Remove the 2 clips from the vehicle body.



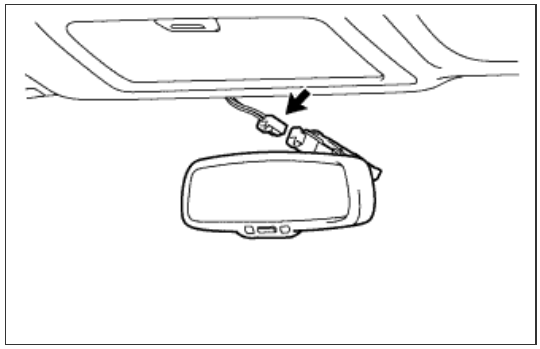

## 49. REMOVE ROOF HEADLINING ASSEMBLY

**HINT:**

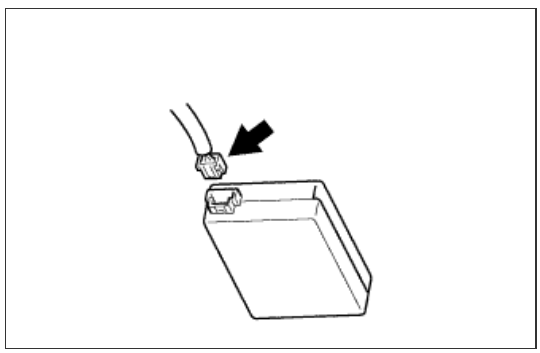
- **for Manual Seat:**
  **When removing the roof headlining, move the front seat and rear No. 1 seat to the position shown in the illustration.**
- **for Power Seat:**
  **When removing the roof headlining, connect the cable to the negative (-) battery terminal and move the front seat and No. 1 rear seat to the position shown in the illustration.**
- **for Power Seat:**
  **After moving the seats, disconnect the cable from the negative (-) battery terminal.**



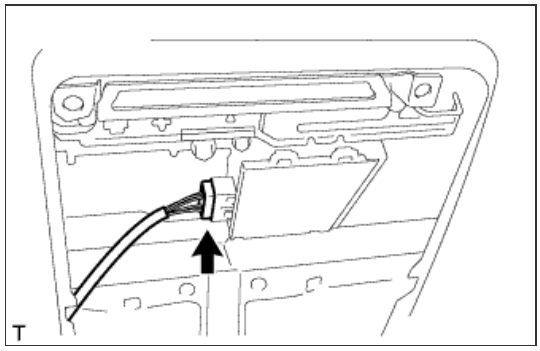

a. w/ EC Mirror:
Disconnect the inner mirror connector.



b. w/ Rain Sensor:
Disconnect the rain sensor connector.

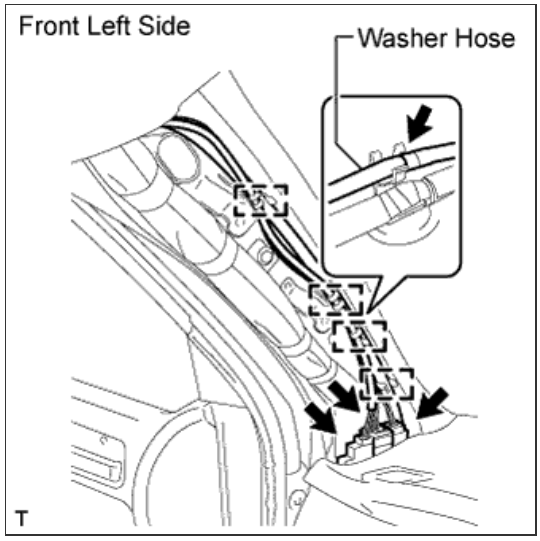


c. Disconnect the drive gear connector.



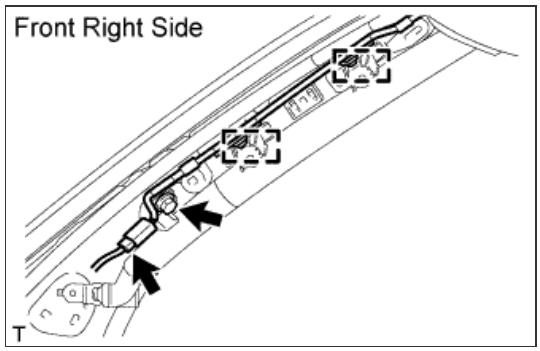

d. Disconnect the 3 roof wire connectors and washer hose.

e. Detach the 4 clamps.

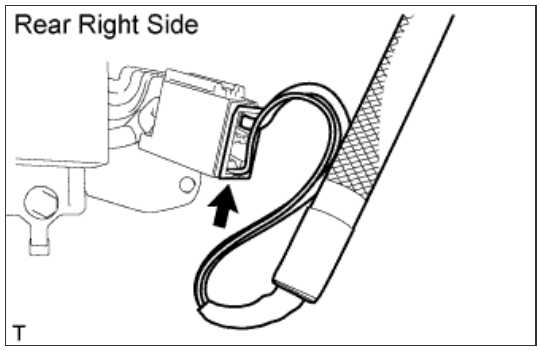



f. Remove the bolt.

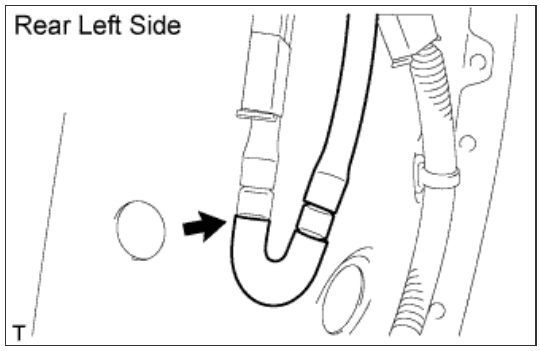
g. Disconnect the antenna cord connector and detach the 2 clamps.



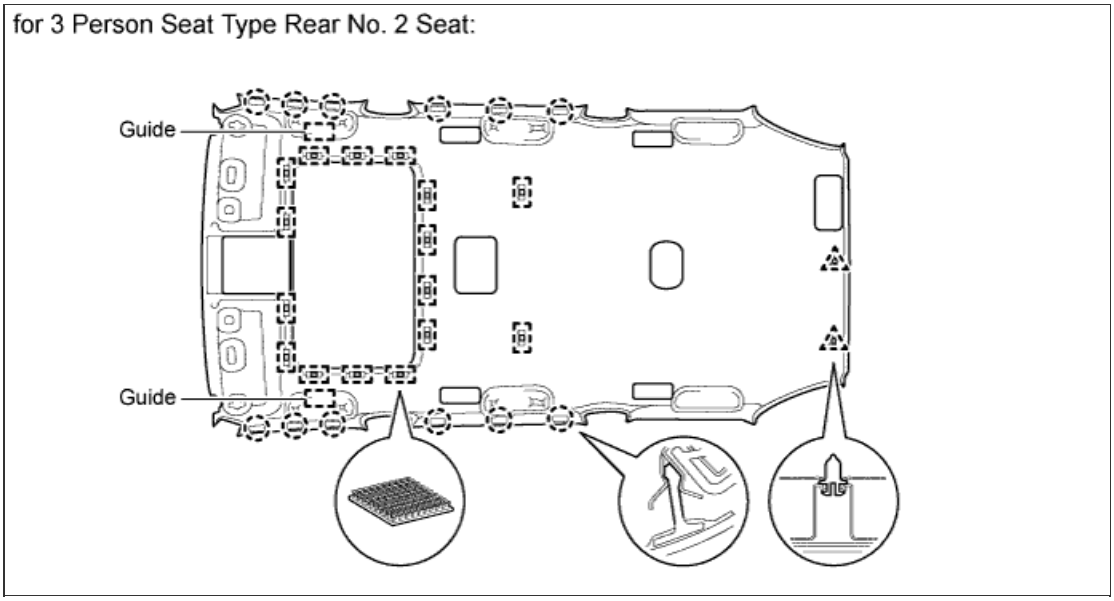

h. Disconnect the antenna cord connector.



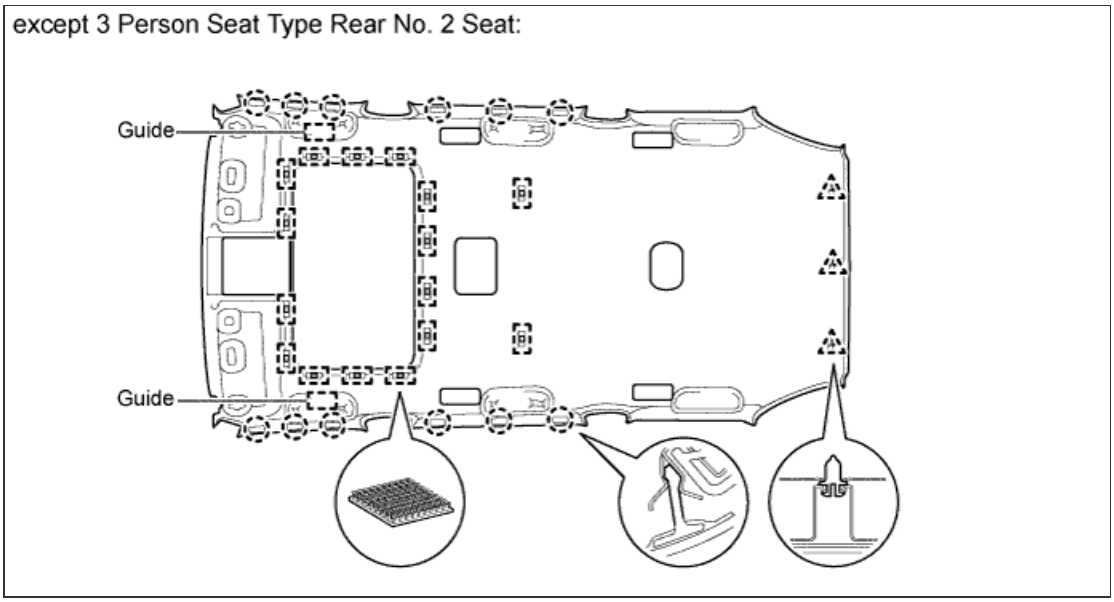

i. Disconnect the washer hose.




j. for 3 Person Seat Type Rear No. 2 Seat:
Detach the 12 claws, 2 clips, 2 guides and 16 fasteners.



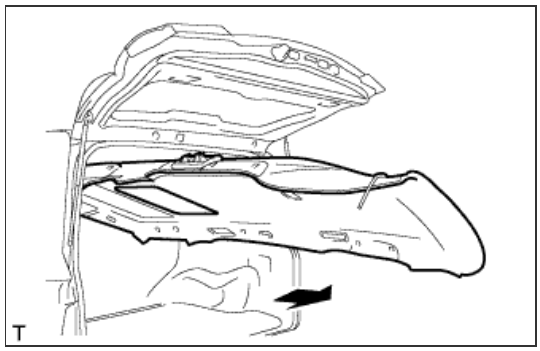

k. except 3 Person Seat Type Rear No. 2 Seat:
Detach the 12 claws, 3 clips, 2 guides and 16 fasteners.



l. Remove the headlining from the rear of the vehicle as shown in the illustration.

**NOTICE:**

Be careful not to damage the roof headlining when taking it out.

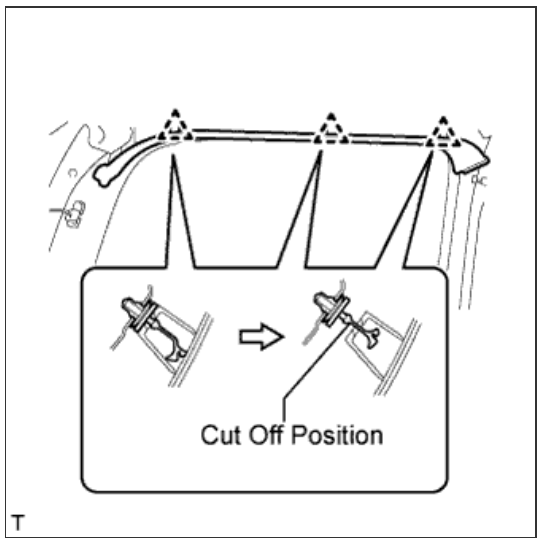



## 50. REMOVE FRONT ROOF SIDE RAIL GARNISH LH

a. Detach the 3 clips.

b. Cut off the 3 clips and remove the roof side rail garnish.

c. Remove 3 clips from the vehicle body.



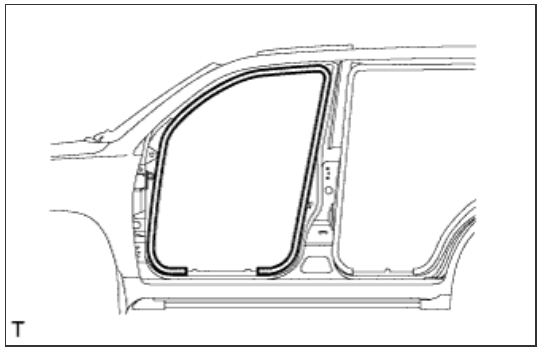

## 51. REMOVE FRONT ROOF SIDE RAIL GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

## 52. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP LH

a. Remove the front door opening trim weatherstrip.



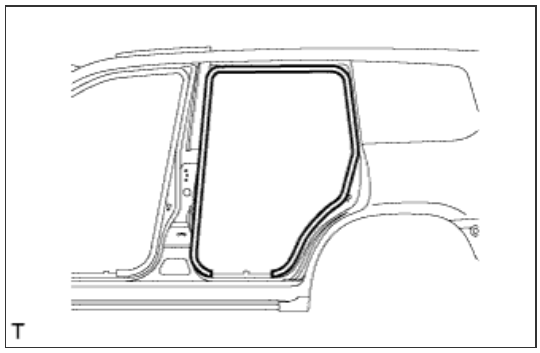

## 53. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP RH

**HINT:**

Use the same procedures described for the LH side.

## 54. REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP LH

a. Remove the rear door opening trim weatherstrip.



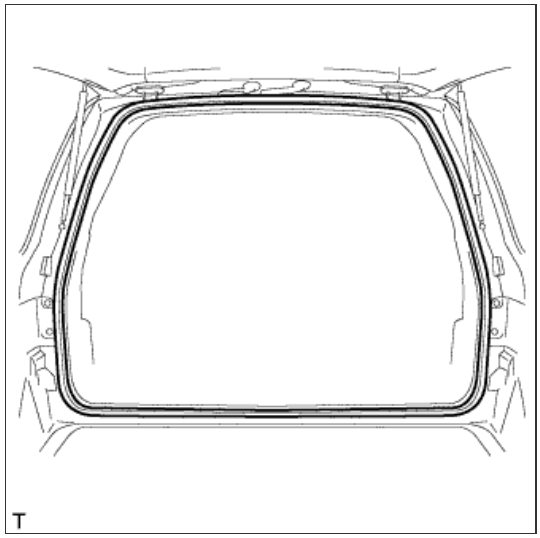

## 55. REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP RH

**HINT:**

Use the same procedures described for the LH side.

## 56. REMOVE BACK DOOR WEATHERSTRIP

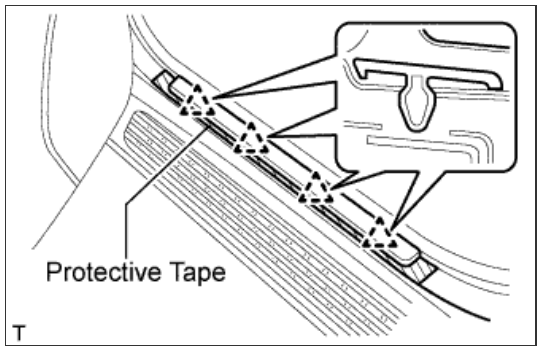
a. Remove the back door weatherstrip.




## 57. REMOVE FRONT DOOR SCUFF PLATE OUTSIDE LH

a. Put protective tape around the front door scuff plate outside.

b. Detach the 4 clips and remove the front door scuff plate outside.




## 58. REMOVE FRONT DOOR SCUFF PLATE RH

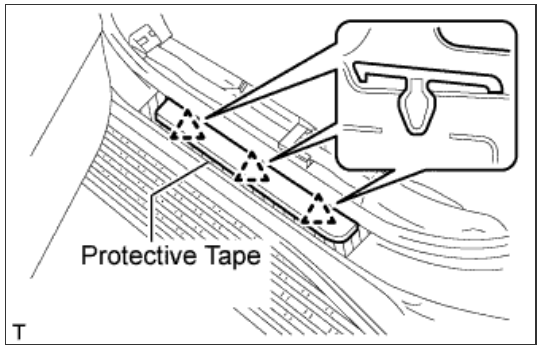
**HINT:**

Use the same procedures described for the LH side.

### 59. REMOVE REAR DOOR SCUFF PLATE OUTSIDE LH

a. Put protective tape around the rear door scuff plate outside.

b. Detach the 3 clips and remove the rear door scuff plate outside.



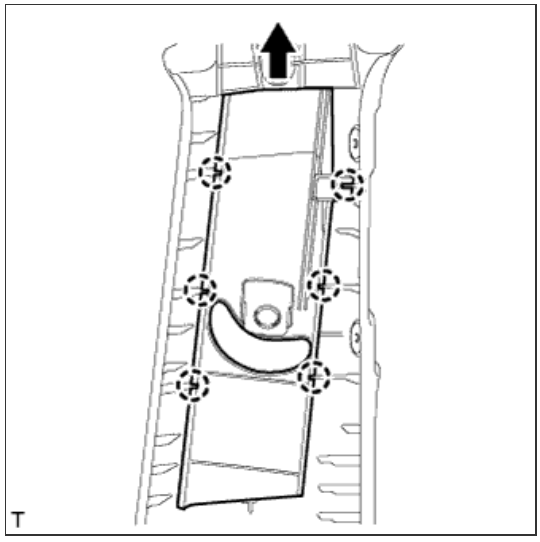

### 60. REMOVE REAR DOOR SCUFF PLATE OUTSIDE RH

**HINT:**

Use the same procedures described for the LH side.

### 61. REMOVE FRONT SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Detach the 6 claws of the plate, and slide the plate in the direction of the arrow to remove it.



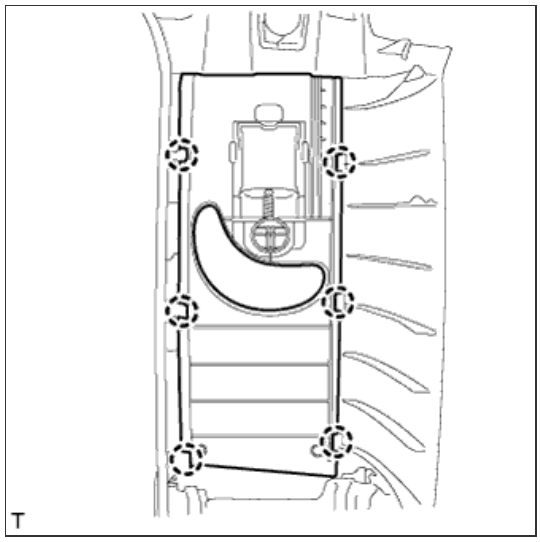

### 62. REMOVE FRONT SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

### 63. REMOVE REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Detach the 6 claws and remove the plate.



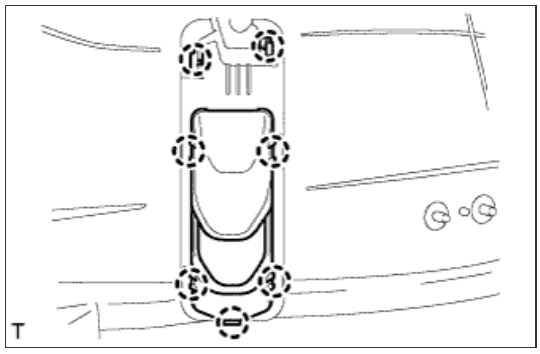

### 64. REMOVE REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

### 65. REMOVE ROOF SIDE INNER GARNISH COVER LH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Detach the 7 claws and remove the cover.




### 66. REMOVE ROOF SIDE INNER GARNISH COVER RH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

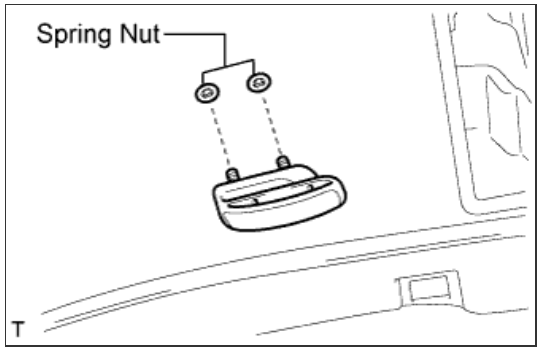
Use the same procedures described for the LH side.

### 67. REMOVE REAR SEAT SHOULDER BELT HANGER (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

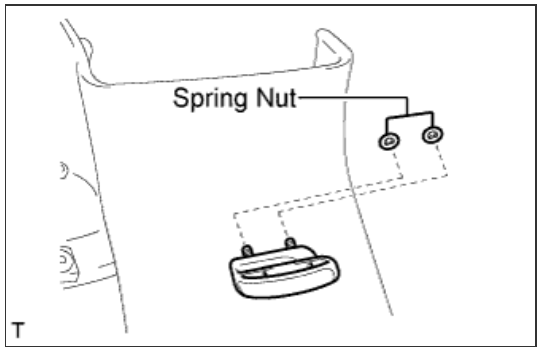
Use the same procedure to remove the hanger on the other side.

a. Remove the 2 spring nuts and hanger.



## 68. REMOVE REAR NO. 2 SEAT SHOULDER BELT HANGER LH

a. Remove the 2 spring nuts and hanger.



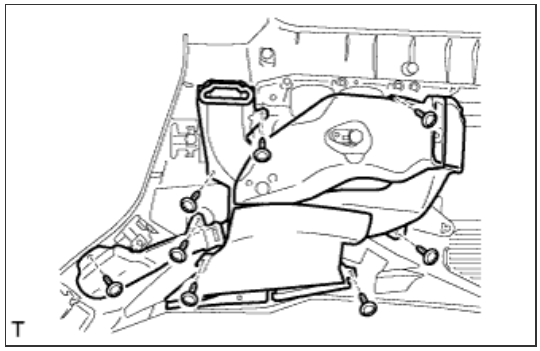

## 69. REMOVE REAR NO. 2 SEAT SHOULDER BELT HANGER RH

**HINT:**

Use the same procedures described for the LH side.

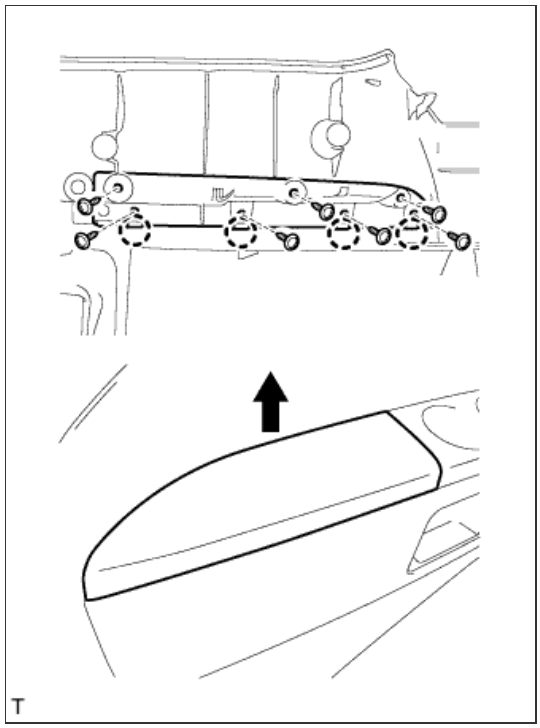
## 70. REMOVE QUARTER TRIM COVER SUB-ASSEMBLY LH

a. w/ Rear Heater:
Remove the 8 screws and duct.




b. Remove the 7 screws.

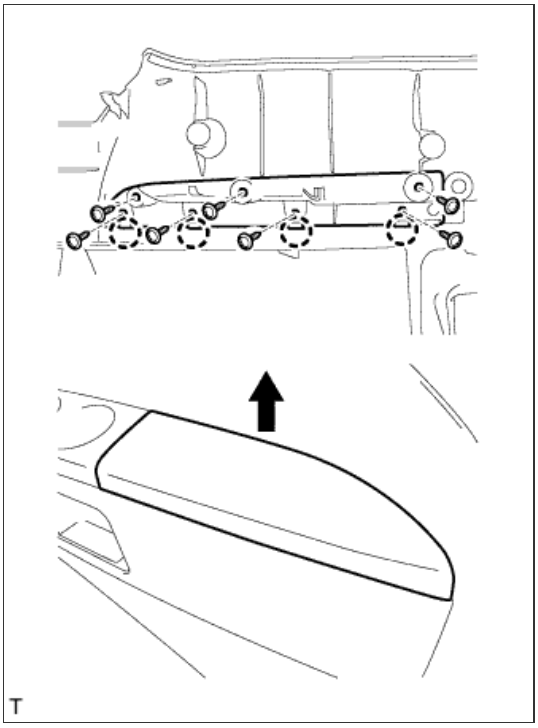
c. Detach the 4 claws and remove the quarter trim cover.




## 71. REMOVE QUARTER TRIM COVER SUB-ASSEMBLY RH

a. Remove the 7 screws.

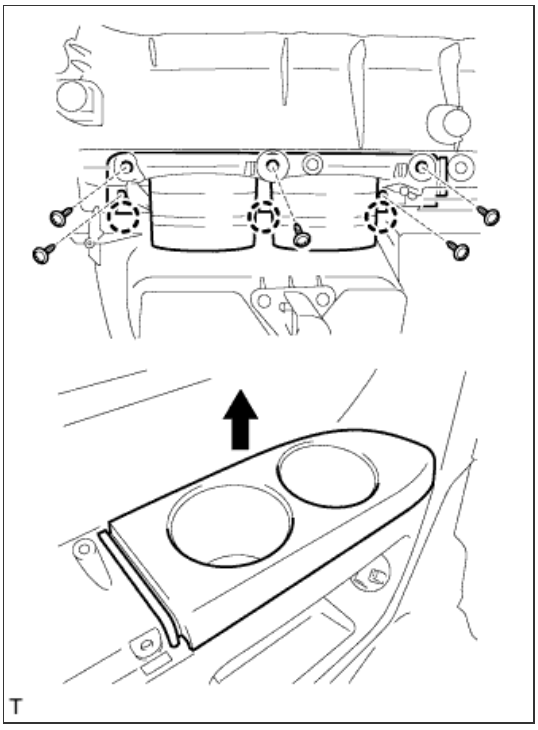
b. Detach the 4 claws and remove the quarter trim cover.




**72. REMOVE NO. 2 CUP HOLDER**

a. Remove the 5 screws.

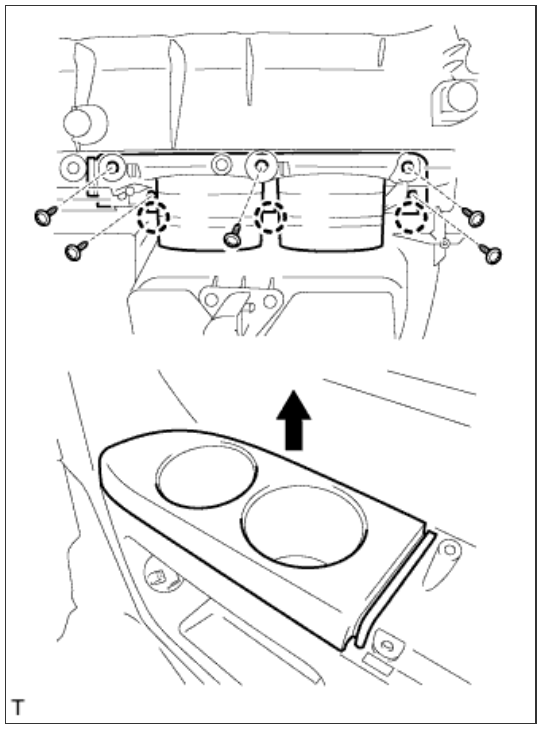
b. Detach the 3 claws and remove the cup holder.




**73. REMOVE NO. 1 CUP HOLDER**

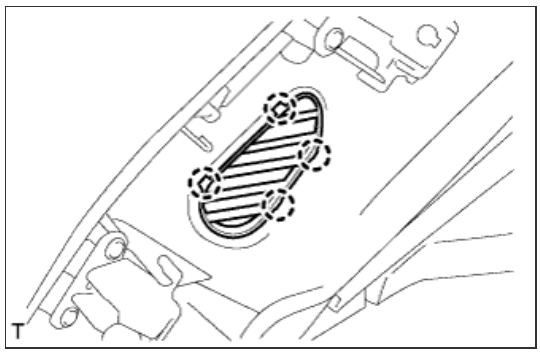
a. Remove the 5 screws.

b. Detach the 3 claws and remove the cup holder.



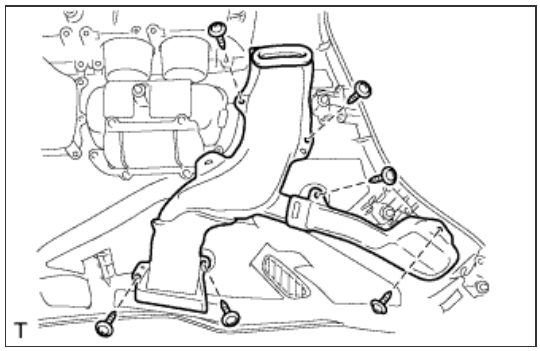

### 74. REMOVE NO. 1 SIDE TRIM BASE COVER LH (w/ Rear Heater)

a. Detach the 4 claws and remove the cover.

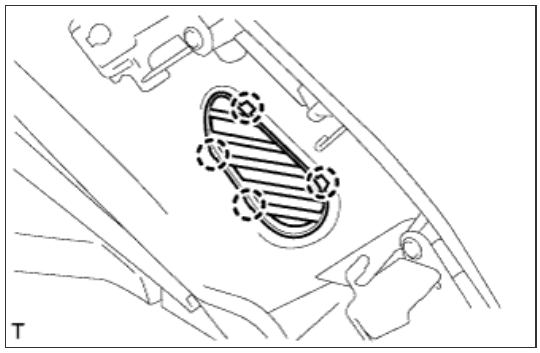



### 75. REMOVE NO. 1 SIDE TRIM BASE COVER RH (w/ Rear Heater)

a. Remove the 6 screws and duct.

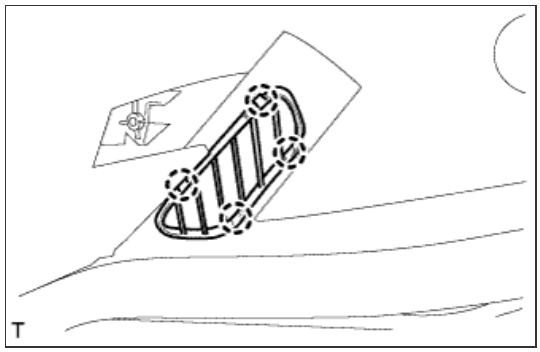



b. Detach the 4 claws and remove the cover.




### 76. REMOVE NO. 2 SIDE TRIM BASE COVER LH (w/ Rear Heater)

a. Detach the 4 claws and remove the cover.




### 77. REMOVE NO. 2 SIDE TRIM BASE COVER RH (w/ Rear Heater)

**HINT:**

Use the same procedures described for the LH side.

### 78. REMOVE REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY LH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Detach the 4 claws and remove the seat lock control lever.

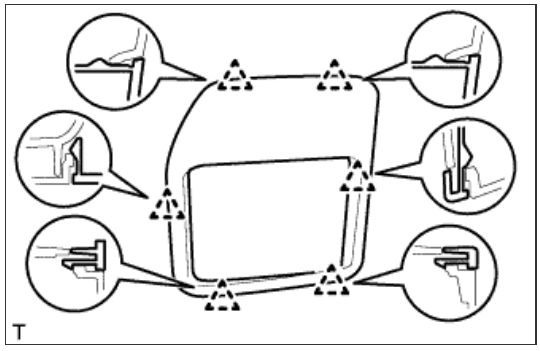
### 79. REMOVE REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY RH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 80. REMOVE REAR NO. 2 SEAT COVER BEZEL (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Detach the 6 clips and remove the rear No. 2 seat cover bezel.



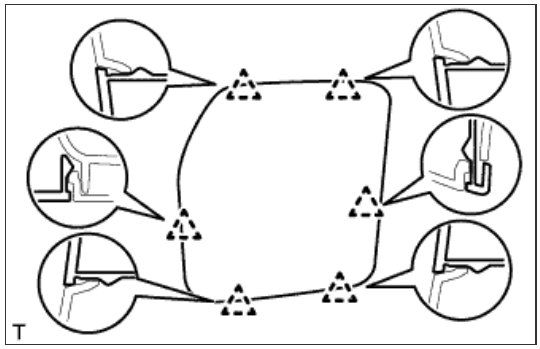
### 81. REMOVE REAR NO. 1 SEAT COVER BEZEL (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the rear No. 2 seat cover bezel.

### 82. REMOVE QUARTER TRIM COVER LH (w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type)

a. Detach the 6 clips and remove the quarter trim cover.




### 83. REMOVE QUARTER TRIM COVER RH (w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 84. REMOVE QUARTER TRIM LID SUB-ASSEMBLY RH

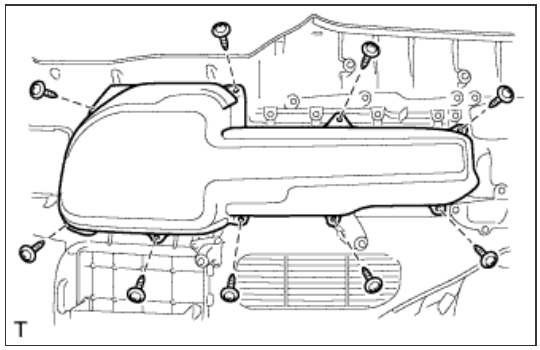
a. Remove the quarter trim lid.

### 85. REMOVE SIDE TRIM BOX COVER

a. Remove the side trim box cover.

### 86. REMOVE SIDE TRIM BOX

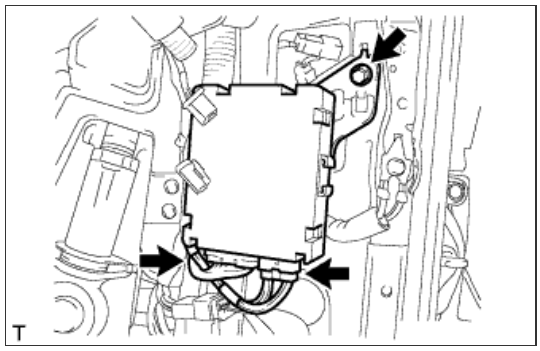
a. Remove the 9 screws and side trim box.




### 87. REMOVE NO. 2 MULTIPLEX NETWORK BODY ECU

a. Disconnect the 2 connectors.

b. Remove the bolt and multiplex network body ECU.


T

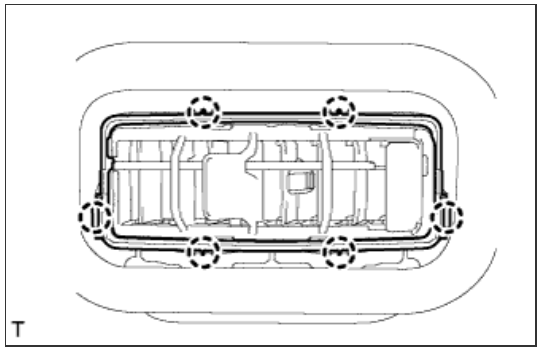
**for Preparation** Click here

## 1. REMOVE NO. 2 AIR OUTLET GRILLE ASSEMBLY (w/ Rear Air Conditioning System)

**HINT:**

Use the same procedures to remove the air outlet grille on the other side.

a. Detach 6 claws and remove the air outlet grille.



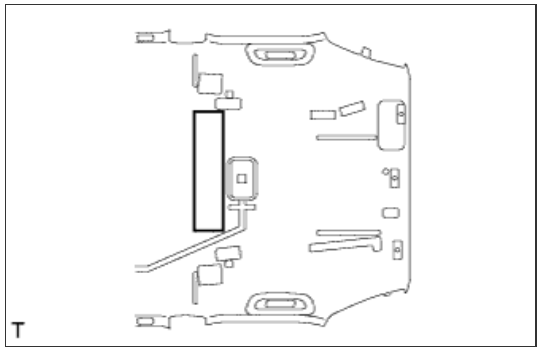

## 2. REMOVE NO. 1 AIR OUTLET GRILLE ASSEMBLY (w/ Rear Air Conditioning System)

**HINT:**

Use the same procedures described for the No. 2 air outlet grille.

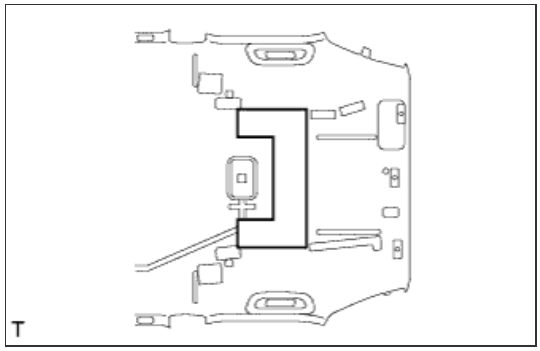
## 3. REMOVE NO. 1 ROOF SILENCER PAD

a. Remove the roof silencer pad.




## 4. REMOVE NO. 4 ROOF SILENCER PAD

a. Remove the roof silencer pad.



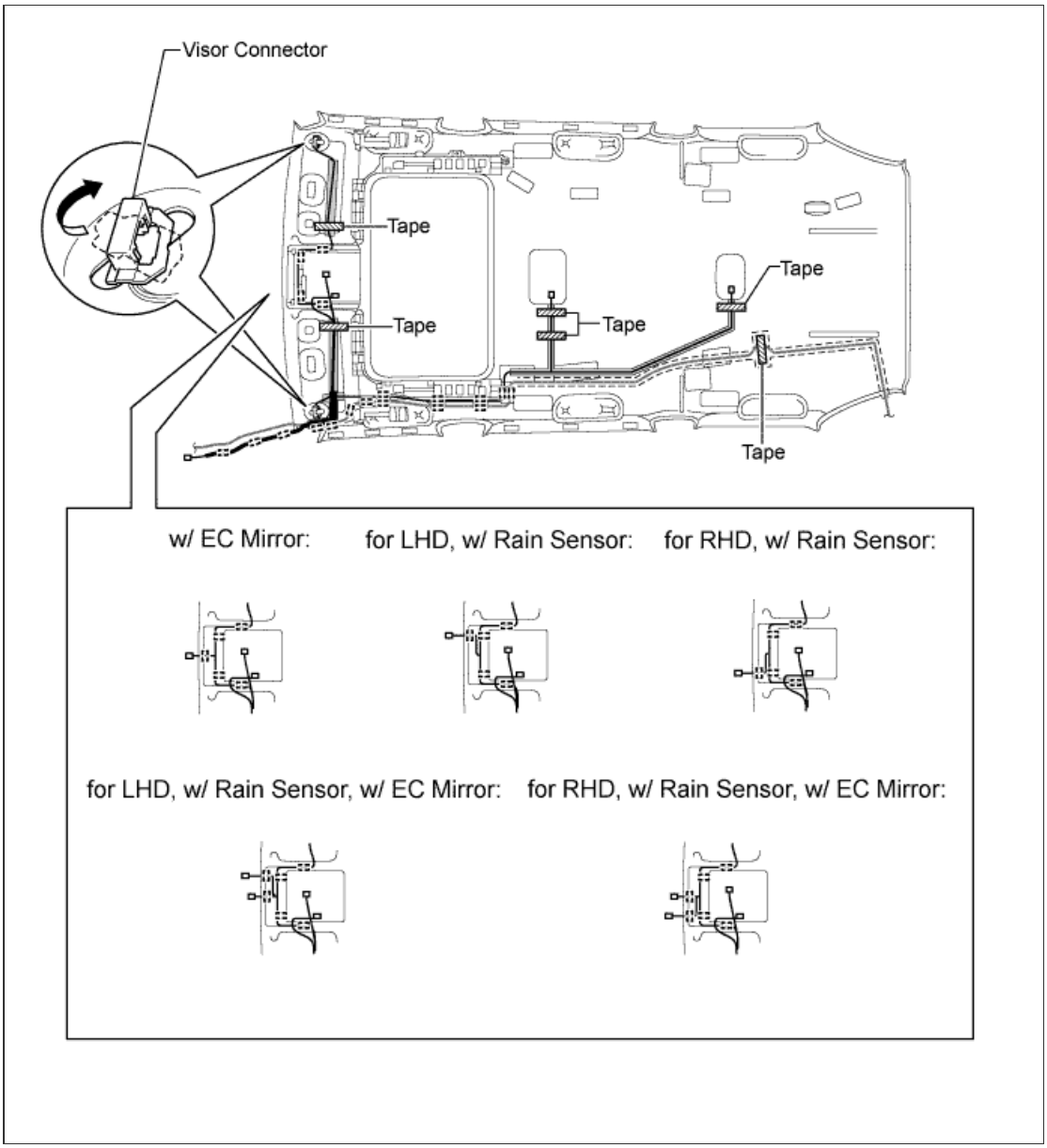

## 5. REMOVE NO. 1 ROOF WIRE

a. Turn the visor connectors approximately 90° clockwise and remove them from the roof headlining.

b. Remove the 6 pieces of tape from the roof headlining.

c. Detach each clamp, and remove the roof wire and washer hose.

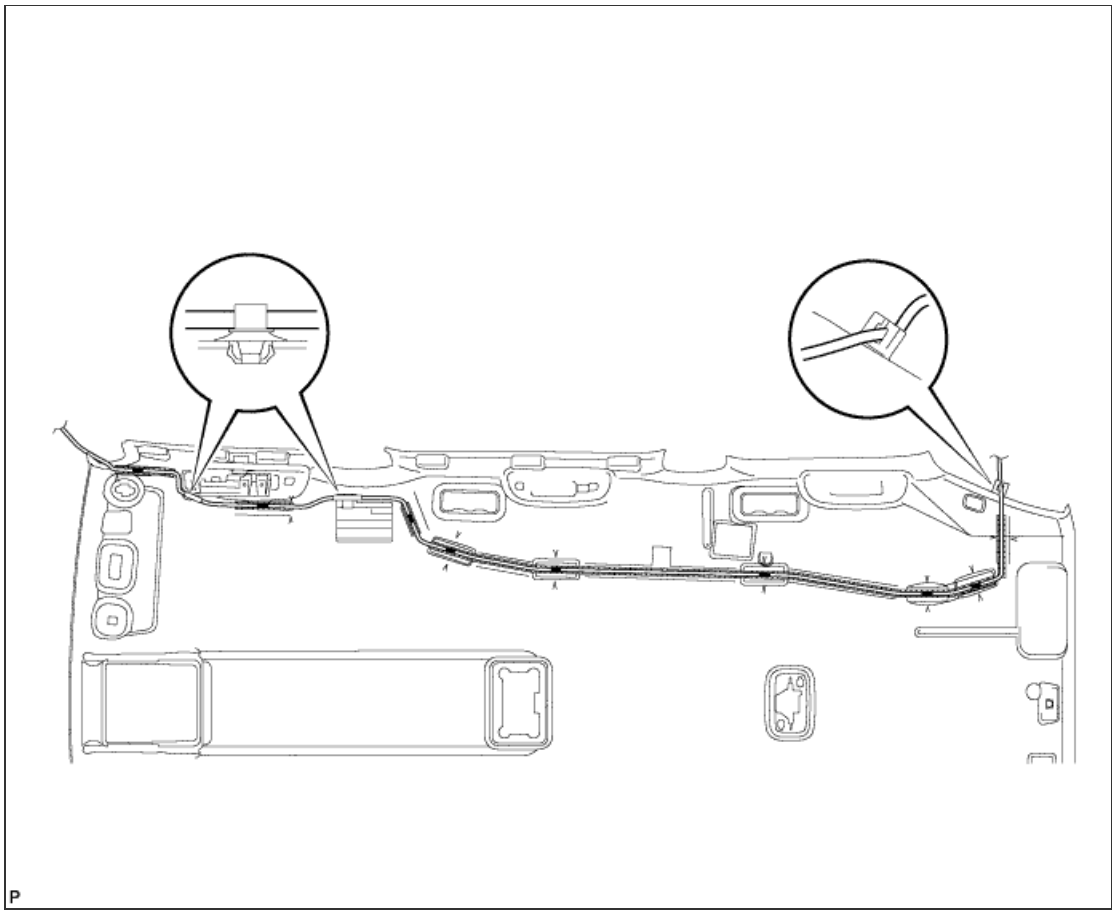
d. Remove the double-sided tape remaining on the headlining.




## 6. REMOVE ANTENNA CORD SUB-ASSEMBLY

a. w/o Sliding Roof:

i. Detach the 2 clamps and remove the antenna from the notch on the rear of the roof headlining.

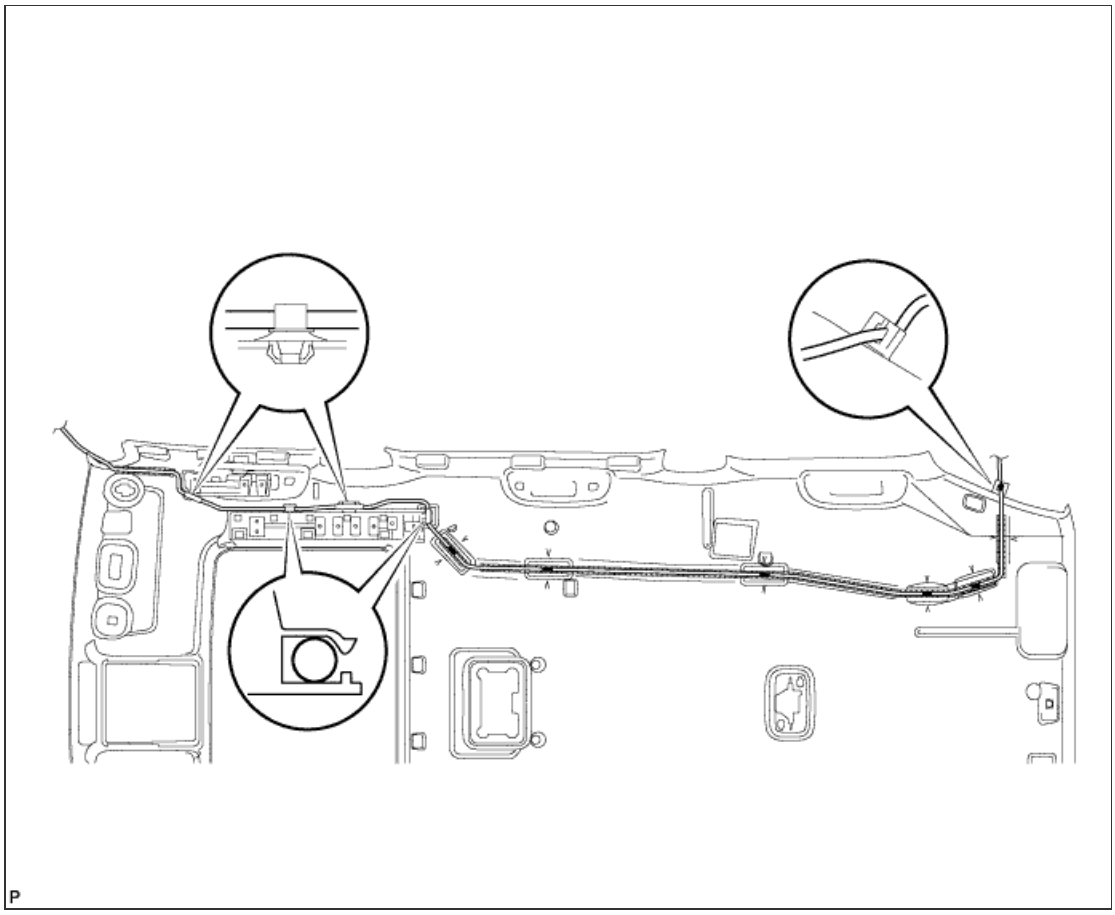



ii. Remove the antenna cord from the roof headlining.

iii. Remove the double-sided tape from the roof headlining.

b. w/ Sliding Roof:

i. Detach the 4 clamps and remove the antenna from the notch on the rear of the roof headlining.



P

ii. Remove the antenna cord from the roof headlining.

iii. Remove the double-sided tape from the roof headlining.

**for Preparation** Click here

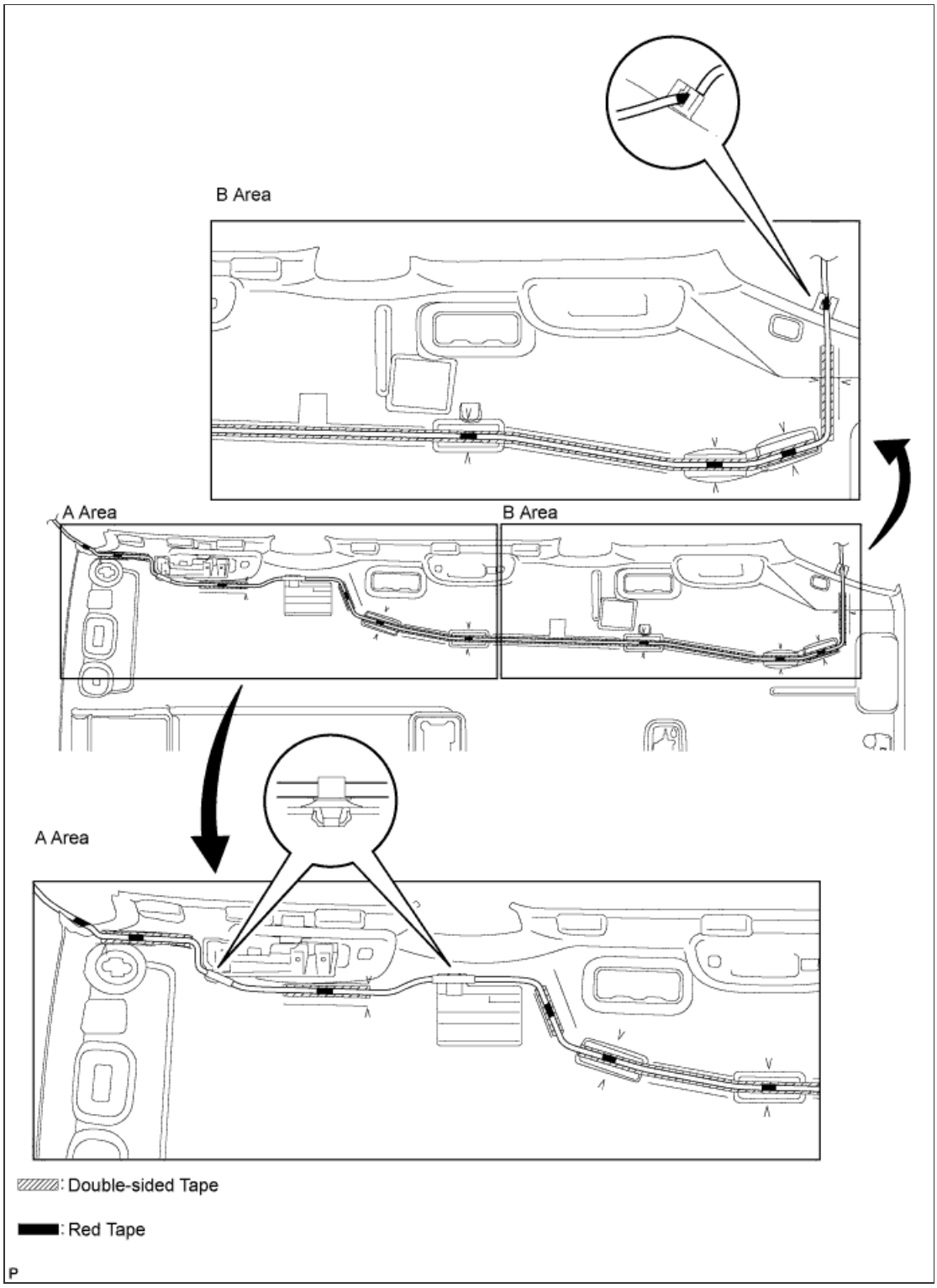
## 1. INSTALL ANTENNA CORD SUB-ASSEMBLY

a. w/o Sliding Roof:

i. Apply new double-sided tape as shown in the illustration.

**HINT:**

Attach double-sided tape to the hatched areas shown in the illustration below.




ii. Align the red tape wound around the antenna cord with the V markings on the roof headlining and the notch at the rear of the headlining, and attach the antenna cord to the double-sided tape.

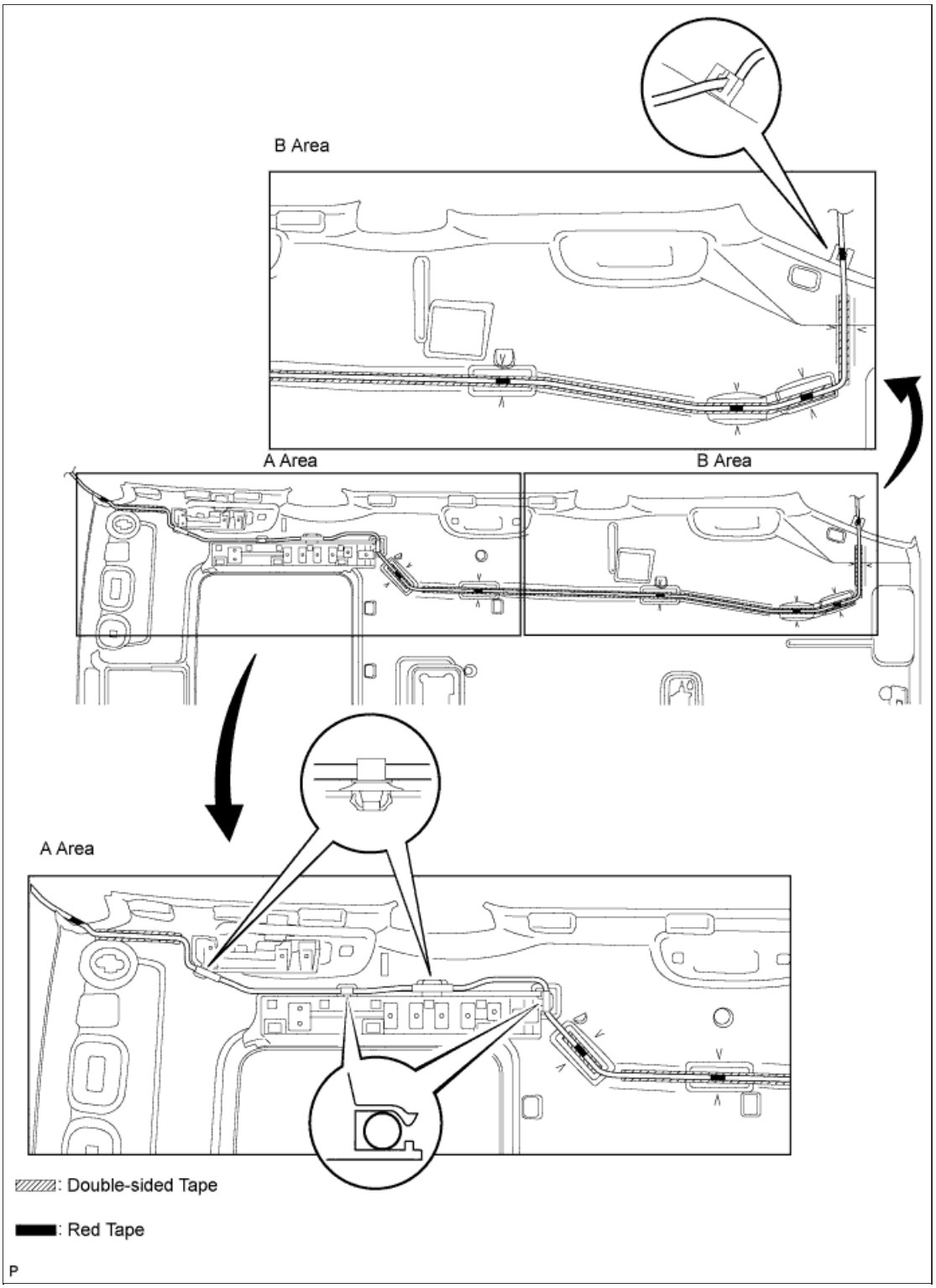
iii. Attach the 2 clamps and fit the antenna into the notch.

b. w/ Sliding Roof:

i. Apply new double-sided tape as shown in the illustration.

**HINT:**

Attach double-sided tape to the hatched areas shown in the illustration below.




ii. Align the red tape wound around the antenna cord with the V markings on the roof headlining and the notch at the rear of the headlining, and attach the antenna cord to the double-sided tape.

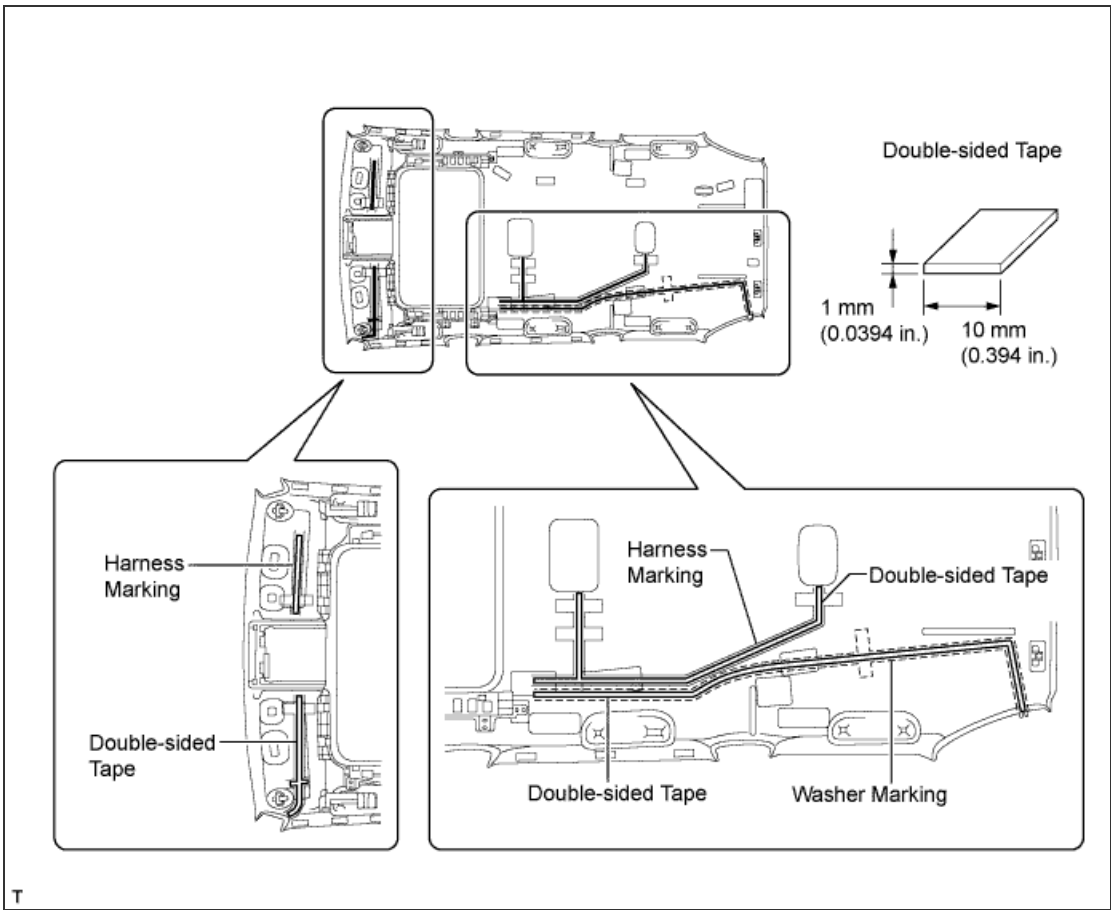
iii. Attach the 4 clamps and fit the antenna into the notch.

## 2. INSTALL NO. 1 ROOF WIRE

a. Place double-sided tape along the center of the harness marking and washer marking.

**HINT:**

Make sure that the double-sided tape is not peeling off or misaligned.



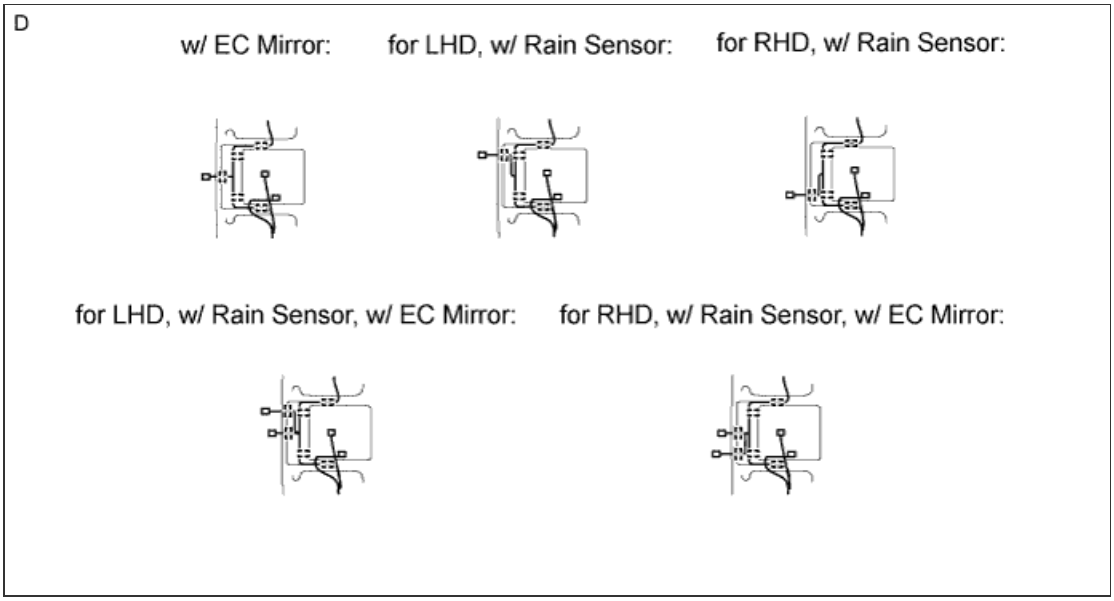

b. Remove the peeling paper from the double-sided tape while not touching the adhesive side.

c. Align the triangle mark of the roof wire protector with the V mark of the headlining as shown in the illustration, and then attach the roof wire protector.

d. Attach each clamp as shown in the illustration.

**HINT:**

The positions of the clamps at the front of the roof headlining are shown in illustration D.

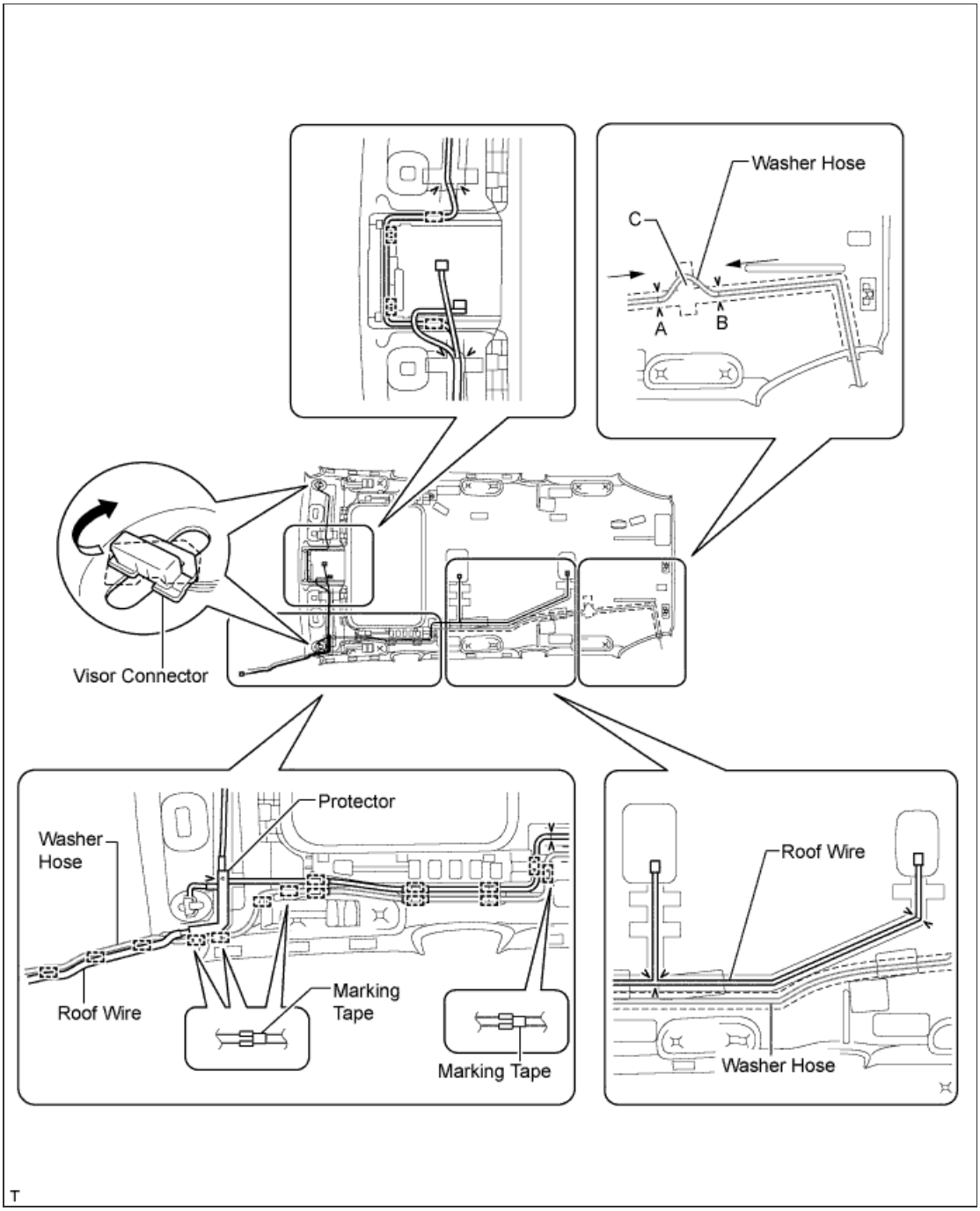



e. Align the roof wire and washer hose with the V marks of the headlining as shown in the illustration, and attach them to the headlining.

**HINT:**

- **Attach the washer hose from the front to the point labeled A, and attach the washer hose from the rear to the point labeled B as shown in the illustration.**
- **Attach the extra length of the washer hose to the part labeled C in the illustration.**

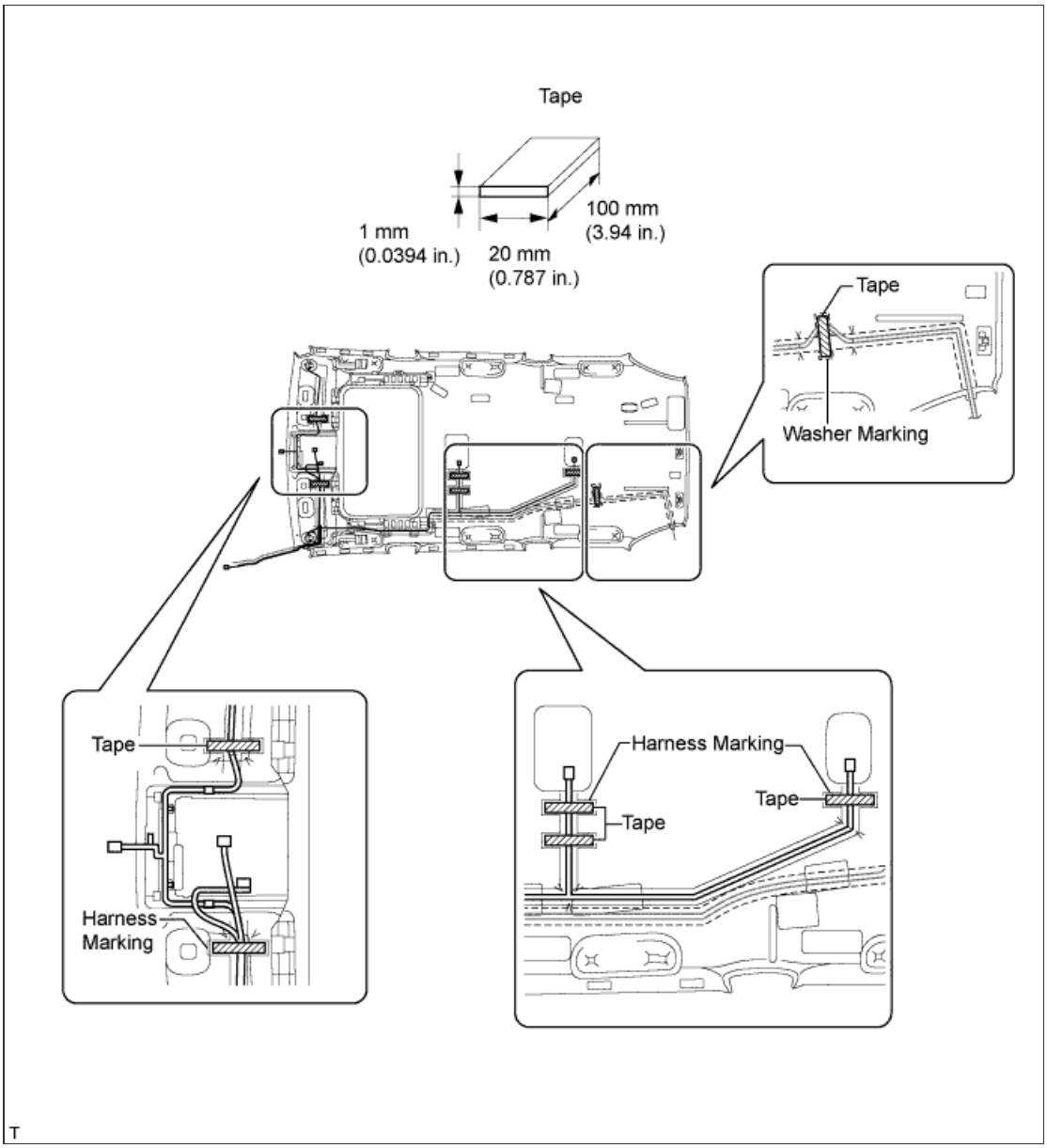
f. Turn the visor connectors approximately 90° clockwise to install them to the roof headlining.




g. Place tape at the wire harness marking and washer marking locations as shown in the illustration to fix the roof wire and washer hose in place.

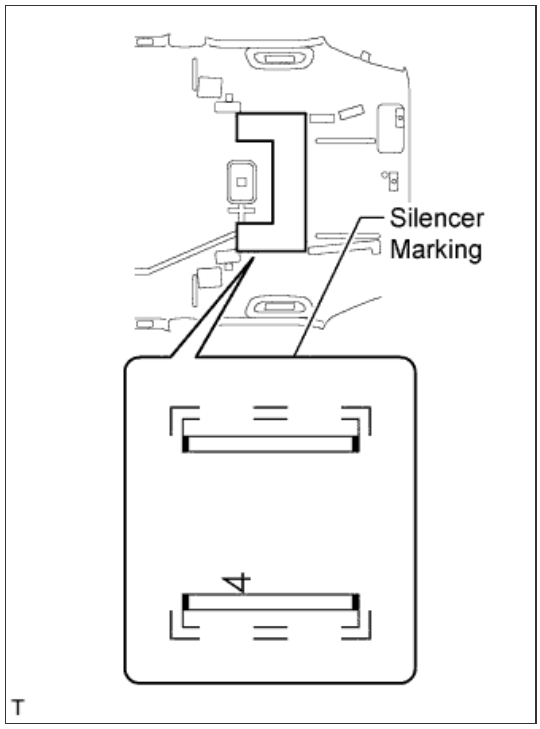
**HINT:**

Apply sufficient pressure when placing tape.



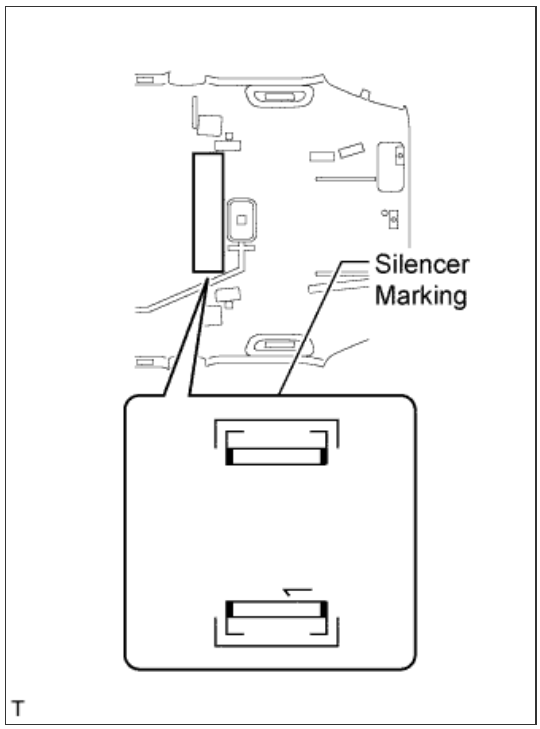

### 3. INSTALL NO. 4 ROOF SILENCER PAD

a. Align the silencer marking on the roof headlining with the roof silencer pad and install the pad using double-sided tape as shown in the illustration.




### 4. INSTALL NO. 1 ROOF SILENCER PAD

a. Align the silencer marking on the roof headlining with the roof silencer pad and install the pad using double-sided tape as shown in the illustration.

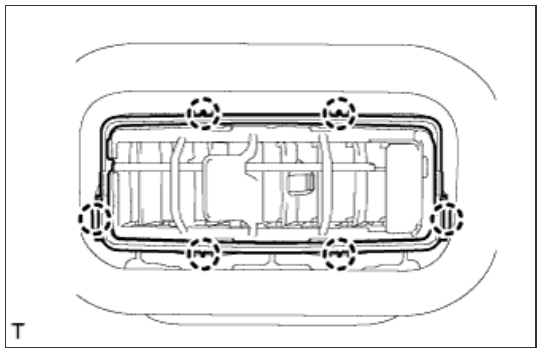



### 5. INSTALL NO. 2 AIR OUTLET GRILLE ASSEMBLY (w/ Rear Air Conditioning System)

**HINT:**

Use the same procedures to install the air outlet grille on the other side.

a. Attach the 6 claws to install the air outlet grille.




### 6. INSTALL NO. 1 AIR OUTLET GRILLE ASSEMBLY (w/ Rear Air Conditioning System)

**HINT:**

Use the same procedures described for the No. 2 air outlet grille.

**for Preparation** Click here

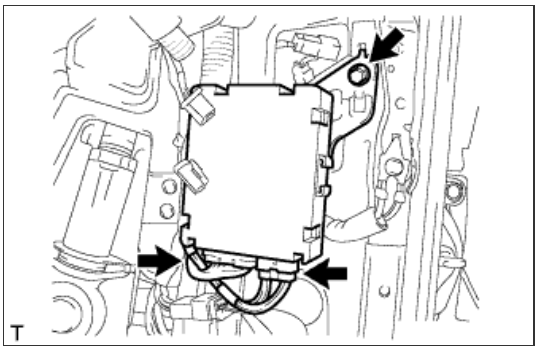
**HINT:**

A bolt without a torque specification is shown in the standard bolt chart ( Click here).

## 1. INSTALL NO. 2 MULTIPLEX NETWORK BODY ECU

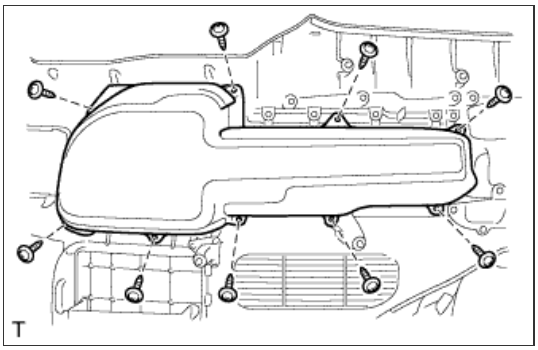
a. Install the multiplex network body ECU with the bolt.

b. Connect the 2 connectors.




## 2. INSTALL SIDE TRIM BOX

a. Install the side trim box with the 9 screws.




## 3. INSTALL SIDE TRIM BOX COVER

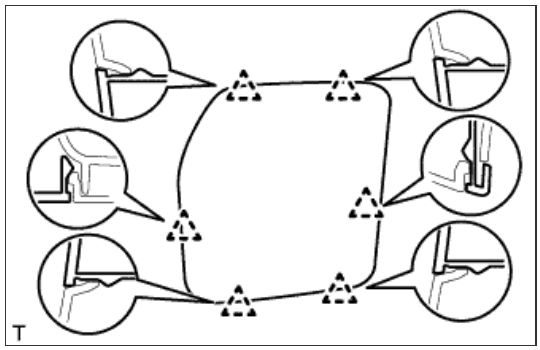
a. Install the side trim box cover.

## 4. INSTALL QUARTER TRIM LID SUB-ASSEMBLY RH

a. Install the quarter trim lid.

## 5. INSTALL QUARTER TRIM COVER LH (w/o Rear No. 2 Seat, w/ Rear No. 2 Seat for Face to Face Seat Type)

a. Attach the 6 clips to install the quarter trim cover.



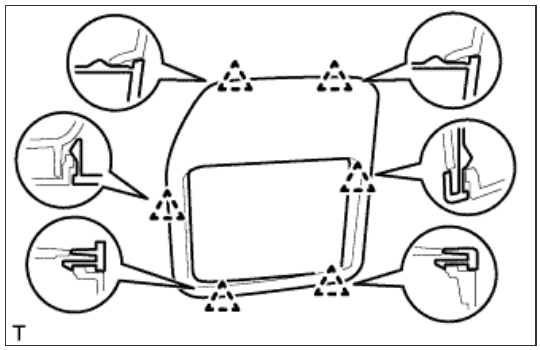

### 6. INSTALL QUARTER TRIM COVER RH (w/o Rear No. 2 Seat, w/ Rear No. 2 Seat for Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 7. INSTALL REAR NO. 2 SEAT COVER BEZEL (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Attach the 6 clips to install the rear No. 2 seat cover bezel.




### 8. INSTALL REAR NO. 1 SEAT COVER BEZEL (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the rear No. 2 seat cover bezel.

### 9. INSTALL REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY LH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Attach the 4 claws to install the seat lock control lever.

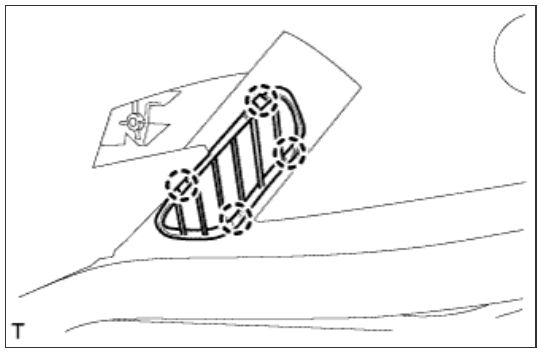
### 10. INSTALL REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY RH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 11. INSTALL NO. 2 SIDE TRIM BASE COVER LH (w/ Rear Heater)

a. Attach the 4 claws to install the cover.



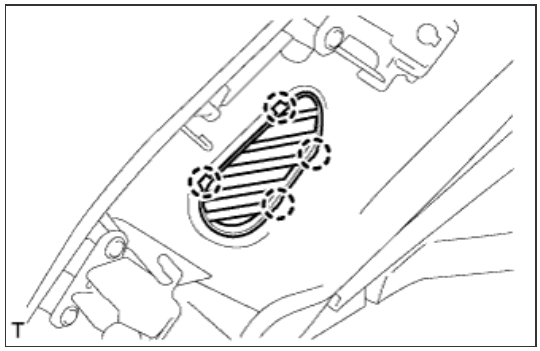

### 12. INSTALL NO. 2 SIDE TRIM BASE COVER RH (w/ Rear Heater)

**HINT:**

Use the same procedures described for the LH side.

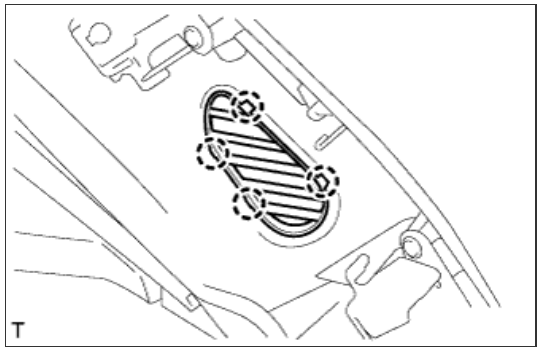
### 13. INSTALL NO. 1 SIDE TRIM BASE COVER LH (w/ Rear Heater)

a. Attach the 4 claws to install the cover.

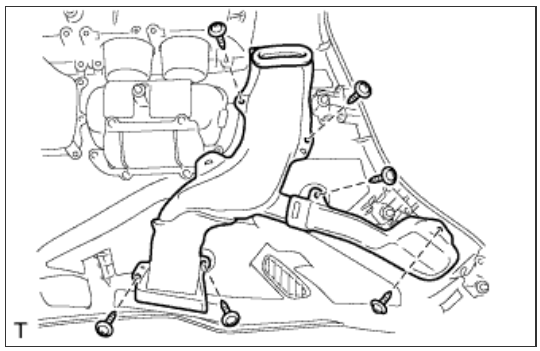



### 14. INSTALL NO. 1 SIDE TRIM BASE COVER RH (w/ Rear Heater)

a. Attach the 4 claws to install the cover.



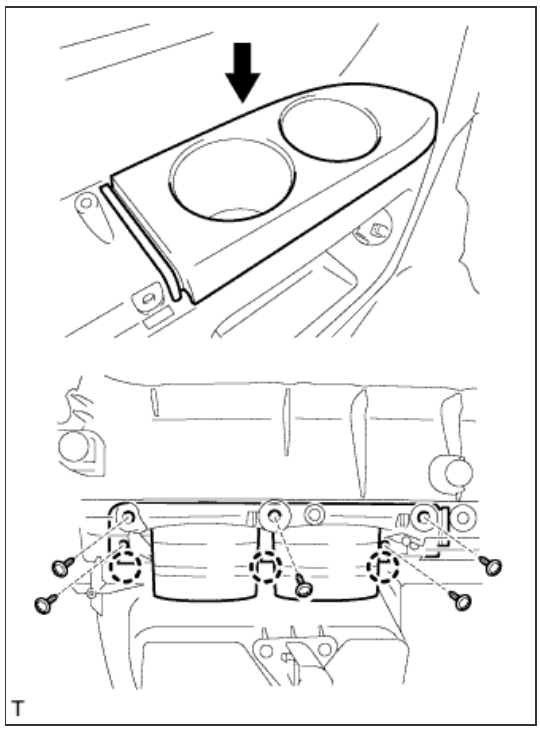

b. Install the duct with the 6 screws.



## 15. INSTALL NO. 2 CUP HOLDER

a. Attach the 3 claws to install the cup holder.

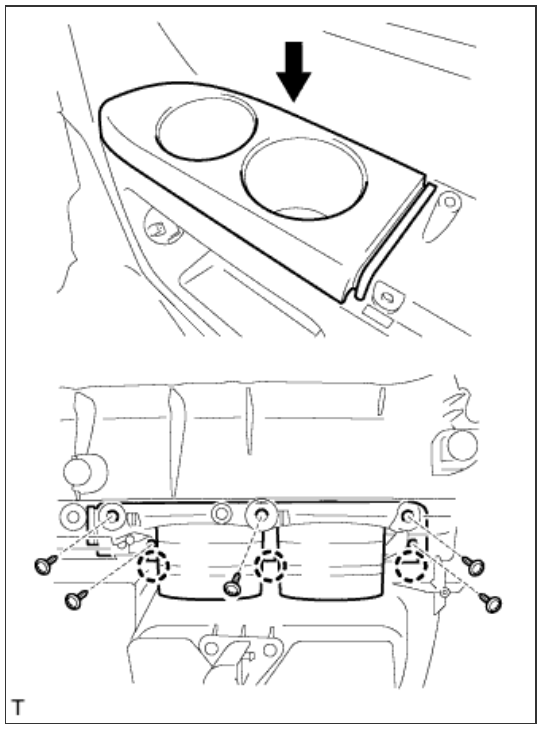
b. Install the 5 screws.




## 16. INSTALL NO. 1 CUP HOLDER

a. Attach the 3 claws to install the cup holder.

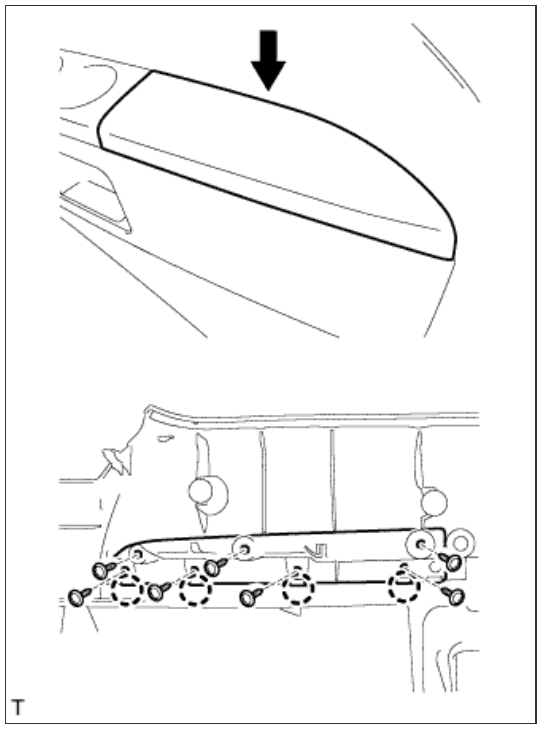
b. Install the 5 screws.



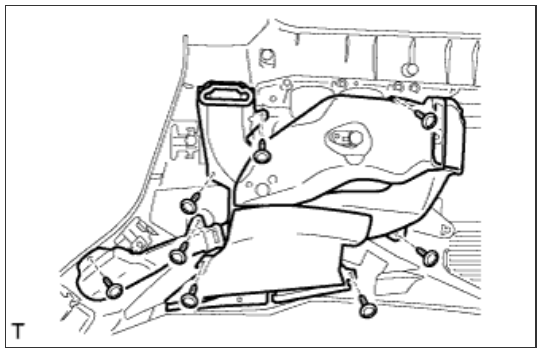

## 17. INSTALL QUARTER TRIM COVER SUB-ASSEMBLY LH

a. Attach the 4 claws to install the quarter trim cover.

b. Install the 7 screws.



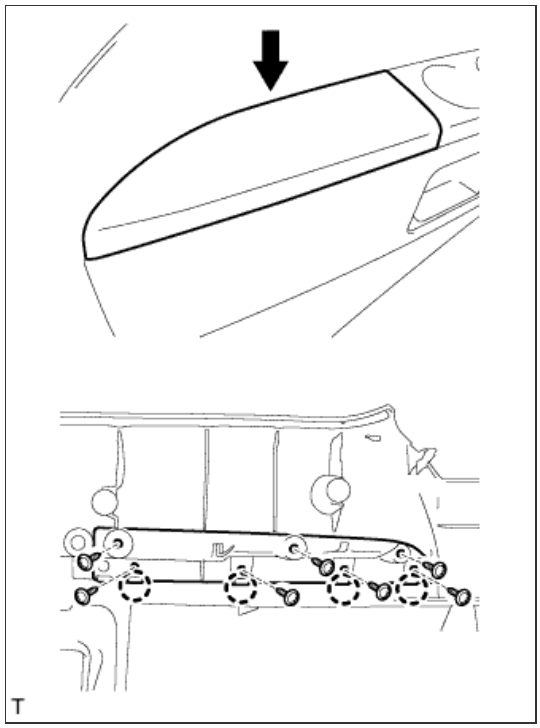

c. w/ Rear Heater:
Install the duct with the 8 screws.




## 18. INSTALL QUARTER TRIM COVER SUB-ASSEMBLY RH

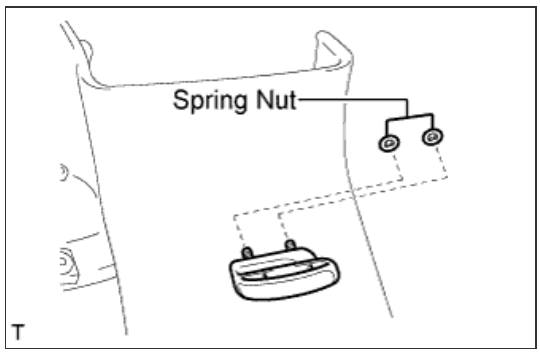
a. Attach the 4 claws to install the quarter trim cover.

b. Install the 7 screws.



### 19. INSTALL REAR NO. 2 SEAT SHOULDER BELT HANGER LH

a. Install the hanger with 2 new spring nuts.




### 20. INSTALL REAR NO. 2 SEAT SHOULDER BELT HANGER RH

**HINT:**

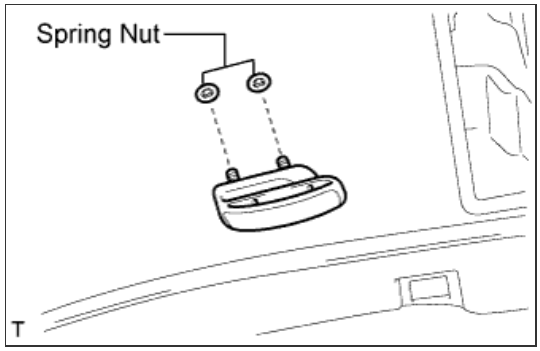
Use the same procedures described for the LH side.

### 21. INSTALL REAR SEAT SHOULDER BELT HANGER (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

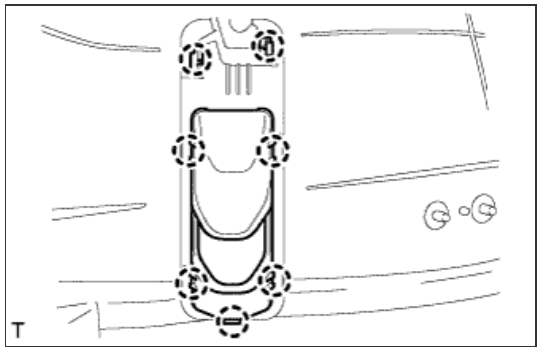
Use the same procedure to install the hanger on the other side.

a. Install the hanger with 2 new spring nuts.




### 22. INSTALL ROOF SIDE INNER GARNISH COVER LH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Attach the 7 claws to install the cover.



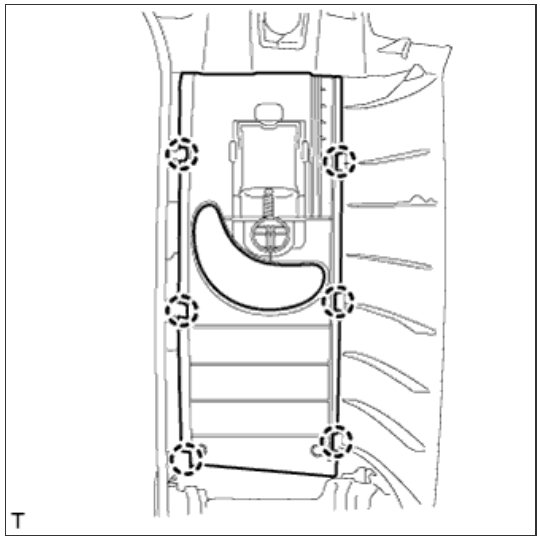

### 23. INSTALL ROOF SIDE INNER GARNISH COVER RH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 24. INSTALL REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Attach the 6 claws to install the plate.



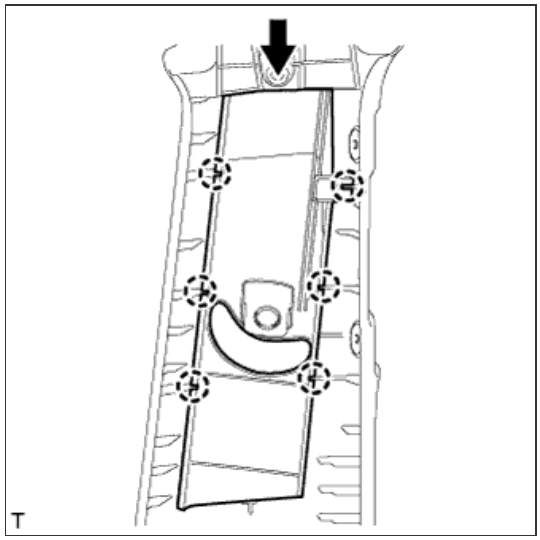

## 25. INSTALL REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

## 26. INSTALL FRONT SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Slide the plate in the direction shown in the illustration and attach the 6 claws to install the plate.



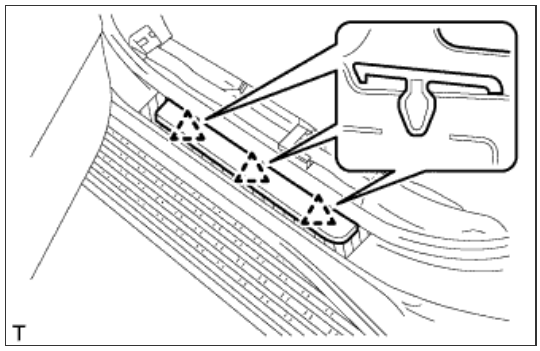

## 27. INSTALL FRONT SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

## 28. INSTALL REAR DOOR SCUFF PLATE OUTSIDE LH

a. Attach the 3 clips to install the rear door scuff plate outside.



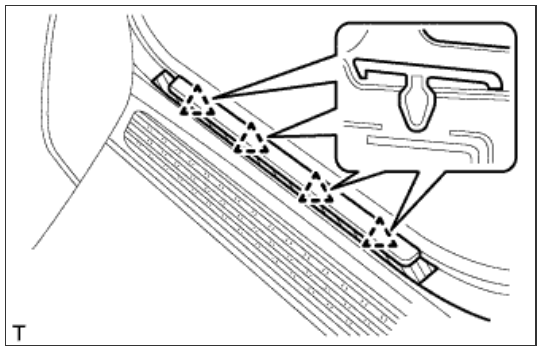

### 29. INSTALL REAR DOOR SCUFF PLATE OUTSIDE RH

**HINT:**

Use the same procedures described for the LH side.

### 30. INSTALL FRONT DOOR SCUFF PLATE OUTSIDE LH

a. Attach the 4 clips to install the front door scuff plate outside.



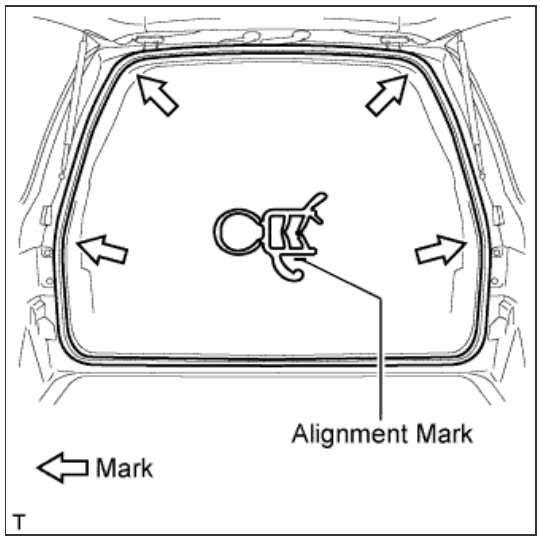

### 31. INSTALL FRONT DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

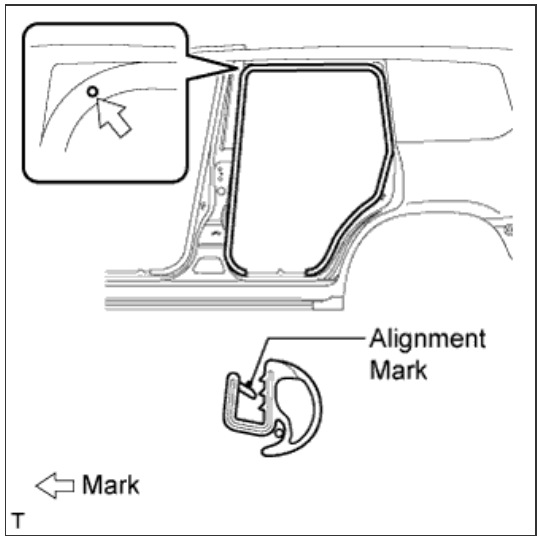
### 32. INSTALL BACK DOOR WEATHERSTRIP

a. Install the back door weatherstrip as shown in the illustration.



### 33. INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP LH

a. Install the rear door opening trim weatherstrip as shown in the illustration.



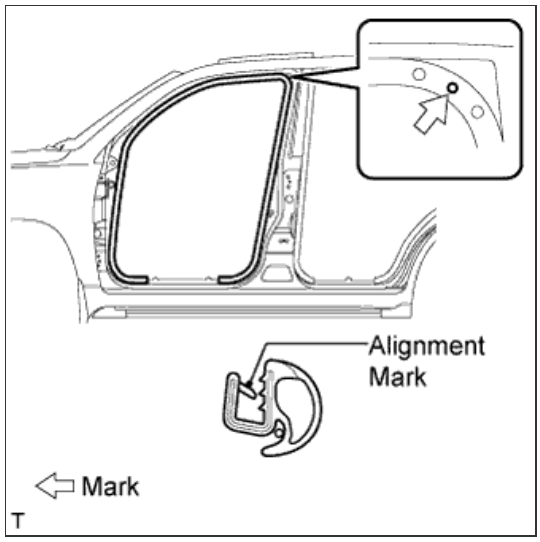

### 34. INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP RH

**HINT:**

Use the same procedures described for the LH side.

### 35. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP LH

a. Install the front door opening trim weatherstrip as shown in the illustration.




### 36. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP RH

**HINT:**

Use the same procedures described for the LH side.

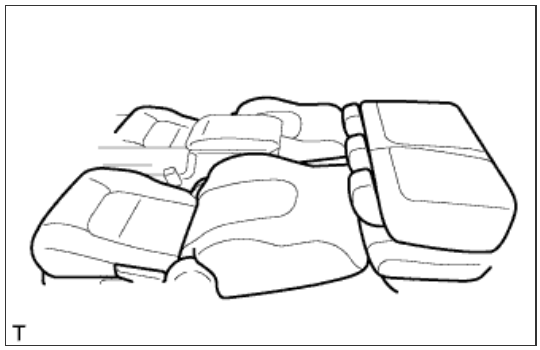
### 37. INSTALL ROOF HEADLINING ASSEMBLY

**HINT:**

- **for Manual Seat:**

**When installing the roof headlining, move the front seat and rear No. 1 seat to the position shown in the illustration.**

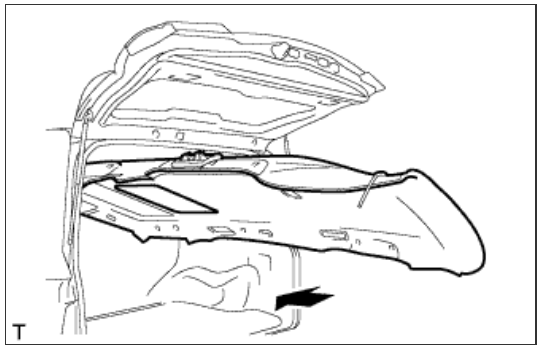
- **for Power Seat:**
  **When installing the roof headlining, connect the cable to the negative (-) battery terminal and move the front seat and No. 1 rear seat to the position shown in the illustration.**
- **for Power Seat:**
  **After moving the seats, disconnect the cable from the negative (-) battery terminal.**



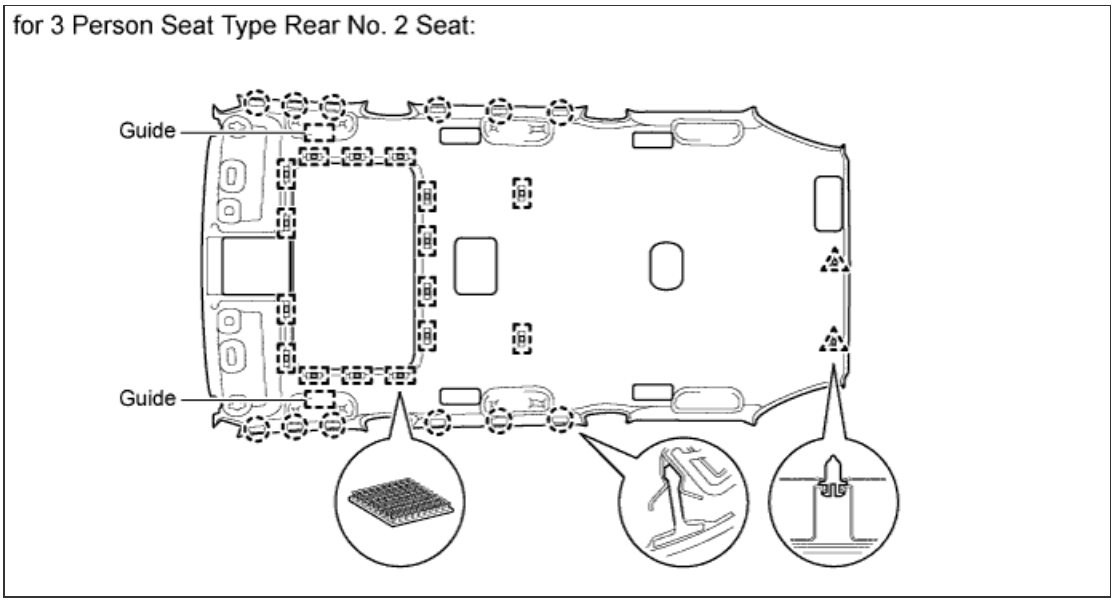

a. Place the headlining in the cabin from the rear of the vehicle as shown in the illustration.

**NOTICE:**

Be careful not to damage the roof headlining when placing it in the cabin.

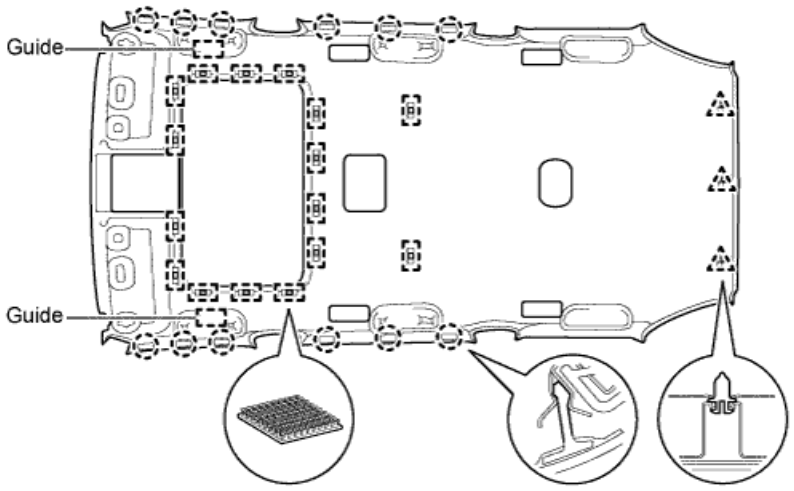



b. for 3 Person Seat Type Rear No. 2 Seat:
Attach the 12 claws, 2 clips, 2 guides and 16 fasteners to install the headlining.

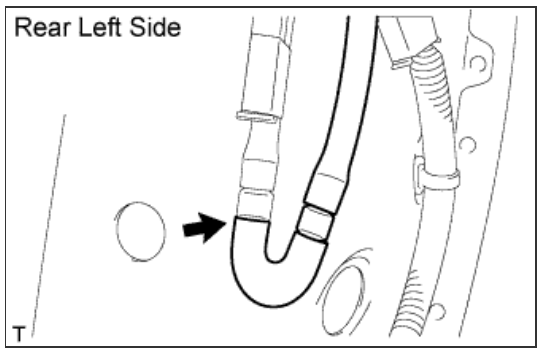



c. except 3 Person Seat Type Rear No. 2 Seat:
Attach the 12 claws, 3 clips, 2 guides and 16 fasteners to install the headlining.

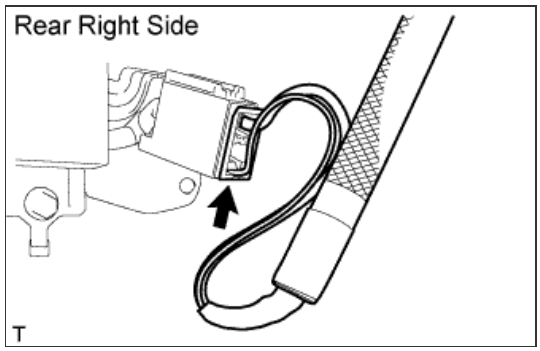
except 3 Person Seat Type Rear No. 2 Seat:




d. Connect the washer hose.

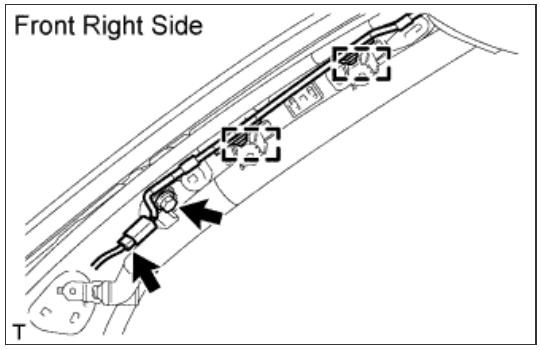



e. Connect the antenna cord connector.



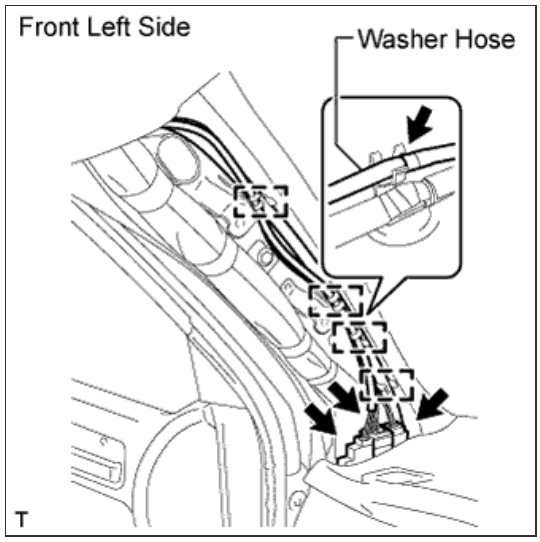

f. Connect the antenna cord connector and attach the 2 clamps.

g. Install the bolt.

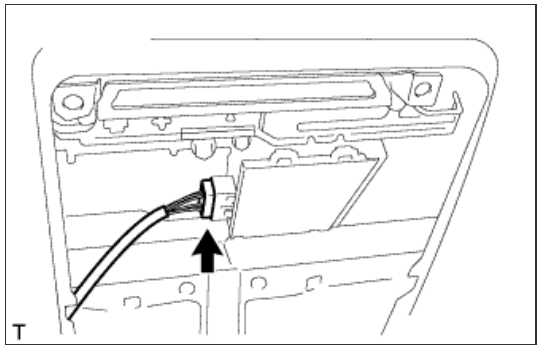



h. Connect the 3 roof wire connectors and washer hose.

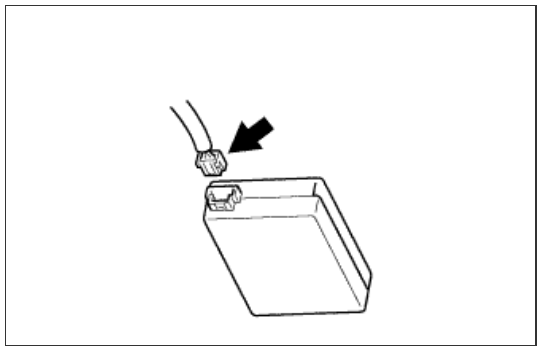
i. Attach the 4 clamps.



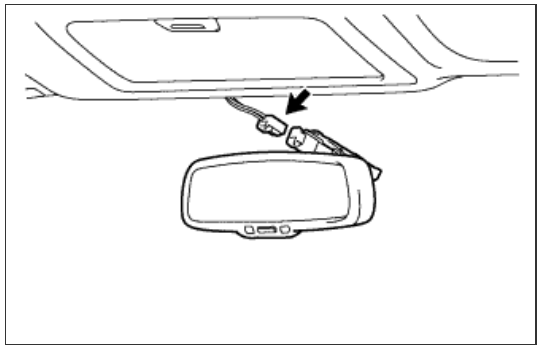

j. Connect the drive gear connector.




k. w/ Rain Sensor:
Disconnect the rain sensor connector.



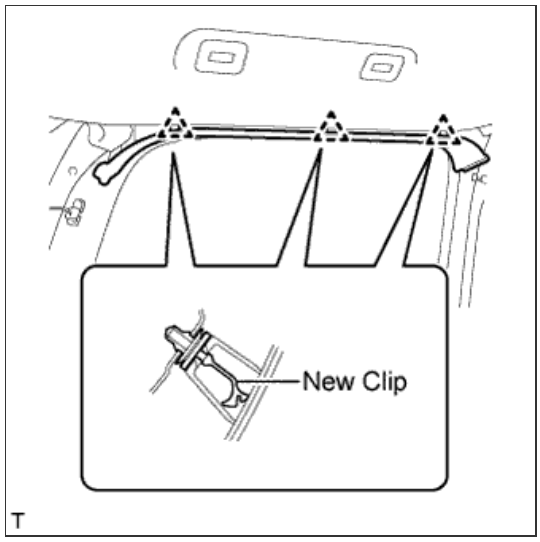
l. w/ EC Mirror:
Connect the inner mirror connector.



## 38. INSTALL FRONT ROOF SIDE RAIL GARNISH LH

a. Install 3 new clips to the roof side rail garnish.

b. Attach the 3 clips to install the roof side rail garnish.




### 39. INSTALL FRONT ROOF SIDE RAIL GARNISH RH

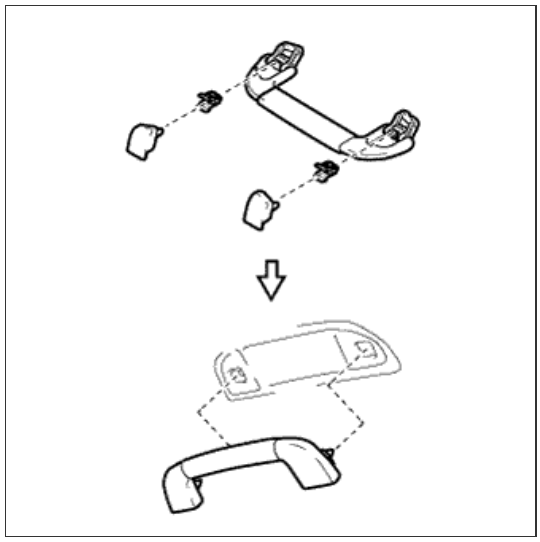
**HINT:**

Use the same procedures described for the LH side.

### 40. INSTALL 3RD SEAT ASSIST GRIP ASSEMBLY (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedure to install the 3rd seat assist grip on the other side.



a. Assemble the assist grip, 2 clips and 2 covers as shown in the illustration.

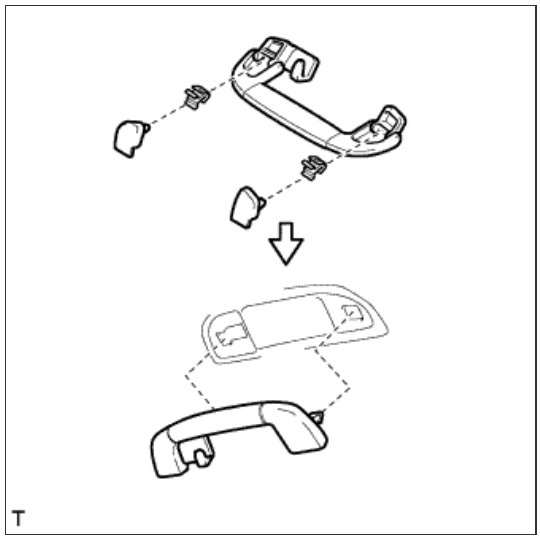
b. Install the assist grip.

### 41. INSTALL NO. 2 ASSIST GRIP ASSEMBLY LH

a. w/ Rear No. 2 Seat, except Face to Face Seat Type or w/o Rear No. 2 Seat: Install the No. 2 assist grip assembly.

i. Assemble the assist grip, 2 clips and 2 covers as shown in the illustration.

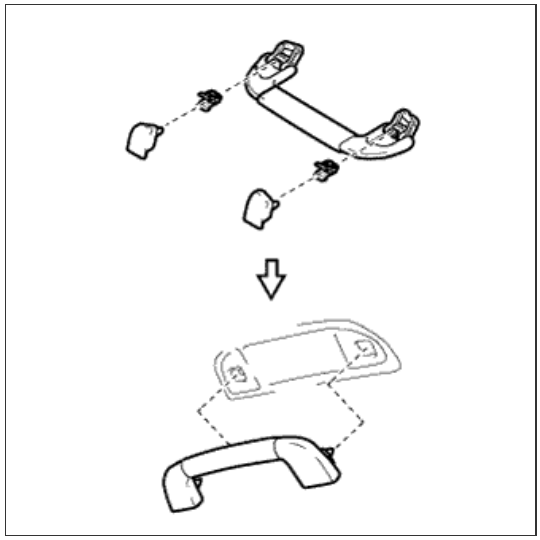
ii. Install the assist grip.




b. w/ Rear No. 2 Seat, for Face to Face Seat Type:
Install the No. 2 assist grip assembly.

i. Assemble the assist grip, 2 clips and 2 covers as shown in the illustration.

ii. Install the assist grip.



### 42. INSTALL NO. 2 ASSIST GRIP ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

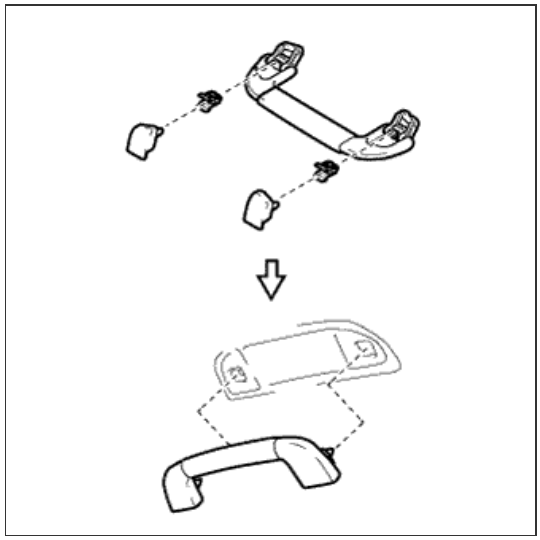
### 43. INSTALL ASSIST GRIP ASSEMBLY

**HINT:**

Use the same procedure to install the assist grip on the other side.

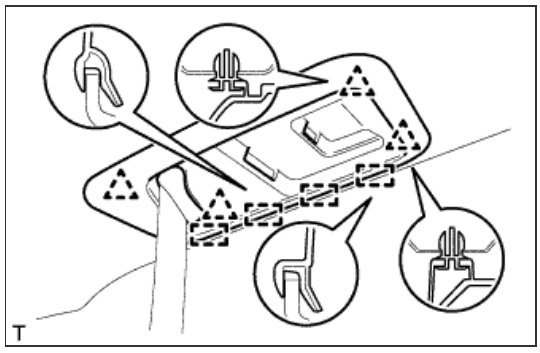
a. Assemble the assist grip, 2 clips and 2 covers as shown in the illustration.

b. Install the assist grip.



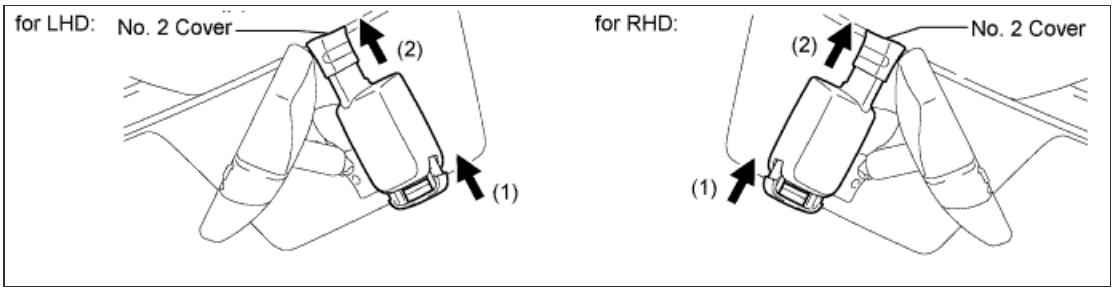
### 44. INSTALL SEAT BELT ANCHOR COVER (for 3 Person Seat Type Rear No. 2 Seat)

a. Attach the 4 guides and 4 clips to install the seat belt anchor cover.




### 45. INSTALL RAIN SENSOR COVER (w/ Rain Sensor)

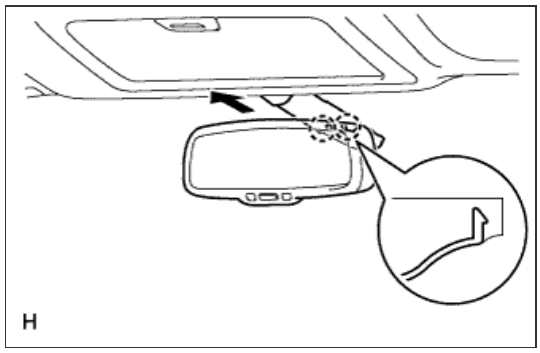
a. Push in the stopper in the direction of the arrow labeled (1) to install the rain sensor cover.




b. Slide the No. 2 cover in the direction of the arrow labeled (2) to fix it in place.

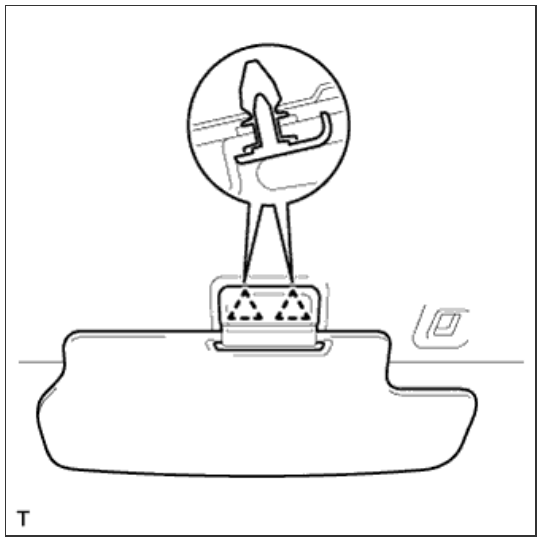
### 46. INSTALL INNER REAR VIEW MIRROR STAY HOLDER COVER (w/ EC Mirror)

a. Attach the 2 claws to install the cover.




### 47. INSTALL CENTER VISOR ASSEMBLY LH (w/ Sub Visor)

a. Attach the 2 clips to install the center visor.




## 48. INSTALL CENTER VISOR ASSEMBLY RH (w/ Sub Visor)

**HINT:**

Use the same procedures described for the LH side.

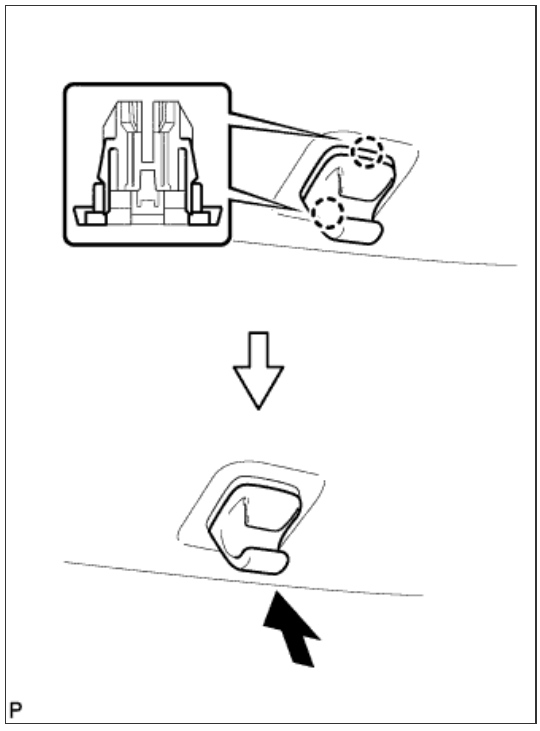
## 49. INSTALL VISOR HOLDER

**HINT:**

Use the same procedures to install the visor holder on the other side.

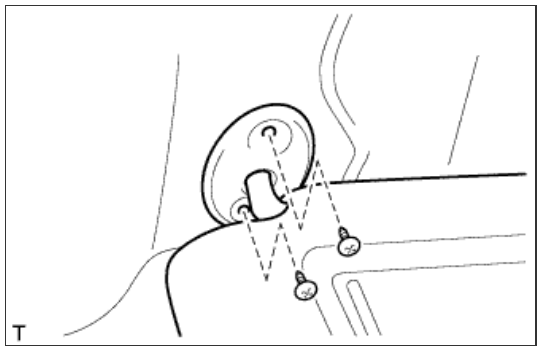
a. Attach the 2 claws.

b. Push the visor holder in to install it.




## 50. INSTALL VISOR ASSEMBLY LH

a. Install the visor with the 2 screws.




### 51. INSTALL VISOR ASSEMBLY RH

**HINT:**

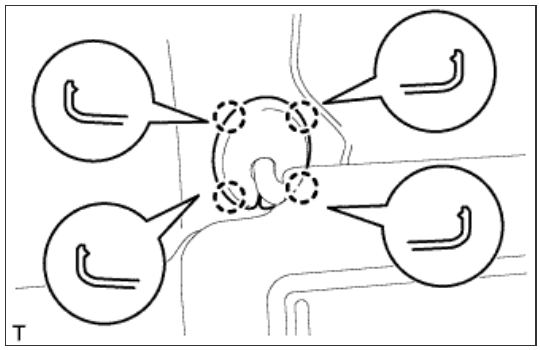
Use the same procedures described for the LH side.

### 52. INSTALL VISOR BRACKET COVER

**HINT:**

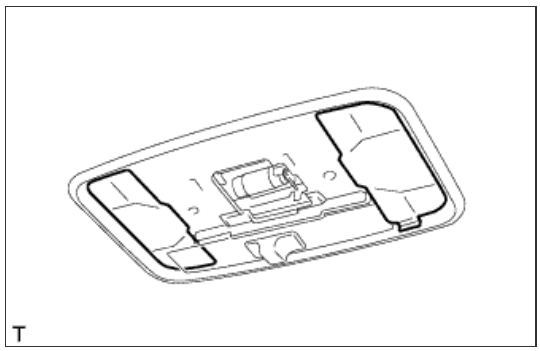
Use the same procedure to install the visor bracket cover on the other side.

a. Attach the 4 claws to install the visor bracket cover.

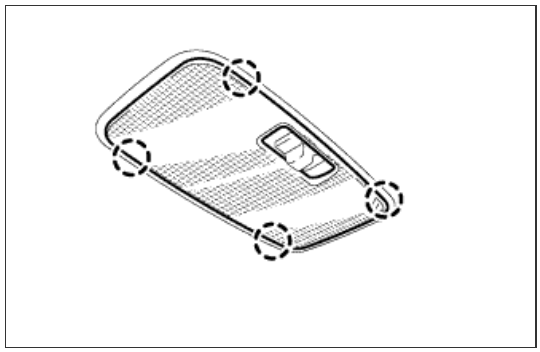



### 53. INSTALL NO. 2 ROOM LIGHT ASSEMBLY

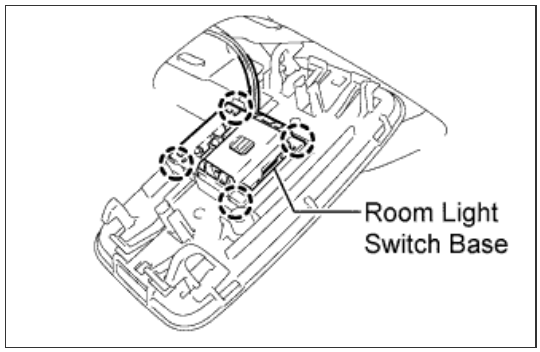
a. Install the 2 covers.



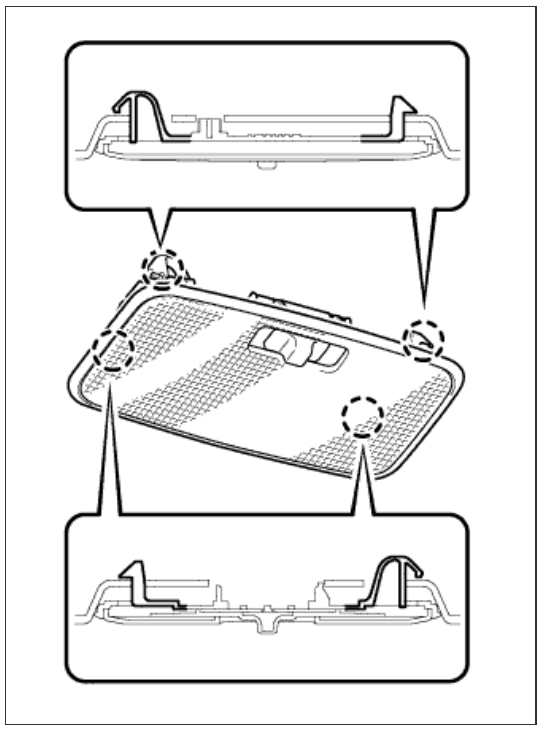

b. Attach the 4 claws to install the room light lens.



c. Attach the 4 claws to install the room light to the room light switch base.



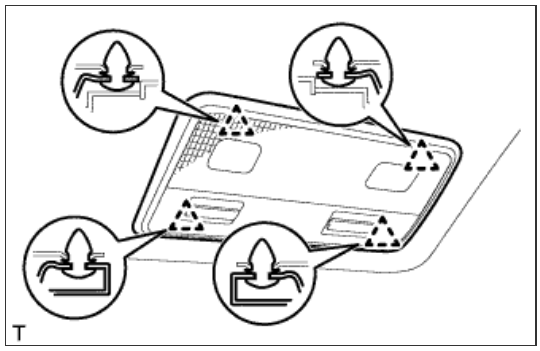

d. Attach the 4 claws to install the room light.



## 54. INSTALL NO. 1 ROOM LIGHT ASSEMBLY

a. Connect the connector.

b. Attach the 4 clips to install the room light.



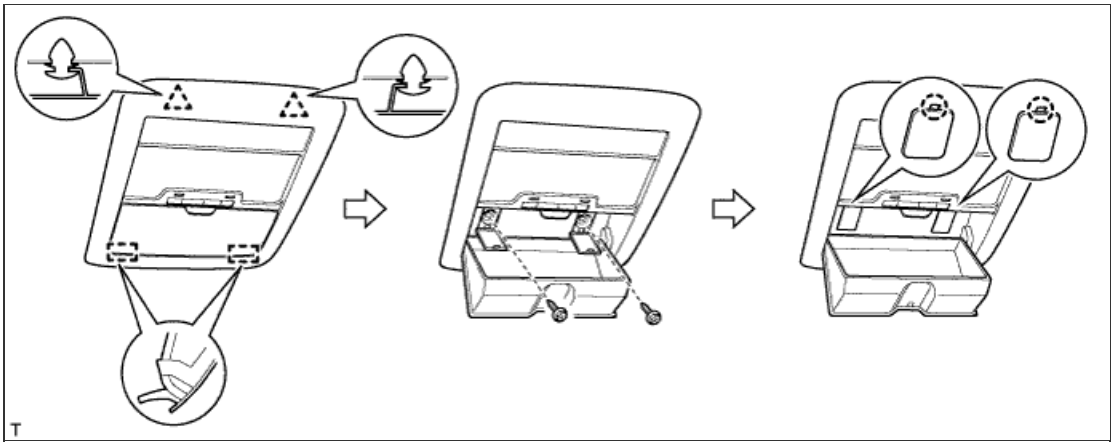

## 55. INSTALL MAP LIGHT ASSEMBLY

a. Connect the connector.

b. Attach the 2 clips and 2 guides to install the map light.

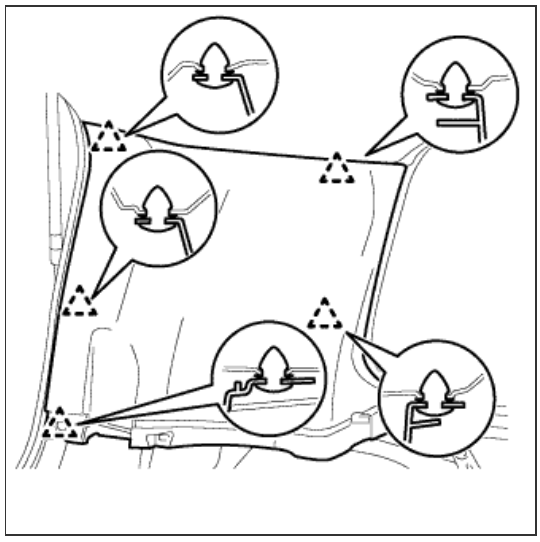
c. Install the 2 screws.

d. Attach the 2 claws to close the 2 covers.

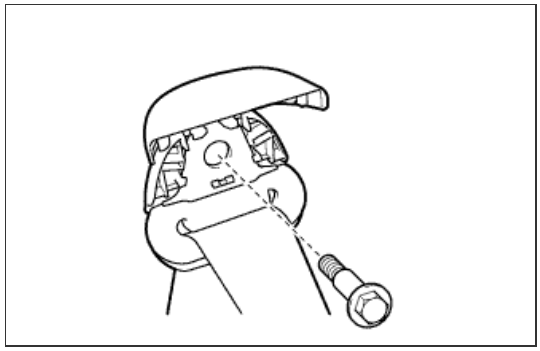


## 56. INSTALL REAR UPPER PILLAR GARNISH LH

a. Attach the 5 clips to install the rear upper pillar garnish.



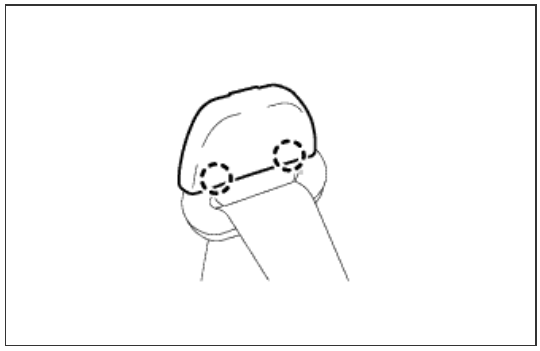
b. w/ Rear No. 2 Seat, except Face to Face Seat Type:



i. Install the seat belt shoulder anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

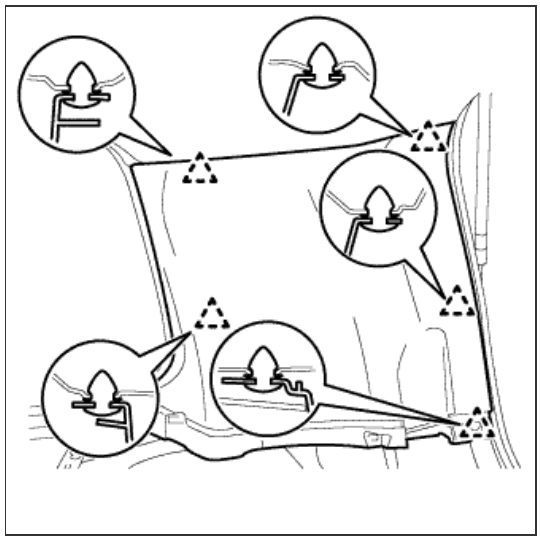
ii. Attach the 2 claws to close the seat belt shoulder anchor cover.



## 57. INSTALL REAR UPPER PILLAR GARNISH RH

a. w/o Power Back Door:

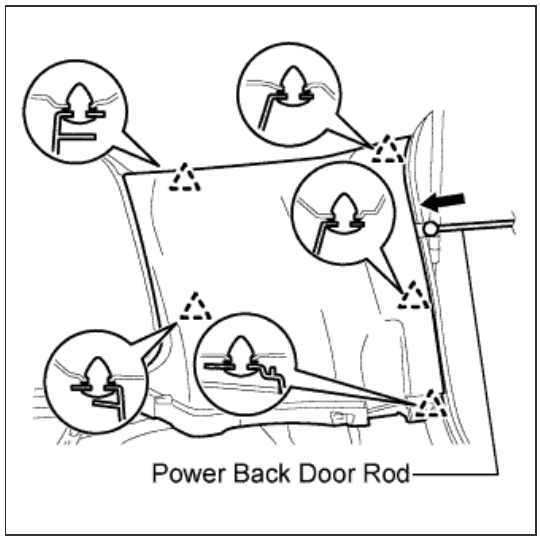
i. Attach the 5 clips to install the rear upper pillar garnish.



b. w/ Power Back Door:

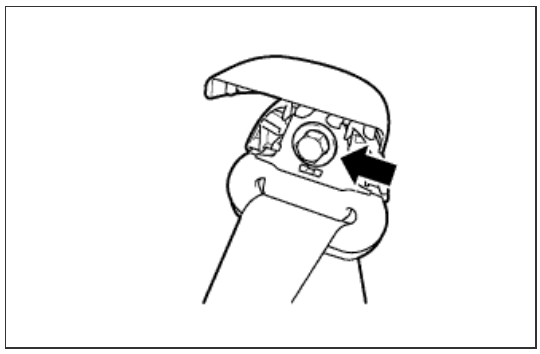
i. Pass the power back door rod through the rear upper pillar garnish.

ii. Attach the 5 clips to install the rear upper pillar garnish.

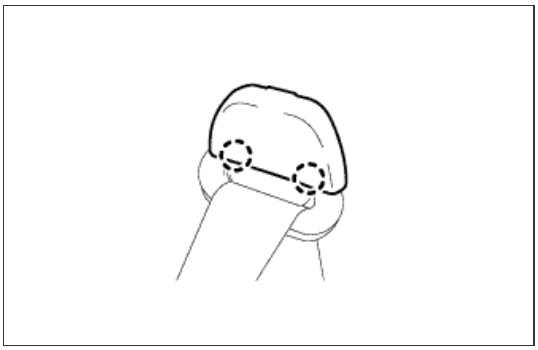



c. Install the seat belt shoulder anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

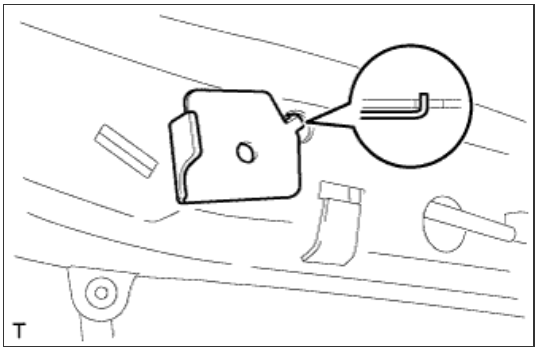


d. Attach the 2 claws to close the seat belt shoulder anchor cover.



## 58. INSTALL BACK DOOR SERVICE HOLE COVER RH (w/ Power Back Door)

a. Install the back door stay plate.




b. Pass the power back door rod through the hole of the back door service hole cover RH and install the rod with the bolt.

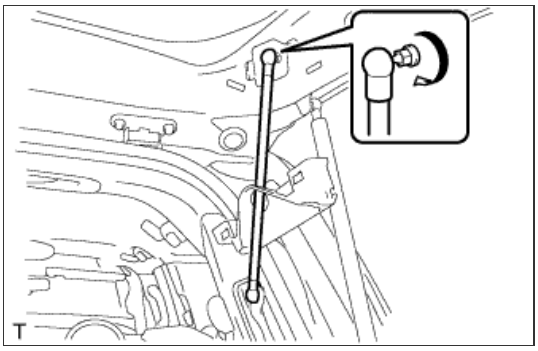
**Torque:**

**:**

**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**

c. Move the back door to a half-open position so that the hole in the center of the back door service hole cover RH is aligned lengthwise with the power back door rod.

d. Attach the 2 clips and install the back door service hole cover RH.




**NOTICE:**

If the back door is in a fully-open position, the power back door rod will interfere with the hole of the back door service hole cover, so do not perform this operation with the back door in a fully open position.

## 59. INSTALL BACK DOOR SIDE GARNISH RH (w/ Power Back Door)

a. w/o Power Back Door:

**HINT:**

Use the same procedure described for the LH side.

b. w/ Power Back Door:

i. Attach the clip and 4 claws to install the back door side garnish RH.

## 60. INSTALL BACK DOOR GARNISH CENTER (w/ Power Back Door)

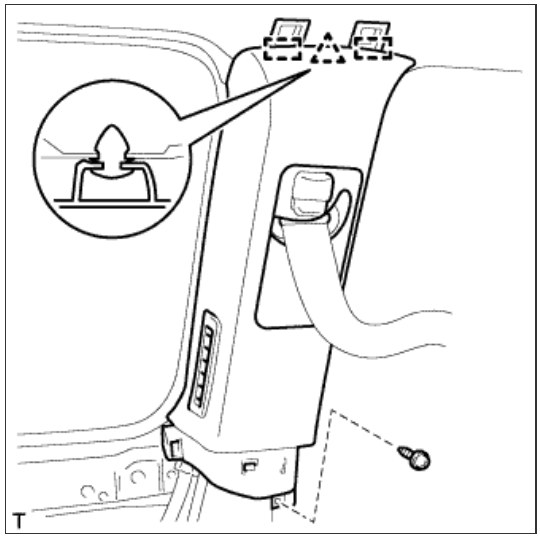
a. Attach the 5 clips and 4 claws to install the center back door garnish.

## 61. INSTALL REAR FRONT QUARTER TRIM GARNISH LH

a. Pass the seat belt anchor through the quarter trim garnish.

b. Attach the clip and 2 guides to install the quarter trim garnish.

c. Install the screw.



## 62. INSTALL REAR FRONT QUARTER TRIM GARNISH RH

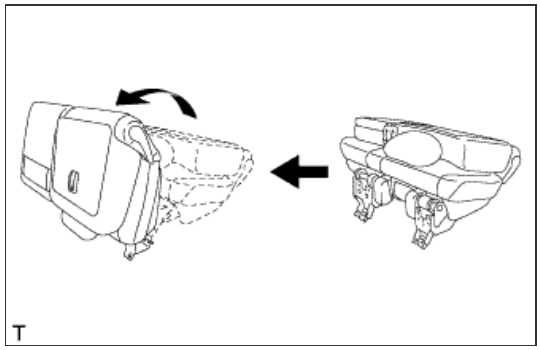
**HINT:**

Use the same procedures described for the LH side.

## 63. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

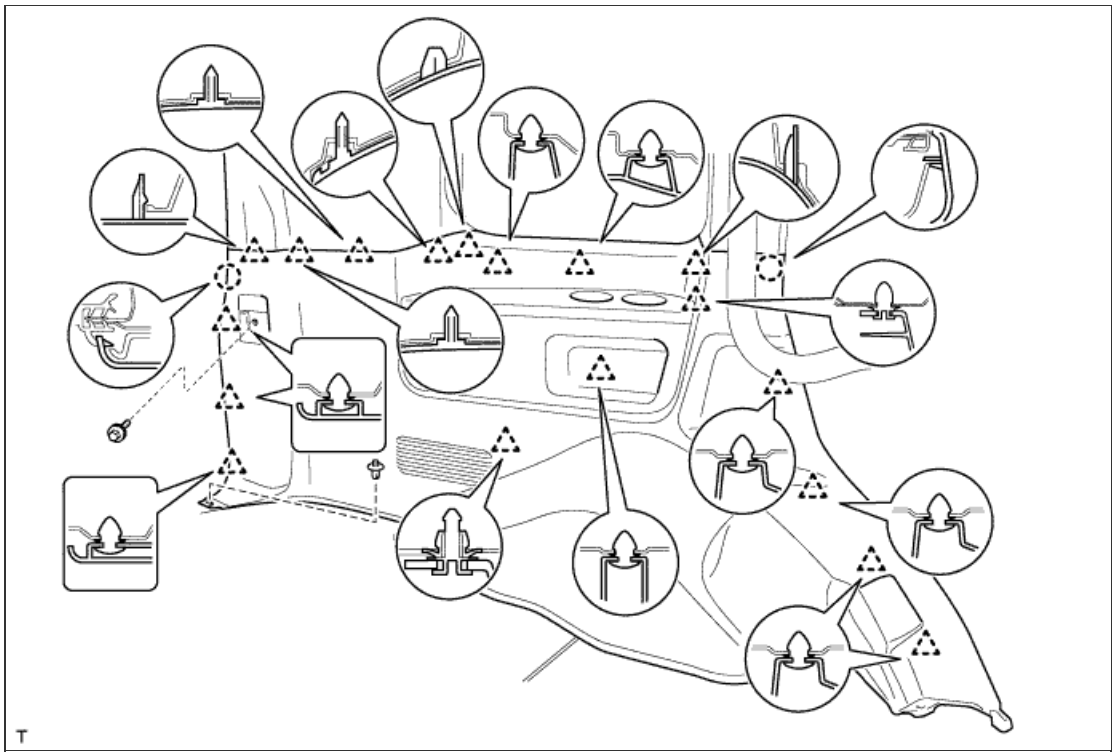
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 18 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

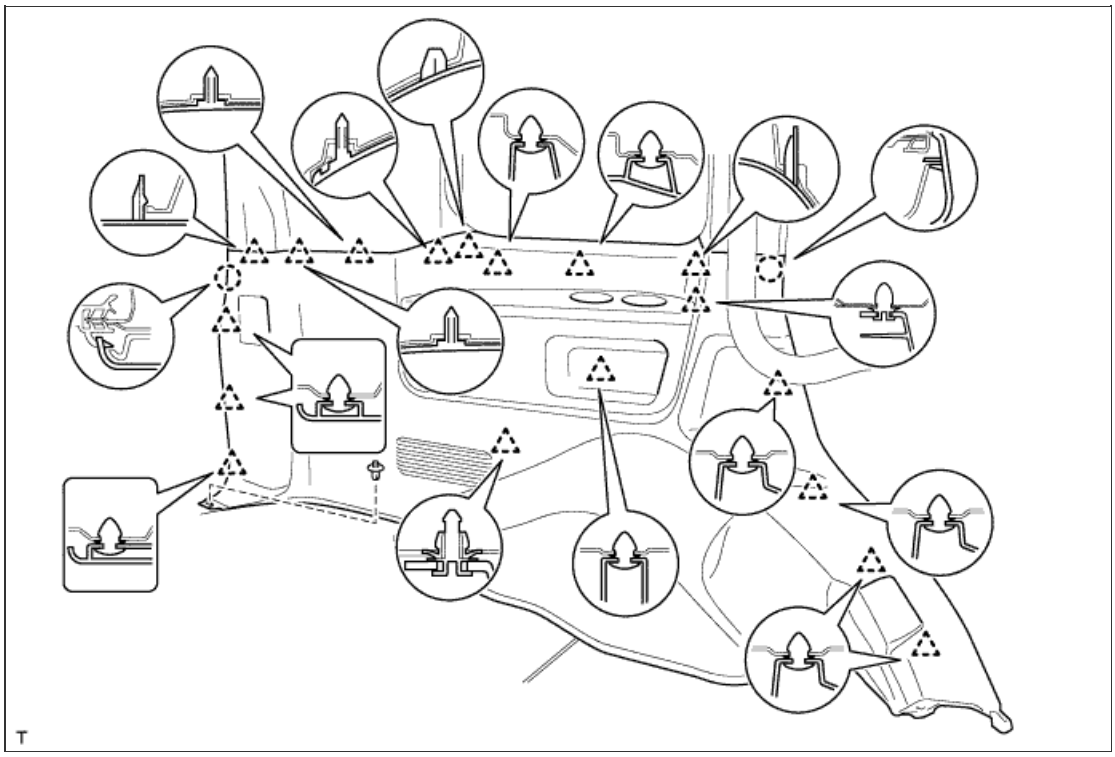
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

ii. Install the clip.



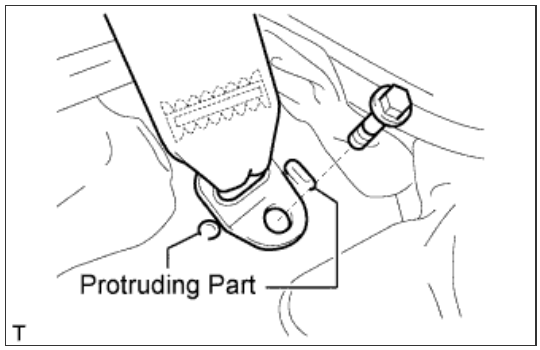

c. w/ Rear No. 2 Seat, except Face to Face Seat Type:

Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

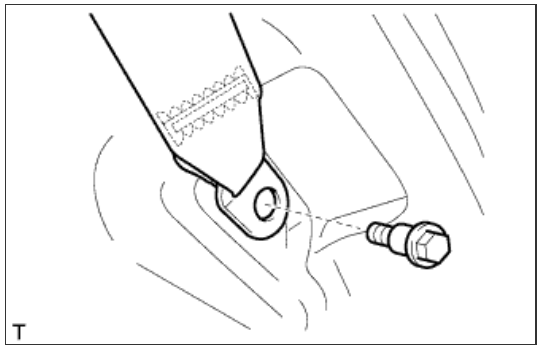
**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

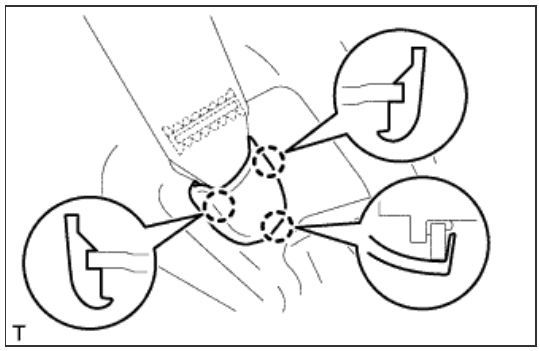



d. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**



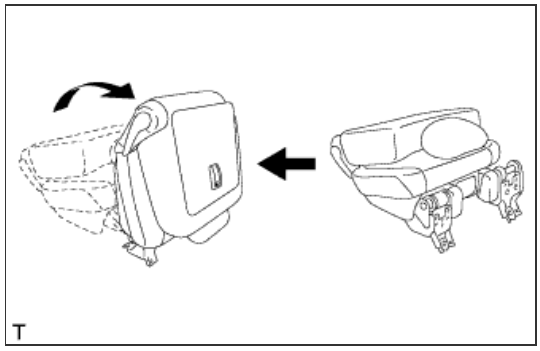

e. Attach the 3 claws to install the cover.




## 64. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

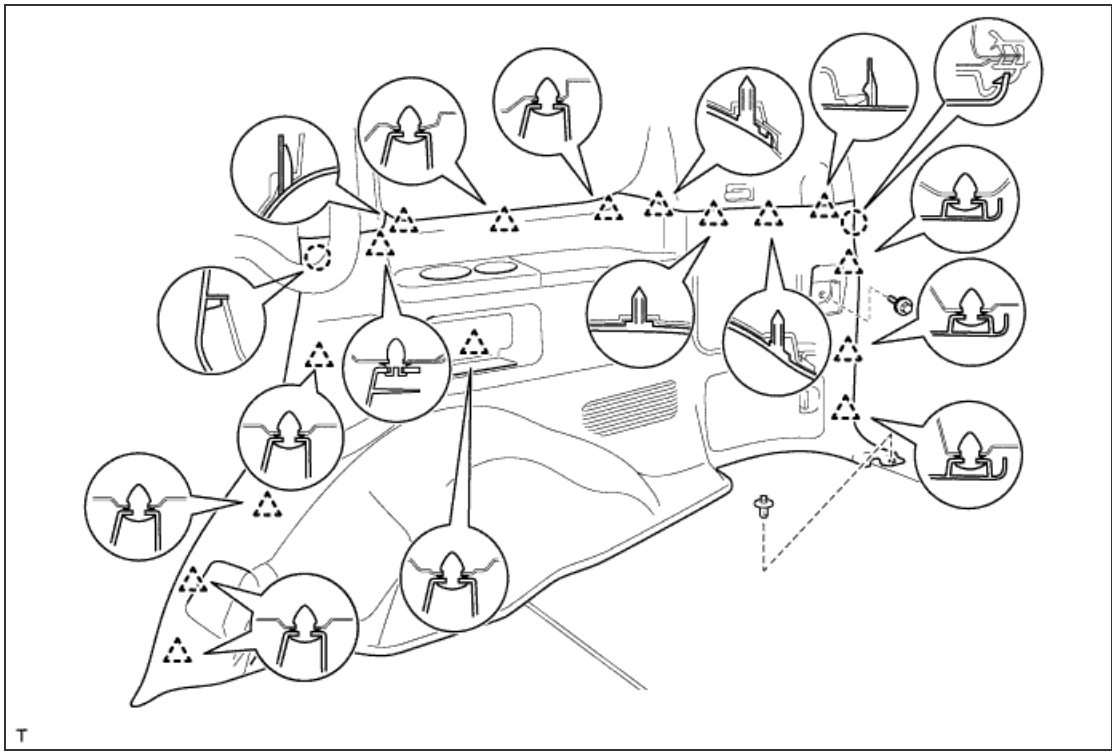
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 16 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

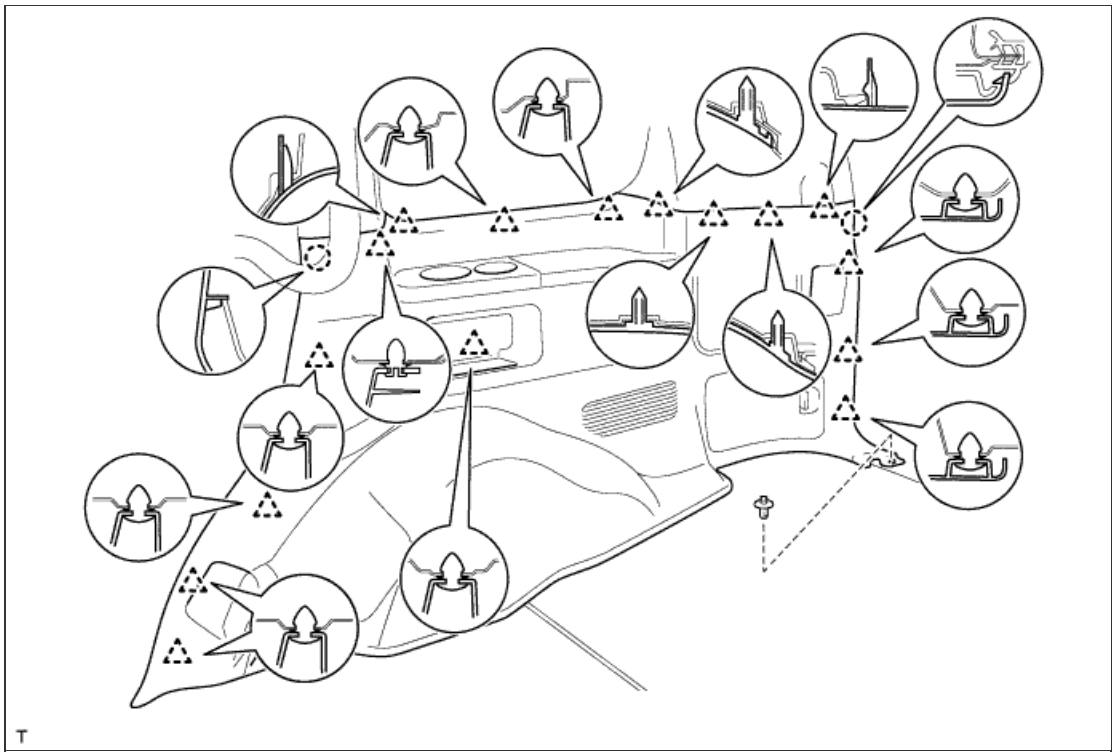
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**



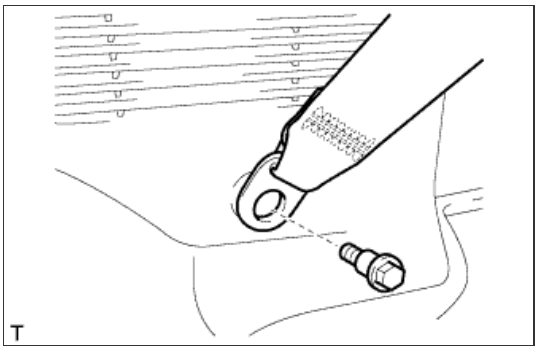

b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 16 clips and 2 claws to install the quarter trim panel.

ii. Install the clip.

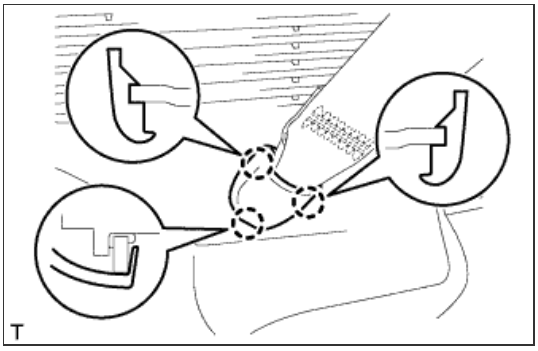



c. w/ Rear No. 2 Seat, except Face to Face Seat Type:



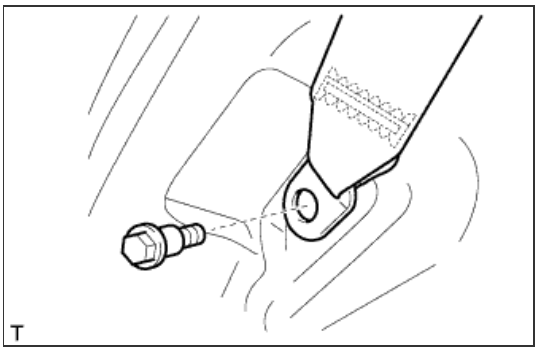

i. Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**



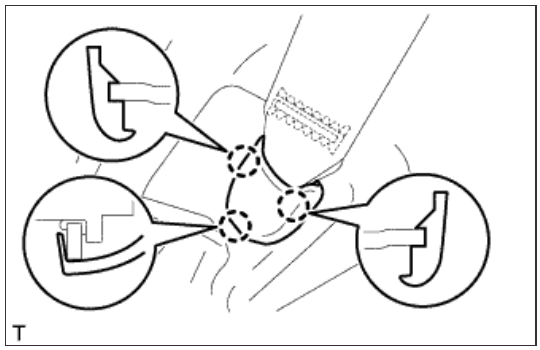

ii. Attach the 3 claws to install the cover.

d. Install the rear No. 1 seat belt anchor with the bolt.




**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

e. Attach the 3 claws to install the cover.

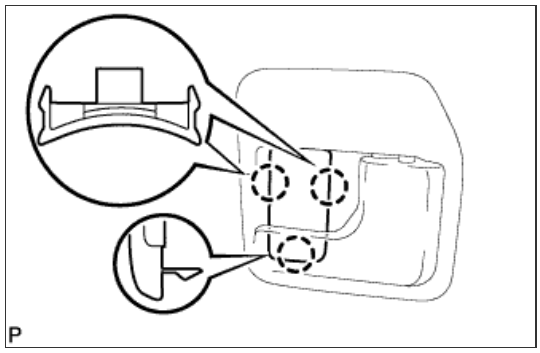



## 65. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.

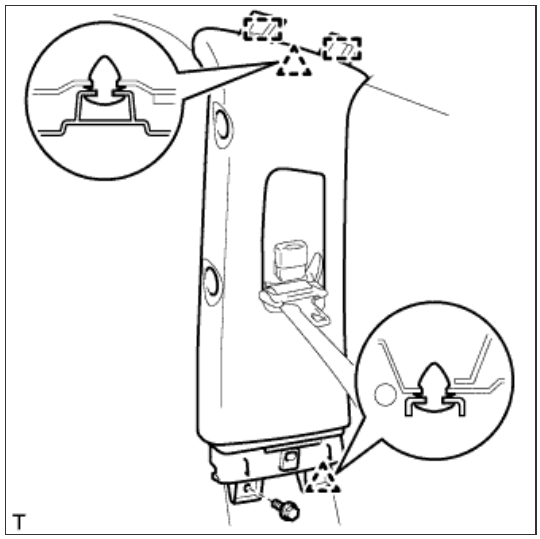



## 66. INSTALL CENTER PILLAR GARNISH LH

a. Pass the seat belt anchor through the center pillar garnish.

b. Attach the 2 clips and 2 guides to install the center pillar garnish.

c. Install the bolt.




## 67. INSTALL CENTER PILLAR GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

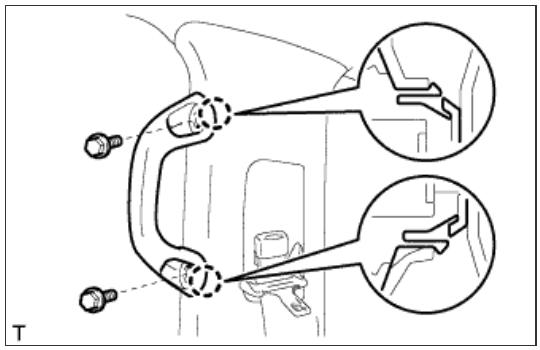
## 68. INSTALL REAR ASSIST GRIP ASSEMBLY

**HINT:**

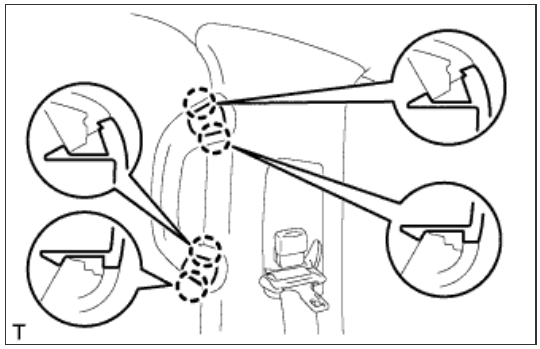
Use the same procedure to install the rear assist grip on the other side.

a. Attach the 2 claws to install the rear assist grip.

b. Install the 2 bolts.




c. Attach the 4 claws to install the 2 assist grip plugs.

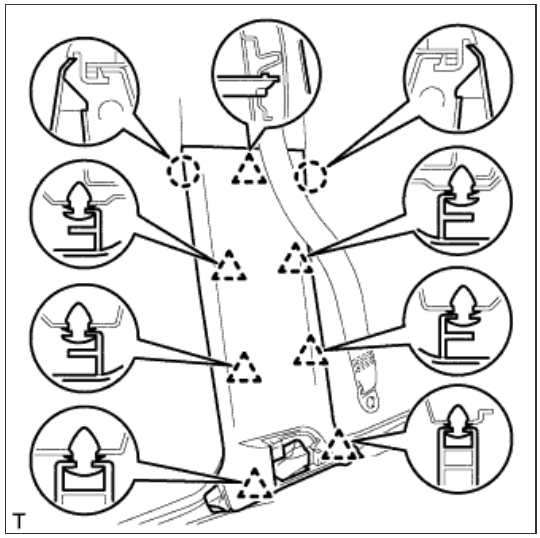



## 69. INSTALL CENTER LOWER PILLAR GARNISH LH

**HINT:**

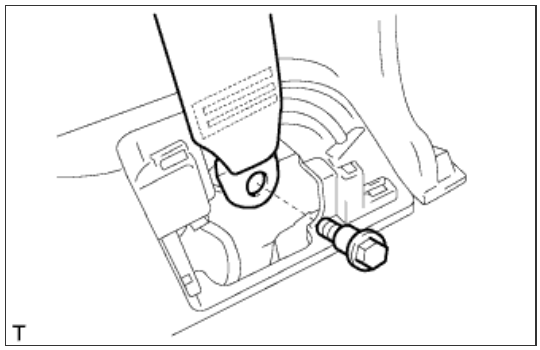
- **for Manual Seat:**
  **When installing the center lower pillar garnish, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When installing the center lower pillar garnish, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Attach the 2 claws and 7 clips to install the center lower pillar garnish.




b. Install the seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




### 70. INSTALL CENTER LOWER PILLAR GARNISH RH

**HINT:**

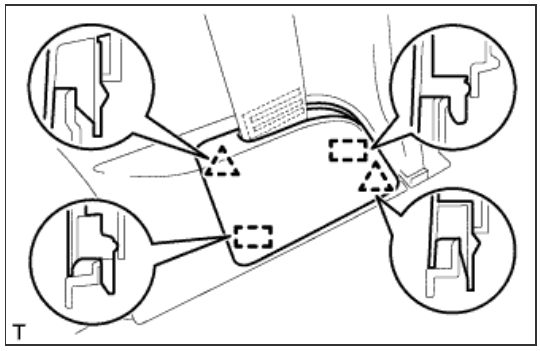
Use the same procedures described for the LH side.

### 71. INSTALL CENTER PILLAR GARNISH COVER LH

**HINT:**

- **for Manual Seat:**
  **When installing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When installing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Attach the 2 clips and 2 guides to install the cover.




### 72. INSTALL CENTER PILLAR GARNISH COVER RH

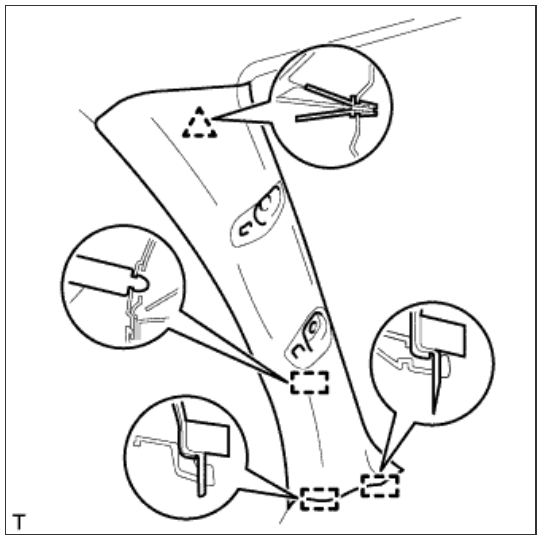
**HINT:**

Use the same procedures described for the LH side.

### 73. INSTALL FRONT PILLAR GARNISH LH

a. for 9, 14 Speakers:
   Connect the speaker connector.

b. Attach the clip and 3 guides to install the front pillar garnish.




### 74. INSTALL FRONT PILLAR GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

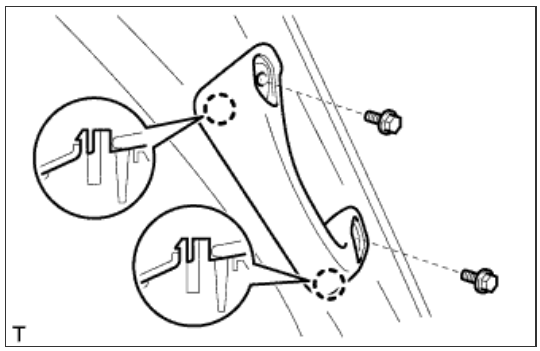
### 75. INSTALL FRONT ASSIST GRIP SUB-ASSEMBLY

**HINT:**

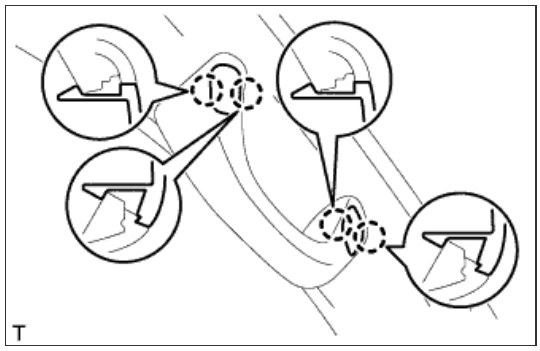
Use the same procedure to install the front assist grip on the other side.

a. Attach the 2 claws to install the front assist grip.

b. Install the 2 bolts.

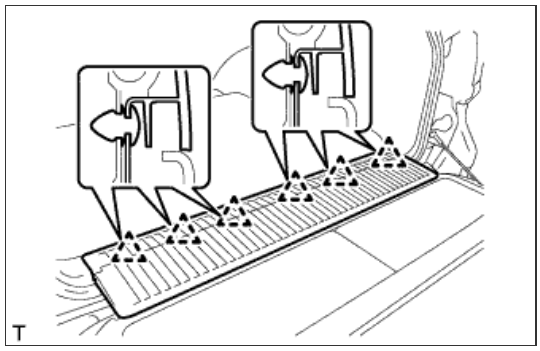



c. Attach the 4 claws to install the 2 assist grip plugs.




### 76. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

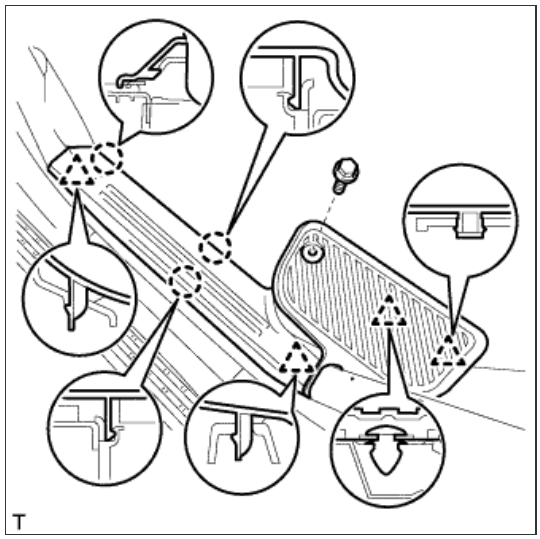
a. Attach the 6 clips to install the support plate.




## 77. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.




## 78. INSTALL REAR DOOR SCUFF PLATE RH

**HINT:**

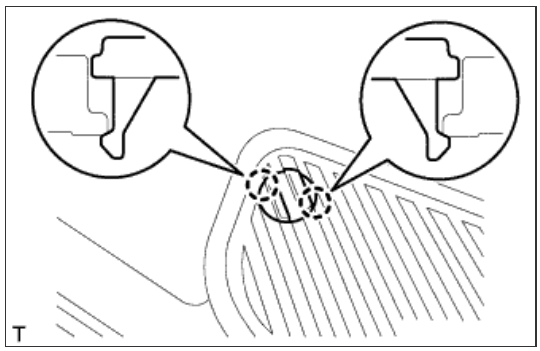
Use the same procedures described for the LH side.

## 79. INSTALL REAR STEP COVER

**HINT:**

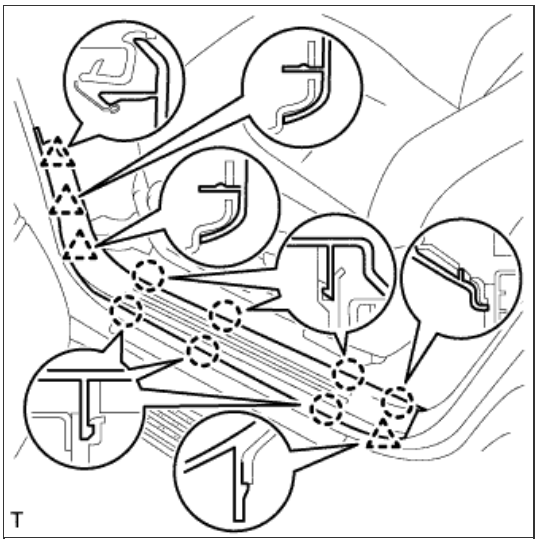
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 80. INSTALL FRONT DOOR SCUFF PLATE LH

a. Attach the 7 claws and 4 clips to install the scuff plate.




### 81. INSTALL FRONT DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

### 82. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (except Face to Face Seat Type)

a. Install the rear No. 2 seat assembly LH ( Click here).

### 83. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 84. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (for Face to Face Seat Type)

a. Install the rear No. 2 seat assembly LH ( Click here).

### 85. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

**HINT:**

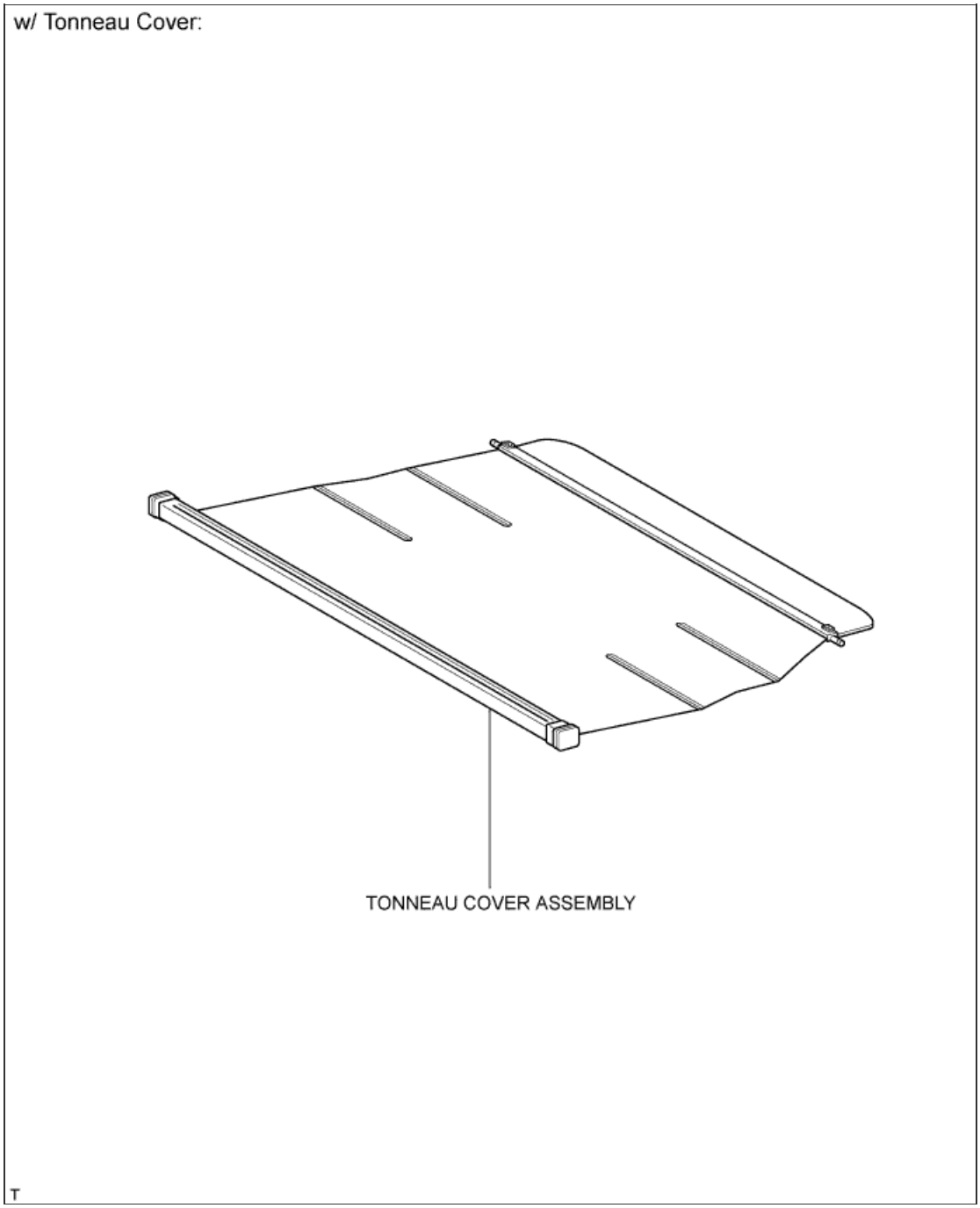
Use the same procedures described for the LH side.

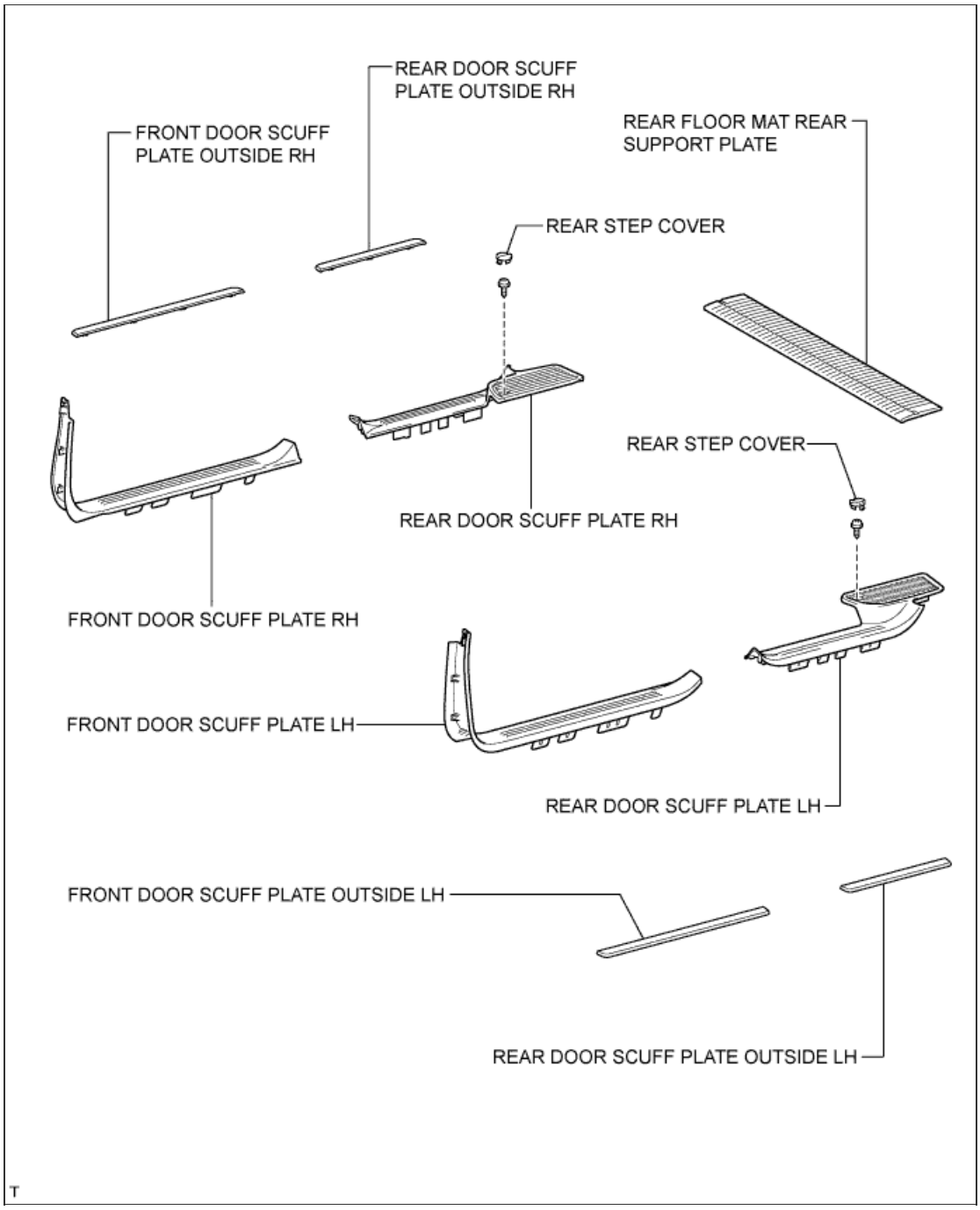
### 86. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

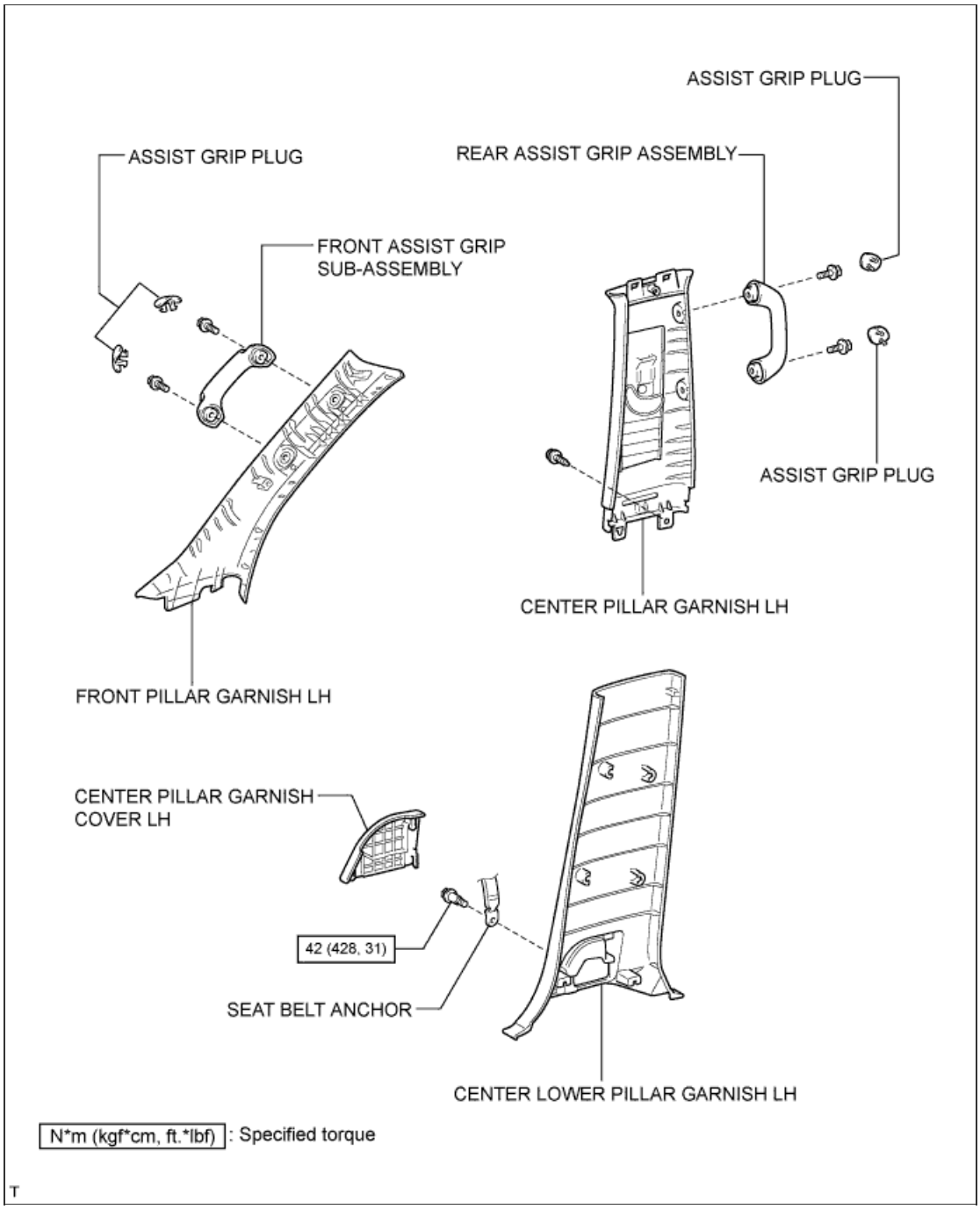
**NOTICE:**

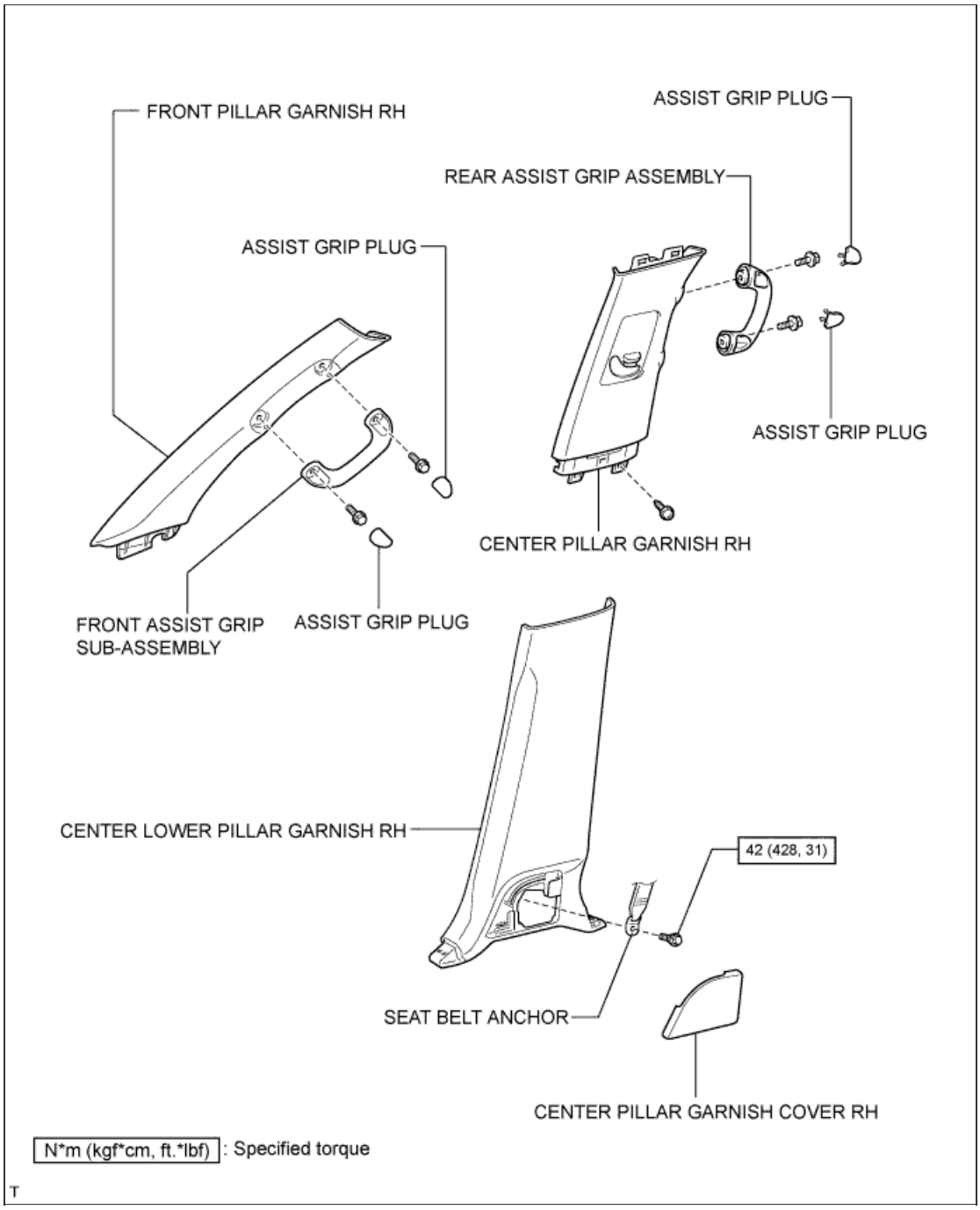
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**for Preparation** Click here



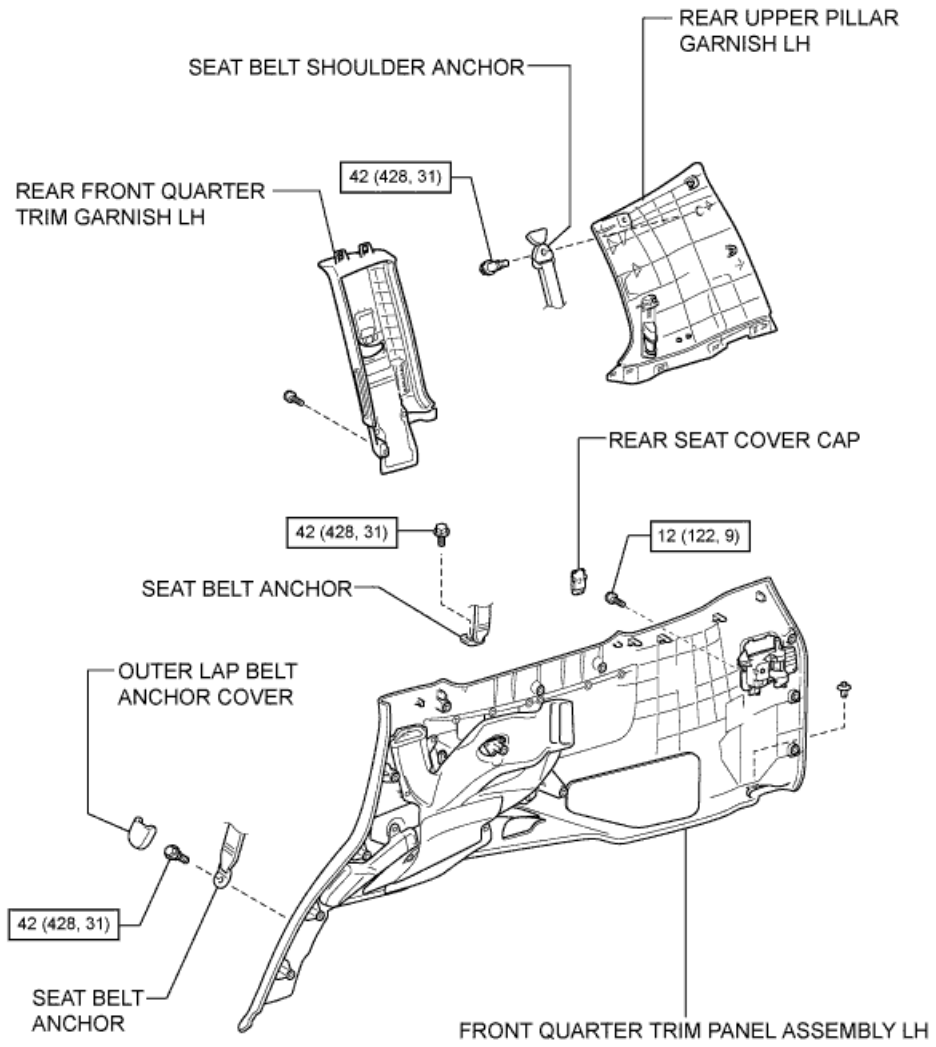

REAR DOOR SCUFF PLATE OUTSIDE RH
FRONT DOOR SCUFF PLATE OUTSIDE RH
REAR FLOOR MAT REAR SUPPORT PLATE
REAR STEP COVER
REAR STEP COVER
REAR DOOR SCUFF PLATE RH
FRONT DOOR SCUFF PLATE RH
FRONT DOOR SCUFF PLATE LH
REAR DOOR SCUFF PLATE LH
FRONT DOOR SCUFF PLATE OUTSIDE LH
REAR DOOR SCUFF PLATE OUTSIDE LH
T


ASSIST GRIP PLUG
REAR ASSIST GRIP ASSEMBLY
ASSIST GRIP PLUG
ASSIST GRIP PLUG
FRONT ASSIST GRIP SUB-ASSEMBLY
ASSIST GRIP PLUG
CENTER PILLAR GARNISH LH
FRONT PILLAR GARNISH LH
CENTER PILLAR GARNISH COVER LH
42 (428, 31)
SEAT BELT ANCHOR
CENTER LOWER PILLAR GARNISH LH
N*m (kgf*cm, ft.*lbf) : Specified torque
T


FRONT PILLAR GARNISH RH
ASSIST GRIP PLUG
REAR ASSIST GRIP ASSEMBLY
ASSIST GRIP PLUG
ASSIST GRIP PLUG
CENTER PILLAR GARNISH RH
FRONT ASSIST GRIP SUB-ASSEMBLY
ASSIST GRIP PLUG
CENTER LOWER PILLAR GARNISH RH
42 (428, 31)
SEAT BELT ANCHOR
CENTER PILLAR GARNISH COVER RH
N*m (kgf*cm, ft.*lbf) : Specified torque

T

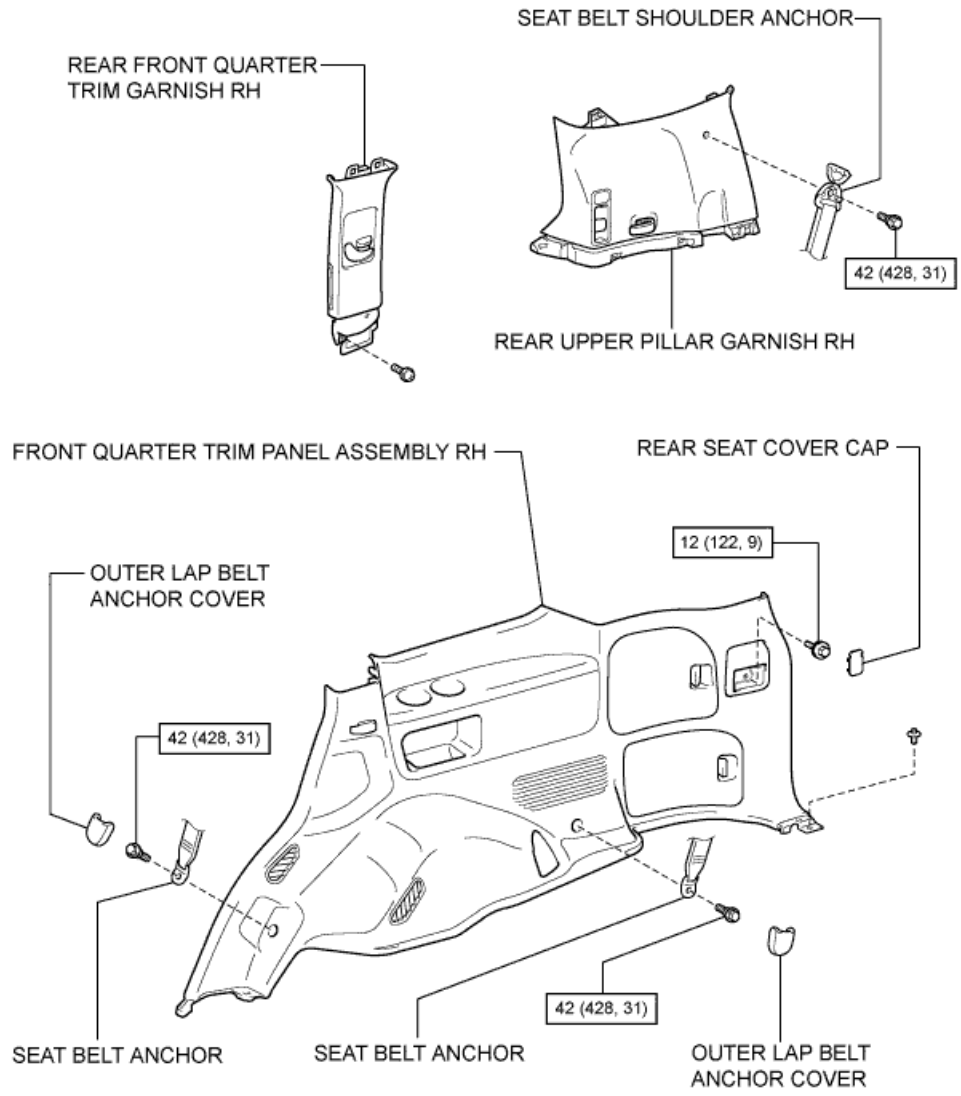
w/ Rear No. 2 Seat, except Face to Face Seat Type:




N*m (kgf*cm, ft.*lbf) : Specified torque

T

w/ Rear No. 2 Seat, except Face to Face Seat Type:

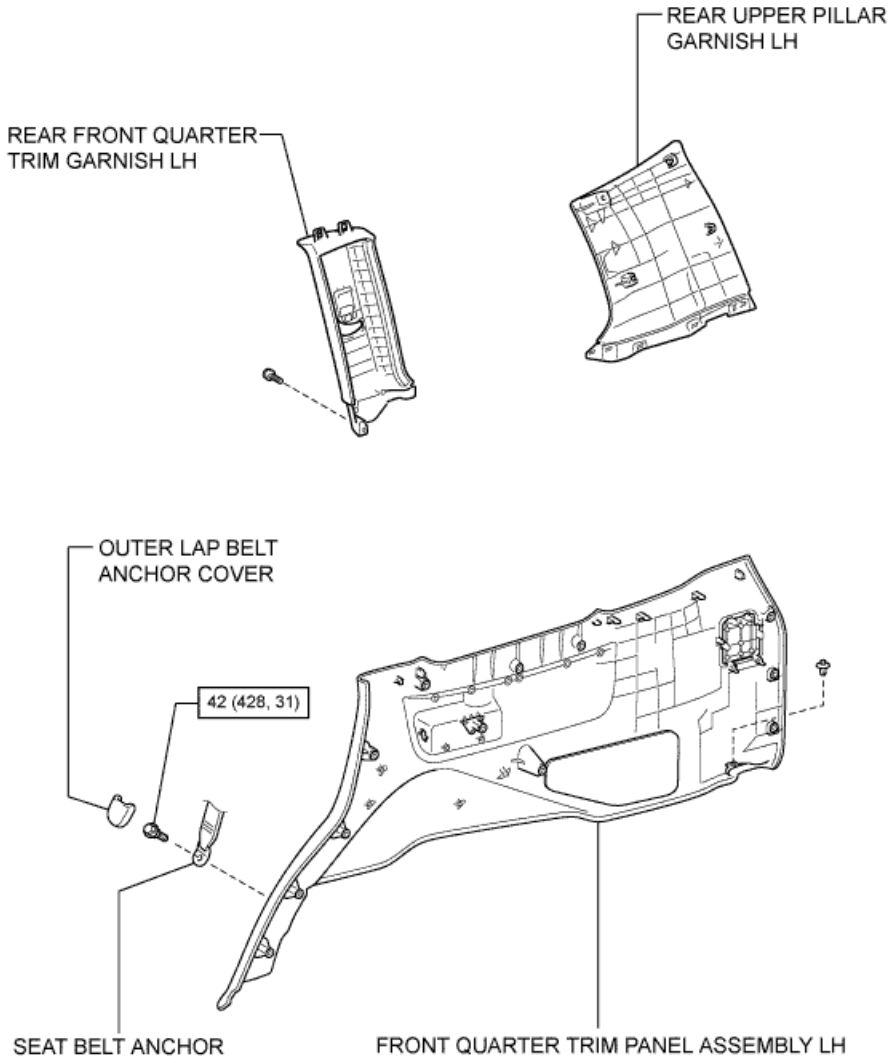



N*m (kgf*cm, ft.*lbf) : Specified torque

T

w/ Rear No. 2 Seat, for Face to Face Seat Type:

w/o Rear No. 2 Seat:

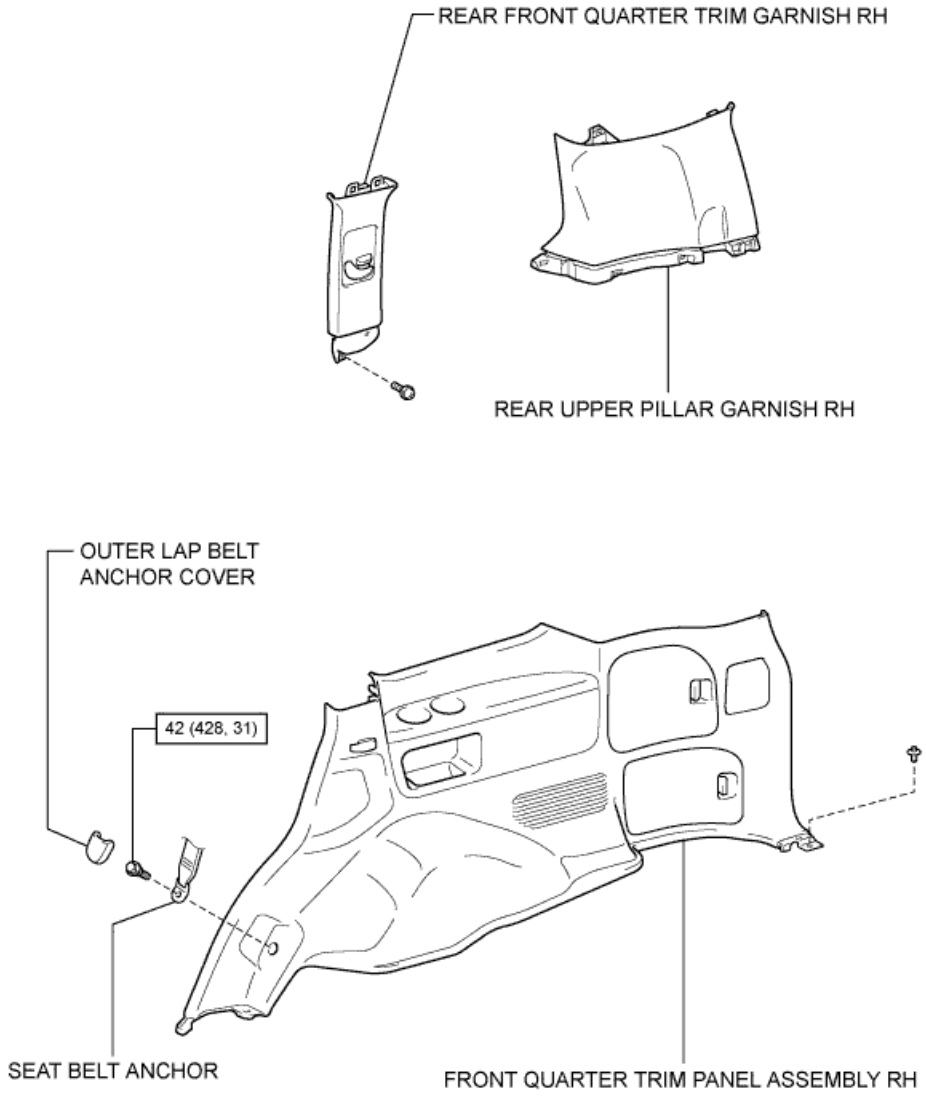



N*m (kgf*cm, ft.*lbf) : Specified torque

T

w/ Rear No. 2 Seat, for Face to Face Seat Type:

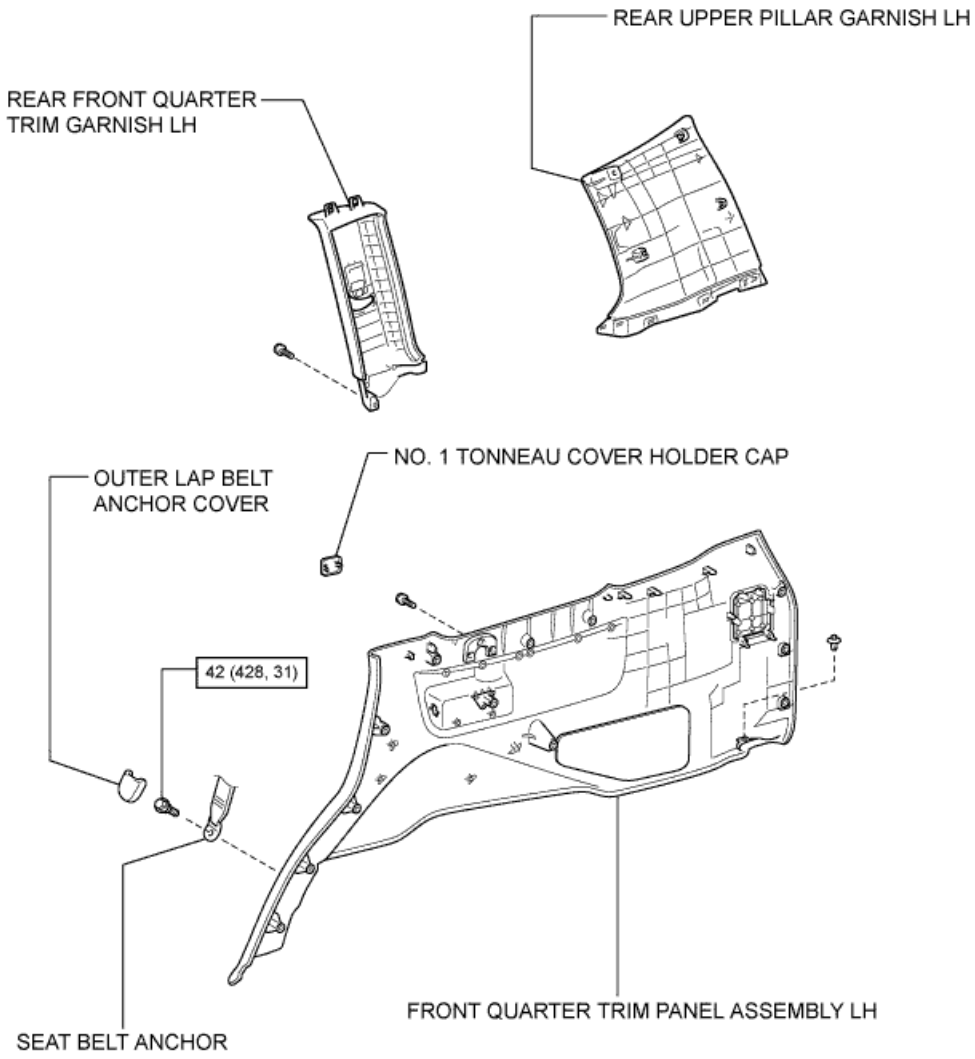
w/o Rear No. 2 Seat:




N*m (kgf*cm, ft.*lbf) : Specified torque

T

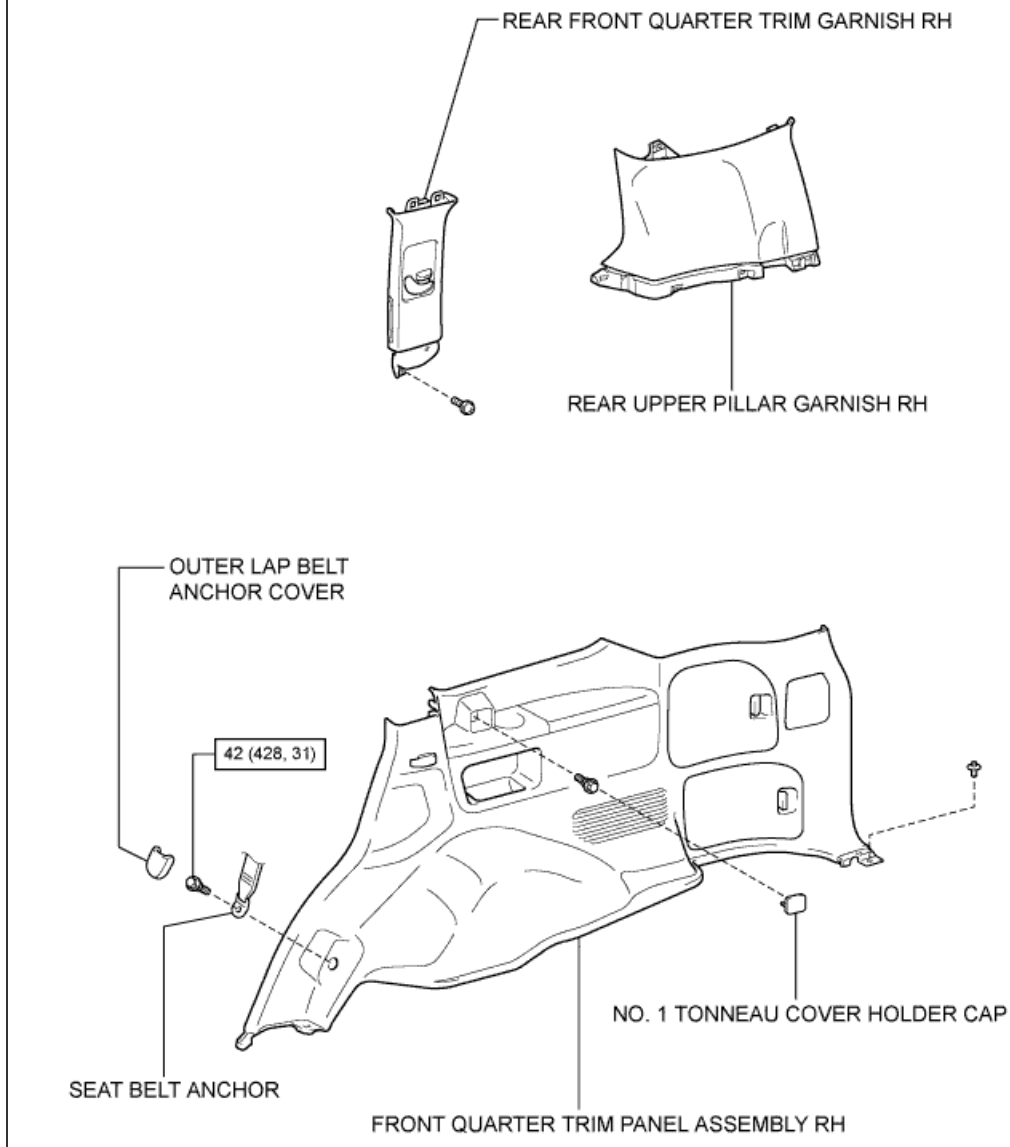
w/ Tonneau Cover:




N*m (kgf*cm, ft.*lbf) : Specified torque

T

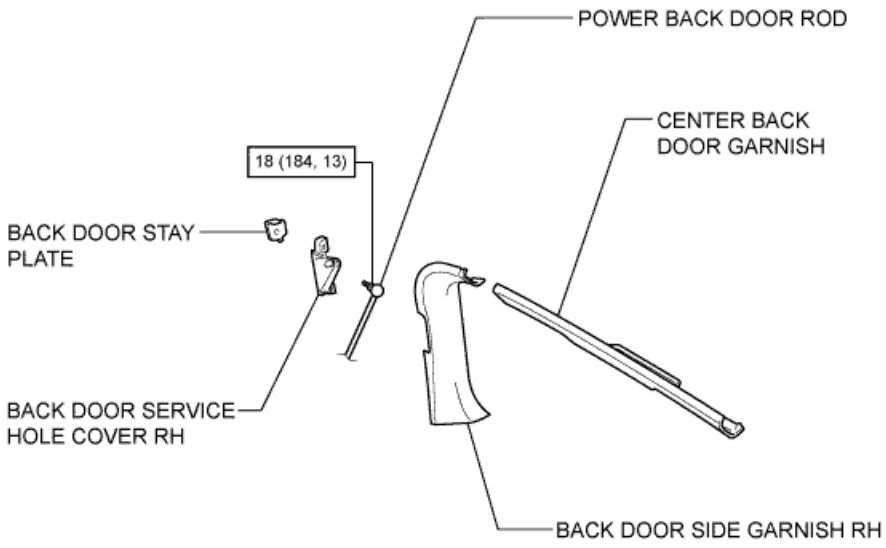
w/ Tonneau Cover:

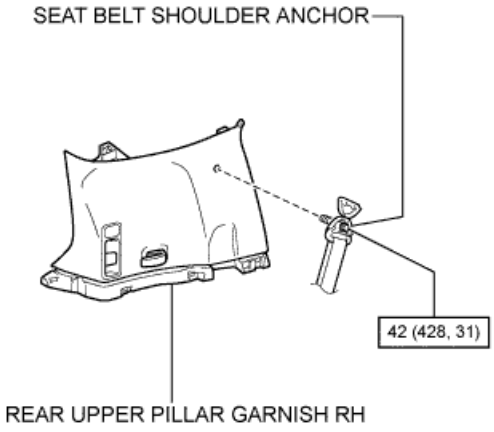



N*m (kgf*cm, ft.*lbf) : Specified torque

T

w/ Power Back Door:

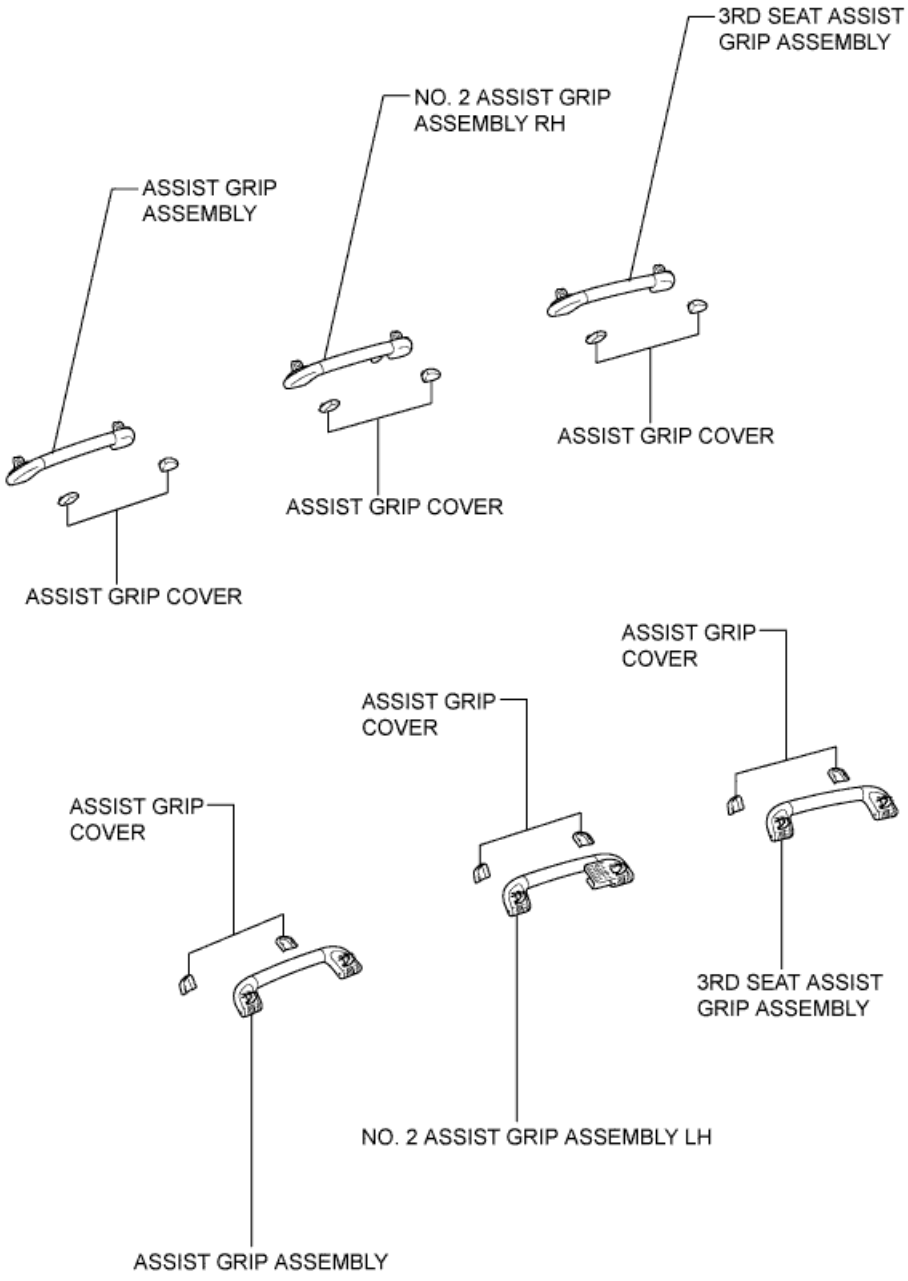


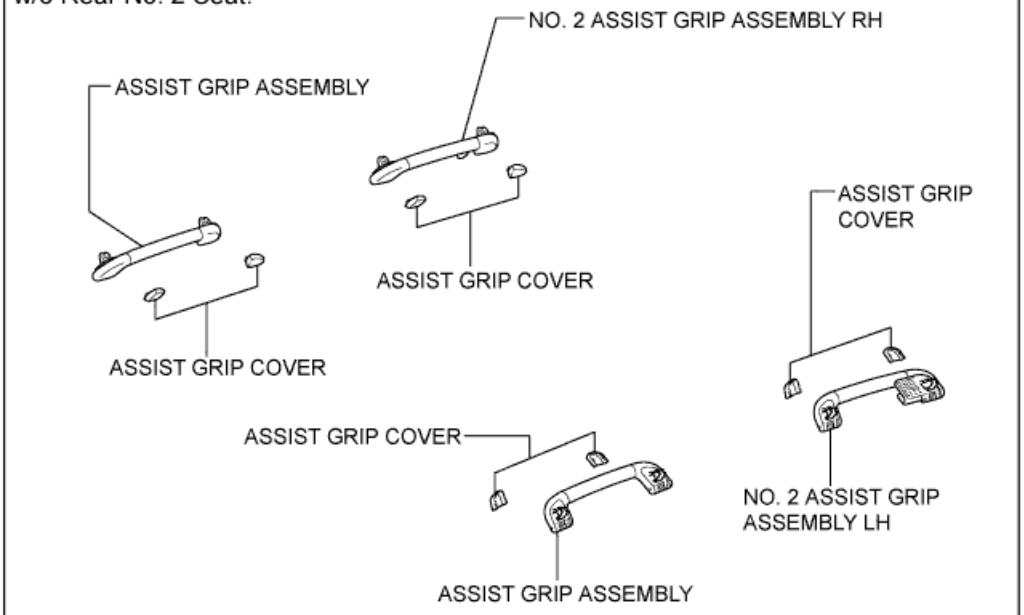

N*m (kgf*cm, ft.*lbf) : Specified torque

T

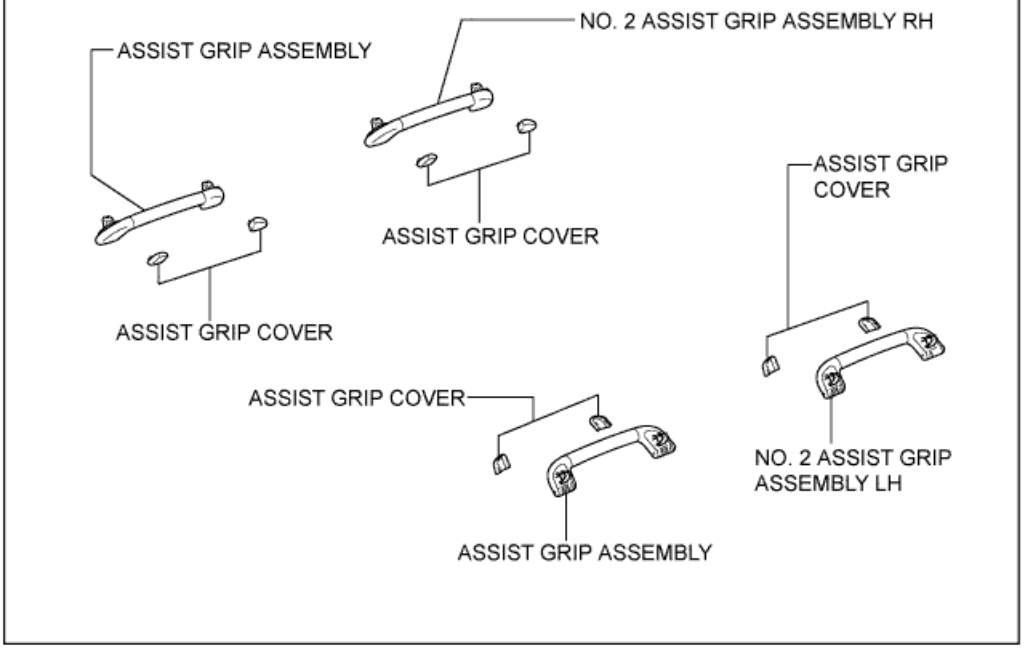
w/ Rear No. 2 Seat, except Face to Face Seat Type:



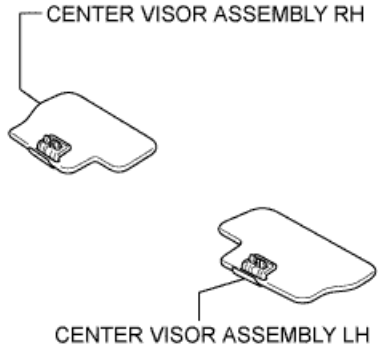
w/o Rear No. 2 Seat:



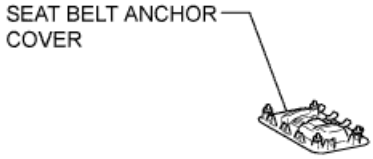

w/ Rear No. 2 Seat, for Face to Face Seat Type:

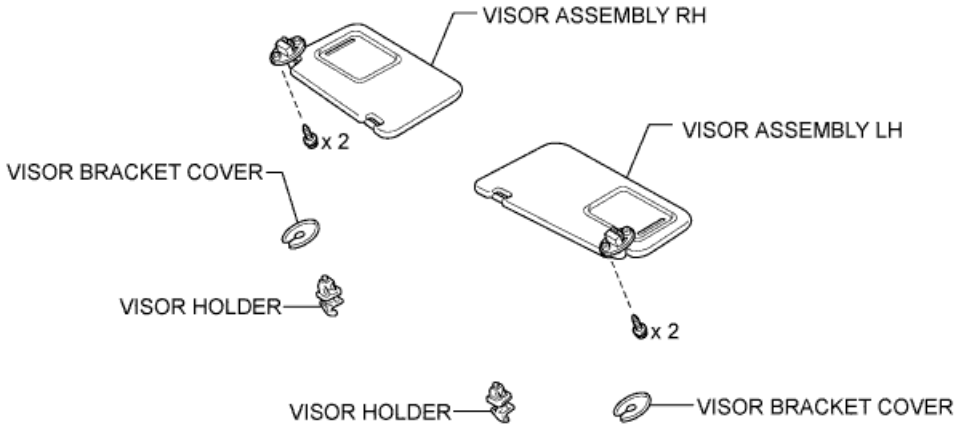


w/ Sub Visor:




for 3 Person Seat Type Rear No. 2 Seat:

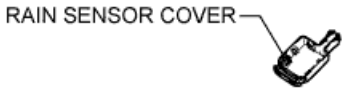



w/ EC Mirror:

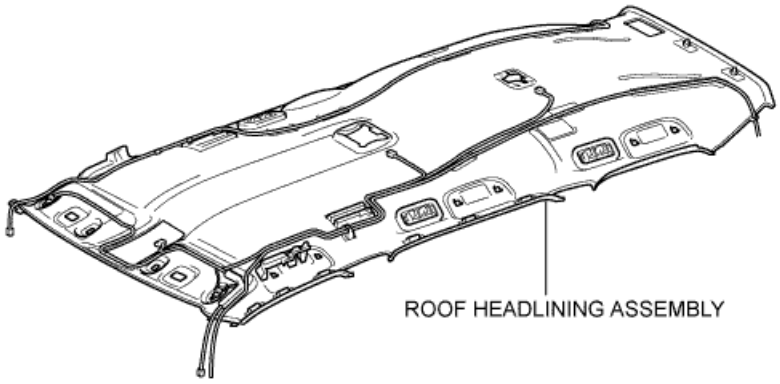



w/ Rain Sensor:

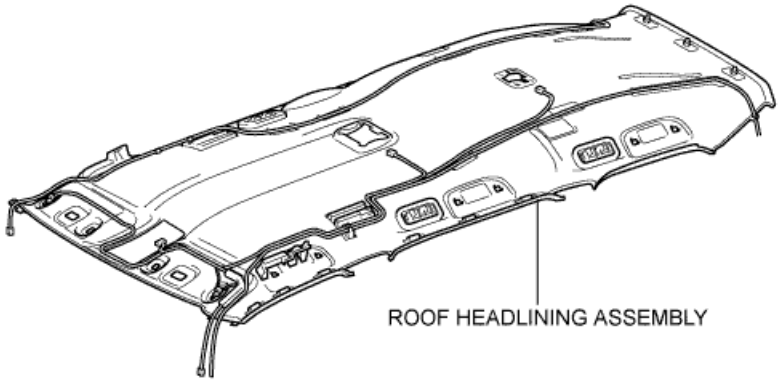


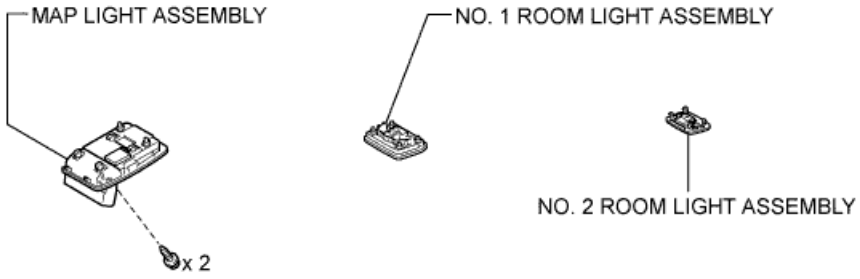
w/ Map Light:

for 3 Person Seat Type Rear No. 2 Seat:

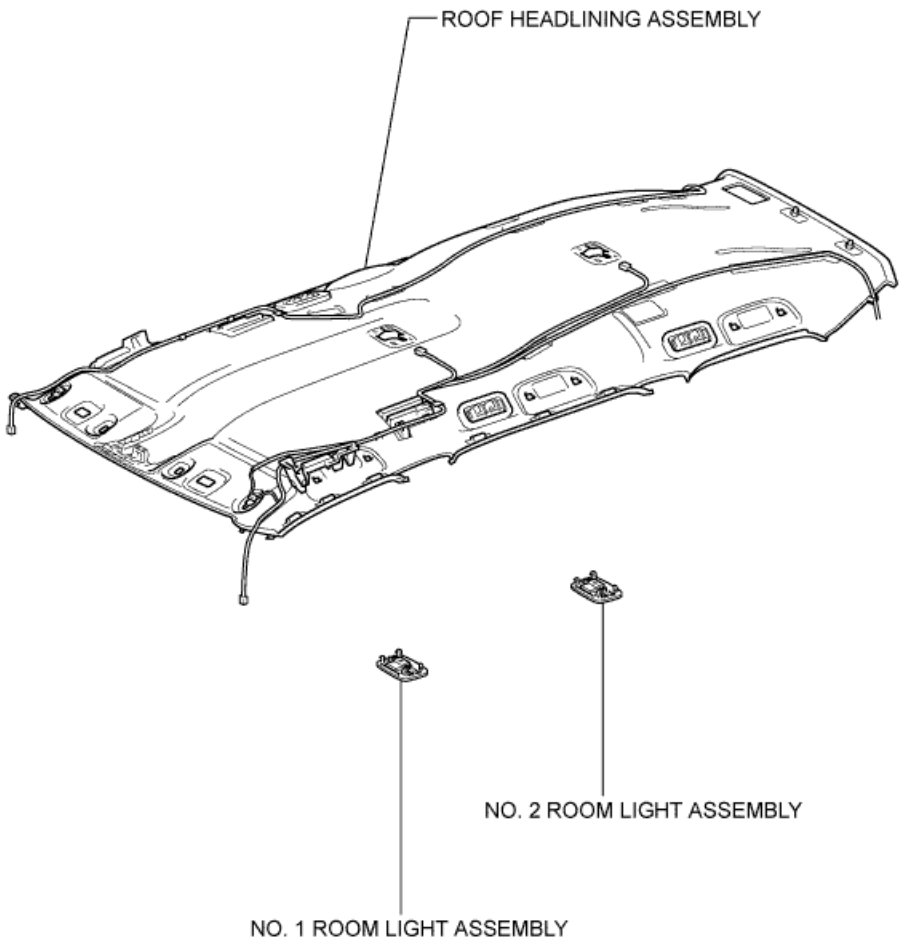



except 3 Person Seat Type Rear No. 2 Seat:

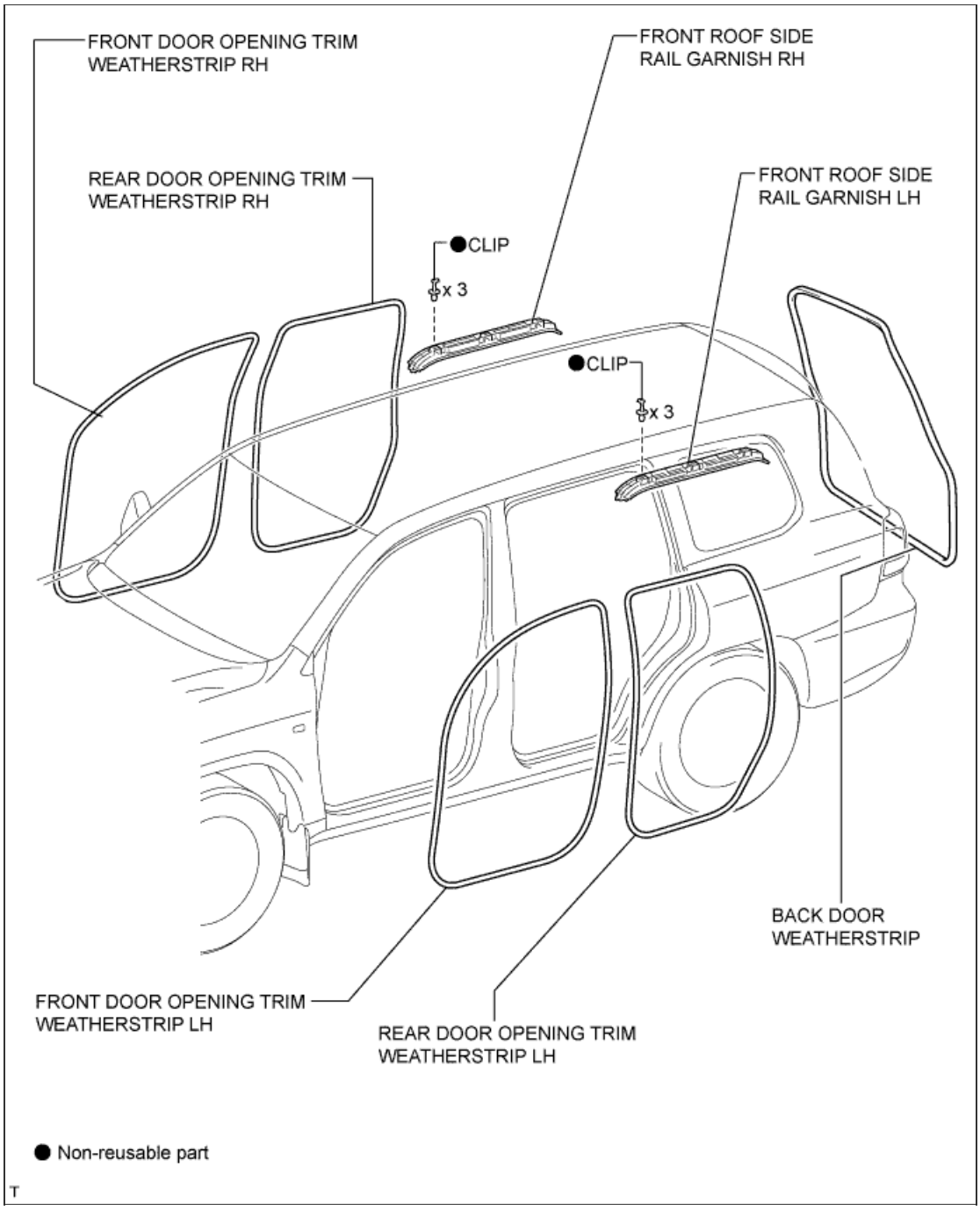


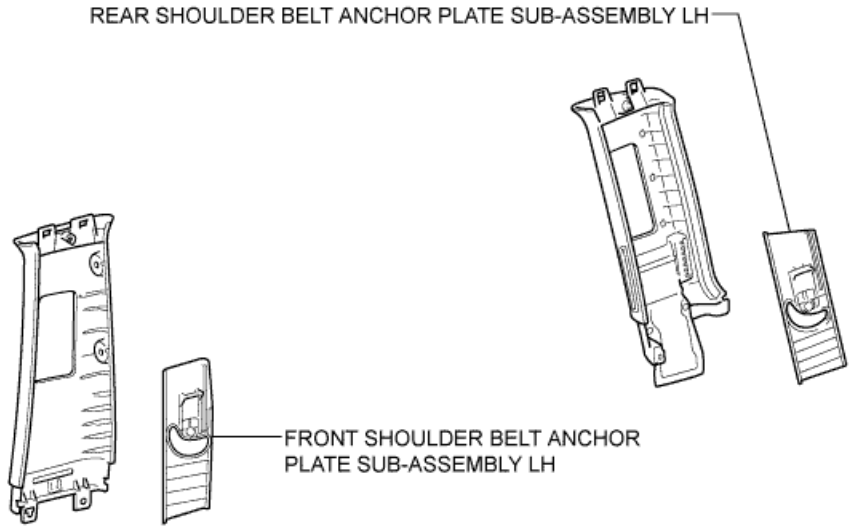
w/o Map Light:



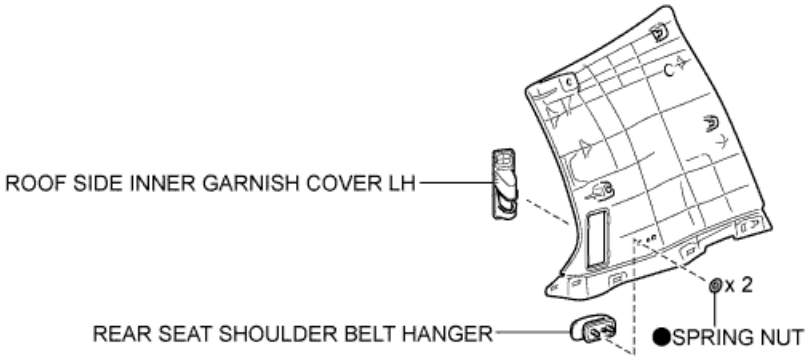

T


FRONT DOOR OPENING TRIM WEATHERSTRIP RH
FRONT ROOF SIDE RAIL GARNISH RH
REAR DOOR OPENING TRIM WEATHERSTRIP RH
FRONT ROOF SIDE RAIL GARNISH LH
●CLIP
x 3
●CLIP
x 3
BACK DOOR WEATHERSTRIP
FRONT DOOR OPENING TRIM WEATHERSTRIP LH
REAR DOOR OPENING TRIM WEATHERSTRIP LH
● Non-reusable part

T

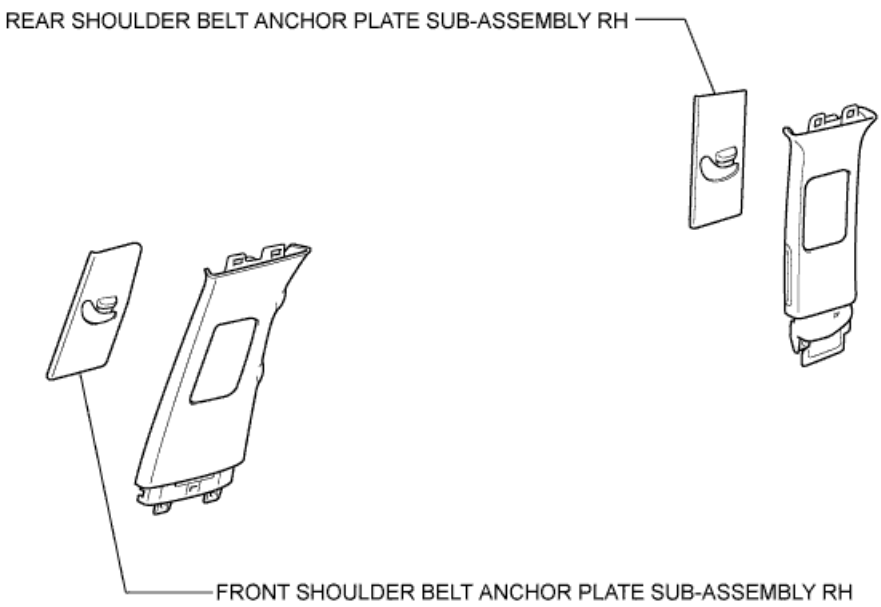



w/ Rear No. 2 Seat, except Face to Face Seat Type:

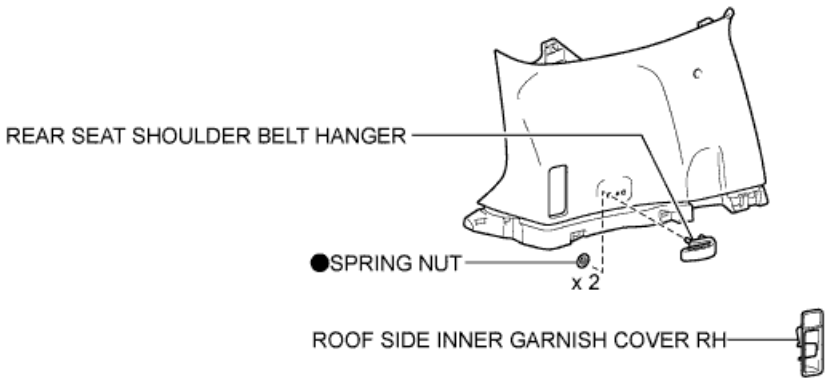



● Non-reusable part

T



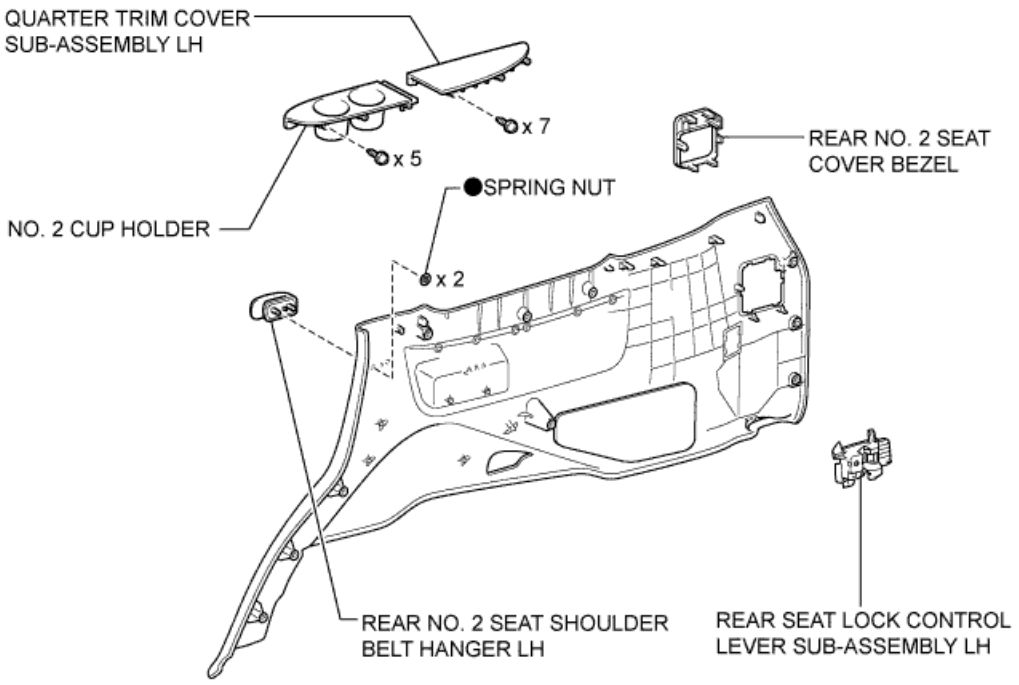

w/ Rear No. 2 Seat, except Face to Face Seat Type:



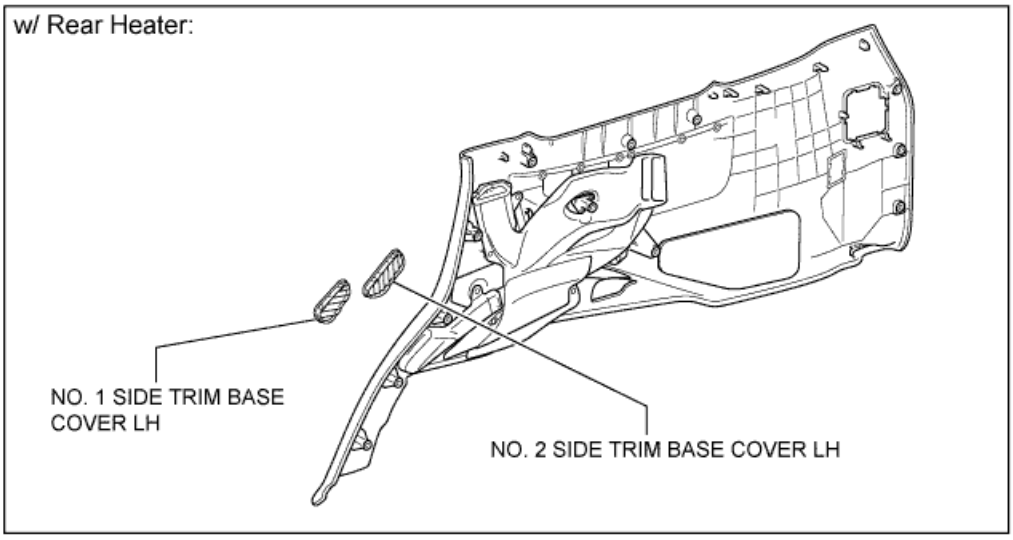

● Non-reusable part

T

w/ Rear No. 2 Seat, except Face to Face Seat Type:

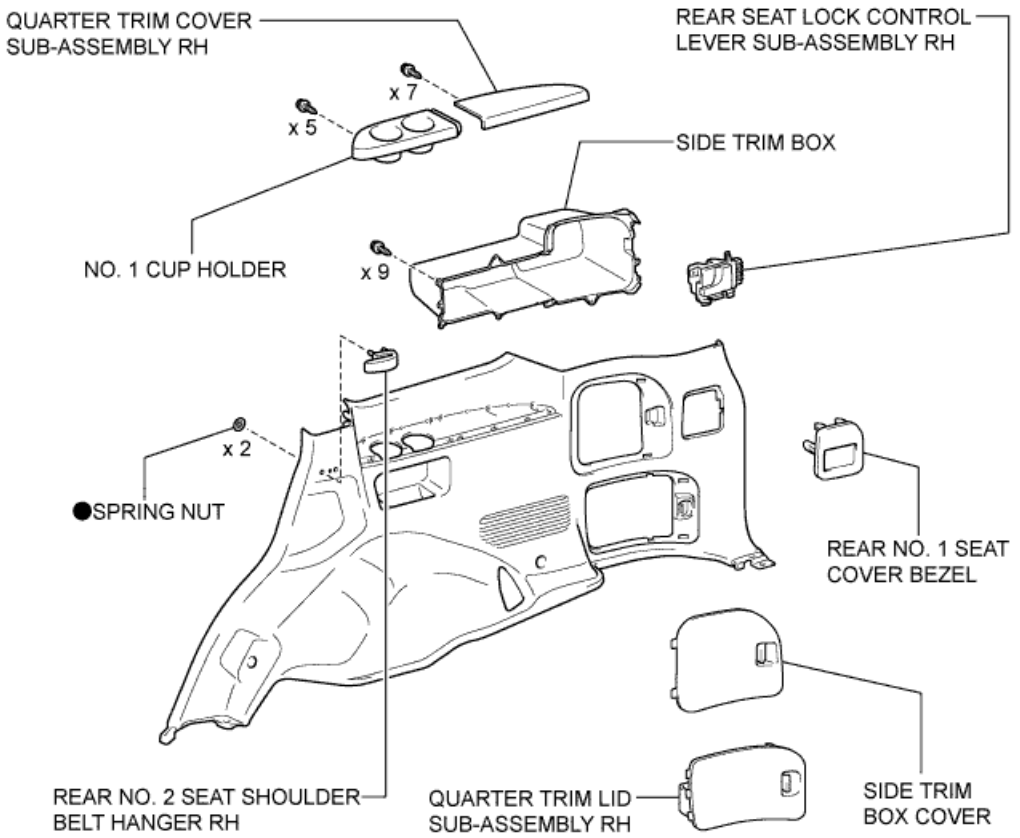



w/ Rear Heater:

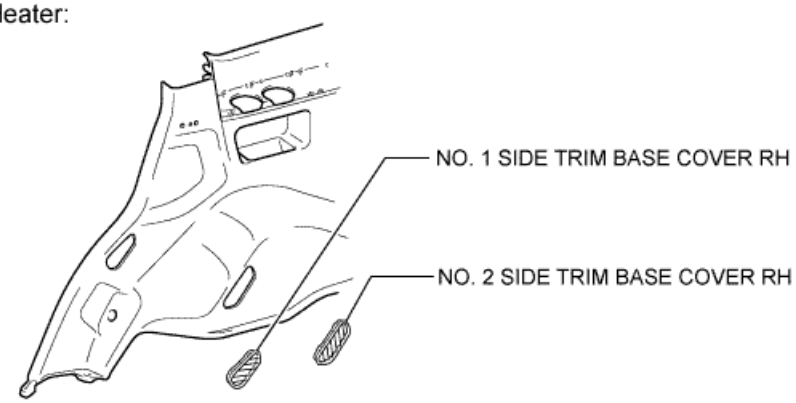



● Non-reusable part

w/ Rear No. 2 Seat, except Face to Face Seat Type:



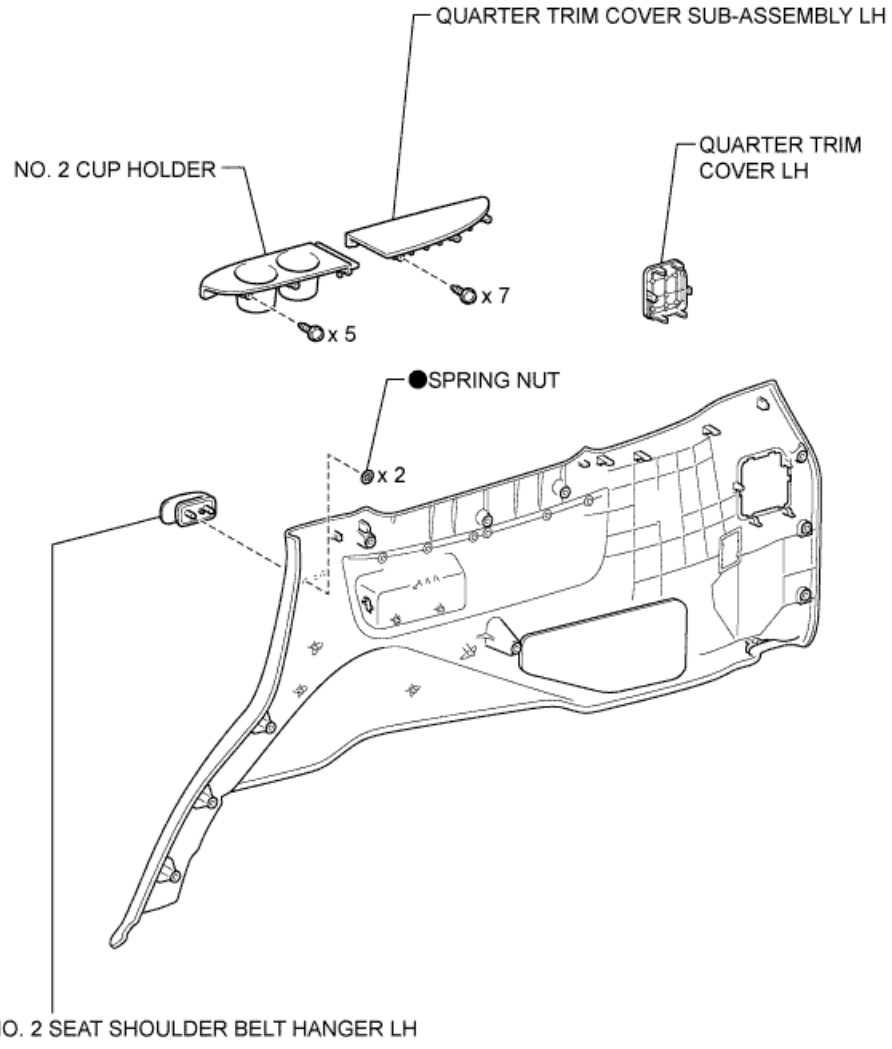

w/ Rear Heater:




● Non-reusable part

w/ Rear No. 2 Seat, for Face to Face Seat Type:

w/o Rear No. 2 Seat:

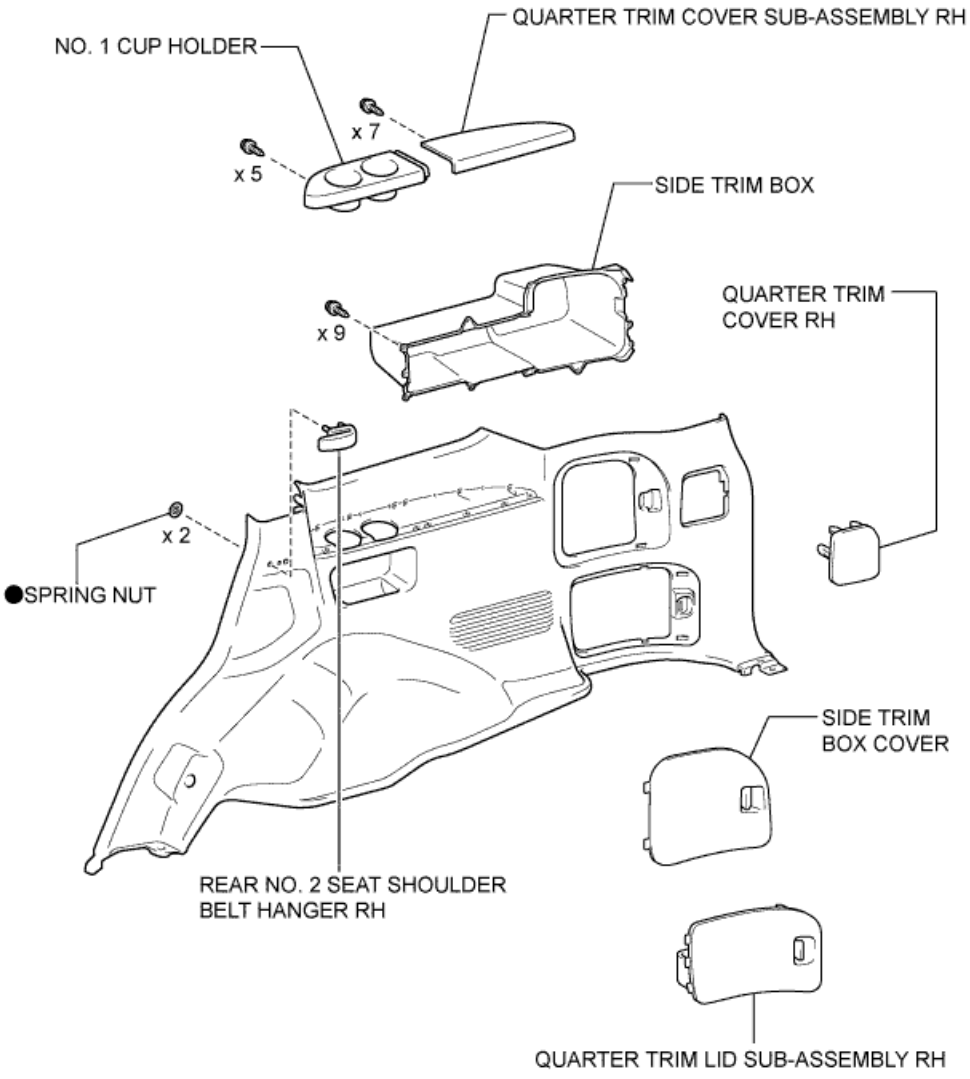



● Non-reusable part

T

w/ Rear No. 2 Seat, for Face to Face Seat Type:

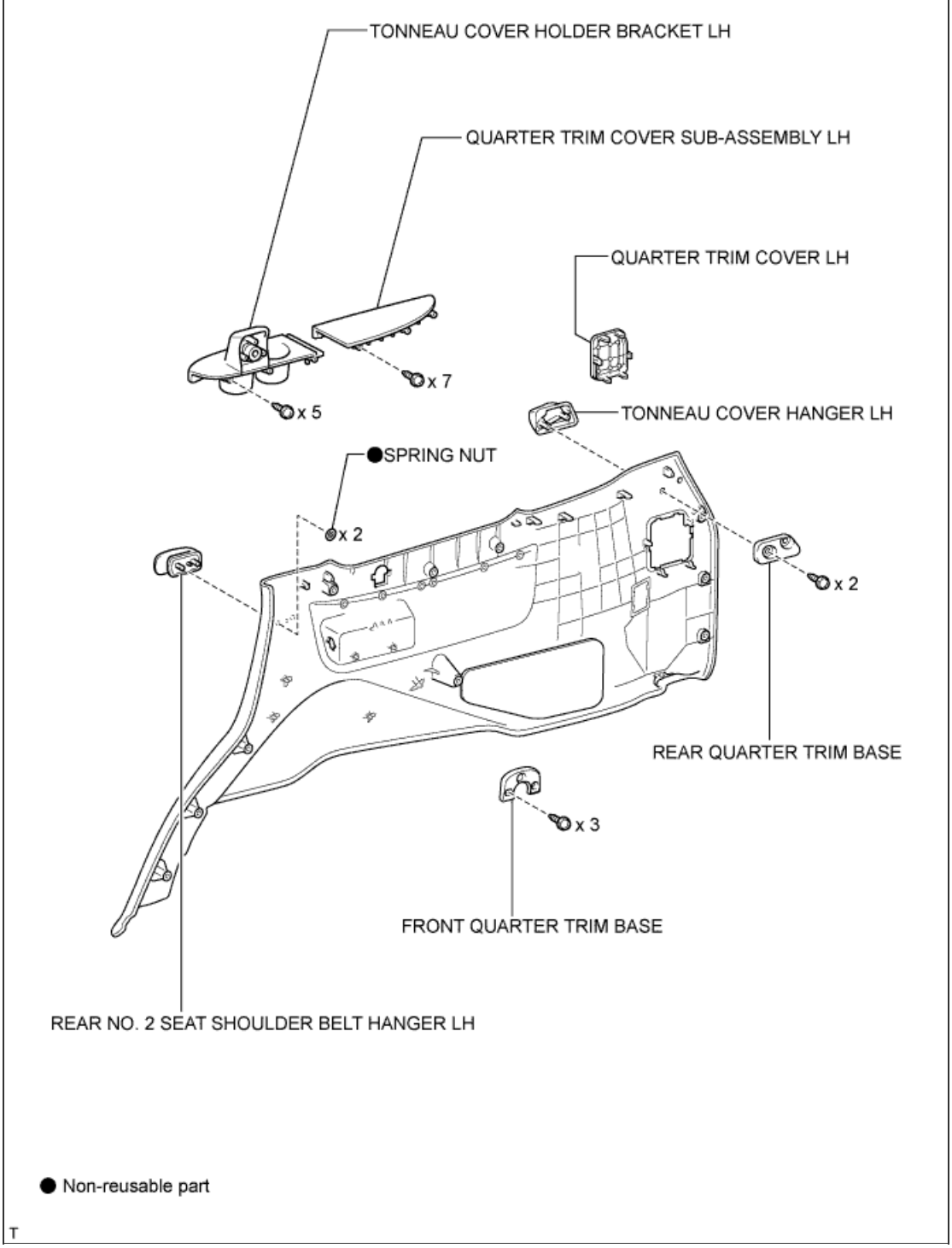
w/o Rear No. 2 Seat:




● Non-reusable part

T

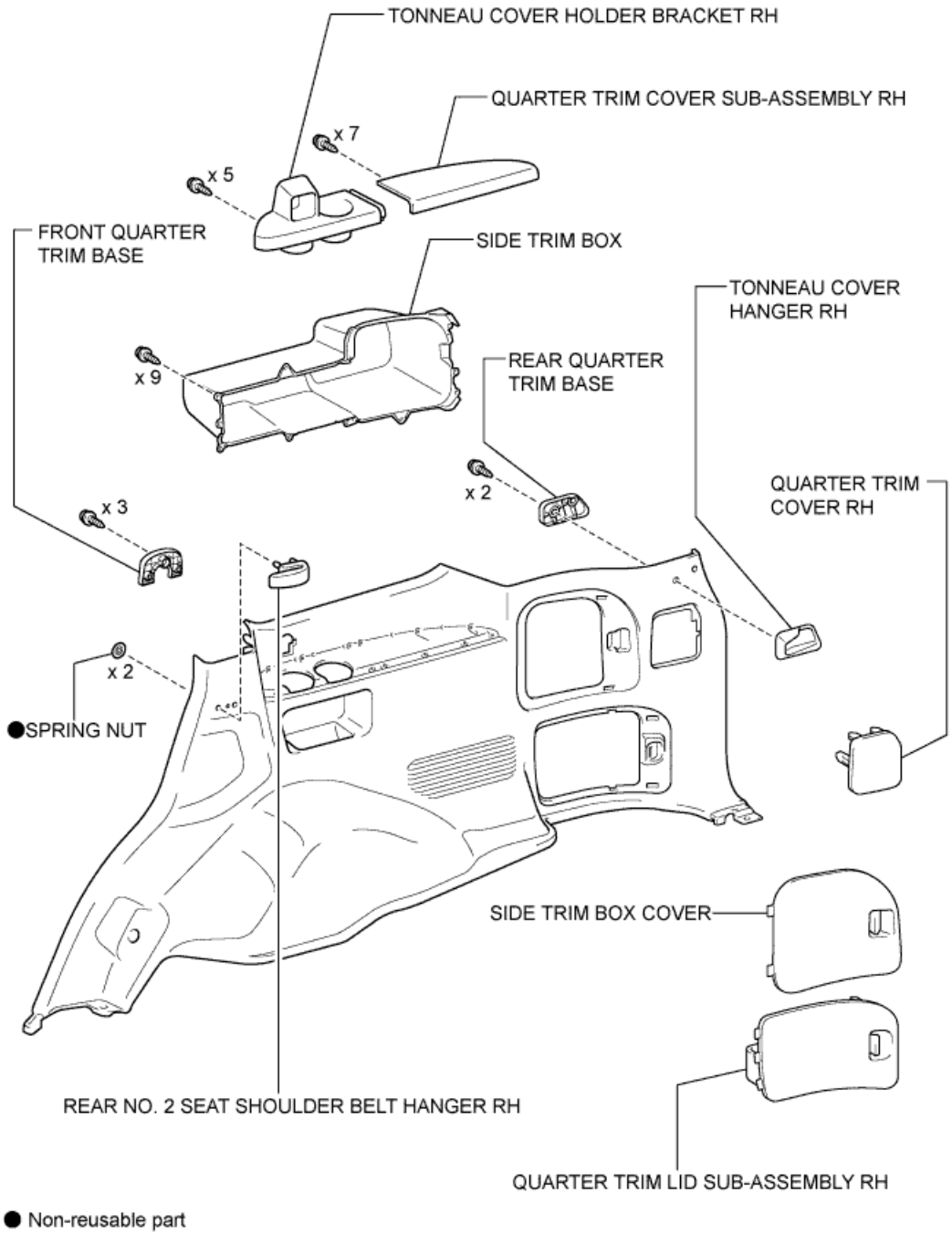
w/ Tonneau Cover:




● Non-reusable part

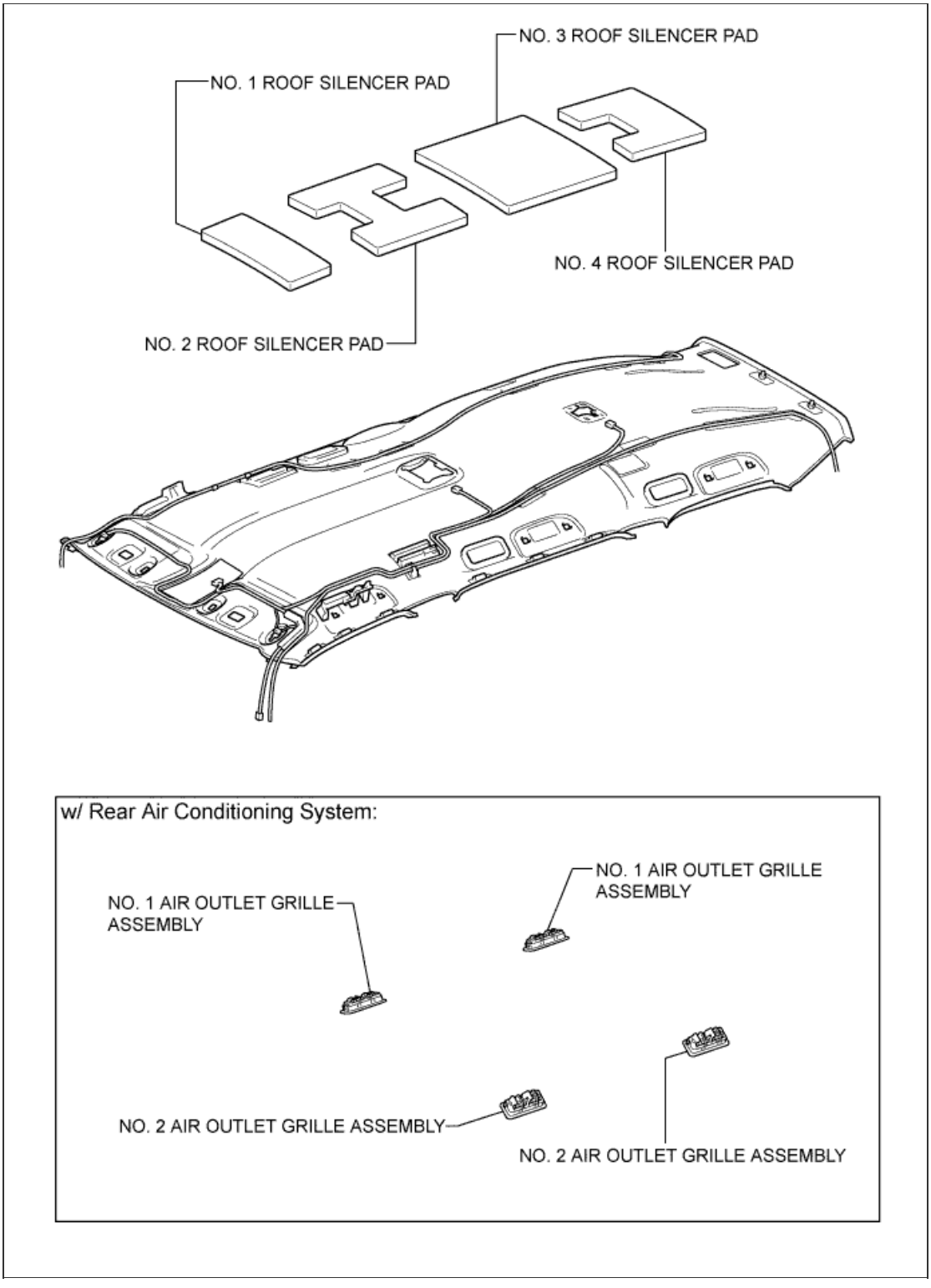
T

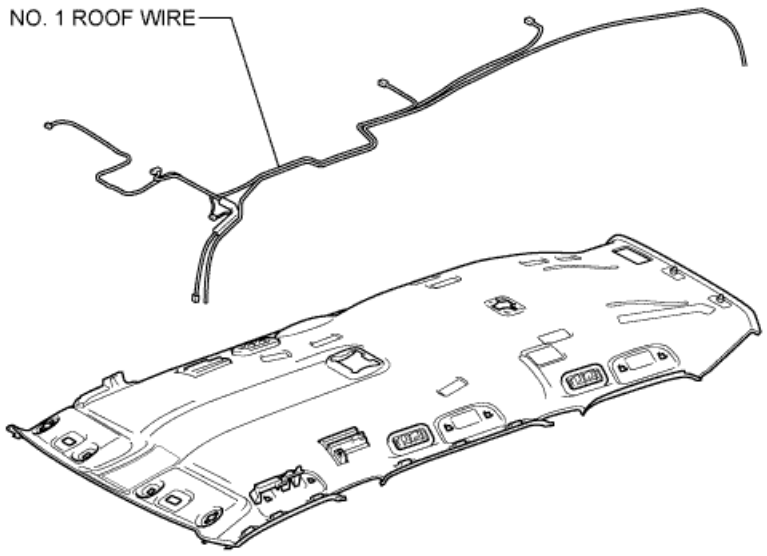
w/ Tonneau Cover:

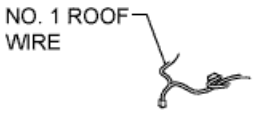
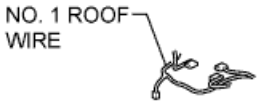
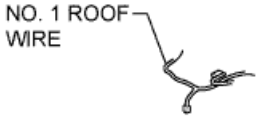
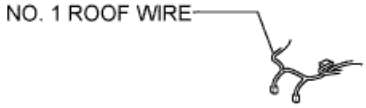
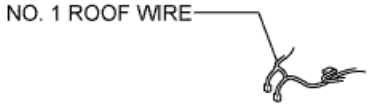



● Non-reusable part

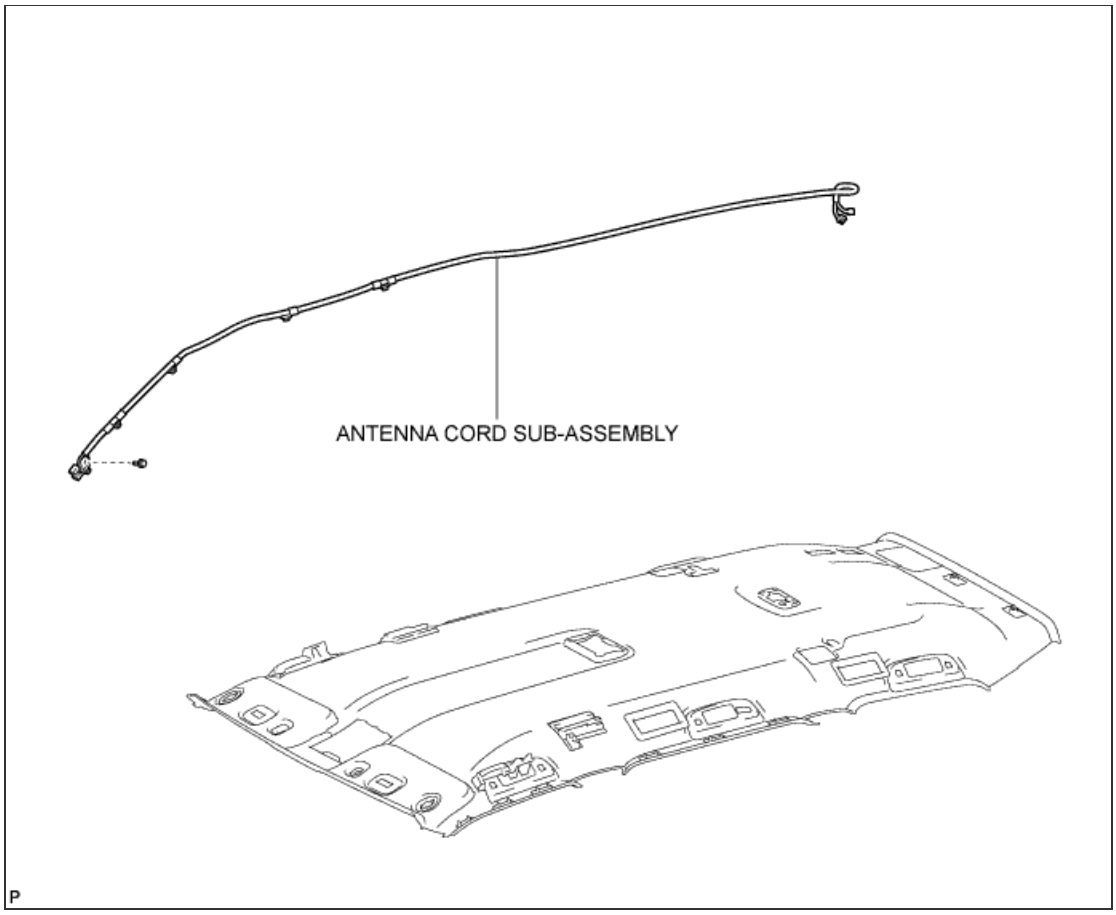
T


NO. 3 ROOF SILENCER PAD
NO. 1 ROOF SILENCER PAD
NO. 4 ROOF SILENCER PAD
NO. 2 ROOF SILENCER PAD
w/ Rear Air Conditioning System:
NO. 1 AIR OUTLET GRILLE ASSEMBLY
NO. 1 AIR OUTLET GRILLE ASSEMBLY
NO. 2 AIR OUTLET GRILLE ASSEMBLY
NO. 2 AIR OUTLET GRILLE ASSEMBLY




| | | |
|---|---|---|
| w/ EC Mirror:<br><br> | for LHD, w/ Rain Sensor:<br><br> | for RHD, w/ Rain Sensor:<br><br> |
| for LHD, w/ Rain Sensor, w/ EC Mirror:<br><br> | for RHD, w/ Rain Sensor, w/ EC Mirror:<br><br> | |

T


ANTENNA CORD SUB-ASSEMBLY
P

**for Preparation** Click here

## 1. PRECAUTION

**NOTICE:**

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 3. REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

a. Remove the tonneau cover.

## 4. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (except Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

## 5. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

## 6. REMOVE REAR NO. 2 SEAT ASSEMBLY LH (for Face to Face Seat Type)

a. Remove the rear No. 2 seat assembly LH ( Click here).

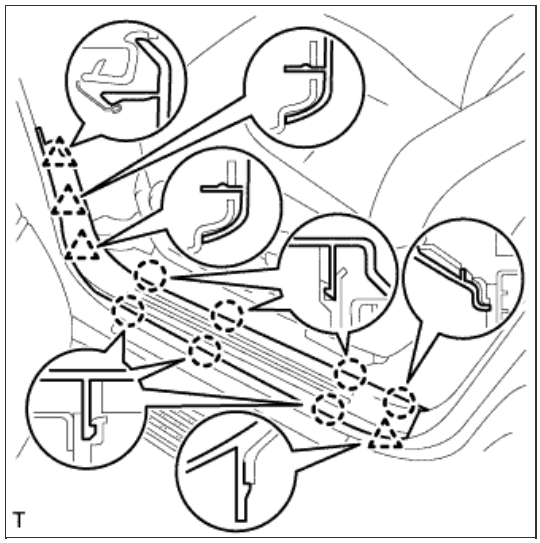
## 7. REMOVE REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

## 8. REMOVE FRONT DOOR SCUFF PLATE LH

a. Detach the 7 claws and 4 clips, and remove the scuff plate.




### 9. REMOVE FRONT DOOR SCUFF PLATE RH

**HINT:**

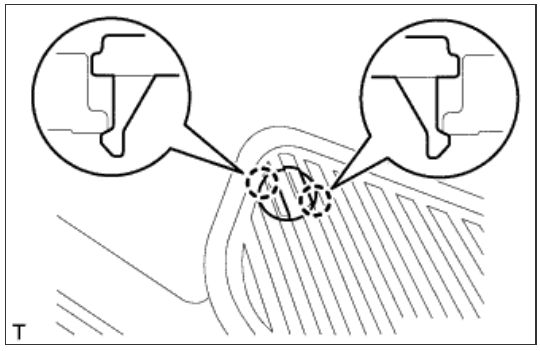
Use the same procedures described for the LH side.

### 10. REMOVE REAR STEP COVER

**HINT:**

Use the same procedure to remove the step cover on the other side.

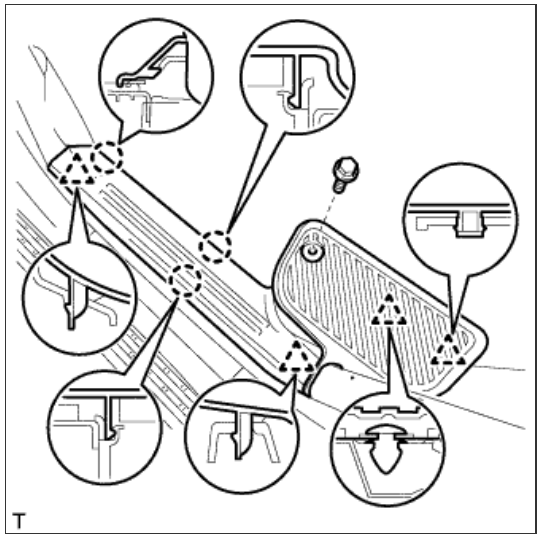
a. Detach the 2 claws and remove the step cover.




### 11. REMOVE REAR DOOR SCUFF PLATE LH

a. Remove the screw.

b. Detach the 3 claws and 4 clips, and remove the scuff plate.



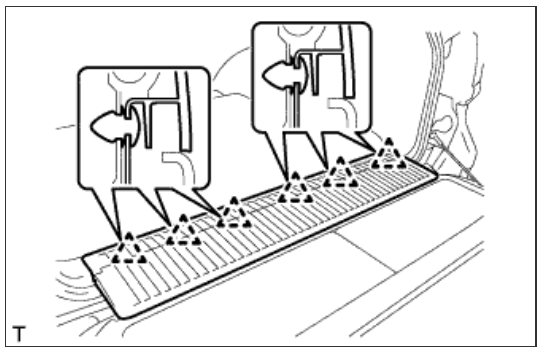

### 12. REMOVE REAR DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

## 13. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and remove the support plate.

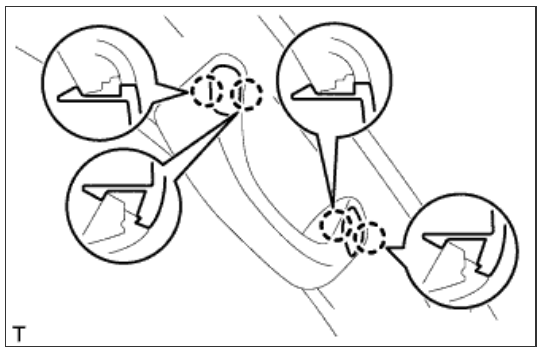



## 14. REMOVE FRONT ASSIST GRIP SUB-ASSEMBLY

**HINT:**

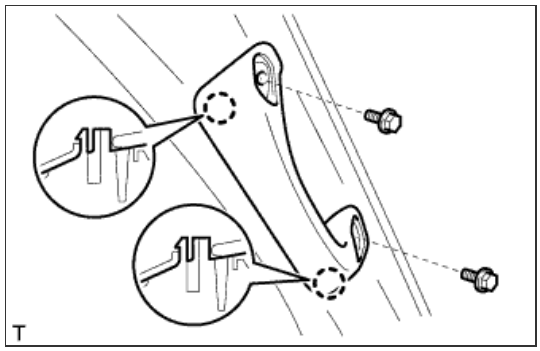
Use the same procedure to remove the front assist grip on the other side.

a. Detach the 4 claws and remove the 2 assist grip plugs.




b. Remove the 2 bolts.

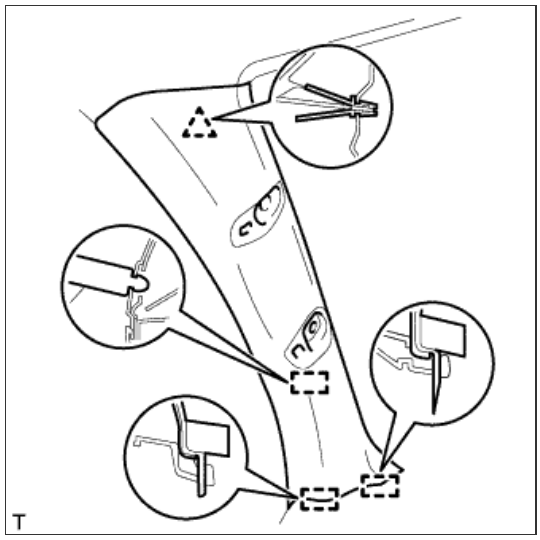
c. Detach the 2 claws and remove the front assist grip.




## 15. REMOVE FRONT PILLAR GARNISH LH

a. Detach the clip and 3 guides, and remove the front pillar garnish.

b. for 9, 14 Speakers:
Disconnect the speaker connector and then remove the front pillar garnish.

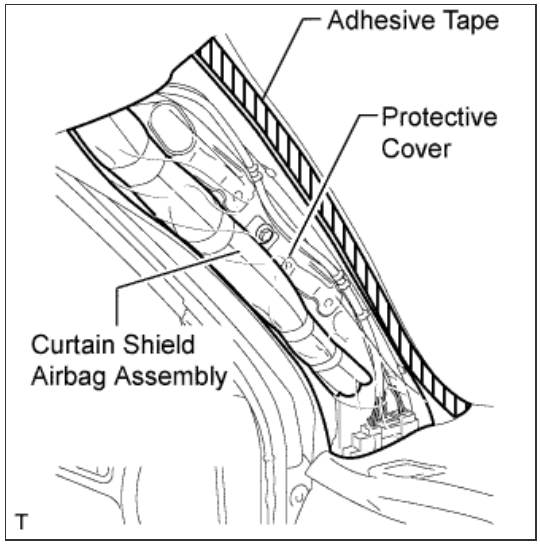



c. Protect the curtain shield airbag.

i. Thoroughly cover the airbag with a cloth or nylon sheet and fix the ends of the cover with adhesive tape, as shown in the illustration.

**NOTICE:**

Cover the curtain shield airbag with a protective cover as soon as the front pillar garnish is removed.




## 16. REMOVE FRONT PILLAR GARNISH RH

**HINT:**

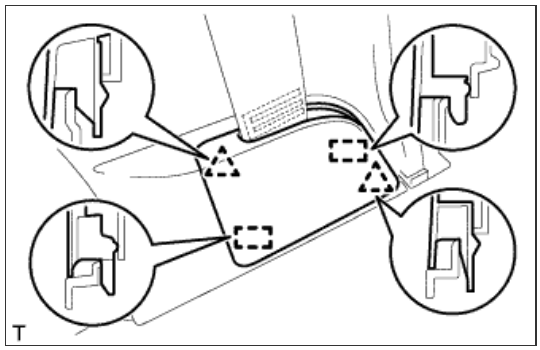
Use the same procedures described for the LH side.

## 17. REMOVE CENTER PILLAR GARNISH COVER LH

**HINT:**

- **for Manual Seat:**
  **When removing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When removing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Detach the 2 clips and 2 guides, and remove the cover.




## 18. REMOVE CENTER PILLAR GARNISH COVER RH

**HINT:**

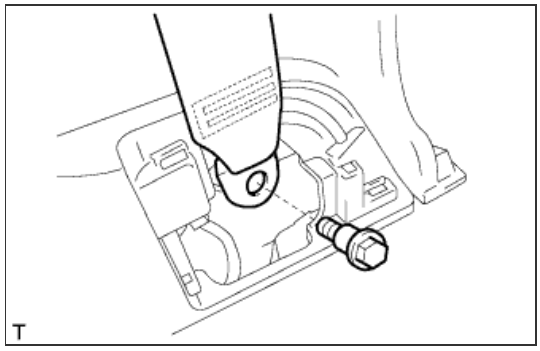
Use the same procedures described for the LH side.

## 19. REMOVE CENTER LOWER PILLAR GARNISH LH

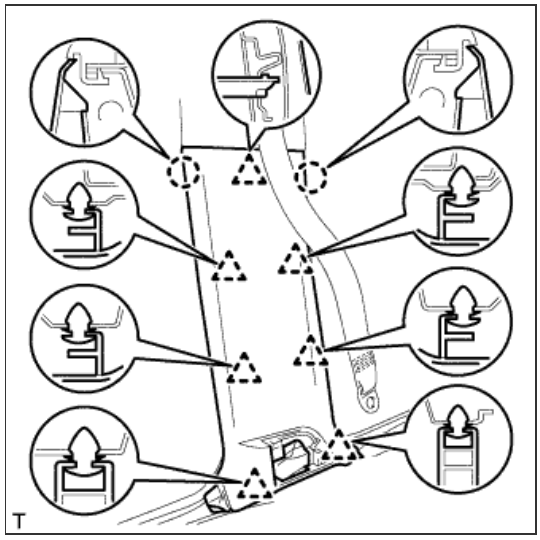
**HINT:**

- **for Manual Seat:**
  **When removing the center lower pillar garnish, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When removing the center lower pillar garnish, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Remove the bolt and seat belt anchor.




b. Detach the 2 claws and 7 clips, and remove the center lower pillar garnish.




## 20. REMOVE CENTER LOWER PILLAR GARNISH RH

**HINT:**

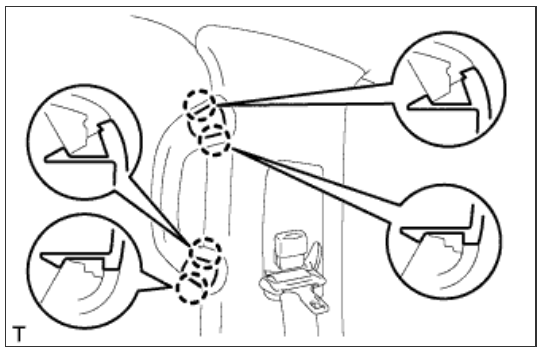
Use the same procedures described for the LH side.

## 21. REMOVE REAR ASSIST GRIP ASSEMBLY

**HINT:**

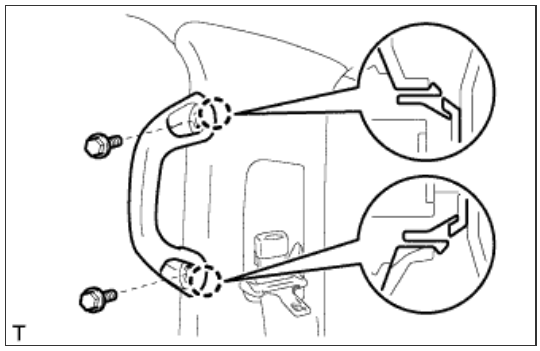
Use the same procedure to remove the rear assist grip on the other side.

a. Detach the 4 claws and remove the 2 assist grip plugs.




b. Remove the 2 bolts.

c. Detach the 2 claws and remove the rear assist grip.

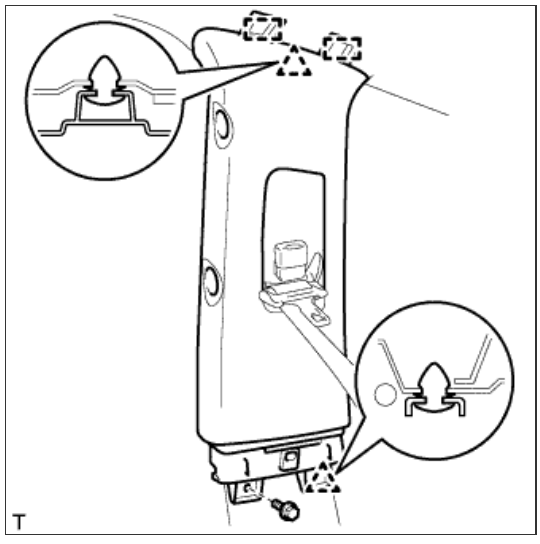



## 22. REMOVE CENTER PILLAR GARNISH LH

a. Remove the bolt.

b. Detach the 2 clips and 2 guides.

c. Pass the seat belt anchor through the center pillar garnish, and remove the center pillar garnish.




## 23. REMOVE CENTER PILLAR GARNISH RH

**HINT:**

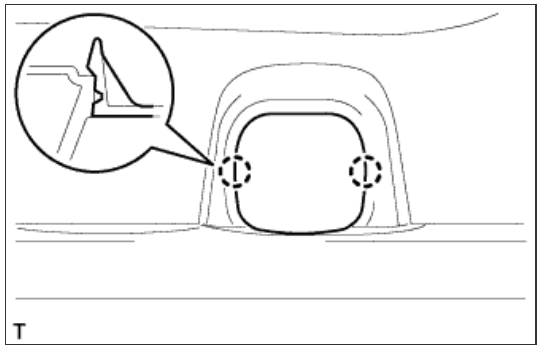
Use the same procedures described for the LH side.

## 24. REMOVE NO. 1 TONNEAU COVER HOLDER CAP (w/ Tonneau Cover)

**HINT:**

Use the same procedure to remove the tonneau cover holder cap on the other side.

a. Detach the 2 claws and remove the tonneau cover holder cap.




## 25. REMOVE REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

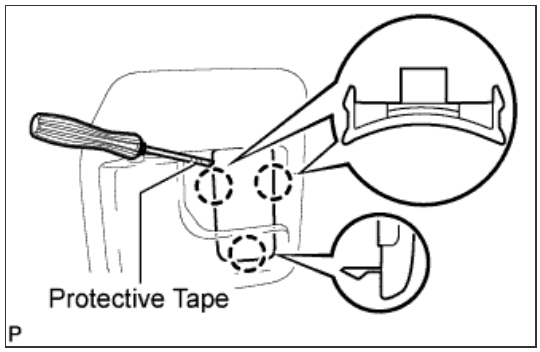
**HINT:**

Use the same procedure to remove the rear seat cover cap on the other side.

a. Using a screwdriver, detach the 3 claws and remove the rear seat cover cap.

**HINT:**

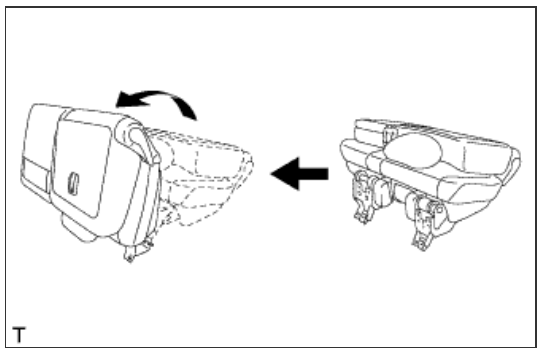
Tape the screwdriver tip before use.



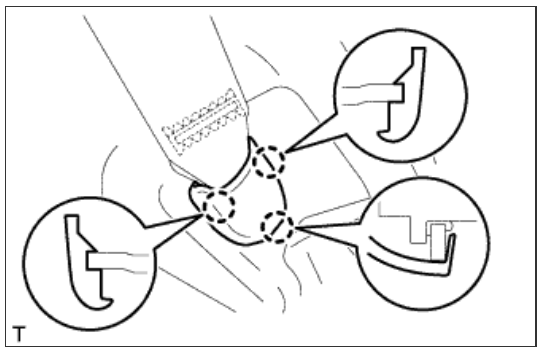

## 26. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

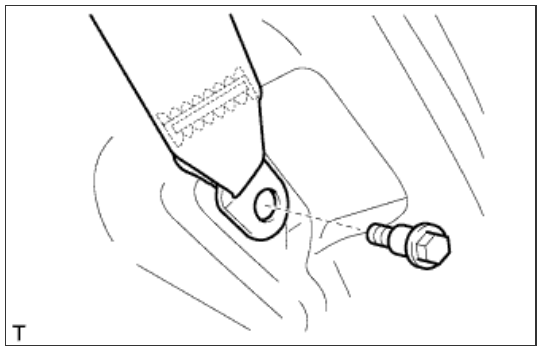
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



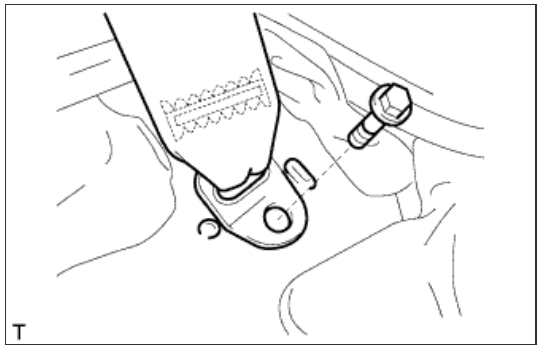

a. Detach the 3 claws and remove the cover.




b. Remove the bolt and rear No. 1 seat belt anchor.




c. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Remove the bolt and rear No. 2 seat belt anchor.



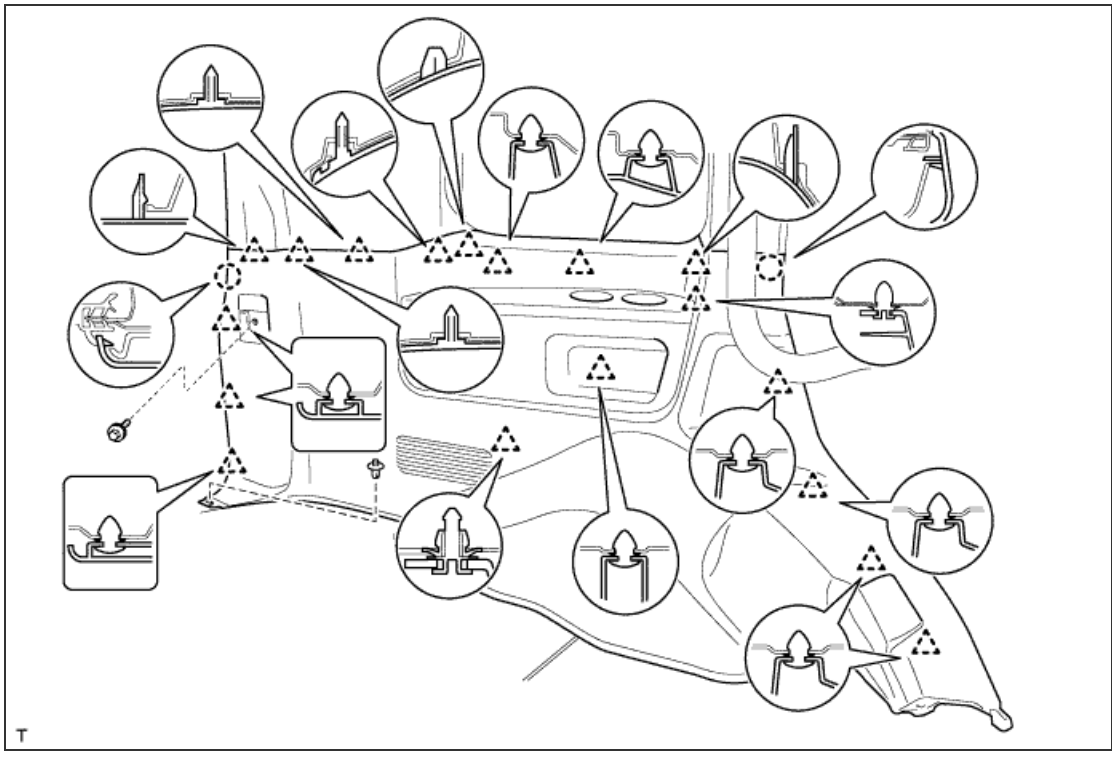

d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Remove the clip and bolt.

ii. Detach the 18 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

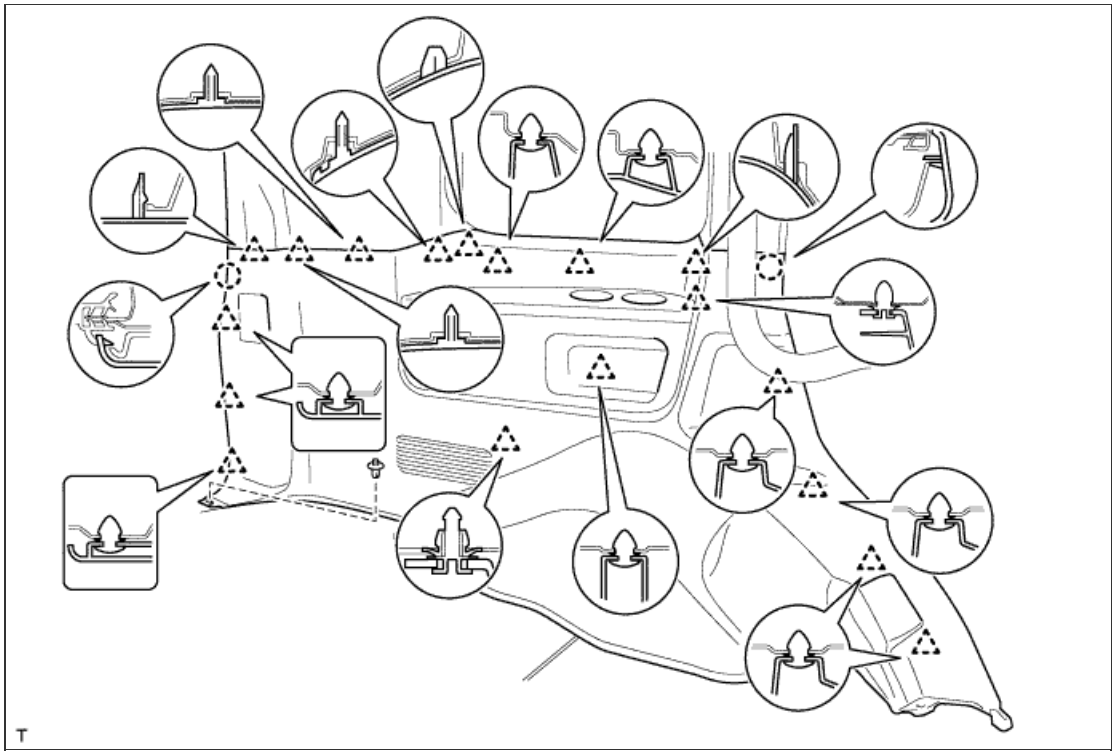
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.



e. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Remove the clip.

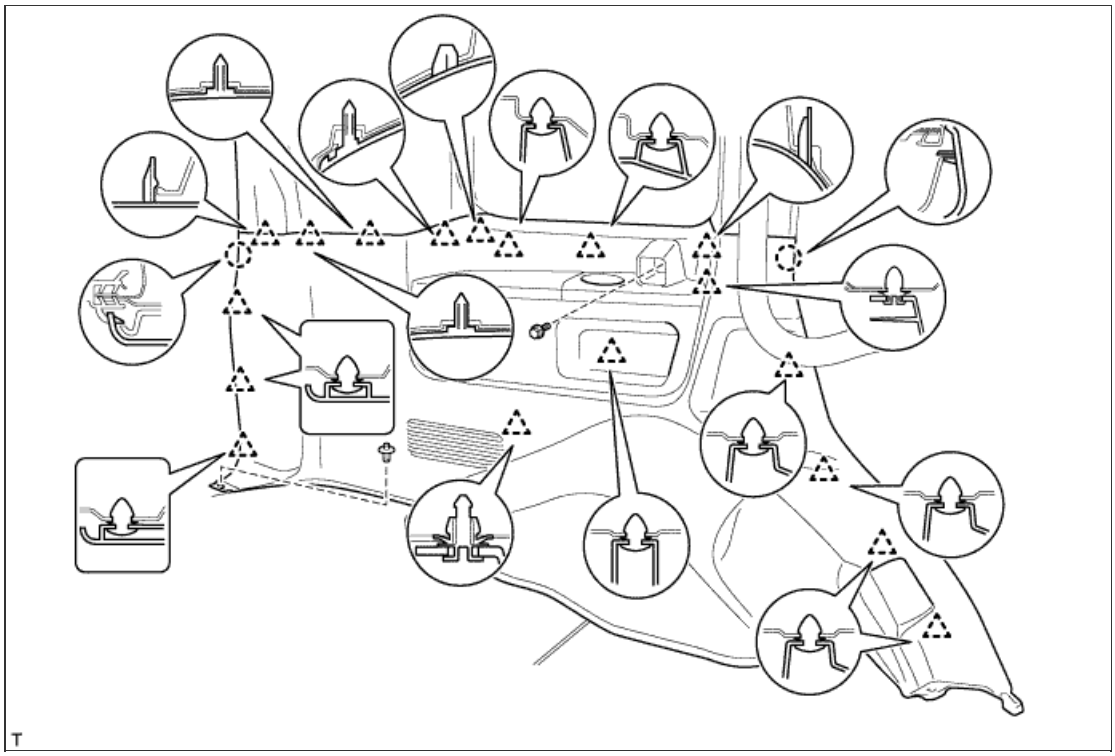
ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.




f. w/ Tonneau Cover:

i. Remove the screw and clip.

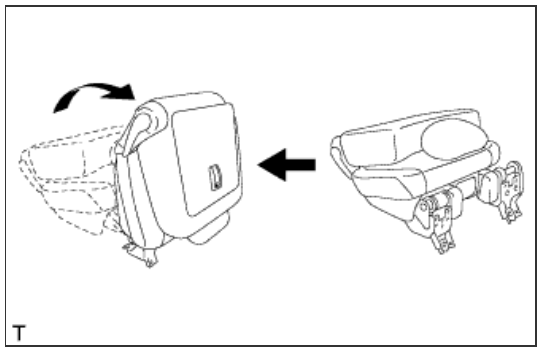
ii. Detach the 18 clips and 2 claws, and remove the quarter trim panel.



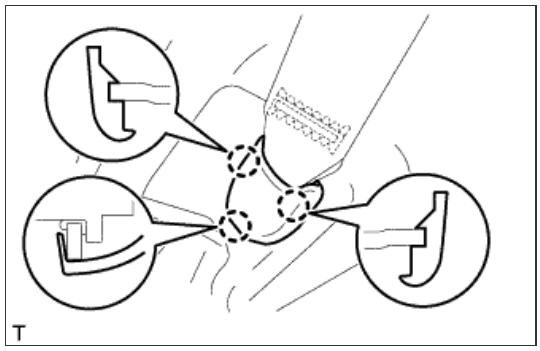

## 27. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

**HINT:**

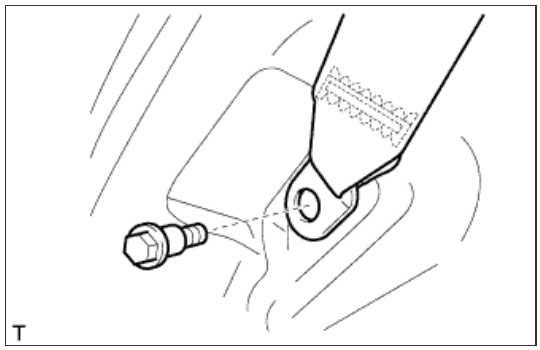
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. Detach the 3 claws and remove the cover.

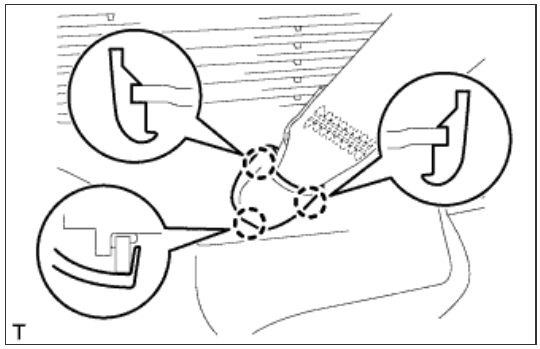



b. Remove the bolt and rear No. 1 seat belt anchor.

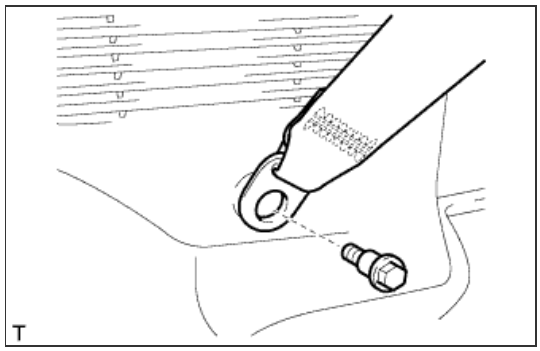



c. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Detach the 3 claws and remove the cover.




ii. Remove the bolt and rear No. 2 seat belt anchor.



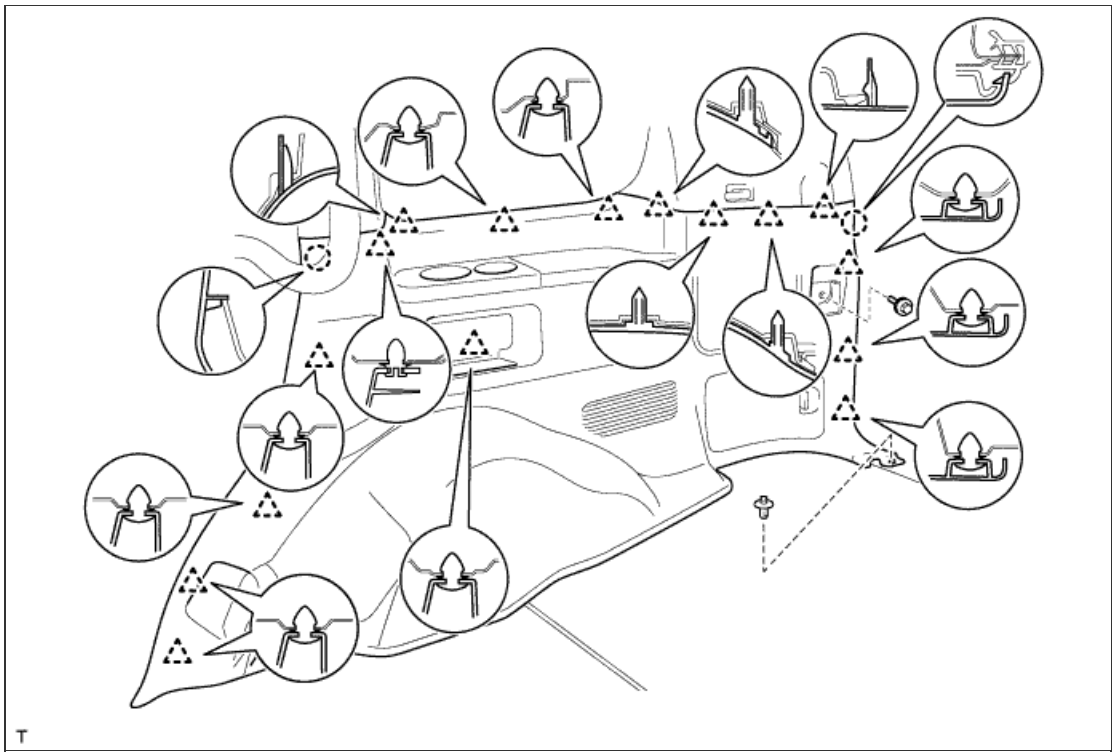

d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Remove the clip and bolt.

ii. Detach the 16 clips and 2 claws.

iii. w/o Rear Air Conditioning System:
Disconnect the rear seat lock control lever cable and then remove the quarter trim panel.

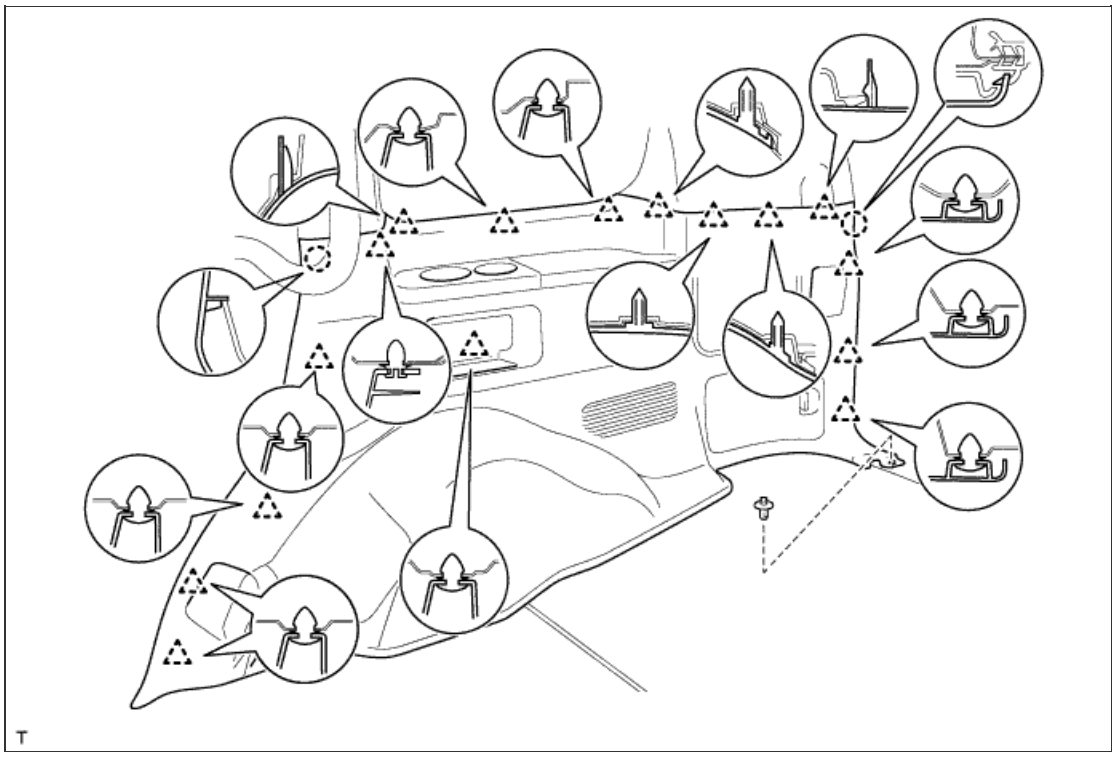
iv. w/ Rear Air Conditioning System:
Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.




e. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Remove the clip.

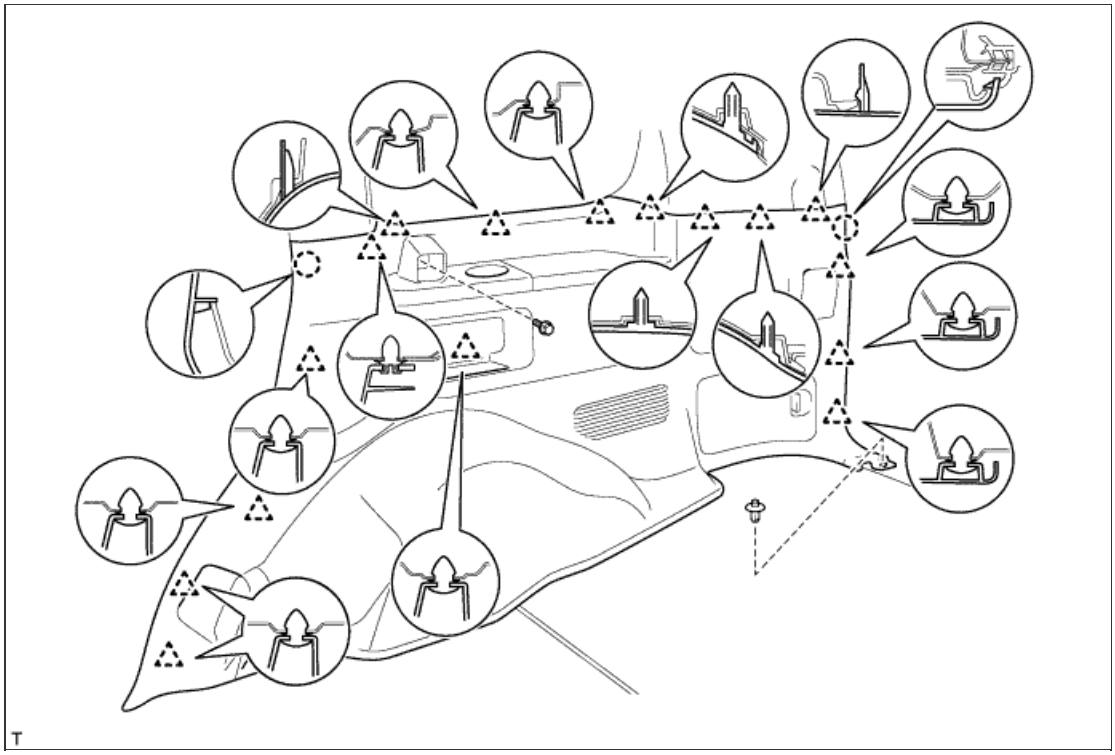
ii. Detach the 16 clips and 2 claws, and remove the quarter trim panel.




f. w/ Tonneau Cover:

i. Remove the screw and clip.

ii. Detach the 16 clips and 2 claws, and remove the quarter trim panel.

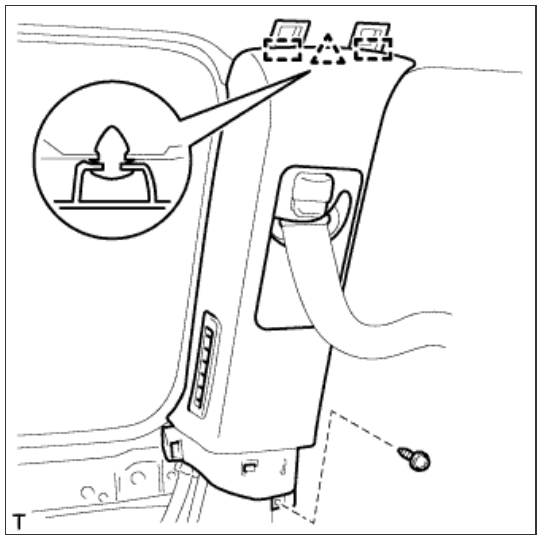



## 28. REMOVE REAR FRONT QUARTER TRIM GARNISH LH

a. Remove the screw.

b. Detach the clip and 2 guides.

c. Pass the seat belt anchor through the quarter trim garnish, and remove the quarter trim garnish.




## 29. REMOVE REAR FRONT QUARTER TRIM GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

## 30. REMOVE REAR UPPER PILLAR GARNISH LH

a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

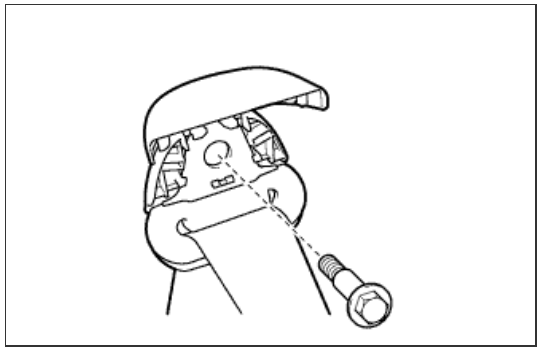
i. Using a screwdriver, detach the 2 claws and open the seat belt shoulder anchor cover.

**HINT:**

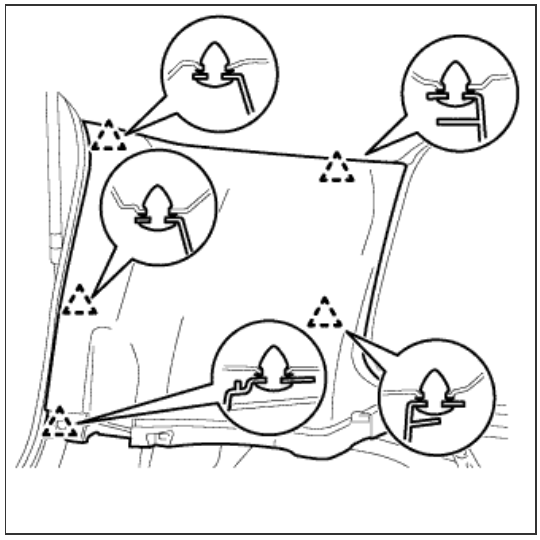
Tape the screwdriver tip before use.




ii. Remove the bolt and seat belt shoulder anchor.

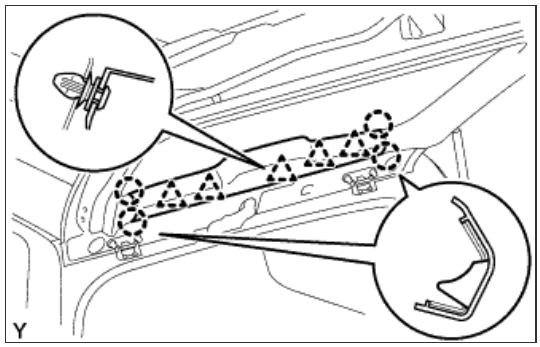


b. Detach the 5 clips and remove the rear upper pillar garnish.



## 31. REMOVE CENTER BACK DOOR GARNISH (w/ Power Back Door)

a. Detach the 5 clips and 4 claws, and remove the center back door garnish.



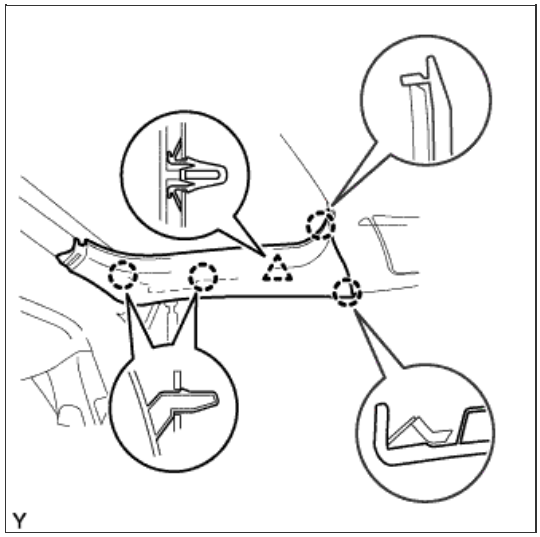

## 32. REMOVE BACK DOOR SIDE GARNISH RH (w/ Power Back Door)

a. w/o Power Back Door:

**HINT:**

Use the same procedure described for the LH side.

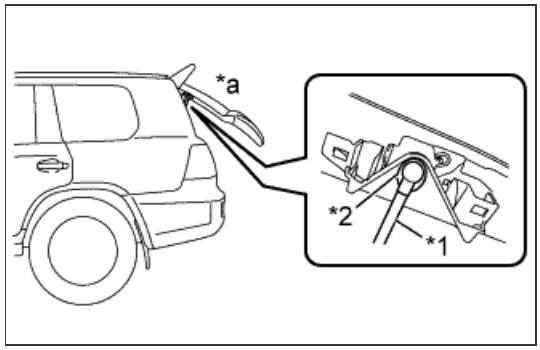
b. w/ Power Back Door:




i. Detach the clip and 4 claws, and remove the back door side garnish RH.

## 33. REMOVE BACK DOOR SERVICE HOLE COVER RH (w/ Power Back Door)

a. Move the back door to a half-open position so that the hole in the center of the back door service hole cover RH is aligned lengthwise with the power back door rod.




**Text in Illustration**

| | |
|---|---|
| *1 | Power Back Door Rod |
| *2 | Hole of Back Door Service Hole Cover RH |
| *a | Back Door is Half-open |

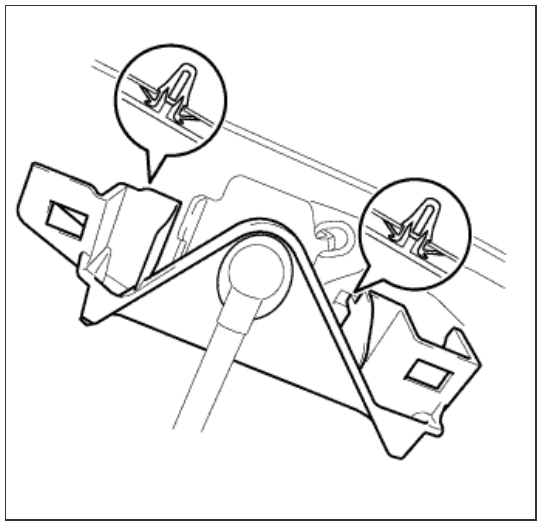
b. Detach the 2 clips and separate the back door service hole cover RH, passing the power back door rod through the hole of the back door service hole cover RH.

**NOTICE:**

If the back door is in a fully-open position, the power back door rod will interfere with the hole of the back door service hole cover RH, so do not perform this operation with the back door in a fully open position.

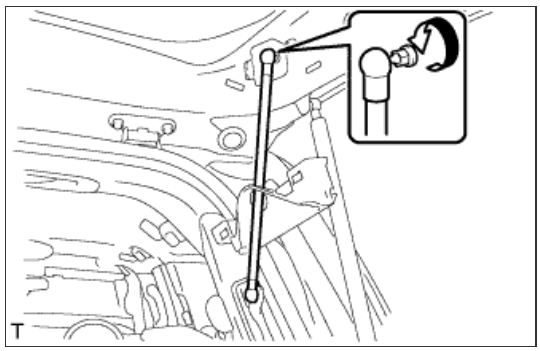
**HINT:**

If any of the clips have remained on the back door, remove the clips from the back door and install them to the back door service hole cover RH.



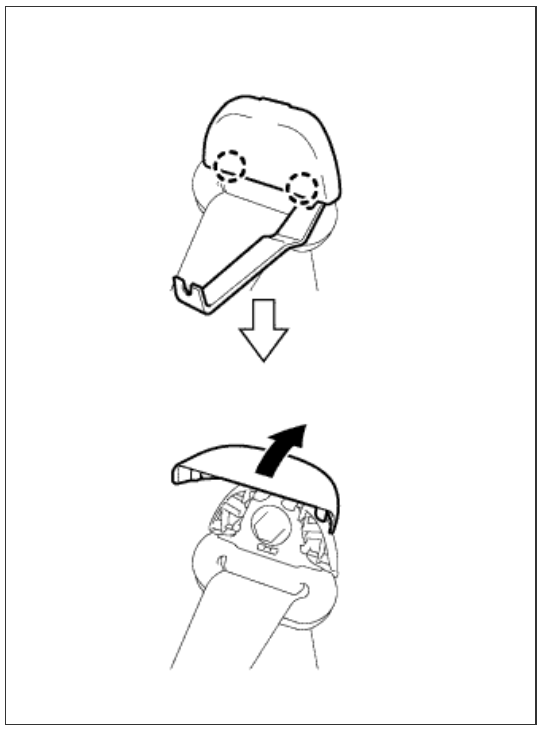
c. Remove the ball joint bolt, power back door rod and back door stay plate.

d. Remove the back door service hole cover RH from the power back door rod.

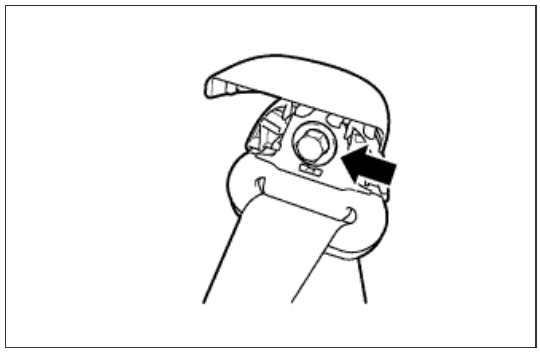



## 34. REMOVE REAR UPPER PILLAR GARNISH RH

a. Using a moulding remover, detach the 2 claws and open the seat belt shoulder anchor cover.

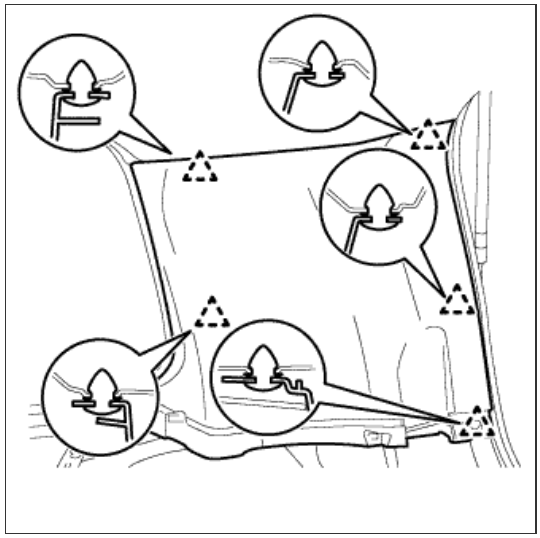


b. Remove the bolt and seat belt shoulder anchor.



c. w/o Power Back Door:

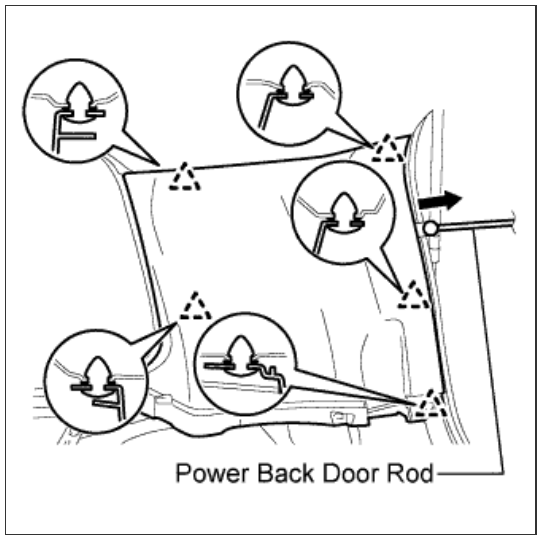
i. Detach the 5 clips and remove the rear upper pillar garnish.



d. w/ Power Back Door:

i. Detach the 5 clips.

ii. Pass the power back door rod through the rear upper pillar garnish, and remove the rear upper pillar garnish.




## 35. REMOVE MAP LIGHT ASSEMBLY (w/ Map Light)

a. Using a screwdriver, detach the 2 claws and open the 2 covers.

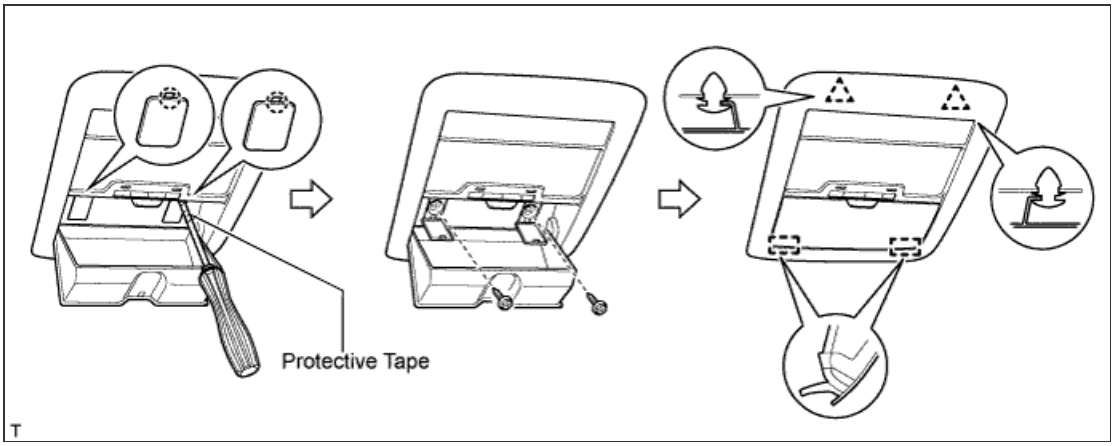
**HINT:**

Tape the screwdriver tip before use.

b. Remove the 2 screws.

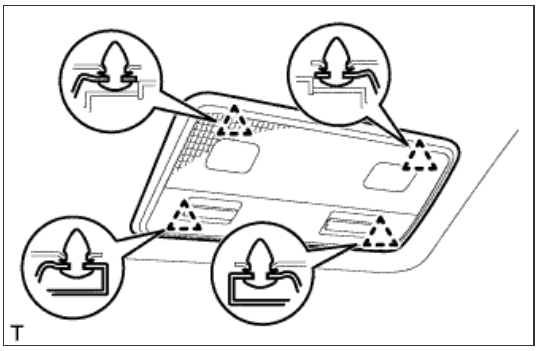
c. Detach the 2 clips and 2 guides.

d. Disconnect the connector and then remove the map light.




## 36. REMOVE NO. 1 ROOM LIGHT ASSEMBLY

**a.** w/ Map Light:
Remove the No. 1 room light assembly.




**i.** Detach the 4 clips.

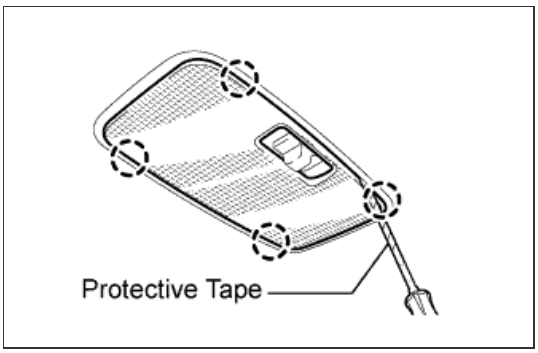
**ii.** Disconnect the connector and then remove the room light.

**b.** w/o Map Light:
Remove the No. 1 room light assembly.

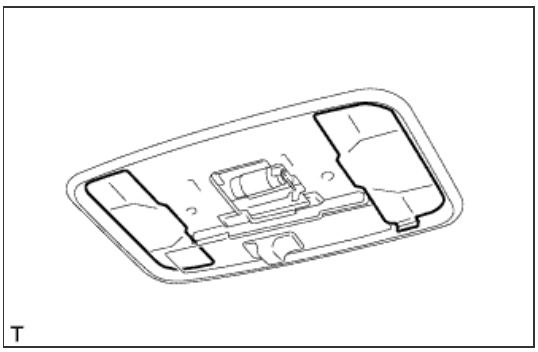
**i.** Using a screwdriver, detach the 4 claws and remove the room light lens.

**HINT:**

Tape the screwdriver tip before use.

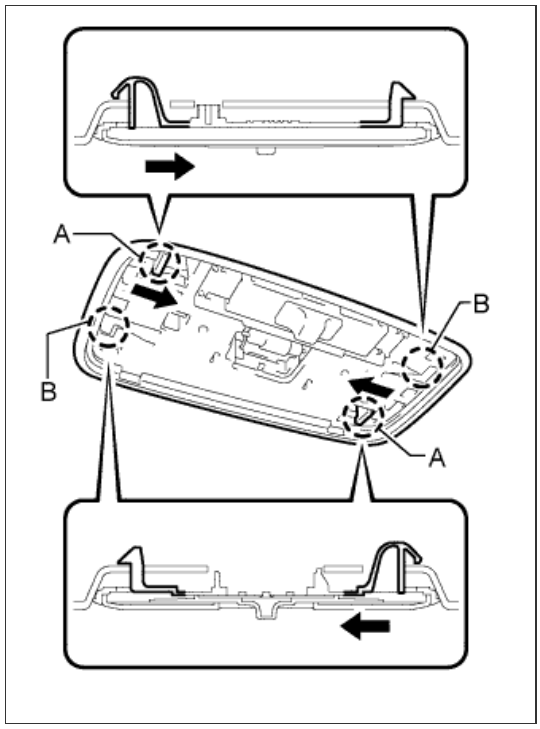



**ii.** Remove the 2 covers.

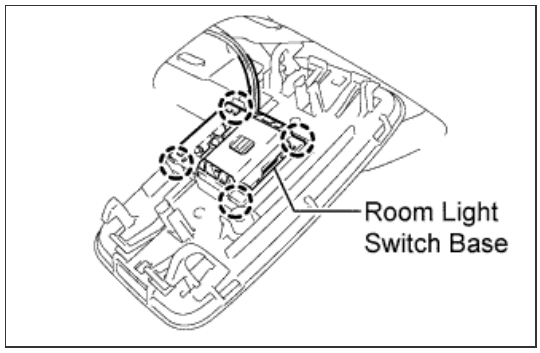


iii. Using a screwdriver, push the 2 levers in the direction of the arrows in the illustration, and detach the 2 claws labeled A.

iv. Detach the 2 claws labeled B.




v. Detach the 4 claws and remove the room light from the room light switch base.

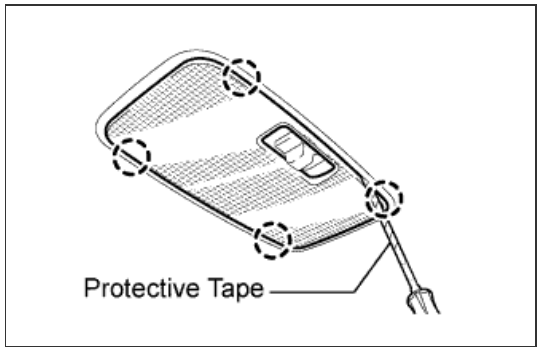



## 37. REMOVE NO. 2 ROOM LIGHT ASSEMBLY

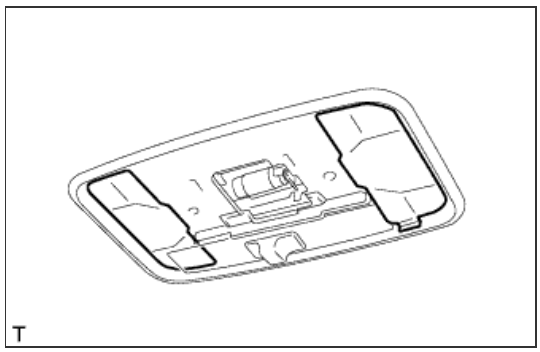
a. Using a screwdriver, detach the 4 claws and remove the room light lens.

**HINT:**

Tape the screwdriver tip before use.

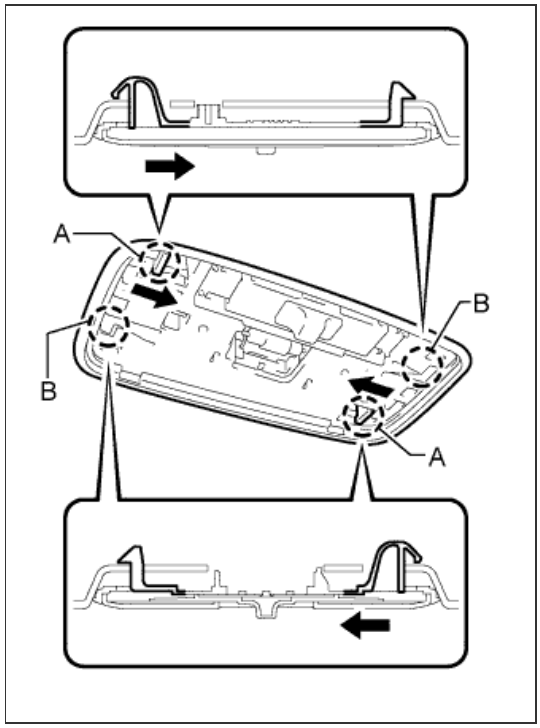



b. Remove the 2 covers.

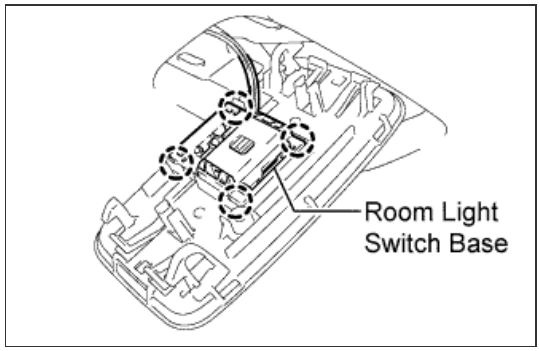


c. Using a screwdriver, push the 2 levers in the direction of the arrows in the illustration, and detach the 2 claws labeled A.

d. Detach the 2 claws labeled B.




e. Detach the 4 claws and remove the room light from the room light switch base.

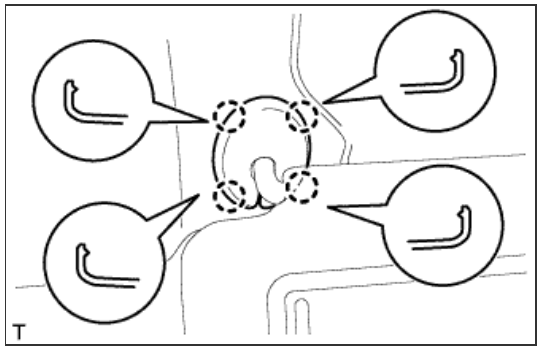



## 38. REMOVE VISOR BRACKET COVER

**HINT:**

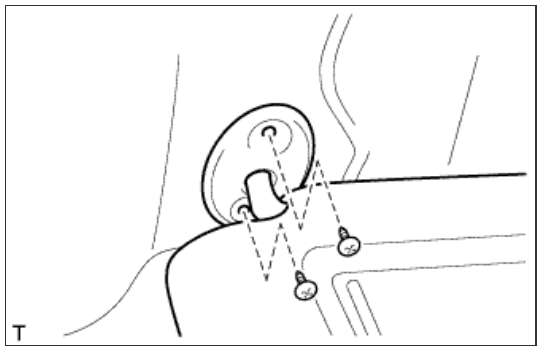
Use the same procedure to remove the visor bracket cover on the other side.

a. Detach the 4 claws and remove the visor bracket cover.




## 39. REMOVE VISOR ASSEMBLY LH

a. Remove the 2 screws and visor.




## 40. REMOVE VISOR ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

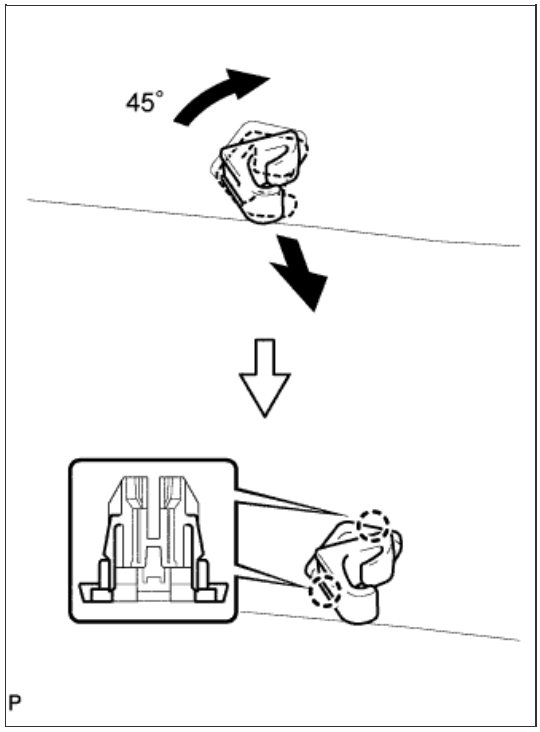
## 41. REMOVE VISOR HOLDER

**HINT:**

Use the same procedure to remove the visor holder on the other side.

a. Turn the visor holder approximately 45° and pull it out as shown in the illustration.

b. Detach the 2 claws and remove the visor holder.

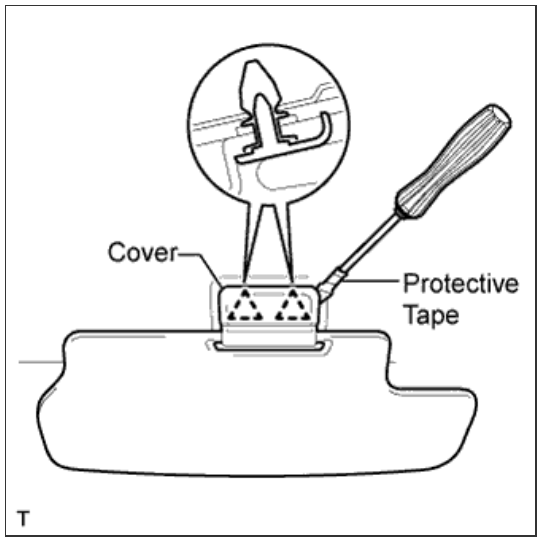



## 42. REMOVE CENTER VISOR ASSEMBLY LH (w/ Sub Visor)

a. Using a screwdriver, pry off the cover to detach the 2 clips and remove the center visor.

**HINT:**

Tape the screwdriver tip before use.



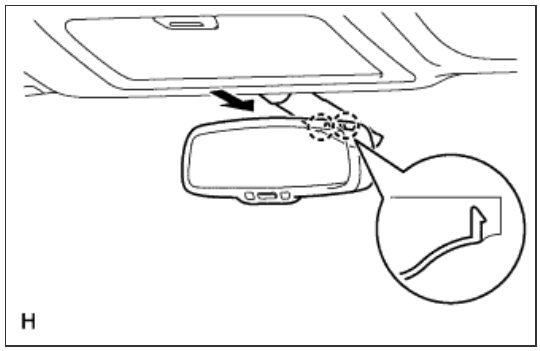

### 43. REMOVE CENTER VISOR ASSEMBLY RH (w/ Sub Visor)

**HINT:**

Use the same procedures described for the LH side.

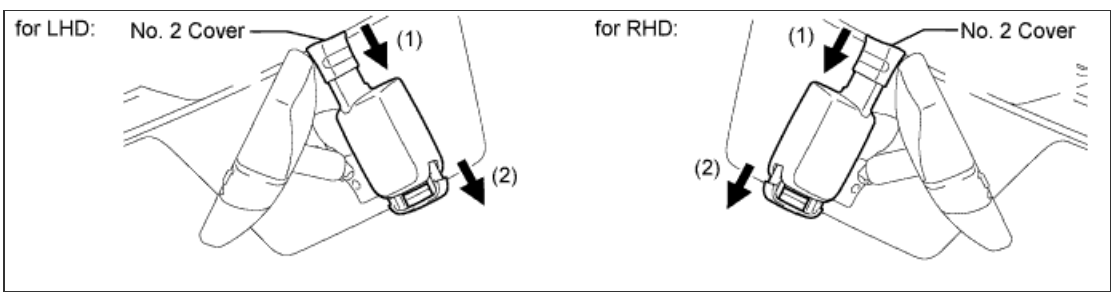
### 44. REMOVE INNER REAR VIEW MIRROR STAY HOLDER COVER (w/ EC Mirror)

a. Detach the 2 claws and remove the cover as shown in the illustration.




### 45. REMOVE RAIN SENSOR COVER (w/ Rain Sensor)

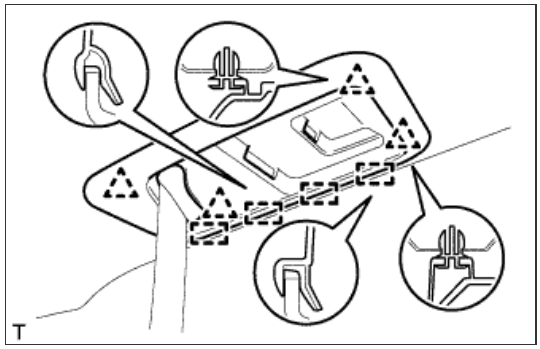
a. Slide the No. 2 cover in the direction of the arrow labeled (1).




b. Pull the stopper in the direction of the arrow labeled (2) to remove the No. 2 cover.

### 46. REMOVE SEAT BELT ANCHOR COVER (for 3 Person Seat Type Rear No. 2 Seat)

a. Detach the 4 clips and 4 guides, and remove the seat belt anchor cover.




## 47. REMOVE ASSIST GRIP ASSEMBLY

**HINT:**

Use the same procedure to remove the assist grip on the other side.

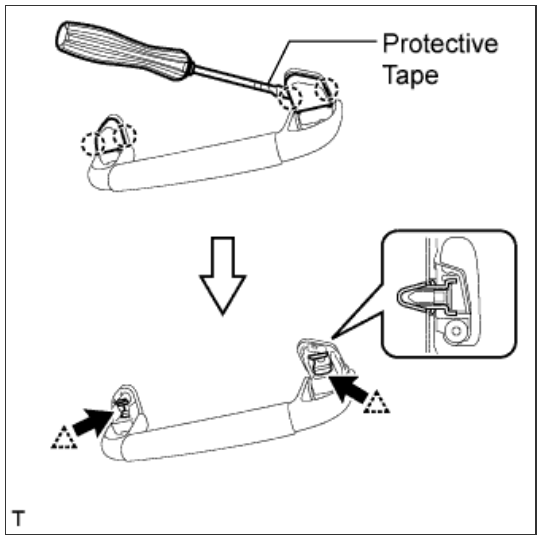
a. Using a screwdriver, detach the 4 claws and remove the 2 assist grip covers.

**HINT:**

Tape the screwdriver tip before use.

b. Detach the 2 clips and remove the assist grip.

c. Remove the 2 clips from the vehicle body.




## 48. REMOVE NO. 2 ASSIST GRIP ASSEMBLY LH

a. w/ Rear No. 2 Seat, except Face to Face Seat Type or w/o Rear No. 2 Seat:
Remove the No. 2 assist grip assembly.

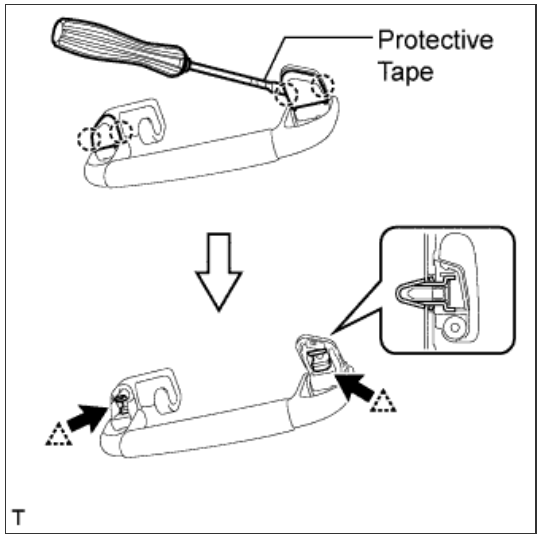
i. Using a screwdriver, detach the 4 claws and remove the 2 assist grip covers.

**HINT:**

Tape the screwdriver tip before use.

ii. Detach the 2 clips and remove the assist grip.

iii. Remove the 2 clips from the vehicle body.




b. w/ Rear No. 2 Seat, for Face to Face Seat Type:
Remove the No. 2 assist grip assembly.

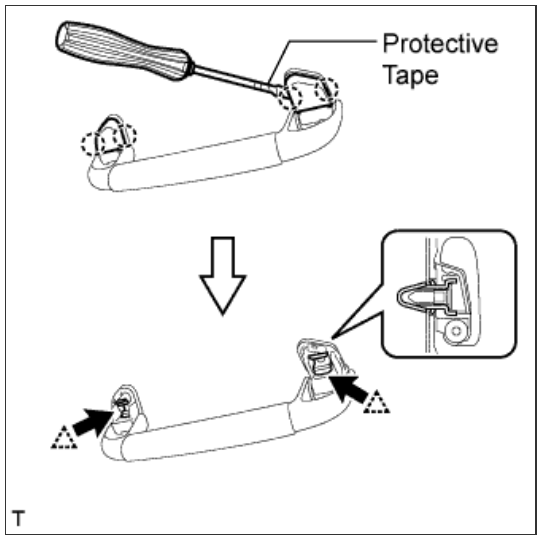
i. Using a screwdriver, detach the 4 claws and remove the 2 assist grip covers.

**HINT:**

Tape the screwdriver tip before use.

ii. Detach the 2 clips and remove the assist grip.

iii. Remove the 2 clips from the vehicle body.




## 49. REMOVE NO. 2 ASSIST GRIP ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

## 50. REMOVE 3RD SEAT ASSIST GRIP ASSEMBLY (w/ Rear No. 2 Seat except Face to Face Seat Type)

**HINT:**

Use the same procedure to remove the 3rd seat assist grip on the other side.

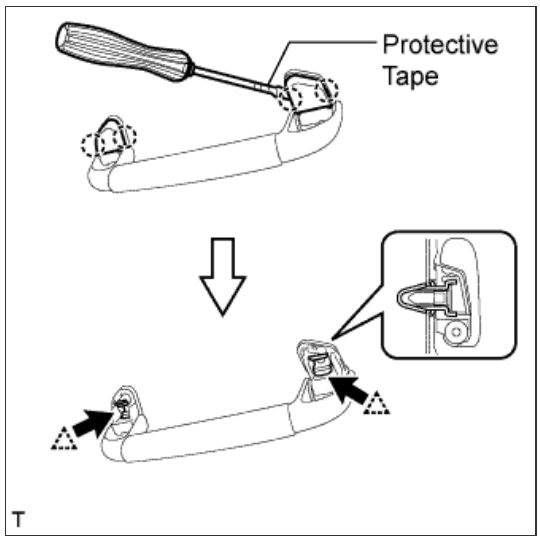
a. Using a screwdriver, detach the 4 claws and remove the 2 assist grip covers.

**HINT:**

Tape the screwdriver tip before use.

b. Detach the 2 clips and remove the assist grip.

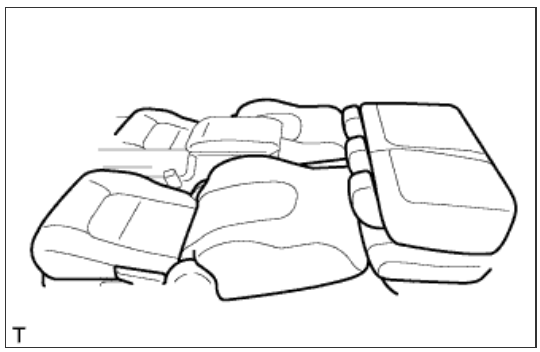
c. Remove the 2 clips from the vehicle body.




## 51. REMOVE ROOF HEADLINING ASSEMBLY

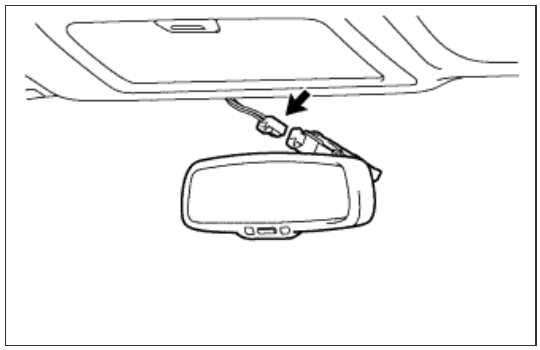
**HINT:**

- **for Manual Seat:**
  **When removing the roof headlining, move the front seat and rear No. 1 seat to the position shown in the illustration.**
- **for Power Seat:**
  **When removing the roof headlining, connect the cable to the negative (-) battery terminal and move the front seat and No. 1 rear seat to the position shown in the illustration.**
- **for Power Seat:**
  **After moving the seats, disconnect the cable from the negative (-) battery terminal.**

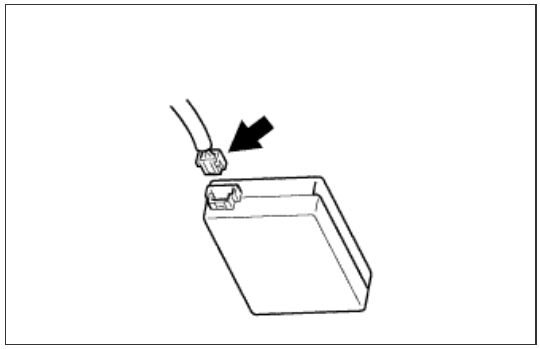



a. w/ EC Mirror

a. w/ EC Mirror:
Disconnect the inner mirror connector.



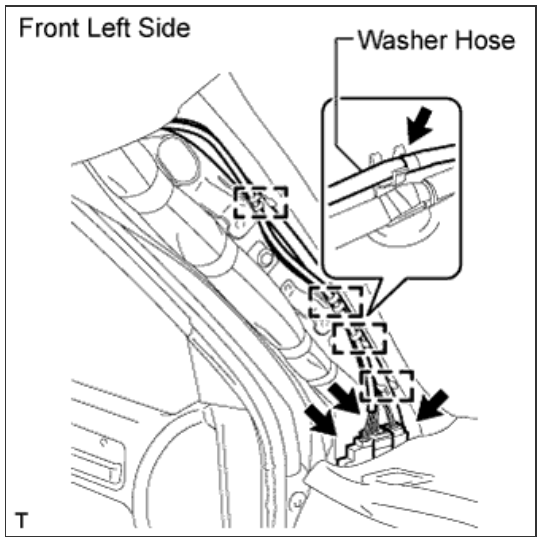
b. w/ Rain Sensor:
Disconnect the rain sensor connector.



c. Disconnect the 3 roof wire connectors.

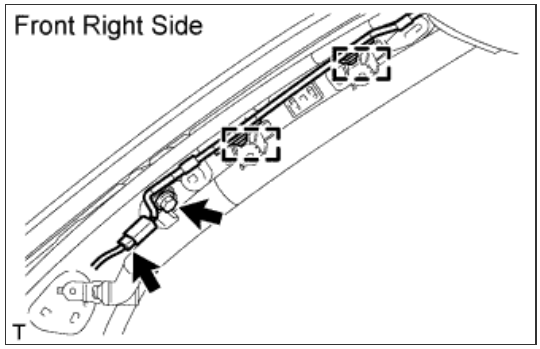
i. w/ Rear Wiper:
Disconnect the washer hose.

d. Detach the 4 clamps.

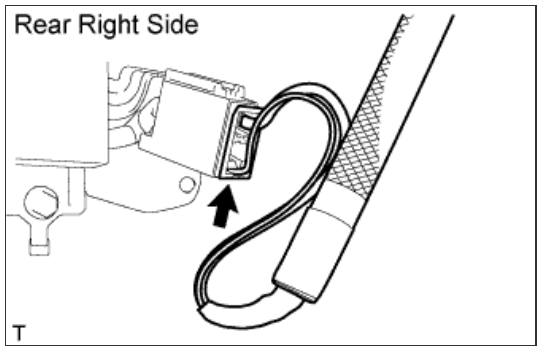



e. Remove the bolt.

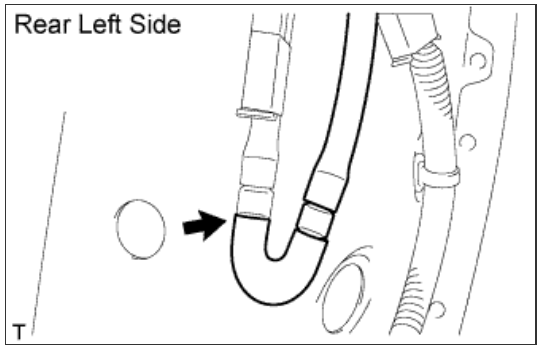
f. Disconnect the antenna cord connector and detach the 2 clamps.



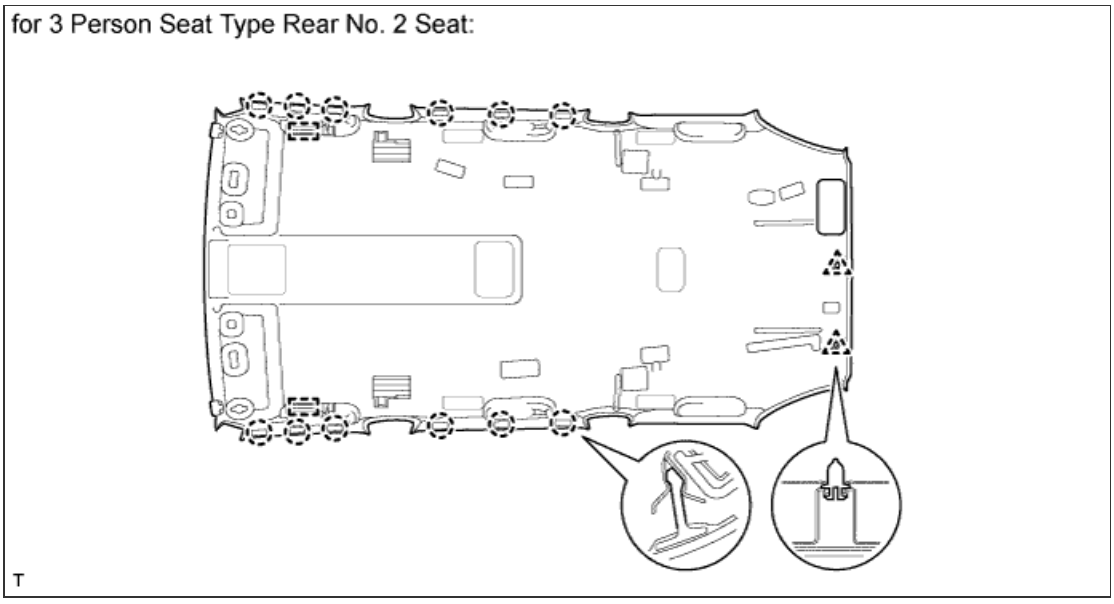

g. Disconnect the antenna cord connector.




h. w/ Rear Wiper:
Disconnect the washer hose.

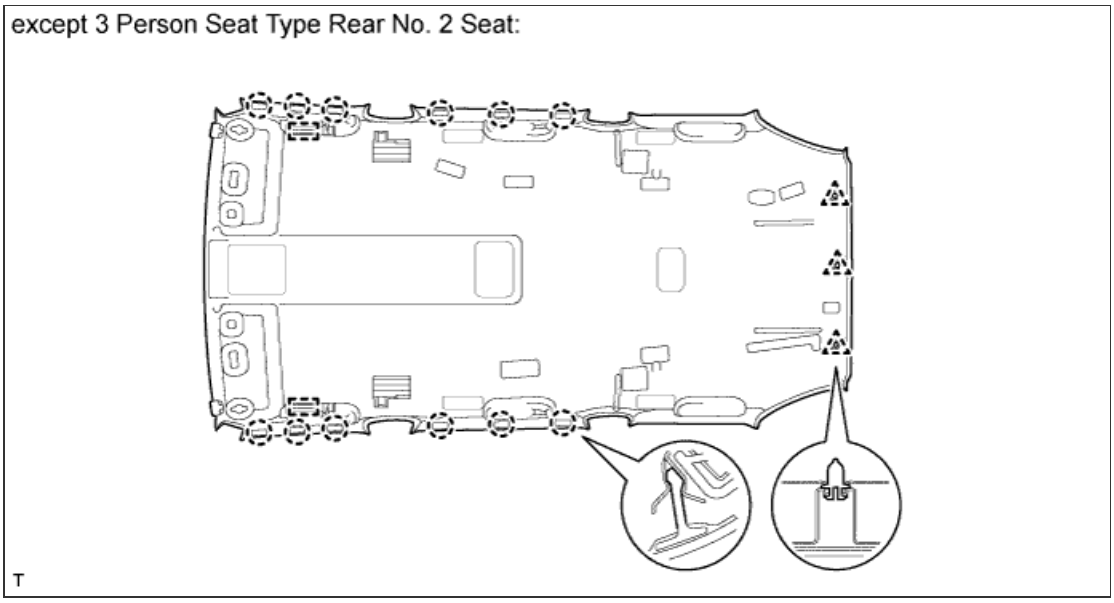



i. for 3 Person Seat Type Rear No. 2 Seat:
Detach the 12 claws, 2 clips and 2 guides.

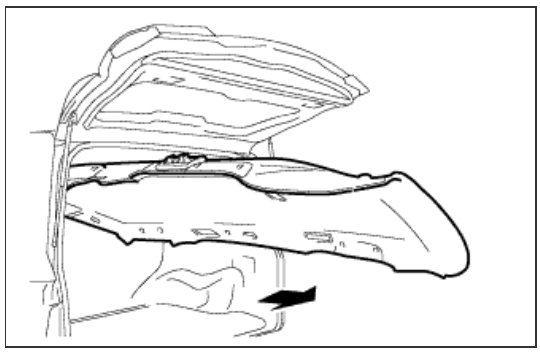



j. except 3 Person Seat Type Rear No. 2 Seat:
Detach the 12 claws, 3 clips and 2 guides.

except 3 Person Seat Type Rear No. 2 Seat:




k. Remove the headlining from the rear of the vehicle as shown in the illustration.



**NOTICE:**

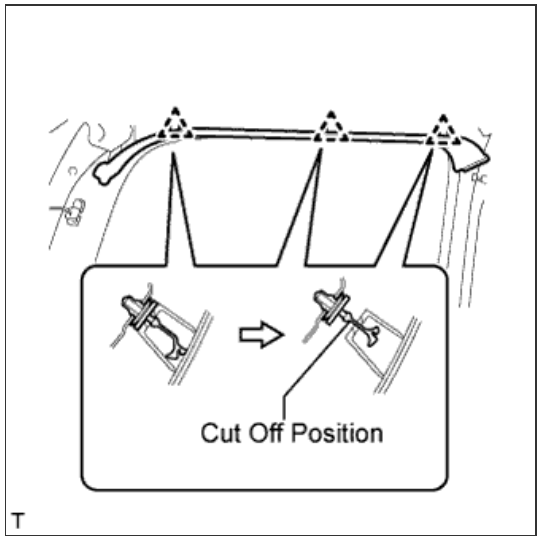
Be careful not to damage the roof headlining when taking it out.

## 52. REMOVE FRONT ROOF SIDE RAIL GARNISH LH

a. Detach the 3 clips.

b. Cut off the 3 clips and remove the roof side rail garnish.

c. Remove 3 clips from the vehicle body.



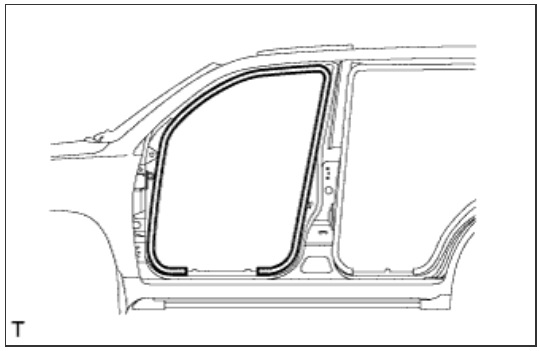

## 53. REMOVE FRONT ROOF SIDE RAIL GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

## 54. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP LH

a. Remove the front door opening trim weatherstrip.



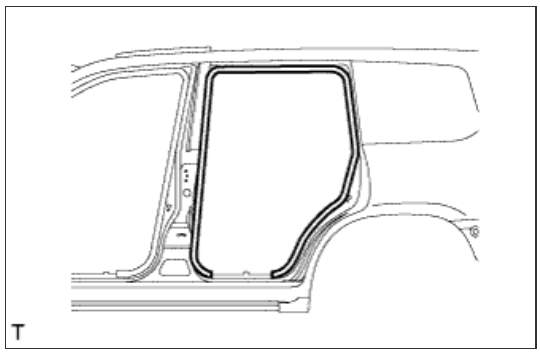

### 55. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP RH

**HINT:**

Use the same procedures described for the LH side.

### 56. REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP LH

a. Remove the rear door opening trim weatherstrip.



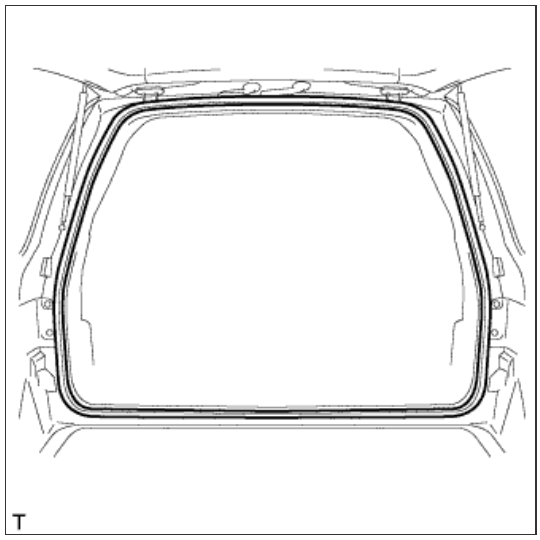

### 57. REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP RH

**HINT:**

Use the same procedures described for the LH side.

### 58. REMOVE BACK DOOR WEATHERSTRIP

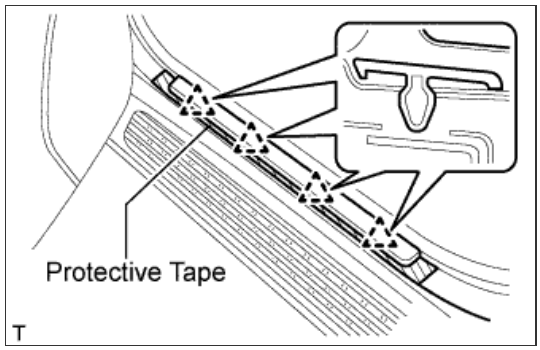
a. Remove the back door weatherstrip.




### 59. REMOVE FRONT DOOR SCUFF PLATE OUTSIDE LH

a. Put protective tape around the front door scuff plate outside.

b. Detach the 4 clips and remove the front door scuff plate outside.




### 60. REMOVE FRONT DOOR SCUFF PLATE RH

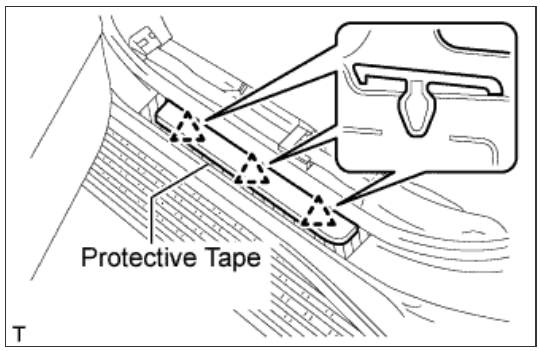
**HINT:**

Use the same procedures described for the LH side.

### 61. REMOVE REAR DOOR SCUFF PLATE OUTSIDE LH

a. Put protective tape around the rear door scuff plate outside.

b. Detach the 3 clips and remove the rear door scuff plate outside.



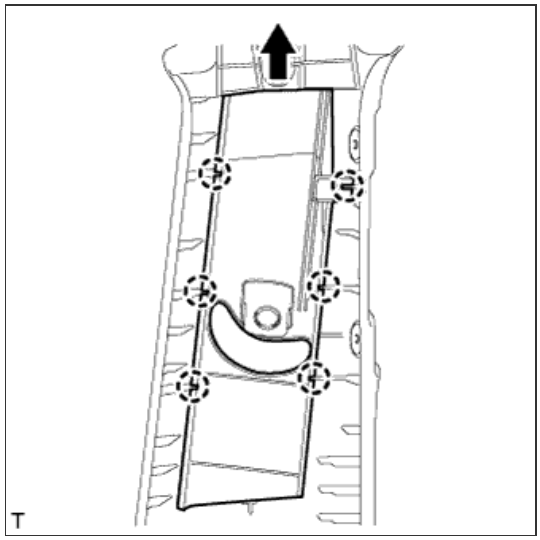

### 62. REMOVE REAR DOOR SCUFF PLATE OUTSIDE RH

**HINT:**

Use the same procedures described for the LH side.

### 63. REMOVE FRONT SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Detach the 6 claws of the plate, and slide the plate in the direction of the arrow to remove it.



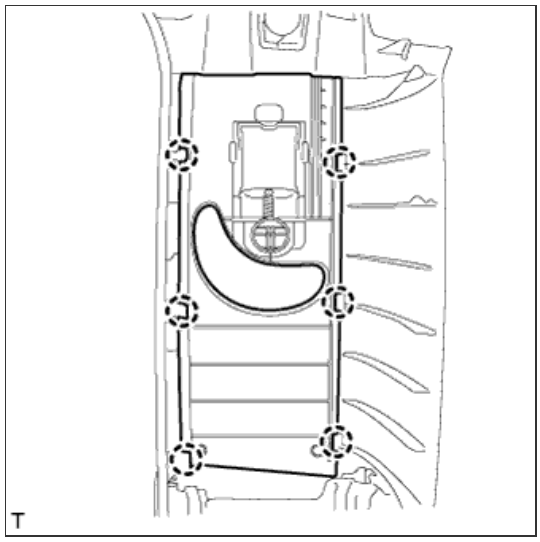

### 64. REMOVE FRONT SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

### 65. REMOVE REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Detach the 6 claws and remove the plate.



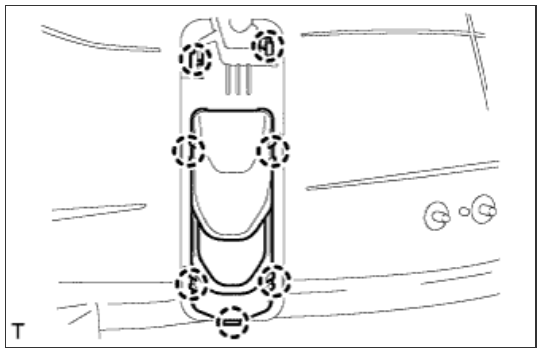

### 66. REMOVE REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

### 67. REMOVE ROOF SIDE INNER GARNISH COVER LH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Detach the 7 claws and remove the cover.




### 68. REMOVE ROOF SIDE INNER GARNISH COVER RH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

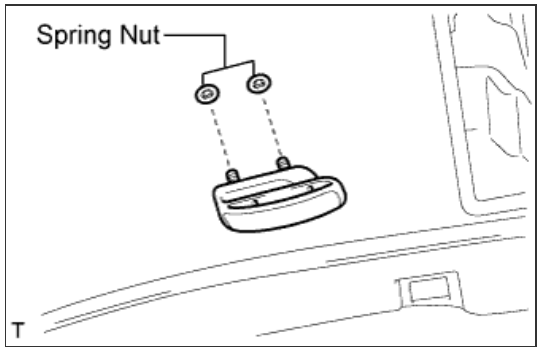
Use the same procedures described for the LH side.

### 69. REMOVE REAR SEAT SHOULDER BELT HANGER (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

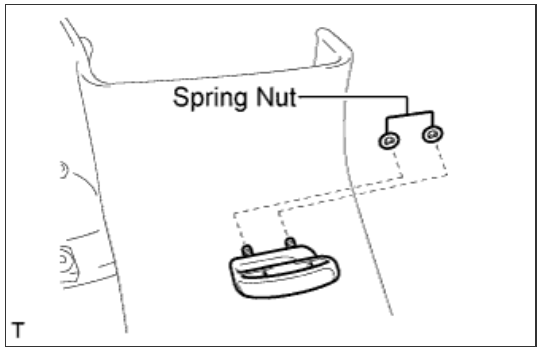
Use the same procedure to remove the hanger on the other side.

a. Remove the 2 spring nuts and hanger.




### 70. REMOVE REAR NO. 2 SEAT SHOULDER BELT HANGER LH

a. Remove the 2 spring nuts and hanger.



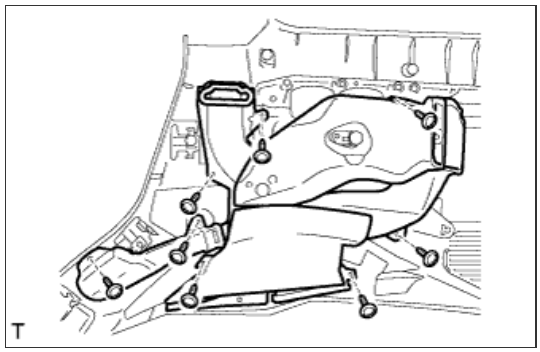

### 71. REMOVE REAR NO. 2 SEAT SHOULDER BELT HANGER RH

**HINT:**

Use the same procedures described for the LH side.

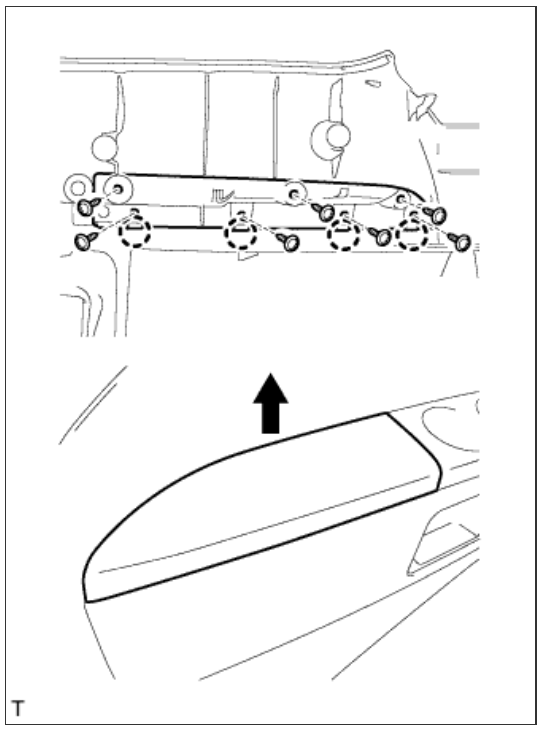
### 72. REMOVE QUARTER TRIM COVER SUB-ASSEMBLY LH

a. w/ Rear Heater:
Remove the 8 screws and duct.




b. Remove the 7 screws.

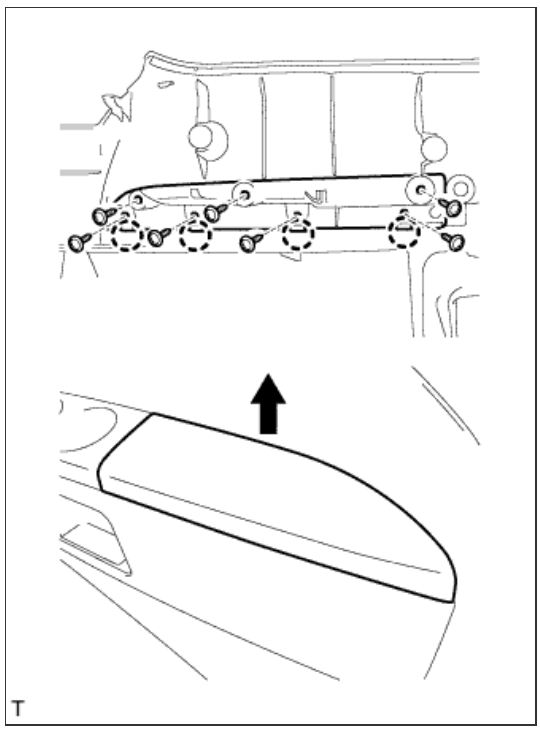
c. Detach the 4 claws and remove the quarter trim cover.




## 73. REMOVE QUARTER TRIM COVER SUB-ASSEMBLY RH

a. Remove the 7 screws.

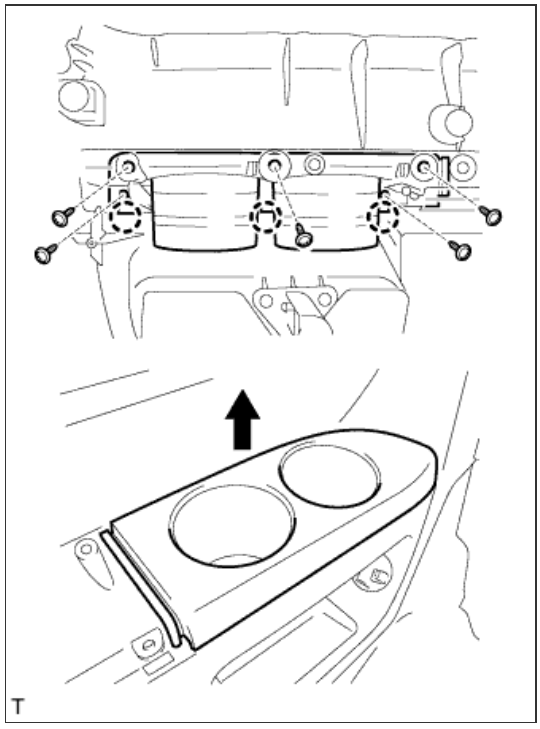
b. Detach the 4 claws and remove the quarter trim cover.



### 74. REMOVE NO. 2 CUP HOLDER

a. Remove the 5 screws.

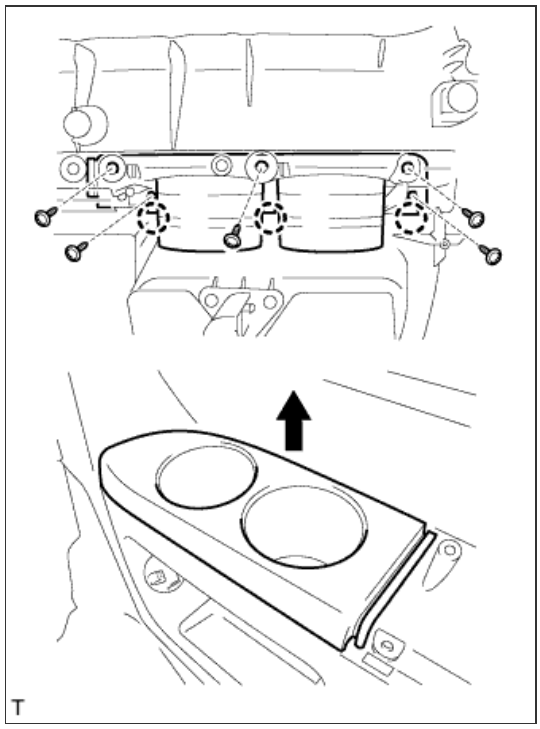
b. Detach the 3 claws and remove the cup holder.




### 75. REMOVE NO. 1 CUP HOLDER

a. Remove the 5 screws.

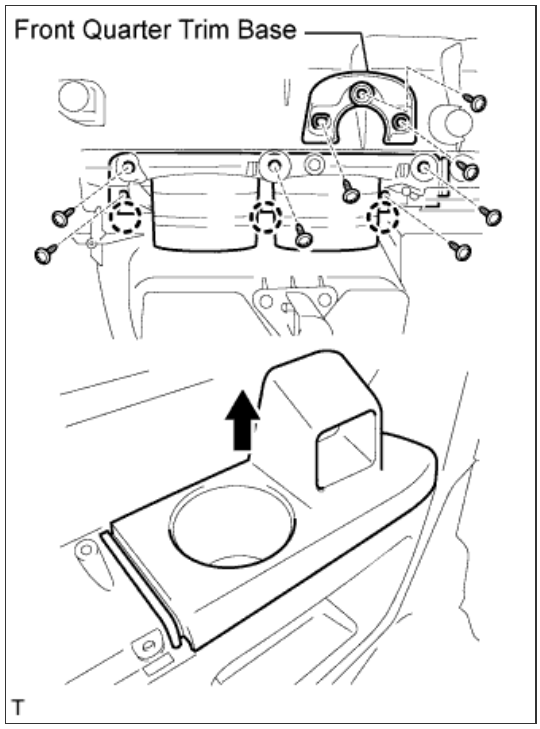
b. Detach the 3 claws and remove the cup holder.




### 76. REMOVE TONNEAU COVER HOLDER BRACKET LH (w/ Tonneau Cover)

a. Remove the 8 screws.

b. Detach the 3 claws and remove the tonneau cover holder bracket and front quarter trim base.



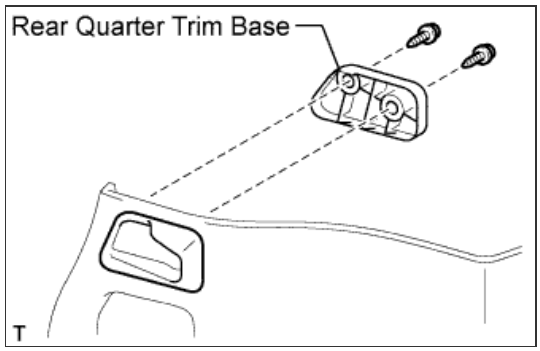

### 77. REMOVE TONNEAU COVER HOLDER BRACKET RH (w/ Tonneau Cover)

**HINT:**

Use the same procedures described for the LH side.

### 78. REMOVE TONNEAU COVER HANGER LH (w/ Tonneau Cover)

a. Remove the 2 screws, tonneau cover hanger and rear quarter trim base.



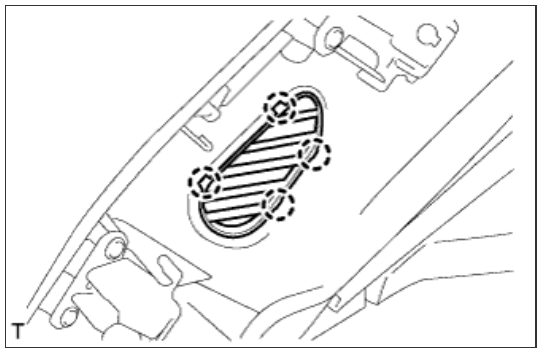

### 79. REMOVE TONNEAU COVER HANGER RH (w/ Tonneau Cover)

**HINT:**

Use the same procedures described for the LH side.

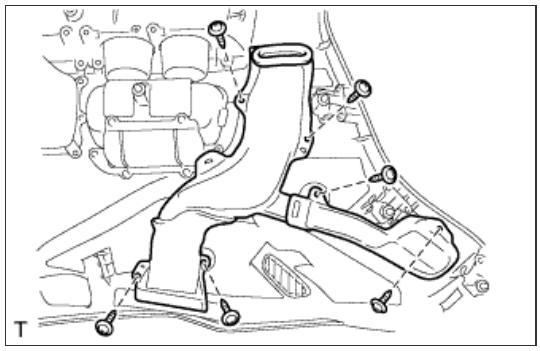
### 80. REMOVE NO. 1 SIDE TRIM BASE COVER LH (w/ Rear Heater)

a. Detach the 4 claws and remove the cover.

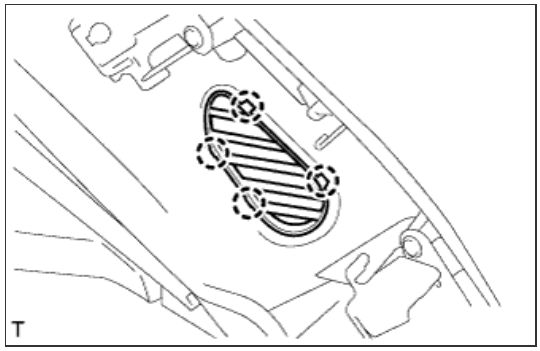



### 81. REMOVE NO. 1 SIDE TRIM BASE COVER RH (w/ Rear Heater)

a. Remove the 6 screws and duct.

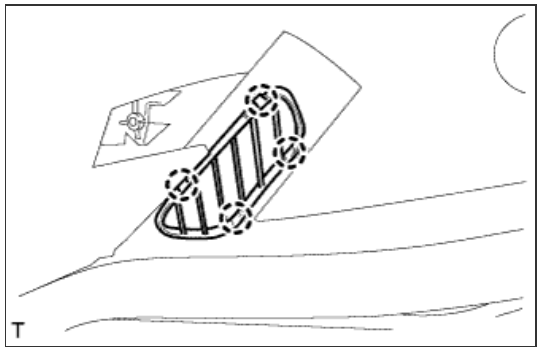



b. Detach the 4 claws and remove the cover.




### 82. REMOVE NO. 2 SIDE TRIM BASE COVER LH (w/ Rear Heater)

a. Detach the 4 claws and remove the cover.




### 83. REMOVE NO. 2 SIDE TRIM BASE COVER RH (w/ Rear Heater)

**HINT:**

Use the same procedures described for the LH side.

### 84. REMOVE REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY LH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Detach the 4 claws and remove the seat lock control lever.

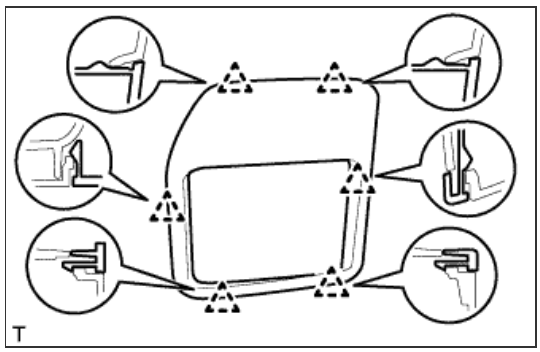
### 85. REMOVE REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY RH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 86. REMOVE REAR NO. 2 SEAT COVER BEZEL (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Detach the 6 clips and remove the rear No. 2 seat cover bezel.



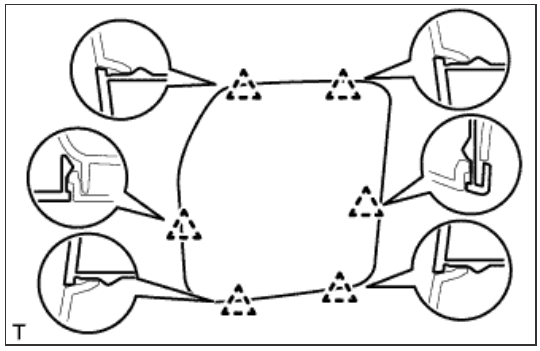

### 87. REMOVE REAR NO. 1 SEAT COVER BEZEL (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the rear No. 2 seat cover bezel.

### 88. REMOVE QUARTER TRIM COVER LH (w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type)

a. Detach the 6 clips and remove the quarter trim cover.




### 89. REMOVE QUARTER TRIM COVER RH (w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 90. REMOVE QUARTER TRIM LID SUB-ASSEMBLY RH

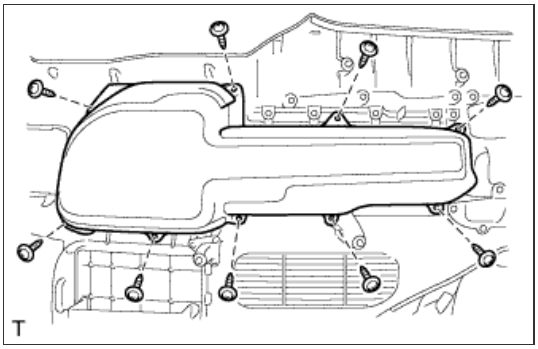
a. Remove the quarter trim lid.

### 91. REMOVE SIDE TRIM BOX COVER

a. Remove the side trim box cover.

### 92. REMOVE SIDE TRIM BOX

a. Remove the 9 screws and side trim box.



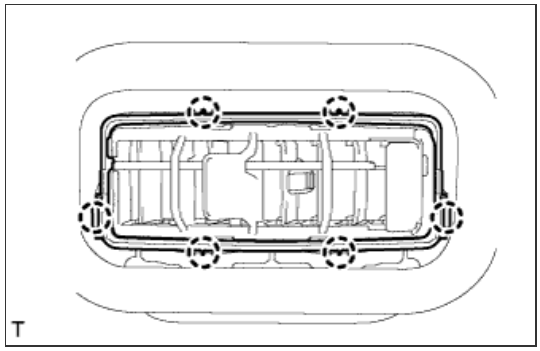
**for Preparation** Click here

## 1. REMOVE NO. 2 AIR OUTLET GRILLE ASSEMBLY (w/ Rear Air Conditioning System)

**HINT:**

Use the same procedures to remove the air outlet grille on the other side.

a. Detach 6 claws and remove the air outlet grille.



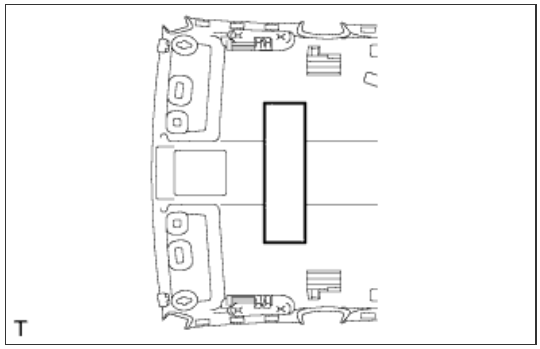

## 2. REMOVE NO. 1 AIR OUTLET GRILLE ASSEMBLY (w/ Rear Air Conditioning System)

**HINT:**

Use the same procedures described for the No. 2 air outlet grille.

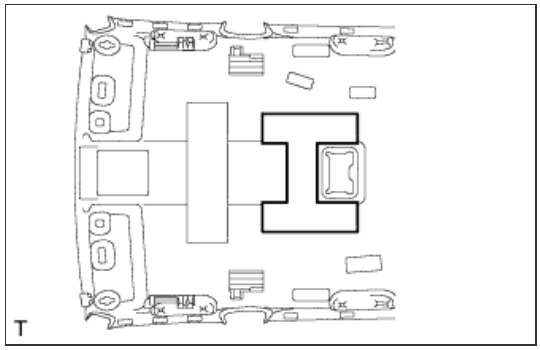
## 3. REMOVE NO. 1 ROOF SILENCER PAD

a. Remove the roof silencer pad.



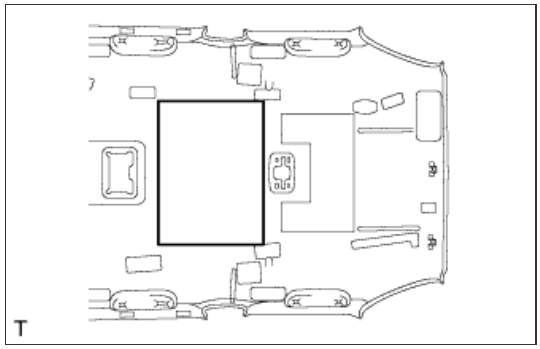

## 4. REMOVE NO. 2 ROOF SILENCER PAD

a. Remove the roof silencer pad.



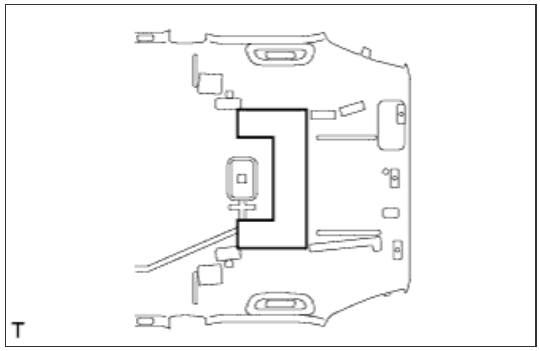

## 5. REMOVE NO. 3 ROOF SILENCER PAD

a. Remove the roof silencer pad.




## 6. REMOVE NO. 4 ROOF SILENCER PAD

a. Remove the roof silencer pad.



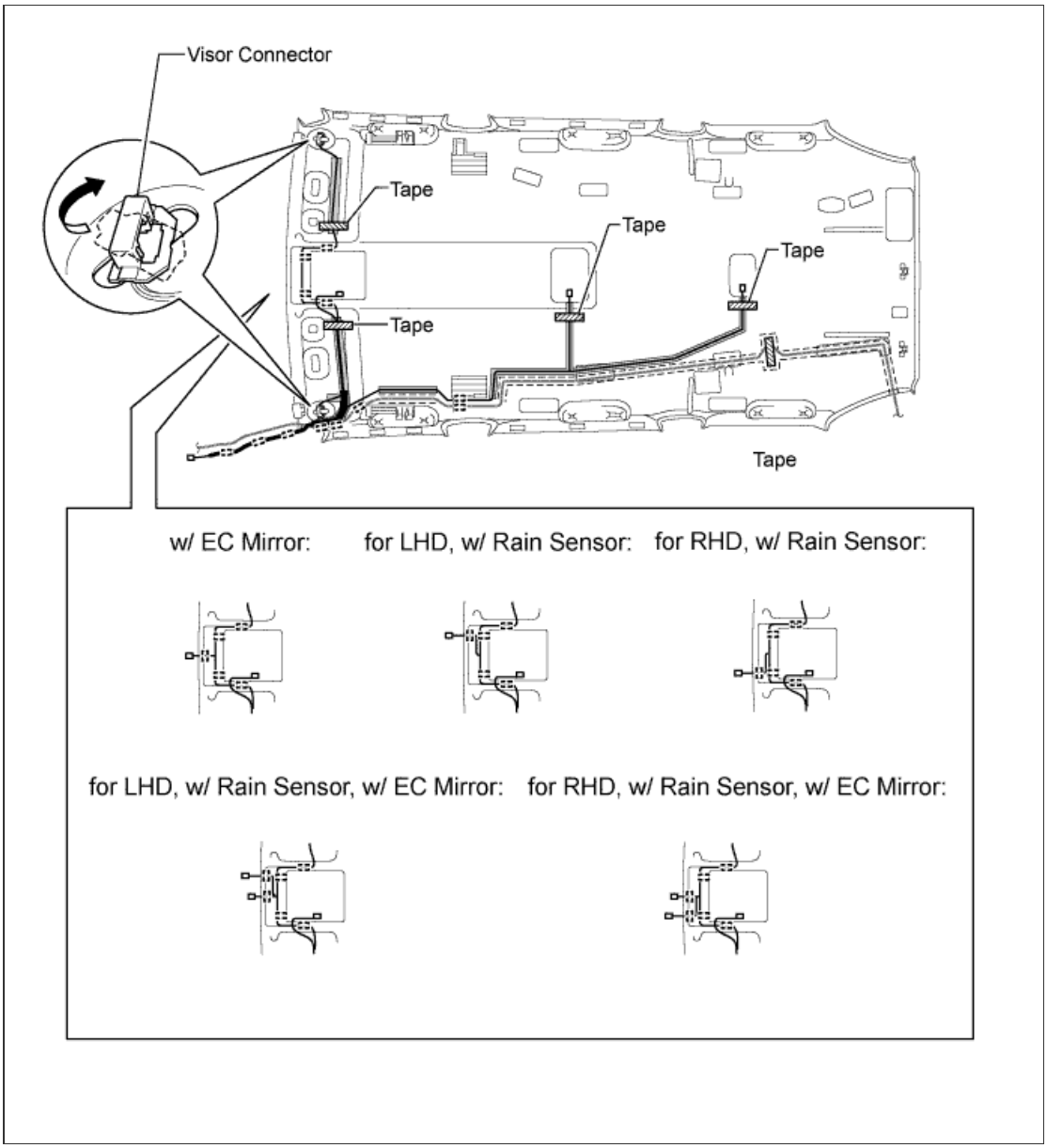

## 7. REMOVE NO. 1 ROOF WIRE

a. Turn the visor connectors approximately 90° clockwise and remove them from the roof headlining.

b. Remove the 6 pieces of tape from the roof headlining.

c. Detach each clamp, and remove the roof wire and washer hose.

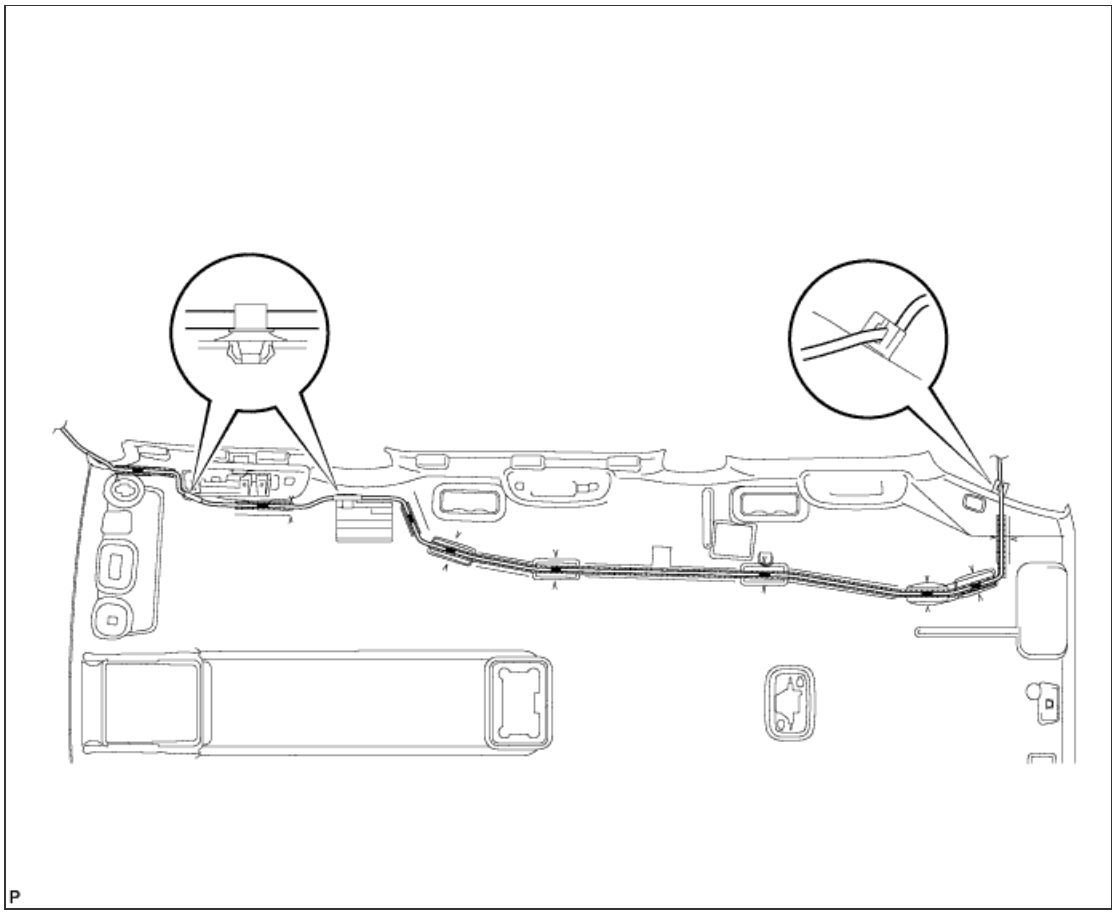
d. Remove the double-sided tape remaining on the headlining.




## 8. REMOVE ANTENNA CORD SUB-ASSEMBLY

a. w/o Sliding Roof:

i. Detach the 2 clamps and remove the antenna from the notch on the rear of the roof headlining.

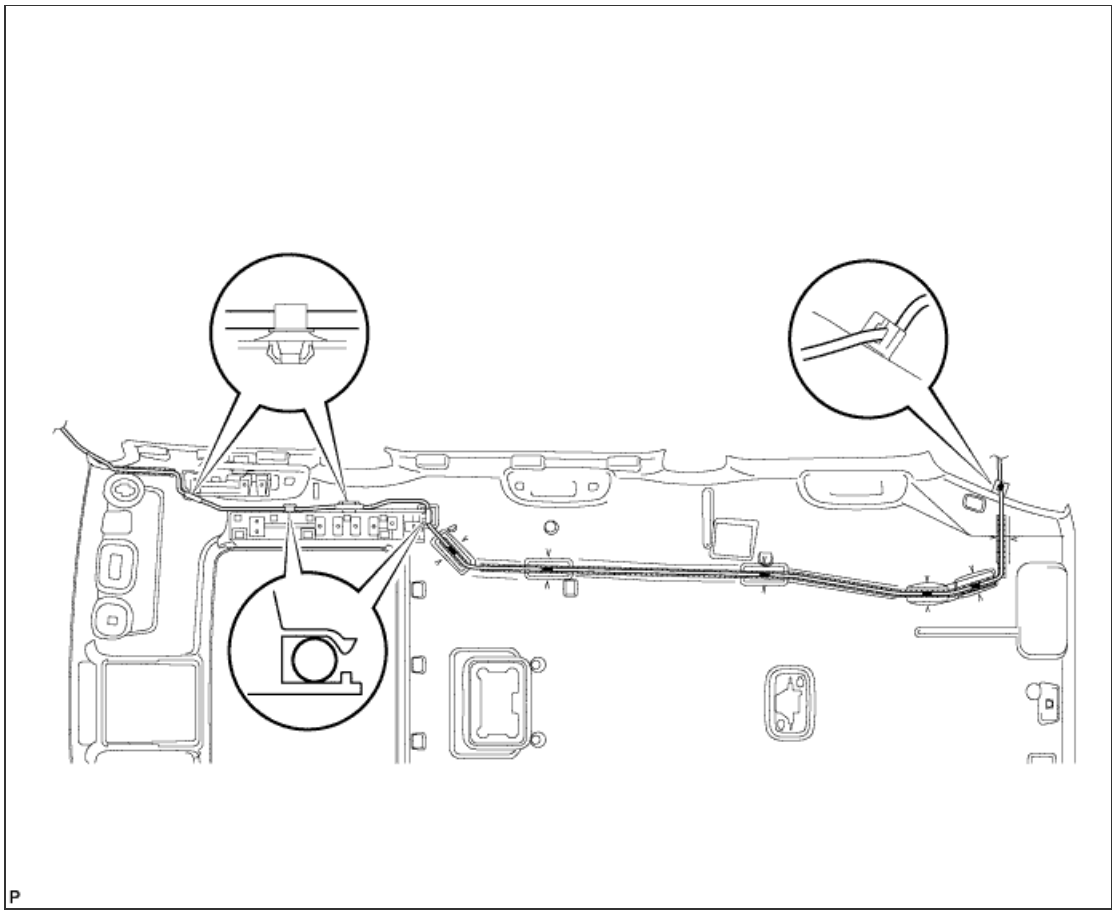



ii. Remove the antenna cord from the roof headlining.

iii. Remove the double-sided tape from the roof headlining.

b. w/ Sliding Roof:

i. Detach the 4 clamps and remove the antenna from the notch on the rear of the roof headlining.



P

ii. Remove the antenna cord from the roof headlining.

iii. Remove the double-sided tape from the roof headlining.

**for Preparation** Click here

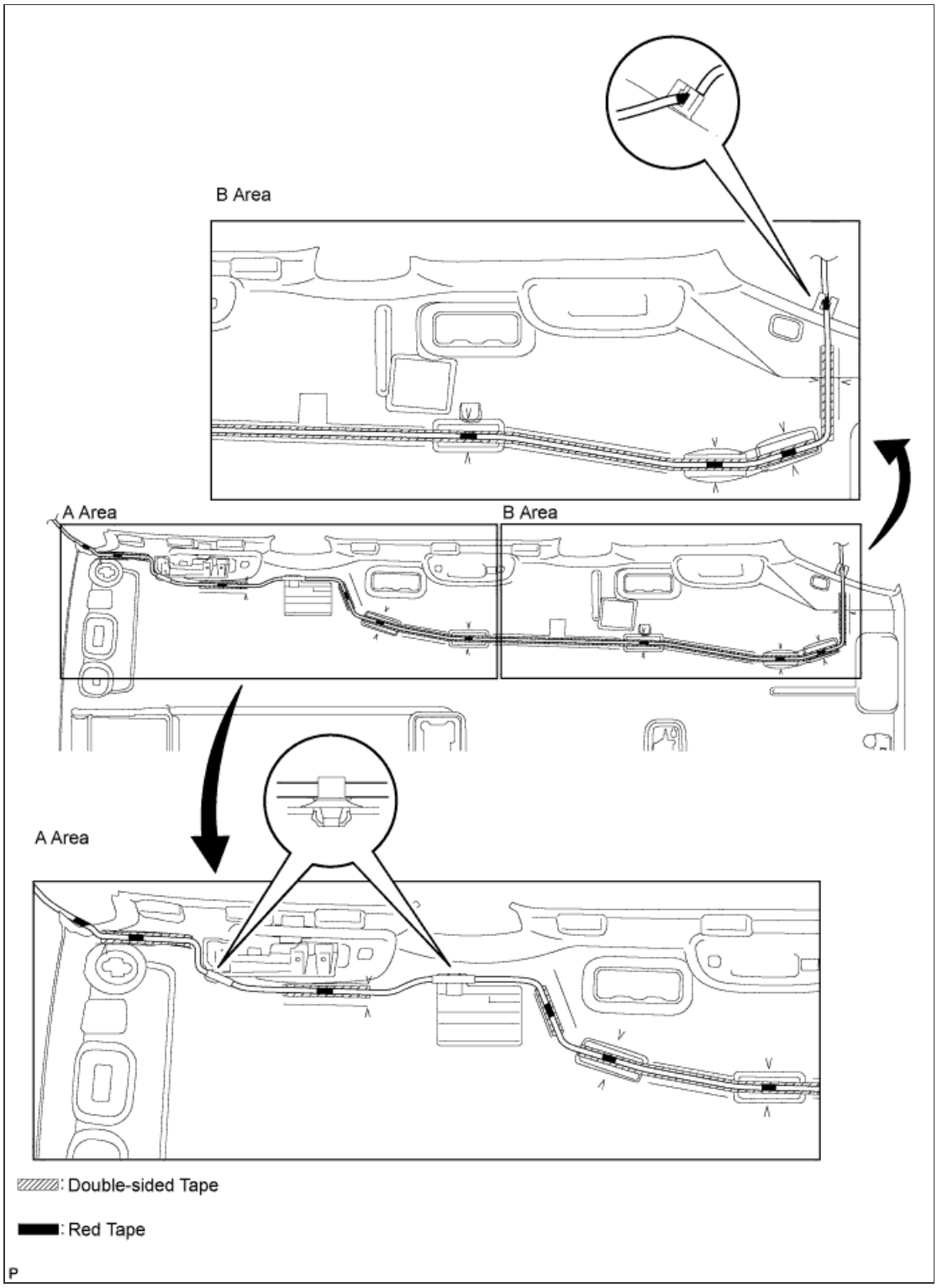
## 1. INSTALL ANTENNA CORD SUB-ASSEMBLY

a. w/o Sliding Roof:

i. Apply new double-sided tape as shown in the illustration.

**HINT:**

Attach double-sided tape to the hatched areas shown in the illustration below.




ii. Align the red tape wound around the antenna cord with the V markings on the roof headlining and the notch at the rear of the headlining, and attach the antenna cord to the double-sided tape.

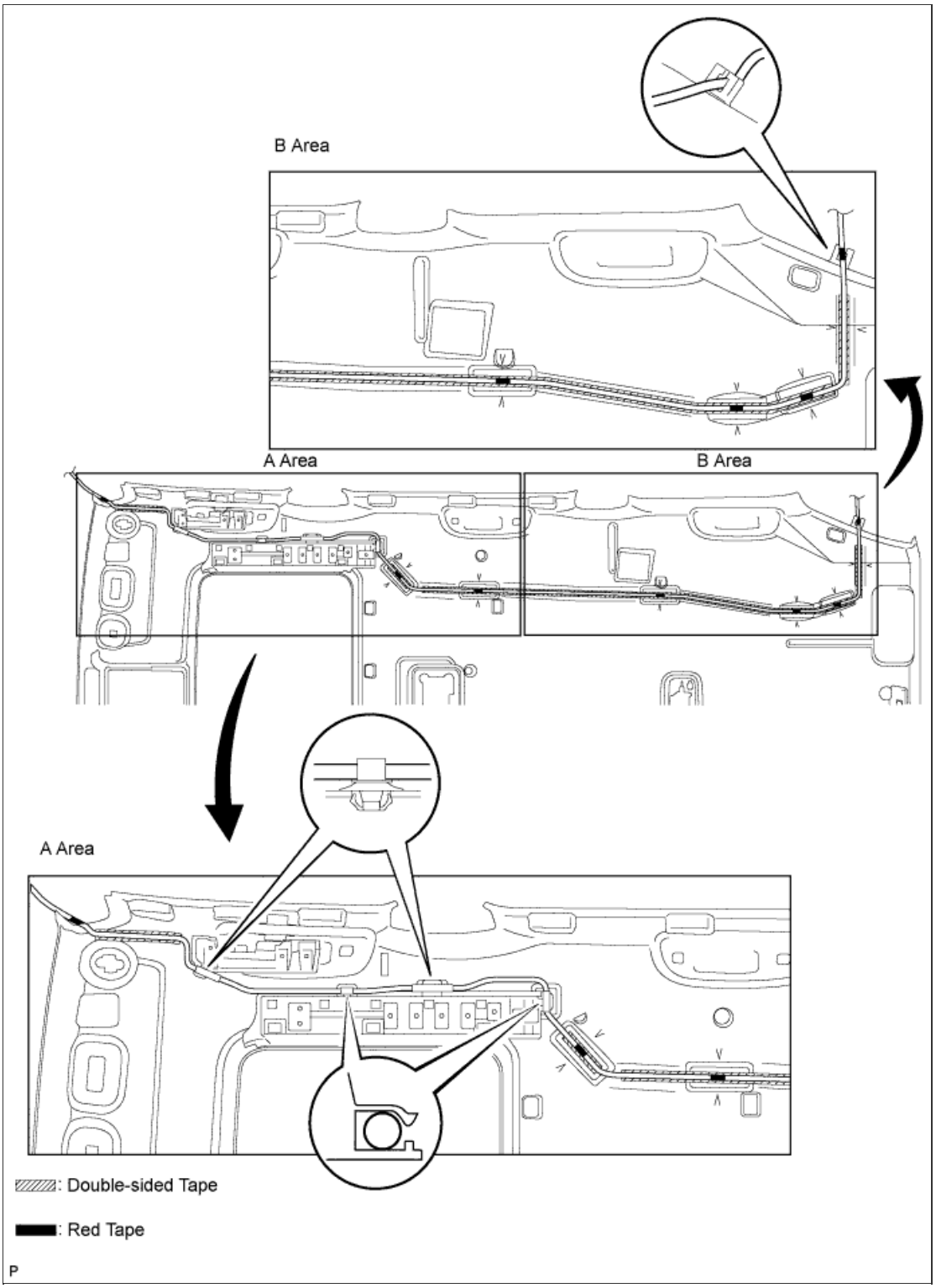
iii. Attach the 2 clamps and fit the antenna into the notch.

b. w/ Sliding Roof:

i. Apply new double-sided tape as shown in the illustration.

**HINT:**

Attach double-sided tape to the hatched areas shown in the illustration below.




ii. Align the red tape wound around the antenna cord with the V markings on the roof headlining and the notch at the rear of the headlining, and attach the antenna cord to the double-sided tape.

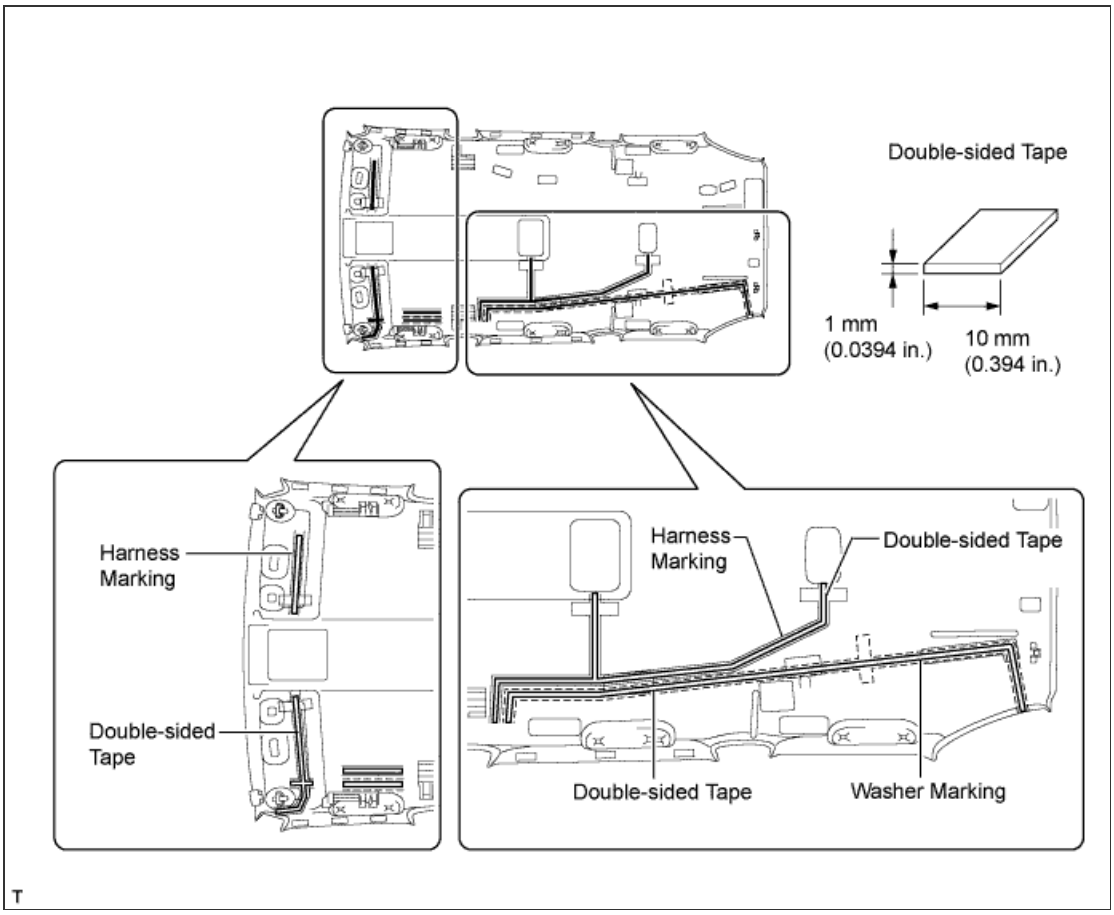
iii. Attach the 4 clamps and fit the antenna into the notch.

## 2. INSTALL NO. 1 ROOF WIRE

a. Place double-sided tape along the center of the harness marking and washer marking.

**HINT:**

Make sure that the double-sided tape is not peeling off or misaligned.



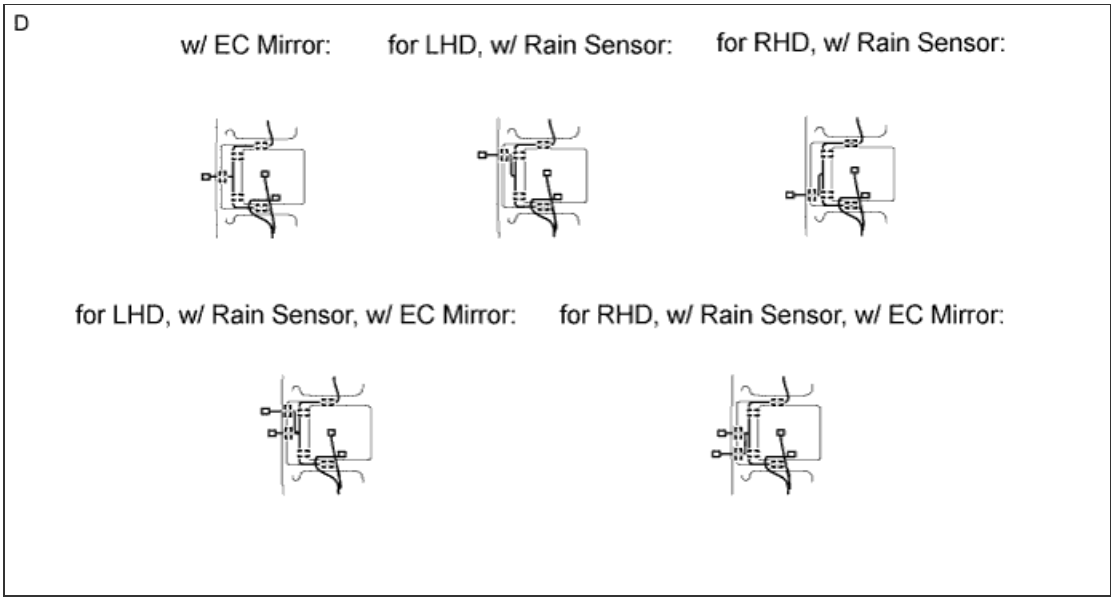

b. Remove the peeling paper from the double-sided tape while not touching the adhesive side.

c. Align the triangle mark of the roof wire protector with the V mark of the headlining as shown in the illustration, and then attach the roof wire protector.

d. Attach each clamp as shown in the illustration.

**HINT:**

The positions of the clamps at the front of the roof headlining are shown in illustration D.

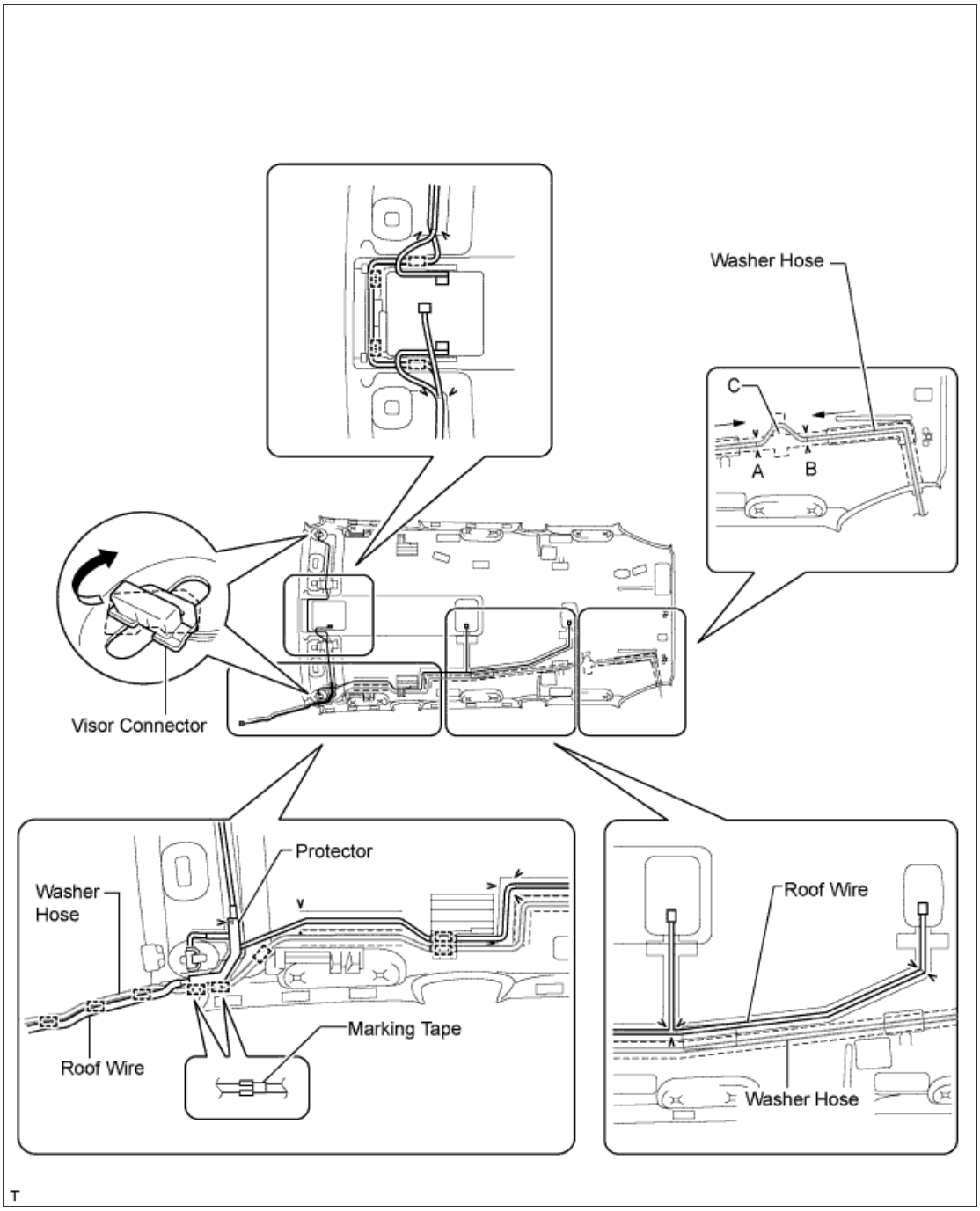



e. Align the roof wire and washer hose with the V marks of the headlining as shown in the illustration, and attach them to the headlining.

**HINT:**

- **Attach the washer hose from the front to the point labeled A, and attach the washer hose from the rear to the point labeled B as shown in the illustration.**
- **Attach the extra length of the washer hose to the part labeled C in the illustration.**

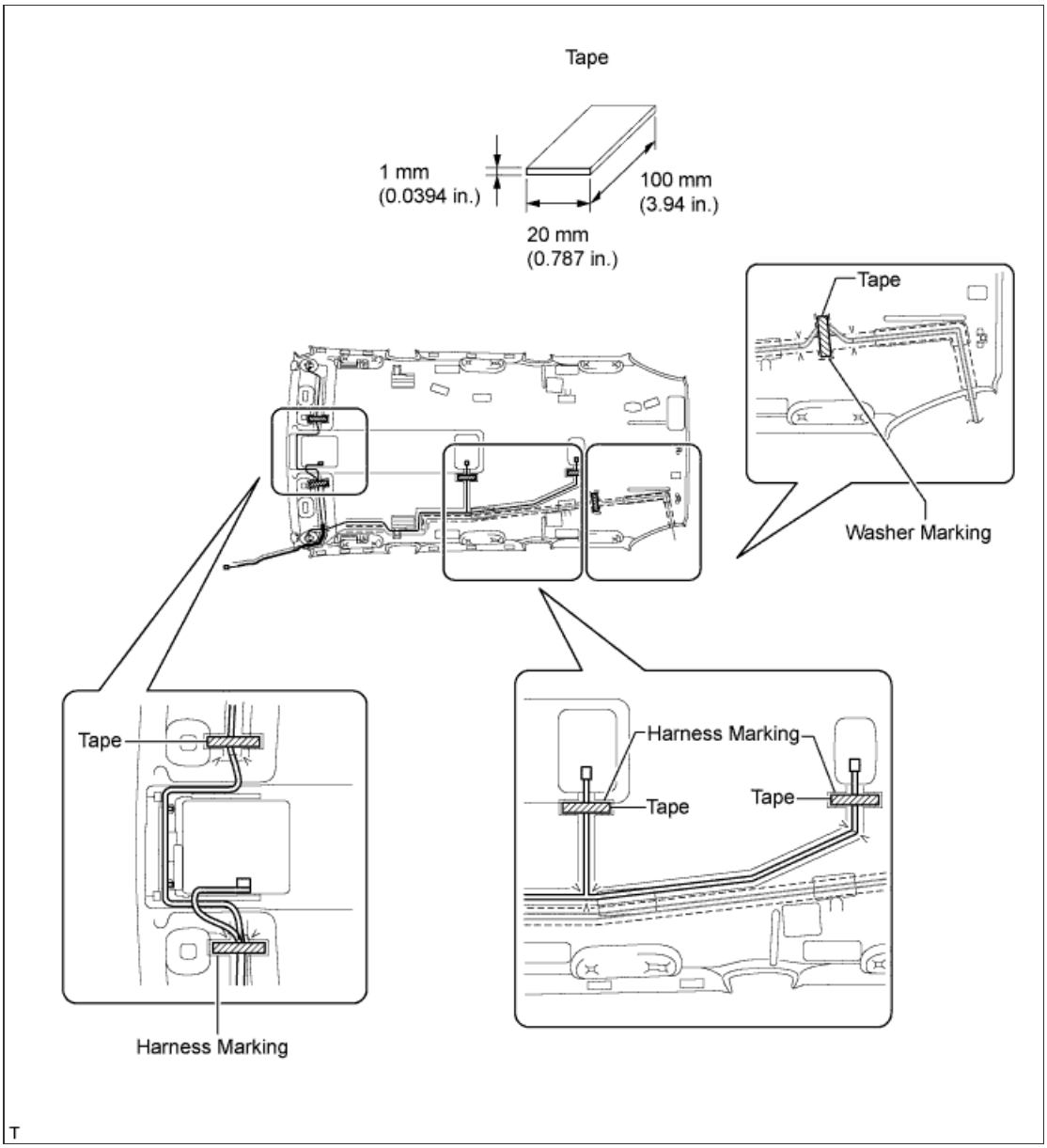
f. Turn the visor connectors approximately 90° clockwise to install them to the roof headlining.




g. Place tape at the wire harness marking and washer marking locations as shown in the illustration to fix the roof wire and washer hose in place.

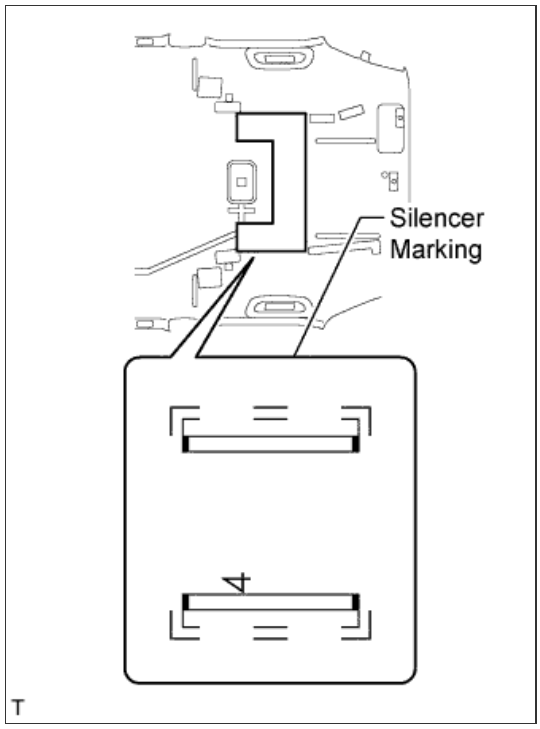
**HINT:**

Apply sufficient pressure when placing tape.



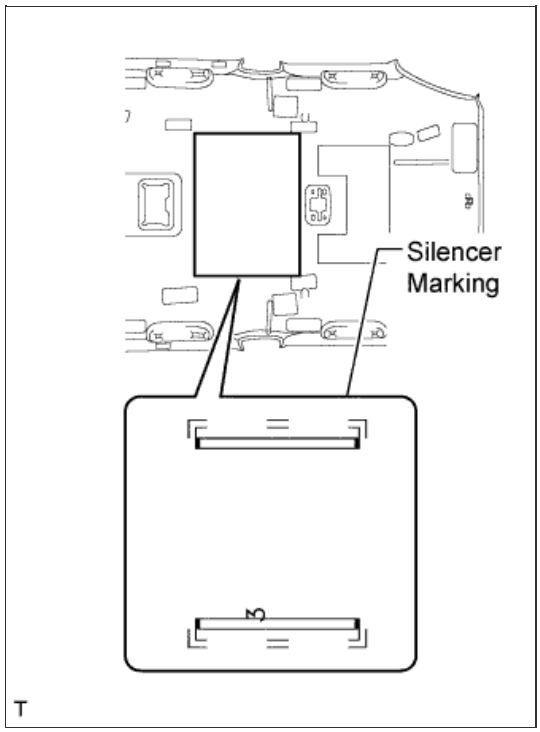

### 3. INSTALL NO. 4 ROOF SILENCER PAD

a. Align the silencer marking on the roof headlining with the roof silencer pad and install the pad using double-sided tape as shown in the illustration.



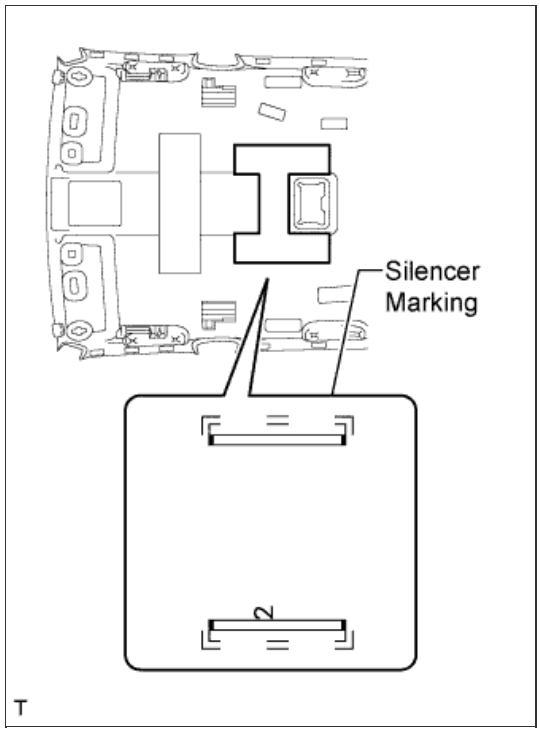

### 4. INSTALL NO. 3 ROOF SILENCER PAD

a. Align the silencer marking on the roof headlining with the roof silencer pad and install the pad using double-sided tape as shown in the illustration.



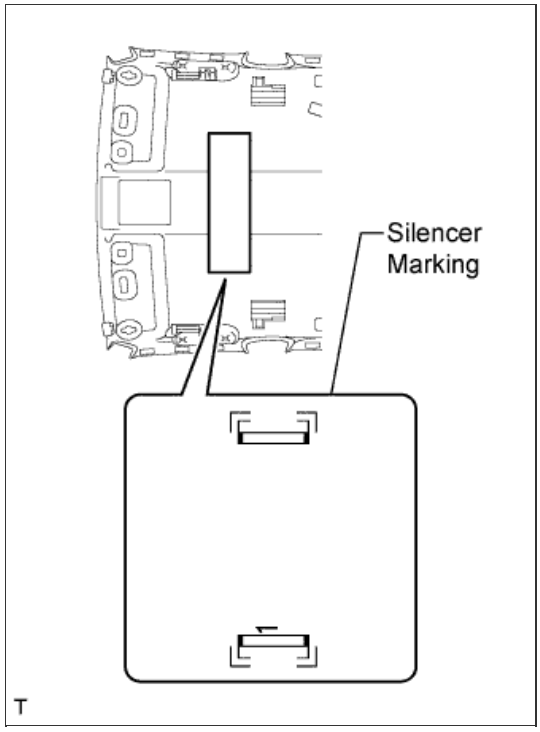

### 5. INSTALL NO. 2 ROOF SILENCER PAD

a. Align the silencer marking on the roof headlining with the roof silencer pad and install the pad using double-sided tape as shown in the illustration.




### 6. INSTALL NO. 1 ROOF SILENCER PAD

a. Align the silencer marking on the roof headlining with the roof silencer pad and install the pad using double-sided tape as shown in the illustration.

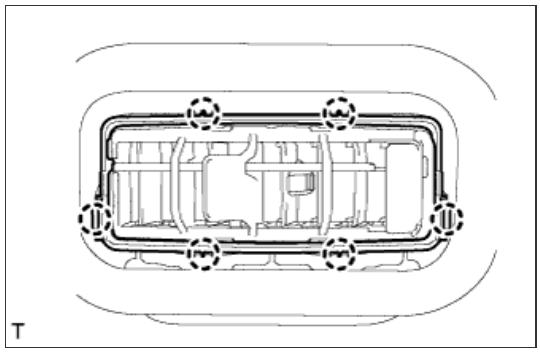



### 7. INSTALL NO. 2 AIR OUTLET GRILLE ASSEMBLY (w/ Rear Air Conditioning System)

**HINT:**

Use the same procedures to install the air outlet grille on the other side.

a. Attach the 6 claws to install the air outlet grille.




### 8. INSTALL NO. 1 AIR OUTLET GRILLE ASSEMBLY (w/ Rear Air Conditioning System)

**HINT:**

Use the same procedures described for the No. 2 air outlet grille.

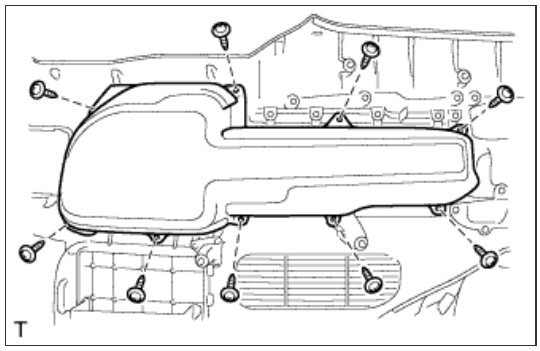
**for Preparation** Click here

**HINT:**

A bolt without a torque specification is shown in the standard bolt chart ( Click here).

## 1. INSTALL SIDE TRIM BOX

a. Install the side trim box with the 9 screws.




## 2. INSTALL SIDE TRIM BOX COVER

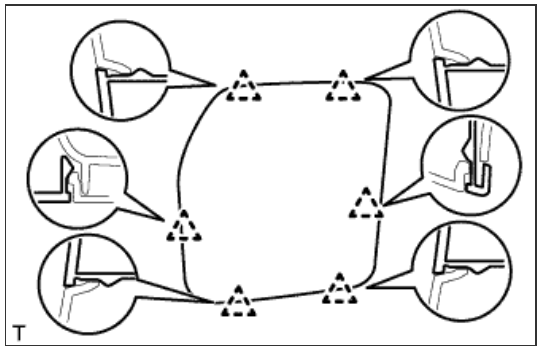
a. Install the side trim box cover.

## 3. INSTALL QUARTER TRIM LID SUB-ASSEMBLY RH

a. Install the quarter trim lid.

## 4. INSTALL QUARTER TRIM COVER LH (w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type)

a. Attach the 6 clips to install the quarter trim cover.



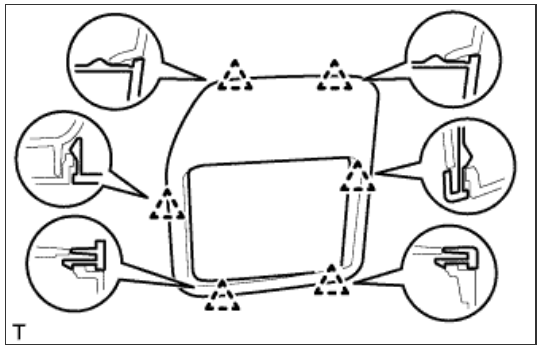

## 5. INSTALL QUARTER TRIM COVER RH (w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

## 6. INSTALL REAR NO. 2 SEAT COVER BEZEL (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Attach the 6 clips to install the rear No. 2 seat cover bezel.




### 7. INSTALL REAR NO. 1 SEAT COVER BEZEL (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the rear No. 2 seat cover bezel.

### 8. INSTALL REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY LH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Attach the 4 claws to install the seat lock control lever.

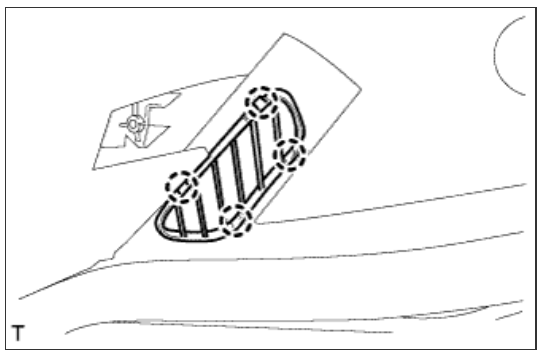
### 9. INSTALL REAR SEAT LOCK CONTROL LEVER SUB-ASSEMBLY RH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 10. INSTALL NO. 2 SIDE TRIM BASE COVER LH (w/ Rear Heater)

a. Attach the 4 claws to install the cover.



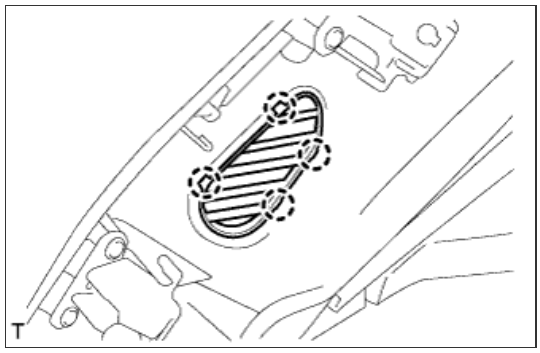

### 11. INSTALL NO. 2 SIDE TRIM BASE COVER RH (w/ Rear Heater)

**HINT:**

Use the same procedures described for the LH side.

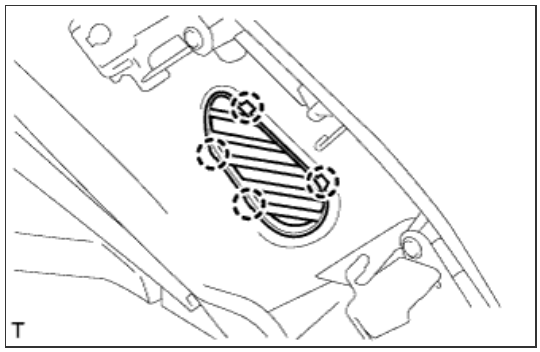
### 12. INSTALL NO. 1 SIDE TRIM BASE COVER LH (w/ Rear Heater)

a. Attach the 4 claws to install the cover.

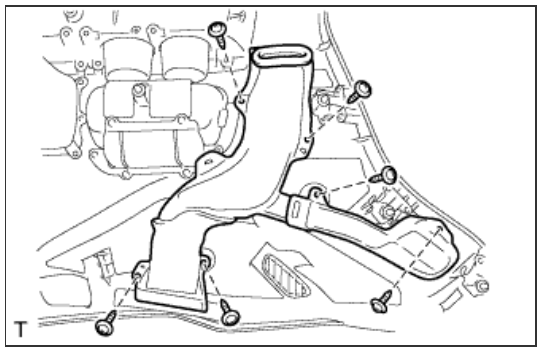



### 13. INSTALL NO. 1 SIDE TRIM BASE COVER RH (w/ Rear Heater)

a. Attach the 4 claws to install the cover.

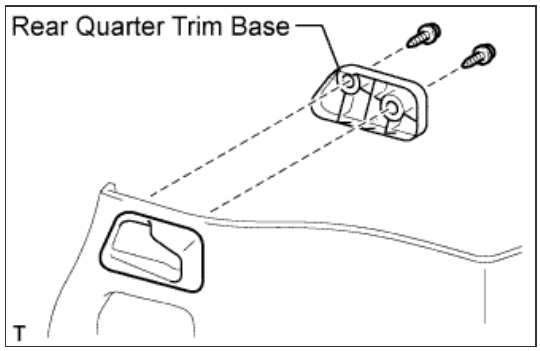



b. Install the duct with the 6 screws.




### 14. INSTALL TONNEAU COVER HANGER LH (w/ Tonneau Cover)

a. Install the tonneau cover hanger and rear quarter trim base with the 2 screws.




### 15. INSTALL TONNEAU COVER HANGER RH (w/ Tonneau Cover)

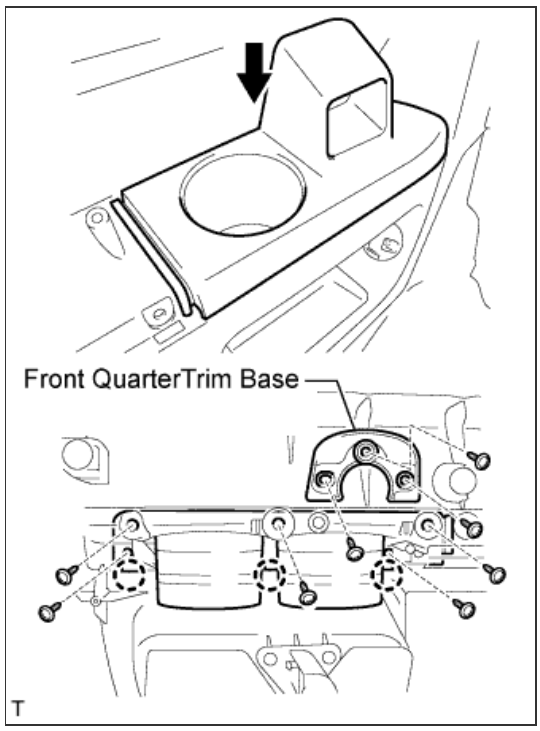
**HINT:**

Use the same procedures described for the LH side.

### 16. INSTALL TONNEAU COVER HOLDER BRACKET LH (w/ Tonneau Cover)

a. Attach the 3 claws to install the tonneau cover holder bracket.

b. Install the front quarter trim base with the 3 screws and then install the remaining 5 screws.




### 17. INSTALL TONNEAU COVER HOLDER BRACKET RH (w/ Tonneau Cover)

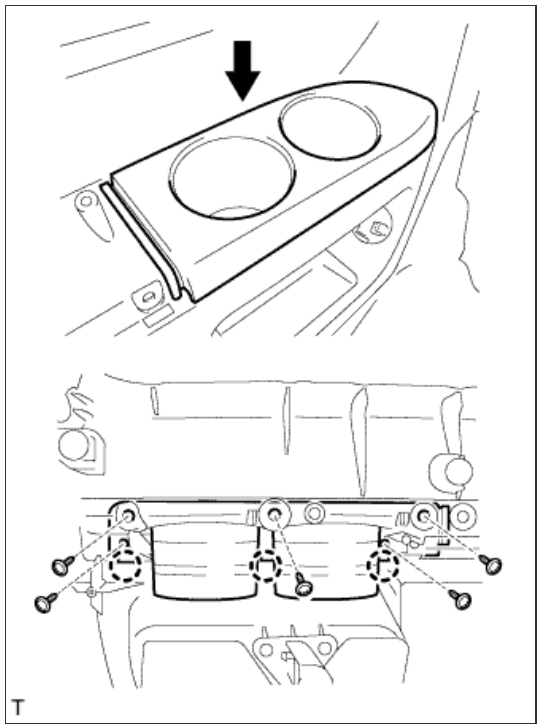
**HINT:**

Use the same procedures described for the LH side.

### 18. INSTALL NO. 2 CUP HOLDER

a. Attach the 3 claws to install the cup holder.

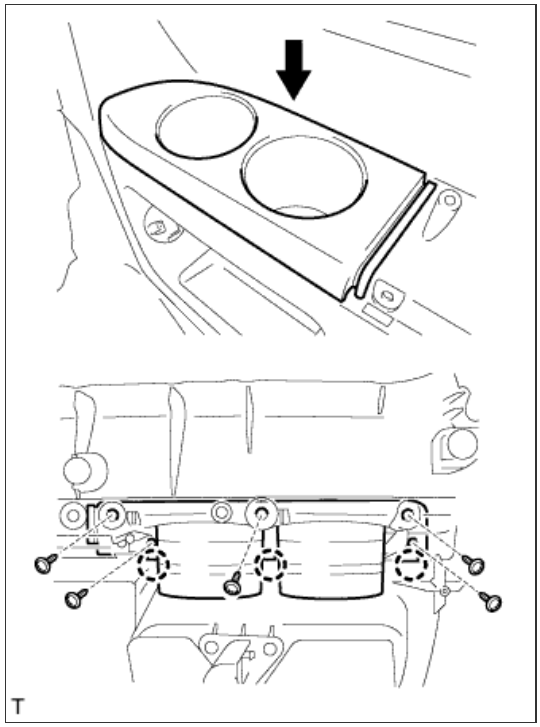
b. Install the 5 screws.




### 19. INSTALL NO. 1 CUP HOLDER

a. Attach the 3 claws to install the cup holder.

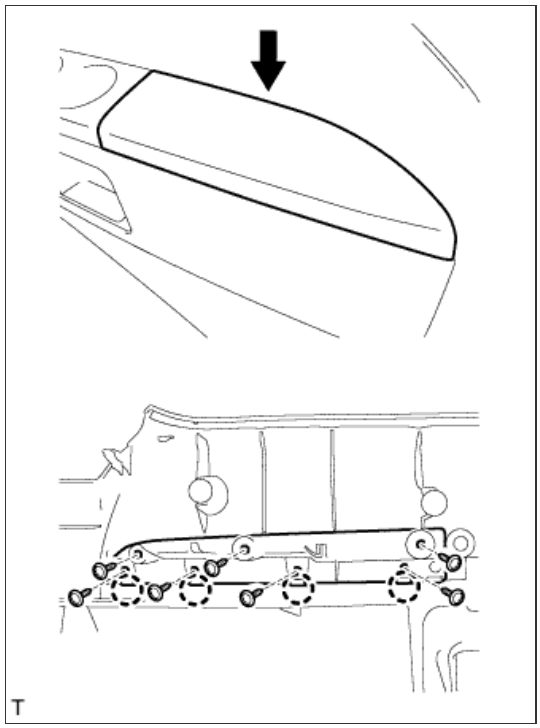
b. Install the 5 screws.



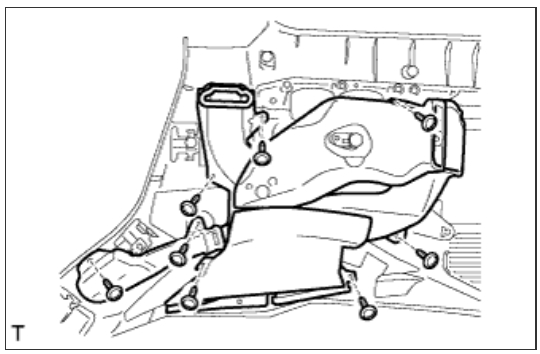

## 20. INSTALL QUARTER TRIM COVER SUB-ASSEMBLY LH

a. Attach the 4 claws to install the quarter trim cover.

b. Install the 7 screws.



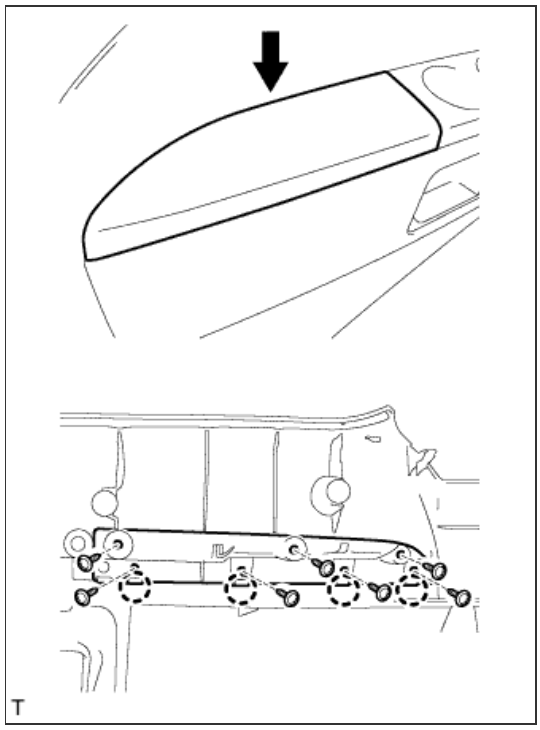

c. w/ Rear Heater:
Install the duct with the 8 screws.



## 21. INSTALL QUARTER TRIM COVER SUB-ASSEMBLY RH

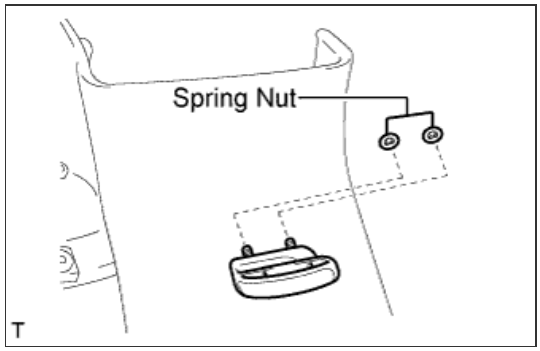
a. Attach the 4 claws to install the quarter trim cover.

b. Install the 7 screws.




## 22. INSTALL REAR NO. 2 SEAT SHOULDER BELT HANGER LH

a. Install the hanger with 2 new spring nuts.




## 23. INSTALL REAR NO. 2 SEAT SHOULDER BELT HANGER RH

**HINT:**

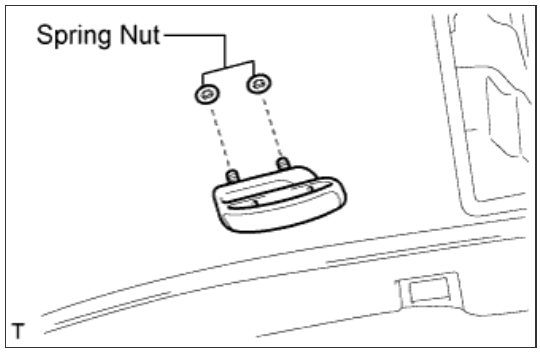
Use the same procedures described for the LH side.

## 24. INSTALL REAR SEAT SHOULDER BELT HANGER (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

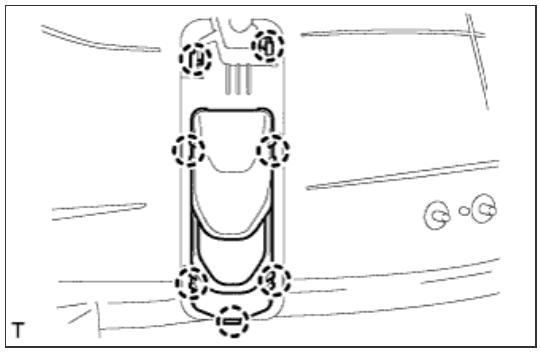
Use the same procedure to install the hanger on the other side.

a. Install the hanger with 2 new spring nuts.




### 25. INSTALL ROOF SIDE INNER GARNISH COVER LH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

a. Attach the 7 claws to install the cover.



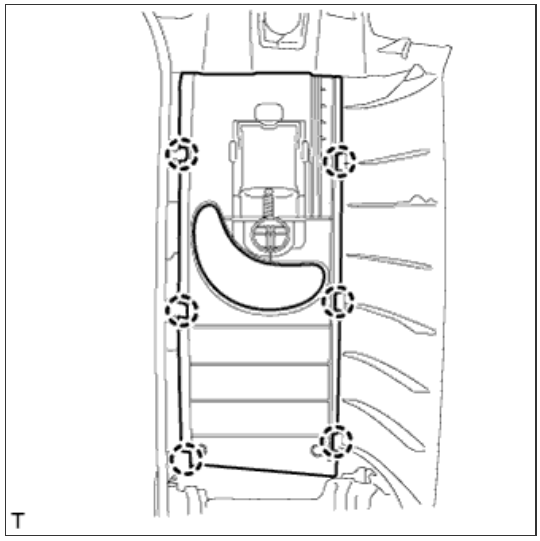

### 26. INSTALL ROOF SIDE INNER GARNISH COVER RH (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 27. INSTALL REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Attach the 6 claws to install the plate.



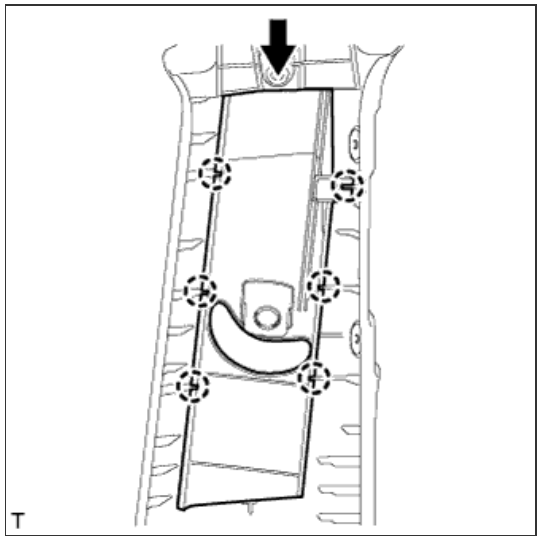

### 28. INSTALL REAR SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

### 29. INSTALL FRONT SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY LH

a. Slide the plate in the direction shown in the illustration and attach the 6 claws to install the plate.



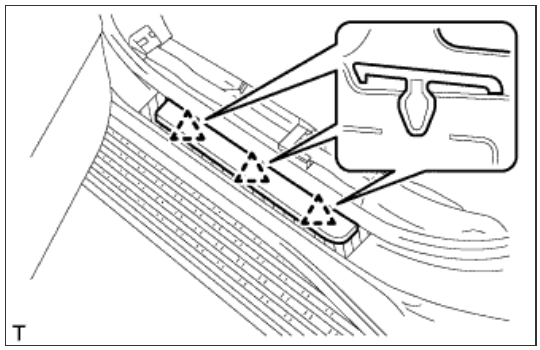

### 30. INSTALL FRONT SHOULDER BELT ANCHOR PLATE SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

### 31. INSTALL REAR DOOR SCUFF PLATE OUTSIDE LH

a. Attach the 3 clips to install the rear door scuff plate outside.



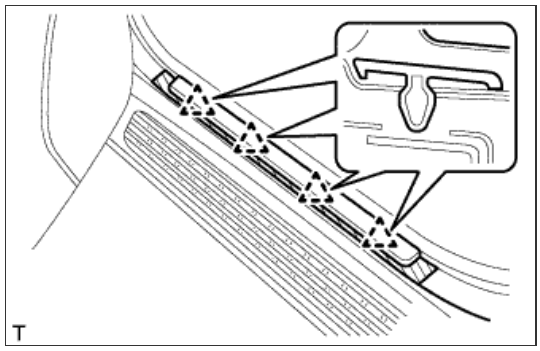

### 32. INSTALL REAR DOOR SCUFF PLATE OUTSIDE RH

**HINT:**

Use the same procedures described for the LH side.

### 33. INSTALL FRONT DOOR SCUFF PLATE OUTSIDE LH

a. Attach the 4 clips to install the front door scuff plate outside.



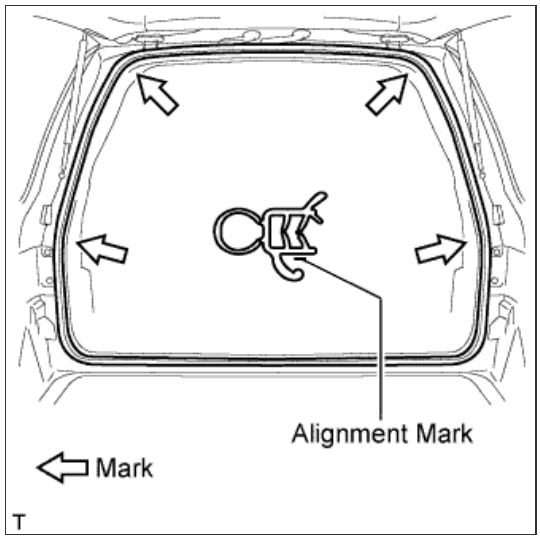

## 34. INSTALL FRONT DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

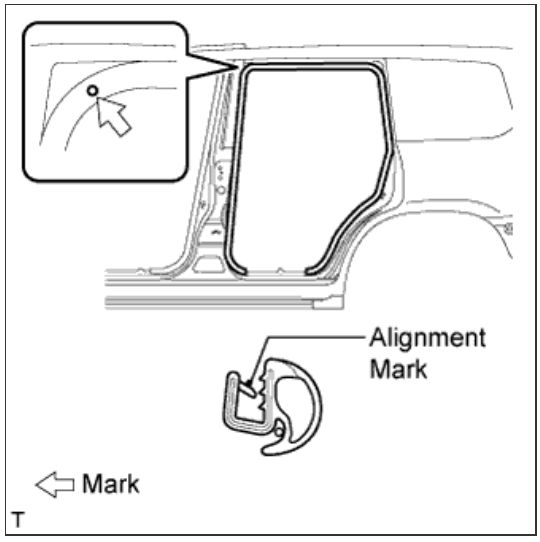
## 35. INSTALL BACK DOOR WEATHERSTRIP

a. Install the back door weatherstrip as shown in the illustration.




## 36. INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP LH

a. Install the rear door opening trim weatherstrip as shown in the illustration.



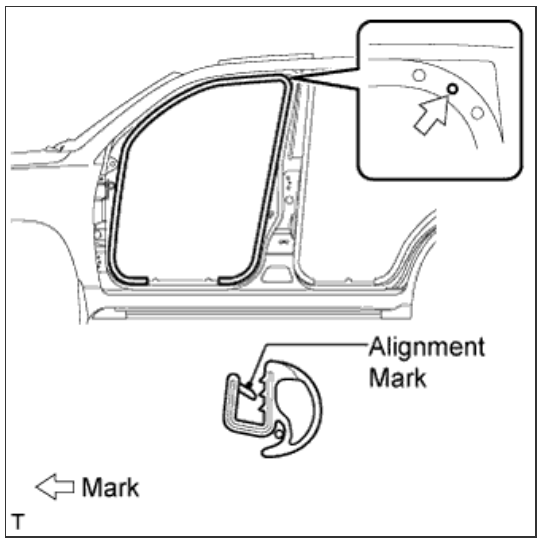

## 37. INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP RH

**HINT:**

Use the same procedures described for the LH side.

## 38. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP LH

a. Install the front door opening trim weatherstrip as shown in the illustration.




## 39. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP RH

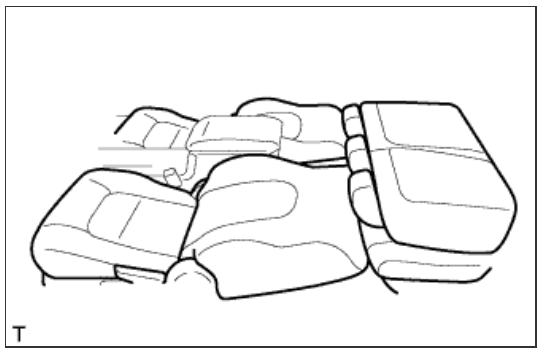
**HINT:**

Use the same procedures described for the LH side.

## 40. INSTALL ROOF HEADLINING ASSEMBLY

**HINT:**

- **for Manual Seat:**
  **When installing the roof headlining, move the front seat and rear No. 1 seat to the position shown in the illustration.**
- **for Power Seat:**
  **When installing the roof headlining, connect the cable to the negative (-) battery terminal and move the front seat and No. 1 rear seat to the position shown in the illustration.**
- **for Power Seat:**
  **After moving the seats, disconnect the cable from the negative (-) battery terminal.**




a. Place the headlining in the cabin from the rear of the vehicle as shown in the illustration.

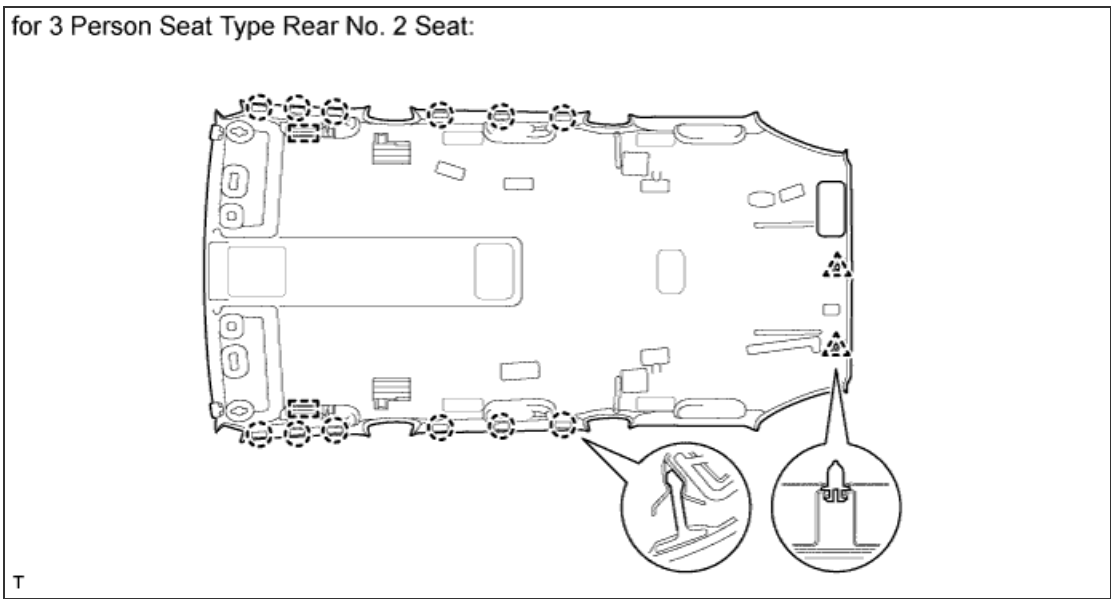
**NOTICE:**

Be careful not to damage the roof headlining when placing it in the cabin.

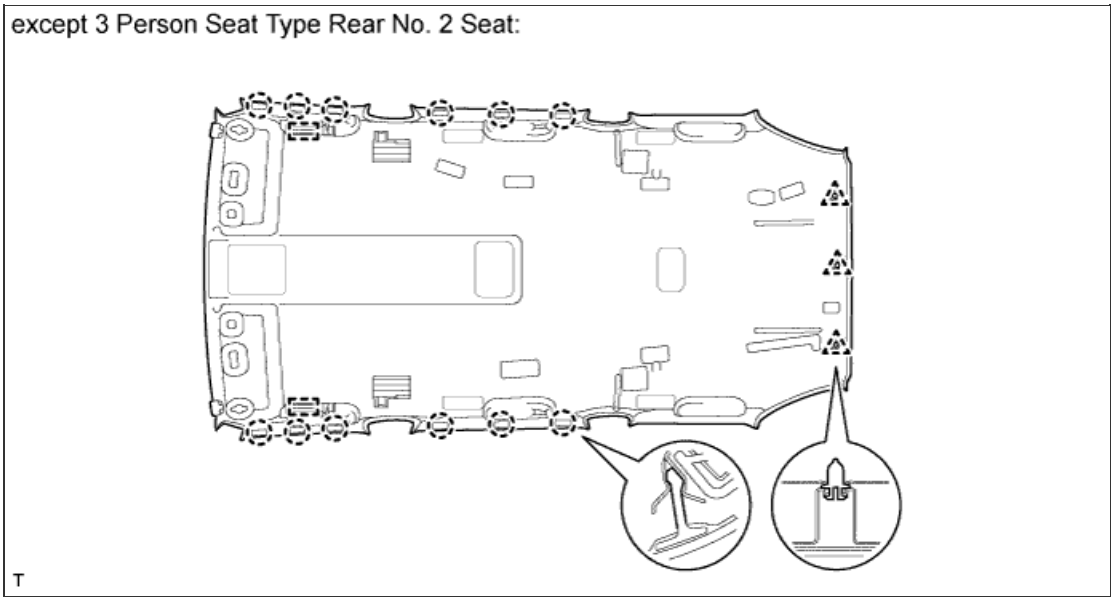


b. for 3 Person Seat Type Rear No. 2 Seat:

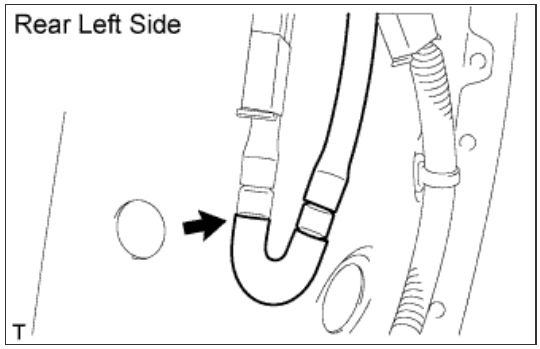
b. for 3 Person Seat Type Rear No. 2 Seat:
Attach the 2 guides, 12 claws and 2 clips to install the headlining.



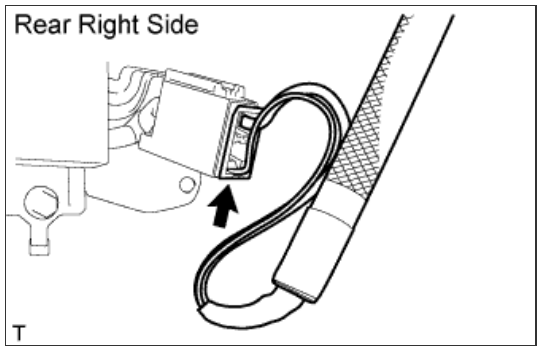

c. except 3 Person Seat Type Rear No. 2 Seat:
Attach the 2 guides, 12 claws and 3 clips to install the headlining.




d. w/ Rear Wiper:
Connect the washer hose.

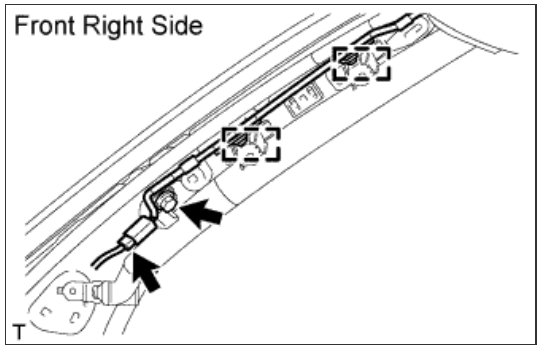


e. Connect the antenna cord connector.



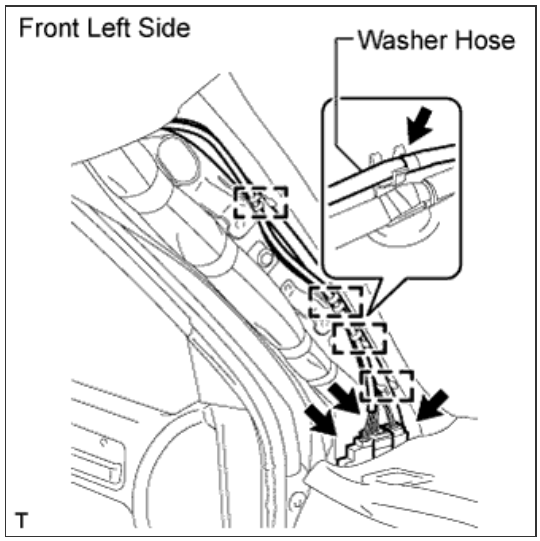

f. Connect the antenna cord connector and attach the 2 clamps.

g. Install the bolt.

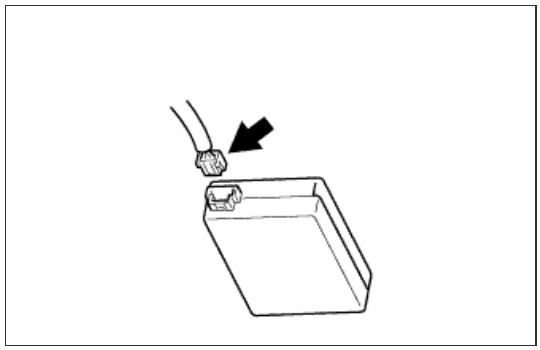



h. Connect the 3 roof wire connectors and 4 clamps.

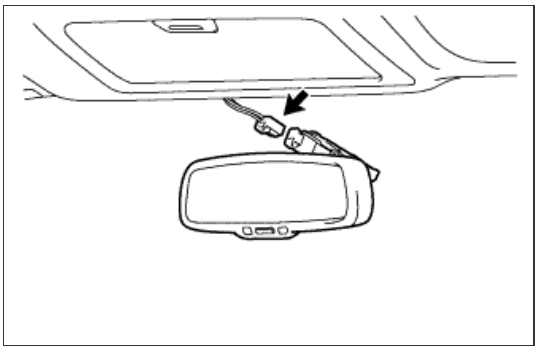
i. w/ Rear Wiper:
Connect the washer hose.




j. w/ Rain Sensor:
Connect the rain sensor connector.



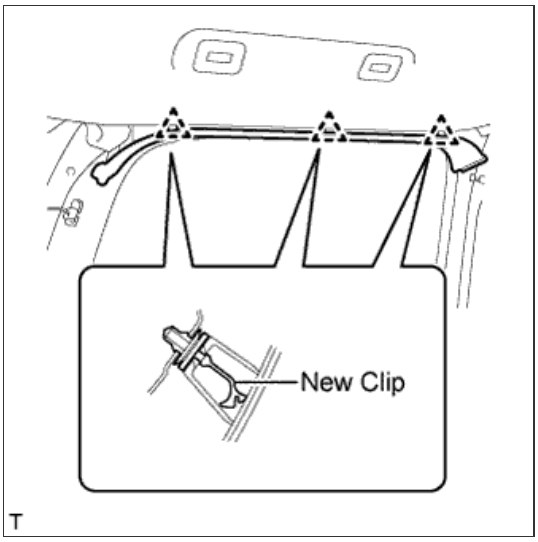
k. w/ EC Mirror:
Connect the inner mirror connector.



### 41. INSTALL FRONT ROOF SIDE RAIL GARNISH LH

a. Install 3 new clips to the roof side rail garnish.

b. Attach the 3 clips to install the roof side rail garnish.




### 42. INSTALL FRONT ROOF SIDE RAIL GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

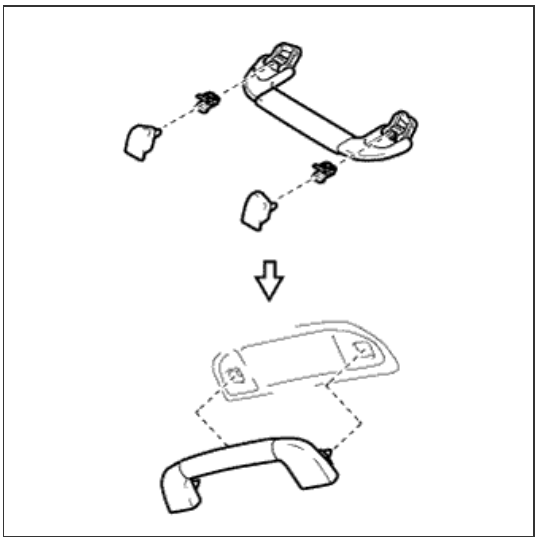
### 43. INSTALL 3RD SEAT ASSIST GRIP ASSEMBLY (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedure to install the 3rd seat assist grip on the other side.

a. Assemble the assist grip, 2 clips and 2 covers as shown in the illustration.

b. Install the assist grip.

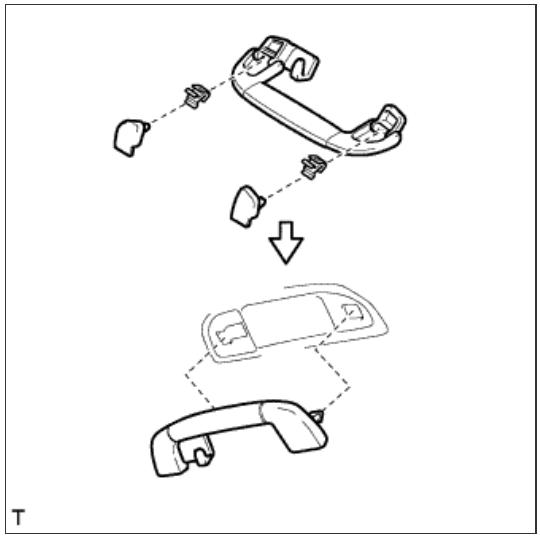


### 44. INSTALL NO. 2 ASSIST GRIP ASSEMBLY LH

a. w/ Rear No. 2 Seat, except Face to Face Seat Type or w/o Rear No. 2 Seat:
Install the No. 2 assist grip assembly.

i. Assemble the assist grip, 2 clips and 2 covers as shown in the illustration.

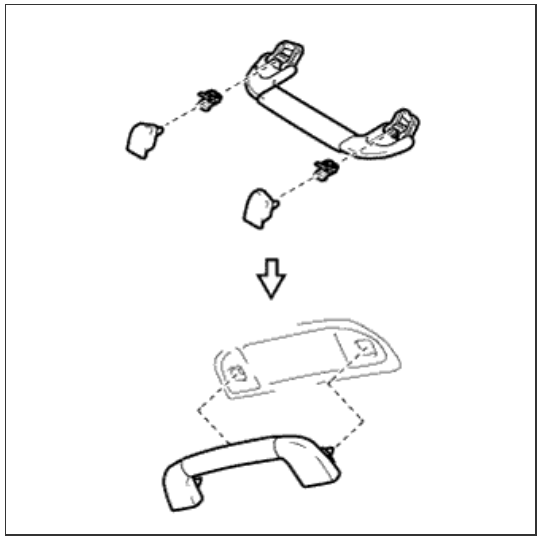
ii. Install the assist grip.




b. w/ Rear No. 2 Seat, for Face to Face Seat Type:
Install the No. 2 assist grip assembly.

i. Assemble the assist grip, 2 clips and 2 covers as shown in the illustration.

ii. Install the assist grip.



## 45. INSTALL NO. 2 ASSIST GRIP ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

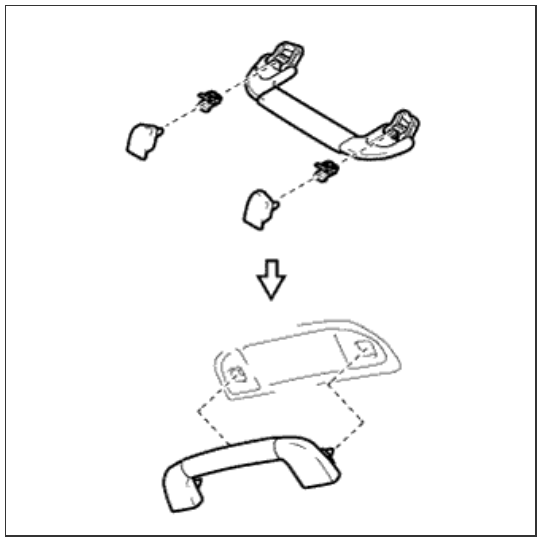
## 46. INSTALL ASSIST GRIP ASSEMBLY

**HINT:**

Use the same procedure to install the assist grip on the other side.

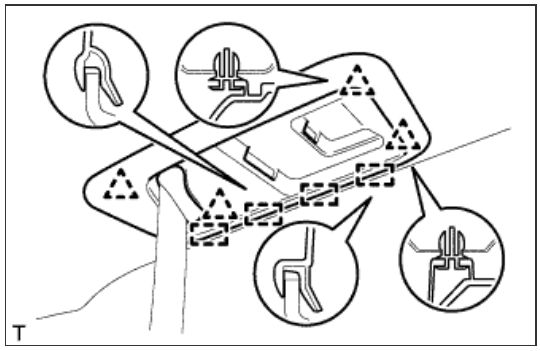
a. Assemble the assist grip, 2 clips and 2 covers as shown in the illustration.

b. Install the assist grip.



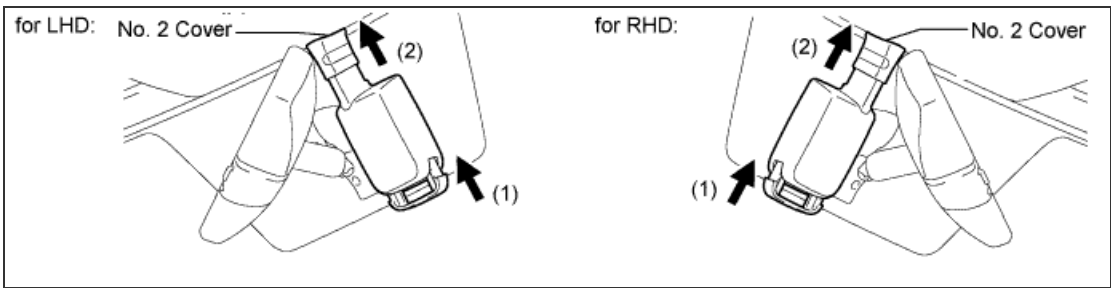
**47. INSTALL SEAT BELT ANCHOR COVER (for 3 Person Seat Type Rear No. 2 Seat)**

a. Attach the 4 guides and 4 clips to install the seat belt anchor cover.




**48. INSTALL RAIN SENSOR COVER (w/ Rain Sensor)**

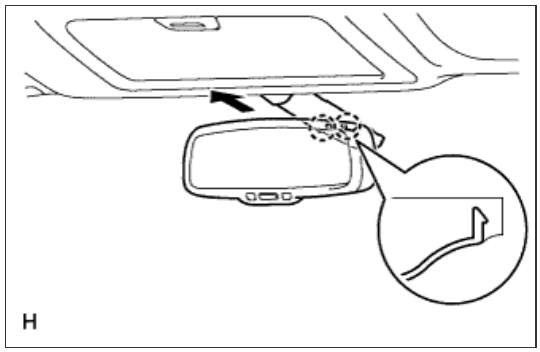
a. Push in the stopper in the direction of the arrow labeled (1) to install the rain sensor cover.




b. Slide the No. 2 cover in the direction of the arrow labeled (2) to fix it in place.

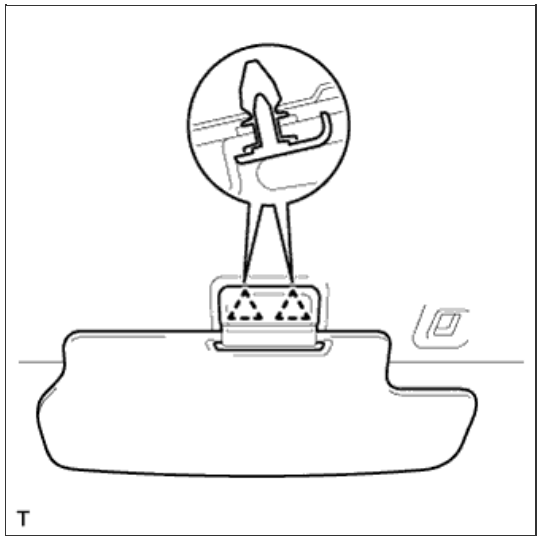
**49. INSTALL INNER REAR VIEW MIRROR STAY HOLDER COVER (w/ EC Mirror)**

a. Attach the 2 claws to install the cover.




### 50. INSTALL CENTER VISOR ASSEMBLY LH (w/ Sub Visor)

a. Attach the 2 clips to install the center visor.




### 51. INSTALL CENTER VISOR ASSEMBLY RH (w/ Sub Visor)

**HINT:**

Use the same procedures described for the LH side.

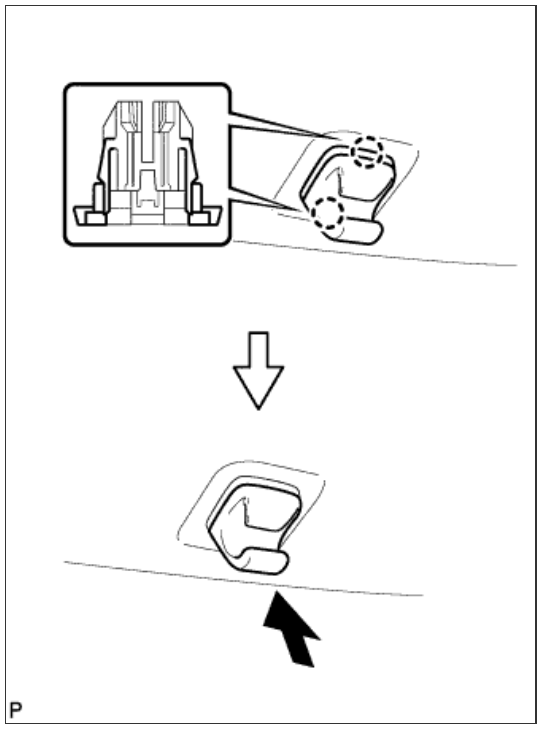
### 52. INSTALL VISOR HOLDER

**HINT:**

Use the same procedures to install the visor holder on the other side.

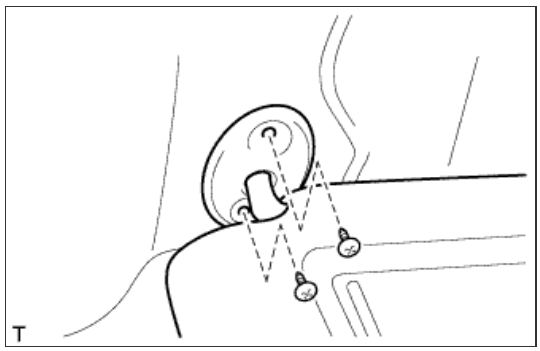
a. Attach the 2 claws.

b. Push the visor holder in to install it.




### 53. INSTALL VISOR ASSEMBLY LH

a. Install the visor with the 2 screws.




### 54. INSTALL VISOR ASSEMBLY RH

**HINT:**

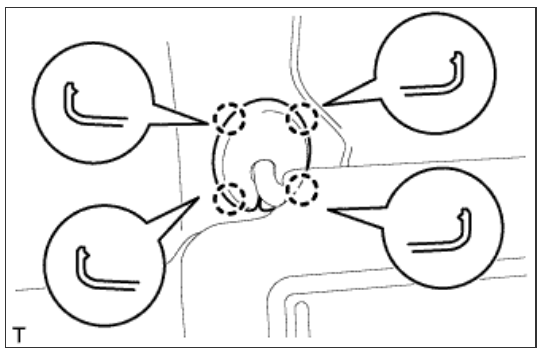
Use the same procedures described for the LH side.

### 55. INSTALL VISOR BRACKET COVER

**HINT:**

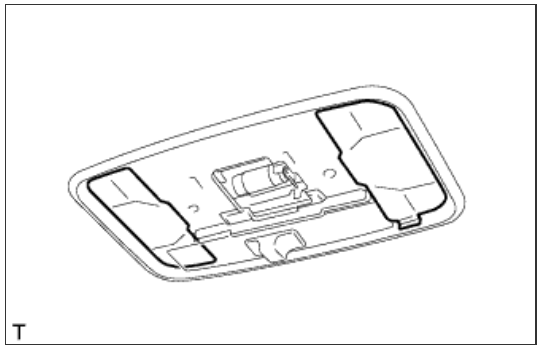
Use the same procedure to install the visor bracket cover on the other side.

a. Attach the 4 claws to install the visor bracket cover.

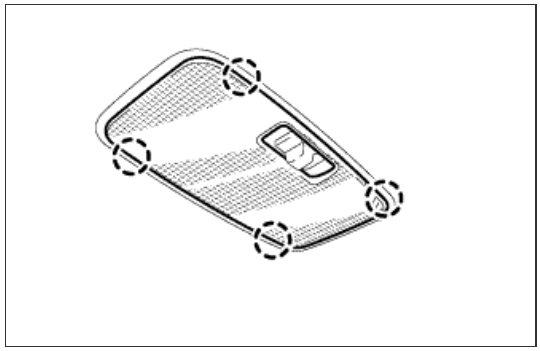



### 56. INSTALL NO. 2 ROOM LIGHT ASSEMBLY

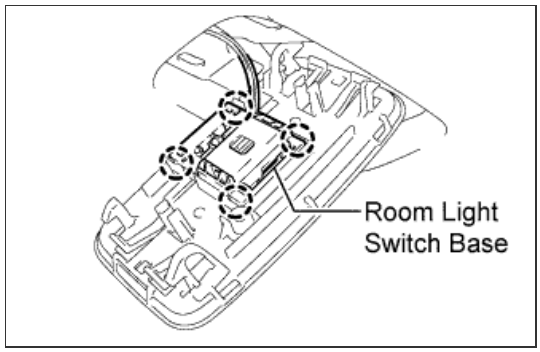
a. Install the 2 covers.



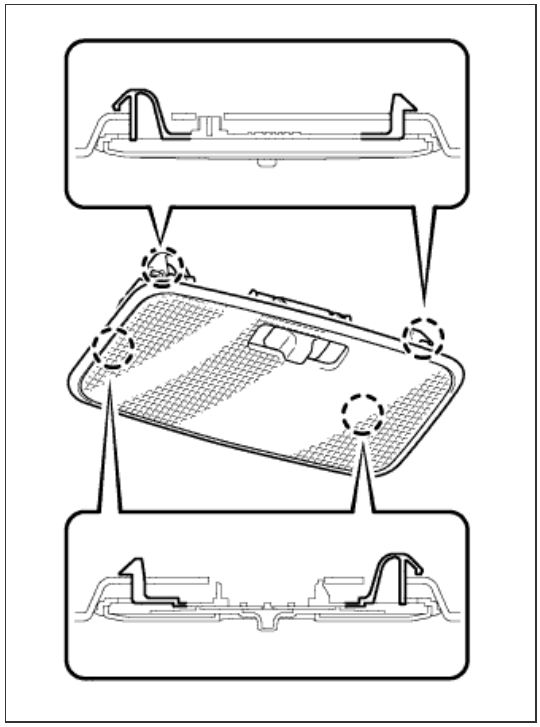

b. Attach the 4 claws to install the room light lens.



c. Attach the 4 claws to install the room light to the room light switch base.

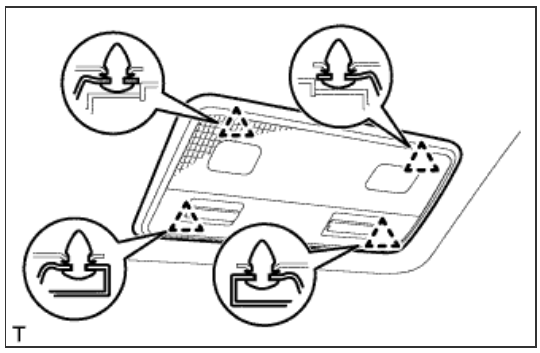



d. Attach the 4 claws to install the room light.



## 57. INSTALL NO. 1 ROOM LIGHT ASSEMBLY

a. w/ Map Light:
Install the No. 1 room light assembly.

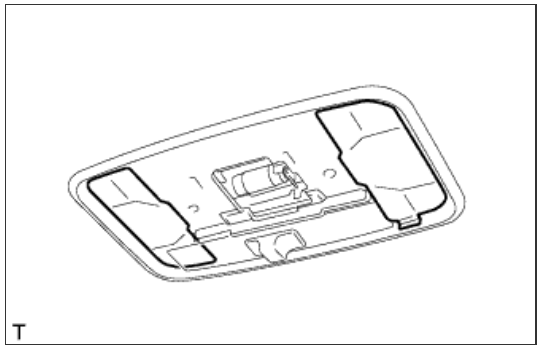



i. Connect the connector.

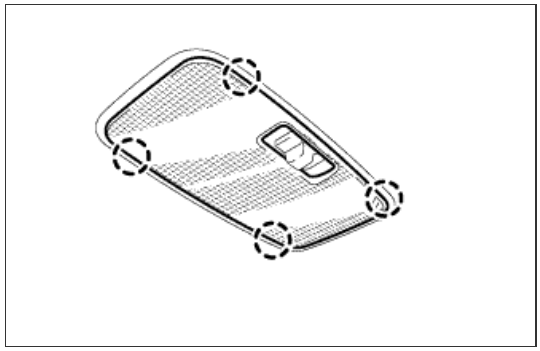
ii. Attach the 4 clips to install the room light.

b. w/o Map Light:
Install the No. 1 room light assembly.

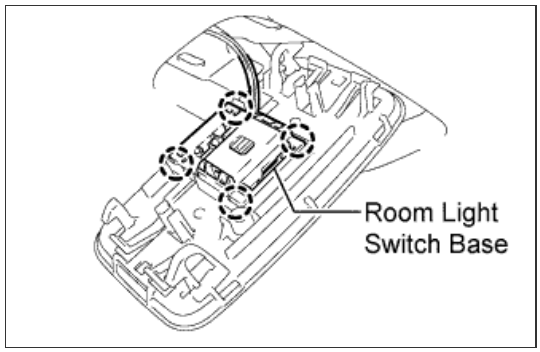
i. Install the 2 covers.



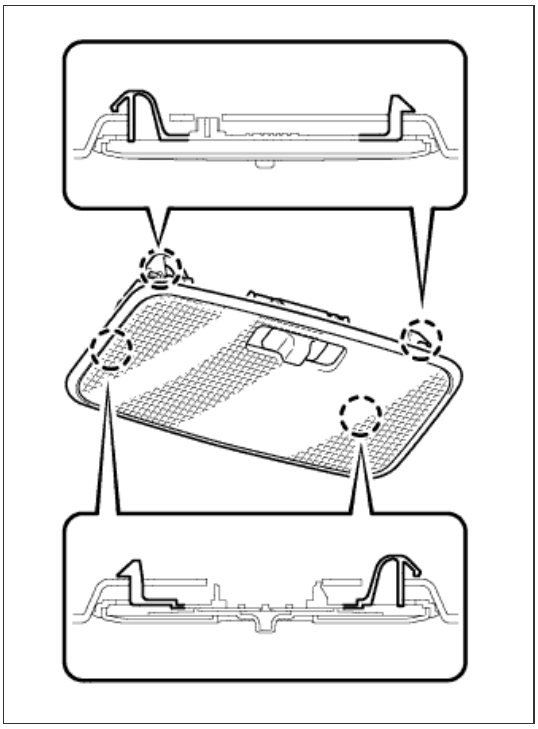

ii. Attach the 4 claws to install the room light lens.



iii. Attach the 4 claws to install the room light to the room light switch base.




iv. Attach the 4 claws to install the room light.



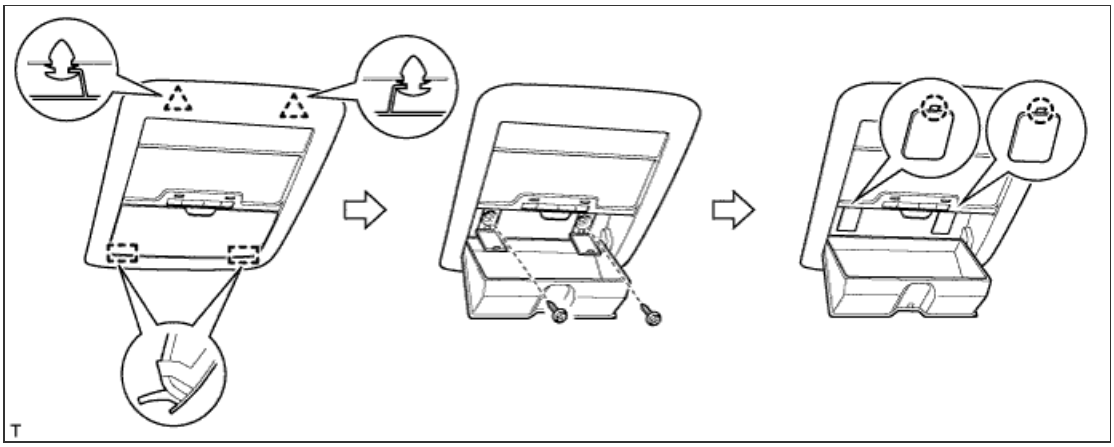
## 58. INSTALL MAP LIGHT ASSEMBLY (w/ Map Light)

a. Connect the connector.

b. Attach the 2 clips and 2 guides to install the map light.

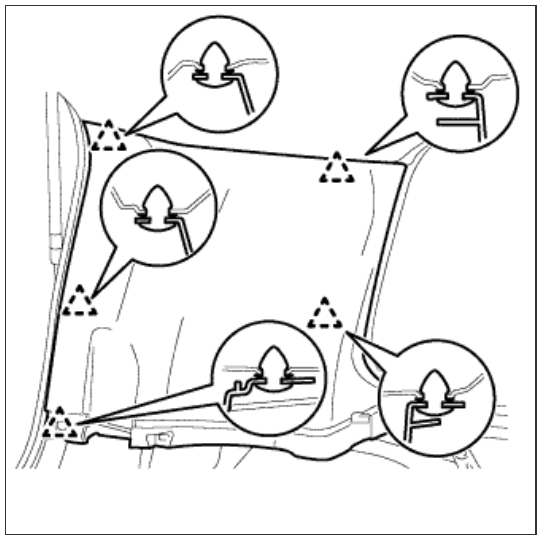
c. Install the 2 screws.

d. Attach the 2 claws to close the 2 covers.

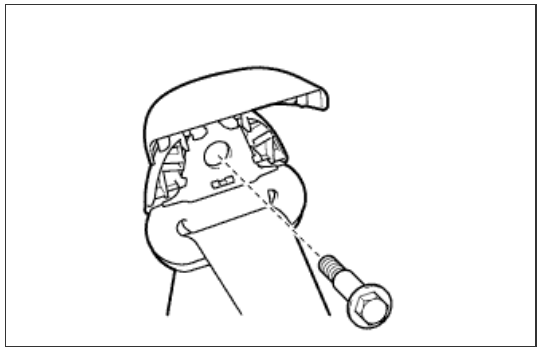



## 59. INSTALL REAR UPPER PILLAR GARNISH LH

a. Attach the 5 clips to install the rear upper pillar garnish.

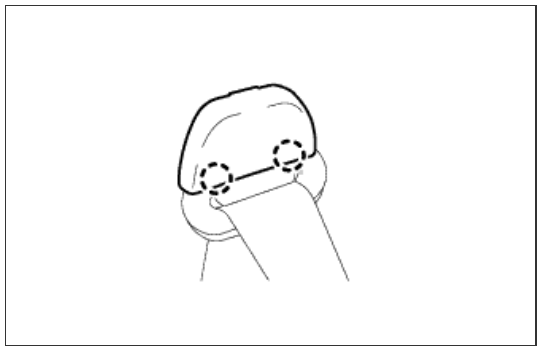


b. w/ Rear No. 2 Seat, except Face to Face Seat Type:



i. Install the seat belt shoulder anchor with the bolt.

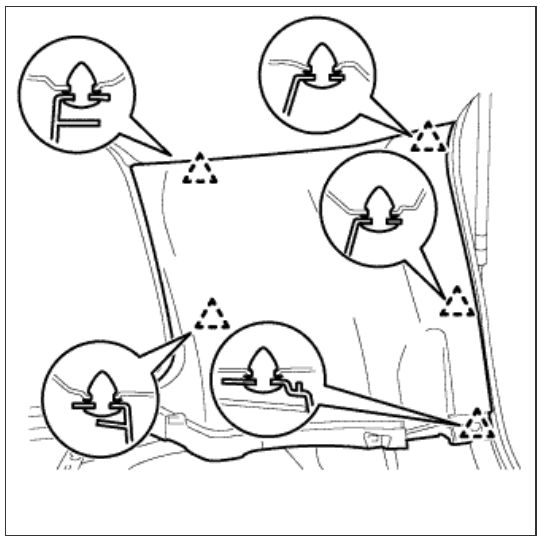
**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**



ii. Attach the 2 claws to close the seat belt shoulder anchor cover.

## 60. INSTALL REAR UPPER PILLAR GARNISH RH

a. w/o Power Back Door:

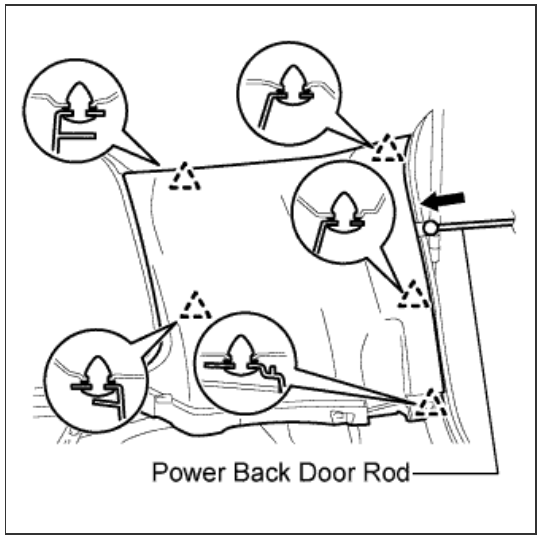


i. Attach the 5 clips to install the rear upper pillar garnish.

b. w/ Power Back Door:

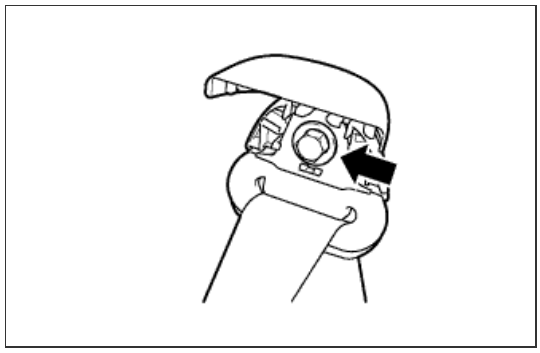
i. Pass the power back door rod through the rear upper pillar garnish.

ii. Attach the 5 clips to install the rear upper pillar garnish.

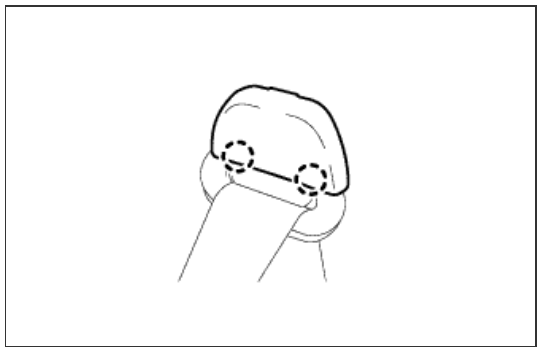



c. Install the seat belt shoulder anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

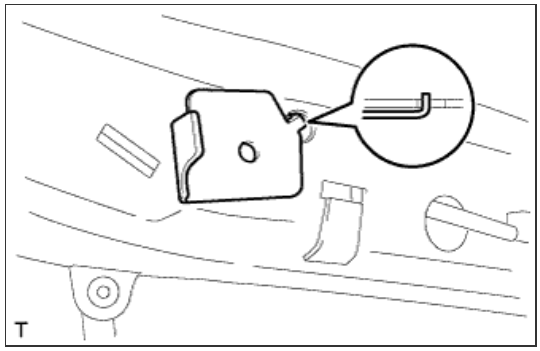


d. Attach the 2 claws to close the seat belt shoulder anchor cover.



## 61. INSTALL BACK DOOR SERVICE HOLE COVER RH (w/ Power Back Door)

a. Install the back door stay plate.

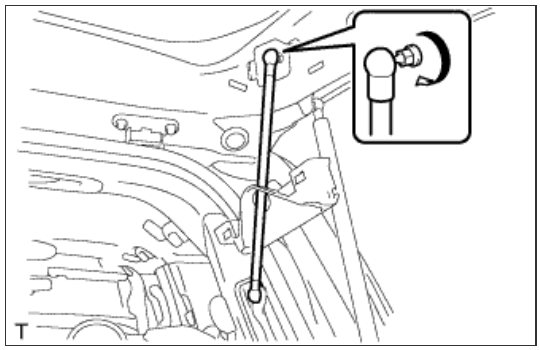



b. Pass the power back door rod through the hole of the back door service hole cover RH and install the rod with the bolt.

**Torque:**

**:**

**18 N*m{ 184 kgf*cm , 13 ft.*lbf }**




c. Move the back door to a half-open position so that the hole in the center of the back door service hole cover RH is aligned lengthwise with the power back door rod.

d. Attach the 2 clips and install the back door service hole cover RH.

**NOTICE:**

If the back door is in a fully-open position, the power back door rod will interfere with the hole of the back door service hole cover, so do not perform this operation with the back door in a fully open position.

## 62. INSTALL BACK DOOR SIDE GARNISH RH (w/ Power Back Door)

a. w/o Power Back Door:

**HINT:**

Use the same procedure described for the LH side.

b. w/ Power Back Door:

i. Attach the clip and 4 claws to install the back door side garnish RH.

## 63. INSTALL CENTER BACK DOOR GARNISH (w/ Power Back Door)

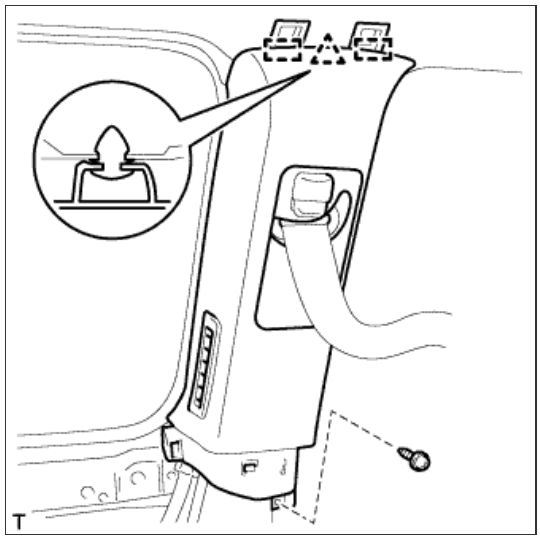
a. Attach the 5 clips and 4 claws to install the center back door garnish.

## 64. INSTALL REAR FRONT QUARTER TRIM GARNISH LH

a. Pass the seat belt anchor through the quarter trim garnish.

b. Attach the clip and 2 guides to install the quarter trim garnish.

c. Install the screw.




## 65. INSTALL REAR FRONT QUARTER TRIM GARNISH RH

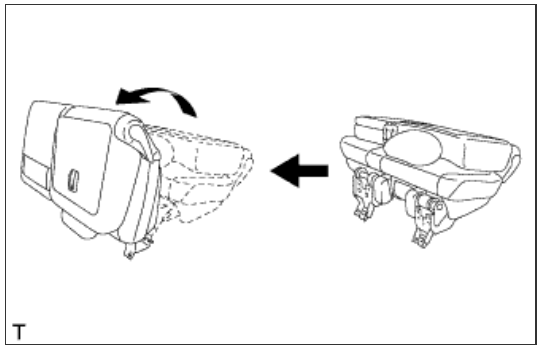
**HINT:**

Use the same procedures described for the LH side.

## 66. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY LH

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

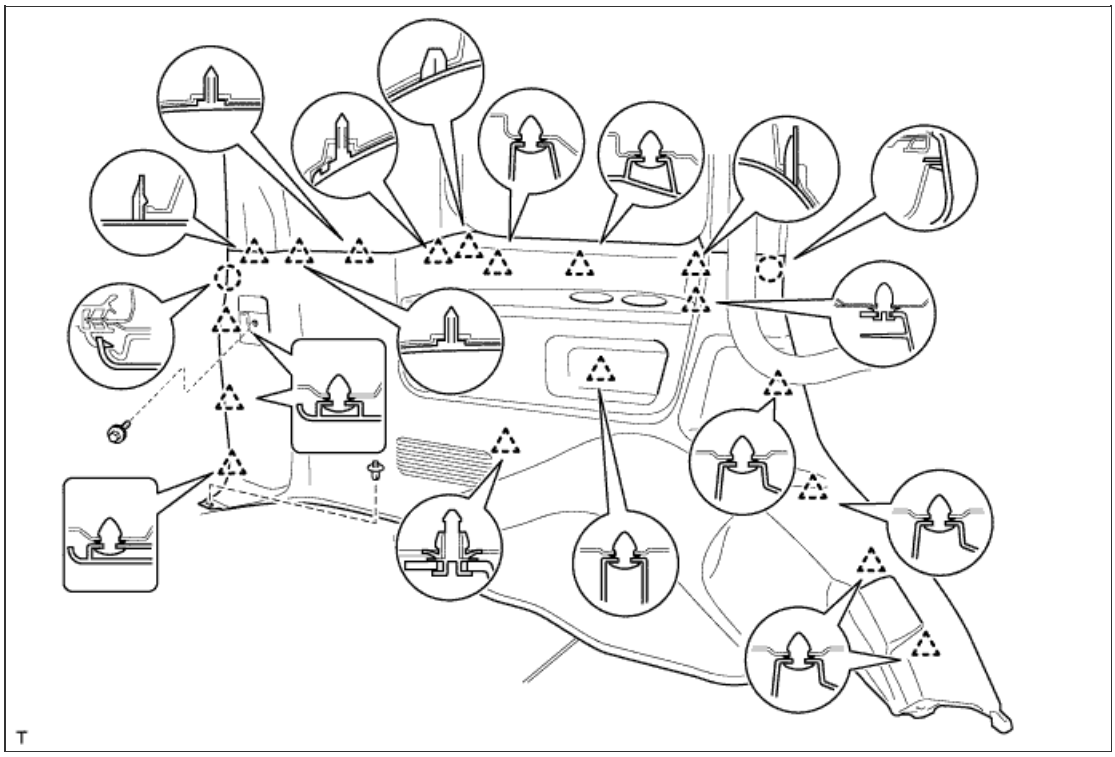
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 18 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

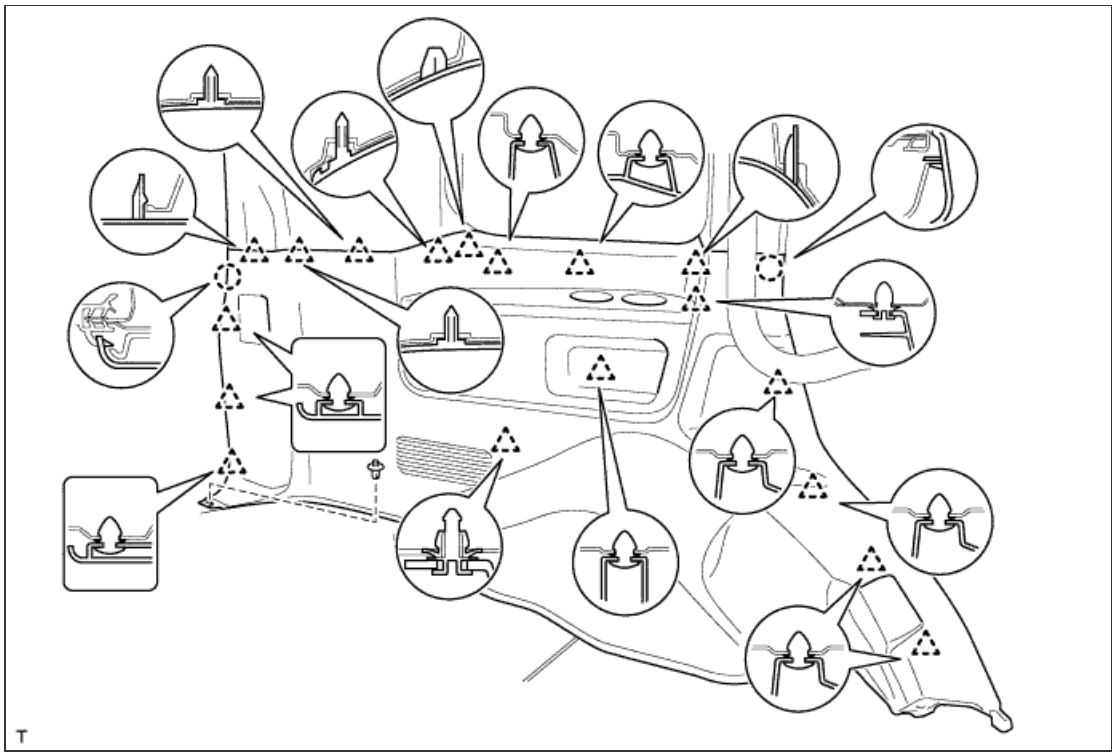
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**




b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

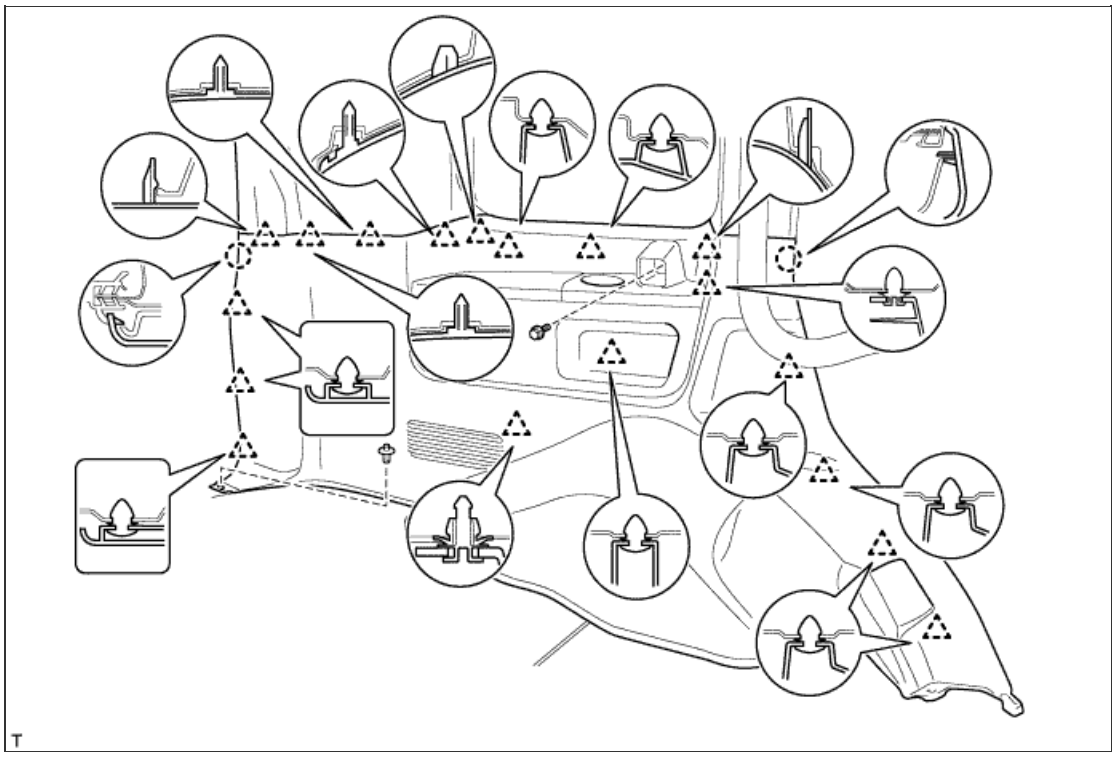
ii. Install the clip.




c. w/ Tonneau Cover:

i. Attach the 18 clips and 2 claws to install the quarter trim panel.

ii. Install the screw and clip.

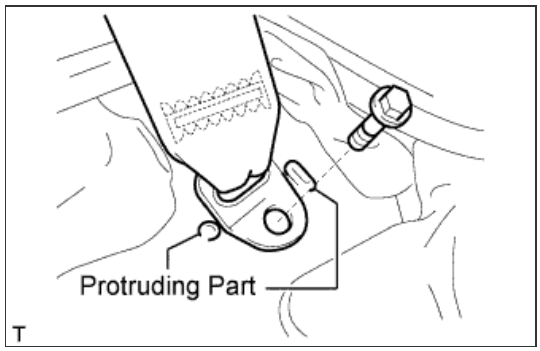


d. w/ Rear No. 2 Seat, except Face to Face Seat Type:
Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

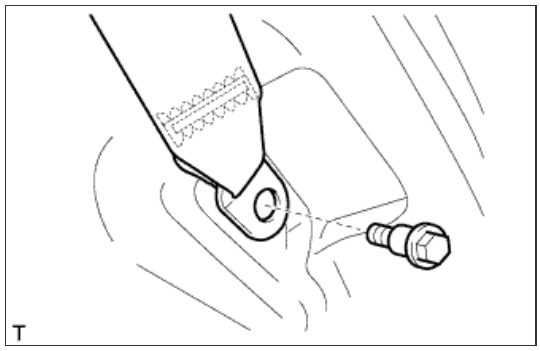
**NOTICE:**

Do not overlap the anchor part of the seat belt and protruding parts of the vehicle body.

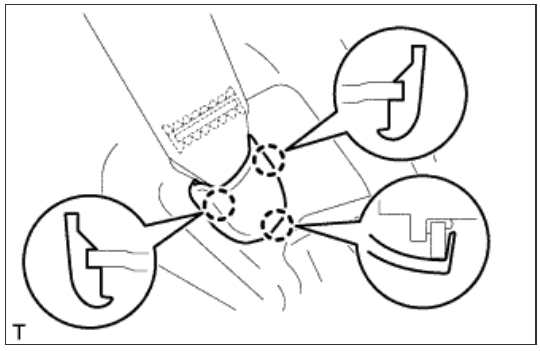



e. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**



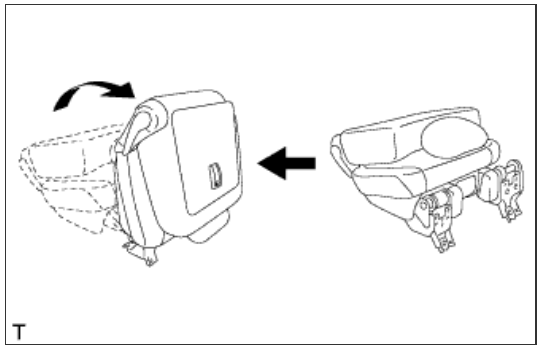

f. Attach the 3 claws to install the cover.




## 67. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

**HINT:**

When installing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.




a. w/ Rear No. 2 Seat, except Face to Face Seat Type:

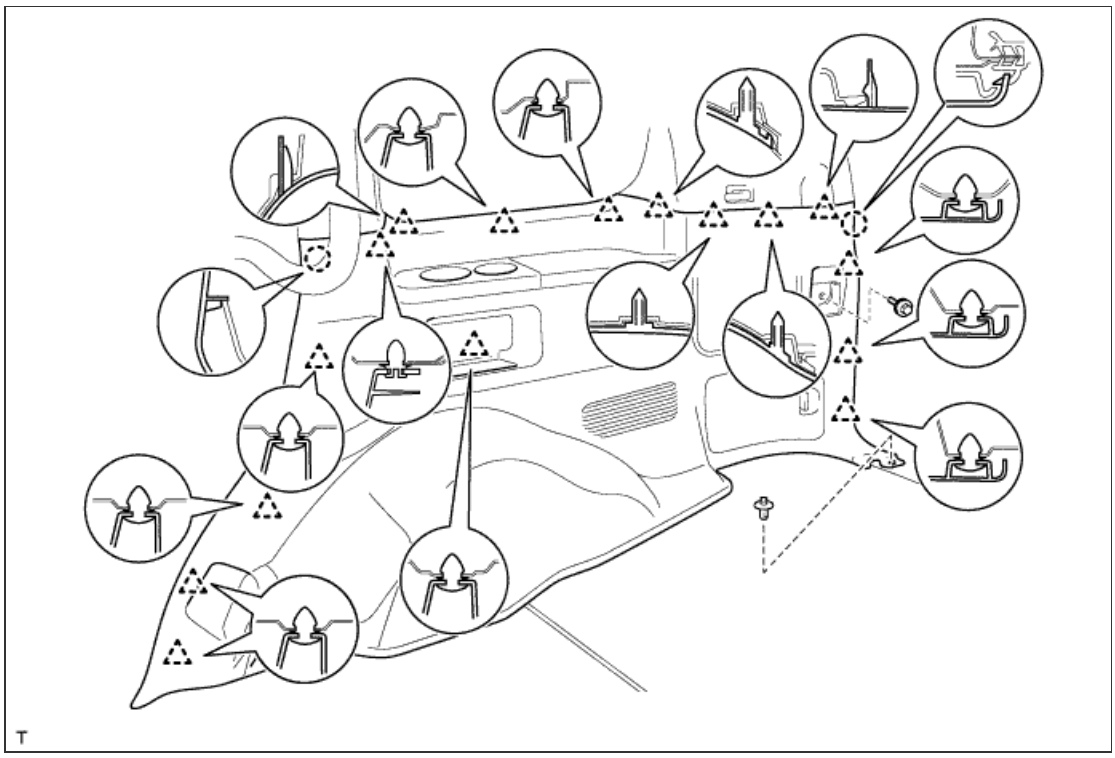
i. w/o Rear Air Conditioning System:
Connect the rear seat lock control lever cable.

ii. w/ Rear Air Conditioning System:
Connect the thermistor connector and rear seat lock control lever cable.

iii. Attach the 16 clips and 2 claws to install the quarter trim panel.

iv. Install the clip and bolt.

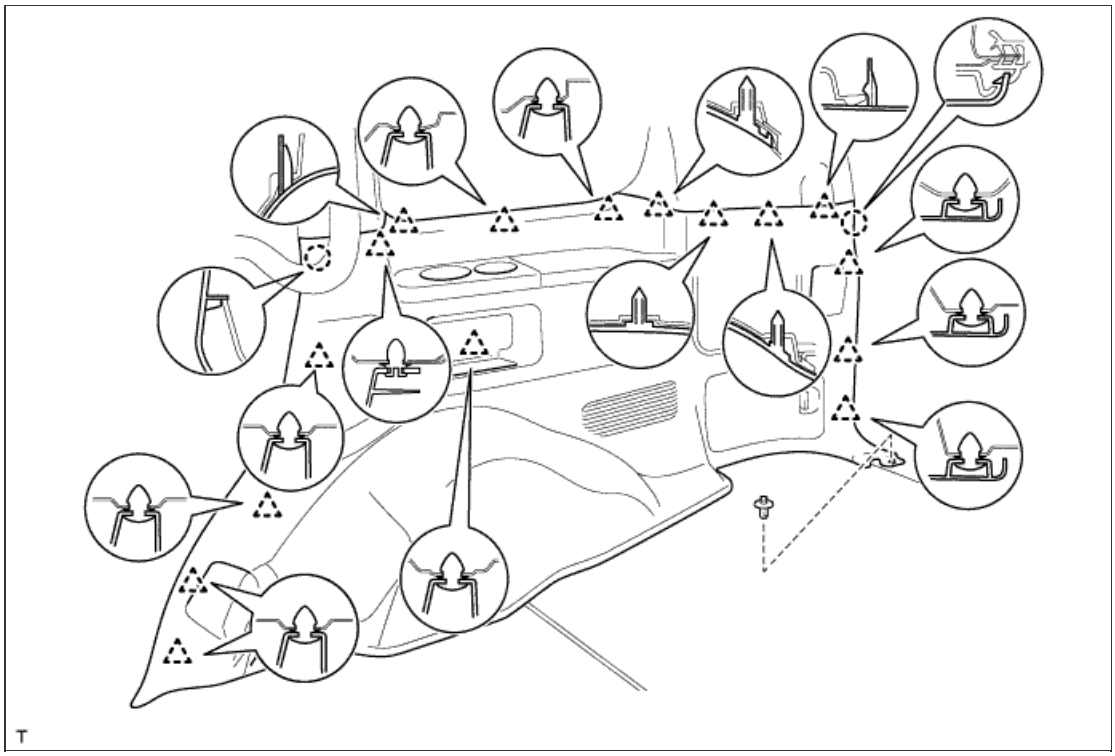
**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**



b. w/o Rear No. 2 Seat or w/ Rear No. 2 Seat, for Face to Face Seat Type:

i. Attach the 16 clips and 2 claws to install the quarter trim panel.

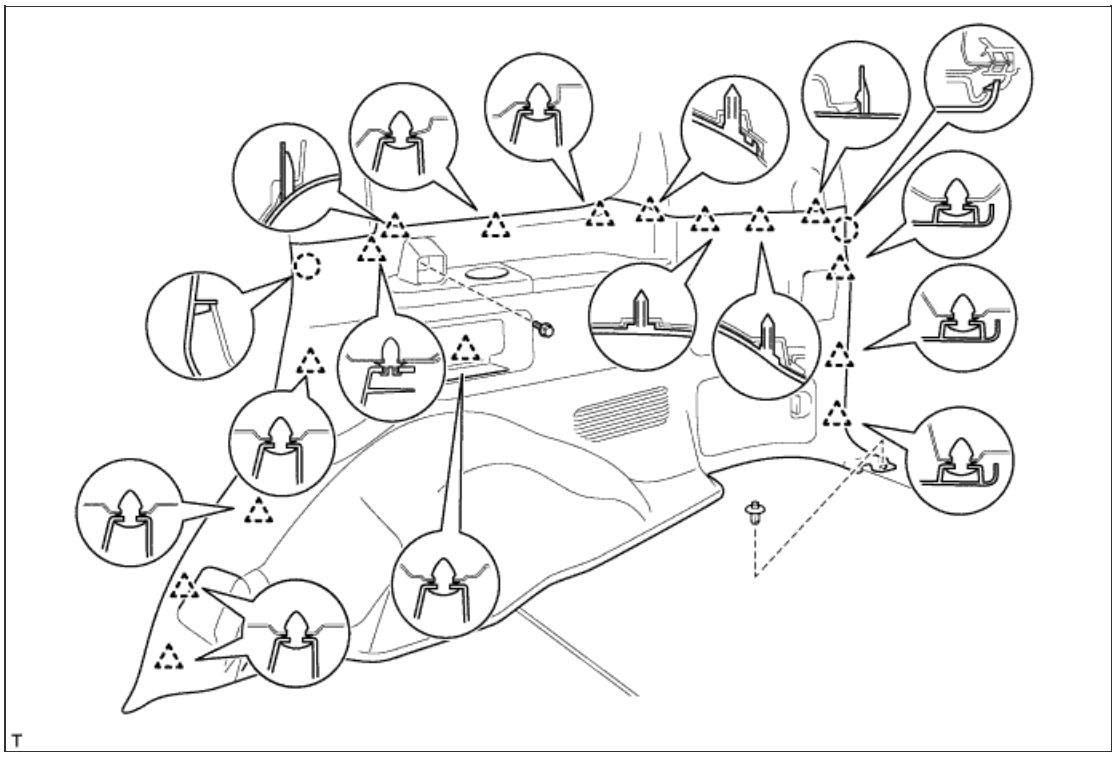
ii. Install the clip.




c. w/ Tonneau Cover:

i. Attach the 16 clips and 2 claws to install the quarter trim panel.

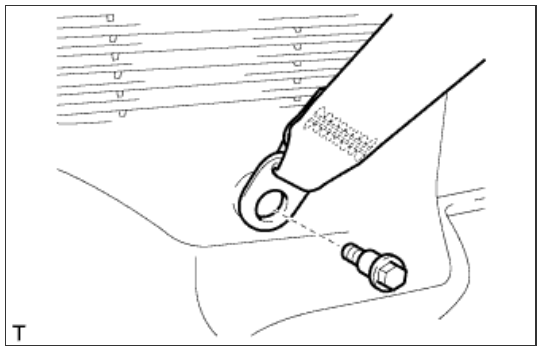
ii. Install the screw and clip.



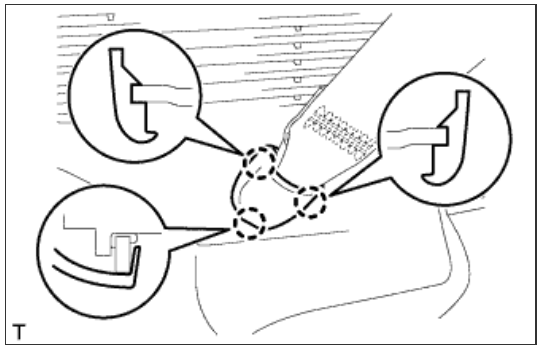

d. w/ Rear No. 2 Seat, except Face to Face Seat Type:

i. Install the rear No. 2 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**

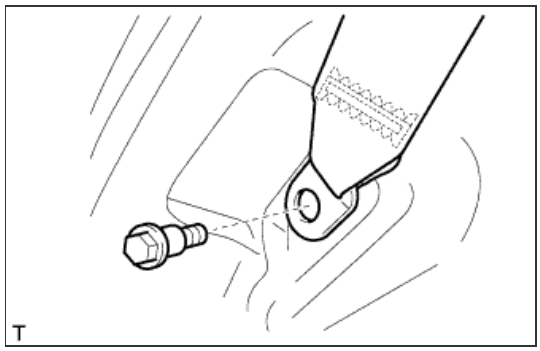



ii. Attach the 3 claws to install the cover.

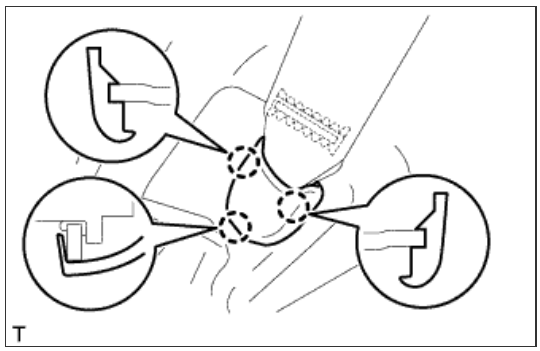



e. Install the rear No. 1 seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




f. Attach the 3 claws to install the cover.

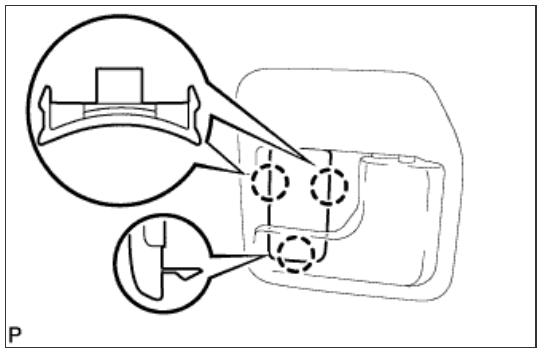



## 68. INSTALL REAR SEAT COVER CAP (w/ Rear No. 2 Seat, except Face to Face Seat Type)

**HINT:**

Use the same procedure to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.

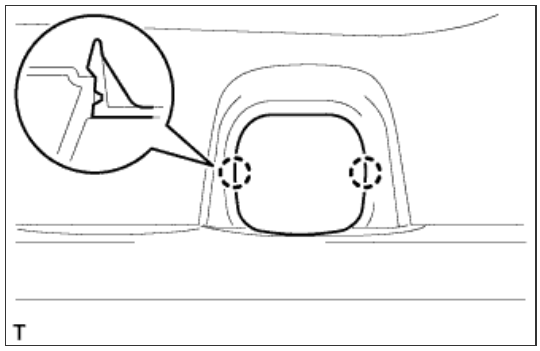



### 69. INSTALL NO. 1 TONNEAU COVER HOLDER CAP (w/ Tonneau Cover)

**HINT:**

Use the same procedure to install the tonneau cover holder cap on the other side.

a. Attach the 2 claws to install the tonneau cover holder cap.

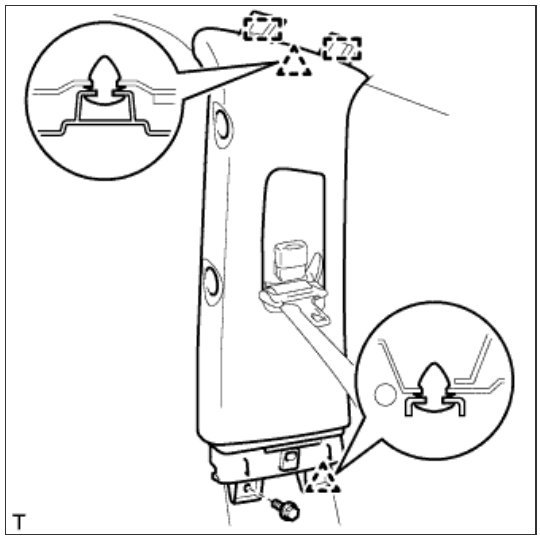



### 70. INSTALL CENTER PILLAR GARNISH LH

a. Pass the seat belt anchor through the center pillar garnish.

b. Attach the 2 clips and 2 guides to install the center pillar garnish.

c. Install the bolt.




### 71. INSTALL CENTER PILLAR GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

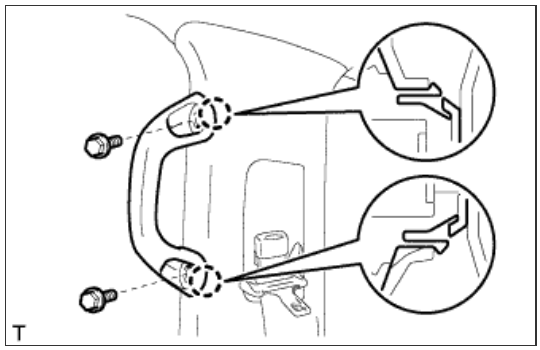
### 72. INSTALL REAR ASSIST GRIP ASSEMBLY

**HINT:**

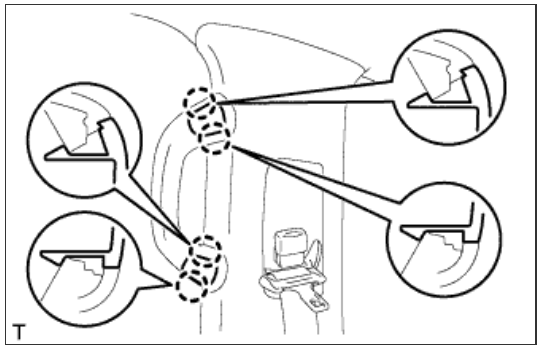
Use the same procedure to install the rear assist grip on the other side.

a. Attach the 2 claws to install the rear assist grip.

b. Install the 2 bolts.




c. Attach the 4 claws to install the 2 assist grip plugs.

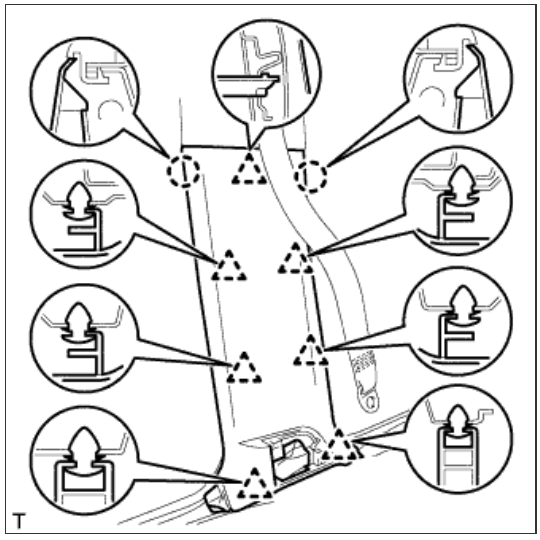



## 73. INSTALL CENTER LOWER PILLAR GARNISH LH

**HINT:**

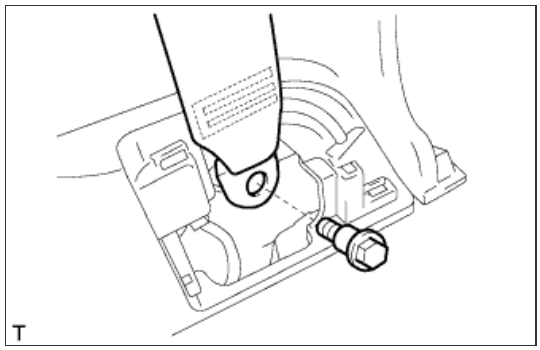
- **for Manual Seat:**
  **When installing the center lower pillar garnish, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When installing the center lower pillar garnish, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Attach the 2 claws and 7 clips to install the center lower pillar garnish.




b. Install the seat belt anchor with the bolt.

**Torque:**
**42 N*m{ 428 kgf*cm , 31 ft.*lbf }**




### 74. INSTALL CENTER LOWER PILLAR GARNISH RH

**HINT:**

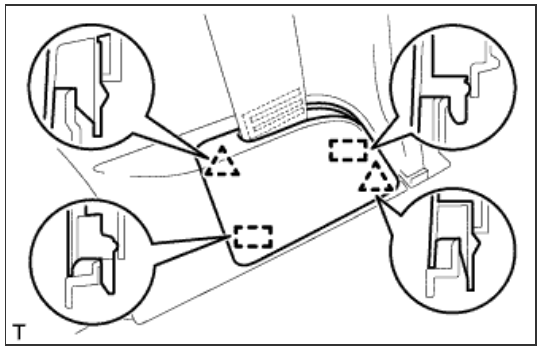
Use the same procedures described for the LH side.

### 75. INSTALL CENTER PILLAR GARNISH COVER LH

**HINT:**

- **for Manual Seat:**
  **When installing the center pillar garnish cover, move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **When installing the center pillar garnish cover, connect the cable to the negative (-) battery terminal and operate the power seat switch to move the front seat and seatback to the foremost upright position.**
- **for Power Seat:**
  **After moving the front seat, disconnect the cable from the negative (-) battery terminal.**

a. Attach the 2 clips and 2 guides to install the cover.




### 76. INSTALL CENTER PILLAR GARNISH COVER RH

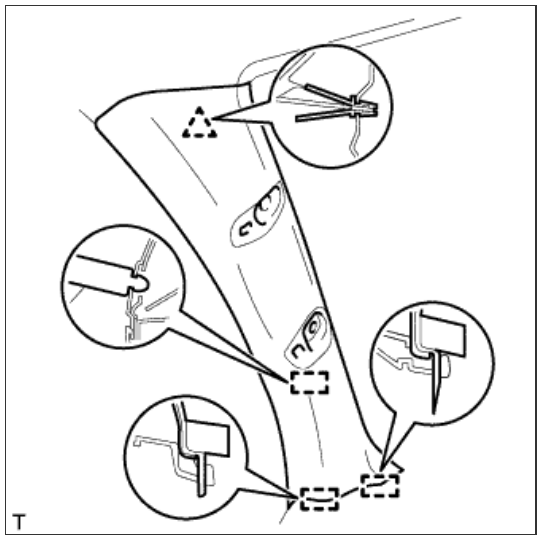
**HINT:**

Use the same procedures described for the LH side.

### 77. INSTALL FRONT PILLAR GARNISH LH

a. for 9, 14 Speakers:
   Connect the speaker connector.

b. Attach the clip and 3 guides to install the front pillar garnish.




## 78. INSTALL FRONT PILLAR GARNISH RH

**HINT:**

Use the same procedures described for the LH side.

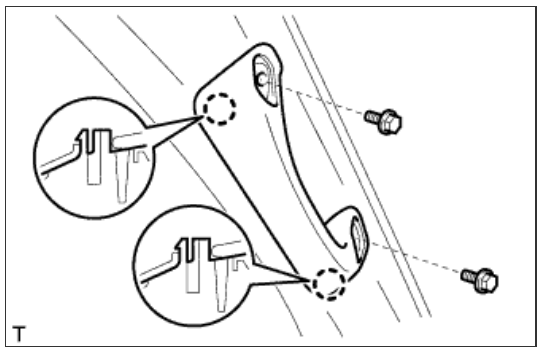
## 79. INSTALL FRONT ASSIST GRIP SUB-ASSEMBLY

**HINT:**

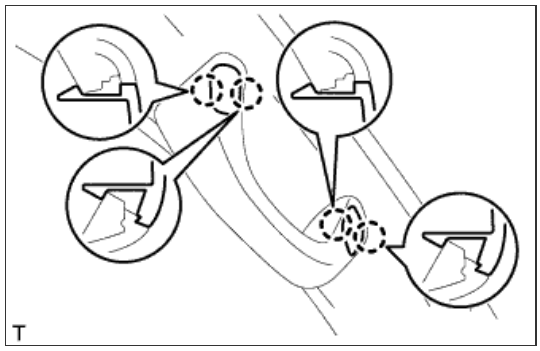
Use the same procedure to install the front assist grip on the other side.

a. Attach the 2 claws to install the front assist grip.

b. Install the 2 bolts.

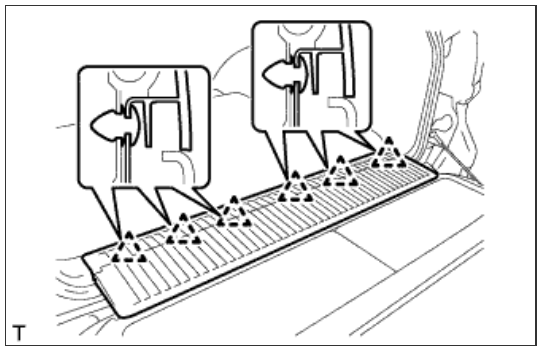



c. Attach the 4 claws to install the 2 assist grip plugs.




## 80. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

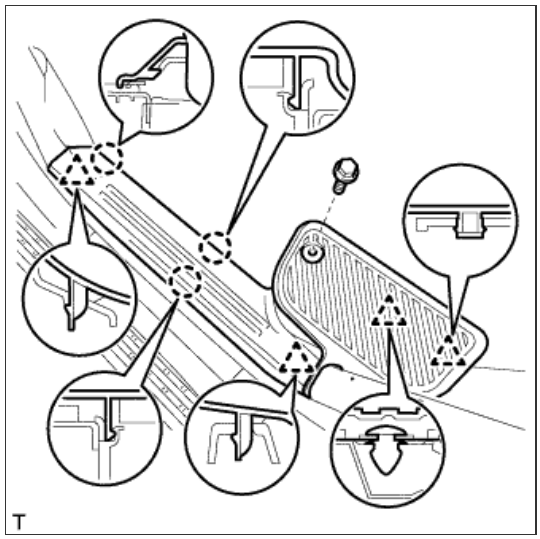
a. Attach the 6 clips to install the support plate.




## 81. INSTALL REAR DOOR SCUFF PLATE LH

a. Attach the 3 claws and 4 clips to install the scuff plate.

b. Install the screw.




## 82. INSTALL REAR DOOR SCUFF PLATE RH

**HINT:**

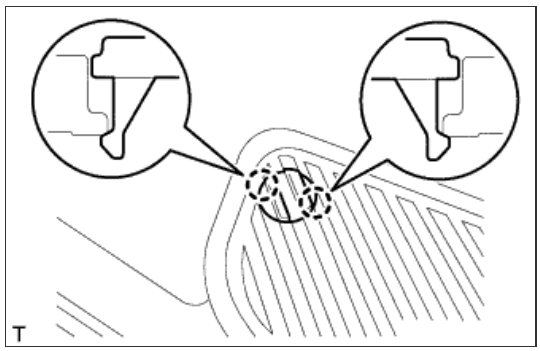
Use the same procedures described for the LH side.

## 83. INSTALL REAR STEP COVER

**HINT:**

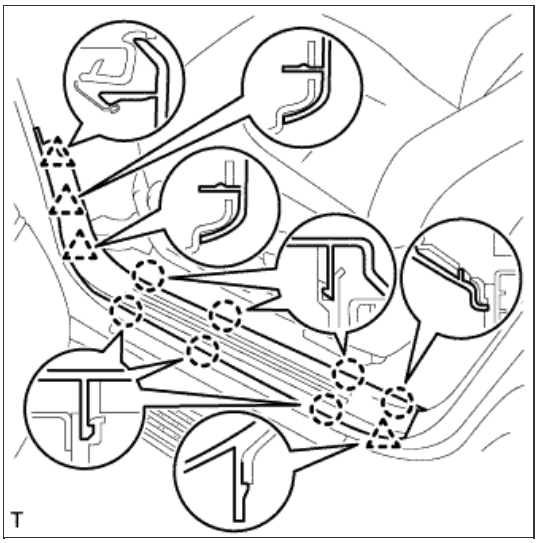
Use the same procedure to install the step cover on the other side.

a. Attach the 2 claws to install the step cover.




## 84. INSTALL FRONT DOOR SCUFF PLATE LH

a. Attach the 7 claws and 4 clips to install the scuff plate.




### 85. INSTALL FRONT DOOR SCUFF PLATE RH

**HINT:**

Use the same procedures described for the LH side.

### 86. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (except Face to Face Seat Type)

a. Install the rear No. 2 seat assembly LH ( Click here).

### 87. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (except Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 88. INSTALL REAR NO. 2 SEAT ASSEMBLY LH (for Face to Face Seat Type)

a. Install the rear No. 2 seat assembly LH ( Click here).

### 89. INSTALL REAR NO. 2 SEAT ASSEMBLY RH (for Face to Face Seat Type)

**HINT:**

Use the same procedures described for the LH side.

### 90. INSTALL TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)

a. Install the tonneau cover assembly.

### 91. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).